

*Appendix A. Final Resolution Certifying EIR
(including Statements of Facts,
Findings and Overriding
Considerations, and Mitigation
Monitoring and Reporting
Program)*



Appendices

This page intentionally left blank.

CITY COUNCIL RESOLUTION NO. 10-79

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF IRVINE CERTIFYING THE PROGRAM ENVIRONMENTAL IMPACT REPORT (SCH# 2007011024, 00497859-PCLE) FOR THE IRVINE BUSINESS COMPLEX VISION PLAN AND RESIDENTIAL MIXED USE OVERLAY ZONING CODE AND RELATED IMPLEMENTING ACTIONS

WHEREAS, the proposed General Plan Amendment 00497846-PGA, Zone Change 00497861-PZC, Master Plan 00497860-PMP, and related implementing actions for the Irvine Business Complex (IBC) Residential Mixed-Use Vision Plan are considered a "project" as defined by the California Environmental Quality Act (CEQA); and

WHEREAS, it was determined pursuant to the City's CEQA Guidelines that the project could have a significant effect on the environment and thus warranted the preparation of an Environmental Impact Report (EIR); and

WHEREAS, a the proposed project was initiated by the City Council on April 12, 2005;

WHEREAS, on July 25, 2006 the City Council directed that an Environmental Impact Report be prepared for the project; and

WHEREAS, EIR scoping sessions were conducted by the Planning Commission on February 1, 2007, the Community Services Commission on February 21, 2007, and the City Council on February 27, 2007; and

WHEREAS, a Draft EIR was prepared for the project and was circulated to the public, responsible agencies and other interested persons for review and comments from March 27, 2009 through May 14, 2009; and

WHEREAS, public comment meetings on the Draft EIR were held by the Community Services Commission on April 15, 2009, the IBC Task Force on April 21, 2009, and the Planning Commission on May 7, 2009; and

WHEREAS, a Recirculated Draft EIR was prepared for the project and was re-circulated to the public, responsible agencies and other interested persons for review and comments from December 23, 2009 to February 5, 2010; and

WHEREAS, a Preliminary Final EIR, including responses to comments and corrections to the RDEIR was prepared and released on March 22, 2010; and

WHEREAS, a Final EIR, including response to additional comments and corrections and has been prepared and distributed to the City Council; and

WHEREAS, the City Council has considered information presented by the applicant, the Community Development Department, and other interested parties at public meetings and hearings held on July 11, 2006, July 25, 2006, February 27, 2007, October 23, 2007, February 26, 2008, April 27, 2010, and July 13, 2010.

NOW, THEREFORE, the City Council of the City of Irvine DOES HEREBY RESOLVE as follows:

SECTION 1. That pursuant to Section 15205 of the State CEQA Guidelines, the City Council reviewed and considered the Final Environmental Impact Report (SCH# 2007011024) (FEIR) in making its recommendation on the Zone Change and the Vision Plan Project.

SECTION 2. Most of the potentially significant environmental impacts of the Vision Plan Project identified in the FEIR have been determined to be less than significant or mitigated to a level that is considered less than significant or changes have been required or incorporated into the Vision Plan Project which avoid or substantially lessen the significant environmental effects.

SECTION 3. Certain impacts of the Vision Plan Project to Air Quality, Noise, Land Use and Traffic have been identified in the FEIR as significant and unavoidable. The specific impacts are summarized in Exhibit A to Resolution No 10-79. Based upon specific economic, social, technical or other considerations, the City Council finds these effects acceptable and adopts the required facts and findings and Statement of Overriding Considerations (attached as Exhibit B to Resolution No. 10-79).

SECTION 4. Although the FEIR identifies certain significant environmental effects that would result if the Vision Plan Project is approved, most environmental effects can feasibly be avoided or mitigated. The applicable mitigation measures, included within the FEIR as Table 1-2 and incorporated herein as Exhibit C to Resolution No. 10-79, have been incorporated into the Vision Plan Project or identified as requirements of the Vision Plan Project.

SECTION 5. In accordance with Section 8 of the City of Irvine CEQA Procedures, the Planning Commission recommends that the City Council find that the FEIR has been completed in compliance with CEQA and the State CEQA Guidelines, and the City's CEQA Procedures. The Planning Commission also recommends that the City Council, having final approval authority over the project, certify as complete and adequate the Final EIR.

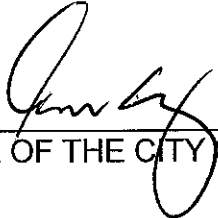
SECTION 6. Pursuant to Fish and Game Code Section 7.11.4 (C), all required Fish and Game filing fees will be paid subsequent to certification of the FEIR for the Vision Plan Project.

SECTION 6. The Final EIR shall consist of the following:

- A. The Draft EIR
- B. The Technical Appendices to the Draft EIR
- C. The Recirculated Draft EIR
- D. The Technical Appendices to the Recirculated Draft EIR
- E. Comments and Responses to the Draft EIR and Recirculated Draft EIR (including a list of persons, organizations and agencies who commented on the Draft EIR and Recirculated Draft EIR)
- F. Statement of Facts and Findings
- G. Statement of Overriding Considerations
- H. Mitigation Monitoring Program

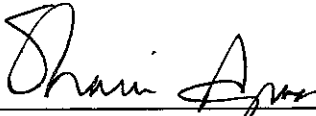
SECTION 7. Based on the above findings, City Council certifies the Final EIR.

PASSED AND ADOPTED by the City Council of the City of Irvine at a regular meeting held on the 13th day of July, 2010.



MAYOR OF THE CITY OF IRVINE

ATTEST:



CITY CLERK OF THE CITY OF IRVINE

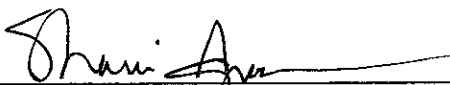
STATE OF CALIFORNIA)
COUNTY OF ORANGE)
CITY OF IRVINE)

I, SHARIE APODACA, City Clerk of the City of Irvine, HEREBY DO CERTIFY that the foregoing resolution was duly adopted at a regular meeting of the City Council of the City of Irvine, held on the 13th day of July, 2010.

AYES: 4 COUNCILMEMBERS: Agran, Choi, Krom and Kang

NOES: 0 COUNCILMEMBERS: None

ABSENT: 1 COUNCILMEMBERS: Shea



CITY CLERK OF THE CITY OF IRVINE

6. *Significant Unavoidable Adverse Impacts*

Chapter 1, *Executive Summary*, contains Table 1-1, which summarizes the impacts; Programs, Plans and Policies (PPP); Project Design Features (PDF); mitigation measures; and levels of significance before and after mitigation. While PPPs, PDFs, and mitigation measures would reduce the level of impact, the following impacts would remain significant, unavoidable, and adverse after mitigation measures are applied:

6.1 AIR QUALITY

IMPACT 5.2-1: REGIONAL POPULATION, HOUSING, AND EMPLOYMENT GROWTH PROJECTIONS IN THE IRVINE BUSINESS COMPLEX WERE NOT ACCOUNTED FOR IN THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT'S AIR QUALITY MANAGEMENT PLAN.

The impacts associated with Impact 5.2-1 are lower with the integration of PPPs and PDFs in the proposed project than they would otherwise be, but the PPPs and PDFs are not sufficient to lower the impacts to below a level of significance without the imposition of feasible mitigation measures. However, no additional feasible mitigation measures are available to reduce short-term air pollutant emissions or long-term air pollutant emissions below the SCAQMD regional thresholds so that the project would not significantly contribute to the nonattainment designation of the South Coast Air Basin to ensure AQMP consistency. Consequently, Impact 5.2-1 would remain **significant and unavoidable**.



IMPACT 5.2-2: CONSTRUCTION EMISSIONS ASSOCIATED WITH BUILDOUT OF THE IRVINE BUSINESS COMPLEX WOULD GENERATE SHORT-TERM EMISSIONS THAT EXCEED THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT'S REGIONAL SIGNIFICANCE THRESHOLDS FOR VOC, NOX, CO, PM₁₀, AND PM_{2.5}, AND WOULD SIGNIFICANTLY CONTRIBUTE TO THE NONATTAINMENT DESIGNATIONS OF THE SOUTH COAST AIR BASIN FOR O₃ AND PARTICULATE MATTER (PM₁₀ AND PM_{2.5}).

The impacts associated with Impact 5.2-2 are lower with the integration of PPPs and PDFs into the proposed project than they would otherwise be, but the PPPs and PDFs are not sufficient to lower the impacts to below a level of significance without the imposition of feasible mitigation measures. Due to the potential magnitude of emissions from individual development projects and overlap of different development projects in the IBC, construction emissions would continue to individually or cumulatively exceed the SCAQMD regional thresholds. Consequently, Impact 5.2-2 would remain **significant and unavoidable**.

IMPACT 5.2-3: BUILDOUT OF THE IRVINE BUSINESS COMPLEX WOULD GENERATE LONG-TERM STATIONARY- AND MOBILE-SOURCE EMISSIONS THAT EXCEED THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT'S REGIONAL SIGNIFICANCE THRESHOLD AND SIGNIFICANTLY CONTRIBUTE TO THE NONATTAINMENT DESIGNATIONS OF THE SOUTH COAST AIR BASIN FOR O₃ AND PARTICULATE MATTER (PM₁₀ AND PM_{2.5}).

The impacts associated with Impact 5.2-3 are lower with the integration of PPPs and PDFs identified in Section 5.15, Global Climate Change, into the proposed project than they would otherwise be, but the PPPs

6. Significant Unavoidable Adverse Impacts

and PDFs are not sufficient to lower the impacts to below a level of significance without the imposition of feasible mitigation measures. In particular, PPPs and PDFs in Section 5.15, Global Climate Change, would reduce purchased energy use and water use, and encourage use of alternative transportation to reduce area and mobile sources of air pollution associated with the project. However, operational phase emissions would continue to exceed the SCAQMD regional significance thresholds. Consequently, Impact 5.2-3 would remain **significant and unavoidable**.

IMPACT 5.2-4: PROJECT-RELATED CONSTRUCTION ACTIVITIES COULD EXPOSE SENSITIVE RECEPTORS TO SUBSTANTIAL POLLUTANT CONCENTRATIONS OF NO_x, PM₁₀, AND PM_{2.5}.

The impacts associated with Impact 5.2-4 are lower with the integration of PPPs and PDFs – particularly, PPP 2-3 and PDF 2-6 – into the proposed project than they would otherwise be, but the PPPs and PDFs are not sufficient to lower the impacts to below a level of significance without the imposition of feasible mitigation measures. In particular, PDF 2-4 and PDF 2-5 would reduce NO_x from construction equipment exhaust. However, no additional feasible mitigation measures are available to reduce elevated levels of NO_x, PM₁₀, and PM_{2.5} at nearby sensitive receptors. Due to the potential magnitude of emissions from individual development projects, construction activities would potentially exceed the SCAQMD localized significance thresholds. Consequently, Impact 5.2-4 would remain **significant and unavoidable**.

IMPACT 5.2-6: DEVELOPMENT OF RESIDENTIAL USES WITHIN THE IRVINE BUSINESS COMPLEX COULD BE LOCATED WITHIN THE CALIFORNIA AIR RESOURCE BOARD'S RECOMMENDED BUFFER DISTANCES FROM I-405 OR EXISTING DISTRIBUTION CENTERS, CHROME PLATERS, DRY CLEANERS, OR GAS STATIONS.

Freeways

PDF 2-1 and PDF 2-2 would ensure that residents within the IBC would not be exposed to indoor levels of toxic air contaminants that exceed the ambient concentrations in the project vicinity, which are 630 to 1,233 in a million in the IBC area (SCAQMD 2008). PDF 2-3 would ensure that playgrounds, athletic fields, and other public active-use outdoor recreational areas within the IBC would not be located within 500 feet of the freeway. However, development applications for residential structures may include outdoor private-use active areas, such as swimming pools. No mitigation measures are feasible that would reduce exposure of people to elevated concentrations of air pollutants within 500 feet of a freeway in an outdoor environment. Consequently, Impact 5.2-6 would remain **significant and unavoidable**.

6.2 LAND USE AND PLANNING

IMPACT 5.8-2: PROJECT IMPLEMENTATION COULD POTENTIALLY BE IN CONFLICT WITH AN APPLICABLE ADOPTED LAND USE PLAN. [THRESHOLD LU-2]

As described above, the proposed project was reviewed by ALUC and the City and determined to be consistent with AELUP and Caltrans health and safety standards and PDF 6-1 has been incorporated into the project. In addition, the ALUC has determined that the 2851 Alton Parkway and Martin Street Condos projects are consistent with the adopted ALUP. However, the revised project, other pending projects, and potential future projects pursuant to the IBC Vision Plan and Overlay Zoning Code have not yet been before ALUC for a determination of consistency, as ALUC typically does not conduct such reviews until the City of Irvine Planning Commission hearings are scheduled. If ALUC determines that the proposed project as revised, or potential future projects are not found to be consistent with the AELUP, and the Irvine City Council disagrees and overrides this finding by a two-thirds vote, a significant unavoidable adverse impact would result and a Statement of Overriding Considerations would be required.

6. Significant Unavoidable Adverse Impacts

6.3 NOISE

IMPACT 5.9-1: CONSTRUCTION ACTIVITIES COULD RESULT IN TEMPORARY NOISE INCREASES IN THE VICINITY OF THE PROPOSED PROJECT.

PPP 9-1 and PDF 9-2 would minimize noise from construction activities to the extent feasible by requiring that activities be limited to the hours set forth in the City of Irvine Municipal Code and that stationary source equipment be placed as far as feasible from adjacent noise-sensitive land uses. In addition, mitigation measure 9-1 would require preparation of a construction noise mitigation plan prior to issuance of grading permits that identifies ways to mitigate construction noise. However, because new development may occur near noise-sensitive land uses and could generate substantial noise levels for an extended period of time, impacts are considered potentially significant. The magnitude of impact would depend of the location and schedule of the new development and construction equipment. Impact 5.9-1 would remain **significant and unavoidable**.

IMPACT 5.9-2: CONSTRUCTION OF THE PROPOSED PROJECT MAY GENERATE PERCEPTIBLE LEVELS OF VIBRATION AT ADJACENT VIBRATION-SENSITIVE LAND USES.

PPP 9-1 and PDF 9-2 would minimize impacts associated with perceptible levels of vibration annoyance by requiring that activities be limited to the hours set forth in the City of Irvine Municipal Code and that stationary-source equipment be placed as far as feasible from adjacent vibration-sensitive land uses. In addition, PDF 9-1 would ensure that less-vibration-intensive equipment or construction techniques be used. However, because new development may occur near noise-sensitive land uses and could generate substantial vibration levels for an extended period of time, impacts are considered potentially significant. The magnitude of impact would depend of the location of the new development and construction equipment. Impact 5.9-2 would remain **significant and unavoidable**.



IMPACT 5.9-3: PROJECT-RELATED VEHICLE TRIPS WOULD SUBSTANTIALLY INCREASE AMBIENT NOISE AT NOISE-SENSITIVE RECEPTORS IN THE VICINITY OF THE PROJECT SITE ON MCGAW AVENUE BETWEEN JAMBOREE ROAD AND MURPHY AVENUE AND CUMULATIVELY ON VALENCIA AVENUE BETWEEN NEWPORT AVENUE AND RED HILL AVENUE, WARNER AVENUE BETWEEN SR-55 AND RED HILL AVENUE, MCGAW AVENUE BETWEEN JAMBOREE ROAD AND MURPHY AVENUE, BIRCH STREET BETWEEN MESA DRIVE AND BRISTOL STREET. [THRESHOLDS N-1 AND N-3]

No mitigation measures are available to reduce impacts associated with a substantial increase in traffic noise generated by project-related traffic and the project's contribution to cumulative growth in traffic levels. Consequently, Impact 5.9-3 and cumulative impacts would remain **significant and unavoidable**.

IMPACT 5.9-5: NOISE-SENSITIVE LAND USES COULD BE EXPOSED TO NOISE LEVELS THAT EXCEED 65 DDA CNEL FROM TRANSPORTATION OR STATIONARY SOURCES OF NOISE.

PPP 9-2 would require that an acoustic study be prepared to achieve the City of Irvine's interior and exterior noise standards. While interior noise levels are required to achieve 45 dBA CNEL for residential structures and 55 dBA CNEL for commercial structures, exterior noise levels may continue to exceed the 65 dBA CNEL noise compatibility criteria for the City despite exterior noise attenuation (i.e., walls and/or berms). PDF 9-3 would require that occupancy disclosure notices for units with patios and/or balconies that do not meet the 65 dBA CNEL standard are provided to all future tenants for new developments that have outdoor noise-sensitive areas. However, exterior noise compatibility would be significant at noise-sensitive outdoor areas

6. Significant Unavoidable Adverse Impacts

(e.g., residential patios and outdoor areas, such as tot-lots, swimming pools, or athletic fields). No feasible mitigation measures are available to reduce impacts associated with a substantial increase in traffic noise generated by project-related traffic and the project's contribution to cumulative noise impacts associated with increases in traffic levels. Consequently, Impact 5.9-5 would remain **significant and unavoidable**.

6.4 TRAFFIC

IMPACT 5.13-1: BUILDOUT OF THE IBC PURSUANT TO THE PROPOSED PROJECT WOULD GENERATE ADDITIONAL TRAFFIC VOLUMES AND IMPACT LEVELS OF SERVICE FOR THE EXISTING AREA ROADWAY SYSTEM.

Although every effort was made, through site analyses and aerial imagery evaluation to ensure that all recommended improvements are physically feasible, there are intersections where improvements may not be feasible due to cost, right-of-way concerns, or community opposition. For these intersections a Statement of Overriding Considerations will be required.

City of Irvine

- *Intersection #145: Jamboree Road and Michelson Drive*

This intersection has a project related significant impact under the 2015 and Post-2030 Approved Project scenarios, and a cumulative deficiency under the Post-2030 Pending scenarios. Recommended improvements are the same in both 2015 and Post-2030 and include the addition of a third eastbound left and restriping of the southbound approach to get a third southbound left from the southbound through movement. With this improvement, the intersection returns to an acceptable LOS under all scenarios. The recommended triple eastbound and southbound left turn improvements are contrary to City standards due to safety and operational concerns associated with the vehicles turning within appropriate receiving lanes. In addition, as noted previously, the City believes that the triple turn movements would not provide the operational improvements intended due to the proximity of downstream destinations and likely distribution of traffic in the triple left turn lanes. In addition, there are physical constraints associated with the proposed improvements, including Southern California Edison (SCE) 220kV transmission lines along the west side of Jamboree Road and SCE substation located at the southeast corner of this intersection. These physical hinder the ability to implement the improvements necessary to mitigate the identified project impacts.

With completion of the improvements described in Mitigation Measure 13-1, the significant impacts to local roadways associated with the proposed project would be fully mitigated with the exception the Jamboree Road/Michelson Drive intersection.

Cities of Costa Mesa, Newport Beach, Santa Ana, and Tustin Intersections and Arterial Segments

Inasmuch as the primary responsibility for approving and/or completing certain improvements located outside of Irvine lies with agencies other than the City of Irvine (i.e., City of Newport Beach, City of Tustin, City of Santa Ana, City of Costa Mesa, and Caltrans), there is the potential that significant impacts may not be fully mitigated if such improvements are not completed for reasons beyond the City of Irvine's control (i.e., the City of Irvine cannot undertake or require improvements outside of Irvine's jurisdiction). Should that occur, impacts relating to traffic generated by the project would remain significant. The impacted facilities that fall within this category include the improvements identified in Tables 5.13-24 through 5.13-26.

6. Significant Unavoidable Adverse Impacts

To provide as much assurance as possible that the necessary resources will be available to allow the adjacent Cities to implement necessary traffic improvements, The City of Irvine has committed to the creation of a development fee program associated with development in the IBC study area. This program will contribute to the improvement of facilities within Irvine and a fair-share to improvements outside the City of Irvine. The City is committed to working with the adjacent Cities to identify the most appropriate improvement strategies for their facilities and acknowledges the fair-share cost of improvements to those facilities. Consistent with that objective, the City recently committed to provide the City of Newport Beach with \$3.65 million toward traffic improvements that will improve circulation within and adjacent to the IBC. However, the adjacent Cities have full jurisdiction toward implementing the identified improvements under their jurisdiction.

Caltrans Main-Line Segments and Ramps

State highway facilities within the study area are not within the jurisdiction of the City of Irvine. Rather, those improvements are planned, funded, and constructed by the State of California through a legislative and political process involving the State Legislature; the California Transportation Commission (CTC); the California Business, Transportation, and Housing Agency; the California Department of Transportation (Caltrans); and OCTA. Recent funding opportunities designated by OCTA's Renewed Measure M provides the vehicle for designated improvements on the freeway facilities within the study area and were analyzed at their recommended buildout in the IBC Vision.

To provide as much assurance as possible that the necessary resources will be available to allow CalTrans to implement necessary traffic improvements, the City of Irvine has committed to the creation of a development fee program associated with development in the IBC study area. This program is specifically in place to contribute to the improvement of facilities within Irvine and a fair-share to improvements outside the City of Irvine. The City is committed to working with Caltrans to identify the most appropriate improvement strategies for their facilities and acknowledges the fair-share cost of improvements to those facilities. However, Caltrans has full jurisdiction toward implementing the identified improvements under their jurisdiction.



While potential impacts to the freeway mainline segments and ramps have been evaluated, implementation of the transportation improvements to Caltrans facilities listed above is the primary responsibility of Caltrans. While Caltrans has recognized that private development has a role to play in funding fair share improvements to impacts on the I-405 and SR-55, neither Caltrans nor the State has adopted a program that can ensure that locally-contributed impact fees will be tied to improvements to freeway mainlines and only Caltrans has jurisdiction over mainline improvements. Because Caltrans has exclusive control over state highway improvements, ensuring that developer fair share contributions to mainline improvements are actually part of a program tied to implementation of mitigation is within the jurisdiction of Caltrans. However, a number of programs are in place in Orange County to improve and upgrade the regional transportation system. These include the Transportation Corridor Agencies (TCA) Corridor program, the State Transportation Improvement Program (STIP), Caltrans Traffic Operations Strategies (TOPS), State Highway Operation and Protection Program (SHOPP), and the Orange County Transportation Authority (OCTA) Measure M program. State and federal fuel taxes generate most of the funds used to pay for these improvements. Funds expected to be available for transportation improvements are identified through a Fund Estimate prepared by Caltrans and adopted by the California Transportation Commission (CTC). These funds, along with other fund sources, are deposited in the State Highway Account to be programmed and allocated to specific project improvements in both the STIP and SHOPP by the CTC. However, if these programs are not implemented by the agencies with the responsibility to do so, the project's freeway/tollway ramp and mainline impacts would remain significant and unmitigated.

Consequently, Impact 5.13-1 would remain **significant and unavoidable**.

6. Significant Unavoidable Adverse Impacts

This page intentionally left blank.

FINDINGS OF FACT
AND
STATEMENT OF OVERRIDING CONSIDERATIONS
REGARDING THE FINAL ENVIRONMENTAL IMPACT REPORT
FOR THE IRVINE BUSINESS COMPLEX VISION PLAN AND MIXED USE OVERLAY
ZONING CODE

STATE CLEARINGHOUSE NO. 2007011024

PREPARED BY:

CITY OF IRVINE
COMMUNITY DEVELOPMENT DEPARTMENT
ONE CIVIC CENTER PLAZA
IRVINE, CA 92623-9575

March 2010

EXHIBIT B

TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
I. INTRODUCTION.....	3
A. Findings of Fact and Statement of Overriding Considerations.....	3
B. Record of Proceedings	5
C. Custodian and Location of Records.....	6
II. PROJECT SUMMARY	7
A. Project Location.....	7
B. Project Description.....	7
C. Use of Program EIR.....	16
D. Statcment of Objectives	18
III. ENVIRONMENTAL REVIEW AND PUBLIC PARTICIPATION.....	20
IV. GENERAL FINDINGS.....	23
V. SUMMARY OF IMPACTS	25
VI. FINDINGS REGARDING IMPACTS	26
A. Aesthetics.....	26
B. Air Quality	29
C. Biological Resources	36
D. Cultural Resources	40
E. Geology/Soils.....	43
F. Hazards & Hazardous Materials	47
G. Hydrology/Water Quality	52
H. Land Use/Planning.....	59
I. Noise	63
J. Population/Housing.....	70
K. Public Services.....	72
L. Recreation	78
M. Transportation/Traffic.....	79
N. Utilities/Service Systems	89
O. Global Climate Change.....	95
VII. FINDINGS REGARDING ALTERNATIVES	98
A. Alternatives Considered and Rejected During the Scoping/Projcet Planning Process	99
B. Alternatives Selected for Further Analysis	102

VIII. ENVIRONMENTAL ISSUES DETERMINED NOT TO BE POTENTIALLY AFFECTED BY THE PROJECT	108
IX. FINDINGS REGARDING GROWTH INDUCING IMPACTS.....	109
X. FINDINGS REGARDING SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES.....	111
XI. STATEMENT OF OVERRIDING CONSIDERATIONS	112

I. INTRODUCTION

A. Findings of Fact and Statement of Overriding Considerations

The California Environmental Quality Act (CEQA) (Pub Resc. Code §§ 21000, *et seq.*) and the State CEQA Guidelines (Guidelines) (14 Cal. Code Regs §§ 15000, *et seq.*) promulgated thereunder, require that the environmental impacts of a project be examined before a project is approved. Specifically, regarding findings, Guidelines Section 15091 provides:

(a) No public agency shall approve or carry out a project for which an EIR has been completed which identifies one or more significant environmental effects of the project unless the public agency makes one or more written findings for each of those significant effects, accompanied by a brief explanation of the rationale for each finding. The possible findings are:

1. Changes or alterations have been required in, or incorporated into, the project which mitigate or avoid the significant environmental effects on the environment.
2. Those changes or alterations are within the responsibility and jurisdiction of another public agency and have been, or can or should be, adopted by that other agency.
3. Specific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or alternatives identified in the EIR.

(b) The findings required by subsection (a) shall be supported by substantial evidence in the record.

(c) The finding in subsection (a)(2) shall not be made if the agency making the finding has concurrent jurisdiction with another agency to deal with identified feasible mitigation measures or alternatives.

(d) When making the findings required in subsection (a)(1), the agency shall also adopt a program for reporting on or monitoring the changes which it has either required in the project or made a condition of approval to avoid or substantially lessen significant environmental effects. These measures must be fully enforceable through permit conditions, agreements, or other measures.

(e) The public agency shall specify the location and custodian of the documents or other materials which constitute the record of the proceedings upon which its decision is based.

The “changes or alterations” referred to in Section 15091(a)(1) above, that are required in, or incorporated into, the project which mitigate or avoid the significant environmental effects of the project, may include a wide variety of measures or actions as set forth in Guidelines Section 15370, including:

(a) Avoiding the impact altogether by not taking a certain action or parts of an action.

(b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation.

(c) Rectifying the impact by repairing, rehabilitating, or restoring the impacted environment.

(d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.

(e) Compensating for the impact by replacing or providing substitute resources or environments.

Regarding a Statement of Overriding Considerations, Guidelines Section 15093 provides:

(a) CEQA requires the decisionmaker to balance the benefits of a Proposed Project against its unavoidable environmental risks in determining whether to approve the project. If the benefits of a proposal project outweigh the unavoidable adverse environmental effects, the adverse environmental effects may be considered “acceptable”.

(b) Where the decision of the public agency allows the occurrence of significant effects which are identified in the final EIR but are not at least substantially mitigated, the agency shall state in writing the specific reasons to support its action based on the final EIR and/or other information in the record. This statement may be necessary if the agency also makes a finding under Section 15091(a)(2) or (a)(3).

(e) If an agency makes a statement of overriding considerations, the statement should be included in the record of the project approval and should be mentioned in the notice of determination.

Having received, reviewed and considered the Final Environmental Impact Report for the Irvine Business Complex (IBC) Vision Plan and Mixed Use Overlay Zoning Code (Proposed Project), State Clearinghouse No. 2007011024 (FEIR), as well as all other information in the record of proceedings on this matter, the following Findings and Statements of Overriding Considerations (Findings) are hereby adopted by the City of Irvine (City) in its capacity as the CEQA Lead Agency. The Findings and Statements of Overriding Considerations set forth the environmental and other bases for current and subsequent discretionary actions to be undertaken by the City and responsible agencies for the implementation of the Irvine Business Complex (IBC) Vision Plan and Mixed-Use Overlay Zoning Code (Project).

B. Record of Proceedings

For purposes of CEQA and these Findings, the Record of Proceedings for the Proposed Project consists of the following documents and other evidence, at a minimum:

- Both Notices of Preparation (NOPs) and all other public notices issued by the City in conjunction with the Proposed Project;
- The Draft EIR for the Proposed Project;
- The Recirculated Draft EIR for the Proposed Project (RDEIR)
- The Final Environmental Impact Report for the Proposed Project (FEIR);
- All written comments submitted by agencies or members of the public during the public review comment period on the Draft EIR;
- All responses to written comments submitted by agencies or members of the public during the public review comment period on the Draft EIR;
- All written and verbal public testimony presented during a noticed public hearing for the Proposed Project;
- The Mitigation Monitoring and Reporting Program (MMRP);
- The reports and technical memoranda included or referenced in Volumes IIa, IIb, or IIc of the FEIR;
- All documents, studies, EIRs, or other materials incorporated by reference in the Draft EIR and FEIR;

- The Ordinances and Resolutions adopted by the City in connection with the Proposed Project, and all documents incorporated by reference therein;
- Matters of common knowledge to the City, including but not limited to federal, state and local laws and regulations;
- Any documents expressly cited in these Findings; and
- Any other relevant materials required to be in the record of proceedings by Public Resources Code Section 21167.6(e).

C. Custodian and Location of Records

The documents and other materials which constitute the record of proceedings for the City's actions related to the Proposed Project are located at the City of Irvine, 1 Civic Center Plaza, Irvine, California, 92623. The City Community Development Department is the custodian of the record of proceedings for the Proposed Project. Copies of these documents, which constitute the record of proceedings, are and at all relevant times have been and will be available upon request at the offices of the Community Development Department. This information is provided in compliance with Public Resources Code § 21081.6(a)(2) and Guidelines § 15091(e).

II. PROJECT SUMMARY

A. Project Location

The approximately 2,800-acre Irvine Business Complex (IBC) comprises Planning Area 36 in the City of Irvine, in south/central Orange County. More specifically, the IBC is generally bounded by the former Tustin Marine Corps Air Station (MCAS) to the north, the San Diego Creek channel to the east, John Wayne Airport (JWA) and Campus Drive to the south, and State Route 55 (SR-55) to the west. The San Diego Freeway (I-405) traverses the southern portion of the IBC, and the Santa Ana Freeway (I-5) is to the north and east. As shown on Figure 3-1 of the Recirculated Draft EIR (RDEIR), the IBC is bordered by the cities of Newport Beach to the south, Santa Ana and Costa Mesa to the west, and Tustin to the north.

The IBC consists of a range of industrial, office, commercial, and residential uses covering approximately 2,800 acres in the western portion of the City of Irvine. Adjacent to the IBC, on the north, is the City of Tustin and the former MCAS Tustin, currently being redeveloped with residential and commercial uses as part of the Tustin Legacy Specific Plan. A 40-acre parcel of the IBC is detached and to the south of the main IBC boundary area, and bounded by Jamboree Road, Fairchild Road, Macarthur Boulevard, and the San Joaquin Marsh, and adjacent to the City of Newport Beach. The most prominent land use in the IBC is office, with substantial amounts of industrial/warehouse uses and 4,779 medium- and high-density residential units and 232 density bonus units for a total of 5,011 dwelling units existing within the IBC.

B. Project Description

As shown on Table 2-1, the IBC Vision Plan and Mixed Use Overlay Zoning Code (Proposed Project) would allow for an increase in total units in the IBC from 9,015 units to 15,000 units, a difference of 5,985. This increase is a reallocation of existing intensity within current intensity limitations. In addition, a total of 1,598 density bonus units, in addition to 440 existing, approved, or under construction would be allowed in accordance with state law, for a total 17,038 units. The current General Plan allows for 53,125,389 square feet of nonresidential intensity in Planning Area 36. The additional units would be offset by a reduction of 2,399,626 of office square footage and 1,602,526 of industrial square footage (for a total of 4,002,152 square feet, or 2,887,307 square feet of office equivalency). Upon adoption of the IBC Vision Plan, the total nonresidential intensity allowed by the adopted General Plan would be 48,787,662 square feet. The individual components of the Proposed Project are outlined in Table 2-1.

*Table 2-1
IBC Development Summary*

Residential					
	Existing General Plan			Proposed Project	
	Existing	Under Construction	Approved	Pending ¹	Potential ²
Base Units	4,779	1,814	2,422	2,035	3,950
Density Bonus Units ³	232	78	130	215	1,383
Subtotal	5,011	1,892	2,552	2,250	5,333
Total	9,455			7,583	
Total Cap for the IBC				15,009	
Total IBC Units at Buildout including Density Bonus				17,038	
Nonresidential					
	Existing General Plan		Proposed Project		
	Existing Development	Remaining Buildout Potential	Remaining Buildout Potential		
Nonresidential Square Footage	42,771,000	10,354,389	6,016,662		
Total Nonresidential	53,125,389		48,787,662		
Hotel Rooms					
	Existing General Plan		Proposed Project		
	Existing Development	Remaining Buildout Potential	Remaining Buildout Potential		
	2,496	610	372		
Total Hotel Rooms	3,106		3,478		

¹ Pending units are those for which development applications are currently on file with the City.

² Potential units are those remaining to reach the 15,000-unit cap. No development applications have been received for these units.

³ Density bonus units are exempt by state law from local regulatory limitations on development intensity but are included and analyzed in this DEIR.

The Proposed Project consists of the following components:

1) IBC Vision Plan

The IBC Vision Plan outlines the City's policies and objectives for addressing residential and mixed-use development within the IBC, to be incorporated as a new element in the City's General Plan. The framework for the IBC Vision Plan provides the land use and urban design structure by which new residential development would be organized. Figure 3-4 of the RDEIR, IBC Vision Plan Framework, is a summary exhibit of the key elements and attributes of the IBC that would facilitate the development of high-quality, sustainable neighborhoods, and a balanced mix of uses. As shown on Figure 3-5 of the RDEIR, Proposed IBC Infrastructure Improvements, several infrastructure improvements would be proposed throughout the IBC. The locations of the proposed improvements, such as bridge crossings, are generalized in nature, as specific locations have not yet been evaluated in detail. The proposed bridge widenings are intended to improve pedestrian and bicycle access. No additional vehicular travel lanes are proposed.

The existing sidewalk improvement program will continue to be implemented and embellished with enhanced standards for improved walkability and connectivity to create an interconnected system of pedestrian-friendly boulevards, avenues, and streets. The program calls for the installation of sidewalks to fill the gaps in the IBC sidewalk system and provides for the installation of a five- to eight-foot-wide sidewalk behind eight feet of landscaped parkway.

The Proposed Project includes a new per-unit fee program to be assessed against new residential or residential mixed-use development in the IBC to fund these proposed improvements. Existing developments would be exempt from this fee program. This fee program is proposed to be adopted in conjunction with the Vision Plan and its components. A separate fee program is also proposed to be adopted in conjunction with the Vision Plan to augment the current IBC Transportation Mitigation Fee program to reflect current mitigation outlined in the Transportation and Traffic section of the EIR.

2) IBC Bistricts

The IBC was originally planned as a business complex and at present there is little distinctiveness between its different areas. The IBC Vision Plan attempts to address this by creating two districts, to identify both a proposed mixed-use core and maintain a distinct core for existing businesses, each with its own unique identity and character, within the Mixed Use Overlay Zone.

Urban Neighborhood (UN)

The Urban Neighborhood District would include the mixed-use core IBC (generally between Jamboree Road and Von Karman Avenue) and allows a range of land uses and buildings at varying heights. Generally, these neighborhoods are envisioned to be primarily residential with retail, offices, and restaurants allowed on the first floor.

Business Complex (BC)

The Business Complex District would be applied to portions of the IBC characterized by existing, longstanding industrial and other commercial uses that are expected to remain. This district accommodates new industrial and other commercial uses and an expansion of existing uses.

3) General Plan Amendment

The General Plan Amendment would incorporate Vision Plan policies and objectives into a new General Plan Element and establish a cap of 15,000 dwelling units for the IBC area (excluding density bonus units granted pursuant to state law), with a corresponding reduction of nonresidential office equivalency square footage in Table A-1, Maximum Intensity Standards by

Planning Area, of the City's General Plan, to accommodate future units under the cap that have not yet been approved. As described on Table 2-1, the General Plan/Zoning cap for the IBC is currently set at 9,015 residential units; therefore, a unit cap of 15,000 units would create potential for 5,985 additional dwelling units (of which 2,035 are pending) in the IBC beyond those already existing or approved. The details (location, timing, density, and design) of 3,950 potential units are unknown because there are no currently pending applications. In addition to the 15,000-unit cap, this RDEIR and related traffic study (see Appendix N in the EIR) address the potential for 2,038 additional density bonus units, listed below, which are excluded from local intensity limitations by state law:

- 232 existing (built) density bonus units
- 208 density bonus units approved or under construction
- 215 known density bonus units from pending projects
- A theoretical maximum of 1,383 density bonus units, assuming the remaining 3,950 units are built with a maximum allowable additional density bonus of 35 percent

The current General Plan allows for 53,125,389 square feet of overall nonresidential development in Planning Area 36, which may vary according to the totals of individual land uses over time. The total 5,985 additional new units (either potential or in process) remaining under the 15,000-unit cap would be offset by a reduction of 4,337,727 square feet of nonresidential intensity square feet. With the additional nonresidential land use optimization discussed in this RDEIR, the overall nonresidential intensity in the General Plan would be 48,787,662 square feet, with the reduction resulting primarily from the conversion of higher quantities of older industrial square footage to lower quantities of office square footage. Construction of the 1,892 units in process, along with the pending and approved nonresidential projects, are assumed to be completed by 2015. The remaining 3,950 units, along with the proposed nonresidential land use optimization, would be completed at City buildout, post-2030. Please refer to Section 3.3.2.6 for a detailed discussion of the 2015 Interim Year and Post-2030 Buildout assumptions. The General Plan Amendment would also add new policy language to the current Land Use Element text and add the IBC Vision Plan framework as a new Land Use Element Figure A-3 (IBC) to incorporate the IBC Vision Plan. Previous Table 2-1 provides a summary of the Proposed Project.

As a part of General Plan Amendment, the existing IBC density cap of 52 dwelling units per acre would be removed from the Land Use Element Table A-1 and a minimum of 30 units per acre would be added as a density level. As a result, future residential projects would not have a restriction on maximum density, but would have to comply with a minimum density of 30 units per acre to ensure the benefit of higher-density housing necessary to establish a vibrant mixed-use community.

The General Plan Amendment would also add several new changes to text and figures of the General Plan, including: policies regarding pedestrian-oriented streets to the Circulation Element; IBC trails network to Circulation Element Figure B-4; and policies regarding urban parks to the Parks and Recreation Element (see Appendix C, General Plan Amendment for IBC Residential Mixed-Use Vision Plan).

4) Zoning Ordinance Amendment

The Zoning Ordinance Amendment would add new Chapter 5-8 to adopt the IBC Mixed Use Overlay Zone (Appendix D in the RDEIR, as amended by the City Council on July 13, 2010), which would define regulatory zoning districts for properties within the IBC and outline a process for analysis of compatibility of residential development with adjacent businesses. The proposed overlay zone is shown on Figure 3-6 of the RDEIR, *Overlay Zone Regulating Plan*. The amendment would also revise the statistical analysis outlined in Section 9-36-5, Statistical Analysis, of the City's Zoning Ordinance, to establish a residential cap of 15,000 dwelling units for the IBC area (excluding density bonus units pursuant to state law), with an offsetting reduction of nonresidential square footage, for units under the cap not yet approved, consistent with the proposed General Plan Amendment. Furthermore, the amendment would also update the Chapter 9-36, Planning Area 36 (IBC), provisions regarding the IBC traffic mitigation fee program (see Appendix D in the EIR). This amendment would also include clarifications of code language relating to the Transfer of Development Rights (TDRs). The Zoning Ordinance Amendment would also include other minor amendments to other sections of zoning code to maintain internal consistency.

5) Mnncipal Code

The Municipal Code Amendment would revise Chapter 10, Dedications, of Division 5, Subdivisions, of the City's Municipal Code, by adding a section to incorporate new urban park standards into the City's park dedication requirements for the IBC. The City's Park Standards Manual would also be updated to address urban open space in the IBC. Section 5-5-1004D(I) will also be revised to remove a 50-unit per acre density cap for determining persons per household.

6) Land Use Assnmptions

The Land Use Assumptions for the IBC Vision Plan are summarized as follows, and the methodology for development of these assumptions is detailed in Appendix F of the EIR.

Existing Conditions

The existing conditions are based on the City's IBC database as of July 10, 2009 (included in Appendix F of the RDEIR). Square footage listed as existing in this database represents existing

conditions scenario for the traffic analysis model. Additional unbuilt approved projects and remaining zoning potential listed in this database represents the dataset for the existing General Plan buildout scenario.

Land Use Assnptions for Interim Year 2015

The land use assumptions for 2015 consist of existing conditions plus projects approved but not yet built (Table 2-2) (identified as “Discretionary Approval” in the City’s IBC database as of July 10, 2009, with the exception of certain approved units within the Park Place development not anticipated to be built by 2015) and pending projects currently under review by the City (Tables 2-3 and 2-4 of the RDEIR). The approved and proposed land use changes and TDRs for these projects reflect changes to the existing conditions database for the interim year 2015 with project traffic analysis model for TDR details by project. The 2015 without project scenario consists of approved but not yet built projects only.

*Table 2-2
Summary of Approved IBC Development Projects*

<i>Project Name</i>	<i>Use Type</i>	<i>Description</i>	<i>Units or Square Feet by Use</i>
The Lofts on Von Karman	Residential	116-unit residential	116 units
2801 Kelvin	Residential	248-unit residential	248 units
The Carlyle	Residential	156-unit residential	156-units
Avalon/ Jamboree 1	Residential	280-unit residential	280 units
Central Park	Residential/Office/ Retail	1,380-unit residential	1,380 units, 90,000 sf office, 19,700 sf retail
CUP Childcare - 17575 Cartwright	Child Care	CUP for Child care center w/Admin Relief for Playground Area and Parking	11,580 sf school
CUP Church - 17751 Mitchell North	Church	CUP for La Puerta Abierta Church	82,000 sf church
CUP Hotel – 17081 Fitch	Hotel	CUP for 132-room Hotel	132 rooms (78,385 sf)
CUP Hotel - 2300 Main	Hotel	CUP for 170-room Aloft Extended Stay Hotel	170 rooms
Tentative Parcel Map - 17352 Von Karman	Office Condos	Tent. Parcel Map to divide 97,740 sf building	3,995 sf office; 31,903 sf mfg. 23,104 warehouse
Tentative Parcel Map - Daimler	Office Condos	Tent. Parcel Map to create one-lot for office condominiums	
Park Place	Residential/Office/ Retail	Development Agreement and CUP	2,008 units 308 hotel rooms 3.7 million sf of office 350,000 sf of retail ¹
Hines Master Plan	18582 Teller and 2722 Michelson	Office/Retail	Master Plan for 295,000 sf office (Phase 1), 490,000 sf office (Phase 2), 15,500 sf retail/restaurant

Source: City of Irvine 2009.

¹ Subject to change pursuant to the provisions of the existing Development Agreement.

*Table 2-3
Summary of Pending IBC Nonresidential Development Projects*

Project Name	Address	Use Type	Description
Element Hotel	17662 Armstrong	Hotel	CUP for 122-room hotel
Irvine Crossings Master Plan Modification and TPM	17871 Von Karman	Office/Industrial	Master Plan Modification to reduce office space and increase industrial/warehouse space in an existing building in PA 36 (4,726 sf office, 196,300 sf industrial)
Diamond Jamboree Master Plan Modification	2600–2798 Alton		Master Plan Modification for Shared Parking/reallocation of uses for Diamond Jamboree Center
Master Plan for GIFREHC Center	18691 Jamboree Road	Office/Retail/Hotel	Master Plan for GIFREH Multi-Use Center (250,000 sf office, 39,000 sf retail, 350 room hotel)
Allergan Master Plan Modification	18522 Von Karman	Office	Master Plan Modification for the addition of a 250,000 sf office building
McGaw - Tentative Tract Map	1555 and 1565 McGaw, 17173 Gillette	Office Condos	Tentative Tract Map for seven office condominiums on two lots
Modification to CUP for Park Place	8383 Michelson	Office	Minor modification to CUP 87-CP-0829 (Park Place)
Alton - Tentative Parcel Map for Non-Residential Condos	2152 Alton	Office Condos	Tentative Parcel Map 2008-189 to create 15 non-residential condo units in PA 36
Business Center - Tentative Parcel Map	2062 and 2070 Business Center Dr	Office Condos	Tentative Parcel Map 2008-137 to create 2 parcels for condominium purposes in PA 36

Source: City of Irvine 2009

Land Use Assumptions for Buildout Year (Post-2030) - Land Use Optimization

The Post-2030 land use model scenario has been developed based the City Council direction for a 15,000-unit cap, plus projections on how much development or redevelopment may occur for office, retail, and industrial uses, while respecting the existing trip caps that have been established for each parcel as part of the implementation of the City's 1992 IBC rezoning. The land use program also takes into account an analysis to estimate which land uses may stay in their current condition at buildout and which may be redeveloped. The process of developing this scenario is referred to as "optimization," as it projects the most viable set of land use assumptions for a mixed-use environment given the existing regulatory constraints. The program for optimizing land uses in the IBC for remaining unbuilt IBC zoning potential within existing IBC vehicle trip allocations by Traffic Analysis Zone (TAZ), has been used to redistribute potential land uses based on the following considerations:

- Conversion of underutilized office, manufacturing, and/or warehouse uses to retail use to accommodate demand from current and planned residential development.
- Buildout of remaining unutilized nonresidential zoning potential.
- Recycling of underutilized properties to higher-intensity uses.

The current General Plan allows for 53,125,389 square feet of overall nonresidential square footage in Planning Area 36, which may vary according to the totals of individual land uses over time. The total 5,985 additional new units (either potential or in process) remaining under the 15,000-unit cap would be offset by a reduction of 4,337,727 square feet of nonresidential intensity. With the proposed land use optimization discussed in this EIR, the overall nonresidential intensity in the General Plan would be 48,787,662 square feet (an increase of 6,016,662 square feet from existing conditions), with the reduction resulting primarily from the conversion of higher quantities of older industrial square footage to lower quantities of office square footage. The proposed optimization also includes the addition of three neighborhood-serving retail areas and four 2-acre public neighborhood park areas. Three of these parks would be located in the Urban Neighborhood area north of the Interstate 405 (I-405). The fourth park would be located in the Urban Neighborhood area south of the I-405, along Campus Drive. Construction of the 1,892 units in process, along with the pending and approved nonresidential projects, is assumed to be completed by 2015. The remaining 3,950 units, along with the proposed nonresidential land use optimization, would be completed at City buildout, post-2030.

The methodology for the land use optimization process is outlined in Appendix F in the RDEIR. The reallocation of land uses under this program would not change the development intensity assigned to each parcel per the 1992 IBC rezoning program, with the exception of parcels with unutilized zoning potential/approvals. Unutilized zoning potential/approvals for these parcels have been combined within each TAZ to allow a larger amount of zoning potential to accommodate reuse of underutilized land uses to higher-intensity uses. No transfers to other TAZ's have been assumed. It is anticipated that actual specific future development may occur differently than that anticipated in the assumptions used for the Vision Plan land use model, which is why a specific land use plan is not proposed as part of the Vision Plan project. Projects not consistent with the Vision Plan land use model assumptions will be reviewed in accordance with existing city policies and traffic study procedures to determine whether additional conditions of approval or environmental review are necessary.

7) Design Criteria

To ensure a consistent standard of residential design quality throughout the IBC, a set of design criteria from the IBC Vision Plan that would be applicable to residential and residential mixed-use projects in the IBC would be adopted (see Appendix E in the RDEIR). These criteria are intended to guide the physical development of any residential or mixed-use project that contains a component of residential use within the boundaries of the IBC. They are intended to assist in ensuring that the design of each development remains true to the principles established in the IBC Vision Plan. The criteria would also provide standards and criteria for new construction and for remodels or additions. The new design criteria would only be applicable to residential and mixed-use development.

8) Circulation Element Amendment

The City of Irvine General Plan Circulation Element identifies certain roadway configurations that are no longer needed as determined in the IBC Vision Plan; therefore a General Plan Amendment subsequent to the approval of the IBC Vision EIR will downgrade arterial roadways as needed. The City of Irvine intends to downgrade the following arterial segments as a subsequent General Plan Amendment to the Circulation Element:

- Barranca Parkway between Red Hill Avenue and Jamboree Road (downgrade from 8-lane divided roadway to 7-lane divided roadway)
- Jamboree Road between Barranca Parkway and McGaw Avenue (downgrade from a 10-lane divided roadway to a 8-lane divided roadway)
- Main Street between Red Hill and Harvard (downgrade from 6-lane divided arterial with 2 auxiliary lanes to 6-lane divided roadway)
- MacArthur Boulevard between Fitch and Main Street (downgrade from 8-lane divided roadway to 7-lane divided roadway)
- Red Hill Avenue between Barranca Parkway and Main Street (downgrade from an 8-lane divided roadway to a 6-lane roadway)
- Alton Parkway between Red Hill Avenue and Jamboree Road (downgrade from a 6-lane divided roadway to 4-lane divided roadway)
- Von Karman Avenue between Barranca Parkway and Michelson (downgrade from 6-lane roadway to 4-lane roadway)

The arterial segment of Alton Parkway between Red Hill Avenue and Jamboree Road as well as the segment of Von Karman Avenue between Barranca Parkway and Michelson Drive are programmed into both the City of Irvine's General Plan and the Orange County Master Plan of Arterial Highways (MPAH). Both roadways are currently 4-lane roadways and expected to remain as 4-lane roadways in the future. Both the City's General Plan and the Orange County MPAH currently have these two segments programmed as 6-lane divided arterials in the buildout condition. The IBC Vision Plan traffic study has determined that 6 lanes are unnecessary for both of these roadway segments under buildout conditions. Thus, the City of Irvine will initiate an MPAH Amendment by entering into a cooperative study with the Orange County Transportation Authority (OCTA) to determine the feasibility of downgrading both Alton Parkway and Von Karman Avenue. Once this study is complete, both agencies can move forward with amendments to the General Plan and MPAH to downgrade both Alton Parkway between Red Hill Avenue and

Jamboree Road as well as Von Karman Avenue between Barranca Parkway and Michelson Drive.

Additionally, the City of Irvine intends to remove the following interchange improvements:

- Alton Parkway overcrossing at the SR-55 freeway with High Occupancy Vehicle (HOV) drop ramps
- Von Karman Avenue at the I-405 freeway HOV drop ramps

These interchange improvements are programmed in the Orange County MPAH as buildout improvements. However, the IBC Vision Plan traffic study has determined that these interchanges are unnecessary under buildout conditions. The City of Irvine will initiate an MPAH Amendment by entering into a cooperative study with OCTA and the affected local agencies to determine the feasibility of removing these interchange improvements from the MPAH.

9) Additional Changes

The name of the IBC may also be changed as directed by the Irvine City Council. Although not required under CEQA, it is included in this DEIR for informational purposes.

C. Use of Program EIR

The FEIR for the Proposed Project is a Program EIR, prepared pursuant to Section 15168 of the CEQA Guidelines. A Program EIR examines the total scope of environmental effects that would occur as a result of buildout of the entire Proposed Project. By examining the full scope of the Proposed Project and subsequent applications and approvals at this early stage of planning, the Program FEIR will provide a full disclosure of the environmental impacts that may occur throughout the Project Site, together with an analysis of the site specific and cumulative environmental impacts that will occur throughout the buildout of the Project.

The Program FEIR for this Project is intended to provide the environmental clearance for the specific applications currently pending before the City as discussed above, and for subsequent applications that are submitted to obtain City and responsible agency approvals for site-specific development projects within the IBC. If determined necessary, an initial study will be prepared by the agency required to take the discretionary action for each future development application within the IBC to ascertain whether a Subsequent EIR, Supplemental EIR, or other environmental documentation is necessary to comply with the CEQA, as provided by Sections 15162 through 15164, and Section 15168, of the Guidelines. If a Subsequent or Supplemental EIR is required, those documents can incorporate relevant information from the Program FEIR.

by reference, and limit their focus to the particular characteristics and effects of the individual project then under consideration.

If, on the other hand, the City or responsible agency finds, pursuant to Section 15162 of the State Guidelines, that no new effects could occur and no new mitigation measures would be required for the subsequent action, it may approve the subsequent action without preparing additional environmental documentation. The City or other responsible agency will, however, in its future discretionary actions, continue to apply the Existing Plans, Programs, and Policies (PPPs), Project Design Features (PDFs), and Mitigation Measures identified in the Program FEIR for the Project and adopted by the City herein.

Future discretionary and non-discretionary actions which may be considered by the City to implement the Proposed Project include, but are not limited to:

- Certification of the Environmental Impact Report (SCH#2007011024);
- Approval of General Plan Amendment 481476-GPA for IBC Residential/Mixed Use Vision Plan and related amendments, including amendments to the Circulation Element;
- Approval of Zone Change 409688-PZC for IBC Residential/Mixed Use Vision Plan and related amendments;
- Approval of Master Plan for IBC Residential Mixed Use Design Criteria;
- Approval of Municipal Code Amendment;
- Approval of amendment to the Park Standards Manual;
- Approval of Infrastructure Improvement Fee Program;
- Approval of Transportation Mitigation Fee Program;
- Approval of Land Use Optimization Program;
- Potential override of ALUC action or AELUP consistency determination
- Issuance of grading, building and other related permits;
- Issue a National Pollution Discharge Elimination System (NPDES) Permit for construction activities and/or Stormwater Pollution Prevention Plan;

- Issue any needed Air Quality Permits for development in the Irvine Business Complex;
- Approval of any necessary sewer or water facilities upgrades necessary to serve future development;
- Activities located within Caltrans right-of-way would require an Encroachment Permit and Caltrans Statewide NPDES Permit from Caltrans;
- Amendment to the Orange County Master Plan of Arterial Highways (MPAH);
- Encroachment permits may be required if any improvements are proposed within OCFCO right-of-way;
- Other discretionary and non-discretionary permits and approvals as may be required from the City or other responsible agencies for construction and development within the Project Area.

D. Statement of Objectives

A number of Project-specific objectives have been formulated for the Project. These objectives include, but are not limited to, the following:

- (1) Provide for the on going development of the IBC consistent with the City's General Plan Urban and Industrial land use designations and the City's adopted Vision Plan Goals, which are:
 - Protect the existing job base.
 - Develop mixed-use cores.
 - Provide transportation, pedestrian, and visual connectivity.
 - Create usable open space.
 - Develop safe, well-designed neighborhoods.
- (2) Provide additional housing opportunities near existing employment centers, consistent with the City's General Plan Land Use and Housing Elements.
- (3) Provide residential uses near existing employment centers, retail and entertainment uses, and transportation facilities consistent with the goals of the Southern California Association of Governments' Regional Comprehensive Plan and Compass Blueprint.

- (4) Provide residential development in areas of the IBC where adequate supporting uses and public services and facilities are provided, consistent with the City's General Plan Land Use Element.
- (5) Contribute to the development of mixed-use cores by incorporating residential, office, and commercial/retail uses into existing areas of nearby community facilities, retail goods and services, and restaurants to enhance the IBC's overall mixed-use urban character and reduce vehicle miles traveled in the South Coast Air Basin.
- (6) Provide neighborhood level amenities to serve the level of mixed-use development envisioned by the City's General Plan and IBC Vision Plan.
- (7) Incorporate sustainable provisions into implementation of the IBC Vision Plan.
- (8) Identify and pursue opportunities for open space areas that serve the recreational needs of IBC residents and employees.

III. ENVIRONMENTAL REVIEW AND PUBLIC PARTICIPATION

The City of Irvine determined that an EIR would be required for this project. It issued a Notice of Preparation (NOP) and Initial Study on January 8, 2007, to the State Clearinghouse, responsible agencies, and interested parties. The project description was subsequently revised to reduce the number of dwelling units and project details were refined. A new NOP was circulated between September 19, 2008, and October 20, 2008 (see Appendix B).

A total of 38 agencies/interested parties responded to the 2007 NOP. Copies of the written comments received during the public review period are in Appendix A to the FEIR. Copies of the written comments received during the second (2008) public review period, are in Appendix B. The City held three public scoping meeting to provide (i) information regarding the Proposed Project and (ii) an opportunity for public input regarding project issues that should be addressed in the Draft EIR. Comments received during the public involvement process and the IS/NOP scoping period were considered in the preparation of the Draft EIR.

The Draft EIR for the Proposed Project was then prepared and circulated for review and comment by the public, agencies and organizations for a 45-day public review period that began on March 30, 2009 and concluded on May 14, 2009. A Notice of Completion of the Draft EIR was sent to the State Clearinghouse and the Draft EIR was circulated to State agencies for review through the State Clearinghouse, Office of Planning and Research (SCH No. 2007011024). A notice of availability of the Draft EIR for review was mailed to Federal, State, County, City, and Regional Agencies/Organizations, School Districts, and Interested parties. A notice of availability was also placed in the OC Register on March 30, 2009 and Irvine World News on April 2, 2009. During the public review period, 26 comment letters on the Draft EIR were received.

On December 23, 2009, the City released the Recirculated DEIR (RDEIR) for an additional 45-day public review. A Notice of Completion of the RDEIR was sent to the State Clearinghouse and circulated to State agencies for review through the State Clearinghouse, Office of Planning and Research (SCH No. 2007011024). A notice of availability of the RDEIR for review was mailed to Federal, State, County, City, and Regional Agencies/Organizations, School Districts, and Interested parties. The RDEIR contains minor revisions to the Project Description and a new traffic study based on discussions with various stakeholders with an interest in the IBC. Other revisions to the RDEIR have been made based on other comments received on the previously circulated DEIR. Responses to comments have been completed on the previous Draft EIR and included in the RDEIR as Appendix Q.

There have been numerous opportunities for public review and comment concerning the Proposed Project and the environmental documents prepared for it, including the public forums set forth below:

Informational Meetings

December 6, 2004	Public Informational Meeting
January 12, 2005	Public Informational Meeting
February 15, 2005	Public Informational Meeting
January 20, 2005	Planning Commission Informational Meeting
February 17, 2005	Planning Commission Informational Meeting
March 17, 2005	Planning Commission Informational Meeting
April 15, 2005	Council direction to prepare VP
June 15, 2005	Community Services Commission Presentation
June 26, 2005	Charette Kickoff
July 5-9, 2005	Charette
September 7, 2005 & October 19-20, 2005	Joint Planning Commission/Community Services Commission meetings on Draft VP
November 22, 2005	IBC Stakeholder meeting 1
December 13, 2005	IBC Stakeholder meeting 2
January 16, 2006	IBC Stakeholder meeting 3

EIR Scoping

February 1, 2007	Planning Commission
February 21, 2007	Community Services Commission
February 27, 2007	City Council

IBC Task Force

January 9, 2007	Task Force Established
March 21, 2007	Task Force meeting 1- Goals/Objectives, Organization, Schedule, Historical Context
May 9, 2007	Task Force meeting 2- Review and prioritization of public improvements
June 13, 2007	Task Force meeting 3- Park development
July 11, 2007	Task Force meeting 4- Town Centers, Unit Caps, Trip Capture
August 15, 2007	Task Force meeting 5- Preparation of recommendations to City Council

September 10, 2007	Task Force- Resident outreach meeting 1
September 24, 2007	Task Force- Resident outreach meeting 2
October 13, 2007	Council meeting on Task Force Recommendations
December 17, 2007	Task Force- Business outreach meeting
February 26, 2008	City Council acceptance of Task Force recommendations

Draft EIR Comment Meetings

April 15, 2009	Community Services Commission
April 21, 2009	IBC Task Force
May 7, 2009	Planning Commission

Public Hearings for Project Actions

March 17, 2010	Community Services Commission
April 1, 2010	Planning Commission
April 27, 2010	City Council
July 13, 2010	City Council

IV. GENERAL FINDINGS

The City hereby finds as follows:

- The City is the “Lead Agency” for the Proposed Project evaluated in the FEIR;
- The Draft EIR, Recirculated DEIR and the FEIR were prepared in compliance with CEQA and the Guidelines;
- The City has independently reviewed and analyzed the Draft EIR, Recirculated DEIR and the FEIR, and these documents reflect the independent judgment of the City Council;
- An MMRP has been prepared for the changes to the Proposed Project, which the City has adopted or made a condition of approval of the Proposed Project. That MMRP is incorporated herein by reference and is considered part of the record of proceedings for the Proposed Project;
- The MMRP designates responsibility and anticipated timing for the implementation of mitigation; the City will serve as the MMRP Coordinator;
- In determining whether the Proposed Project has a significant impact on the environment, and in adopting these Findings pursuant to Section 21081 of CEQA, the City has complied with CEQA Sections 21081.5 and 21082.2;
- The impacts of the Proposed Project have been analyzed to the extent feasible at the time of certification of the FEIR;
- The City reviewed the comments received on the Recirculated DEIR and the responses thereto and has determined that neither the comments received nor the responses to such comments add significant new information regarding environmental impacts to the Recirculated DEIR. The City has based its actions on full appraisal of all viewpoints, including all comments received up to the date of adoption of these Findings, concerning the environmental impacts identified and analyzed in the FEIR;
- The responses to the comments on the Recirculated DEIR, which are contained in the FEIR, clarify and amplify the analysis in the Recirculated DEIR;
- Having reviewed the information contained in the Draft EIR, Recirculated DEIR, FEIR, and the record of proceedings, as well as the requirements of CEQA and the Guidelines regarding

recirculation of Draft EIRs, and having analyzed the changes in the Recirculated DEIR which have occurred since the close of their respective public review periods, the City finds that there is no new significant information in the FEIR and finds that recirculation is not required.

- Except as otherwise discussed in these Findings and the FEIR, the conclusions regarding Project impacts are the same regardless of whether or not the project is considered an approved project or a pending future project.
- The City has made no decisions that constitute an irretrievable commitment of resources toward the Proposed Project prior to certification of the FEIR, nor has the City previously committed to a definite course of action with respect to the Proposed Project;
- Copies of all the documents incorporated by reference in the FEIR are and have been available upon request at all times at the offices of the City, custodian of record for such documents or other materials;
- Having received, reviewed and considered all information and documents in the record, the City hereby conditions the Proposed Project and finds as stated in these Findings.

V. SUMMARY OF IMPACTS

The FEIR concludes that impacts of the Proposed Project with respect to the following issues either will not be significant or will be mitigated to below a level of significance by Existing Plans, Programs, and Policies (PPPs), Project Design Features (PDFs), and Mitigation Measures that will be made conditions of project approval: Aesthetics, Biological Resources, Cultural Resources, Geology/Soils, Hazards/Hazardous Materials, Hydrology/Water Quality, Population/Housing, Public Services, Recreation, Utilities/Service Systems, and Global Climate Change. Impacts related to Air Quality, Land Use Planning, Noise, and Traffic remain significant despite the adoption of all feasible mitigation measures.

VI. FINDINGS REGARDING IMPACTS

In making each of the findings below, the City has considered the Project Design Features (“PDFs”) and Plans, Programs, and Policies (“PPP”) listed in the Final EIR. The PDFs described in the Final EIR are part of the Project that the City has considered, and are explicitly made conditions of approval. The PPPs discussed in the Final EIR are existing regulatory plans and programs that the Project is subject to, and likewise, are explicitly made conditions of approval.

A. Acstbetics

1. Environmental Impact: Future development pursuant to the IBC Vision Plan would not substantially alter the visual character of the IBC area and its surroundings. While the Proposed Project does not in itself approve specific developments in the IBC, it does propose design standards and criteria in the IBC Vision Plan for new residential and mixed-use developments, allowing for development in the IBC, which would result in intensification of the urban character of the IBC. Although the visual character of the project area would change, this change would be consistent in scale and character with the surrounding development. Therefore, the Project would not substantially degrade the existing visual character of the project area and its surroundings.

Finding: The Project will have no substantial adverse impact on the visual character or quality of the project area or its surroundings. No mitigation is required. Cal. Pub. Res. Code § 21081; CEQA Guidelines § 15091

Facts in Support of Finding: Implementation of the IBC Vision Plan would include the establishment of districts and development standards to address the market transition of certain portions of the IBC from exclusively industrial and/or office uses to mixed-use districts that would accommodate office, residential, and support commercial/retail uses, and protect existing businesses. The nouresidential square footage would decrease in the IBC and allow the development of nonindustrial uses, which is generally consistent with the existing and evolving mixed-use nature of the IBC area. Specific development projects in the IBC would be of quality design in conformance with the IBC Vision Plan goals and the standards and criteria outlined in the IBC Vision Plan or other applicable zoning designation. Infrastructure, including bridges, would be of high visual quality and complement their surroundings. Therefore, development of such infrastructure would not degrade the visual character or quality of the IBC area and its surroundings. Therefore, development in accordance with the IBC Vision Plan would not substantially degrade the visual character or quality of the IBC area and its surroundings.

Mitigation Measnre: No mitigation is required.

Reference: RDEIR § 5.1.

2. Environmental Impact: Additional light and glare generated by specific development projects in accordance with the IBC Vision Plan would not substantially impact surrounding land uses. Implementation of the Proposed Project would introduce new light sources and potential glare in the IBC and surrounding areas. However, the development would occur in an urbanized area with existing sources of light and glare. The additional light and glare is not anticipated to substantially impact surrounding uses.

Finding: There will be no substantial adverse project impacts from light and glare. PPP 1-1 and PPP 1-2 require applicants for new development adhere to the City lighting standards. No mitigation is required. Cal. Pub. Res. Code § 21081; CEQA Guidelines § 15091.

Facts in Support of Finding: Residential and mixed-use development and development of the proposed bridges would introduce new light sources and potential glare in the IBC and surrounding areas. Surrounding developments and individuals living in adjacent residential areas may experience an increase in nighttime illumination. Individual development projects would be required to comply with the City's existing lighting codes and standards, such as confining direct rays on-site and meeting security code requirements (PPP-1-1 and PPP-2). Additionally, as outlined in the design criteria of the IBC Vision Plan, the use of reflective glass is prohibited. Therefore, additional light and glare generated by specific development projects would not substantially impact surrounding land uses. The impact is less than significant.

Mitigation Measures: No mitigation is required.

Reference: RDEIR § 5.1.

3. Environmental Impact: Future development pursuant to the IBC Vision Plan may generate additional light and glare that could impact wildlife in the San Joaquin Freshwater Marsh and the San Diego Creek. Specific development projects in accordance with the IBC Vision Plan could impact wildlife in the San Joaquin Freshwater Marsh and the San Diego Creek. However, PPPs and PDFs address and mitigate this impact. **Finding:** There will be no substantial adverse project impacts from light and glare on wildlife in the San Joaquin Freshwater Marsh and the San Diego Creek. PDF 1-1 requires applicants for new development reduce the reflectivity of building materials within 100 feet of the San Joaquin Freshwater Marsh and the San Diego Creek. No mitigation is required. Cal. Pub. Res. Code § 21081; CEQA Guidelines § 15091.

Facts in Support of Finding: The San Diego Creek channel runs along the eastern boundary of the IBC and the San Joaquin Freshwater Marsh forms a portion of the IBC's southeastern boundary. According to the Conservation and Open Space Element of the City's General Plan, the marsh and the creek are both considered highly sensitive biotic resources.

There is a potential that birds from the marsh and/or creek could fly into the sides of reflective buildings, and evening lighting may disrupt nocturnal wildlife behavior. However, any future development proposals within 100 feet of the marsh or creek would be required to reduce the reflectivity of building surface materials by using angles that are not highly reflective, or through the incorporation of building surface materials that reduce reflectivity (PDF 1-1). Individual development projects would be required to comply with the City's existing lighting codes and standards, such as confining direct rays on-site and meeting security code requirements (PPP-1-1 and PPP-2). Additionally, as outlined in the design criteria of the IBC Vision Plan, the use of reflective glass is prohibited. Therefore, additional light and glare generated by specific development projects would not substantially impact wildlife in the San Joaquin Freshwater Marsh and the San Diego Creek. The impact is less than significant.

Mitigation Measures: No mitigation is required.

Reference: RDEIR § 5.2.

4. Environmental Impact: Cumulative Impacts. As discussed in Section 5.1 of the RDEIR, there will be no cumulative impacts for visual effects.

Finding: The Project will have no substantial cumulative impact on visual resources. No mitigation is required. Cal. Pub. Res. Code § 21081; CEQA Guidelines § 15091.

Facts in Support of Finding: Development of the IBC project area in accordance with the IBC Vision Plan would result in an intensification of the urban character of the IBC through demolition or renovation of existing structures and construction of new structures. Specific development projects in the IBC would be of quality design in conformance with the IBC Vision Plan goals and the standards and criteria outlined in the IBC Vision Plan or other applicable zoning designation. As a result, the Proposed Project has a less than significant cumulative impact on the visual character of the IBC.

An increase in development in the IBC would incrementally increase the amount of light and glare in the project area. However, all future projects would be required to comply with the Irvine Uniform Security Code, which limits excessive light and glare through specific requirements, including governing light spillover onto adjacent properties and nighttime illumination. City regulations would mitigate light and glare impacts in the IBC to a less than significant level. The Proposed Project, considered together with existing and future uses, would not result in a cumulatively considerable contribution to light or glare.

Mitigation Measures: No mitigation is required.

Reference: RDEIR, § 5.1.

B. Air Quality

1. Environmental Impact: Regional population, housing, and employment growth projections in the Irvine Business Complex were not accounted for in SCAQMD's Air Quality Management Plan. Implementation of the IBC Vision Plan project would generate short-term and long-term air pollutant emissions that exceed the South Coast Air Quality Management District's (SCAQMD) thresholds (Indicator 1). However, the project would further the goals of SCAG's Regional Comprehensive Plan (Indicator 2). As both criteria must be met, the project is considered significant relative to consistency with the Air Quality Management Plan (AQMP).

Finding: Changes or alterations have been required in, or incorporated into, the Project which will lessen the significant environmental effects of the Project related to air quality. PPPs 2-1 through 2-4, PPP 15-1 through PPP 15-14, PDF 2-6 through PDF 2-9 and PDF 15-1 through PDF 15-17 are feasible and will be implemented by the project. These changes or alterations, however, will not reduce this impact to below a level of significance. The City finds that there are no other feasible mitigation measures that would mitigate the impact to below a level of significance, and that specific economic, social, technological or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the alternatives identified in the FEIR, as discussed in Section VII of these Findings. (Public Resources Code § 21081(a)(3); Guidelines § 15091(a)(3)). As described in the Statement of Overriding Considerations, the City has determined that this impact is acceptable because of specific overriding considerations.

Facts in Support of Finding: PPP 2-1 through PPP 2-4 and PDF 2-6 through PDF 2-9 would reduce air pollutant emissions generated during construction activities to the extent feasible. In addition, PPP 15-1 through 15-14 and PDF 15-1 through 15-17, would reduce purchased energy use and water use, and encourage use of alternative transportation to reduce area and mobile sources of air pollution associated with the project. The project would not be consistent with the AQMP under the first indicator because short- and long-term emissions associated with the project would exceed the SCAQMD regional and localized significance thresholds, which are the basis for determining if a project would contribute to the regional nonattainment designations of the South Coast Air Basin (SoCAB). The project would be considered consistent with the AQMP under the second indicator because the project would further the goals of SCAG's Regional Comprehensive Plan, but it is necessary for both criteria to be met for the project would be considered consistent with the AQMP. Consequently, because the Proposed Project would fail under Indicator I, impacts are considered significant relative to project consistency with the AQMP.

Mitigation Measures: No additional mitigation measures are feasible.

Reference: RDEIR, § 5.2, Air Quality Modeling Data (Appendix G).

2. Environmental Impact: Construction emissions associated with buildout of the Irvine Business Complex would generate short-term emissions that exceed the SCAQMD's regional significance thresholds for VOC, NO_x, CO, PM₁₀, and PM_{2.5}, and would significantly contribute to the nonattainment designations of the SOCAB for O₃ and Particulate Matter (PM₁₀ and PM_{2.5}). Construction activities produce combustion emissions from various sources, such as on-site heavy-duty construction vehicles, vehicles hauling materials to and from the site, and motor vehicles transporting the construction crew. Site preparation activities produce fugitive dust emissions (PM₁₀ and PM_{2.5}) from soil-disturbing activities such as grading and excavation and from demolition activities. Construction activities associated with new development occurring in the project area would temporarily increase emissions of PM₁₀, PM_{2.5}, VOC, NO_x, SO_x, and CO.

Finding: Changes or alterations have been required in, or incorporated into, the Project which will lessen the significant environmental effects of the Project related to air quality. PDF 2-3, PDF 2-6 through PDF 2-9 would reduce air pollutant emissions from construction activities. These changes or alterations, however, will not reduce this impact to below a level of significance. The City finds that there are no other feasible mitigation measures that would mitigate the impact to below a level of significance, and that specific economic, social, technological or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the alternatives identified in the FEIR, as discussed in Section VII of these Findings. (Public Resources Code § 21081(a)(3); Guidelines § 15091(a)(3)). As described in the Statement of Overriding Considerations, the City has determined that this impact is acceptable because of specific overriding considerations.

Facts in Support of Finding: The Project's construction activity air quality impacts are considered significant. Construction activities associated with new development occurring in the project area would exceed SCAQMD's regional significance thresholds for VOC, NO_x, CO, PM₁₀, and PM_{2.5}, and would significantly contribute to the nonattainment designations of the SOCAB for O₃ and Particulate Matter (PM₁₀ and PM_{2.5}). PDF 2-3, PDF 2-6 through PDF 2-9 would reduce emissions from construction activities to the extent feasible. However, no additional feasible mitigation measures are available to reduce air pollutant emissions generated by short-term activities to below the SCAQMD's regional significance thresholds. Therefore, impacts from air pollutant emissions from construction-related activities would be significant.

Mitigation Measures: No additional mitigation measures are feasible.

Reference: RDEIR, § 5.2, Air Quality Modeling Data (Appendix G).

3. Environmental Impact: Buildout of the Irvine Business Complex would generate long-term stationary- and mobile-source emissions that exceed the SCAQMD's regional significance threshold and significantly contribute to the nonattainment designations of the SOCAB for O₃ and particulate matter (PM₁₀ and PM_{2.5}). Long-term emissions generated by

new development in the IBC Vision Plan area would generate VOC, NO_x, CO, PM₁₀, and PM_{2.5} emissions that would exceed the SCAQMD regional significance thresholds. Emissions of NO_x that exceed the SCAQMD emissions thresholds would contribute to the O₃ and particulate matter (PM₁₀ and PM_{2.5}) nonattainment designations of the SoCAB. In addition, emissions of PM_{2.5} would significantly contribute to the particulate matter (PM₁₀ and PM_{2.5}) nonattainment designations.

Finding: Changes or alterations have been required in, or incorporated into, the Project which will lessen the significant environmental effects of the Project related to air quality. These changes or alterations, however, will not reduce this impact to below a level of significance. The City finds that there are no other feasible mitigation measures that would mitigate the impact to below a level of significance, and that specific economic, social, technological or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the alternatives identified in the FEIR, as discussed in Section VII of these Findings. (Public Resources Code § 21081(a)(3); Guidelines § 15091(a)(3)). As described in the Statement of Overriding Considerations, the City has determined that this impact is acceptable because of specific overriding considerations.

Facts in Support of Finding: Long-term emissions generated by new development in the IBC Vision Plan area would generate VOC, NO_x, CO, PM₁₀, and PM_{2.5} emissions that would exceed the SCAQMD regional significance thresholds. PPP 15-1 through 15-2 and PDF 15-1 through 15-15 in Section 5.15, Global Climate Change, would reduce purchased energy use and water use, and encourage use of alternative transportation to reduce area and mobile sources of air pollution associated with the project. However, no additional feasible mitigation measures are available to reduce air pollutant emissions generated by long-term activities to below the SCAQMD's regional significance thresholds. Therefore, impacts from air pollutant emissions from mobile and stationary sources would remain significant.

Mitigation Measures: No feasible mitigation measures.

Reference: RDEIR, § 5.2, Air Quality Modeling Data (Appendix G).

4. Environmental Impact: Project-related construction activities could expose sensitive receptors to substantial pollutant concentrations of NO_x, PM₁₀, and PM_{2.5}. Short-term construction emissions generated by the project could expose sensitive receptors to substantial pollutant concentrations and impacts would be considered significant and unavoidable.

Finding: Changes or alterations have been required in, or incorporated into, the Project which will lessen the significant environmental effects of the Project related to air quality. PDF 2-3, PDF 2-6 through PDF 2-8 would reduce air pollutant emissions from construction activities. These changes or alterations, however, will not reduce this impact to below a level of

significance. The City finds that there are no other feasible mitigation measures that would mitigate the impact to below a level of significance, and that specific economic, social, technological or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the alternatives identified in the FEIR, as discussed in Section VII of these Findings. (Public Resources Code § 21081(a)(3); Guidelines § 15091(a)(3)). As described in the Statement of Overriding Considerations, the City has determined that this impact is acceptable because of specific overriding considerations.

Facts in Support of Finding: Fugitive dust and construction equipment exhaust would generate substantial concentrations of NO_x, PM₁₀, and PM_{2.5} at sensitive land uses near the project site, thereby exposing nearby sensitive receptors to substantial particulate concentrations. PPP 2-3 and PDF 2-8 would reduce particulate matter concentration generated by fugitive dust during construction activities to the extent feasible. In addition, PDF 2-6 and PDF 2-7 would reduce NO_x from construction equipment exhaust. However, no additional feasible mitigation measures are available to reduce elevated levels of NO_x, PM₁₀, and PM_{2.5} at nearby sensitive receptors. Therefore, construction emissions generated by the project could expose sensitive receptors to substantial pollutant concentrations and impacts would be potentially significant.

Mitigation Measures: No feasible mitigation measures.

Reference: RDEIR, § 5.2, Air Quality Modeling Data (Appendix G).

5. Environmental Impact: Operation of the Irvine Business Complex would not expose off-site sensitive receptors to substantial concentrations of NO₂, CO, PM₁₀, or PM_{2.5}. Residential, commercial, and office land uses do not generate substantial quantities of stationary-source air pollutants that would result in a significant impact.

Finding: There will be no substantial adverse project impacts concentrations of air pollutants generated from the operational phase of the project. Cal. Pub. Res. Code § 21081; CEQA Guidelines § 15091.

Facts in Support of Finding: Residential, commercial, and office land uses do not generate substantial quantities of stationary-source air pollutants that would result in a significant impact. Based on CO hotspot modeling, at even the most congested intersections, project-related traffic is not anticipated to exceed any of the state one- or eight-hour CO AAQS at the study area intersections. Consequently, sensitive receptors in the area would not be significantly affected by CO emissions generated by operation of the Proposed Project. Localized air quality impacts related to mobile-source emissions would therefore be less than significant.

Commercial and business uses associated with the Proposed Project would result in daily and weekly truck deliveries. With compliance to existing regulations (California Air Resources Board [CARB] Rule 2485), idling emissions from heavy-duty trucks associated with the commercial and business use materials deliveries would be extremely limited and would not expose sensitive receptors to substantial pollutant concentrations. Truck idling impacts would be less than significant.

Mitigation Measures: No mitigation is required.

Reference: RDEIR, § 5.2, Air Quality Modeling Data (Appendix G).

6. Environmental Impact: Development of residential uses within the Irvine Business Complex could be located within CARB's recommended buffer distances from I-405 or existing distribution centers, chrome platers, dry cleaners, or gas stations. Placement of sensitive uses near major pollutant sources would result in significant air quality impacts from the exposure of persons to substantial concentrations of toxic air pollutant contaminants. Although mitigation will lessen the impact, placement of private outdoor recreational areas would expose people to elevated levels of toxic air contaminants that exceed the ambient concentrations in the project vicinity and the impact would be significant and unavoidable.

Finding: Changes or alterations have been required in, or incorporated into, the Project which will lessen the significant environmental effects of the Project related to air quality. PDFs 2-1 through 2-5 would require new residential land uses to ensure that health risk is minimized to below 10 in a million risk. These changes or alterations, however, will not reduce this impact to below a level of significance. The City finds that there are no other feasible mitigation measures that would mitigate the impact to below a level of significance, and that specific economic, social, technological or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the alternatives identified in the FEIR, as discussed in Section VII of these Findings. (Public Resources Code § 21081(a)(3); Guidelines § 15091(a)(3)). As described in the Statement of Overriding Considerations, the City has determined that this impact is acceptable because of specific overriding considerations.

Facts in Support of Finding: New residential developments could be located within the recommended buffer distances to the Interstate 405 (I-405) or existing distribution centers, chrome platers, dry cleaners, gas stations, or other industrial facilities that emit toxic air contaminants (TACs) currently operating within the IBC. Placement of sensitive uses near major pollutant sources would result in significant air quality impacts from the exposure of persons to substantial concentrations of toxic air pollutant contaminants.

Implementation of PDF 2-1 through PDF 2-4 would ensure that residents within the IBC would not be exposed to levels of toxic air contaminants that exceed the ambient concentrations

in the project vicinity, which are 830 to 1,233 in a million in the IBC area. PDF 2-1 and 2-2 require that health risk be reduced below SCAQMD's incremental risk threshold of 10 in one million cancer risk through on- or off-site mitigation, or residential development would be prohibited. With implementation of PDF 2-1 and 2-4 impacts to sensitive land uses from industrial sources of air pollution would be less than significant. PDF 2-3 would reduce the potential outdoor health risk for parks within close proximity to the freeway, development projects may include outdoor private recreational areas within the CARB-recommended distance of 500 feet. Therefore, placement of private outdoor recreational areas would expose people to elevated levels of toxic air contaminants that exceed the ambient concentrations in the project vicinity, which are 830 to 1,233 in a million in the IBC area and impacts would be potentially significant.

Mitigation Measures: No mitigation is required.

Reference: RDEIR, § 5.2, Air Quality Modeling Data (Appendix G).

7. Environmental Impact: The Irvine Business Complex would not create objectionable odors; however, new residential land uses could be proximate to existing odor generators. Industrial uses within the IBC Vision Plan area may generate odors that are objectionable to some. Consequently, impacts would be potentially significant. PDF 2-5 has been incorporated in the EIR to ensure that new residential land uses are not located in proximity to existing land uses within the IBC that generate substantial odors. Consequently, impacts would be less than significant.

Finding: No significant adverse impacts associated with odors are identified. PDF 2-5 requires that objectionable odors be minimized at residential areas. No mitigation is required. Cal. Pub. Res. Code § 21081; CEQA Guidelines § 15091.

Facts in Support of Finding: Odors generated by land uses within the IBC must comply with SCAQMD Rule 402, which prohibits the generation of odors that cause injury, detriment, nuisance, or annoyance to a considerable number of persons or which endanger the comfort, repose, health, or safety of people. Because proposed office, commercial, hotel, and residential land uses typically do not generate substantial odors, no significant impacts would occur. PDF 2-5 has been incorporated in the EIR to ensure that new residential land uses are not located in proximity to existing land uses within the IBC that generate substantial odors. Consequently, impacts would be less than significant.

Mitigation Measures: No mitigation is required.

Reference: RDEIR, § 5.2, Air Quality Modeling Data (Appendix G).

8. Environmental Impact: Cumulative Impacts. The Project will exceed SCAQMD Significance Thresholds for certain pollutants as described above. The SCAQMD considers a project cumulatively significant when project-related emissions exceed the SCAQMD regional emissions thresholds; therefore the cumulative air quality impacts from this project would be significant.

Finding: Changes or alterations have been required in, or incorporated into, the Project that substantially lessen the significant cumulative impact as identified in the Draft EIR. These changes or alterations, however, will not reduce this impact to an insignificant level. The Project is therefore expected to have a significant adverse cumulative impact on air quality. The City finds that there are no other feasible mitigation measures that will mitigate the impact to an insignificant level, and that specific economic, social, technological or other considerations make infeasible the alternatives identified in the Final EIR, as discussed in Section VII of these Findings. As described in the Statement of Overriding Considerations, the City has determined that this impact is acceptable because of specific overriding considerations. Cal. Pub. Res. Code § 21081(a)(1), (3); CEQA Guidelines § 15091(a)(1), (3).

Facts in Support of Finding: As described above and in Section 5.2 of the Draft EIR, emissions due to development and operation of the Project will exceed SCAQMD Significance Thresholds. Even with the implementation of the PPP's and PDF's, project-related construction emissions would still exceed the SCAQMD significance thresholds for VOC, NO_x, PM₁₀, and PM_{2.5}, and cumulative emissions would result in greater exceedances. Operation of the project would also result in emissions in excess of the SCAQMD regional emissions thresholds that contribute to the nonattainment designations of the SoCAB. Therefore, the project's contribution to cumulative air quality impacts would be significant.

Mitigation Measures: No additional measures are feasible.

Reference: RDEIR, § 5.2, Air Quality Modeling Data (Appendix G).

C. Biological Resources

1. Environmental Impact: The project would not have a direct substantial adverse effect on any species identified as a sensitive or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service. As discussed in Section 5.3 of the RDEIR, the Project will not have a direct impact on any species identified as a sensitive or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

Finding: Changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects to below a level of significance. (Public Resources Code § 21081(a)(1), Guidelines § 15091(a)(1)).

Facts in Support of Finding: The Proposed Project would not be expected to directly impact the habitat of any sensitive species. However, construction and use of the trail could adversely impact a number of sensitive species that occur in the San Diego Creek and San Joaquin marsh areas. Many sensitive species occur in these areas, including federally listed species such as the least Bell's vireo as well as a number of California Species of Special Concern. Additionally, the construction of new buildings in the developed part of the IBC area that adjoins the San Joaquin Marsh could lead to injury or mortality of birds flying into or away from the marsh.

Implementation of PDF-1 requires further study of the biological issues and the design alternatives for the proposed trail and requires the design analysis of the proposed trail to examine the buffer needs and opportunities of the proposed trail and to consider an alternative that excludes a trail segment along the most sensitive part of San Diego Creek (the northwestern side of the creek between Campus Drive and MacArthur Boulevard). PDF 3-2 ensures that construction activities involving the use of heavy equipment are prohibited during the bird nesting season (March 15 to September 15) and if minor construction activities are carried out during the bird nesting season, then a qualified biologist must conduct a preconstruction survey in the off-site habitat to determine the location of any active bird nests in the area. Additionally, PDF 3-4 will ensure that development landscaping does not include exotic plant species that may be invasive to native habitats. Compliance with PDF-1 through PDF-4 would mitigate the impact to less than significant.

Mitigation Measures: No mitigation is required.

Reference: RDEIR § 5.3; Biological Resources Study (Appendix H).

2. Environmental Impact: The project would not Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service. The IBC area does not contain any riparian or other sensitive natural habitats. However, these habitats occur in the adjoining areas along San Diego Creek and San Joaquin marsh. Construction in areas that adjoin these riparian habitats could have indirect impacts on riparian habitats as a result of increased erosion. However, compliance with PPP 3-1 would prevent the occurrence of any significant impacts.

Fiuding: No significant adverse impacts associated with impacts to sensitive species are identified. PPP 3-1 and PDF 3-1 through 3-4 would require existing protocol to minimize impacts are followed. No mitigation is required. Cal. Pub. Res. Code § 21081; CEQA Guidelines § 15091.

Facts in Support of Finding: The project has been conditioned upon compliance with PPP 3-1, stating that prior to approval of the design for the San Diego Creek Trail improvements/extension; the City shall examine alternative locations of the proposed trail and methods that could be used to minimize potential impacts (e.g., fencing and buffers). The design shall consider an alternative that excludes a trail segment along the most sensitive part of San Diego Creek (the northwestern side of the creek between Campus Drive and MacArthur Boulevard). Compliance with PPP 3-1 will ensure that impacts associated with removal of eucalyptus windrows will be less than signifieant.

Mitigation Mcasnres: No mitigation is required.

Reference: RDEIR § 5.3; Biological Resources Study (Appendix H).

3. Environmental Impact: The project would not have a snbstantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (inclnding but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interrnpption, or other means. As discussed in Section 5.3 of the RDEIR, the Proposed Project would not directly impact any wetlands, however, there is the potential for indirect impacts as a result of urban runoff from the developed areas to San Diego Creek. There is also a potential for adverse impacts of erosion and surface runoff during construction and operation of the proposed trail on the wetlands of San Diego Creek and San Joaquin marsh.

Finding: No significant adverse impacts associated with impacts to sensitive species are identified. PPP 3-1 and PDF 3-1 through 3-4 would require existing protocol to minimize impacts are followed. No mitigation is required. Cal. Pub. Res. Code § 21081; CEQA Guidelines § 15091.

Facts in Support of Finding: The IBC area does not contain any wetlands. However, the proposed trail would adjoin San Diego Creek and the San Joaquin Marsh. The open water and riparian habitats of the creek and marsh would be considered jurisdictional wetlands by the Corps and CDFG. In addition, the IBC area contributes urban runoff into the San Diego Creek channel. The Proposed Project would not directly impact any wetlands. However, there is the potential for indirect impacts as a result of urban runoff from the developed areas to San Diego Creek. There is also a potential for adverse impacts of erosion and surface runoff during construction and operation of the proposed trail on the wetlands of San Diego Creek and San Joaquin marsh. However, compliance with PPP 3-1 would prevent the occurrence of any significant impacts.

Mitigation Measures: No mitigation is required.

Reference: RDEIR § 5.3; Biological Resources Study (Appendix H).

4. Environmental Impact: The project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. As discussed in Section 5.3 of the RDEIR, the majority of the IBC area is developed with urban land uses and does not function as a wildlife movement corridor. The Proposed Project would intensify urban land uses within already developed areas, which would have no effect on wildlife movement.

Finding: The Project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species and therefore no significant adverse impacts will occur. No mitigation is required. (Public Resources Code § 21081(a)(1), Guidelines § 15091(a)(1)).

Facts in Support of Finding: The Creek serves as a local movement corridor for wildlife species, and it provides aquatic connectivity between the Santa Ana Mountains and Upper Newport Bay. However, it is not designated by the Orange County NCCP as a corridor or special linkage area. The proposed trail along the San Diego Creek would not include any night-lighting, and limited fencing may be used to prevent unauthorized access into sensitive habitats. A barbed wire fence now marks the boundary of the San Joaquin Marsh area along the existing maintenance road along San Diego Creek. The project would not construct substantial new fencing or convert existing habitat, and therefore would not adversely affect habitat connectivity.

Mitigation Measures: No mitigation is required.

Reference: RDEIR § 5.3; Biological Resources Study (Appendix H).

5. Environmental Impact: The Proposed Project would not Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. As discussed in section 5.3 of the RDEIR, Proposed Project would not conflict with any local policies or ordinances protecting biological resources.

Finding: The Project will not conflict with any local policies or ordinances protecting biological resources, and therefore no significant adverse impacts will occur. PDF 3-2 would require a tree survey and permit for tree removal in accordance with the City's tree preservation ordinance. No mitigation is required. Cal. Pub. Res. Code § 21081; CEQA Guidelines § 15091.

Facts in Support of Finding: The Open Space and Natural Resource element identifies the importance of preserving the biological resources of the San Joaquin Marsh wetlands and the San Diego Creek riparian habitat, and integrating these into local and regional conservation and open space areas. The Proposed Project would not degrade these areas, and would not interfere with their linkage to other open space areas. There are trees in the general area of the proposed trail along San Diego Creek, but the project design is not sufficiently specific to determine whether or how many trees would be impacted. The City of Irvine's Urban Forestry Ordinance requires that a permit be obtained to remove any significant tree on public or private land. Trees on nonresidential properties are subject to replacement criteria at a one-to-one ratio on-site or off-site, as prescribed in the City's Urban Forestry Ordinance, based on the determination of the City Arborist (PPP 3-2).

Mitigation Measures: No mitigation is required.

Reference: RDEIR § 5.3; Biological Resources Study (Appendix H).

6. Environmental Impact: The Proposed Project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. As discussed in Section 5.3 of the Draft EIR, the project is consistent with the NCCP/HCP for the area.

Finding: The Project would not conflict with the adopted NCCP/HCP, nor would it conflict with other approved local, regional, or state habitat conservation plans, and therefore no significant adverse impacts will occur. No mitigation is required. Cal. Pub. Res. Code § 21081; CEQA Guidelines § 15091.

Facts in Support of Finding: The Proposed Project is consistent with the NCCP/HCP based on several criteria. First, only the proposed trail is located near the reserve open space, but would not prevent or interfere with assembly of the Reserve System. Second, Section 5.3.3 of the NCCP Implementation Agreement identifies passive recreation, which includes bicycling (on designated trails), hiking, and nature interpretation as permitted uses within the Reserve System. The NCCP/HCP identifies the areas where public access is prohibited (Figure 26 of the

NCCP/HCP), which does not include any locations within the IBC area. The NCCP/HCP prohibits a number of active recreational uses such as motorized recreation vehicle activities and other facilities that would significantly harm sensitive natural habitat resources and identified species. However, motorized recreation vehicles would not be permitted on the proposed trail, and there would be no significant impact to sensitive habitats and species.

The proposed IBC project is consistent with the findings and recommendations of the SAMP for the San Diego Creek watershed. The SAMP identifies six different types of riparian restoration activities and prospective locations within the San Diego Creek watershed. None of these prospective restoration areas are within the IBC project area.

Mitigation Measures: No mitigation is required.

Reference: RDEIR § 5.3; Biological Resources Study (Appendix H).

7. Environmental Impact: Cumulative Impacts. There are no significant cumulative impacts because of the implementation of the regional NCCP/HCP and the Nature Reserve of Orange County.

Finding: Cumulative biological impacts are mitigated to an insignificant level through the NCCP/HCP and the Nature Reserve of Orange County. Therefore, cumulative impacts to biological resources are not considered significant. Cal. Pub. Res. Code § 21081; CEQA Guidelines § 15091.

Facts in Support of Finding: The geographic scope for biological resources includes the NCCP/HCP Planning Area in conjunction with growth projections for Orange County. The NCCP/HCP is intended and designed to address biological resources impacts on a larger, regional basis. The primary cumulative impact on biological resources is the fragmentation of ecosystems resulting from the incremental loss of native habitats. As development continues, the remaining ecosystems will become more isolated and fragmented. The result will be that connectivity between patches of habitat and the wildlife populations they support will be lost. The Proposed Project is within the area designated for development under the NCCP/HCP and is consistent with provisions of the NCCP/HCP. The City of Irvine participates in this and the NCCP program, and requires development to be in accordance with the NCCP. As a result, cumulative biological impacts are mitigated to a level less than significant and would not be cumulatively considerable.

Mitigation Measures: No mitigation is required.

Reference: RDEIR § 5.3; Biological Resources Study (Appendix H).

D. Cultural Resources

1. Environmental Impact: Development of the project could impact prehistoric archaeological sites with burials. As discussed in Section 5.4, there are no known historical resources in the project area. There is the potential, however, for resources to be buried beneath the site.

Finding: Implementation of PPP 4-1 will include retaining a qualified archaeologist to address the monitoring of site grading. In the event that any historical or archaeological resources are discovered, appropriate measures will be taken to protect or recover those resources. Therefore, the City finds that no substantial adverse impact to archeological resources or historic resources will occur. Cal. Pub. Res. Code § 21081; CEQA Guidelines § 15091(a)(1).

Facts in Support of Finding: Based on the results of the study in Appendix I of the Draft EIR, there are no known historical or archaeological resources within the IBC area. The Project would not cause substantial adverse change to known historical resources outside the project site boundaries. Implementation of PPP 4-1 will include retaining a qualified archaeologist to address the monitoring of site grading for potential archaeological or historical resources. If resources are discovered, no further grading shall occur in the area of the discovery until the Director of Community Development is satisfied that adequate provisions are in place to protect or recover those resources. Therefore, potential impacts to undiscovered historical or archaeological resources, if any, are expected to be less than significant.

Mitigation Measures: No mitigation is required.

Reference: RDEIR § 5.4; Paleontological/Archaeological Report (Appendix I).

2. Environmental Impact: The Proposed Project could destroy paleontological resources or a unique geologic feature. As discussed in Section 5.4, the project area is sensitive, at variable depths below six feet, for significant paleontological resources.

Finding: Implementation of PPP 4-1 will include the retention of a qualified paleontologist to address the monitoring of site grading and in the event that any paleontological resources are discovered, appropriate measures will be taken to protect or recover those resources. As such, the Project's potential impacts to paleontological resources, if any, are expected to be less than significant. Cal. Pub. Res. Code § 21081; CEQA Guidelines § 15091(a)(1).

Facts in Support of Finding: The project area is sensitive, at variable depths below six feet, for significant paleontological resources. Impacts above 30 feet may adversely affect Late Pleistocene fossils and those below 30 feet may adversely affect Middle to Early Pleistocene fossils. Excavation activities associated with development of the Project could encounter deposits and potentially impact sensitive paleontological resources. Implementation of PPP 4-1 will include the retention of a qualified paleontologist to address the monitoring of site grading.

If any paleontological resources are discovered, appropriate measures will be taken to protect or recover those resources. The Project's potential impacts to paleontological resources, if any, are therefore expected to be less than significant.

Mitigation Measures: No mitigation is required.

Reference: RDEIR § 5.4; Paleontological/Archaeological Report (Appendix I).

3. Environmental Impact: Grading activities could potentially disturb human remains. As discussed in Section 5.4, the parking lot north of Michelson and west of Harvard may cap intact prehistoric resources, including burials. It is possible, but not likely, that buried human remains are present in the project site boundaries.

Finding: No substantial adverse impacts to human remains are expected. Implementation of PPP 4-2 would provide the measures necessary to appropriately address such a situation by stopping further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until the Orange County Coroner is contacted. Cal. Pub. Res. Code § 21081; CEQA Guidelines § 15091(a)(1).

Facts in Support of Finding: Although the parking lot north of Michelson and west of Harvard may cap intact prehistoric resources, including burials. It is possible, but not likely, that buried human remains are present in the project site boundaries. Implementation of PPP 4-2 would provide the measures necessary to appropriately address such a situation by stopping further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until the Orange County Coroner is contacted. The Orange County Coroner would in turn contact the appropriate persons or groups who have the authority to determine treatment or disposing of the human remains as provided in Public Resources Code Section 5097.98. Therefore, the Proposed Project's potential to impact human remains, if any, would be reduced to a level less than significant.

Mitigation Measures: No mitigation is required.

Reference: RDEIR § 5.4; Paleontological/Archaeological Report (Appendix I).

4. Environmental Impact: Cumulative Impacts. As discussed in Section 5.4, potential impacts related to historical, archaeological, and paleontological resources would be reduced to a level that is less than significant through the implementation of existing requirements.

Finding: The Project will have no substantial cumulative adverse impacts to cultural resources. No mitigation is required. Cal. Pub. Res. Code § 21081; CEQA Guidelines § 15091.

Facts in Support of Finding: Future construction projects in the area that increase local population will lead to accelerated degradation of the cultural and paleontological resources. However, each development proposal received by the City undergoes additional discretionary review and is subject to the same resource protection requirements as this Proposed Project. If there is a potential for significant impacts on cultural or paleontological resources, an investigation will be required to determine the nature and extent of the resources and identify appropriate mitigation measures, including existing requirements such as PPP 4-1 and PPP 4-2.

Neither the Proposed Project nor other cumulative development in accordance with the General Plan are expected to result in significant impacts to cultural or paleontological resources provided site-specific surveys and test and evaluation excavations are conducted to determine whether the resources are unique archaeological resources or historical resources, and appropriate mitigation is implemented, including, but not limited to, compliance with existing requirements. Therefore, no significant cumulative impacts to cultural resources are expected to occur from the project.

Mitigation Measures: No mitigation is required.

Reference: RDEIR § 5.4; Paleontological/Archaeological Report (Appendix I).

E. Geology/Soils

1. Environmental Impact: Future residents and employees could be subjected to strong earthquakes. The Project is located in the highly seismic southern California region, due to the proximity of known active faults. Therefore, the Project is subject to potentially significant earthquake-related impacts. **Finding:** No significant impacts related to earthquakes were identified. PPP 5-1 through 5-6 would reduce impacts related to seismic ground-shaking and related hazards. Implementation of PPP 5-6 requires that structures be designed in accordance with the seismic parameters included in the Uniform Building Code/California Building Code which is expected to minimize the effects of ground shaking to the greatest degree feasible and lessen the significant environmental effects to below a level of significance. (Public Resources Code § 21081(a)(1), Guidelines § 15091(a)(1)).

Facts in Support of Finding: The project area is in Seismic Zone 4 of the Uniform Building Code, which means that the hazard posed by earthquakes is considered high, due to the proximity of known active faults. In southern California, there is no way to avoid earthquake hazards. Appropriate measures to mitigate and minimize the effects of earthquakes are included in the 2007 CBC, with specific provisions for seismic design. The CBC has been accepted as the basic design standard in the City of Irvine and Orange County. The design of structures in accordance with the CBC is expected to minimize the effects of ground shaking to the greatest degree feasible and to less than significant levels except for a catastrophic seismic event. Impacts are less than significant with incorporation of the PPPs and PDFs.

Mitigation Measures: No mitigation is required.

Reference: RDEIR § 5.5.

2. Environmental Impact: Future development could potentially be subjected to seismic-related ground failure, including landslides, lateral spreading, subsidence, liquefaction or collapse resulting in risks to life and property. As discussed in Section 5.5, secondary effects of earthquakes can lead to ground deformation include liquefaction, lateral spreading, seismically induced landslides, and ground lurching and may cause potential impacts within the project area.

Finding: Implementation of PPP 5-1 through PPP 5-5, would ensure that all grading operations and construction will be conducted in conformance with the applicable City of Irvine Grading Code (Municipal Code Title 5, Division 10) and Grading Manual, the most recent version of the California Building Code, and consistent with the recommendations included in the most current geotechnical reports for the project area prepared by the engineer of record. This would reduce any potential impacts from secondary effects of earthquakes within the project site to below a level of significance. No mitigation measures are required. (Public Resources Code § 21081(a)(1), Guidelines § 15091(a)(1)).

Facts in Support of Finding: The majority of the project area (mostly northeast of Interstate 405 but also near San Diego Creek) is in a Zone of Required Investigation for Liquefaction, as shown on the State of California Seismic Hazard Zones, Tustin Quadrangle map, reissued in January 2001. However, compliance with PPP 5-3 would lessen the impacts to less than significant.

The landslide hazard depends on many factors, including existing slope stability, shaking potential, and presence of existing landslides. The terrain of the project site is relatively flat. Therefore, landslides are not expected to impact the project site.

The potential hazard posed by seismic settlement and/or collapse within the project area is considered to be low in the area underlain by Newport Mesa, but may be moderate for the remainder of the project area, based on the compressibility of the underlying soils and the presence of shallow groundwater. Site-specific mass grading and compaction that would occur as part of future development within the project area would serve to mitigate any potential impacts to seismically induced settlement and/or collapse within the project site.

Seismically induced ground lurching occurs when soil or rock masses move at right angles to a cliff or steep slope in response to seismic waves. Structures built on these masses can experience significant lateral and vertical deformations if ground lurching occurs. The project area is on relatively flat terrain, and the potential for ground lurching is considered low. Therefore, no significant adverse impact related to ground lurching is anticipated.

Excavations extending deeper than about two feet are expected to encounter wet soil conditions and groundwater may be encountered at depths greater than 10 feet during construction. For projects involving subterranean parking garages, it is likely that a dewatering system will have to be designed and constructed. In addition, there is a possibility that some minor settlement and lateral movement of soil in off-site areas adjacent to the site may result from dewatering. Compliance with existing regulations, including the Uniform Building Code and City of Irvine Grading and Excavation Regulation and Grading Manual, would reduce this impact to less than significant.

The water quality impacts of dewatering activities are addressed in detail in Section 5.7, *Hydrology and Water Quality*, of this RDEIR. It should be noted that before water collected by a dewatering system could be discharged into municipal storm drains, the project would be required to obtain a permit pursuant to Order Number 98-67, adopted on July 10, 1998 by the Santa Ana Regional Water Quality Control Board.

Mitigation Measures: No mitigation is required.

Reference: RDEIR § 5.5.

3. Environmental Impact: The project would not result in substantial soil erosion or the loss of topsoil. Soils in the project area have already been disturbed by development in the IBC. Therefore, soil erosion or the loss of topsoil is not a potential impact.

Finding: No significant impacts related to soil erosion or loss of top soil were identified. No mitigation measures are required. (Public Resources Code § 21081(a)(1), Guidelines § 15091(a)(1)).

Facts in Support of Finding: Soils in the project area have already been disturbed by development in the IBC. Therefore, the loss of topsoil is not a potential impact. Soils in the project area are particularly prone to erosion during the grading phase of development, especially during heavy rains. Reduction of the erosion potential can be accomplished through a Storm Water Pollution Prevention Plan, which specifies best management practices for temporary erosion controls. Such measures typically include temporary catchment basins and/or sandbagging to control runoff and contain sediment transport within the project site. A comprehensive discussion of erosion can be found in Section 5.7, *Hydrology and Water Quality*.

Mitigation Measures: No mitigation is required.

Reference: RDEIR § 5.5.

4. Environmental Impact: The project could have corrosive or expansive soil. As discussed in Section 5.5, the project area is known to have a very high potential for expansive

soils. The presence of expansive soils in areas proposed for construction would be considered a potentially significant impact.

Fiuding: Compliance with PPP 5-1 through PPP 5-5 would substantially lessen the significant environmental effects to below a level of significance. (Public Resources Code § 21081(a)(1), Guidelines § 15091(a)(1)).

Faets in Support of Finding: All grading operations and construction will be conducted in conformance with the applicable City of Irvine Grading Code (Municipal Code Title 5, Division 10) and Grading Manual, the most recent version of the California Building Code, and consistent with the recommendations included in the most current geotechnical reports for the project area prepared by the engineer of record (PPP 5-2). Compliance with the City's Grading Ordinance, which requires site-specific geotechnical investigations for new construction, would reduce potential impacts associated with expansive soils to a less than significant level.

Mitigation Measnres: No mitigation is required.

Reference: RDEIR § 5.5.

5. Environmental Impact: Cumulative Impacts. As discussed in Section 5.5, no cumulative impacts are expected.**Finding:** Adherence to site-specific geotechnical recommendations and applicable building codes and grading ordinances will reduce potential cumulative geotechnical impacts to a level less than significant. (Public Resources Code § 21081(a)(1), Guidelines § 15091(a)(1)).

Faets in Support of Finding: The level of seismic activity expected in the project area is similar to the county and other regions of southern California. Most of the soils on the site are well suited for urban development, including construction. On-site impacts related to soils, such as erosion, loss of topsoil, expansive soils, and corrosion, are proposed to be controlled through various Plans, Programs, and Policies identified in PPPs 5-1 through 5-6.

All development at the project site and new development in the region in general will be required to be constructed to withstand probable seismic forces, including seismic-related ground failure like liquefaction. As cumulative projects are constructed, more people and structures will be exposed to seismic hazards. Other geotechnical constraints, such as expansive soils and landslides, may present hazards to cumulative development. Adherence to site-specific geotechnical recommendations and applicable building codes and grading ordinances will reduce potential cumulative geotechnical impacts to a level less than significant.

Mitigation Measnres: No mitigation is required.

Referenee: RDEIR § 5.5.

F. Hazards & Hazardous Materials

1. Environmental Impact: Project construction and/or operations would involve the transport, use, and/or disposal of hazardous materials. As discussed in Section 5.6, according to the Environmental Data Resources report, the routine transport, use, or disposal of hazardous materials for the project associated with redevelopment, demolition activities and future development of facilities may result in a potential significant impact.

Finding: No significant adverse impacts associated transport, use, and/or disposal of hazardous materials are identified. Compliance with existing regulations with respect to hazardous materials abatement, transportation, and management into substantially lessen the significant environmental effects as a result of the Proposed Project to below a level of significance (PPP 6-1 through PPP 6-8). No mitigation is required. Cal. Pub. Res. Code § 21081; CEQA Guidelines § 15091.

Facts in Support of Finding: Hazardous materials, including but not limited to asbestos containing materials (ACMs), lead-based paint, or petroleum-impacted soil, may be encountered during redevelopment and demolition activities at a project site within the IBC. Other construction activities should involve only minor amounts of hazardous materials or waste, such as oil, grease, and fuels associated with construction equipment. Existing regulations with respect to hazardous materials abatement, transportation, and disposal, including those referenced in PPPs 6-1, 6-2, and 6-4 through 6-8, will be followed during site development and are designed to be protective of human health. According to PDF 6-3, to mitigate any hazardous waste impacts related to the demolition of existing facilities (e.g., transformers or clarifiers), the Director of Community Development, in conjunction with the Orange County Fire Authority, shall include specific project conditions of approval as part of the discretionary review process. Project operations could involve the use of household hazardous materials (e.g., solvents, cleaning agents, paints, pesticides) typical of residential facilities that, when used correctly, would not result in a significant hazard to residents in the Proposed Project area. With adherence to the PPPs and PDFs described previously, no significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous waste/materials is anticipated as a result subsequent development pursuant to the Proposed Project.

Pursuant to the proposed zoning related to residential disclosures, all discretionary applications for residential or residential mixed use shall include a condition of approval for disclosure to residents clearly outlining the issues associated with living in a mixed-use environment (PDF 6-2). Specifically, prior to the issuance of building permits, the applicant shall submit, and the Director of Community Development shall have approved, a completed occupancy disclosure form for the project. The approved disclosure form, along with its attachments, shall be included as part of the rental/lease agreements, part of the sales literature, and part of the CC&Rs for the project. Each resident shall receive a copy of the Safety and Evacuation Plan. The program encourages businesses to provide notification of emergencies and

encourages emergency preparedness as a voluntary supplement to the notification that would be provided by local emergency response services. Taken together, these educational, disclosure, and registration/notification measures will reduce potential impacts of emergency notification and preparation to a less than significant level.

As described in PDF 6-4, the proposed zoning code will require that applicants of new residential and/or residential mixed-use development shall submit data, as determined by the Director of Community Development, for the City to evaluate compatibility with surrounding uses, including hazardous materials handling/storage.

Based on the FIND database query, there are approximately 511 regulated facilities within or in the immediate vicinity of the IBC; of these, 14 are identified as Title V facilities (see Figure 5.6-2 of the RDEIR). There are no public or private K-12 schools in the IBC; therefore, hazardous air emissions are not anticipated to impact schools as a result of project implementation. However, the project would create a mixed residential and industrial environment that may result in compatibility issues when siting residential developments within areas that could be impacted by existing facility emissions. Further evaluation of the toxic and carcinogenic air emissions would be necessary to determine the risk to project occupants. PDF 6-4 would require applicants for new residential and/or residential mixed-use development to submit data to the Director of Community Development to evaluate compatibility with surrounding uses with respect to issues such as air emissions. PDF 6-5 states that for all residential projects located within 1,000 feet of an industrial facility which emits TACs, the Project Applicant shall submit an HRA, prepared in accordance with recognized policies and procedures, to the Community Development Director prior to approval of any tentative tract map.

Although the introduction of residential land use may create a significant impact on future residents from emissions of toxic air pollutants from existing facilities within the IBC, these potential impacts are reduced to a less than significant level through compliance with PPPs 6-1 through 6-7 and PDFs 6-1 and 6-2.

Mitigation Measures: No mitigation is necessary.

Reference: RDEIR § 5.6; Appendix J (Environmental Data Resources Report).

2. Environmental Impact: Various hazardous material sites are located within the Proposed Project area. As discussed in Section 5.6 of the Draft EIR, implementation of the Project may create a significant impact on future residents from hazardous pollutants caused by historic site uses.

Finding: No significant adverse impacts associated hazardous material sites in the IBC Vision Plan area are identified. Compliance with existing regulations with respect to hazardous

materials abatement, transportation, and management into substantially lessen the significant environmental effects as a result of the Proposed Project to below a level of significance (PDF 6-2 through PDF 6-5). No mitigation is required. Cal. Pub. Res. Code § 21081; CEQA Guidelines § 15091.

Facts in Support of Finding: Based on a review of the Environmental Data Resources database report, the project encompasses an area that includes numerous businesses that have had releases of hazardous substances to the environment and/or are undergoing environmental investigation or remediation. The identified sites include but are not limited to 173 leaking underground storage tank cases, 12 DTSC investigation/remediation cases, and 39 local agency site cleanups.

Future developments within the IBC may be impacted by hazardous substance contamination from historical operations on the project site that may pose a significant health risks. Federal, state, and local regulations referenced in PPPs 6-1, 6-2, and 6-4 through 6-8, establish measures for removing or remediating hazardous materials and wastes that might be encountered during construction. The proposed zoning code requires that applications for new residential and/or residential mixed-use development shall submit data, as determined by the Director of Community Development, for the City to evaluate compatibility with surrounding uses with respect to issues including, but not limited to: noise, odors, truck traffic and deliveries, hazardous materials handling/storage, air emissions, and soil/groundwater contamination. These submittals will include Phase I site assessments, groundwater studies, and other necessary documentation to help determine each project's potential for potentially significant impact from historical releases of hazardous substances to soil and groundwater in the IBC (PDF 6-4).

Individual development sites may have existing facilities, such as transformers or clarifiers, to be demolished as part of a proposed development. To mitigate any hazardous materials-related impacts during the removal of such facilities, the Director of Community Development, in conjunction with OCFA, shall include specific project conditions of approval as part of the discretionary review process for the proposed development (PDF 6-3). Compliance with PPPs 6-1, 6-2, and 6-4 through 6-8, and PDFs 6-2 through 6-4 would reduce these potential impacts a less than significant level.

Mitigation Measures: No mitigation is necessary.

Reference: RDEIR § 5.6; Appendix J (Environmental Data Resources Report).

3. Environmental Impact: The project site is located in the vicinity of John Wayne airport and within the jurisdiction of an Airport Land Use Plan. As discussed in Section 5.6 of the Draft EIR a potentially significant, but mitigable, hazard impact may occur with Project implementation.

Finding: No significant adverse impacts associated aircraft hazards at the John Wayne Airport (JWA) are identified. PDF 6-4 requires applicants for new residential development to assess compatibility of the site with airport-related hazards. In addition, PDF 6-1 and 6-2 require disclosures related to proximity to the JWA. No mitigation is required. Cal. Pub. Rcs. Code § 21081; CEQA Guidelines § 15091.

Facts in Support of Finding: As discussed in *California Airport Land Use Planning Handbook*, general aviation aircraft collisions with buildings—and residences in particular—happen infrequently. Given the project's compliance with the state seismic standards, it is unlikely that the small size of general aviation aircraft would penetrate the structure of any such buildings on-site. As discussed in Section 5.11, *Public Services*, adequate fire protection services are available should an accident occur. In addition, PDF 6-4 was amended in the FEIR to require a compatibility assessment of airport-related hazards. The proposed zoning for the project related to building height limitations, recordation of aviation easements, obstruction lighting and marking, and airport proximity disclosures and signage shall be provided as required by the Orange County Airport Environs Land Use Plan for JWA. Given the requirement for specific review by the Airport Land Use Commission (ALUC) together with the Federal Aviation Administration (FAA) determination and recorded aviation easement, and the proposed zoning for the project related to building height limitations (PDF 6-1), development of the IBC is not expected to result in an inconsistency with the building height limitations set forth under the current civilian airport standards in the Airport Environs Land Use Plan (AELUP).

Pursuant to the proposed zoning related to residential disclosures, all discretionary applications for residential or residential mixed use shall include a condition of approval for disclosure to residents clearly outlining the issues associated with living in a mixed-use environment. The language for this disclosure shall be as specified by the Community Development Director. The disclosure form will contain a Hazardous Substance and Emergency Safety Plan, including a shelter-in-place plan. The approved disclosure form, along with its attachments, shall be included as part of the rental/lease agreements, part of the sales literature, and part of the CC&Rs for the project (PDF 6-2).

Mitigation Measures: No mitigation is necessary.

Reference: RDEIR § 5.6; Appendix J (Environmental Data Resources Report).

4. Environmental Impact: Project development would not affect the implementation of an emergency response or evacuation plan. As discussed in Section 5.6, the Proposed Project is not expected to interfere with the City's emergency plan and would result in no impact.

Finding: The project will have no substantial adverse impact on any emergency response or evacuation plan. No mitigation is required. (Public Resources Code § 21081(a)(1), Guidelines § 15091(a)(1)).

Facts in Support of Finding: The City has prepared an Emergency Plan to provide guidance for the City's response to emergency situations such as natural disasters, technological incidents, and national security emergencies. All new development must follow the City's emergency response and evacuation guidelines and be compatible with emergency evacuation routes.

The Proposed Project is not expected to interfere with an adopted emergency response or evacuation plan. Individual project review by both the City's Public Safety Department and OCFA is required (PPP 6-3). The project will incorporate all applicable design and safety requirements as set forth in the Uniform Security Code, Uniform Building Code, Fire Code, and OCFA standards and requirements. Additionally, Knox key switches for emergency vehicles, as required by the Uniform Security Code, will be installed on all gated parking structure entries. Furthermore, all construction activities will be performed per City and OCFA standards and codes, thereby avoiding any interference with emergency response or evacuation plans.

Mitigation Measures: No mitigation is necessary.

Reference: RDEIR § 5.6; Appendix J (Environmental Data Resources Report).

5. Environmental Impact: Cumulative Impacts. No substantial adverse cumulative impacts will result from the Project.

Finding: No substantial adverse cumulative impacts are anticipated from the Project. No mitigation is required. Cal. Pub. Res. Code § 21081; CEQA Guidelines § 15091.

Facts in Support of Finding: Assessment of potential cumulative impacts with regard to hazards and hazardous materials relates to the ability for impacts to occur off-site. The hazardous materials study area considered for cumulative impacts consisted of (1) the area that could be affected by Proposed Project activities, and (2) the areas affected by other projects where activities could directly or indirectly affect the presence or fate of hazardous materials on the Proposed Project site. The contribution of hazardous materials use and hazardous waste disposal with implementation of the project is minimal, and combined hazardous materials effects from past, present, and reasonably foreseeable projects within the City of Irvine will not be significant.

The Proposed Project would not result in an airport-related safety hazard and would not combine with other projects to result in a cumulatively considerable impact with respect to potential airport hazards. As described in PDF 6-1, the proposed zoning for the project related to building height limitations requires recordation of aviation easements, obstruction lighting and

marking, and airport proximity disclosures and signage to be provided, as required by the Orange County ALUP for JWA.

The project is consistent with AELUP and Caltrans standards for health and safety. The proposed buildings are also required to comply with state seismic standards, which are the most restrictive in the country. Furthermore, for the Proposed Project and all other projects in the area to be approved, each project is required to be consistent with the PPPs related to hazards and hazardous materials. Consistency with these plans prevents this and other projects from creating cumulative impacts in terms of hazards and hazardous materials.

Mitigation Measures: No mitigation is necessary.

Reference: RDEIR § 5.6; Appendix J (Environmental Data Resources Report).

G. Hydrology/Water Quality

1. Environmental Impact: Development pursuant to the Proposed Project would not increase the amount of impervious surfaces on the site and would therefore not impact opportunities for groundwater recharge. As discussed in Section 5.7, it is reasonable to assume that the proposed General Plan amendment would not increase the amount of impervious surfaces in IBC, but more likely reduce them, as industrial sites generally have a greater percentage of impervious surfaces in comparison to residential sites. **Finding:** The Project would not increase the amount of impervious surface in a manner which would impact opportunities for groundwater recharge, therefore no significant adverse impacts will occur. PPP 7-1 through PPP 7-4 detail best management practices to reduce water quality and hydrology impacts. No mitigation is required. Cal. Pub. Res. Code § 21081; CEQA Guidelines §15091.

Facts in Support of Finding: The proposed IBC Vision Plan and Overlay Zoning Code plans to incorporate a greater density of Residential – High-Rise Density and Residential – High Density land uses in areas currently zoned for Industrial. It is reasonable to assume that the proposed General Plan amendment will not increase the amount of impervious surfaces in IBC, but more likely reduce them, as industrial sites generally have a greater percentage of impervious surfaces in comparison to residential sites.

As discussed in Section 5.7.1.2 of the RDEIR, groundwater is relatively shallow within portions of the project area, and due to the Types C and D soils, portions of the site may not be conducive to infiltration of runoff. Prior to the issuance of precise grading permits, the applicant shall submit a groundwater survey of the entire site (PPP 7-2). Therefore, redevelopment of the IBC is not anticipated to reduce groundwater recharge opportunities as compared to existing conditions.

Mitigation Measures: No mitigation is needed.

Reference: RDEIR § 5.7; Appendix K (Hydrology and Water Quality Technical Report).

2. Environmental Impact: Development pursuant to the Proposed Project would slightly alter the existing drainage pattern of the site, but would not result in erosion or siltation on- or off-site. As discussed in Section 5.7, the proposed redevelopments would result in minor changes to the existing drainage patterns and peak flows with the minor alterations in impervious surfaces, but in general, the drainage areas, discharge points, and peak flow discharges would be consistent with existing conditions. **Finding:** The Proposed Project would not result in erosion or siltation on or off-site; therefore no significant adverse impacts will occur. No mitigation is required. Cal. Pub. Res. Code § 21081; CEQA Guidelines §15091.

Facts in Support of Finding: Currently, the IBC area is predominantly built out. The majority of the individual projects are the replacement of one structure for another, while recognizing the existing utilities, edge conditions, and drainage facilities. In addition, all runoff from the project site drains into existing MS4 systems and improved channels maintained by the City of Irvine and OCFCD. Lastly, any drainage improvements performed under the individual redevelopment projects will be subject to the design criteria and capacities required by the City of Irvine and OCFCD to control discharges to the existing runoff conditions to reduce any additional impacts. PPP 7-1 would ensure that applicants for new development are subject to the design guidelines and capacities required by the City of Irvine and OCFCD to control discharges to the existing runoff conditions to reduce any additional impacts. Based on the proposed hydrology analysis and flood controls within the project site, erosion and siltation on or off-site are considered less than significant.

Mitigation Measures: No mitigation is needed.

Reference: RDEIR § 5.7; Appendix K (Hydrology and Water Quality Technical Report).

3. Environmental Impact: Development pursuant to the Proposed Project would not increase the amount of impervious surfaces on the site and would therefore not increase surface water flows into drainage systems within the watershed. As discussed in Section 5.7, the proposed General Plan amendment would not appreciably increase the amount of impervious surfaces in IBC, as industrial and commercial sites generally have a greater percentage of impervious surfaces in comparison to residential sites.

Finding: The Project would not increase the amount of impervious surface in a manner which would increase surface water flows on site; therefore no significant adverse impacts will occur. No mitigation is required. Cal. Pub. Res. Code § 21081; CEQA Guidelines §15091.

Facts in Support of Finding: It is reasonable to assume that the Proposed Project will not increase the amount of impervious surfaces in the IBC, as industrial and commercial sites generally have a greater percentage of impervious surfaces in comparison to requirements of the proposed IBC zoning. According to the 1986 Orange County Hydrology Manual, the recommended average values for impervious cover for industrial and commercial land use is 90 percent, and in the IBC, many of the existing commercial and industrial sites appear to have very minimal landscaping and an impervious ratio that actually exceeds 90 percent. The redeveloped IBC zones will have a minimum landscape requirement of 15 percent for residential areas, in addition to landscaping requirements in any new parking lots and park areas. Overall, the Project is not anticipated to increase the amount of imperviousness as compared to existing conditions.

In addition, all individual projects must demonstrate their post-development peak flow runoff rates do not exceed existing condition peak runoff rates pursuant to PPP 7-1. Therefore, the potential impact by the proposed change in impervious surfaces to the IBC is considered less than significant.

Mitigation Measures: No mitigation is needed.

Reference: RDEIR § 5.7; Appendix K (Hydrology and Water Quality Technical Report).

4. Environmental Impact: Portions of the project site proposed for development are located within a 100-year flood hazard area. As discussed in Section 5.7 of the Draft EIR, according to the Flood Insurance Rate Maps (FIRMs) produced for the IBC area, the 100-year floodplain is conveyed within the existing drainage channels and the remainder of the areas are within Zone X, which is defined as areas determined to be outside the 500-year floodplain.

Finding: The Project will have no substantial adverse impact related to flood zones. No mitigation is required. Cal. Pub. Res. Code § 21081; CEQA Guidelines § 15091.

Facts in Support of Finding: According to the IBC Master Drainage Study, several portions of the channels were found to be insufficient for containing the 100-year storm flows based on the updated Orange County Hydrology Manual methodologies. The proposed habitable spaces within a SFHA will need to be placed or flood-proofed based on a site-specific analysis for each project. Final elevations will be verified by the City of Irvine. In addition, for areas that are subject to generalized ponding and flooding as indicated in the IBC Master Drainage Study, individual projects must demonstrate that they will not increase the ponding on adjacent properties. This shall be demonstrated by comparing the existing and proposed ponded water volumes stored outside of the building footprints under the water surface (assumed level) in the major facility that the individual project drains to.

As required by PPP 7-I, by designing each project to be elevated or flood-proofed one foot above the anticipated 100-year flood elevation, while maintaining or exceeding the volume of stormwater stored on-site during the 100-year storm event, impacts related to flood zones are considered less than significant.

Mitigation Measures: No mitigation is needed.

Reference: RDEIR § 5.7; Appendix K (Hydrology and Water Quality Technical Report).

5. Environmental Impact: Development pursuant to the Proposed Project would not violate any water quality standards or waste discharge requirements. As discussed in Section 5.7 of the Draft EIR, based on the incorporation of site design/ Low Impact Development (LID) features and BMPs as required under the City LIP and OC DAMP, no significant impact related to water quality and waste discharge is expected to result from the project.

Finding: No substantial adverse impacts to water quality are anticipated. No mitigation is required. Cal. Pub. Res. Code § 21081; CEQA Guidelines § 15091.

Facts in Support of Finding: The IBC Project will not significantly alter hydrologic conditions, and is not anticipated to increase sheet erosion potential. Where individual projects result in an overall decrease in impervious surfaces as compared to existing conditions, the exposed areas would be vegetated and stabilized to reduce erosion potential. Furthermore, Total Suspended Solids (TSS) from impervious areas of the individual projects, such as the paved parking lots and rooftops, would be collected by the local storm drain system and treated by site design/LID, source control and treatment control Best Management Practices (BMPs) for the project per the Orange County Drainage Area Management Plan (OC DAMP) and City Local Implementation Program (LIP) requirements. The majority of LID features and treatment control BMPs available for use, such as storm drain inserts, vegetated swales, and bioretention areas, are considered effective for targeting TSS and other pollutants typically associated with these types of impervious surfaces (see Table 5.7-6 in RDEIR). As a result, it is expected that TSS in runoff would not increase, that water quality standards would not be exceeded, and that beneficial uses would not be adversely affected. Moreover, the applications of these BMPs are designed to reduce TSS in runoff and result in less than significant impacts from TSS in the San Diego Creek and Newport Bay.

The individual projects would implement measures, such as source control measures and treatment BMPs, to minimize the adverse impacts of trash and debris. Source control measures such as periodic sweeping, litter patrol, and storm drain stenciling would be effective in reducing the amount of trash and debris leaving the site. Site design/LID features and treatment control

BMPs also possess moderate to high removal effectiveness for trash and debris. Based on these proposed features, impacts from trash and debris for the IBC are less than significant.

The individual projects as part of the IBC can implement several source control measures to reduce the amount of oil and grease in stormwater from the project sites. Maintenance activities, vehicle and equipment fueling, and waste handling that have the potential to introduce oil- and grease-related compounds will be strictly prohibited in outdoor areas where they could potentially come into contact with rain. In addition, pervious pavements and other LID and treatment control measures are effective at removing oil and grease from stormwater runoff.

Using only native, drought-tolerant species for landscaping purposes minimizes the use of pesticides and uses less irrigation that could potentially run off. Low demand irrigation systems should also be used on-site to ensure minimal runoff from irrigation that has the potential to transport pesticides in runoff. In addition, source control measures—such as provisions against applying pesticides prior to expected rain events and the use of properly certified pesticide workers—are recommended. As a result of these and similar source control measures, it is anticipated that water quality standards for pesticides will not be exceeded, and potential pesticide impacts are less than significant.

The proposed Irvine Business Center Project would not result in increases in metals since the amount of streets and parking would remain similar to existing conditions. In addition, the incorporation of the site design/LID features and treatment control BMPs throughout the individual projects site would provide a means for the settling of metals attached to particulates as well as vegetative uptake of metals. Additional source control measures, such as street and parking lot sweeping, would also reduce the potential for metals to reach the storm drain system. As a result, it is anticipated that water quality standards would not be exceeded, and potential impacts from metals are less than significant.

Based on previous geotechnical investigations performed in the region of the IBC, groundwater may occur at depths ranging from 5 to 10 feet below ground surface (bgs) for portions of the project sites. Since infiltration BMPs, such as pervious pavement and infiltration trenches, require a depth of 10 feet or greater to groundwater to minimize impacts from storm water pollutants, infiltration BMPs are not proposed to serve as primary treatment BMPs for storm water runoff in areas with high groundwater. Any pervious pavement used at these sites will require impermeable linings and underdrain systems to eliminate contact with groundwater and reduce the potential for ponding water on the surface. For sites with greater than 10 feet depth to groundwater, infiltration BMPs may be utilized on-site for water quality treatment. Based on these findings, no pollutants from the IBC are expected to reach groundwater, and groundwater quality impacts are expected to be less than significant.

Dewatering may be required during the construction phase of projects involving subterranean parking to lower the water table at the site of the foundation to make construction

of the foundation possible. Any dewatering would be temporary and would only occur during the construction phase of the project. Before water collected by a dewatering system could be discharged into municipal storm drains, individual projects would be required to obtain a permit pursuant to Order Number 98-67 that the Santa Ana Regional Water Quality Control Board (RWQCB) adopted on July 10, 1998. The requirement to obtain a permit from the RWQCB to allow discharge of water from dewatering operations into storm drains would be incorporated into the Storm Water Pollution Prevention Plan (SWPPP) for the project.

Mitigation Measures: No mitigation is needed.

Reference: RDEIR § 5.7; Appendix K (Hydrology and Water Quality Technical Report).

6. Environmental Impact: During the construction phase of the Proposed Project, there is the potential for short-term unquantifiable increases in pollutant concentrations from the site. After project development, the quality of storm runoff (sediment, nutrients, metals, pesticides, pathogens, and hydrocarbons) may be altered. As discussed in Section 5.7, clearing, grading, excavation, and construction activities associated with the Proposed Projects with the IBC could impact water quality due to sheet erosion of exposed soils and subsequent deposition of particles and pollutants in drainage ways or introduction of construction-related pollutants.

Finding: Changes or alterations have been required in, or incorporated into, the Project that substantially lessen the significant environmental effect identified in the Draft EIR to below a level of significance. Cal. Pub. Res. Code § 21081; CEQA Guidelines § 15091.

Facts in Support of Finding: Under the Statewide General Construction Permit (GCP) (Order 2009-0009-DWQ or subsequent update), the individual project proponents will submit a Notice of Intent (NOI) and associated Permit Registration Documents (PRDs) to the SWRCB prior to commencement of construction activities that disturb 1 acre or greater of soil. In addition, a SWPPP will be prepared and implemented at the project sites, and revised as necessary as administrative or physical conditions change. The SWPPP shall describe construction BMPs meeting the Best Available Technology Economically achievable (BAT) and Best Conventional Pollutant Control Technology (BCT) standards required by the GCP and address pollutant source reduction, and will ensure that water quality standards are not exceeded in downstream receiving waters due to construction activities. These include, but are not limited to erosion controls, sediment controls, tracking controls, non-storm water management, materials & waste management, and good housekeeping practices. The SWPPPs shall be developed in accordance with the construction plans, and shall provide construction BMPs that are to be maintained for the duration of the construction as well as measures that are specific to each phase of construction.

Prior to the commencement of any discharges of extracted groundwater waste, the proponents of the individual projects will apply for coverage under Santa Ana RWQCB Order No. R8-2006-0065 for short-term discharges, and Order No. R8-2006-0004 for other dewatering activities, as applicable. Any dewatering activities shall be performed in accordance with the terms and conditions of the applicable Order, and pollutant concentrations in the discharge shall not cause violation of any applicable water quality objectives for the receiving waters, including discharge prohibitions. Implementation of the appropriate BMPs per the GCP will result in less than significant impacts to surface water quality and groundwater quality during the construction phase of the project sites.

Mitigation Measures: No mitigation is needed.

Reference: RDEIR § 5.7; Appendix K (Hydrology and Water Quality Technical Report).

7. Environmental Impact: Cumulative Impacts. As discussed in Section 5.7, the cumulative impacts related to hydrology would be less than significant.

Finding: Changes or alterations have been required in, or incorporated into, the Project that substantially lessen the significant environmental effect identified in the Draft EIR to below a level of significance. Cal. Pub. Res. Code § 21081; CEQA Guidelines § 15091.

Facts in Support of Finding: The proposed redevelopments would result in minor changes to the existing drainage patterns and peak flows with minor alterations in impervious surfaces, but in general, the drainage areas, discharge points, and peak flow discharges will be consistent with existing conditions. Any drainage improvements performed under the individual redevelopment projects would be subject to the design criteria and capacities required by the City of Irvine and Orange County Flood Control District (OCFCD) to correct any deficiencies identified in the existing conditions. Additionally, individual projects would have to submit a Water Quality Management Plan (WQMP) that would identify BMPs that will be used on the site to control predictable pollutant runoff.

Additionally, cumulative flows would be evaluated and addressed in terms of the Flood Control Master Plan, which is specifically intended and designed to define the flood control system necessary to accommodate runoff from future area wide development. As such, the cumulative impacts related to hydrology would be less than significant.

Mitigation Measures: No mitigation is needed.

Reference: RDEIR § 5.7; Appendix K (Hydrology and Water Quality Technical Report).

H. Land Use/Planning

1. Environmental Impact: the Proposed Project would not divide an established community. As discussed in Section 5.8, the Proposed Project would also decrease nonresidential square footage in the IBC and allow the development of nonindustrial uses, which is generally consistent with the existing and evolving mixed-use nature of the IBC area. However, given the original industrial, office, and commercial nature of the IBC area, the transition to residential land uses could potentially divide the existing industrial communities.

Finding: The Proposed Project would not divide an established community. PDF 8-1 through 8-2 would ensure applications for new development are assessed for compatibility with the existing environment. No mitigation is required. Cal. Pub. Res. Code § 21081; CEQA Guidelines §15091.

Facts in Support of Finding: The IBC Mixed Use Overlay Zone would create two distinct districts, the Urban Neighborhood and Business Complex. As outlined in the IBC Vision Plan, residential uses would be limited to the Urban Neighborhood Districts. The Business Complex District would be applied to portions of the IBC characterized by existing longstanding industrial and other commercial uses that are expected to remain nonresidential business cores. This district prohibits residential land uses, accommodates new industrial and other commercial uses, and protects existing commercial and industrial uses that wish to remain and possibly expand.

Additionally, the City has evaluated impacts to the public health, safety, and welfare of sensitive receptors and land uses associated with locating residential uses in the IBC. As discussed in detail in Section 5.6, *Hazards and Hazardous Materials*, several environmental reports were prepared and evaluated, specific to the conditions associated with the project area, including a detailed Environmental Data Resource list and a Facility Information Detail Database search. Section 5.2, *Air Quality*, also evaluates land use compatibility with respect to air quality. As described in PDF 8-2, 2-1, 2-2, 2-4, and 2-5, residential development projects are subject to land use compatibility provisions outlined in the IBC Vision Plan and Overlay Zoning Code.

The pending residential development projects outlined in Chapter 3, *Project Description*, are in the land use parameters of the IBC Vision Plan and Overlay Zoning Code; therefore, such projects would not have any additional impact on land use beyond that discussed in the broader context of the IBC Vision Plan and Overlay Zoning Code.

Mitigation Measures: No mitigation is needed.

Reference: RDEIR § 5.8; City of Irvine General Plan.

2. Environmental Impact: Project implementation could potentially be in conflict with an applicable adopted land use plan.

Finding: Changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects to below a level of significance. However, if ALUC determines that the Proposed Project as revised, or potential future projects are not found to be consistent with the AELUP, and the Irvine City Council disagrees and overrides this finding by a two-thirds vote, a significant unavoidable adverse impact would result. (Public Resources Code § 21081(a)(1), Guidelines § 15091(a)(1)).

Facts in Support of Finding: The current General Plan allows for 53,125,389 square feet of overall nonresidential in Planning Area 36, which may vary according to the totals of individual land uses over time. The total of 5,985 additional new dwelling units (either potential or in process) remaining under the 15,000-unit cap would be offset by a reduction of 4,337,727 square feet of office equivalency. With the additional nonresidential land use optimization discussed in this RDEIR, the overall non-residential intensity in the General Plan would be 48,787,662 square feet, with the reduction resulting primarily from the conversion of higher quantities of older industrial square footage to lower quantities of office square footage. Construction of the 1,892 dwelling units in process, along with the pending and approved nonresidential projects outlined in Table 3-1, is assumed to be completed by 2015. The remaining 3,950 potential units, along with the proposed nonresidential land use optimization, would be completed at City buildout, post-2030.

A detailed analysis of the Proposed Project's consistency with the applicable goals and policies of the various elements of the Irvine General Plan is provided in Table 5.8-1, *General Plan Consistency Analysis*. The analysis in Table 5.8-1 concludes that the Proposed Project would be consistent with the applicable goals and policies of the Irvine General Plan.

Additionally, the pending residential development projects outlined in Chapter 3, *Project Description*, are within the land use parameters of the IBC Vision Plan and Overlay Zoning Code; therefore, such projects would not have a significant impact on land use. The increase in the maximum number of residential units in the IBC, along with the corresponding reduction in nonresidential square footage, would not be detrimental to the public health, safety, or welfare. The introduction of residential uses into the mixed-use master plan area is anticipated to reduce overall peak-hour vehicle trips and would benefit the public by dispersing traffic to alternate hours. In accordance with General Plan Objective A-6(b), a traffic study was prepared (see Appendix N in the RDEIR) and is detailed in Section 5.13, *Transportation and Traffic*.

The IBC currently consists of four zoning designations, which include 5.0 IBC Mixed Use, 5.1 IBC Multi-Use, 5.2 IBC Industrial, and 5.3 (including 5.3 A–D for specific sites) IBC Residential. The Proposed Project includes a Zoning Ordinance Amendment. More specifically, the Zoning Ordinance Amendment would add new Chapter 5-8 to the City's Zoning Ordinance

to adopt the IBC Mixed Use Overlay Zone, which would define regulatory zoning districts for properties in the IBC, and outline criteria for evaluating compatibility of residential development with adjacent businesses. The amendment would also revise the statistical analysis outlined in Section 9-36-5, *Statistical Analysis*, of the City's Zoning Ordinance, to establish a residential cap of 15,000 dwelling units for the IBC area (excluding density bonus units pursuant to state law), with an offsetting reduction of nonresidential office equivalency square footage, for units under the cap not yet approved, consistent with the proposed General Plan Amendment. Furthermore, the amendment would also update the Chapter 9-36, *Planning Area 36 (Irvine Business Complex)*, provisions regarding the IBC traffic mitigation fee program. Adoption of the Zoning Ordinance Amendment would help maintain consistency with and carry out the goals, objectives, and policies of the Irvine General Plan and the City's vision for the future of the IBC.

The University of California – Irvine (UCI) owns and operates a property along the east side of Jamboree Road between Campus Drive and Fairchild Road, adjacent to the IBC. According to the UCI 2007 Long Range Development Plan (LRDP), the site, known as North Campus—which is currently occupied by academic and support facilities, an arboretum, and a child development center—is planned to be redeveloped with up to 950,000 square feet of office/research space and 455 multifamily dwelling units by the year 2036. The land use, circulation, and other development-related assumptions of the LRDP have been included in the IBC Vision Plan analysis, including the importance of the North Campus serving as a gateway between the City of Irvine and the UCI campus. Therefore, the Proposed Project would not significantly impact UCI's ability to implement the LRDP, including the North Campus development plan.

The 2008 Southern California Association of Governments (SCAG) Regional Comprehensive Plan (RCP) is an advisory document to local agencies in the Southern California region for their information and voluntary use while preparing local plans and handling local issues of regional significance. Table 5.8-2 provides an assessment of the Proposed Project's relationship to advisory and voluntary policies contained in various chapters of SCAG's RCP. The analysis contained in Table 5.8-2 concludes that the Proposed Project would be consistent with the advisory and voluntary RCP policies. Therefore, implementation of the Proposed Project would not result in significant land use impacts related to the RCP policies.

Based on this review and Section 5.6 of the RDEIR, the ALUC determined that the Proposed Project was consistent with AELUP and Caltrans' health and safety standards on June 17, 2010.

Mitigation Measures: No mitigation is needed.

Referencee: City of Irvine General Plan; Regional Comprehensive Plan and Guide; Airport Environs Land Use Plan.

3. Cumulative Impacts: As stated in Section 5.8, cumulative impacts to land use and planning are not considered significant.

Finding: The Proposed Project would not result in cumulative impacts to land use and planning. No mitigation is required. Cal. Pub. Res. Code § 21081; CEQA Guidelines §15091.

Facts in Support of Finding: The Proposed Project evaluated in this RDEIR would help maintain consistency with and carry out the goals, objectives, and policies of the Irvine General Plan and with the City's vision for the future of the IBC. The Proposed Project would also meet previous City actions by locating high-density urban housing in areas of the IBC that have recently had several parcels converted, or approved for conversion, to residential and mixed uses. After construction of the recently approved developments throughout the various areas of the IBC, the future residential and mixed-use development projects in accordance with the IBC Vision Plan would be some of several throughout the IBC. In addition, a host of existing jobs, restaurants, retail, and other support services and uses would be within walking distance of many of the future residential projects. Therefore, future conversion of nonresidential sites to residential and mixed use would create a cohesive neighborhood of high-density residential uses, thereby contributing to the development of a sustainable urban neighborhood. Furthermore, the General Plan Amendment component of the Proposed Project would establish a cap of 15,000 dwelling units for the IBC area (excluding density bonus units pursuant to state law), with an offsetting reduction of nonresidential office equivalency square footage.

Cumulative intensification of various land uses in the IBC has the potential to result in land use compatibility impacts related to hazards/hazardous materials, air quality, noise, and traffic. In light of the mixed-use nature of the IBC, each residential development application in the IBC is reviewed by the City of Irvine and other agencies, such as OCFA, the Irvine Police Department, and ALUC (when deemed necessary), for compatibility with surrounding land uses. Land use compatibility is determined after a complete evaluation of potential land use conflicts. Cumulatively, placing additional residential projects in the IBC after a land use compatibility analysis, as is the current practice, would provide needed housing in the IBC while still retaining the mature industrial development and its associated job base. As a result, cumulative impacts to land use and planning are not considered significant.

Mitigation Measures: No mitigation is needed.

Referencee: RDEIR § 5.8; City of Irvine General Plan.

I. Noise

1. Environmental Impact: Construction activities could result in temporary noise increases in the vicinity of the Proposed Project. Construction of individual developments associated with buildout of the IBC would temporally increase the ambient noise environment. Temporary or short-term noise impacts from project construction will be generated by construction equipment, including trucks, graders, bulldozers, concrete mixers and portable generators. Peak noise levels from construction equipment could reach 71-89 dBA at a distance of 50 feet. Noise impacts adjacent to residential uses have the greatest potential for being significant.

Finding: Changes or alterations have been required in, or incorporated into, the Project that substantially lessen the significant environmental effect identified in the Draft EIR to below a level of significance. PPP 9-1 and PDF 9-2 would reduce construction-related noise to the extent feasible. Cal. Pub. Res. Code § 21081; CEQA Guidelines § 15091. The Project is therefore expected to have a significant adverse impact because construction activities associated with any individual development may occur near noise-sensitive receptors and noise disturbances may occur for prolonged periods of time. The City finds that there are no other feasible mitigation measures that will mitigate the impact to an insignificant level, and that specific economic, social, technological or other considerations make infeasible the alternatives identified in the Draft EIR, as discussed in Section VII of these Findings. As described in the Statement of Overriding Considerations (Section XI of these Findings), the City has determined that this impact is acceptable because of specific overriding considerations. Cal. Pub. Res. Code § 21081(a)(1), (3); CEQA Guidelines § 15091(a)(1), (3).

Facts in Support of Finding: Short-term construction noise impacts are expected from with demolition, site preparation, grading, and building construction of the proposed land uses. According to a 1971 study by Bolt, Beranek, and Newman, construction noise for development ranges from 71 to 89 dBA L_{eq} when measured at a distance of 50 feet from the construction effort. Construction of individual developments associated with buildout of the IBC would temporally increase the ambient noise environment. However, the City of Irvine restricts the hours of construction activities to the least noise-sensitive portions of the day. Trucks, vehicles, and equipment that are making or involved with deliveries, loading, or transfer of materials, equipment service, or maintenance of any devices or appurtenances for or within any construction project in the City are also subject to these prohibitions. Compliance with PPP 9-1 and PDF 9-2 would reduce impacts associated with construction noise by requiring that activities be limited to the hours set forth in the City of Irvine Municipal Code and that stationary-source equipment be placed as far as feasible from adjacent noise-sensitive land uses. However, construction activities may occur near noise-sensitive receptors and noise disturbances may occur for prolonged periods of time. Therefore, construction noise impacts from buildout of the IBC are considered potentially significant.

Mitigation Measures: No feasible mitigation measures are available.

Reference: RDEIR § 5.9; Noise Modeling Data Sheets prepared by The Planning Center (Appendix L).

2. Environmental Impact: Construction of the Proposed Project may generate perceptible levels of vibration at adjacent vibration-sensitive land uses. Construction operations can generate varying degrees of ground vibration, depending on the construction procedures and equipment. Vibration generated by construction equipment has the potential to be substantial for both vibration annoyance and structural if it occurs proximate to vibration-sensitive uses. Therefore, significant vibration impacts may occur from construction equipment associated with new development within the IBC, especially if vibration-intensive equipment, such as pile drivers, is required. **Finding:** Changes or alterations have been required in, or incorporated into, the Project that substantially lessen the significant environmental effect identified in the Draft EIR to below a level of significance. PPP 9-1 and PDFs 9-1 and 9-2 would reduce construction related vibration to the extent feasible. Cal. Pub. Res. Code § 21081; CEQA Guidelines § 15091. The Project is therefore expected to have a significant adverse impact because construction activities associated with any individual development may occur near vibration-sensitive land uses. The City finds that there are no other feasible mitigation measures that will mitigate the impact to an insignificant level, and that specific economic, social, technological or other considerations make infeasible the alternatives identified in the Draft EIR, as discussed in Section VII of these Findings. As described in the Statement of Overriding Considerations (Section XI of these Findings), the City has determined that this impact is acceptable because of specific overriding considerations. Cal. Pub. Res. Code § 21081(a)(1), (3); CEQA Guidelines § 15091(a)(1), (3).

Facts in Support of Finding: Vibration generated by construction equipment has the potential to be substantial for both vibration annoyance and structural if it occurs proximate to vibration-sensitive uses. Compliance with PPP 9-1 and PDF 9-2 would reduce impacts associated with perceptible levels of vibration annoyance by requiring that activities be limited to the hours set forth in the City of Irvine Municipal Code and that stationary-source equipment be placed as far as feasible from adjacent vibration-sensitive land uses. In addition, PDF 9-1 would ensure that less vibration-intensive equipment or construction techniques are used. Because of the potential for construction activities to occur in close proximity to vibration-sensitive uses and structures, vibration generated by the project could result in a significant impact. Significant vibration impacts may occur from construction equipment associated with new development within the IBC, especially if vibration-intensive equipment, such as pile drivers, is required. Impacts are considered potentially significant.

Mitigation Measures: No feasible mitigation measures are available..

Reference: RDEIR § 5.9; Noise Modeling Data Sheets prepared by The Planning Center (Appendix L).

3. Environmental Impact: Project-related vehicle trips would substantially increase ambient noise at noise-sensitive receptors in the vicinity of the project site on McGaw Avenue between Jamboree Road and Murphy Avenue and cumulatively on Valencia Avenue between Newport Avenue and Red Hill Avenue, Warner Avenue between SR-55 and Red Hill Avenue, McGaw Avenue between Jamboree Road and Murphy Avenue, and Birch Street between Mesa Drive and Bristol Street. Long-term operation of the project could substantially increase noise levels in the vicinity of the IBC Vision Plan area from mobile sources.

Finding: The Project is expected to have a significant adverse impact because the traffic growth in the IBC would generate traffic volumes that would noticeably increase ambient noise levels. The City finds that there are no feasible mitigation measures that will mitigate the impact to an insignificant level, and that specific economic, social, technological or other considerations make infeasible the alternatives identified in the Draft EIR, as discussed in Section VII of these Findings. As described in the Statement of Overriding Considerations (Section XI of these Findings), the City has determined that this impact is acceptable because of specific overriding considerations. Cal. Pub. Res. Code § 21081(a)(1), (3); CEQA Guidelines § 15091(a)(1), (3).

Facts in Support of Finding: Traffic noise modeling was conducted for interim year 2015 and post-year 2030 using the FHWA's Highway Traffic Noise Prediction model (FHWA RD-77-108) using a standard vehicle mix for Orange County roadways based on fleet mix for State Route 55 (Caltrans 2009). Under the 2015 scenarios (interim year), maximum noise-level increases on local roadways due to the project would be minimal, 1.3 dBA CNEL or less. Increases in traffic levels solely from traffic volumes generated by the project would not result in a substantial noise increase along roadways in the project vicinity at year 2015. However, at full buildout, post-2030 traffic volumes would generate up to 3.3 dBA CNEL. Because the traffic growth in the IBC would generate traffic volumes on this roadway segment that would noticeably increase ambient noise levels, traffic noise impacts are considered significant for segments adjacent to noise-sensitive land uses.

Mitigation Measures: No feasible mitigation measures are available.

Reference: RDEIR § 5.9; Noise Modeling Data Sheets prepared by The Planning Center (Appendix L).

4. Environmental Impact: Stationary-source noise generated by land uses within the IBC would comply with the City of Irvine Municipal Code and would not substantially elevate the ambient noise environment. Buildout of the IBC would result in an increase in residential and commercial development in the City. The primary noise sources from these land uses include landscaping, maintenance activities, and air conditioning systems. In addition, future commercial uses may include loading docks. However, stationary-source noise is regulated by the City of Irvine through the City's Municipal Code.

Finding: The Project would comply with the City of Irvine Municipal Code; therefore no substantial adverse impacts will occur. Cal. Pub. Res. Code § 21081; CEQA Guidelines § 15091.

Facts in Support of Finding: The City of Irvine requires that noise from new stationary sources within the City comply with the City's Noise Ordinance, which limits the acceptable noise at the property line of the impacted use, to reduce nuisances to sensitive land uses. To achieve the noise standards of the Municipal Code, HVAC systems and other equipment would be selected based on their noise rating or would be acoustically engineered with mufflers and barriers to ensure that no exceedance of the City's noise standards would occur. Maintenance activities and use of leaf blowers are restricted to the least noise-sensitive portions of the day.

The parking lots associated with the new high density residential development would generate noise. However, in order to accommodate the growth associated with buildout of the IBC, the majority of parking spaces for the new residential structures would be in subterranean parking garages or in structures surrounded by residential units. The building structure would serve as a barrier and attenuate noise from the majority of parking lot activities. Consequently, impacts noise from the parking area would not be substantial and no significant impacts would occur.

Noise levels from actual unloading and loading activities would be minimal, as the truck interior would be shielded from the exterior environment and unloading and loading activities would occur in the interior of the building after the truck is docked. Commercial deliveries or pickups for commercial properties that share a property line with any residential property are required to limit the hours of delivery/pick-up service to the hours of 7:00 AM and 10:00 PM daily. Moreover, commercial trucks are also prohibited from idling more than five minutes under the CARB's In-Use Idling Airborne Toxic Control Measure. Consequently, impacts from these activities would be less than significant.

Mitigation Measures: No mitigation measures are required.

Reference: RDEIR § 5.9; Noise Modeling Data Sheets prepared by The Planning Center (Appendix L).

5. Environmental Impact: Sensitive land uses could be exposed to noise levels that exceed 65 dBA CNEL from transportation or stationary sources. An impact could be significant if the new residential developments are in areas that exceed the noise compatibility criteria of the City. While interior areas can be mitigated to achieve acceptable interior noise levels, it may not be possible to achieve the noise compatibility criteria for noise-sensitive exterior areas.

Finding: New noise-sensitive outdoor areas may exceed the City's noise compatibility criteria. PPP 9-2 requires an acoustic report, detailing mitigation measures to be implemented for

future noise-sensitive development. PDF 9-3 requires occupancy disclosures for outdoor areas that exceed 65 dBA CNEL. The City finds that there are no additional feasible mitigation measures that will mitigate the impact to an insignificant level, and that specific economic, social, technological or other considerations make infeasible the alternatives identified in the Draft EIR, as discussed in Section VII of these Findings. As described in the Statement of Overriding Considerations (Section XI of these Findings), the City has determined that this impact is acceptable because of specific overriding considerations. Cal. Pub. Res. Code § 21081(a)(1), (3); CEQA Guidelines § 15091(a)(1), (3).

Facts in Support of Finding: The exact locations of residential developments and active recreational areas have not yet been determined and therefore specific impacts cannot be ascertained. However, roadways would generate noise levels above 65 dBA CNEL in the vicinity of the Proposed Project area. In addition, because many of the existing uses in the IBC are commercial and industrial, placement of a noise-sensitive development in the vicinity of existing sources of stationary noise (e.g., warehousing truck distribution centers, emergency generators, and other sources of mechanical or truck idling noise) may be potentially significant. Any siting of new noise-sensitive land uses (e.g., residential or noise-sensitive outdoor areas, such as tot-lots, swimming pools, or athletic fields) within a noise environment that exceeds the normally acceptable land use compatibility criterion creates a potentially significant impact and would require a separate noise study through the development review process to determine the level of impacts and required mitigation.

PPP 9-2 requires that an acoustic study be prepared to achieve the City of Irvine's exterior noise standards. While interior noise levels are required to achieve the interior noise limits of 45 dBA CNEL for residential structures and 55 dBA CNEL for commercial structures, exterior noise levels at noise-sensitive land uses (e.g., residential or noise-sensitive outdoor areas such as tot-lots, swimming pools, or athletic fields) may continue to exceed the 65 dBA CNEL noise compatibility criterion for the City despite exterior noise attenuation (i.e., walls and/or berms). PDF 9-3 requires that occupancy disclosure notices are provided to tenants for units with patios and/or balconies that do not meet the 65 dBA CNEL. Because noise-sensitive land uses could be exposed to noise levels that exceed 65 dBA CNEL, impacts would be potentially significant.

Pursuant to the California Building Code, noise-sensitive habitable rooms would be required to be designed to achieve an interior noise standard of 45 dBA CNEL. PPP 9-2 requires that an acoustic study be prepared to achieve the City of Irvine's interior noise standards to ensure no significant impacts would occur.

Mitigation Measures: No mitigation measures are required.

Reference: RDEIR § 5.9; Noise Modeling Data Sheets prepared by The Planning Center (Appendix L).

6. Environmental Impact: Noise-sensitive habitable rooms in structures within the 60 dBA CNEL noise contour of the John Wayne Airport would be exposed to substantial levels of airport-related noise. Indoor and exterior environments would be exposed to elevated noise levels from aircraft overflights. However, no noise-sensitive residential developments would be located within the 65 dBA CNEL contour of the airport. Consequently, with PDF 9-4 and PPP 9-2, noise generated by aircraft overflights would not generate noise levels that exceed 45 dBA CNEL in habitable rooms and impacts would be less than significant.

Finding: The Proposed Project would expose noise-sensitive land uses to excessive aircraft noise levels. PPP 9-2 and PDF 9-3 through 9-4 would ensure applications for new development are compatible with the existing noise environment generated by aircraft overflights. No mitigation is required. Cal. Pub. Res. Code § 21081; CEQA Guidelines §15091.

Facts in Support of Finding: Sensitive areas in an airport noise environment that exceeds 65 dBA CNEL would be required to conduct a noise assessment and mitigate, as feasible, to achieve an exterior noise environment of 65 dBA CNEL. Under the Proposed Project, development of residential and noise-sensitive recreational uses would be limited to the Multi Use and Urban Neighborhood Districts. The Multi-Use and Urban Neighborhood Districts would not fall within the 65 dBA CNEL noise contour for the JWA. However, portions of these districts would fall within the 60 dBA CNEL noise contour for the airport. Residents and other noise-sensitive receptors (e.g., parks) located within the 60 dBA CNEL noise contour would not be exposed to excessive exterior noise levels from operations of the JWA because exterior noise levels would not exceed 65 dBA CNEL, which is the City's land use compatibility criteria.

Interior noise levels are required to achieve the interior noise limits of 45 dBA CNEL and 55 dBA $L_{max}(10)$ for residential structures (PDF 9-4 and PPP 9-2) and 55 dBA CNEL (PPP 9-2) for commercial structures. No noise-sensitive residential developments would be located within the 65 dBA CNEL contour of the airport. Consequently, with PDF 9-4 and PPP 9-2, noise generated by aircraft overflights would not generate noise levels that exceed 45 dBA CNEL in habitable rooms and impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

Reference: RDEIR § 5.9; Noise Modeling Data Sheets prepared by The Planning Center (Appendix L).

7. Cumulative Impacts: The project would not cumulatively contribute to stationary-source noise impacts, however, the project would cumulatively contribute to mobile source noise and construction noise and vibration.

Finding: The Project is expected to have a significant adverse impact because the traffic growth in the IBC would generate traffic volumes that would noticeably increase ambient noise

levels. Additionally, the Project is therefore expected to have a significant adverse impact because construction activities associated with any individual development may occur near noise-sensitive receptors and noise disturbances may occur for prolonged periods of time and may occur near vibration-sensitive land uses. The City finds that there are no feasible mitigation measures that will mitigate the impact to an insignificant level, and that specific economic, social, technological or other considerations make infeasible the alternatives identified in the Draft EIR, as discussed in Section VII of these Findings. As described in the Statement of Overriding Considerations (Section XI of these Findings), the City has determined that this impact is acceptable because of specific overriding considerations. Cal. Pub. Res. Code § 21081(a)(1), (3); CEQA Guidelines § 15091(a)(1), (3).

Facts in Support of Finding: Traffic noise increases on local roadways in the vicinity of the project site were shown in Tables 5.9-10 and 5.9-11. The increase in traffic noise from the existing noise environment for year 2015 and post-2030 scenarios is cumulative noise increases, whereas the increase from the 2015 or 2030 baseline is the project's contribution to cumulative noise increases. Project-related cumulative noise impacts may occur if the project contributes (0.1 dBA or more) to substantial (3 dBA or more) cumulative noise increases. As shown in the tables in the RDEIR, the project would cumulatively contribute to substantial increases on four roadway segments.

Unlike transportation noise, whose effects can extend well beyond the limits of the project site, stationary-source noise generated by the project is limited to impacts to sensitive receptors adjacent to the project site. However, no significant impacts were identified, as stationary-source noise is regulated by the City of Irvine through the City's Municipal Code. Furthermore, stationary sources are not substantial sources of ambient noise because the predominant noise source in the IBC is traffic on major roadways. Consequently, the project would not cumulatively contribute to stationary-source noise impacts.

Like stationary-source noise, cumulative construction noise and vibration impacts are confined to a localized area. Consequently, cumulative impacts would only occur if other projects are being constructed in the vicinity of the project at the same time as the project. Consequently, project-related construction noise and vibration added to construction noise and vibration from nearby development activities would substantially increase the ambient noise environment or generate perceptible levels of vibration. Cumulative impacts are therefore also considered significant.

Mitigation Measures: No mitigation measures are required.

Reference: RDEIR § 5.9; Noise Modeling Data Sheets prepared by The Planning Center (Appendix L).

J. Population/Housing

1. Environmental Impact: The Proposed Project would directly result in population and employment growth in the project area. The Project would have a direct impact on employment, population and housing. The Project would directly induce substantial population growth in the area by proposing a General Plan Amendment to increase the residential intensity cap in the IBC from 9,015 residential units to 15,000 units, excluding density bonus units. The project will potentially add 7,583 residential units, including pending residential units and density bonus units, as detailed in Section 3, Project Description. The remaining nonresidential buildout potential would be 6,016,662 square feet, for a total of 48,787,662 square feet of nonresidential square footage in the IBC at buildout. No housing or population will be displaced, either directly or indirectly, by the Project.

Finding: Compliance with the City's Housing Element policies would avoid or substantially lessen the significant environmental effects related to population and housing to below a level of significance. New residential development would comply with the City's housing requirements (PPP 10-1). No mitigation is required. Cal. Pub. Res. Code § 21081; CEQA Guidelines § 15091.

Facts in Support of Finding: Currently the General Plan and Zoning Cap will allow for 12,292 residents and the Proposed Project would allow for an additional 9,858 residents in the IBC based on Irvine's population growth standard, totaling 15,635 additional residents over the existing population in the IBC. The project accounts for 11.3 percent of the OCP-2006 projection of the City's population increase from 2003 to 2035 and 1.5 percent of the County's projected increase from 2003 to 2035.

According to Table A-3 in the Land Use Element of the General Plan, it is estimated that 1.9 employees per thousand square feet will be generated for office and industrial and 2.0 employees per thousand square feet for commercial land uses. As shown on Table 5.10-5 in the RDEIR, the project would allow for an additional 6,016,662 square feet of nonresidential development, generating approximately 12,033 additional jobs in the IBC compared to existing conditions.

Orange County Projections (OCP) OCP-2006 projects that the County's jobs/housing balance will diminish from 1.59 jobs per household in 2005 to 1.72 in 2035. However, the Proposed Project would increase housing in the county by 7,583 units and reduce jobs by 8,675 employees compared to OCP-2006. As a result, the Proposed Project will improve the County's jobs/housing balance from 1.72 to 1.70 in 2035. As a result, the Proposed Project would lessen the degree to which the County is jobs-rich.

The project is consistent with the overall Compass 2% Strategy in that it directs additional housing and mixed-use opportunities to the jobs-rich Orange County Subregion. The

Proposed Project would increase livability by allowing for more infill development in the existing commercial district and higher density housing opportunities in the City's major commercial/industrial area and near major City corridors. In addition, the Proposed Project would focus future development in one of the City's commercial districts away from environmentally sensitive open space. The Proposed Project is consistent with SCAG's proposed implementation of the Compass 2% Strategy in that it promotes mobility by allowing new housing within easy walking or bicycling distance to jobs in one of the City's commercial districts.

The Proposed Project responds to City policies that encourage a balance of housing and job opportunities and local and regional plans and policies in a manner that responds to the most prominent need, which is to develop more housing opportunities at higher densities in close proximity to existing employment.

Mitigation Measures: No mitigation is required.

Reference: RDEIR § 5.10.

2. Environmental Impacts: Cumulative Impacts. As discussed in Section 5.10 of the Draft EIR, the Project has no significant cumulative impacts on population and housing.

Finding: The Project will result in no substantial cumulative adverse impact related to population and housing. No mitigation is required. Cal. Pub. Res. Code § 21081; CEQA Guidelines § 15091.

Facts in Support of Finding: At buildout, a total of 17,038 residential units are projected for the IBC, generating a total of 22,149 residents. The Proposed Project will allow for an additional 6,016,662 square feet of nonresidential square footage resulting in an additional 12,033 jobs above what already exists in the IBC. OCP-2006 projects that the City of Irvine in 2035 will have a population of 269,802; 97,390 housing units; and 341,977 jobs. The project improves the County's jobs/housing balance from 1.72 to 1.70, and provides jobs near existing and planned employment concentrations.

The Proposed Project increases the cumulative total of housing units and associated population approved in the City. In doing so, the project's cumulative housing and population impact provides benefits for the jobs/housing ratio, regional housing goals that promote housing production in jobs-rich areas, regional growth policies that encourage housing production in the Irvine Business Center, City Housing Element goals regarding workforce housing, and state-mandated fair share housing programs. Therefore, the cumulative housing impact with the Proposed Project is not a significant cumulative impact.

Mitigation Measures: No mitigation is required.

Reference: RDEIR § 5.10.

K. Public Services

1. Environmental Impact: The Proposed Project would introduce new structures, residents, and workers into the orange county fire authority service boundaries, thereby increasing the requirement for fire protection facilities and personnel. As discussed in Section 5.12 of the Draft EIR, the proposed development is fully covered by the Secured Fire Protection Services Agreement (“SFPSA”) and the future facilities and resources provided for in the SFPSA would adequately meet the increase in the demand associated with the proposed development. The Project’s impact on fire protection services would be less than significant.

Finding: Under the Secured Fire Protection Services Agreement, the Project will have no substantial adverse impacts to fire services. PPP 1I-1 through 1I-4 and PDF 1I-1 would reduce impacts to fire services. No mitigation is required. Cal. Pub. Res. Code § 21081; CEQA Guidelines § 15091.

Facts in Support of Finding: Orange County Fire Authority (OCFA) has indicated the area in the western region of the project area is outside the response time projection; therefore, a new station is required to service the area west of Jamboree road by Fairfield Road and north of Campus. However, all projects within the IBC must enter into a Secured Fire Protection Agreement as fair-share mitigation to offset the cost of a new station and the equipment to serve the area. This agreement specifies the developer’s pro-rata fair-share funding of capital improvements that is necessary to establish adequate fire protection facilities, equipment, and personnel. During entitlement, the developer must enter into the agreement, typically on a project-specific basis. The Secured Fire Protection Services Agreement is not related to the provision of an adequate tax base directed to the Structural Fire Fund to offset short and long range costs, but rather to mitigating the impact of a project on OCFA as it impacts capital and infrastructure needs.

Funds have been and will be collected and saved in a Capital Improvement Plan until OCFA constructs a new station. OCFA estimates construction of the IBC station in the 2012–2013 fiscal year. Therefore, the future fire station will be provided for in the Secured Fire Protection Services Agreement and would adequately meet the increase in the demand associated with the Proposed Project.

Mitigation Measures: No mitigation is required.

Reference: RDEIR § 5.11; Appendix M.

2. Environmental Impacts: Cumulative Impacts (Fire Services). As discussed in Section 5.11 of the Draft EIR, the project is fully covered by the Secured Fire Protection

Services Agreement (“SFPSA”) and the future facilities and resources provided for in the SFPSA would adequately meet the increase in the demand associated with the proposed development. No significant impacts related to Fire Protection Services are expected to result from the Project.

Finding: The Project will have no substantial adverse cumulative impacts on fire services. No mitigation is required. Cal. Pub. Res. Code § 21081; CEQA Guidelines § 15091.

Facts in Support of Finding: As described in Section 5.11 of the Draft EIR, the Secured Fire Protection Services Agreement (SFPSA) addresses fire service needs for new development within the City. Compliance with the agreement, including the construction of a new fire station for the IBC, will ensure that performance objectives for fire protection are met and provide funding for any capital improvements necessary to maintain adequate fire protection facilities, equipment, and/or personnel. In addition, compliance with the PPPs and PDFs would ensure adequate access within the project area, which further ensures the adequate provision of fire protection and emergency services to residents in the project area. Therefore, the project’s increased demand for fire protection services would not result in significant cumulative impacts.

Mitigation Measures: No mitigation is required.

Reference: RDEIR § 5.11; Appendix M.

3. Euvironmental Impact: The Proposed Project would introdnce new structures, residents, and workers into the Irvine police department service houndaries, thereby iucreeasing the requirement for police protection facilities and persouuel. As discussed in Section 5.11, additional residential units and retail uses within the project area will increase the demand for police officers and nonsworn support personnel and would potentially create a significant impact.

Finding: With implementation of existing PPP 11-5 requiring compliance with the Uniform Security Code, PPPs 11-1 through 11-4, PDF 11-1, and PDF 11-2 pertaining to provisions of security features, the impacts of the Proposed Project related to law enforcement would be less than significant.

Facts in Support of Finding: Based on the potential for 7,583 dwelling units (including pending units, potential new units, and potential density bonus units) beyond what currently exists in the IBC, an additional 13 police officers and 5 nonsworn support personnel would be required. This demand for additional personnel and associated equipment would be provided through the continued implementation of the City’s Strategic Business Plan and Budgeting process. Through this process, police department needs are assessed and budget allocations are revised accordingly to ensure that adequate levels of services are maintained throughout the City. Compliance with the Uniform Security Code required by PPP 11-5 would contribute to reducing calls for police services. Provision of the Opticom traffic light control (PDF 11-1) and

Click2enter remote control access through pedestrian and vehicle security gates (PPP 11-4) would improve response times within the project area. Therefore, the impact is not significant.

Mitigation Measures: No mitigation is required.

Reference: RDEIR § 5.11; Appendix M.

4. Environmental Impact: Cumulative Impacts (Police Services). As discussed in Section 5.11 of the Draft EIR, no significant cumulative impacts related to police services are anticipated.

Finding: The Project will have no substantial adverse impacts on police services. No mitigation is required. Cal. Pub. Res. Code § 21081; CEQA Guidelines § 15091.58

Facts in Support of Finding: As described in Section 5.11 of the Draft EIR, a total of 17,038 residential units are projected for the IBC at buildout, which is expected to increase demand for police services and would contribute to the need to expand facilities. The long-term plans and provisions for police services, based on General Plan land use designations, would not be adversely affected by the project. As described above, existing and planned provisions for adequate levels of police services and corresponding budget allocations will serve to avoid significant impacts due to Project demands. No significant cumulative impacts related to police services are anticipated to occur; hence, the impact would not be cumulatively considerable.

Mitigation Measures: No mitigation is required.

Reference: RDEIR § 5.11; Appendix M.

5. Environmental Impacts: The Proposed Project would generate a total of 5,480 new students which would impact the school enrollment capacities of the local school districts. As discussed in Section 5.11, the project area is located in three school districts; Irvine, Santa Ana, and Tustin. IUSD, SAUSD, and TUSD are all currently short of elementary, middle, and high school classrooms to serve the cumulative proposed development in the IBC and would potentially create a significant impact.

Finding: Compliance with existing regulations would avoid or substantially lessen the significant environmental effects to below a level of significance. PPP II-6 would require payment of developer fees to reduce impacts to school services. (Public Resources Code § 21081(a)(1), Guidelines § 15091(a)(1)).

Facts in Support of Finding: Irvine Unified School District (IUSD). The Proposed Project would generate an additional 1,195 students according to the districtwide student generation rates. IUSD will need to place relocatable classrooms at each of the schools in this

project's assigned attendance area and may need to study boundary changes and the need for new facilities to accommodate this development. The need for additional services is addressed through compliance with the school impact fee assessment. Senate Bill 50 (SB 50) (Chapter 407 of Statutes of 1998) sets forth a state school facilities construction program that includes restrictions on a local jurisdiction's ability to condition a project on mitigation of impacts on school facilities in excess of fees set forth in Education Code Section 17620. These fees are collected by school districts at the time of issuance of building permits for commercial, industrial, and residential projects. As of March 2009, IUSD charges Level 2 Developer Fees at \$5.32 per square foot for residential development and \$0.47 per commercial/industrial square foot.

Santa Ana Unified School District (SAUSD). There is a potential for 1,972 new units, including pending units, and 312 density bonus units, for a total of 2,284 residential units in the SAUSD portion of the IBC. The Proposed Project would generate 1,604 additional students, according to the districtwide student generation rates. The current SAUSD development fees, as of July 14, 2008, are \$2.97 per square foot for residential development and \$0.47 per commercial and senior housing square foot. Additionally, compliance with Senate Bill 50 would lessen the impact.

Tustin Unified School District (TUSD). There is a potential for 1,673 new units, including pending units, and 505 density bonus units, for a total of 2,178 residential units in the TUSD portion of the IBC. The Proposed Project would generate 399 additional students, according to the districtwide student generation rates. TUSD currently charges Level II school fees, as authorized by Education Code Section 65995.5, at the rate of \$6.76 per square foot for new residential construction, and \$0.47 per square foot for new commercial and industrial construction. Again, compliance with Senate Bill 50 would lessen the impact.

The pending IBC residential projects would generate approximately 142 students for IUSD, 760 students for SAUSD, and 176 students for TUSD. The pending projects project would be required to pay school impact fees in accordance with Senate Bill 50 (SB 50). SB 50 (Chapter 407 of Statutes of 1998) sets forth a state school facilities construction program that includes restrictions on a local jurisdiction's ability to condition a project on mitigation of a project's impacts on school facilities in excess of fees set forth in Education Code Section 17620. Since all of the pending projects in the IBC must pay their appropriate impact fees, each project will mitigate the impacts associated with its activities. No significant impact upon local school districts is anticipated as a result of the implementation of the IBC Vision Plan and Mixed Use Overlay Zoning Code and other area-wide development activities.

Mitigation Measures: No mitigation is required.

Reference: RDEIR § 5.11; Appendix M.

6. Environmental Impacts. Cumulative Impacts (Schools). As described in Section 5.11 of the Draft EIR, all nonexempt projects must pay their appropriate impact fees, as authorized under Education Code Section 17620(a) and Government Code Section 65995(b). As a result, no cumulative impact upon local school districts is anticipated as a result of the implementation of the project.

Finding: The Project will have no substantial adverse cumulative impacts to schools. No mitigation is required. Cal. Pub. Res. Code § 21081; CEQA Guidelines § 15091.

Facts in Support of Finding: IUSD, SAUSD, and TUSD are all currently short of elementary, middle, and high school classrooms to serve the cumulative proposed development in the IBC. Cumulative development in the IBC may generate too many students to be accommodated by the districts facilities. School fees, as authorized under Education Code Section 17620(a) and Government Code Section 65995(b), are collected by municipalities at the time building permits are issued and conveyed to the affected school district in accordance with a defined fee structure. Although those fees are seldom adequate to accommodate the true costs incurred by affected districts to construct new facilities the Legislature has declared that the payment of those fees constitutes full mitigation for the impacts generated by new development, per Government Code Section 65995. Since all projects in the IBC must pay their appropriate impact fees, each project will mitigate the impacts associated with its activities. No cumulative impact upon local school districts is anticipated as a result of the implementation of the IBC Vision Plan and Mixed Use Overlay Zoning Code and other areawide development activities.

Mitigation Measures: No mitigation is required.

Reference: RDEIR § 5.11; Appendix M.

7. Environmental Impacts. The Proposed Project would generate approximately 8,769 residents, increasing the service needs for the local libraries. As discussed in Section 5.11 of the Draft EIR, while the Project would exceed the level of service for library square footage, it will not in and of itself trigger the construction of new or expanded library facilities, and the library impact is less than significant.

Finding: The project will not create a substantial adverse impact on library services. No mitigation is required. Cal. Pub. Res. Code § 21081; CEQA Guidelines § 15091.

Facts in Support of Finding: As described in Section 5.12 of the Draft EIR, the Project is projected to generate 8,769 new residents, depending on the number of residential units established within the Urban Neighborhood District. Per the Orange County Public Library standard of service, this equates to a need for 1,754 total square feet and 13,154 total volumes. Per the City of Irvine standard of service, this would require an additional 4,385 square feet of library square footage and 21,923 additional volumes, beyond the existing shortage, to serve the

project. As required by PDF 11-4, if a library impact fee on development is established and in force at the time of development, the project applicant would pay all applicable fees and thereby contribute to future development of a new library facility. While the Project would exceed the level of service for library square footage, it will not in and of itself trigger the construction of new or expanded library facilities, and the library impact is less than significant.

Mitigation Measures: No mitigation is required.

Reference: RDEIR § 5.11; Appendix M.

8. Environmental Impacts. Cumulative Impacts (Library Services). The library service needs generated by the Project contribute to a cumulative impact in the form of a shortage in library facilities. However, this impact is not considered to be significant, and the Project will be required to pay any citywide library impact fee in force at the time of project development. Therefore, the Project does not create cumulative impacts on library services.

Finding: The Project will have no substantial adverse cumulative impact on library services. No mitigation is required. Cal. Pub. Res. Code § 21081; CEQA Guidelines § 15091.

Facts in Support of Finding: As detailed in Section 5.12 of the Draft EIR, the Project would not itself result in the need for a new library facility, but it would contribute to a shortage in library facilities and have a cumulative impact. However, contribution to the need for new library square footage to address a projected shortfall in public library service standards, based on the projected buildout population of the City, is not considered to be cumulatively significant. Per Appendix G of the CEQA Guidelines, a project would only have a significant adverse environmental impact on library services if such impacts are caused by the actual construction of a library. While this project may contribute to the need to construct a library in the future, without knowing the size, location, and scope of that future library construction, it is not possible to define the potential impacts of that construction. Therefore, the impacts that would result from the construction and operation of a new library facility are too speculative to be determined at this time. The Project will be subject to any citywide library impact fee in force at the time of project development. Therefore, the Project does not create cumulative impacts on library services.

Mitigation Measures: No mitigation is required.

Reference: RDEIR § 5.11; Appendix M.

L. Recreation

1. Environmental Impact: The Proposed Project would generate approximately 8,769 additional residents, which would increase the use of existing park and recreational

facilities. As discussed in Section 5.12 of the Draft EIR, with adherence to existing PPPs, no significant impact related to recreation is expected to result from the Project.

Finding: Adherence to PPP 12-1 and 12-2 would avoid or substantially lessen the significant environmental effects to recreation below a level of significance. (Public Resources Code § 21081(a)(1), Guidelines § 15091(a)(1)).

Facts in Support of Finding: Development of additional residential units in the IBC would increase the demand for parks and recreational facilities of various types. Based on the Park Code, the project would generate a need for a total of 43.8 acres of parkland at buildout, with 17.5 acres of community parkland and 26.3 acres of neighborhood parkland. Future residential development pursuant to the IBC Vision Plan and Zoning Code would be required to submit a Park Plan application to establish park dedication requirements, to be provided, the amount of in-lieu fees, if any, and the allocation of those fees. The City is currently seeking an adequate site within the IBC for construction of a public neighborhood park. Funds from the general IBC neighborhood park account will be used for purchase of the site and construction of the park.

The San Diego Creek and the San Joaquin Freshwater Marsh, which lie adjacent to the IBC, are part of the wider open space system within the IBC. In addition to the required fees, part of the Proposed Project is to create an interconnected system of streets, bikeways, and trails connecting the new streets, parks, and urban plazas within the IBC to the wider system of City open space. According to the IBC Mixed Use Vision, the project would introduce several varieties of grass native to southern California along the Creek's edge and develop a network of trails along the creek incorporating urban elements such as children's play areas, pathways, benches, and public artwork. This would provide new and expand existing parks and recreational facilities. The Proposed Project would provide new recreational facilities in compliance with City park dedication standards and therefore not have a significant impact on existing neighborhood and regional parks or other recreational facilities that would result in, or accelerate, substantial physical deterioration of the facilities.

Mitigation Measures: No mitigation is required.

Reference: RDEIR § 5.12.

2. Environmental Impacts: Cumulative Impacts. As discussed in Section 5.12 of the Draft EIR, the Project will meet parkland dedication requirements established by the City, thereby reducing the level of use of off-site local and regional recreation facilities. Therefore, the Project's cumulative contribution to the physical impact on local and regional recreation facilities will not be significant.

Finding: The Project will have no substantial adverse cumulative impacts on parks and recreational facilities. No mitigation is required. Cal. Pub. Res. Code § 21081; CEQA Guidelines § 15091.

Facts in Support of Finding: Recreational needs of future residents of the IBC, in conjunction with cumulative development in accordance with the adopted General Plan, would add to citywide and regional demand for parks and recreational facilities. However, each project within the City of Irvine is required to comply with the City's parkland dedication requirements as contained in the Subdivision Ordinance. As a result, new parklands and trails are developed as residential development occurs. Park in-lieu fees are paid to the City prior to the issuance of the first residential building permit. Park in-lieu fees for projects within the IBC would be allocated to the general IBC neighborhood and community park accounts and would be used to provide and/or improve neighborhood and community parks that will be available to IBC residents. Therefore, no significant impacts related to recreational opportunities are anticipated.

Mitigation Measures: No mitigation is required.

Reference: RDEIR § 5.12.

M. Transportation/Traffic

Environmental Impact : Buildout of the IBC pursuant to the Proposed Project would generate additional traffic volumes and impact levels of service for the existing area roadway system. The City of Irvine's traffic model, the Irvine Traffic Analysis Model (ITAM) 8.4, was used to forecast the traffic data for the various horizon years and scenarios evaluated within the study area.

Finding: Changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects to below a level of significance. In addition, PPP 13-1 and PDF 13-2 would reduce impacts to the extent feasible. However, operational and physical constraints may make proposed mitigation impossible at one intersection in the City of Irvine, Jamboree Road and Michelson Drive. In addition, implementation of mitigation measures in the cities of Costa Mesa, Newport Beach, Santa Ana, and Tustin is under the control of those cities and not of the City of Irvine. Implementation of mitigation measures on freeways and freeway ramps would be under the control of Caltrans rather than the City of Irvine. Because the City does not have the ability to control when and if these other agencies implement the necessary changes and alterations which would mitigate the impacts of the Project to below a level of significance, the City further finds that there are no other feasible mitigation measures that would mitigate the impacts to below a level of significance, and that specific economic, social, technological or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the alternatives identified in the FEIR, as discussed in Section VII of these Findings.

(Public Resources Code § 21081(a)(3); Guidelines § 15091(a)(3)). As described in the Statement of Overriding Considerations, the City has determined that these impacts are acceptable because of specific overriding considerations. (Public Resources Code § 21081(a)(1), Guidelines § 15091(a)(1)).

Mitigation Measures: Mitigation Measures 5.13-1, 5.13-2, 5.13-3, and 5.13-4 set forth in the FEIR and in the MMRP are incorporated herein by reference as though fully set forth and shall be conditions of Project approval.

MM 13-1 Prior to the issuance of the first building permit pursuant to the Proposed Project, the City of Irvine shall prepare a "nexus" study that will serve as the basis for requiring development impact fees under AB 1600 legislation, as codified by California Code Government Section 66000 et seq, for the Irvine Business Complex to support General Plan and Zoning changes under consideration for the Irvine Business Complex Vision Plan. The established procedures under AB 1600 require that a "reasonable relationship" or nexus exist between the traffic improvements and facilities required to mitigate the traffic impacts of new development pursuant to the Proposed Project. The following traffic improvements and facilities are necessary to mitigate project impacts and shall be included, among other improvements, in the AB 1600 nexus study:

Costa Mesa

Intersection #12: SR-55 Southbound Frontage Road at Baker Street

Improve the southbound approach to one left turn lane, one shared through left, one through lane, and one right turn lane. Restripe the eastbound approach to two through lanes and a shared through right turn lane.

Intersection #13: SR-55 Northbound Frontage Road at Baker Street

Restripe the eastbound approach to include a single left turn lane, three through lanes, and no right turn lane, plus the addition of a northbound defacto right turn lane.

Irvine

Intersection #141: Jamborice Road and Main Street

Improve the northbound and southbound approaches to 2 left turn lanes, 5 through lanes, and 1 right turn lane. Additionally, as part of this improvement, convert the westbound free right turn lane to a single right turn lane.

Intersection #188: Harvard Avenue and Michelson Drive

Add a second southbound left turn lane.

Intersection #232: Culver Drive and I-405 Northbound Ramps

Restripe the westbound approach of this intersection to one left turn lane and two right-turn lanes.

Intersection #136: Jamboree Road and Barranca Parkway

Convert the existing free northbound right-turn lane to a standard right turn lane and add a fifth northbound through lane.

Newport Beach

Intersection #62: Campus Drive at Bristol Street NB

In 2015, the required improvement is the implementation of the already planned addition of a fifth westbound through lane, consistent with the City of Newport Beach's General Plan buildout. For the buildout scenario, an additional improvement of a third southbound right turn lane is required. Implementation of the identified improvements results in acceptable operations under both scenarios and the mitigation appears to be physically feasible although potentially cost prohibitive due to potential impacts to a structure adjacent to the intersection. The addition of a 5th westbound through lane was identified by the City of Newport Beach as part of the Newport Beach General Plan Update Traffic Study (Urban Crossroads, 2006). The addition of a 3rd southbound right turn lane was identified in the John Wayne Airport (JWA) Improvement Program as an ancillary improvement to support the growth of the Airport.

Intersection #85: MacArthur Boulevard and Birch Street

Improve the eastbound approach to two eastbound left-turn lanes and two eastbound through lanes.

Santa Ana

Intersection #543 Bristol Street and Segerstrom Avenue

Two alternative improvements are proposed and outlined below. The City of Irvine shall coordinate with the City of Santa Ana to determine the most appropriate future improvement at this location.

Alternative 1: Add 3rd eastbound through and westbound through lanes on Segerstrom Avenue.

Alternative 2: Add 4th northbound through and southbound through lanes on Bristol Street.

Intersection #723 Main Street and Dyer Road (Segerstrom)

Add a third northbound through lane and a defacto northbound right-turn lane.

Intersection #730 Grand Avenue and Warner Avenue

Add a third westbound through lane.

Arterial #1884 MacArthur Blvd. from Main Street to SR-55

Widen from 6 to 8 Lanes

Tustin

Intersection #24: Newport Avenue and Walnut Avenue

Add a defacto westbound right turn lane and defacto northbound right turn lane.

Intersection #93: Tustin Ranch Road and El Camino Real

Add a fourth southbound through lane and restripe the eastbound approach to one left turn lane, a shared through right turn lane and a right turn lane.

Intersection #134: Loop Road/Park Avenue at Warner Avenue

Add a third eastbound through lane.

Intersection #754: Red Hill Avenue at Carnegie Avenue/A Street

This intersection has a project impact under the Post-2030 scenario. The project impact is largely due to heavy traffic on the northbound through movement. Widening the northbound approach to provide a fourth northbound through lane on Red Hill. This intersection is expected to be substantially expanded as a result of development of the Tustin Legacy project and shall be monitored to observe if any additional improvements are warranted when that project nears buildout.

- MM 13-2 Prior to the issuance of the first building permit pursuant to the Proposed Project, the City of Irvine shall update the IBC Development Fee program pursuant to the AB 1600 Nexus Study identified in Mitigation Measure 5.13-1. The IBC Development Fee program was established to fund area-wide circulation improvements within the IBC and adjoining areas. The improvements are required due to potential circulation impacts associated with buildout of the IBC. Fees are assessed when there is new construction or when there is an increase in square footage within an existing building or the conversion of existing square footage to a more intensive use. The development fees collected are applied toward circulation improvements and right-of-way acquisition in the IBC and adjoining areas. Fees are calculated by multiplying the proposed square footage, dwelling unit or hotel room by the appropriate rate. The IBC Fees are included with any other applicable fees payable at the time the building permit is issued. The City will use the IBC development fees to, among other things, fund construction (or to recoup fees advanced to fund construction) of the transportation improvements identified in Mitigation Measure 5.13-1.
- MM 13-3 Prior to issuance of the first building permit pursuant to the Proposed Project, the City shall update the Irvine Business Complex Land Use and Trip Monitoring Data base (IBC Database) to reflect the land use changes associated with the Proposed Project. The City maintains this database for tracking development intensity within the IBC. This data base is an important tool to help

ensure the circulation system serving the IBC area is adequate and to ensure roadway improvements are provided at the appropriate time. The data base tracks the amount of square footage built (Existing), the available square footage (Additional Zoning Potential and/or Remaining Approval) and the maximum amount of square footage allocated (Total Development Potential and/or Buildout + Existing) to each parcel within the IBC.

- MM 13-4 Prior to adoption of the AB 1600 nexus study identified in MM 13-1, the City and Caltrans shall jointly identify feasible operational and physical improvements and the associated fair-share funding contribution necessary to mitigate project-related impacts to state transportation facilities. The City shall fund said improvements on pro-rata “fair-share” basis in accordance with the terms and conditions of an Agreement to be prepared and agreed to by both agencies. These fair-share contributions for feasible improvements shall be included in the AB 1600 nexus study

Facts in Support of Finding:

2015 Cumulative With Project Daily Arterial Segment Analysis: The 2015 Cumulative With Project traffic patterns generally remain consistent with existing conditions and the 2015 Cumulative Baseline No Project scenario traffic patterns. For some segments, there is a net increase in ADT and for some a decrease as a result of the project. Figures 5.13-29 and 5.13-30 graphically display the ADT and arterial segment LOS deficiencies for the 2015 Cumulative With Project scenario. As noted above, LOS E indicates a deficient segment for all arterial segments outside Planning Area (PA) 36 within the City of Irvine. PA 36 segments are considered deficient at LOS F. When compared to the 2015 Cumulative Baseline No Project, there are no additional deficient segments.

2015 Cumulative With Project Peak Hour Link Analysis: Peak hour directional traffic volumes were directly obtained from peak hour forecast turning movement volumes for intersections upstream and downstream for each deficient arterial segment. The results of peak hour link analysis indicate that all arterial segments within the City of Irvine that are deficient under daily conditions operate at an acceptable LOS in both peak hours, performing at LOS D or better, and hence no mitigation measures are recommended at this time for these facilities.

2015 Cumulative With Project Intersection Analysis: Figures 5.13-31 and 5.13-32 graphically present the AM and PM Peak Hour Intersection ICU for deficient intersections. Seven intersections are deficient in the 2015 Cumulative With Project

scenario, including one location in Irvine, one in Newport Beach, four in Tustin, and one shared location between Tustin and Irvine. Of the seven intersections, only two are significantly impacted by the Project: #93 – Tustin Ranch Road at El Camino Real (ICU increase of 0.01) in Tustin and #62 – Campus Drive at Bristol Street (ICU increase of 0.02 and ICU reduction from LOS D to LOS E) in Newport Beach). When compared to the No Project scenario, there is one additional deficiency, intersection #62: Campus Drive at Bristol Street in the City of Newport Beach. All locations operating at a deficient LOS with an increase in the ICU value exceeding the significance threshold are identified as project impacts and discussed in Section 5.13.6, Mitigation Measures of the RDEIR.

2015 Cumulative With Project Freeway Mainline Analysis: Future freeway mainline volumes are based on forecast traffic using the ITAM model. The With Project scenario does not include any freeway mainline capacity improvements, consequently, the capacities are consistent with the No Project scenario. Figures 5.13-33 and 5.13-34 graphically depict the 2015 Cumulative With Project freeway and ramp deficiencies. When compared to the No Project conditions, there are two additional segments that are deficient under the 2015 With Project conditions, I-405 Southbound between Culver Drive and Jamboree Road and I-405 Northbound between MacArthur Boulevard and SR-55 both in the AM peak hour.

2015 Cumulative With Project Freeway Ramp Analysis: The ramp analysis methodology for 2015 Cumulative With Project is consistent with that applied for 2015 Cumulative Baseline No Project. When compared to the 2015 No Project scenario, there are no additional deficient locations; however, there are some ramps that deteriorate further as project trips are added. Project related impacts on freeway ramps are addressed in Section 5.13.6, Mitigation Measures, of the RDEIR.

Post-2030 Cumulative With Project Daily Arterial Segment Analysis: The analysis indicates that several segments are deficient under the Post-2030 Cumulative With Project daily conditions including two segments located within Costa Mesa, 15 of the segments in Irvine, one segment each in Newport Beach and Santa Ana, and two segments in Tustin. Compared to the No Project scenario, there are three additional segments that are deficient under daily conditions within the City of Irvine. As noted above, LOS E indicates a deficient segment for arterial segments outside Planning Area (PA) 36 within the City of Irvine. PA 36 (IBC area) segments are considered deficient at LOS F. Deficient segments in the City of Irvine are evaluated under peak hour conditions to determine significant impacts in the following section. For arterial segments in Costa Mesa, Newport Beach, and Tustin, arterial daily LOS impacts are addressed at the adjacent intersections. Santa Ana identifies significant project impacts based on the arterial daily LOS. Arterial segment #1884 (MacArthur Boulevard from Main Street to SR-55) is deficient in the Post-2030 Cumulative With Project scenario and because there

is a greater than 0.01 increase in the daily LOS between No Project and With Project conditions, a project related impact exists at this location. The Project impacts and mitigations are discussed in Chapter 5.13, *Mitigation Measures*.

Post-2030 Cumulative With Project Peak Hour Link Analysis: All arterial segments that are deficient under daily conditions operate at an acceptable LOS in both peak hours, performing at LOS D or better. Since all segments operate at an acceptable peak hour LOS there are no significant project impacts, hence no mitigation measures are recommended for these facilities.

Post-2030 Cumulative With Project Intersection Analysis: Figures 5.13-46 and 5.13-47 graphically present the AM and PM Peak Hour Intersection ICU for deficient intersections for the Post-2030 Cumulative With Project scenario. When comparing the No Project and With Project scenarios, there are two additional intersections that are deficient, #141: Jamboree Road at Main Street, and #723: Main Street at Dyer Road (Segerstrom Avenue), both in the PM peak hour. Further discussion of specific impacts, mitigation, and fair-share cost analysis is addressed in Section 5.13.6, *Mitigation Measures*.

Post-2030 Cumulative With Project Freeway Mainline Analysis: The freeway mainline volumes (forecast using the ITAM 8.4 model), densities, and levels of service reflect the future potential deficiencies of each freeway segment. Figures 5.13-48 and 5.13-49 graphically depict the Post-2030 Cumulative With Project freeway and ramp deficiencies. According to the analysis, the following segments are forecast to operate at LOS E or F. When compared to the No Project scenario, there is one additional deficiency under AM peak hour conditions, and one additional deficiency under PM peak hour conditions. The methodology for determining the deficiencies on freeway ramps is consistent with that used for previously studied scenarios. When compared to the Post-2030 No Project scenario, there are two additional deficiencies under the With Project conditions: 1-405 Northbound Off-Ramp to Culver Drive and the SR-55 Southbound Loop On-Ramp from MacArthur Boulevard. Impacted locations and mitigation strategies are discussed in Chapter 5.13, *Mitigation Measures*.

Reference: RDEIR § 5.13; Appendix N (Traffic Study).

1. Environmental Impact: The Proposed Project would not increase hazards due to a design feature or incompatible uses. The City of Irvine Transportation Design Procedures (TDP) establish uniform policies and procedures for reviewing traffic plans in the City. These procedures are used to evaluate the roadway design features that may be impacted by future projects pursuant to the proposed IBC Vision Plan and Mixed-Use Overlay Zoning Code. For those criteria that are traffic-volume dependent, (i.e., evaluation of the project driveway) evaluation is based in the existing plus project condition. Since the City has adopted roadway

design standards that would preclude the construction of any unsafe features, no increased hazards are anticipated.

Fiuding: The project would not create significant traffic hazard impacts, and no mitigation measures are required. Cal. Pub. Res. Code § 21081; CEQA Guidelines § 15091.

Facts in Support of Finding: With implementation of the existing City Transportation Design Procedures, developments considered for approval under the proposed IBC Vision Plan, and improvements to roadways made pursuant to the IBC Vision Plan, would not create significant traffic hazard impacts.

Mitigation Measures: Traffic hazard impacts would be less than significant, and no mitigation measures are required.

Reference: RDEIR § 5.13

2. Environmental Impact: Adequate parking would be provided for the Proposed Project. Future development pursuant to the IBC Vision Plan and Mixed-Use Overlay Zoning Code will be required to provide adequate parking, on-site, in accordance with the City of Irvine Zoning Ordinance standards.

Fiuding: The project would not result in significant parking impacts, and no mitigation measures are required. Cal. Pub. Res. Code § 21081; CEQA Guidelines § 15091.

Facts in Support of Findiug: Compliance with the City of Irvine's Zoning Ordinance parking standards would avoid substantial adverse parking impacts.

Mitigation Measures: Parking impacts would be less than significant, and no mitigation measures are required.

Reference: RDEIR § 5.13.

3. Enviroumental Impact: The Proposed Project would eomply with adopted policies, plans, and programs for alterruative transportation.

Public Transit The City of Irvine began operating the *i* Shuttle in June 2008, with two routes connecting the Tustin Metrolink Station to various parts of the IBC; the *i* Shuttle is intended to provide transportation both within and to and from the IBC.

Bicycle Facilities The IBC Vision Plan would provide linkages to the City regional bicycle trail system. Bicycle lanes are proposed along parts of several roadways in the IBC. Furthermore, the sidewalk system would be shared with pedestrians and bicycles.

Pedestrian Facilities the IBC Vision Plan creates funding mechanisms to provide for the implementation of community-orientated pedestrian infrastructure improvements to increase walkability in the IBC. Improvements would include new streets to reduce the size of City blocks to a pedestrian scale; pedestrian paseos to connect to the arterials at key locations; new sidewalks in places now lacking sidewalks; and several pedestrian bridges. A Creekwalk system is also envisioned adjacent to the San Diego Creek to provide a trail to connect the Great Park from the IBC and the Civic Center.

Finding: The Proposed Project would not have substantial adverse impacts to policies, plans, and programs for alternative transportation, and no mitigation measures are required. Cal. Pub. Res. Code § 21081; CEQA Guidelines § 15091.

Faets in Support of Findiug: The project would develop high-density housing within an area being served by at least two modes of transit. On June 9, 2008, **The i Shuttle**, which is operated by the City of Irvine and designed for the IBC community, began operating. The shuttle allows residents and employees to have an alternative way to commute to jobs and locations throughout the IBC. The shuttle offers two routes to accommodate residents and employees traveling within the area and to and from the IBC (see Figure 4-2, **The i Shuttle Route**). Route A connects the Tustin Metrolink Station to the JWA via Von Karman Avenue. Route B connects the Tustin Metrolink Station to the heart of the IBC via Jamboree Road and Michelson Drive. Therefore, the project would facilitate walking and non-vehicular travel to a greater extent than would be the case for similar development in outlying areas without extensive transit availability. In addition, the high-density development would include a greater number of potential residents that could potentially utilize or engage in alternative modes of travel than in a lower density development on the project site.

The IBC Vision Plan creates funding mechanisms to provide for the implementation of community-orientated pedestrian infrastructure improvements to increase walkability in the IBC. New streets incorporated into the IBC would reduce the size of the City blocks to a pedestrian scale and pedestrian paseos would connect to the arterials at key locations. In addition, many of the streets in the IBC currently do not have sidewalks. The sidewalk improvement program will be expanded to provide connectivity, incorporate several new pedestrian bridges, and many existing sidewalks would be moved away from the curb into the setback area. Creekwalk system is also envisioned adjacent to the San Diego Creek to provide a trail to connect the Great Park from the IBC and the Civic Center.

The IBC Vision Plan would provide linkages to the City regional bicycle trail system. Currently continuous on-street bicycle lanes exist only along Main Street. Bicycle lanes are proposed along parts of Jamboree Road, Red Hill Avenue, Von Karman Avenue, Michelson Avenue, Carlson Avenue, Barranca Parkway, and Alton Parkway. Furthermore, the sidewalk system would be shared with pedestrians and bicycles. As part of the Vision Plan, bicycle

connections to the San Marco Park, adjacent to the San Diego Creek, would be improved with a new pedestrian bridge.

Mitigation Measures: Project impacts to alternative transportation would be less than significant, and no mitigation measures are required.

Reference: RDEIR § 5.13.

4. Environmental Impact: Cumulative Impacts (Traffic)

The analysis of traffic impacts above under Impact M.1 included analysis of cumulative as well as project-related impacts. Therefore, the findings, mitigation measures, and facts in support of findings under M.1 above apply to cumulative impacts.

N. Utilities/Service Systems

1. Environmental Impact: There are adequate water supply and delivery systems to meet project requirements. As discussed in Section 5.14, a Water Supply Assessment (WSA) was prepared by IRWD for the Project and found that there is a sufficient supply capacity for both potable and nonpotable water to accommodate full buildout through 2028, upon completion of under development supplies. Additionally, through implementation of the Sub-Area Master Plan (SAMP) recommendations for the IBC, the water systems and facilities would adequately serve the Project.

Finding: The Proposed Project would not have substantial adverse impacts to water supplies or infrastructure. PPP 14-1 requires new development to use recycled water to reduce demand on potable water supplies. PPP 14-2 and 14-3 also reduce impacts to water supply. No mitigation measures are required. Cal. Pub. Res. Code § 21081; CEQA Guidelines § 15091.

Facts in Support of Finding: As described in Section 5.14 of the Draft EIR, the buildout of the IBC would result in an increase in water demand of approximately 3,176.3 acre-feet per year. A WSA has been prepared for the Project by IRWD, in accordance with the requirements of CEQA and California Water Code section 10910 et. seq. The Water Supply Assessment (WSA) is included as Appendix P in the RDEIR.

According to the WSA, there is sufficient supply capacity for both potable and nonpotable water to accommodate full buildout through 2028, upon completion of under development supplies. IRWD's estimates are very conservative because the WSA assumes a 20,000 residential unit cap in the IBC. The Proposed Project has a maximum dwelling unit cap of 15,000, and a total of 1,191 density bonus units allowable in accordance with state law, for a total of 16,191 units.

In accordance with IRWD requirements, each redevelopment project must provide a fire flow analysis. If the fire flow analysis identifies any deficiencies, the developer would be responsible for any water system improvements associated with the redevelopment project required to rectify the deficiencies and meet IRWD fire flow requirements (PPP 14-3).

As part of the SAMP, a hydraulic model was constructed to perform hydraulic analysis of the existing and future potable systems. The SAMP analyzed a total of 19,552 dwelling units in the IBC, consisting of 14,552 redevelopment projects and the additional 5,000 units. The nonpotable water system improvements are only for new nonpotable water lines that are to be installed as the IBC develops. Through its SAMP, IRWD has identified areas in need of improvement and has determined the cost of domestic and nonpotable water system improvements. IRWD will fund 100 percent of potable water system improvements and approximately 97 percent of nonpotable water system improvements, with developer contributions totaling a little over \$100,000 for site specific, nonregional transmission line improvements. Through the use of its WRMP and SAMP, the IRWD will determine the each project's fair share costs and connection fees associated with servicing their project site (PPP 14-2). Through the use of its WRMP and SAMP, and water connection districts, the IRWD will determine each project's improvements and connection fees associated with servicing their individual project site. Upon implementation of PPP I4-1 through I4-3, impacts will be less than significant.

Mitigation Measures: No mitigation is required.

Reference: RDEIR § 5-I4; Water Supply Assessment (Appendix P in the RDEIR).

2. Environmental Impact: Cumulative Impacts (Project Water Demands). As discussed in Section 5.14 of the Draft EIR, presuming future development is generally consistent with existing general plans; IRWD does not anticipate any problems supplying water to any current or future development in the City.

Finding: The Project will have no substantial adverse impacts to water supply and the delivery systems. No mitigation is required. Cal. Pub. Res. Code § 21081; CEQA Guidelines § 15091.

Facts in Support of Finding: The total water supplies available to IRWD during the MWD Allocation condition, Normal-, Single Dry-, and Multiple Dry-Year conditions within a 20-year projection will meet the projected water demand of the project and of existing and other planned future uses, including, but not limited to, residential, industrial, and commercial uses. IRWD supply and facilities planning is consistent with the general plans of the land use jurisdictions overlying IRWD. Consequently, presuming future development is generally consistent with existing general plans; IRWD does not anticipate any problems supplying water

to any current or future development in the City of Irvine. Therefore, the Proposed Project's demand for water services would not be cumulatively considerable.

Mitigation Measures: No mitigation is required.

Reference: RDEIR § 5-14; Water Supply Assessment (Appendix P in the RDEIR).

3. Environmental Impacts: Project-generated wastewater could be adequately treated by the wastewater service provider for the project. As discussed in Section 5.14 of the Draft EIR, through implementation of the SAMP recommendations and existing regulations, the project-generated wastewater could be adequately treated and impacts would be less than significant.

Finding: The Project will have no substantial adverse impact on wastewater treatment requirements of the applicable Regional Water Quality Control Board. PDF 14-2 would require payment of developer fees to expansion. No mitigation is required. Cal. Pub. Res. Code § 21081; CEQA Guidelines § 15091.

Facts in Support of Finding: Wastewater generation factors, stated in the SAMP, were used to estimate wastewater flow for IBC properties, based on land use. In order to evaluate the conformance of the existing wastewater collection system by land use under current and future (redeveloped) wastewater flows, a hydraulic model was developed. The hydraulic model was developed using H2OMAP Software for extended-period simulation of wastewater flows over a 24-hour period. The boundary of the IBC system was examined to identify any inflow/outflow and thereby define the model boundary conditions. The only flow into the IBC taken into account was the Main Street Interceptor flow into the eastern boundary of the IBC at the intersection of Main Street and the San Diego Creek Channel.

The hydraulic analysis for future redeveloped conditions (14,552 units in the IBC) identified the wastewater system deficiencies during of maximum-day conditions include pipe segments that did not meet capacity and maximum velocity criteria (minimum slope deficiencies are the same as existing conditions). The wastewater collection system deficiencies are based on the capacity criteria, which are based on the peak flow conditions during maximum day of the year. Although these deficiencies were considered worst-case scenarios, the SAMP recommends improvements to four pipes outside of the Proposed Project area. Upon implementation of PPP 14-2, impacts will be less than significant.

Mitigation Measures: No mitigation is required.

Reference: RDEIR § 5-14.

4. Environmental Impacts: Cumulative Impacts (Wastewater). As discussed in Section 5.14 of the Draft EIR, cumulative impacts to the wastewater system would be less than significant.

Finding: No significant cumulative adverse impacts to wastewater are anticipated. (Public Resources Code § 21081(a)(1), Guidelines § 15091(a)(1)).

Facts in Support of Finding: Implementation of the Proposed Project may require expanded water facilities, including upsizing of some wastewater and nonpotable water pipe segments. However, the project would not result in a significant impact related to the construction of expanded water facilities. While development in the IBC will increase sewer demand and impact capacity and flow, IRWD has sufficient planned sewer capacity to accommodate the increase in demand. Through the SAMP, IRWD has identified areas in need of improvement and has determined the cost of wastewater improvements. IRWD will fund approximately 97 percent of the wastewater system, with developer contributions totaling a little over \$100,000 for site specific, nonregional transmission line improvements, if necessary. Through the SAMP process, it has been demonstrated that the sewer collection and treatment system would meet project demand for wastewater service. Additionally, the long-range planning efforts of IRWD take into account current and Proposed Projects to eliminate the potential for cumulative impacts. Therefore, the Proposed Project's demand for potable, nonpotable, and wastewater collection and treatment services would not be cumulatively considerable.

Mitigation Measures: No mitigation is required.

Reference: RDEIR § 5-14.

5. Environmental Impacts: Existing facilities would be able to accommodate project-generated solid waste and comply with related solid waste regulations. As discussed in Section 5.14, anticipated increases in solid waste generation resulting from the implementation of the Project are not anticipated to exceed the current capacity. Therefore, the Project's impacts on solid waste disposal capacity are less than significant.

Finding: The Project is not anticipated to have any substantial adverse impacts on landfill capacity. PPP 14-4 would require applicants for new development project to indicate the location of receptacles for solid waste and recycling on site plans. No mitigation is required. Cal. Pub. Res. Code § 21081; CEQA Guidelines § 15091.

Facts in Support of Finding: Development of the Proposed Project would increase the service demand for solid waste disposal beyond existing conditions and would provide more solid waste to the Bowerman Landfill in Irvine. The additional 6,745 residential units planned for the IBC, would generate approximately 8,249 pounds per day (ppd) or 4 tons per day (tpd). The

remaining nonresidential buildout potential would be 6,380,955 square feet, which would generate an additional 79,329 ppd or 40 tpd (431,089 square feet of retail and 5,949,866 square feet of office and industrial). The project would generate a total of 44 tpd. The rate of disposal for the landfill serving the project area is 8,500 tpd. Therefore, the Orange County Integrated Waste Management District can accommodate the project and impacts would be less than significant.

Mitigation Measures: No mitigation is required.

Reference: RDEIR § 5-14.

6. Environmental Impacts: Cumulative Impacts (Solid Waste). As discussed in Section 5.14 of the Draft EIR, there is adequate capacity in Orange County landfills to accommodate the Project and other cumulative projects in the area.

Finding: The Project will have no substantial cumulative adverse impacts on solid waste disposal. No mitigation is required. Cal. Pub. Res. Code § 21081; CEQA Guidelines § 15091.

Facts in Support of Finding: The Proposed Project, in combination with other projects in the county, would increase demand for landfills and solid waste services for the County of Orange. Total waste generation from the IBC at buildout is estimated to be approximately 766,370 ppd or 383 tpd (1,648,932 square feet retail, 49,250,486 square feet office/industrial, and 16,191 residential units). However, the Orange County Landfill system is required to have available disposal capacity for a projected period of 15 years. The Orange County Landfill System has demonstrated this capacity and regularly imports solid waste from Los Angeles County. The Orange County Integrated Waste Management District can accommodate the project specifically and cumulatively. Therefore, the project-related demand would not be cumulatively considerable.

Mitigation Measures: No mitigation is required.

Reference: RDEIR § 5-14.

7. Environmental Impacts: Existing and/or proposed facilities would be able to accommodate project-generated utility demands. As discussed in Section 5.14, there would be an increase in demand for services as a result of buildout of the project, however, implementation of regulatory requirements and standard conditions of approval would lessen the impact to less than significant.

Finding: The Project will have no substantial cumulative adverse impacts on solid waste disposal. New development project to comply with the most recent Title 24 requirements (PPP 14-5). No mitigation is required. Cal. Pub. Res. Code § 21081; CEQA Guidelines § 15091.

Facts in Support of Finding: The primary demand for electricity, gas, and communications within the project area will be the additional 6,475 residential units and 6,863,621 square feet of nonresidential square development. At buildout the IBC would generate a demand for 1,241,351 Gwh/year of electricity. Demand for energy and natural gas service would be accommodated by the service providers. New facilities to support the demand for electric service in the IBC would be constructed by SCE in accordance with the demand for new service. In addition, new structures within the IBC would be built in accordance with all State Energy Insulation Standards and City of Irvine codes in effect at the time of application for building permits (PPP 14-5). Consequently, SCE would be able to supply electricity to meet the demand for electricity the IBC.

Additional residential units would increase the demand for television and cable services. Additional facilities would be necessary to accommodate the additional residential units, such as new cabling, node locations, and power supplies. To provide service future residential development, enhancement and/or extensions of existing facilities near project sites would be required. Construction of the necessary improvements and/or extensions creates the potential for additional impacts such as dust, noise, and air emissions. The potential impacts associated with the construction of communication facilities are accounted for in other sections of the RDEIR (Sections 5.1 through 5.15). Any applicable mitigation measures identified in those sections will address potential significant impacts associated with construction of public utilities (in particular see Sections 5.2 Air Quality, 5.9 Noise, and 5.13 Traffic). Therefore, through consistent implementation of a variety of mitigation measures related to construction impacts, no additional impacts related to construction and operation of the facilities would occur. Therefore, no substantial physical impacts are anticipated.

there is already telephone service in the project area and telephone facilities can be upgraded without any significant impact on the environment.

Mitigation Measures: No mitigation is required.

Reference: RDEIR § 5-14; Appendix M (Public Service Correspondence).

8. Environmental Impacts: Cumulative Impacts. As discussed in Section 5.14, Cumulative development in the project area as projected from buildout of the project would not have an adverse affect and would not be cumulatively considerable.

Finding: The Project will have no substantial adverse cumulative impact on the ability to service the area. No mitigation is required. Cal. Pub. Res. Code § 21081; CEQA Guidelines § 15091.

Facts in Support of Finding: According to the California Energy Commission (CEC) energy use in the state is growth at 1.25 percent per year and peak demand is growing at 1.35

percent per year (CEC 2008). Around 2010, the majority of consumers in the state will have meters that can measure electricity use, and in some cases natural gas use, every 15 minutes or at least every hour. In addition, many utility companies offer incentives for recycling older inefficient air conditioners. In addition, the CEC is working to develop dynamic pricing tariffs to reduce demand for electricity at peak periods (CEC 2008). According to SCE, the electrical loads of the project are within parameters of projected load growth which SCE is planning to meet in this area.

Cumulative development in the project area as projected from buildout of the project would increase natural gas consumption. Based on present conditions of gas supply and regulatory policies, there are no significant impacts to gas services anticipated at this time; therefore the project-related demand for natural gas would not be cumulatively considerable.

Cox, AT&T, and Verizon would be able to accommodate the needs for telephone, internet, wireless, and cable service for this project and other projects in the area. No adverse impacts on the ability to service the area would result.

Mitigation Measures: No mitigation is required.

Reference: RDEIR § 5-14.

O. Global Climate Change

1. Environmental Impacts: Project-related greenhouse gas emissions could significantly contribute to global climate change impacts or conflict with the CARB-Adopted Scoping Plan. The development contemplated by the Proposed Project would contribute to global climate change through direct emissions of GHG from on-site area sources, off-site energy production required for on-site activities, and vehicle trips generated by the project. However, the project will not conflict with the CARB-Adopted Scoping Plan and implementation of the PPPs and PDFs would lessen the impact to less than significant. Because the project's GHG emissions were considered less than significant with incorporation of the PPPs and PDFs, the project's GHG emissions and contribution to global climate change impacts are considered less than cumulatively considerable and therefore also less than significant.

Finding: Project-related GHG emissions would not be cumulatively considerable. PPP 15-1 through 15-16 and PDF 15-1 through PDF 15-15 would reduce impacts related to GHG emissions. No mitigation is required. Cal. Pub. Res. Code § 21081; CEQA Guidelines § 15091.

Facts in Support of Finding: The City's greenhouse gas (GHG) reduction target for the IBC Vision Plan is a zero net increase in GHG emissions from existing conditions for transportation and nontransportation sources. In accordance with CEQA Guidelines, a net zero increase in GHG emissions would clearly indicate that no significant impacts would occur as

Section 15064.4(b)(1) is not intended to imply a zero net emissions threshold of significance. Federal and State strategies would result in GHG emissions at Post-2030 buildout that would achieve the zero net increase GHG target. However, nontransportation sources would exceed the City's zero net increase target for nontransportation sources by 40,157 metric tons (MTons). However, Citywide PPPs and PDFs listed in Table 5.15-6 of the RDEIR (PDF 15-10, PPP 15-9, PPP 15-11, PDF 15-7, PPP 15-10, PPP 15-16, PDF 15-14, PDF 15-15, PPP 15-1, and PPP 15-13) would reduce GHG emissions by 131,182 MTons. Consequently, nontransportation emissions would be offset by the Citywide GHG strategies for the IBC Vision Plan. As a result of Federal, State, and Citywide GHG reduction strategies, the IBC Vision Plan would generate approximately 17 percent less GHG emissions than existing conditions.

With incorporation of the PPP 15-1 through 15-16 and PDFs 15-1 through 15-15 identified above, the impact would be less than significant.

Mitigation Measure: No mitigation is required.

Reference: RDEIR § 5-15. Appendix P (Global Climate Change Technical Report).

2. Environmental Impacts: Cumulative Impacts.

As described under Impact 5.15-1, project-related GHG emissions are not confined to a particular air basin but are dispersed worldwide. Therefore, impacts identified under Impact 5.15-1 are not project-specific impacts to global warming but the project's contribution to this cumulative impact. Because the project's GHG emissions were considered less than significant with incorporation of the PPPs and PDFs, the project's GHG emissions and contribution to global climate change impacts are considered less than cumulatively considerable and therefore also less than significant.

Mitigation Measure: No mitigation is required.

Reference: RDEIR § 5-15.

VII.

FINDINGS REGARDING ALTERNATIVES

Because the Proposed Project will cause unavoidable significant environmental effects related to air quality, noise, and traffic, the City must consider the feasibility of any environmentally superior alternative to the Proposed Project, evaluating whether these alternatives could avoid or substantially lessen the unavoidable significant environmental effects while achieving most of the objectives of the Proposed Project. The FEIR evaluated four alternatives to the Project and evaluated the feasibility of each of the alternatives in light of the Project objectives and other considerations. As described in Section 2.2 of the FEIR, the specific objectives of the Proposed Project are as follows:

- (1) Provide for the on going development of the IBC consistent with the City's General Plan Urban and Industrial land use designations and the City's adopted Vision Plan Goals, which are:
 - Protect the existing job base.
 - Develop mixed-use cores.
 - Provide transportation, pedestrian, and visual connectivity.
 - Create usable open space.
 - Develop safe, well-designed neighborhoods.
- (2) Provide additional housing opportunities near existing employment centers, consistent with the City's General Plan Land Use and Housing Elements.
- (3) Provide residential uses near existing employment centers, retail and entertainment uses, and transportation facilities consistent with the goals of the Southern California Association of Governments' Regional Comprehensive Plan and Compass Blueprint.
- (4) Provide residential development in areas of the IBC where adequate supporting uses and public services and facilities are provided, consistent with the City's General Plan Land Use Element.
- (5) Contribute to the development of mixed-use cores by incorporating residential, office, and commercial/retail uses into existing areas of nearby community facilities, retail goods and services, and restaurants to enhance the IBC's overall mixed-use urban character and reduce vehicle miles traveled in the South Coast Air Basin.

- (6) Provide neighborhood level amenities to serve the level of mixed-use development envisioned by the City's General Plan and IBC Vision Plan.
- (7) Incorporate sustainable provisions into implementation of the IBC Vision Plan.
- (8) Identify and pursue opportunities for open space areas that serve the recreational needs of IBC residents and employees.

The alternatives presented in the FEIR constitute a reasonable range of alternatives necessary to permit a reasoned choice among the options available to the City and/or the Project proponent. Based upon the administrative record for the Project, the City makes the following findings concerning the alternatives to the Proposed Project.

A. Alternatives Considered and Rejected During the Scoping/Project Planning Process

Four alternatives were considered and rejected during the scoping/project planning process: Alternative project sites; No Project/No Development alternative; Limited Residential Development alternative; and Reduced Urban Neighborhood alternative.

1. Alternative Project Sites

CEQA requires that the discussion of alternatives focus on alternatives to the project or its location, which are capable of avoiding or substantially lessening any significant effects of the project. The key question and first step in the analysis is whether any of the significant effects of the project would be avoided or substantially lessened by putting the project in another location. Only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR. (CEQA Guidelines Section 15126.6(f)(2)(A)). In general, any development of the size and type proposed by the Project would have substantially the same short-term impacts on air quality and noise. The Proposed Project did not result in any significant unavoidable impacts related to aesthetics, agricultural resources, biological resources, cultural resources, geology/soils, hazards and hazardous materials, hydrology/water quality, land use and planning, mineral resources, population and housing, public services, recreation, utilities and service systems, or global climate change. Given the sites' central location near major employment centers and surrounded by existing infrastructure, it is unlikely that any alternative site would have lesser impacts on air quality, population and housing, land use/planning, traffic, and utilities service systems, and global climate change.

Where a previous document has sufficiently analyzed a range of reasonable alternative locations and environmental impacts for projects with the same basic purpose, the lead agency should review the previous document. The EIR may rely on the previous document to help it assess the feasibility of potential project alternatives to the extent the circumstances remain

substantially the same as they relate to the alternative. (CEQA Guidelines Section 15126.6(f)(2)(C)).

The Open Space Initiative and subsequent GPA 16 preserve important conservation and open space resources through a program that consolidates large, contiguous open space areas under public ownership by permitting development to occur in other areas of the City deemed to be of lesser open space value. As a result, the only remaining alternative sites within the jurisdiction of the City are already planned for development, such as Planning Areas 1, 18, and 39 which are entitled for residential uses, or consist of existing or future open space preservation areas (i.e., Implementation Districts), which GPA 16 determined were most appropriate for preservation. Overall, development of these preservation areas would result in significantly greater environmental impacts than the Proposed Project and would therefore not meet the CEQA criteria for an alternatives analysis. In addition, most of the land within the Implementation Districts are also subject to the Natural Communities Conservation Plan (NCCP)/Habitat Conservation Plan (HCP) for the Central-Coastal Subregion and are not otherwise available for development.

As the California Supreme Court indicated in *Citizens of Goleta Valley v. Board of Supervisors*, 52 Cal. 3d 553 (1990):

The general plan has been aptly described as the "constitution for all future developments" within the city or county..." [T]he propriety of virtually any local decision affecting land use and development depends upon consistency with the applicable general plan and its elements..." "To be sure, the general plan is not immutable, far from it. But it may not be trifled with lightly, as the limitation on the number of amendments to the general plan in any calendar year attests." (Goleta, at 570-571)

... Moreover, in some circumstances, an EIR may consider alternatives requiring a site-specific amendment of the general plan. However, an EIR is not ordinarily an occasion for the reconsideration or overhaul of fundamental land use policy. (Goleta, at 573)

Consistent with the Supreme Court's interpretation of the role of the General Plan in framing CEQA alternatives analysis, and in consideration of the Open Space Initiative and subsequent GPA 16, and the NCCP/HCP for the Central-Coastal Subregion, no alternative sites within the jurisdiction of the City are considered to be feasible alternatives to the Proposed Project, since they would not reduce the environmental impacts associated with the project. In addition, the mixed-use opportunities within the IBC are directly related to its location adjacent to major transportation facilities, including the I-405, SR-55, and JWA. In addition, the IBC is currently home to approximately 90,000 jobs, making it one of the largest employment centers in southern California. As a result, the development of high-density residential units in another

location would not offer the same reductions in vehicle miles travelled, and the associated environmental benefits of reduced air quality, noise, and global climate change impacts. Therefore, there are no available alternative sites which could accommodate the Proposed Project.

2. No Project/No Development Alternative

The No Project/No Development Alternative would prohibit all new development, restricting urban growth to its current extent. This alternative assumes that no additional development and growth within the Planning Area would occur beyond what is already approved. Buildout of the IBC under this alternative would consist of 9,446 dwelling units and 42,771,000 square feet of non-residential intensity. Total population in the IBC at buildout would be approximately 12,280 residents and employment would remain at existing levels, which is approximately 90,000 jobs. Some minor population and employment growth could occur within the IBC, to the extent that existing residential units or buildings and projects that have already been approved could accommodate additional growth. None of the impacts of the Proposed Project would result. Future conditions within the IBC, except for the impacts of regional growth, would generally be the same as existing conditions, which were described in the environmental setting section for each environmental topic.

Development under this alternative would not expand mixed use development in the IBC and improve the jobs/housing balance of the region potentially reducing the number of vehicle miles travelled in the South Coast Air Basin. Further, this alternative would not result in the construction of transportation improvements identified in the Proposed Project. However, regional traffic growth would still occur, resulting in the potential for traffic impacts that would otherwise be mitigated by the Proposed Project. It should also be noted that this Alternative would not achieve any of the objectives established for the project. In addition, this Alternative eliminates the existing entitlements and allowable development intensity for the IBC and is therefore, not considered feasible. As a result, this Alternative has been rejected from further consideration.

3. Limited Residential Development Alternative

As described in Section 5.2, the Proposed Project would result in significant long-term air quality impacts based on exceedance of SCAQMD's threshold criteria. The purpose of the Limited Residential Development Alternative is to avoid potential long-term operational air quality impacts. Using the URBEMIS 2007 Air Quality Computer Model, it was determined that up to 650 condominium/apartment units could be developed in the IBC without exceeding SCAQMD's threshold criteria. No additional nonresidential development could occur under this scenario.

Development under this alternative would not expand mixed-use development in the IBC and would improve the jobs/housing balance of the region, potentially reducing the number of vehicle miles travelled in the South Coast Air Basin. Further, this alternative would not result in the construction of transportation improvements identified in the Proposed Project. However, regional traffic growth would still occur, resulting in the potential for traffic impacts that would otherwise be mitigated by the Proposed Project. It should also be noted that this Alternative would not achieve any of the objectives established for the project. In particular, this Alternative would likely preclude the City from achieving their Regional Housing Needs Assessment (RHNA) allocation of 35,660 units for the 2006 to 2014 planning period. The City's proposed Housing Element has identified the IBC as an area for potential very-low, low, and moderate income units, which would be precluded by this Alternative. In addition, this Alternative eliminates the existing entitlements and allowable development intensity for the IBC and is therefore, not considered feasible. As a result, this Alternative has been rejected from further consideration.

4. Redneed Urban Neighborhood Alternative

The previously released Draft EIR included a Reduced Urban Neighborhood Alternative. Under this alternative, the overall intensity as measured under the current zoning code would remain the same as the Proposed Project; however, the potential 4,158 residential units would only be located north of I-405. Additionally, all of the 2,587 pending units—except for Martin Street Condominiums project and Irvine Technology Center project, which total 1,082 units—would be located north of I-405. The objective of this Alternative is to reduce potential hazards and hazardous materials impacts and land use and planning impacts. Since release of the previous Draft EIR, the City of Irvine has revised the Proposed Project so that the previous Reduced Urban Neighborhood Alternative is now the Proposed Project as analyzed in this RDEIR. As a result, this alternative has been removed from the alternatives analysis.

B. Alternatives Selected for Further Analysis

As discussed in Section 6.6 of the FEIR, the following four alternatives were determined to represent a reasonable range of alternatives which have the potential to feasibly attain most of the basic Project objectives and which may avoid or substantially lessen any of the significant impacts of the Proposed Project: (1) No Project/Existing General Plan Alternative, (2) Reduced Intensity Alternative, (3) Increased Residential (20,000 du) Alternative, and (4) Increased Residential (25,000 du) Alternative. Each of the six alternatives is discussed below, including a comparison of the merits of each alternative in relation to the Project objectives and the impacts of each alternative in relation to the Proposed Project. In addition, as required by CEQA, where an alternative has been identified as an “environmentally superior alternative” this has been noted.

1. No Project/Existing General Plan Alternative

Description: In this alternative the existing General Plan would continue to guide development of the IBC into the future. The current City of Irvine General Plan and Zoning Ordinance designate the area as Urban and Industrial and 5.1 IBC Multi-Use, respectively. Under the No-Project/Existing General Plan Alternative, buildout of the IBC would include a total of 9,455 residential units, 53,125,389 square feet of non-residential uses, and 3,106 hotel rooms. Under the No-Project/General Plan Alternative, only 2,552 additional dwelling units, which have already been approved, would be developed. A buildout potential of 10,354,389 square feet of non-residential uses would remain. This alternative would only include the traffic improvements identified in the current IBC Fee Program since the proposed update to the IBC Fee Program to include neighborhood level amenities would not occur. Under this alternative, the IBC would have a jobs/housing ratio of 11.63 at buildout.

Finding: The City finds that specific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make the No Project/Existing General Plan Alternative infeasible. (Public Resources Code § 21081(a)(3), Guidelines § 15091(a)(3)).

Facts in Support of Finding:

a. The No-Project/Existing General Plan Alternative would reduce impacts associated with biological resources, hazards and hazardous materials, land use/planning, public services, recreation, and utilities and services. However, this alternative would have greater air quality, population and housing and global climate change impacts. All other impact categories would generally be the same as the Proposed Project. Although some impacts would be reduced, this alternative would still result in significant air quality, noise, and traffic impacts. Unlike the Proposed Project, the need for a general plan amendment and zone change would not be necessary.

b. Under the No Project/Existing General Plan Alternative, total trips generated by development within the IBC would decrease slightly from 697,308 per day to 672,309, resulting in similar local air quality impacts. However, the No Project/Existing General Plan Alternative is estimated to increase VMT within the City from 16,704,433 VMT per day to 16,797,545 VMT per day, for an increase of 93,112 VMT. According to the GHG emissions analysis conducted by CTG Energetics, buildout of the No Project/Existing General Plan would generate a total of 845,577 MTons of GHG emissions at buildout with PPPs and PDFs; however, buildout of the proposed General Plan would generate 668,671 MTons at buildout with PPPs and PDFs.

c. Buildout under the existing General Plan would result in 9,857 fewer residents and 7,583 fewer dwelling units than buildout conditions under the Proposed Project. Under this Alternative, the jobs/housing balance in the City at buildout would worsen from 5.98 to 11.63

and fewer housing units would be provided near existing employment centers in the IBC. By comparison, the Proposed Project allows for the development of a wide range of housing opportunities in close proximity to regional employment and activity centers in the IBC.

d. Although environmentally superior for some environmental impact categories, this alternative would not meet any of the objectives of the Proposed Project. It would not provide additional housing opportunities in close proximity to existing employment centers, retail and entertainment uses, and transportation facilities and would not promote the objectives of the City's long-range goals for the IBC which include development of a dynamic mixed-use environment, additional housing opportunities in proximity to existing employment centers consistent with SCAG's RCP and Compass Blueprint policies, reducing vehicle miles travelled within the South Coast Air Basin (SoCAB), and the provision of neighborhood level amenities to serve the level of mixed-use development envisioned by the City's General Plan and IBC Vision Plan.

Reference: RDEIR §§ 7.4, 7.4.16

2. Reduced Intensity Alternative

Description: This alternative would reduce overall intensity within the project area by limiting future residential growth to approved and pending projects and limiting non-residential square footage to 48,787,662 square feet, the same as the Proposed Project. As a result, the Reduced Intensity Alternative includes a total of 11,705 dwelling units, 48,787,662 square feet of non-residential uses and 3,478 hotel rooms. Under the Reduced Intensity Alternative there would be a remaining buildout potential of 2,250 dwelling units (in addition to the 9,455 units that are existing, under construction, or approved) and 6,016,662 square feet of non-residential uses. This alternative would result in overall reductions in development intensity within the IBC as compared to the existing General Plan. This Alternative was developed to reduce the air quality, noise, and traffic impacts of the project. All other components of the project would remain the same. Under this alternative, the IBC would have a jobs/housing ratio of 8.70 at buildout.

Finding: The City finds that specific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make the Reduced Intensity Alternative infeasible. (Public Resources Code § 21081(a)(3), Guidelines § 15091(a)(3)).

Facts in Support of Finding:

a. The Reduced Intensity Alternative would reduce impacts associated with air quality, hazards and hazardous materials, land use and planning, noise, public services, recreation, local traffic and utilities and services. However, this alternative would have greater population and

housing and global climate change impacts and increase regional VMT. All other impacts would be similar.

b. Although this alternative would lessen some environmental impacts, it would not avoid the significant environmental impacts to air quality, noise, or transportation/traffic. It would provide less housing opportunities in close proximity to existing employment centers, retail and entertainment uses, and transportation facilities and would not promote the objectives of the City's long-range goals for the IBC to the same extent as the Proposed Project. Most of the project objectives would be met, but not to the degree of the project. In addition, this alternative reduces overall allowable development intensity within the IBC below what is currently allowed and would impact existing entitlements.

Reference: RDEIR §§ 7.5, 7.5.16

3. Increased Residential (20,000) Alternative

Description: This alternative would increase residential intensity and reduce non-residential intensity within the project area. As a result, the Increased Residential (20,000 du) Alternative includes a total of 20,000 dwelling units (which would include the maximum allowable density bonus units under state law), 46,675,906 square feet of non-residential uses, and 3,478 hotel rooms. Under the Increased Residential (20,000 du) Alternative there would be a remaining buildout potential of 10,545 dwelling units (including bonus density units) and 3,904,906 square feet of non-residential uses. This alternative would maintain the current maximum buildout intensity within the IBC as measured under the current zoning code, although non-residential intensity would be reduced. The objective of this Alternative is to reduce regional VMT and associated air quality impacts by improving jobs/housing balance within the IBC and Orange County Subregion. All other components of the project would remain the same. Under this alternative, the IBC would have a jobs/housing ratio of 4.60 at buildout.

Finding: The City finds that specific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make the Increased Residential (20,000) Alternative infeasible. (Public Resources Code § 21081(a)(3), Guidelines § 15091(a)(3)).

Facts in Support of Finding:

a. The Increased Residential (20,000 du) Alternative would reduce impacts associated with air quality, population and housing, and global climate change. However, this alternative would have greater impacts to hazards and hazardous materials, land use and planning, public services, recreation, transportation/traffic, and utilities and service systems. In addition, this alternative does not avoid any significant environmental impacts.

b. The increased residential development in this alternative could result in more conflicts with existing and future commercial land uses. Impacts to fire protection, law enforcement, and library services would also be greater under this alternative, since there would be more residential development at full buildout. Residential land uses result in more calls for fire and police service as compared to commercial/office development. In addition, the increase in residential units would result in increased water demand and waste-water treatment requirements since residential uses typically use more water and generate more wastewater,

c. This alternative would provide greater housing opportunities in close proximity to existing employment centers, retail and entertainment uses, and transportation facilities and would promote the objectives of the City's long-range goals for the IBC. Most of the project objectives would be met under this alternative. However, this Alternative would not protect the existing job base of the IBC to the same extent as the Proposed Project.

Reference: RDEIR §§ 7.6, 7.6.16.

4. Increased Residential (25,000) Alternative

Description: This alternative would convert nearly all of the remaining development intensity in the IBC to residential uses. Some non-residential intensity would remain to accommodate approved and pending non-residential projects. As a result, the Increased Residential (25,000 du) Alternative includes a total of 25,000 dwelling units (which would include the maximum allowable density bonus units under state law), 43,897,662 square feet of non-residential uses, and 3,478 hotel rooms. Under the Increased Residential (25,000 du) Alternative there would be a remaining buildout potential of 15,545 dwelling units (including density bonus units) and 1,126,662 square feet of non-residential uses. This alternative would maintain the current maximum buildout intensity within the IBC as measured by the current zoning code, although non-residential intensity would be reduced. The objective of this Alternative is to reduce regional VMT and associated air quality impacts. All other components of the project would remain the same. Under this alternative, the IBC would have a jobs/housing ratio of 3.50 at buildout.

Finding: The City finds that specific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for

highly trained workers, make the No Project Alternative infeasible. (Public Resources Code § 21081(a)(3), Guidelines § 15091(a)(3)).

Facts in Support of Finding:

a. The Increased Residential (25,000 du) Alternative would reduce impacts associated with air quality, population and housing, and global climate change. However, this alternative would have greater impacts to hazards and hazardous materials, land use and planning, public services, recreation, and utilities and service systems. In addition, this alternative does not avoid any significant environmental impacts.

b. The increase in housing units, and decrease in non-residential uses, in this alternative would result in increased demands for fire protection, law enforcement, and library services; increased demand for park facilities; and increased demand for water and need for wastewater treatment.

c. This alternative would provide greater housing opportunities in close proximity to existing employment centers, retail and entertainment uses, and transportation facilities and would promote the objectives of the City's long-range goals for the IBC. Most of the project objectives would be met under this alternative. However, this Alternative would not protect the existing job base of the IBC to the same extent as the Proposed Project.

Reference: RDEIR §§ 7.7, 7.7.16.

VIII.
ENVIRONMENTAL ISSUES DETERMINED
NOT TO BE POTENTIALLY AFFECTED BY THE PROJECT

Based on the Project's Initial Study and responses to the Project's NOP, two environmental issues, Agricultural Resources and Mineral Resources, were determined by the City to be either inapplicable to the Project based upon the nature of the Project and/or the absence of any potential impact related to that issue or because the issue was potentially impacted to a degree that could clearly be seen to be less than significant and, therefore, not warranting further consideration in the FEIR. No substantial evidence has been presented to or identified by the City which would modify or otherwise alter the City's less-than-significant determinations for those environmental issues. Accordingly, the FEIR does not analyze potential impacts of the Project as to Agricultural Resources and Mineral Resources.

IX. FINDINGS REGARDING GROWTH INDUCING IMPACTS

Guidelines Section 15126.2(d) requires that an EIR: "Discuss the ways in which the Proposed Project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment."

The Proposed Project would allow for an increase in total residential units within the IBC (Planning Area 36) from 9,455 units to 15,000 units. In addition, a total of 2,038 density bonus units would be allowed in accordance with State Law for a total 17,038 units. The increase in total allowed units would be 7,583, including 2,250 pending units and 5,333 units of potential future development. The current General Plan allows for 53,461,052 square feet of office equivalency in Planning Area 36. The total 7,538 additional new units (either potential or in process) remaining under the 15,000 unit cap would be offset by a reduction of 2,399,626 square feet of office square footage and 1,602,526 of industrial square footage (for a total of 4,002,152 square feet, or 2,887,307 square feet of office equivalency). Upon adoption of the IBC Vision Plan, the total nonresidential intensity allowed by the adopted General Plan would be 48,787,662 square feet. The Proposed Project would also increase the maximum number of hotel rooms allowed in the IBC by 372, from the existing limit of 3,106 to 3,478.

Although public service agencies would need to expand their services because of the Project in order to maintain desired levels of service, existing infrastructure is located within and near the Project site within either already developed projects or projects that are approved or planned for development. Therefore, the proposed expansion of public services to serve the Project Area would not encourage development in other areas beyond the Project boundary.

During Project construction, construction-related jobs would be created. This would be a direct, although temporary, growth inducing effect. In addition, as new homes are built and occupied, these new residents in the Project Area will create increased demand for goods and services which could encourage the creation of new businesses and/or the expansion of existing businesses to respond to this demand. Thus, the Project will have a growth inducing effect by encouraging or facilitating economic activity, although such indirect growth-inducing effects will be minimized due to the balanced nature of the land use plan.

The Project would not involve a precedent setting action that could be applied to other properties and thereby encourage or facilitate growth. The Project shifts intensities from other portions of the Planning Areas or other areas of the City, and does not increase the total number of residential units allowed under the General Plan. In addition, the Project is consistent with standard conditions of approval and/or mitigation measures adopted for the Project will ensure that subsequent development projects comply with all applicable City plans, policies, ordinances,

etc. Moreover, pressures to develop other land in the surrounding area would derive from regional economic conditions and market demands that are not directly influenced by zoning actions in a particular Planning Area.

X.
**FINDINGS REGARDING SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL
CHANGES**

Guidelines Section 15126.2(c) indicates that “uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely.” The Guidelines also indicate that “irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.” The Project would allow construction activities that would use non-renewable or slowly renewable resources including lumber and other forest products, sand and gravel, asphalt, steel, copper, lead and other metals, and water. There would also be a commitment of social services and public maintenance services, such as police, fire, schools, libraries, water and sewer services. The City finds that the commitment of such resources would represent an incremental effect on the regional consumption of these commodities and that such consumption is justified.

XI. STATEMENT OF OVERRIDING CONSIDERATIONS

Pursuant to Public Resources Code Section 21081(b) and the Guidelines Section 15093, the City has balanced the benefits of the Proposed Project against the following unavoidable adverse impacts associated with the Proposed Project and has adopted all feasible mitigation measures with respect to these impacts: (1) Air Quality, (2) Noise, and (3) Transportation/Traffic. The City also has examined alternatives to the Proposed Project, none of which both meet the Project objectives and is environmentally preferable to the Proposed Project.

The City, after balancing the specific economic, legal, social, technological, and other benefits of the Proposed Project, has determined that the unavoidable adverse environmental impacts identified above may be considered “acceptable” due to the following specific considerations which, separately and in combination, outweigh the unavoidable, adverse environmental impacts of the Proposed Project. Each of the separate benefits of the Proposed Project, as stated herein, is determined to be, unto itself and independent of the other Project benefits, a basis for overriding all unavoidable adverse environmental impacts identified in these Findings. Project benefits include:

5. Provision of needed housing.

Housing growth within the State and the Southern California region has trailed population and employment growth rates for an extended period of time. In an effort to redress this mismatch between population and housing growth, State law now mandates that jurisdictions throughout California must plan to provide their fair share of regional housing needs. State law requires that each City must adopt a Housing Element to be included in the City’s General Plan to provide for the anticipated housing needs of the jurisdiction, and a Land Use Element which zones sufficient land for residential uses at an appropriate density to allow for the construction of the number of housing units which are specified in the plans contained in the Housing Element. In developing the number of housing units that are specified as the City’s planning goal in the City’s Housing Element of its General Plan, State law further provides that the City must consider the regional housing needs developed by the State of California and the allocation of these units to various jurisdictions by regional planning organizations. To this end, California’s Department of Housing and Community Development issues Regional Housing Need Allocation (RHNA) targets for each jurisdiction based on state and regional growth projections. Each jurisdiction must demonstrate in its Housing Element that it has made provisions in its General Plan for production of its fair share of regional housing needs for the 2006-2014 period. The City of Irvine’s 2006-2014 RHNA target is 35,660 units. The City of Irvine estimates that approximately 7,387 of its RHNA target units were built during 2006-2008, with the remaining 28,273 plus units to be completed by 2014.

The State's fair share housing program will issue updated RHNA targets every five years. Local jurisdictions must update their Housing Elements to demonstrate that they will produce enough housing to meet their RHNA targets for 2015-2025 and each successive 5-year period. The RHNA targets assigned by HCD will reflect state and regional growth forecasts and not necessarily local forecasts or general plans.

In order to meet the current RHNA targets the City will have to provide for an average of 5,655 housing units per year between 2010 and 2014. OCP-2006 projects that the City's housing stock will grow by 35,107 units between 2003 and 2035, or only 1,064 units per year, based on current General Plan designations. OCP-2006's projected average annual housing growth is only 19% of the current average annual RHNA goal. Given the City and Orange County's continued strong share of regional employment, the actual demand for housing will be likely to far exceed the OCP-2006 projection of the amount of housing "most likely" to be built during the 33-year period.

Given the likely demand and the fact that the post-2014 RHNA targets for the City are very likely to greatly exceed the number of units currently available under the City's existing General Plan, the City needs to designate more land for residential units within the City and its sphere. The City could accomplish this in several ways including through the recycling of existing employment- and revenue-generating uses to residential uses within the existing City boundaries; or through redevelopment of existing housing areas at higher densities within the existing City boundaries. Given the relatively recent vintage of Irvine's existing development, the first of these alternatives is the more feasible means of providing the projected fair share housing opportunities.

The Proposed Project contributes to the City's ability to meet its projected fair share housing production obligations in the 2006-2025 period, and helps insure a better long-term balance between jobs and housing within the City. In order to provide the amount of land necessary to produce the housing units that the City has established as its goal in the Housing Element and that the City expects will be required under the RHNA process, the City must develop adequate housing in each planning area to support growing employment opportunities and to meet the City's RHNA goal.

Reference: Irvine General Plan Housing Element Objective C-1 Policy (e); Land Use Element Objective A-4 Policy (c).

6. Improvement of the City's jobs/housing balance.

The Proposed Project contributes to a more balanced jobs/housing ratio consistent with both regional and City General Plan policies. The Proposed Project is located near existing transportation and transit facilities and within a major regional job concentrations and is

organized in a manner conducive to walking, biking and transit alternatives to automobile travel in accordance with Southern California Association of Governments (SCAG) policies. The location of the Proposed Project in an area already developed with employment opportunities, roads, transit access, and utilities further contributes to providing more affordable housing opportunities for workers within the City, rather than trying to satisfy the City's housing needs in more isolated locations without transportation and transit access or proximity to jobs, or on more difficult terrain that requires expensive construction techniques. These siting advantages will provide fiscal balance between employment, retail and residential uses; lower housing costs; reduced traffic congestion; and lower emissions due to congestion.

Reference: Irvine General Plan Land Use Element Objective A-4; SCAG Regional Growth Management Policies.

7. Consistency with AQMP Land Use Strategies

Although the proposed General Plan Amendment and Zone Change will result in significant air quality impacts, the project is consistent with Regional Comprehensive Plan and Guide (RCPG) and AQMP land use strategies to reduce the number of trips (i.e., through more balanced land uses within the IBC) and the length of trips (i.e., by reducing regional VMT by reducing home-to-work commute distances through jobs/housing balance policies). The assumptions regarding land use-based air quality measures is that trips and mode choices are not only a function of the transportation system, but also relate to housing density, relative locations of residential and commercial land uses, and the proximity to regional transportation systems.

The Proposed Project improves the jobs/housing balance of the Orange County Subregion, which is presently identified by SCAG as "jobs-rich." Providing a wide-range of housing opportunities within a concentrated employment center such as the IBC will provide people with the opportunity to live closer to their work, resulting in fewer VMT and less traffic congestion. Under, the "no-project" scenario, housing demand generated by Orange County employment increases would have to be met by areas farther from regional employment centers in Orange County, such as Riverside and San Bernardino Counties, which would result in an increase in regional VMT, increased congestion, and corresponding increases in CO, ROG, NOx and PM₁₀ emissions from mobile sources. Therefore, as discussed previously, the Proposed Project promotes regional RCPG and AQMP attainment policies relating to jobs/housing balance and the promotion of HOV/transit use.

8. Implements THE OBJECTIVES ESTABLISHED FOR THE PROJECT

The City has established various objectives for the IBC Vision Plan and Mixed-Use Overlay Zoning Code. These objectives are summarized as follows:

- (1) Provide for the on going development of the IBC consistent with the City's General Plan Urban and Industrial land use designations and the City's adopted Vision Plan Goals, which are:
 - Protect the existing job base.
 - Develop mixed-use cores.
 - Provide transportation, pedestrian, and visual connectivity.
 - Create usable open space.
 - Develop safe, well-designed neighborhoods.
- (2) Provide additional housing opportunities near existing employment centers, consistent with the City's General Plan Land Use and Housing Elements.
- (3) Provide residential uses near existing employment centers, retail and entertainment uses, and transportation facilities consistent with the goals of the Southern California Association of Governments' Regional Comprehensive Plan and Compass Blueprint.
- (4) Provide residential development in areas of the IBC where adequate supporting uses and public services and facilities are provided, consistent with the City's General Plan Land Use Element.
- (5) Contribute to the development of mixed-use cores by incorporating residential, office, and commercial/retail uses into existing areas of nearby community facilities, retail goods and services, and restaurants to enhance the IBC's overall mixed-use urban character and reduce vehicle miles traveled in the South Coast Air Basin.
- (6) Provide neighborhood level amenities to serve the level of mixed-use development envisioned by the City's General Plan and IBC Vision Plan.
- (7) Incorporate sustainable provisions into implementation of the IBC Vision Plan.
- (8) Identify and pursue opportunities for open space areas that serve the recreational needs of IBC residents and employees.

The objectives identified above are achieved through implementation of the proposed project. The IBC Vision Plan outlines the City's policies and objectives for addressing residential and mixed-use development within the IBC, to be incorporated as a new element in the City's General Plan. The framework for the IBC Vision Plan provides the land use and urban design structure by which new residential development would be organized. Figure 3-4 of the RDEIR,

IBC Vision Plan Framework, is a summary exhibit of the key elements and attributes of the IBC that would facilitate the development of high-quality, sustainable neighborhoods, and a balanced mix of uses. As shown on Figure 3-5 of the RDEIR, Proposed IBC Infrastructure Improvements, several infrastructure improvements would be proposed throughout the IBC. The locations of the proposed improvements, such as bridge crossings, are generalized in nature, as specific locations have not yet been evaluated in detail. The proposed bridge widenings are intended to improve pedestrian and bicycle access. No additional vehicular travel lanes are proposed.

The existing sidewalk improvement program will continue to be implemented and embellished with enhanced standards for improved walkability and connectivity to create an interconnected system of pedestrian-friendly boulevards, avenues, and streets. The program calls for the installation of sidewalks to fill the gaps in the IBC sidewalk system and provides for the installation of a five- to eight-foot-wide sidewalk behind eight feet of landscaped parkway.

The proposed project includes a new per-unit fee program to be assessed against new residential or residential mixed-use development in the IBC to fund these proposed improvements. Existing developments would be exempt from this fee program. This fee program is proposed to be adopted in conjunction with the Vision Plan and its components. A separate fee program is also proposed to be adopted in conjunction with the Vision Plan to augment the current IBC Transportation Mitigation Fee program to reflect current mitigation outlined in the Transportation and Traffic section of this DEIR.

5. Transportation/Traffic Considerations

Although substantial traffic increases are associated with the Proposed Project, traffic improvements are proposed to mitigate the traffic impacts. Continuation of existing General Plan policies, instead of project implementation, would result in increased VMT. The Proposed Project includes mitigation measures requiring specific circulation improvements and an update to the IBC Development Fee Program for funding circulation improvements in the IBC and adjoining areas. Without the Proposed Project and the project-funded circulation improvements specified as mitigation measures within this EIR, future cumulative intersection levels of service may worsen through a combination of local and regional traffic, or required improvements would become the responsibility of the appropriate public agencies or developers of other cumulative projects in the region.

6. Conclusion

For the foregoing reasons, the City of Irvine concludes that the IBC Vision Plan and Mixed-Use Overlay Zoning Code will result in a beneficial mix of residential, multi-use, commercial, industrial, institutional, recreation and open space uses providing significant housing open space, and transportation benefits of local and regional significance, as well as various public infrastructure improvements, which outweigh the unavoidable environmental impacts. Therefore, the City of Irvine has adopted this Statement of Overriding Considerations.

*MITIGATION
MONITORING
PROGRAM*

IRVINE BUSINESS

COMPLEX VISION PLAN

AND MIXED USE

OVERLAY ZONING CODE

ENVIRONMENTAL

IMPACT REPORT

SCH #2007011024



prepared for:

CITY OF IRVINE

*Contact:
Bill Jacobs, AICP,
Principal Planner*

prepared by:

THE PLANNING CENTER

*Contact:
William Halligan, Esq.
Vice President,
Environmental Services*

JULY 2010

*MITIGATION
MONITORING
PROGRAM*

IRVINE BUSINESS

COMPLEX VISION PLAN

AND MIXED USE

OVERLAY ZONING CODE

ENVIRONMENTAL

IMPACT REPORT

SCH #2007011024



prepared for:

CITY OF IRVINE

*One Civic Center Plaza
Irvine, CA 92623
Tel: 949.724.6354*

*Contact:
Bill Jacobs, AICP,
Principal Planner*

prepared by:

THE PLANNING CENTER

*1580 Metro Drive
Costa Mesa, CA 92626
Tel: 714.966.9220 • Fax: 714.966.9221
E-mail: costamesa@planningcenter.com
Website: www.planningcenter.com*

*Contact:
William Halligan, Esq.
Vice President,
Environmental Services*

COI-21.0E

JULY 2010

Table of Contents

Section	Page
1. INTRODUCTION	1-1
1.1 PURPOSE OF MITIGATION MONITORING PROGRAM.....	1-1
1.2 PROJECT LOCATION	1-2
1.3 PROJECT SUMMARY	1-2
1.4 ENVIRONMENTAL IMPACTS.....	1-7
2. MITIGATION MONITORING PROCESS.....	2-1
2.1 MITIGATION MONITORING AGREEMENT	2-1
2.2 MITIGATION MONITORING PROGRAM ORGANIZATION	2-1
2.3 CITY OF IRVINE COMMUNITY DEVELOPMENT DEPARTMENT	2-1
2.4 MITIGATION MONITORING COMMITTEE	2-1
2.5 MITIGATION MONITORING TEAM.....	2-1
2.6 RECOGNIZED EXPERTS.....	2-2
2.7 ARBITRATION/DISPUTE RESOLUTION	2-2
2.8 ENFORCEMENT	2-2
3. MITIGATION MONITORING REQUIREMENTS	3-1
3.1 PRE-MITIGATION MEETING.....	3-1
3.2 CATEGORIZED MITIGATION MEASURES/MATRIX.....	3-1
3.3 DATA BASE MANAGEMENT	3-1
3.4 COORDINATION WITH CONTRACTORS	3-1
3.5 LONG-TERM MONITORING	3-1
4. MITIGATION MONITORING REPORTS.....	4-1
4.1 FIELD REPORTS	4-1
4.2 PLAN CHECK CONFORMANCE REPORTS.....	4-1
4.3 IMPLEMENTATION COMPLIANCE REPORT (ICR)	4-1



Table of Contents

This page intentionally left blank.

1. Introduction

1.1 PURPOSE OF MITIGATION MONITORING PROGRAM

This Mitigation Monitoring Program has been developed to provide a vehicle by which to monitor mitigation measures and conditions of approval outlined in the Recirculated Draft Environmental Impact Report (RDEIR) State Clearinghouse No. 2007011024. The Mitigation Monitoring Program has been prepared in conformance with Section 21081.6 of the Public Resources Code and City of Irvine Monitoring Requirements. Section 21081.6 states:

(a) When making the findings required by paragraph (1) of subdivision subsection (a) of Section 21081 or when adopting a mitigated negative declaration pursuant to paragraph (2) of subdivision (c) of Section 21080, the following requirements shall apply:

(1) The public agency shall adopt a reporting or monitoring program for the changes made to the project or conditions of project approval, adopted in order to mitigate or avoid significant effects on the environment. The reporting or monitoring program shall be designed to ensure compliance during project implementation. For those changes which have been required or incorporated into the project at the request of a responsible agency or a public agency having jurisdiction by law over natural resources affected by the project, that agency shall, if so requested by the lead agency or a responsible agency, prepare and submit a proposed reporting or monitoring program.

(2) The lead agency shall specify the location and custodian of the documents or other material which constitute the record of proceedings upon which its decision is based.

(b) A public agency shall provide that measures to mitigate or avoid significant effects on the environment are fully enforceable through permit conditions, agreements, or other measures. Conditions of project approval may be set forth in referenced documents which address required mitigation measures or, in the case of the adoption of a plan, policy, regulation, or other public project, by incorporating the mitigation measures into the plan, policy, regulation, or project design.

(c) Prior to the close of the public review period for a draft environmental impact report or mitigated negative declaration, a responsible agency, or a public agency having jurisdiction over natural resources affected by the project, shall either submit to the lead agency complete and detailed performance objectives for mitigation measures which would address the significant effects on the environment identified by the responsible agency or agency having jurisdiction over natural resources affected by the project, or refer the lead agency to appropriate, readily available guidelines or reference documents. Any mitigation measures submitted to a lead agency by a responsible agency or an agency having jurisdiction over natural resources affected by the project shall be limited to measures which mitigate impacts to resources which are subject to the statutory authority of, and definitions applicable to, that agency. Compliance or noncompliance by a responsible agency or agency having jurisdiction over natural resources affected by a project with that requirement shall not limit the authority of the responsible agency or agency having jurisdiction over natural resources affected by a project, or the authority of the lead agency, to approve, condition, or deny projects as provided by this division or any other provision of law.

The Mitigation Monitoring Program will serve to document compliance with adopted/certified mitigation measures which are formulated to minimize impacts associated with the construction of the proposed project.

1. Introduction

1.2 PROJECT LOCATION

The approximately 2,800-acre Irvine Business Complex (IBC) comprises Planning Area 36 in the City of Irvine, in south/central Orange County. More specifically, the IBC is generally bounded by the former Tustin Marine Corps Air Station (MCAS) to the north, the San Diego Creek channel to the east, John Wayne Airport and Campus Drive to the south and State Route 55 (SR-55) to the west. The San Diego Freeway (I-405) traverses the southern portion of the IBC, and the Santa Ana Freeway (I-5) is to the north and east. The IBC is bordered by the cities of Newport Beach to the south, Santa Ana and Costa Mesa to the west, and Tustin to the north. The IBC consists of a range of industrial, office, commercial, and residential uses covering approximately 2,800 acres in the western portion of the City of Irvine. Adjacent to the IBC, on the north, is the City of Tustin and the former MCAS Tustin, currently being redeveloped with residential and commercial uses as part of the Tustin Legacy Specific Plan. A 40-acre parcel of the IBC is detached and to the south of the main IBC boundary area, and bounded by Jamboree Road, Fairchild Road, MacArthur Boulevard, and the San Joaquin Marsh, and adjacent to the City of Newport Beach. The most prominent land use in the IBC is office, with substantial amounts of industrial/warehouse uses and 4,779 medium- and high density residential units and 232 density bonus units for a total of 5,011 dwelling units existing within the IBC.

1.3 PROJECT SUMMARY

As shown on Table 1-1, the IBC Vision Plan and Mixed Use Overlay Zoning Code (proposed project) would allow for an increase in total units in the IBC from 9,015 units to 15,000 units, a difference of 5,985. This increase is a reallocation of existing intensity within current intensity limitations. In addition, a total of 1,598 density bonus units, in addition to 440 existing, approved, or under construction would be allowed in accordance with state law, for a total 17,038 units. The current General Plan allows for 53,125,389 square feet of nonresidential intensity in Planning Area 36. The additional units would be offset by a reduction of 2,399,626 of office square footage and 1,602,526 of industrial square footage (for a total of 4,002,152 square feet, or 2,887,307 square feet of office equivalency). Upon adoption of the IBC Vision Plan, the total nonresidential intensity allowed by the adopted General Plan would be 48,787,662 square feet. The individual components of the proposed project are outlined in Table 1-1.

1. Introduction

Table 1-1
IBC Development Summary

IBC Development Summary

Residential					
	Existing General Plan			Proposed Project	
	Existing	Under Construction	Approved	Pending ¹	Potential ²
Base Units	4,779	1,814	2,422	2,035	3,950
Density Bonus Units ³	232	78	130	215	1,883
Subtotal	5,011	1,892	2,552	2,250	5,333
Total	9,455			7,583	
Total Cap for the IBC				15,000	
Total IBC Units at Buildout including Density Bonus				17,038	
Nonresidential					
	Existing General Plan		Proposed Project		
	Existing Development	Remaining Buildout Potential	Remaining Buildout Potential		
Nonresidential Square Footage	42,771,000	10,354,389	6,018,882		
Total Nonresidential	53,125,369		46,767,662		
Hotel Rooms					
	Existing General Plan		Proposed Project		
	Existing Development	Remaining Buildout Potential	Remaining Buildout Potential		
	2,496	610	372		
Total Hotel Rooms	3,106		3,476		

¹ Pending units are those for which development applications are currently on file with the City.

² Potential units are those remaining to reach the 15,000-unit cap. No development applications have been received for these units.

³ Density bonus units are exempt by state law from local regulatory limitations on development intensity but are included and analyzed in this DEIR.

¹ Pending units are those for which development applications are currently on file with the City.

² Potential units are those remaining to reach the 15,000-unit cap. No development applications have been received for these units.

³ Density bonus units are exempt by state law from local regulatory limitations on development intensity but are included and analyzed in this DEIR.

The proposed project consists of the following components:

1.3.1 IBC Vision Plan

The IBC Vision Plan outlines the City's policies and objectives for addressing residential and mixed-use development within the IBC, to be incorporated as a new element in the City's General Plan. The framework for the IBC Vision Plan provides the land use and urban design structure by which new residential development would be organized. The IBC Vision Plan Framework would facilitate the development of high-quality, sustainable neighborhoods, and a balanced mix of uses. Several infrastructure improvements would be proposed throughout the IBC Vision Plan area. The locations of the proposed improvements, such as bridge crossings, are generalized in nature, as specific locations have not yet been evaluated in detail. The proposed bridge widenings are intended to improve pedestrian and bicycle access. No additional vehicular travel lanes are proposed.

The existing sidewalk improvement program will continue to be implemented and embellished with enhanced standards for improved walkability and connectivity to create an interconnected system of pedestrian-friendly boulevards, avenues, and streets. The program calls for the installation of sidewalks to fill the gaps in the IBC sidewalk system and provides for the installation of a five- to eight-foot-wide sidewalk behind eight feet of landscaped parkway.

The proposed project includes a new per-unit fee program to be assessed against new residential or residential mixed-use development in the IBC to fund these proposed improvements. Existing developments would be exempt from this fee program. This fee program is proposed to be adopted in conjunction with the Vision Plan and its components. A separate



1. Introduction

fee program is also proposed to be adopted in conjunction with the Vision Plan to augment the current IBC Transportation Mitigation Fee program to reflect current mitigation.

1.3.2 IBC Districts

The IBC was originally planned as a business complex and at present there is little distinctiveness between its different areas. The IBC Vision Plan attempts to address this by creating two districts, to identify both a proposed mixed-use core and maintain a distinct core for existing businesses, each with its own unique identity and character, within the Mixed Use Overlay Zone.

Urban Neighborhood (UN)

The Urban Neighborhood District would include the mixed-use core IBC (generally between Jamboree Road and Von Karman Avenue) and allows a range of land uses and buildings at varying heights. Generally, these neighborhoods are envisioned to be primarily residential with retail, offices, and restaurants allowed on the first floor.

Business Complex (BC)

The Business Complex District would be applied to portions of the IBC characterized by existing, longstanding industrial and other commercial uses that are expected to remain. This district accommodates new industrial and other commercial uses and an expansion of existing uses.

1.3.3 Subsequent Development Pursuant to the Proposed Project

The 2,250 pending units identified in Table 1-1 include the proposed projects summarized in Table 1-2, for which applications are currently on file with the City. It is anticipated that following the certification of this RDEIR, the City will proceed with the processing of the discretionary applications associated with each of these projects, without further need for a General Plan Amendment, Zone Change, or EIR so long as the project substantially conforms to the description in this RDEIR.

*Table 1-2
Summary of Pending IBC Residential Development Projects*

Project Name	Location	Base Units	Density Bonus Units	Total Units
Martin Street Condos	2301 Martin Street	82	—	82
2851 Alton	Northwest corner of Alton and Murphy	170	—	170
Avalon Jamboree II	16901 Jamboree	144	35	179
Irvine Technology Center	Northwest corner of Jamboree and Campus	1,000	—	1,000
Kilroy	17150 Von Karman	347	122	469
Alton/Millikan Apartments	16952 Millikan	126	30	156
2852 Kelvin	2852 Kelvin	166	28	194
Total		2,035	215	2,250

1.3.4 General Plan Amendment

The General Plan Amendment would incorporate Vision Plan policies and objectives into a new General Plan Element and establish a cap of 15,000 dwelling units for the IBC area (excluding density bonus units granted pursuant to state law), with a corresponding reduction of nonresidential office equivalency square footage in Table A-I, Maximum Intensity Standards by Planning Area, of the City's General Plan, to accommodate future units under the cap that have not yet been approved. As described on Table 1-1, the General Plan/Zoning cap for the IBC is currently set at 9,015

1. Introduction

residential units; therefore, a unit cap of 15,000 units would create potential for 5,985 additional dwelling units (of which 2,035 are pending) in the IBC beyond those already existing or approved. The details (location, timing, density, and design) of 3,950 potential units are unknown because there are no currently pending applications. In addition to the 15,000-unit cap, this RDEIR and related traffic study address the potential for 2,038 additional density bonus units, listed below, which are excluded from local intensity limitations by state law:

- 232 existing (built) density bonus units
- 208 density bonus units approved or under construction
- 215 known density bonus units from pending projects
- A theoretical maximum of 1,383 density bonus units, assuming the remaining 3,950 units are built with a maximum allowable additional density bonus of 35 percent

The current General Plan allows for 53,125,389 square feet of overall nonresidential development in Planning Area 36, which may vary according to the totals of individual land uses over time. The total 5,985 additional new units (either potential or in process) remaining under the 15,000-unit cap would be offset by a reduction of 4,337,727 square feet of nonresidential intensity square feet. With the additional nonresidential land use optimization discussed in this DEIR, the overall nonresidential intensity in the General Plan would be 48,787,662 square feet, with the reduction resulting primarily from the conversion of higher quantities of older industrial square footage to lower quantities of office square footage. Construction of the 1,892 units in process, along with the pending and approved nonresidential projects, are assumed to be completed by 2015. The remaining 3,950 units, along with the proposed nonresidential land use optimization, would be completed at City buildout, post-2030. The General Plan Amendment would also add new policy language to the current Land Use Element text and add the IBC Vision Plan framework as a new Land Use Element Figure A-3 (IBC) to incorporate the IBC Vision Plan.



As a part of General Plan Amendment, the existing IBC density cap of 52 dwelling units per acre would be removed from the Land Use Element Table A-1 and a minimum of 30 units per acre would be added as a density level. As a result, future residential projects would not have a restriction on maximum density, but would have to comply with a minimum density of 30 units per acre to ensure the benefit of higher-density housing necessary to establish a vibrant mixed-use community.

1.3.5 Zoning Ordinance Amendment

The Zoning Ordinance Amendment would add new Chapter 5-8 to adopt the IBC Mixed Use Overlay Zone, which would define regulatory zoning districts for properties within the IBC and outline a process for analysis of compatibility of residential development with adjacent businesses. The amendment would also revise the statistical analysis outlined in Section 9-36-5, Statistical Analysis, of the City's Zoning Ordinance, to establish a residential cap of 15,000 dwelling units for the IBC area (excluding density bonus units pursuant to state law), with an offsetting reduction of nonresidential square footage, for units under the cap not yet approved, consistent with the proposed General Plan Amendment. Furthermore, the amendment would also update the Chapter 9-36, Planning Area 36 (Irvine Business Complex), provisions regarding the IBC traffic mitigation fee program. This amendment would also include clarifications of code language relating to Transfer of Development Rights (TDR). The Zoning Ordinance Amendment would also include other minor amendments to other sections of zoning code to maintain internal consistency.

1.3.6 Municipal Code Amendment

The Municipal Code Amendment would revise Chapter 10, Dedications, of Division 5, Subdivisions, of the City's Municipal Code, by adding a section to incorporate new urban park standards into the City's park dedication requirements for the IBC. The City's Park Standards Manual would also be updated to address urban open space in the

1. Introduction

IBC. Section 5-5-1004D(1) will also be revised to remove a 50-unit per acre density cap for determining persons per household..

1.3.6.1 Design Criteria

To ensure a consistent standard of residential design quality throughout the IBC, a set of design criteria from the IBC Vision Plan that would be applicable to residential and residential mixed-use projects in the IBC would be adopted. These criteria are intended to guide the physical development of any residential or mixed-use project that contains a component of residential use within the boundaries of the IBC. They are intended to assist in ensuring that the design of each development remains true to the principles established in the IBC Vision Plan. The criteria would also provide standards and criteria for new construction and for remodels or additions. The new design criteria would only be applicable to residential and mixed-use development.

1.3.6.2 Amendments to the City's Circulation Element

The City of Irvine General Plan Circulation Element identifies certain roadway configurations that are no longer needed as determined in the IBC Vision Plan; therefore a General Plan Amendment subsequent to the approval of the IBC Vision EIR will downgrade arterial roadways as needed. The City of Irvine intends to downgrade the following arterial segments as a subsequent General Plan Amendment to the Circulation Element:

- Barranca Parkway between Red Hill Avenue and Jamboree Road (downgrade from 8-lane divided roadway to 7-lane divided roadway)
- Jamboree Road between Barranca Parkway and McGaw Avenue (downgrade from a 10-lane divided roadway to a 8-lane divided roadway)
- Main Street between Red Hill and Harvard (downgrade from 6-lane divided arterial with 2 auxiliary lanes to 6-lane divided roadway)
- MacArthur Boulevard between Fitch and Main Street (downgrade from 8-lane divided roadway to 7-lane divided roadway)
- Red Hill Avenue between Barranca Parkway and Main Street (downgrade from an 8-lane divided roadway to a 6-lane roadway)
- Alton Parkway between Red Hill Avenue and Jamboree Road (downgrade from a 6-lane divided roadway to 4-lane divided roadway)
- Von Karman Avenue between Barranca Parkway and Michelson (downgrade from 6-lane roadway to 4-lane roadway)

The arterial segment of Alton Parkway between Red Hill Avenue and Jamboree Road as well as the segment of Von Karman Avenue between Barranca Parkway and Michelson Drive are programmed into both the City of Irvine's General Plan and the Orange County Master Plan of Arterial Highways (MPAH). Both roadways are currently 4-lane roadways and expected to remain as 4-lane roadways in the future. Both the City's General Plan and the Orange County MPAH currently have these two segments programmed as 6-lane divided arterials in the buildout condition. The IBC Vision Plan traffic study has determined that 6 lanes are unnecessary for both of these roadway segments under buildout conditions. Thus, the City of Irvine will initiate an MPAH Amendment by entering into a cooperative study with the Orange County Transportation Authority (OCTA) to determine the feasibility of downgrading both Alton Parkway and Von Karman Avenue. In order for the City of Irvine to maintain eligibility for Measure M funding, prior to amending the City's General Plan to downgrade both Alton Parkway between Red Hill Avenue and Jamboree Road and Von Karman

1. Introduction

Avenue between Barranca Parkway and Michelson Drive, the City and OCTA will work to prepare amendments to the County MPAH to be approved by the OCTA Board of Directors. If the MPAH is approved by the OCTA Board, the City can move forward with downgrading the arterial segments.

Additionally, the City of Irvine intends to remove the following interchange improvements:

- Alton Parkway overcrossing at the SR-55 freeway with High Occupancy Vehicle (HOV) drop ramps
- Von Karman Avenue at the I-405 freeway HOV drop ramps

These interchange improvements are programmed in the Orange County MPAH as buildout improvements. However, the IBC Vision Plan traffic study has determined that these interchanges are unnecessary under buildout conditions. The City of Irvine will initiate an MPAH Amendment by entering into a cooperative study with OCTA and the affected local agencies to determine the feasibility of removing these interchange improvements from the MPAH.

1.3.7 Additional Changes

The name of the IBC may also be changed as directed by the Irvine City Council. Although not required under CEQA, it is included for informational purposes.

1.4 ENVIRONMENTAL IMPACTS

The City of Irvine determined that an EIR would be required for this project and issued a Notice of Preparation (NOP) and Initial Study on January 8, 2007, to the State Clearinghouse, responsible agencies, and interested parties. Comments received during the January 8, 2007, through February 22, 2007, NOP review period are also contained in Appendix A. The project description was subsequently revised to reduce the number of dwelling units and project details were refined. A new NOP was circulated between September 19, 2008, and October 20, 2008.



1.4.1 Impacts Considered Less Than Significant

The following environmental topical sections were found to be less in the Initial Study.

- Agricultural Resources
- Mineral Resources

1.4.2 Potentially Significant Adverse Impacts That Can Be Mitigated, Avoided, or Substantially Lessened

The following have been identified as potentially resulting in significant adverse impacts that can be mitigated, avoided, or substantially lessened:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Population and Housing
- Public Services

1. Introduction

- Recreation
- Transportation/Traffic
- Utilities and Service Systems
- Global Climate Change

1.4.3 Unavoidable Significant Adverse Impacts

The DEIR identifies three significant and unavoidable adverse impacts, as defined by CEQA that would result from implementation of the proposed project:

- Air Quality
- Noise
- Transportation and Traffic

2. Mitigation Monitoring Proccss

2.1 MITIGATION MONITORING AGREEMENT

The Mitigation Monitoring Agreement will be provided through the City conditions of approval process, and reference compliance with this monitoring program.

Provisions are included in the Agreement specifying monitoring and reporting requirements, scheduling, qualifications of mitigation monitors and specialists, agency fees, right of site access, dispute resolution, and penalties. The Agreement will include enforcement provisions and sanctions for more severe infractions, such as stop work orders, loss of further entitlement or restoration. The landowner would agree that the agency has the right to impose these sanctions pursuant to the contract and hold the agency harmless in enforcement of its provisions.

The lead agency may also require that Mitigation Monitoring Agreements be executed between the landowner and appropriate responsible or trustee agencies.

The use of Mitigation Monitoring Agreements will clarify the assignment of responsibility, and have the added benefit of improving the citizenry's confidence that agencies are committed to take actions to protect their environment.

2.2 MITIGATION MONITORING PROGRAM ORGANIZATION

Overall mitigation monitoring program management is the responsibility of the City of Irvine Community Development Department. The Mitigation Monitoring Committee—composed of the landowner, construction manager, and the environmental monitor—is responsible for program implementation and reporting requirements. The technical consultants (EIR consultant, geologist/environmental assessor, project engineer, noise consultant, and traffic consultant) will perform related monitoring tasks under the direction of the environmental monitor (if contracted by the City).

In the event of disputes regarding matters for which the City is the final authority, The Director of Community Development will be final arbiter in the event of a dispute.

2.3 CITY OF IRVINE COMMUNITY DEVELOPMENT DEPARTMENT

The City of Irvine Community Development Department will serve as the program administrator, responsible for overall program management, mitigation monitoring clearances and coordination of the arbitration committee/responsible agencies, and the mitigation monitoring committee. The Department is responsible for review of all monitoring reports, enforcement actions, and document disposition.

2.4 MITIGATION MONITORING COMMITTEE

The mitigation monitoring committee is responsible for the day-to-day monitoring activities and reporting, and includes a representative from the landowner, construction manager, and the mitigation monitor. The monitoring committee holds regularly scheduled meetings to coordinate mitigation measure implementation, review compliance reports, and resolve in-field disputes. Unresolved disputes are forwarded to the arbitration committee.

2.5 MITIGATION MONITORING TEAM

The mitigation monitoring team, consisting of the environmental monitor manager and technical subconsultants (EIR consultant, geologist/environmental assessor, project engineer, biologist, noise consultant, traffic consultant, and archaeologist), is responsible for monitoring the implementation/ compliance with all adopted mitigation measures and conditions of approval. A major portion of the team's work is in-field monitoring and compliance report preparation. Implementation disputes are brought to the committee for resolution by the monitor, and if required, to the arbitration committee.

2. Mitigation Monitoring Process

The following summarizes key positions in the monitoring program and their respective functions:

Monitoring Team

- **Technical Advisors:** Responsible for monitoring in respective areas of expertise (EIR consultant, geologist/environmental assessor, project engineer, noise consultant, and traffic consultant). Directly reports to the environmental monitor.
- **Monitoring Committee:** Responsible for report review, and first phase of dispute resolution.
- **Irvine Community Development Department:** Principal manager of the monitoring program. Responsible for coordination of mitigation monitoring committee, technical consultants, report preparation, and dispute resolution. Responsible for overall program administration, participation on arbitration committee and document/report clearinghouse.
- **Irvine Department of Public Works:** Responsible for review of final engineering plans in conformance with the Tentative maps, technical support, and compliance report preparation.
- **City Council:** Responsible for implementation of corrective action, stop work orders and final arbitrator of disputes.

2.6 RECOGNIZED EXPERTS

The use of recognized experts, as a component of the monitoring team and arbitration committee, is required to ensure compliance with scientific and engineering based mitigation measures. While the mitigation monitoring teams recognized experts assess compliance with required mitigation measures, responsible agency recognized experts consult with the arbitration committee regarding disputes.

2.7 ARBITRATION/DISPUTE RESOLUTION

If the mitigation monitor identifies a mitigation measure which, in the opinion of the monitor, has not been implemented, or has not been implemented correctly, the problem will be brought for resolution before the mitigation monitoring committee for resolution. If the problem cannot be satisfactorily resolved by the committee, it will be brought before the Director of Community Development for resolution. The decision of the Director of Community Development is final, unless appealed to the Director or Planning Commission. The Director of Community Development, acting through a final vote of the City Council, will have the authority to issue stop work orders until the dispute is resolved. In the case of situations involving potential risk of safety or other emergency conditions, the Director of Community Development is empowered to issue temporary stop work orders until such time as Planning Commission or City Council review of the particular stop work matter becomes final.

2.8 ENFORCEMENT

Public agencies may enforce conditions of approval through their existing police power, using stop work orders, fines, infraction citations, loss of entitlement, refusal to issue building permits or certificates of use and occupancy, or, in some cases, notice of violation for tax purposes. Criminal misdemeanor sanctions could be available where the agency has adopted an ordinance requiring compliance with the monitoring program, similar to the provision in many zoning ordinances which state the enforcement power to bring suit against violators of the ordinance's provisions.

Additional enforcement provisions could include required posting of a bond or other acceptable security in the amount of the required mitigation measures. In the event of non-compliance, the City could call the bond and complete the required mitigation measures.

2. Mitigation Monitoring Process

This page intentionally left blank.



3. Mitigation Monitoring Requirements

3.1 PRE-MITIGATION MEETING

A pre-monitoring meeting will be scheduled to review mitigation measures, implementation requirements, schedule conformance, and mitigation monitoring committee responsibilities. Committee rules are established, and the entire mitigation monitoring program is presented and any misunderstandings resolved.

3.2 CATEGORIZED MITIGATION MEASURES/MATRIX

Project-specific design features, existing plans, policies, and procedures, and mitigation measures have been categorized in matrix format, as shown in Table 3-1. As shown, the matrix identifies the environmental factor, specific mitigation measures, project design features, and existing plans, policies, and procedures, schedule, and monitor. The mitigation matrix will serve as the basis for scheduling the implementation of, and compliance with, all mitigation measures, project design features, and existing plans, policies, and procedures.

3.3 DATA BASE MANAGEMENT

All mitigation monitoring reports, letters, memos, shall be prepared utilizing Microsoft Word software on IBM compatible PC (currently in use by the Irvine Community Development Department).

3.4 COORDINATION WITH CONTRACTORS

The construction manager is responsible for coordination of contractors, and is responsible for contractor completion of required mitigation measures.

3.5 LONG-TERM MONITORING

Long-term monitoring relating to several mitigation measures may be required.

3. Mitigation Monitoring Requirements

This page intentionally left blank.

4. Mitigation Monitoring Reports

Mitigation monitoring reports are required to document compliance with the Mitigation Monitoring Program, and dispute arbitration enforcement resolution. Specific reports include:

- Field Check Report
- Plan Check Conformance Reports
- Implementation Compliance Report
- Arbitration/Enforcement Report

4.1 FIELD REPORTS

Field reports are required to record in-field compliance and conditions.

4.2 PLAN CHECK CONFORMANCE REPORTS

Plan check conformance reports are completed by the Community Development Department, the Department of Public Works and the mitigation monitor to evaluate final engineering compliance with mitigation measures outlined in the Final EIR.

4.3 IMPLEMENTATION COMPLIANCE REPORT (ICR)

The ICR is prepared to document the implementation of mitigation measures on a phased basis and is shown in Table 3-1. The report summarizes implementation compliance including mitigation measures and date completed.

4. Mitigation Monitoring Reports

This page intentionally left blank.

3. Mitigation Monitoring Requirements

Table 3-1

Summary of Impacts, Existing Plans, Programs, and Policies (PPPs), Project Design Features (PDFs), Mitigation Measures (MMs) and Level of Significance after Mitigation

Timing	PPPs, PDFs, and MMs			Responsible for Monitoring	Date Completed
5.1 AESTHETICS					
Existing Plans, Programs and Policies					
Prior to the issuance of building permits	PPP 1-1	City of Irvine Zoning Ordinance Chapter 3-16- Lighting: As required by Chapter 3-16, Lighting, of the City's Zoning Ordinance, outdoor lighting shall be designed and installed so that all direct rays are confined to the site and adjacent properties are protected from glare. The level of lighting on the site shall comply with the requirements of the City's Uniform Security Code.		Community Development Department	
Prior to the issuance of building permits	PPP 1-2	City of Irvine Standard Condition 3.6: Prior to the issuance of building permits, the applicant shall demonstrate, through the submittal of an electrical engineer's photometric survey, prepared to the satisfaction of the Director of Community Development, that lighting requirements as set forth in the Irvine Uniform Security Code (Irvine Municipal Code, Title 5, Division 9, Chapter 5) are met.		Community Development Department	
Project Design Features					
Prior to the issuance of building permits	PDF 1-1	City of Irvine Zoning Ordinance Chapter 5-8-4.A.1: For specific development projects that are proposing high-rise office or residential uses within 100 feet of the San Joaquin Freshwater Marsh or the San Diego Creek, in order to minimize the frequency of birds flying into the building surface, the project applicant shall reduce the reflectivity of building surface materials by using angles that are not highly reflective, or through the incorporation of building surface materials that reduce reflectivity.		Community Development Department	
5.2 AIR QUALITY					
Existing Plans, Programs and Policies					
Prior to the issuance of grading permits	PPP 2-1	SCAQMD Rule 201 – Permit to Construct: The SCAQMD requires developers who build, install, or replace any equipment or agricultural permit unit, which may cause new emissions of or reduce, eliminate, or control emissions of air contaminants to obtain a permit to construct from the Executive Officer.		South Coast Air Quality Management District	
Prior to the issuance of grading permits	PPP 2-2	SCAQMD Rule 402 – Nuisance Odors: The SCAQMD prohibits the discharge of any quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or that endanger the comfort, repose, health or safety of any such persons or the public, or that cause, or have a natural tendency to cause, injury or damage to business or property to be emitted within the South Coast Air Basin (SoCAB).		South Coast Air Quality Management District	

3. Mitigation Monitoring Requirements

Table 3-1

Summary of Impacts, Existing Plans, Programs, and Policies (PPPs), Project Design Features (PDFs), Mitigation Measures (MMs) and Level of Significance after Mitigation

Timing	PPPs, PDFs, and MMs	Responsible for Monitoring	Date Completed
Prior to the issuance of grading permits and during construction activities	PPP 2-3 SCAQMD Rule 403 – Fugitive Dust (PM₁₀ and PM_{2.5}): The SCAQMD prohibits any person to cause or allow the emissions of fugitive dust from any active operation, open storage pile, or disturbed surface area such that: (a) the dust remains visible in the atmosphere beyond the property line of the emission source; or (b) the dust emission exceeds 20 percent opacity (as determined by the appropriate test method included in the Rule 403 Implementation Handbook) if the dust emission is the result of movement of a motorized vehicle.	South Coast Air Quality Management District consultation with the Construction Contractor	
Prior to the issuance of grading permits and during construction activities	PPP 2-4 SCAQMD Rule 1403 – Asbestos Emissions from Demolition/Renovation Activities: This rule specifies work practice requirements to limit asbestos emissions from building demolition and renovation activities, including the removal and associated disturbance of asbestos-containing materials (ACM). All operators are required to maintain records, including waste shipment records, and are required to use appropriate warning labels, signs, and markings.	South Coast Air Quality Management District consultation with the Construction Contractor	
Project Design Features			
Prior to the issuance of building permits	PDF 2-1 City of Irvine Zoning Ordinance Chapter 5-8.4.A.4.f: As described in the proposed zoning for the project and based on the recommended buffer distances of the California Air Resources Board, for all residential or residential mixed-use projects within the distances to industrial uses outlined below, the Project Applicant shall submit a health risk assessment (HRA) prepared in accordance with policies and procedures of the state Office of Environmental Health Hazard Assessment (QEHA) and the South Coast Air Quality Management District (SCAQMD) to the Community Development Director prior to approval of any future discretionary residential or residential mixed use project. If the HRA shows that the incremental cancer risk exceeds one in one hundred thousand (1.0E-05), or the appropriate noncancer hazard index exceeds 1.0, the applicant will be required to identify and demonstrate that Best Available Control Technologies for Toxics (T-BACTs) are capable of reducing potential cancer and noncancer risks to an acceptable level, including appropriate enforcement mechanisms. T-BACTs may include, but are not limited to, scrubbers at the industrial facility, or installation of Minimum Efficiency Reporting Value (MERV) filters rated at 14 or better at all residential units: • 1,000 feet from the truck bays of an existing distribution center that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units, or where transport refrigeration unit operations exceed 300 hours per week. • 1,000 feet from an existing chrome plating facility or facility that uses hexavalent chromium. • 300 feet from a dry cleaning facility using perchloroethylene using one machine and 500 feet from a dry cleaning facility using perchloroethylene using two machines. • 50 feet from gas pumps within a gas-dispensing facility and 300 feet from gas pumps within a	Community Development Department	

3. Mitigation Monitoring Requirements

Table 3-1

Summary of Impacts, Existing Plans, Programs, and Policies (PPPs), Project Design Features (PDFs), Mitigation Measures (MMs) and Level of Significance after Mitigation

Timing	PPPs, PDFs, and MMs	Responsible for Monitoring	Date Completed
Prior to the issuance of building permits	gasoline-dispensing facility with a throughput of 3.6 million gallons per year or greater. City of Irvine Zoning Ordinance Chapter 5-8-4.A.4.e: As described in the proposed zoning for the project, applicants for new residential developments in the Irvine Business Complex within 500 feet of Interstate 405 shall be required to install high efficiency Minimum Efficiency Reporting Value (MERV) filters of MERV 10 or better in the intake of residential ventilation systems. A MERV 10 filter creates more resistance to airflow because the filter media becomes denser as efficiency increases. Heating, air conditioning and ventilation (HVAC) systems shall be installed with a fan unit power designed to force air through the MERV 10 filter. To ensure long-term maintenance and replacement of the MERV 10 filters in the individual units, the following shall occur: a) Developer, sale, and/or rental representative shall provide notification to all affected tenants/residents of the potential health risk from I-405 for all affected units. b) For rental units within 500 feet of the I-405, the owner/property manager shall maintain and replace MERV 10 filters in accordance with the manufacturer's recommendations. The property owner shall inform renters of increased risk of exposure to diesel particulates from I-405 or SR-55 when windows are open. c) For residential owned units within 500 feet of I-405, the Homeowner's Association (HOA) shall incorporate requirements for long-term maintenance in the Covenant Conditions and Restrictions and inform homeowners of their responsibility to maintain the MERV 10 filter in accordance with the manufacturer's recommendations. The HOA shall inform homeowner's of increased risk of exposure to diesel particulates from I-405 when windows are open.	Community Development Department	
Prior to the issuance of building permits	City of Irvine IBC Design Criteria Section 2.0.B As described in the proposed design criteria for the project, all outdoor active-use public recreational areas associated with development projects shall be located more than 500 feet from the nearest lane of traffic on the Interstate 405.	Community Development Department	
Prior to the issuance of grading permits and during construction activities	City of Irvine Zoning Ordinance Chapter 5-8-4.A.4.g: For all residential projects located within 1,000 feet of an industrial facility which emits toxic air contaminants, the Project Applicant shall submit a health risk assessment prepared in accordance with policies and procedures of the state Office of Environmental Health Hazard Assessment and the South Coast Air Quality Management District to the Community Development Director prior to approval of any future discretionary residential or mixed-use project. If the HRA shows that the incremental cancer risk exceeds one in one hundred thousand (1.0E-05), or the appropriate noncancer hazard index exceeds 1.0, the applicant will be required to identify and demonstrate that Best Available Control Technologies for Toxics are capable of reducing potential cancer and noncancer risks to an acceptable level, including appropriate enforcement mechanisms. T-BAGTs may include, but are not limited to,	Community Development Department	

3. Mitigation Monitoring Requirements

<i>Table 3-1</i> <i>Summary of Impacts, Existing Plans, Programs, and Policies (PPPs), Project Design Features (PDFs),</i> <i>Mitigation Measures (MMs) and Level of Significance after Mitigation</i>			
Timing	PPPs, PDFs, and MMs	Responsible for Monitoring	Date Completed
Prior to the issuance of grading permits and during construction activities	scrubbers at the industrial facility, or installation of Minimum Efficiency Reporting Value filters rated at 10 or better at all residential units. City of Irvine Zoning Ordinance Chapter 5-8-4.A.4.h.: For all residential projects located within 1,000 feet of an industrial facility that emits substantial odors, which includes but is not limited to: - wastewater treatment plants - composting, greenwaste, or recycling facilities - fiberglass manufacturing facilities - painting/coating operations - coffee roasters - food processing facilities, The Project Applicant shall submit an odor assessment to the Community Development Director prior to approval of any future discretionary action that verifies that the South Coast Air Quality Management District (SCAQMD) has not received three or more verified odor complaints. If the Qdor Assessment identifies that the facility has received three such complaints, the applicant will be required to identify and demonstrate that Best Available Control Technologies for Toxics (T-BACTs) are capable of reducing potential odors to an acceptable level, including appropriate enforcement mechanisms. T-BACTs may include, but are not limited to, scrubbers at the industrial facility, or installation of Minimum Efficiency Reporting Value (MERV) filters rated at 10 or better at all residential units.	Community Development Department	
Prior to the issuance of grading permits and during construction activities	Exhaust PDF 2-6 City of Irvine Zoning Ordinance Chapter 5-8-4.A.4.a and 9-38-20.3: Applicants for new developments in the Irvine Business Complex shall require that the construction contractor utilize off-road construction equipment that conforms to Tier 3 of the United States Environmental Protection Agency, or higher emissions standards for construction equipment over 50 horsepower that are commercially available. The construction contractor shall be made aware of this requirement prior to the start of construction activities. Use of commercially available Tier 3 or higher off-road equipment, or: year 2006 or newer construction equipment for engines rated equal to 175 horsepower (hp) and greater;	Community Development Department in consultation with the Construction Contractor	

3. Mitigation Monitoring Requirements

<i>Table 3-1</i> <i>Summary of Impacts, Existing Plans, Programs, and Policies (PPPs), Project Design Features (PDFs),</i> <i>Mitigation Measures (MMs) and Level of Significance after Mitigation</i>			
<i>Timing</i>	<i>PPPs, PDFs, and MMs</i>	<i>Responsible for Monitoring</i>	<i>Date Completed</i>
	• year 2007 and newer construction equipment for engines rated equal to 100 hp but less than 175 hp; and • 2008 and newer construction equipment for engines rated equal to or greater than 50 hp The use of such equipment shall be stated on all grading plans. The construction contractor shall maintain a list of all operating equipment in use on the project site. The construction equipment list shall state the makes, models, and numbers of construction equipment on-site.		
Prior to the issuance of grading permits and during construction activities	PDF 2-7 City of Irvine Zoning Ordinance Chapter 5-8-4.A.4.b: Applicants for new developments in the Irvine Business Complex shall require that the construction contractor to properly service and maintain construction equipment in accordance with the manufacturer's recommendations. Nonessential idling of construction equipment shall be restricted to five minutes or less in compliance with California Air Resources Board's Rule 2449.	Community Development Department in consultation with the Construction Contractor	

3. Mitigation Monitoring Requirements

Table 3-1 Summary of Impacts, Existing Plans, Programs, and Policies (PPPs), Project Design Features (PDFs), Mitigation Measures (MMs) and Level of Significance after Mitigation				
Timing	Fugitive Dust PDF 2-8	PPPs, PDFs, and MMs	Responsible for Monitoring	Date Completed
Prior to the issuance of grading permits and during construction activities	SCAQMD Rule 403 – Fugitive Dust (PM₁₀ and PM_{2.5}), City of Irvine Zoning Ordinance Chapter 5-8-4.A.4.c: Applicants for new developments in the Irvine Business Complex shall require that the construction contractor prepare a dust control plan and implement the following measures during ground-disturbing activities in addition to the existing requirements for fugitive dust control under South Coast Air Quality Management District Rule 403 to further reduce PM₁₀ and PM_{2.5} emissions. To assure compliance, the City shall verify compliance that these measures have been implemented during normal construction site inspections: • During all grading activities, the construction contractor shall reestablish ground cover on the construction site through seeding and watering. This would achieve a minimum control efficiency for PM₁₀ of 5 percent. • During all construction activities, the construction contractor shall sweep streets with Rule 1186 compliant PM₁₀-efficient vacuum units on a daily basis if silt is carried over to adjacent public thoroughfares or occurs as a result of hauling. • During all construction activities, the construction contractor shall maintain a minimum 24-inch freeboard on trucks hauling dirt, sand, soil, or other loose materials and tarp materials with a fabric cover or other suitable means. This would achieve a control efficiency for PM₁₀ of 91 percent. • During all construction activities, the construction contractor shall water exposed ground surfaces and disturbed areas a minimum of every three hours on the construction site and a minimum of three times per day. This would achieve an emissions reduction control efficiency for PM₁₀ of 61 percent. • During all construction activities, the construction contractor shall limit on-site vehicle speeds on unpaved roads to no more than 15 miles per hour. This would achieve a control efficiency for PM₁₀ of 57 percent. • The construction contractor shall apply chemical soil stabilizers to reduce wind erosion. This would achieve a control efficiency of up to 80 percent.	Community Development Department in consultation with the Construction Contractor		

3. Mitigation Monitoring Requirements

Table 3-1

Summary of Impacts, Existing Plans, Programs, and Policies (PPPs), Project Design Features (PDFs), Mitigation Measures (MMs) and Level of Significance after Mitigation

Timing	PPPs, PDFs, and MMs	Responsible for Monitoring	Date Completed
Prior to the issuance of grading permits and during construction activities	Architectural Coatings City of Irvine Zoning Ordinance Chapter 5-8-4.A.4.d: Applicants for new developments in the Irvine Business Complex shall require that the construction contractor use coatings and solvents with a volatile organic compound (VOC) content lower than required under Rule 1113 (i.e., Super Compliant Paints). All architectural coatings shall be applied either by (1) using a high-volume, low-pressure spray method operated at an air pressure between 0.1 and 10 pounds per square inch gauge to achieve a 65 percent application efficiency; or (2) manual application using a paintbrush, hand-roller, trowel, spatula, dauber, rag, or sponge, to achieve a 100 percent applicant efficiency. The construction contractor shall also use pre-coated natural colored building, where feasible. Use of low-VOC paints and spray method shall be included as a note on architectural building plans.	Community Development Department in consultation with the Construction Contractor	
5.3 BIOLOGICAL RESOURCES			
Existing Plans, Programs and Policies			
Prior to the issuance of grading permits	PPP 3-1 U.S. Clean Water Act, Section 404: Prior to any installation of any new storm drain connections to and/or discharges into the San Diego Creek or San Joaquin Marsh, the City or other project applicants shall 1) obtain a permit or other authorization from the US Army Corps of Engineers pursuant to Section 404 of the Clean Water Act; 2) obtain a Section 401 Water Quality Certification from the California Regional Water Quality Control Board, Santa Ana Region, pursuant to Section 401 of the federal Clean Water Act, which requires any applicant for a federal permit, such as a Clean Water Act Section 404 permit, to provide the licensing agency a certification from the California Regional Water Quality Control Board that the project will comply with adopted water quality standards; and 3) provide notification to the California Department of Fish and Game (CDFG) of the project pursuant to Section 16-2 of the Fish and Game Code and comply with any further actions required by CDFG.	US Army Corps of Engineers (Section 404 Permit), Santa Ana Regional Water Quality Control Board (Section 401 Permit), California Department of Fish and Game (Section 16-2)	
Prior to issuance of grading permits	PPP 3-2 City of Irvine Municipal Code Section 5-7-410(c): If any trees are removed, the Applicant shall carry out a tree survey and obtain a permit for their removal in accordance with the City's tree preservation ordinance (including 1:1 replacement).	Community Development Department	

3. Mitigation Monitoring Requirements

<i>Table 3-1</i> <i>Summary of Impacts, Existing Plans, Programs, and Policies (PPPs), Project Design Features (PDFs),</i> <i>Mitigation Measures (MMs) and Level of Significance after Mitigation</i>			
Timing	PPPs, PDFs, and MMs	Responsible for Monitoring	Date Completed
Project Design Features			
Prior to approval of the design for the San Diego Creek Trail improvements/extension	PDF 3-1 City of Irvine Zoning Ordinance Chapter 5-8-4.D.2.a: Prior to approval of the design for the San Diego Creek Trail improvements/extension, the City shall examine alternative locations of the proposed trail and methods that could be used to minimize potential impacts (e.g., fencing and buffers). The design shall consider an alternative that excludes a trail segment along the most sensitive part of San Diego Creek (the northwestern side of the creek between Campus Drive and MacArthur Boulevard).	Community Development Department	
Prior to issuance of grading permits	PDF 3-2 City of Irvine Zoning Ordinance Chapter 5-8-4.D.2.h: Prior to issuance of grading permits for the San Diego Creek Trail, a note shall be placed on all grading plans that construction activities involving the use of heavy equipment are prohibited during the bird nesting season (March 15 to September 15). If minor construction activities are carried out during the bird nesting season, a qualified biologist shall conduct a preconstruction survey in the off-site habitat to determine the location of any active bird nests in the area, including but not limited to raptors and least Bell's vireo. The survey should begin not more than three days prior to the beginning of construction activities. The wildlife agencies shall be notified if any nesting least Bell's vireo are found. During construction, active nesting sites shall be monitored to ensure that construction levels do not exceed 60 dBA Leq. Should these noise levels be exceeded, the City shall implement noise attenuation measures, potentially including the erection of temporary noise curtains sufficient to reduce noise levels at occupied nesting sites to acceptable levels. Nest monitoring should continue until fledglings have dispersed or the nest has been determined to be a failure, as approved by the wildlife agencies.	Community Development Department	
Prior to issuance of building permits	PDF 3-3 City of Irvine Zoning Ordinance Chapter 5-8-4.A.1.a: Prior to issuance of building permits for high-rise buildings within 100 feet of the San Joaquin Marsh or San Diego Creek, the project applicant shall demonstrate that architectural plans prohibit the use of highly reflective glass windows, and utilize angles that are not highly reflective in order to reduce light and glare impacts on the marsh and creek environment and to reduce the incidence of bird collisions, to the satisfaction of the Community Development Director.	Community Development Department	
Prior to approval of final landscape plans for areas located within 100 feet of the San Joaquin Marsh or San Diego Creek	PDF 3-4 City of Irvine Zoning Ordinance Chapter 5-8-4.A.1.b: Prior to approval of final landscape plans for areas located within 100 feet of the San Joaquin Marsh or San Diego Creek, the project applicant shall ensure that development landscaping does not include exotic plant species that may be invasive to native habitats. Exotic plant species not to be used include those species listed on Lists A and B of the California Invasive Plant Council's (Cal-IPC) list of 'Exotic Pest Plants of Greatest Ecological Concern in California as of October 1999.' A copy of the complete list can be obtained from Cal-IPC's web site at http://www.cal-ipc.org .	Community Development Department	

3. Mitigation Monitoring Requirements

Table 3-1

Summary of Impacts, Existing Plans, Programs, and Policies (PPPs), Project Design Features (PDFs), Mitigation Measures (MMs) and Level of Significance after Mitigation

Timing	PPPs, PDFs, and MMs	Responsible for Monitoring	Date Completed
5.4 CULTURAL RESOURCES			
Existing Plans, Programs and Policies			
Prior to the issuance of the first preliminary or precise grading permits	PPP 4-1 City of Irvine Modified Standard Condition 2.5: Prior to the issuance of the first preliminary or precise grading permits for each planning area, and for any subsequent permit involving excavation to increased depth, the applicant shall provide letters documenting retention of an archaeologist and a paleontologist for the project. The letters shall state that the applicant has retained these individuals, and that the consultants will be on call during all grading and other significant ground-disturbing activities. These consultants shall be selected from the roll of qualified archaeologists and paleontologists maintained by the County of Orange. The archaeologist and/or paleontologist shall meet with Community Development staff, and shall submit written recommendations specifying procedures for cultural/scientific resource surveillance. These recommendations shall be reviewed and approved by the Director of Community Development prior to issuance of the grading permit and prior to any surface disturbance on the project site. Should any cultural/scientific resources be discovered, no further grading shall occur in the area of the discovery until the Director of Community Development is satisfied that adequate provisions are in place to protect these resources. Unanticipated discoveries shall be evaluated for significance by an Orange County Certified Professional Archaeologist/Paleontologist. If significance criteria are met, then the project shall be required to perform data recovery, professional identification, radiocarbon dates, and other special studies; submit materials to a museum for permanent curation; and provide a comprehensive final report including catalog with museum numbers. Persons performing this work shall be Orange County Certified Professional Archaeologists/Paleontologists.	Community Development Department, Archaeologist/Paleontologist, and Construction Contractor	
Prior to issuance of grading permits	PPP 4-2 City of Irvine Modified Standard Condition 2.5: In the event of the accidental discovery or recognition of any human remains in any location other than a dedicated cemetery, one of the following steps shall be taken: There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until the Orange County Coroner is contacted to determine if the remains are prehistoric and that no investigation of the cause of death is required. If the coroner determines the remains to be Native American, then the coroner shall contact the Native American Heritage Commission within 24 hours, and the Native American Heritage Commission shall identify the person or persons it believes to be the most likely descendant from the deceased Native American. The most likely descendant may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of,	Public Works Department and Archaeologist/Paleontologist	

3. Mitigation Monitoring Requirements

Table 3-1
Summary of Impacts, Existing Plans, Programs, and Policies (PPPs), Project Design Features (PDFs),
Mitigation Measures (MMs) and Level of Significance after Mitigation

Timing	PPPs, PDFs, and MMs	Responsible for Monitoring	Date Completed
	with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98. b. Where the following conditions occur, the land owner or his/her authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity either in accordance with the recommendations of the most likely descendant or on the property in a location not subject to further subsurface disturbance: - The Native American Heritage Commission is unable to identify a most likely descendant or the most likely descendant failed to make a recommendation within 24 hours after being notified by the commission. - The identified descendant fails to make a recommendation; or - The landowner or his/her authorized representative rejects the recommendation of the descendant, and mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner. (CEQA Guidelines Section 15064.5(e))		
5.5 GEOLOGY AND SOILS			
Existing Plans, Programs and Policies			
On-going during grading	PPP 5-1	City of Irvine Municipal Code Title 5, Division 10 and City Grading Manual: Revegetation of cut and fill slopes shall be required in accordance with the City of Irvine Grading Code and Grading Manual.	Public Works Department and Construction Contractor
On-going during grading	PPP 5-2	City of Irvine Municipal Code Title 5, Division 10 and City Grading Manual: All grading operations and construction will be conducted in conformance with the applicable City of Irvine Grading Code and Grading Manual, the most recent version of the California Building Code, and consistent with the recommendations included in the most current geotechnical reports for the project area prepared by the engineer of record.	Public Works Department and Construction Contractor
Prior to issuance of grading permits	PPP 5-3	City of Irvine Municipal Code Title 5, Division 10 and City Grading Manual: In accordance with the City of Irvine Grading Code and Grading Manual, detailed geotechnical investigation reports for each Rough Grading Plan shall be submitted to further evaluate faults, subsidence, slope stability, settlement, foundations, grading constraints, liquefaction potential, issues related to shallow groundwater, and other soil engineering design conditions and provide site-specific recommendations to mitigate these issues/hazards. The geotechnical reports shall be prepared and signed/stamped by a Registered Civil Engineer specializing in geotechnical engineering and a Certified Engineering Geologist. The City of Irvine Geotechnical Engineer/Engineering Geologist	Public Works Department, Construction Contractor, and Geotechnical Consultant

3. Mitigation Monitoring Requirements

Table 3-1

Summary of Impacts, Existing Plans, Programs, and Policies (PPPs), Project Design Features (PDFs), Mitigation Measures (MMs) and Level of Significance after Mitigation

Timing	PPPs, PDFs, and MMs	Responsible for Monitoring	Date Completed
On-going during grading	shall review the rough grading plan to ensure conformance with recommendations contained in the reports. PPP 5-4 City of Irvine Municipal Code Title 5, Division 10 and City Grading Manual: In accordance with the City of Irvine Grading Code and Grading Manual, grading and earthwork shall be performed under the observation of a Registered Civil Engineer specializing in Geotechnical Engineering in order to achieve proper subgrade preparation, selection of satisfactory fill materials, placement and compaction of structural fill, stability of finished slopes, design of buttress fills, subdrain installation, and incorporation of data supplied by the engineering geologist.	Public Works Department, Construction Contractor, and Civil Engineer	
On-going during grading	PPP 5-5 City of Irvine Municipal Code Title 5, Division 10 and City Grading Manual: In accordance with the City of Irvine Grading Code and Grading Manual, grading and earthwork shall also be performed under the observation of a Certified Engineering Geologist to provide professional review and written approval of the adequacy of natural ground for receiving fills, the stability of cut slopes with respect to geological matters, and the need for subdrains or other groundwater drainage devices. The geologist shall geologically map the exposed earth units during grading to verify the anticipated conditions, and if necessary, provide findings to the geotechnical engineer for possible design modifications.	Public Works Department, Construction Contractor, and Engineering Geologist	
Prior to issuance of building permits	PPP 5-6 City of Irvine Building Code and the most recent Uniform Building Code and/or California Building Code: Future buildings and structures (e.g., houses, retaining walls) shall be designed in accordance with the City of Irvine Building Code and the most recent Uniform Building Code and/or California Building Code. The concrete utilized shall take into account the corrosion and soluble sulfate soil conditions at the site. The structures shall be designed in accordance with the seismic parameters included in the UBC/CBC.	Public Works Department	

3. Mitigation Monitoring Requirements

Table 3-1

Summary of Impacts, Existing Plans, Programs, and Policies (PPPs), Project Design Features (PDFs), Mitigation Measures (MMs) and Level of Significance after Mitigation

Timing	PPPs, PDFs, and MMs	Responsible for Monitoring	Date Completed
5.6 HAZARDS AND HAZARDOUS MATERIALS			
Existing Plans, Programs and Policies			
Prior to issuance of grading permits	PPP 6-1 California Health and Safety Code, Sections 25280 through 25299: If any underground storage tanks (USTs) are encountered during site grading and excavation activities, they shall be removed in accordance with the existing standards and regulations of, and oversight by, the Orange County Health Care Agency (OCHCA), based on compliance authority granted through the California Code of Regulations, Title 23, Division 3, Chapter 16, Underground Tank Regulations. The process for UST removal is detailed in the OCHCA's "Underground Storage Tanks: The Basics." Soil samples from areas where storage tanks have been removed or where soil contamination is suspected shall be analyzed for hydrocarbons including gasoline and diesel in accordance with procedures set forth by OCHCA. If hydrocarbons are identified in the soil, the appropriate response/remedial measures will be implemented as directed by OCHCA with support review from the RWOCB until all specified requirements are satisfied and a Tank Closure Letter is issued. Any aboveground storage tank (AST) in existence at the commencement of site development shall be removed in accordance with all applicable regulations under the oversight of Orange County Fire Authority. Compliance requirements relative to the removal/closure of storage tanks are set forth through the California Health and Safety Code, Sections 25280 through 25299.	Orange County Health Care Agency (OCHCA)	
During demolition, grading, and excavation	PPP 6-2 California Code of Regulations Section 1532.1, California Health and Safety Code: During demolition, grading, and excavation, workers shall comply with the requirements of Title 8 of the California Code of Regulations Section 1532.1, which provides for exposure limits, exposure monitoring, respiratory protection, and good working practice by workers exposed to lead. Lead-contaminated debris and other wastes shall be managed and disposed of in accordance with the applicable provision of the California Health and Safety Code.	Public Works Department and Construction Contractor	
Prior to approval of a conditional use permit	PPP 6-3 OCFA Guideline B-89 (Fire Master Plans for Commercial and Residential Development): Prior to approval of a conditional use permit, project applicants shall prepare a Fire Master Plan for submittal to the Orange County Fire Authority (OCFA) consistent with OCFA Guideline B-09 (Fire Master Plans for Commercial and Residential Development).	Community Development Department and Orange County Fire Authority	
Prior to issuance of demolition permits and during demolition activities	PPP 6-4 Rule 29, Code of Federal Regulations (CFR) Part 1926, California Code of Regulations, Title 17, Division 1, Chapter 6: Federal law requires compliance with Rule 29 of the Code of Federal Regulations (CFR) Part 1926. Prior to site demolition activities, building materials shall be carefully assessed for the presence of lead-based paint, and its removal, where necessary, must comply with state and federal regulations, including Occupational Safety and Health Administration (OSHA) 29	Public Works Department and Construction Contractor	

3. Mitigation Monitoring Requirements

Table 3-1

Summary of Impacts, Existing Plans, Programs, and Policies (PPPs), Project Design Features (PDFs), Mitigation Measures (MMs) and Level of Significance after Mitigation

Timing	PPPs, PDPs, and MMs	Responsible for Monitoring	Date Completed
	CFR Part 1926. The OSHA rule establishes standards for occupational health and environmental controls for lead exposure. The standard also includes requirements addressing exposure assessment, methods of compliance, respiratory protection, protective clothing and equipment, hygiene facilities and practices, medical surveillance, medical removal protection, employee information and training, signs, recordkeeping, and observation of monitoring. Furthermore, the requirements of California Code of Regulations, Title 17, Division 1, Chapter 8, identify procedures that must be followed for accreditation, certification, and work practices for lead-based paint and lead hazards. Section 36100 thereof specifically sets forth requirements for lead-based paint abatement in public and residential buildings.		
Prior to issuance of demolition permits and during demolition activities	PPP 6-6 SCAQMD Rule 1403 – Prior to site demolition activities, building materials must be carefully assessed for the presence of asbestos-containing materials (ACM), and removal of this material, where necessary, must comply with state and federal regulations, including SCAQMD Rule 1403, which specifies work practices with the goal of minimizing asbestos emissions during building demolition and renovation activities, including the removal and associated disturbance of ACMs. The requirements for demolition and renovation activities include asbestos surveying; notification; ACM removal procedures and time schedules; ACM handling and cleanup procedures; and storage, disposal, and landfill disposal requirements for asbestos-containing waste materials.	Public Works Department and Construction Contractor	
During site decommissioning and demolition activities	PPP 6-6 Title 22, Division 4.5 of the California Code of Regulations: During site decommissioning and demolition activities, hazardous wastes must be managed in accordance with the requirements of Title 22, Division 4.5 of the California Code of Regulations. Title 22 sets forth the requirements with which hazardous-waste generators, transporters, and owners or operators of treatment, storage, or disposal facilities must comply. These regulations include the requirements for packaging, storage, labeling, reporting, and general management of hazardous waste prior to shipment. In addition, the regulations identify standards applicable to transporters of hazardous waste such as the requirements for transporting shipments of hazardous waste, manifesting, vehicle registration, and emergency accidental discharges during transportation.	Public Works Department	
During demolition, grading, and excavation	PPP 6-7 California Code of Regulations, Section 1529: During demolition, grading, and excavation, workers shall comply with the requirements of Title 8 of the California Code of Regulations, Section 1529, which provides for exposure limits, exposure monitoring, respiratory protection, and good working practices by workers exposed to asbestos. Asbestos-contaminated debris and other wastes shall be managed and disposed of in accordance with the applicable provision of the California Health and Safety Code.	Public Works Department	

3. Mitigation Monitoring Requirements

Table 3-1 Summary of Impacts, Existing Plans, Programs, and Policies (PPPs), Project Design Features (PDFs), Mitigation Measures (MMs) and Level of Significance after Mitigation				
Timing	PPPs, PDFs, and MMs		Responsible for Monitoring	Date Completed
Project Design Features				
Prior to issuance of building permits	PDF 6-1	City of Irvine Zoning Ordinance Chapter 5-8-4.C.1 As described in the proposed zoning for the project, building height limitations, recordation of aviation easements, obstruction lighting and marking, and airport proximity disclosures and signage shall be provided per Airport Environs Land Use Plan for John Wayne Airport.	Community Development Department	
Prior to issuance of building permits	PDF 6-2	City of Irvine Zoning Ordinance Chapter 5-8-4.A.3: As described in the proposed zoning related to residential disclosures, all discretionary applications for residential or residential mixed use shall include a condition of approval for disclosure to residents clearly outlining the issues associated with living in a mixed-use environment. The language for this disclosure shall be as specified by the Community Development Director. Copies of each signed disclosure shall be made available for review upon written request by the City.	Community Development Department	
During site decommissioning and demolition activities	PDF 6-3	City of Irvine Zoning Ordinance Chapter 5-8-4.A.6 As described in the proposed zoning code related to hazardous material standards, individual development sites may have existing facilities, such as transformers or clarifiers, that would be demolished as part of a proposed development. To mitigate any hazardous-materials-related impacts during the removal of such facilities, the Director of Community Development, in conjunction with the Orange County Fire Authority, shall include specific project conditions of approval as part of the discretionary review process for the proposed development.	Community Development Department and Orange County Fire Authority	
In conjunction with submittal of a development application (e.g., Conditional Use Permit)	PDF 6-4	City of Irvine Zoning Ordinance Chapter 5-8-4.A.2: As required by the proposed zoning code, applications for new residential and/or residential mixed-use development shall submit data to the Director of Community Development, to evaluate compatibility with surrounding uses with respect to issues including but not limited to: noise, odors, truck traffic and deliveries, hazardous materials handling/storage, air emissions, soil/groundwater contamination, heliports/heliports and John Wayne Airport compatibility. Structures that penetrate the 100:1 Notification Surface shall file a Form 7460-1 Notice of Proposed Construction or Alteration with Federal Aviation Administration. Residential land uses shall be prohibited in Safety Zone 3.	Community Development Department	
In conjunction with submittal of a development application (e.g., Conditional Use Permit)	PDF 6-5	City of Irvine Zoning Ordinance Chapter 5-8-4.A.4.g: For all residential projects located within 1,000 feet of an industrial facility which emits toxic air contaminants, the Project Applicant shall submit a health risk assessment prepared in accordance with policies and procedures of the state Office of Environmental Health Hazard Assessment and the South Coast Air Quality Management District to the Community Development Director prior to approval of any future discretionary residential or mixed-use project. If the HRA shows that the incremental cancer risk exceeds one in	Community Development Department	

3. Mitigation Monitoring Requirements

Table 3-1

Summary of Impacts, Existing Plans, Programs, and Policies (PPPs), Project Design Features (PDFs), Mitigation Measures (MMs) and Level of Significance after Mitigation

Timing	PPPs, PDFs, and MMs	Responsible for Monitoring	Date Completed
Included in adopted zone change	one hundred thousand (1.0E-05), or the appropriate noncancer hazard index exceeds 1.0, the applicant will be required to identify and demonstrate that Best Available Control Technologies for Toxics are capable of reducing potential cancer and noncancer risks to an acceptable level, including appropriate enforcement mechanisms. T-BACTs may include, but are not limited to, scrubbers at the industrial facility, or installation of Minimum Efficiency Reporting Value filters rated at 10 or better at all residential units. PDF 6-6 Residential development shall not be permitted within a one-parcel buffer surrounding the property at 17451 Von Karman, based on existing parcelization as of the date of the certification of the Environmental Impact Report. The area within the one parcel buffer is depicted in Figure 1 in the City of Irvine Zoning Code Chapter 5-8.		
5.7 HYDROLOGY AND WATER QUALITY			
Existing Plans, Programs and Policies			
Prior to the issuance of precise grading permit	PPP 7-1 City Standard Condition A.6: Prior to the issuance of precise grading permits, the applicant shall submit a hydrology and hydraulic analysis of the entire site. The analysis shall be prepared by a professional civil engineer versed in flood control analysis and shall include the following information and analysis: a. Hydrology/hydraulic analysis of 100-year surface water elevation at the project site to determine building elevation or flood proofing elevation. b. Analysis of existing and postdevelopment peak 100-year storm flow rates, including mitigation measures to reduce peak flows to existing conditions. c. An analysis demonstrating that the volume of water ponded on the site and stored underground in the drainage system outside of the building envelope in the proposed condition is greater than or equal to the corresponding volume in the existing condition. The water surface used to determine the ponded volume shall be based on the water surface in the major flood control facility that the site is tributary to.	Public Works Department	
Prior to the issuance of precise grading permit	PPP 7-2 City Standard Condition 2.2: Prior to the issuance of precise grading permits, the applicant shall submit a groundwater survey of the entire site. The analysis shall be prepared by a geotechnical engineer versed in groundwater analysis and shall include the following information and analysis:	Public Works Department	

3. Mitigation Monitoring Requirements

Table 3-1 Summary of Impacts, Existing Plans, Programs, and Policies (PPPs), Project Design Features (PDFs), Mitigation Measures (MMs) and Level of Significance after Mitigation				
Timing	PPPs, PDFs, and MMs	Responsible for Monitoring	Date Completed	
	a. Potential for perched groundwater intrusion into the shallow groundwater zone upon build-out. b. Analysis for relief of groundwater buildup and properties of soil materials on-site. c. Impact of groundwater potential on building and structural foundations. d. Proposed mitigation to avoid potential for groundwater intrusion within five feet of the bottom of the footings.			
Prior to the issuance of preliminary or precise grading permits	PPP 7-3 City Standard Condition 2.12: This project will result in soil disturbance of one or more acres of land that has not been addressed by an underlying subdivision map. Prior to the issuance of preliminary or precise grading permits, the applicant shall provide the City Engineer with evidence that a Notice of Intent (NOI) has been filed with the State Water Resources Control Board. Such evidence shall consist of a copy of the NOI stamped by the State Water Resources Control Board or the Regional Water Quality Control Board, or a letter from either agency stating that the NOI has been filed;	Public Works Department		
Prior to the issuance of preliminary or precise grading permits	PPP 7-4 City Standard Condition 2.13: Prior to the issuance of precise grading permits, the applicant shall submit, and the Director of Community Development shall have approved, a project water quality management plan (WQMP). The WQMP shall identify the best management practices that will be used on the site to control predictable pollutant runoff.	Community Development Department		
5.9 LAND USE AND PLANNING				
Project Design Features				
In conjunction with submittal of a development application (e.g., Conditional Use Permit)	PDF 8-1 IBC Design Criteria: To ensure a consistent standard of residential mixed-use design quality throughout the IBC, the City of Irvine has established a set of Residential Mixed-Use Design Criteria. These Design Criteria are intended to guide the physical development of any residential or mixed-use project that contains a component of residential use located within the boundaries of the IBC. This document establishes the framework through which design continuity can be achieved while accommodating varying tastes, materials, and building methods. It provides standards and criteria for new construction and for remodels or additions.	Community Development Department		
In conjunction with submittal of a development application (e.g., Conditional Use Permit)	PDF 8-2 City of Irvine Zoning Ordinance Chapter 5-8-4.A.2: As described in the proposed zoning code relating to compatibility with surrounding uses, the IBC mixed-use environment is an urbanized area, and land use compatibility issues are expected to occur. Therefore, applications for new residential and/or residential mixed-use development shall submit data, as determined by the Director of	Community Development Department		

3. Mitigation Monitoring Requirements

Table 3-1

Summary of Impacts, Existing Plans, Programs, and Policies (PPPs), Project Design Features (PDFs), Mitigation Measures (MMs) and Level of Significance after Mitigation

Timing	PPPs, PDFs, and MMs	Responsible for Monitoring	Date Completed
Permit)	Community Development, for the City to evaluate compatibility with surrounding uses with respect to issues including, but not limited to: noise, odors, truck traffic and deliveries, hazardous materials handling/storage, air emissions, and soil/groundwater contamination.		
5.9 NOISE			
Existing Plans, Programs and Policies			
On-going during construction	PPP 9-1 City of Irvine Municipal Code Section 6-6-205(a), Control of Construction Hours: Construction activities occurring as part of the project shall be subject to the limitations and requirements of Section 6-8-205(a) of the Irvine Municipal Code which states that construction activities may occur between 7:00 AM and 7:00 PM Mondays through Fridays, and 9:00 AM and 6:00 PM on Saturdays. No construction activities shall be permitted outside of these hours or on Sundays and federal holidays unless a temporary waiver is granted by the Chief Building Official or his or her authorized representative. Trucks, vehicles, and equipment that are making, or are involved with, material deliveries, loading, or transfer of materials, equipment service, maintenance of any devices or appurtenances for or within any construction project in the City shall not be operated or driven on City streets outside of these hours or on Sundays and federal holidays unless a temporary waiver is granted by the City. Any waiver granted shall take impact upon the community into consideration. No construction activity will be permitted outside of these hours except in emergencies including maintenance work on the City rights-of-way that might be required.	Public Works Department	
Prior to issuance of building permits	PPP 9-2 City Standard Condition 3.5: Prior to the issuance of building permits for each structure or tenant improvement other than a parking structure, the applicant shall submit a final acoustical report prepared to the satisfaction of the Director of Community Development. The report shall show that the development will be sound attenuated against present and projected noise levels, including roadway, aircraft, helicopter and railroad, to meet City interior and exterior noise standards. The final acoustical report shall include all information required by the City's Acoustical Report Information Sheet (Form 42-48). In order to demonstrate that all mitigation measures have been incorporated into the project, the report shall be accompanied by a list identifying the sheet(s) of the building plans that include the approved mitigation measures	Director of Community Development	
Project Design Features			
Prior to issuance of grading permits and on-going through construction activities	Construction PDF 9-1 City of Irvine Zoning Ordinance Chapter 5-8-4.A.5.b: As described in the proposed zoning for the project, applicants for individual projects that involve vibration-intensive construction activities, such	Community Development Department and Construction Contractor	

3. Mitigation Monitoring Requirements

<i>Table 3-1</i> <i>Summary of Impacts, Existing Plans, Programs, and Policies (PPPs), Project Design Features (PDFs),</i> <i>Mitigation Measures (MMs) and Level of Significance after Mitigation</i>			
Timing	PPPs, PDFs, and MMs	Responsible for Monitoring	Date Completed
	as pile drivers, jack hammers, and vibratory rollers, occurring near sensitive receptors shall submit a noise vibration analysis prior to their application being deemed complete by the City. If construction-related vibration is determined to exceed the Federal Transit Administration vibration-annoyance criteria of 78 VdB during the daytime, additional requirements, such as use of less vibration intensive equipment or construction techniques shall be implemented during construction (e.g., drilled piles to eliminate use of vibration-intensive pile driver).		
Prior to issuance of grading permits and on-going through construction activities	PDF 9-2 City of Irvine Zoning Ordinance Chapter 5-8-4.A.5.a: Prior to issuance of grading permits, the project applicant shall incorporate the following measures as a note on the grading plan cover sheet to ensure that the greatest distance between noise sources and sensitive receptors during construction activities has been achieved. • Construction equipment, fixed or mobile, shall be equipped with properly operating and maintained noise mufflers consistent with manufacturer's standards. • Construction staging areas shall be located away from off-site sensitive uses during the later phases of project development. • The project contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site, whenever feasible. • Construction of sound walls that have been incorporated into the project design prior to construction of the building foundation; or installation of temporary sound blankets (fences typically composed of poly-vinyl-chloride-coated outer shells with adsorbent inner insulation) placed along the boundary of the project site during construction activities.	Community Development Department and Construction Contractor	
Prior to issuance of certificate of occupancy	Noise Compatibility PDF 9-3 City of Irvine Zoning Ordinance Chapter 5-8-4.A.5.c: As described in the proposed zoning for the project, prior to issuance of certificate of occupancy, the project applicant shall submit evidence to the satisfaction of the Director of Community Development that occupancy disclosure notices for units with patios and/or balconies that do not meet the 65 dBA CNEL are provided to all future tenants pursuant to the City's Noise Ordinance.	Community Development Department	
Prior to issuance of building permits	PDF 9-4 City of Irvine Zoning Ordinance Chapter 5-8-4.C: As described in the proposed zoning for the project, residential and active recreational areas shall be prohibited in the 65 dBA CNEL noise contour of the John Wayne Airport. In addition, as described in the proposed zoning for the project, prior to issuance of building permits, the project applicant for any project within the 60 dBA CNEL contour of the John Wayne Airport shall retain an acoustical engineer to prepare an acoustic analysis that identifies required building acoustical improvements (e.g., sound transmission class	Director of Community Development	

3. Mitigation Monitoring Requirements

Table 3-1

Summary of Impacts, Existing Plans, Programs, and Policies (PPPs), Project Design Features (PDFs), Mitigation Measures (MMs) and Level of Significance after Mitigation

Timing	PPPs, PDFs, and MMs	Responsible for Monitoring	Date Completed
	rated windows, doors, and attic baffling) to achieve the 45 dBA CNEL interior noise standard of Title 21 and Title 24 of the California Building Code. In addition to the 24-hour interior noise standard, the acoustic report shall detail compliance with the City's interior noise standard of 55 dBA L _{max} (10) for single-event noise generated by the loudest 10 percent of aircraft overflights at the John Wayne Airport. Parks within the 60 dBA CNEL noise contour shall include signage indicating their proximity to John Wayne Airport and related airport noise. The acoustic analysis shall be submitted to the Director of Community Development to ensure compliance.		
5.10 POPULATION AND HOUSING			
Existing Plans, Programs and Policies			
On-going	PPP 10-1 City of Irvine Housing Element: Compliance with the City's Housing Element policies, which provide a strategic blueprint to ensure the siting of new very low, low, and moderate income housing units in future development projects to help the City continue to meet its state fair share housing requirements.	Community Development Department	
5.11 PUBLIC SERVICES			
Fire Protection and Emergency Services			
Existing Plans, Programs and Policies			
On-going	PPP 11-1 Orange County Fire Authority Rules and Regulations: Every project applicant shall comply with all applicable Orange County Fire Authority codes, ordinances, and standard conditions regarding fire prevention and suppression measures relating to water improvement plans, fire hydrants, automatic fire extinguishing systems, fire access, access gates, combustible construction, water availability, and fire sprinkler systems.	Community Development Department	
Prior to the issuance of the preliminary grading permits	PPP 11-2 Orange County Fire Authority Rules and Regulations: Prior to the issuance of the first grading permit for the individual development within the IBC, the applicant shall have executed a Secured Fire Protection Agreement with the Orange County Fire Authority	Community Development Department	
Prior to issuance of building permits	PPP-11-3 Orange County Fire Authority Rules and Regulations: Prior to the issuance of the first building permit, all fire protection access easements shall be approved by the Orange County Fire Authority and irrevocably dedicated in perpetuity to the City	Community Development Department	

3. Mitigation Monitoring Requirements

Table 3-1 Summary of Impacts, Existing Plans, Programs, and Policies (PPPs), Project Design Features (PDFs), Mitigation Measures (MMs) and Level of Significance after Mitigation				
Timing	PPPs, PDFs, and MMs		Responsible for Monitoring	Date Completed
Project Design Features				
Prior to issuance of building permits	PDF 11-1	IBC Infrastructure Improvement Program: Installation of an Opticom traffic light control system at signalized intersections through the proposed IBC Infrastructure Improvement Program.	Public Works Department	
Prior to issuance of building permits	PDF 11-2	City of Irvine Zoning Ordinance Chapter 5-6-4.B.2.c: A Click2Enter radio frequency access system shall be installed at any vehicle and pedestrian access point controlled by privacy gates within the project area.	Community Development Department	
Police Protection				
Existing Plans, Programs and Policies				
In conjunction with submittal of a development application (e.g., Conditional Use Permit)	PPP 11-5	City of Irvine Municipal Code Title 5, Division 9, Chapter 5: The project applicant shall comply with all applicable requirements of the City of Irvine Uniform Security Code	Community Development Department	
Project Design Features				
In conjunction with submittal of a development application (e.g., CUP)	PDF 11-2	City of Irvine Zoning Ordinance Chapter 5-8-4.B.1.h: Utilize the concepts of Crime Prevention Through Environmental Design in the design and layout of any project to reduce criminal opportunity and calls for service, as specified in the proposed zoning code.	Community Development Department	
School Services				
Existing Plans, Programs and Policies				
Prior to certificate of occupancy to the issuance of building permits	PPP 11-6	California Government Code Section 65995: Pursuant to Government Code Section 65995, the individual applicants shall pay developer fees to the appropriate school districts at the time building permits are issued; payment of the adopted fees would provide full and complete mitigation of school impacts. Alternatively, the applicant may enter into a school finance agreement with the school district(s) to address mitigation to school impacts in lieu of payment of developer fees. The	Community Development Department and School District	

3. Mitigation Monitoring Requirements

Table 3-1

Summary of Impacts, Existing Plans, Programs, and Policies (PPPs), Project Design Features (PDFs), Mitigation Measures (MMs) and Level of Significance after Mitigation

Timing	PPPs, PDFs, and MMs	Responsible for Monitoring	Date Completed
	agreement shall establish financing mechanisms for funding facilities to serve the students from the project. If the applicant and the affected school district(s) do not reach a mutually satisfying agreement, then project impacts would be subject to developer fees.		
Library Services			
Project Design Features			
Prior to the issuance of building permits	PDF 11-3 City of Irvine Zoning Ordinance Chapter 5-8-4.D.1: In the event that a Citywide library impact fee is adopted and in force, each developer shall pay this fee prior to issuance of building permits for new development.	Community Development Department	
5.12 RECREATION			
Existing Plans, Programs and Policies			
Prior to the issuance of building permits	PPP 12-1 City of Irvine Municipal Code Section 5-5-1004.E.2: All park fees shall be paid directly to the City cashier prior to issuance of any residential building permits for the building site or sites from which fees are to be derived. These fees are to be used only for the purpose of developing new or rehabilitating existing park or recreational facilities to serve the subdivision.	Community Development Department	
Prior to the issuance of preliminary or precise grading permits	PPP 12-2 City Standard Conditions 2.1, 2.16: This development includes public trails as identified in the City's General Plan. Prior to the issuance of the first preliminary or precise grading permit, an irrevocable offer of dedication for the nonexclusive easements for public use of any public trails shall be recorded. Improvements and dedication of public trails shall be subject to the approval of the Director of Community Services	Community Development Department	
5.13 TRAFFIC AND CIRCULATION			
Existing Plans, Programs and Policies			
Prior to the issuance of building permits	PPP 13-1 IBC Development Fee Program: A Development Fee program was established to fund area-wide circulation improvements within the IBC area. The improvements are required due to potential circulation impacts associated with buildout of the IBC area. Fees are assessed when there is new construction or when there is an increase in square footage within an existing building or the conversion of existing square footage to a more intensive use. The development fees collected are used strictly for circulation improvements right-of-way acquisition and transportation monitoring measures in the IBC area. Fees are calculated by multiplying the proposed square footage, dwelling unit or hotel room by the appropriate rate. The IBC Fees are included with any other applicable fees	Community Development Department	

3. Mitigation Monitoring Requirements

Table 3-1

Summary of Impacts, Existing Plans, Programs, and Policies (PPPs), Project Design Features (PDFs), Mitigation Measures (MMs) and Level of Significance after Mitigation

Timing	PPPs, PDFs, and MMs	Responsible for Monitoring	Date Completed
	payable at the time the building permit is issued.		
Project Design Features			
Ongoing	PDF 13-1 City of Irvine Zoning Code Chapter 9-36-21, Transportation Management Association: The City shall pursue formation of a Transportation Management Association (TMA) for the Irvine Business Complex. The goals and objectives of the TMA are as follows: • Monitor travel demand at employment sites and provide reports on trip generation to the City of Irvine. • Offer employers and property owners assistance with transportation services on a voluntary basis. • Deliver transportation services to commuters. Services include: a. Provide ridesharing, transit and Metrolink information b. Inform commuters of incentives that may be available from public agencies c. Formation of vanpools • Represent the IBC in local transportation matters • Oversee and fund the implementation and expansion of The i Shuttle, a clean fuel rubber tire shuttle system.	Public Works Department	
Mitigation Measures			
Prior to the issuance of the first building permit	MM 13-1 Prior to the issuance of the first building permit pursuant to the proposed project, the City of Irvine shall prepare a "nexus" study that will serve as the basis for requiring development impact fees under AB 1600 legislation, as codified by California Code Government Section 66000 et seq, for the Irvine Business Complex to support General Plan and Zoning changes under consideration for the Irvine Business Complex Vision Plan. The established procedures under AB 1600 require that a "reasonable relationship" or nexus exist between the traffic improvements and facilities required to mitigate the traffic impacts of new development pursuant to the proposed project. The following traffic improvements and facilities are necessary to mitigate project impacts and shall be included, among other improvements, in the AB 1600 nexus study. Costa Mesa Intersection #12: SR-55 Southbound Frontage Road at Baker Street: Improve the southbound approach to one left turn lane, one shared through left, one through lane, and one right turn lane.	Public Works Department	

3. Mitigation Monitoring Requirements

Table 3-1

Summary of Impacts, Existing Plans, Programs, and Policies (PPPs), Project Design Features (PDFs), Mitigation Measures (MMs) and Level of Significance after Mitigation

Timing	PPPs, PDFs, and MMs	Responsible for Monitoring	Date Completed
	Restripe the eastbound approach to two through lanes and a shared through right turn lane. Intersection #13: SR-55 Northbound Frontage Road at Baker Street: Restripe the eastbound approach to include a single left turn lane, three through lanes, and no right turn lane, plus the addition of a northbound defacto right turn lane. Addition of second southbound left-turn lanes. Irvine Intersection #141: Jamboree Road and Main Street: Improve the northbound and southbound approaches to 2 left turn lanes, 5 through lanes, and 1 right turn lane. Additionally, as part of this improvement, convert the westbound free right turn lane to a single right turn lane. Intersection #188: Harvard Avenue and Michelson Drive: Add a second southbound left turn lane. Intersection #232: Culver Drive and I-405 Northbound Ramps: Restripe the westbound approach of this intersection to one left turn lane and two right-turn lanes. Intersection #136: Jamboree Road and Barranca Parkway: Convert the existing free northbound right-turn lane to a standard right turn lane and add a fifth northbound through lane. Newport Beach Intersection #62: Campus Drive at Bristol Street NB: In 2015, the required improvement is the implementation of the already planned addition of a fifth westbound through lane, consistent with the City of Newport Beach's General Plan buildout. For the buildout scenario, an additional improvement of a third southbound right turn lane is required. Implementation of the identified improvements results in acceptable operations under both scenarios and the mitigation appears to be physically feasible although potentially cost prohibitive due to potential impacts to a structure adjacent to the intersection. The addition of a 5th westbound through lane was identified by the City of Newport Beach as part of the Newport Beach General Plan Update Traffic Study (Urban		

3. Mitigation Monitoring Requirements

<i>Table 3-1</i> <i>Summary of Impacts, Existing Plans, Programs, and Policies (PPPs), Project Design Features (PDFs),</i> <i>Mitigation Measures (MMs) and Level of Significance after Mitigation</i>			
<i>Timing</i>	<i>PPPs, PDFs, and MMs</i>	<i>Responsible for Monitoring</i>	<i>Date Completed</i>
	Crossroads, 2006). The addition of a 3rd southbound right turn lane was identified in the John Wayne Airport (JWA) Improvement Program as an ancillary improvement to support the growth of the Airport. Intersection #85: MacArthur Boulevard and Birch Street: Improve the eastbound approach to two eastbound left-turn lanes and two eastbound through lanes. Santa Ana Intersection #543 Bristol Street and Segerstrom Avenue: Two alternative improvements are proposed and outlined below. The City of Irvine shall coordinate with the City of Santa Ana to determine the most appropriate future improvement at this location. - Alternative 1: Add 3rd eastbound through and westbound through lanes on Segerstrom Avenue - Alternative 2: Add 4th northbound through and southbound through lanes on Bristol Street Intersection #723 Main Street and Dyer Road (Segerstrom): Add a third northbound through lane and a defacto northbound right-turn lane. Intersection #730 Grand Avenue and Warner Avenue: Add a third westbound through lane. Arterial #1884 MacArthur Blvd. from Main Street to SR-55 Widen from 6 to 8 Lanes Tustin Intersection #24: Newport Avenue and Walnut Avenue: Add a defacto westbound right turn lane and defacto northbound right turn lane.		

3. Mitigation Monitoring Requirements

Table 3-1

Summary of Impacts, Existing Plans, Programs, and Policies (PPPs), Project Design Features (PDFs), Mitigation Measures (MMs) and Level of Significance after Mitigation

Timing	PPPs, PDFs, and MMs	Responsible for Monitoring	Date Completed
	Intersection #93: Tuslin Ranch Road and El Camino Real: Add a fourth southbound through lane and restripe the eastbound approach to one left turn lane, a shared through right turn lane and a right turn lane. Intersection #134: Loop Road/Park Avenue at Warner Avenue: Add a third eastbound through lane. Intersection #754: Red Hill Avenue at Carnegie Avenue/A Street: This intersection has a project impact under the Post-2030 scenario. The project impact is largely due to heavy traffic on the northbound through movement. Widening the northbound approach to provide a fourth northbound through lane on Red Hill. This intersection is expected to be substantially expanded as a result of development of the Tuslin Legacy project and shall be monitored to observe if any additional improvements are warranted when that project nears buildout.		
Prior to the issuance of the first building permit	MM 13-2 Prior to the issuance of the first building permit pursuant to the proposed project, the City of Irvine shall update the IBC Development Fee program pursuant to the AB 1600 Nexus Study identified in Mitigation Measure 5.13-1. The IBC Development Fee program was established to fund area-wide circulation improvements within the IBC and adjoining areas. The improvements are required due to potential circulation impacts associated with buildout of the IBC. Fees are assessed when there is new construction or when there is an increase in square footage within an existing building or the conversion of existing square footage to a more intensive use. The development fees collected are applied toward circulation improvements and right-of-way acquisition in the IBC and adjoining areas. Fees are calculated by multiplying the proposed square footage, dwelling unit or hotel room by the appropriate rate. The IBC Fees are included with any other applicable fees payable at the time the building permit is issued. The City will use the IBC development fees to, among other things, fund construction (or to recoup fees advanced to fund construction) of the transportation improvements identified in Mitigation Measure 5.13-1.	Public Works Department	
Prior to the issuance of the first building permit	MM 13-3 Prior to issuance of the first building permit pursuant to the proposed project, the City shall update the Irvine Business Complex Land Use and Trip Monitoring Data base (IBC Database) to reflect the land use changes associated with the proposed project. The City maintains this database for tracking development intensity within the IBC. This data base is an important tool to help ensure the circulation system serving the IBC area is adequate and to ensure roadway improvements are provided at the appropriate time. The data base tracks the amount of square footage built (Existing),	Public Works Department	

3. Mitigation Monitoring Requirements

<i>Table 3-1</i> <i>Summary of Impacts, Existing Plans, Programs, and Policies (PPPs), Project Design Features (PDFs),</i> <i>Mitigation Measures (MMs) and Level of Significance after Mitigation</i>			
Timing	PPPs, PDFs, and MMs	Responsible for Monitoring	Date Completed
Prior to adoption of the AB 1600 nexus study identified in MM 13-1	the available square footage (Additional Zoning Potential and/or Remaining Approval) and the maximum amount of square footage allocated (Total Development Potential and/or Buildout + Existing) to each parcel within the IBC. MM 13-4 Prior to adoption of the AB 1600 nexus study identified in MM 13-1, the City and Caltrans shall jointly identify feasible operational and physical improvements and the associated fair-share funding contribution necessary to mitigate project-related impacts to state transportation facilities. The City shall fund said improvements on pro-rata "fair-share" basis in accordance with the terms and conditions of an Agreement to be prepared and agreed to by both agencies. These fair-share contributions for feasible improvements shall be included in the AB 1600 nexus study	Public Works Department	
5.14 UTILITIES AND SERVICE SYSTEMS			
Water Service			
<i>Existing Plans, Programs and Policies</i>			
Prior to the issuance of grading permits	PPP 14-1 IRWD Rules and Regulations, Requirement to Use Recycled Water: Irvine Ranch Water District (IRWD) will identify customers in a zone identified in the Plan ("the Plan" collectively refers to the Water Resources Master Plan, Sewer Master Plan, Natural Treatment System Master Plan, and addenda thereto) as an area capable of receiving service from the IRWD's recycled water system, and will determine the feasibility of providing recycled water service to these customers. IRWD will also review applications for new permits to determine the feasibility of providing recycled water service to these applicants. If recycled water service is determined by IRWD to be feasible, applicants for new water service shall be required to install on-site facilities to accommodate both potable water and recycled water service in accordance with these Rules and Regulations. IRWD may also require existing customers to retrofit existing on-site water service facilities to accommodate recycled water service. If IRWD does not require the use of recycled water service, the customer may obtain recycled water service upon request but only if IRWD has determined that recycled water service to the customer is feasible and authorizes such use.	Irvine Ranch Water District	

3. Mitigation Monitoring Requirements

Table 3-1

Summary of Impacts, Existing Plans, Programs, and Policies (PPPs), Project Design Features (PDFs), Mitigation Measures (MMs) and Level of Significance after Mitigation

Timing	PPPs, PDFs, and MMs	Responsible for Monitoring	Date Completed
Prior to the issuance of grading permits	PPP 14-2 IRWD Rules and Regulations, Connection Fees: Future project applicants in the IBC shall enter into agreement or agreements as necessary with IRWD to establish the appropriate financial fair share costs to be borne by the project proponent. Fair share costs may include, but are not limited to, those associated with the preparation of studies and infrastructure expansion necessary to analyze and serve the project.	Irvine Ranch Water District	
Prior to the issuance of grading permits	PPP 14-3 IRWD Rules and Regulations, Fire Flow Analysis: In accordance with IRWD requirements, each redevelopment project in the IBC must provide a fire flow analysis. If the analysis identifies any deficiencies, the developer will be responsible for any water system improvements associated with the development project required to rectify the deficiencies and meet IRWD fire flow requirements.	Public Works Department	
Sewer Services			
Existing Plans, Programs and Policies			
	Refer to PPP 14-2 above.		
Solid Waste			
Existing Plans, Programs and Policies			
Prior to the issuance of precise grading permits	PPP 14-4 City of Irvine Standard Condition 3.7: This project will result in new construction that will generate solid waste. Prior to the issuance of precise grading permits, the applicant shall show on the site plans the location of receptacle(s) to accumulate on-site-generated solid waste for recycling purposes. At the discretion of the Director of Community Development the developer of a nonresidential project may be permitted to contract with a waste recycler for off-site materials recovery. In this case the applicant must provide a letter verifying that recycling will be conducted off site in an acceptable manner	Community Development Department	
Utility Demands			
Existing Plans, Programs and Policies			
Prior to the issuance of building permits	PPP 14-5 2000 Building and Energy Efficiency Standards (CCR Title 24): The proposed project shall comply with all State Energy Insulation Standards and City of Irvine codes in effect at the time of application for building permits. (Commonly referred to as Title 24, these standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. Title 24 covers the use of energy efficient building standards, including ventilation, insulation and construction and the use of energy saving appliances, conditioning systems, water	Public Works Department	

3. Mitigation Monitoring Requirements

Table 3-1 Summary of Impacts, Existing Plans, Programs, and Policies (PPPs), Project Design Features (PDFs), Mitigation Measures (MMs) and Level of Significance after Mitigation				
Timing	PPPs, PDFs, and MMs	Responsible for Monitoring	Date Completed	
5.15 GLOBAL CLIMATE CHANGE				
Existing Plans, Programs and Policies				
During construction and demolition	PPP 15-1	City of Irvine Municipal Code Title 8 Division 7, Construction and Demolition (C&D) Dabris Recycling and Reuse: The Construction and Demolition (C&D) ordinance requires that 1) all residential projects of more than one unit, 2) nonresidential developments on 5,000 square feet or larger, and 3) nonresidential demolition/renovations with more than 10,000 square feet of building recycle or reuse a minimum of 75 percent of concrete and asphalt and 50 percent of nonhazardous debris generated.	Community Development Department	
Prior to the issuance of building permits for residential, commercial, or office structures	PPP 15-2	2008 Building and Energy Efficiency Standards (CCR Title 24): Prior to the issuance of a building permit for residential, commercial, or office structures in the Irvine Business Complex, development plans for those structures shall be required to demonstrate that the project meets the 2008 Building and Energy Efficiency Standards. Commonly known as Title 24, these standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. The 2008 standards are approximately 15 percent more energy efficient than the 2005 Building and Energy Efficiency Standards. Plans submitted for building permits shall include written notes demonstrating compliance with the 2008 energy standards and shall be reviewed and approved by the Public Utilities Department prior to issuance of building permits. Design strategies to meet this standard may include maximizing solar orientation for daylighting and passive heating/cooling, installing appropriate shading devices and landscaping, utilizing natural ventilation, and installing cool roofs. Other techniques include installing insulation (high R value) and radiant heat barriers, low-o window glazing, or double-paned windows.	Community Development Department	
During design and construction of projects approved for development in the IBC	PPP 15-3	Title 24 Code Cycles: Net-Zero Buildings (Residential & Non-Residential): The California Public Utilities Commission adopted its Long-Term Energy Efficiency Strategic Plan on September 18, 2008, presenting a roadmap for all new residential and commercial construction to achieve a zero-net energy standard. This Plan outlines the goal of reaching zero net energy in residential construction by 2020 and in commercial construction by 2030. Achieving this goal will require increased stringency in each code cycle of California's Energy Code (Title 24).	Community Development Department	

3. Mitigation Monitoring Requirements

Table 3-1

Summary of Impacts, Existing Plans, Programs, and Policies (PPPs), Project Design Features (PDFs), Mitigation Measures (MMs) and Level of Significance after Mitigation

Timing	PPPs, PDFs, and MMs	Responsible for Monitoring	Date Completed
Ongoing	PPP 15-4 California SB 107 Renewable Portfolio Standard (RPS) is a foundational element of the State's emissions reduction plan. In 2002, Senate Bill 1078 established the California RPS program, requiring 20 percent renewable energy by 2017. In 2006, Senate Bill 107 advanced the 20 percent deadline to 2010, a goal which was expanded to 33 percent by 2020 in the 2005 Energy Action Plan II. On September 15, 2009, Governor Arnold Schwarzenegger signed Executive Order S-21-09 directing CARB to adopt regulations increasing RPS to 33 percent by 2020. These mandates apply directly to investor-owned utilities, in this case Southern California Edison (SCE).	Community Development Department	
Ongoing	California Exeio Order S-1-07 Low Carbon Fuel Standard: On January 18, 2007, Governor Arnold Schwarzenegger issued Executive Order S-1-07 requiring the establishment of a Low Carbon Fuel Standard (LCFS) for transportation fuels. This statewide goal requires that California's transportation fuels reduce their carbon intensity by at least 10 percent by 2020. Regulatory proceedings and implementation of the LCFS have been directed to CARB. The LCFS has been identified by CARB as a discrete early action item in the Scoping Plan. CARB expects the LCFS to achieve the minimum 10 percent reduction goal; however, many of the early action items outlined in the Scoping Plan work in tandem with one another. To avoid the potential for double-counting emission reductions associated with AB 1493 (Pavley), the Scoping Plan has modified the aggregate reduction expected from the LCFS to 9.1 percent.	Community Development Department	
Ongoing	PPP 15-6 Federal Corporate Average Fuel Economy (CAFE) Standards: The 2007 Energy Bill creates new federal requirements for increases in fleetwide fuel economy for passenger vehicles and light trucks. The federal legislation requires a fleetwide average of 35 miles per gallon (mpg) to be achieved by 2020. The National Highway Traffic Safety Administration is directed to phase in requirements to achieve this goal. Analysis by CARB suggests that this will require an annual improvement of approximately 3.4 percent between 2008 and 2020.	Community Development Department	
Ongoing	PPP 15-7 California Assembly Bill 1493 – Pavley Standards: On July 22, 2002, Governor Gray Davis signed Assembly Bill 1493 requiring CARB to develop and adopt regulations designed to reduce greenhouse gases emitted by passenger vehicles and light-duty trucks beginning with the 2009 model year. The standards set within the Pavley regulations are expected to reduce GHG emissions from California passenger vehicles by about 22 percent in 2012 and about 30 percent in 2016. California had petitioned the USEPA in December 2005 to allow these more stringent standards and California executive agencies have repeated their commitment to higher mileage standards. On July 1, 2009, the USEPA granted California a waiver that will enable the state to enforce stricter tailpipe	Community Development Department	

3. Mitigation Monitoring Requirements

<i>Table 3-1</i> <i>Summary of Impacts, Existing Plans, Programs, and Policies (PPPs), Project Design Features (PDFs),</i> <i>Mitigation Measures (MMs) and Level of Significance after Mitigation</i>			
<i>Timing</i>	<i>PPPs, PDFs, and MMs</i>	<i>Responsible for Monitoring</i>	<i>Date Completed</i>
Ongoing	emissions on new motor vehicles. California SB 375: SB 375 requires the reduction of GHG emissions from light trucks and automobiles through land use and transportation efforts that will reduce vehicle miles traveled (VMT). In essence, SB 375's goal is to control GHGs by curbing urban sprawl and through better land use planning. SB 375 essentially becomes the land use contribution to the GHG reduction requirements of AB 32, California's global warming bill enacted in 2008. The proposed project is consistent with SB 375 strategies to reduce VMT and associated GHG emissions in that it represents a compact, mixed-use development, improves job/housing balance in the City and Orange County Council of Governments Subregion, and provides access to mass transit. According to the 2008 Regional Comprehensive Plan, SCAG's Land Use and Housing Action Plan can be expected to result in a 10 percent reduction in VMT in 2035 when compared to current trends.	Community Development Department	
Ongoing	Transit Service to LAX: Although the City of Irvine is serviced by John Wayne Airport, Los Angeles International Airport (LAX) is the regional air transportation hub. Providing direct transit service from the City to LAX can reduce single passenger trips to this destination. The Los Angeles World Airports operates three Flyaway shuttles that provide nonstop airport service to and from Westwood, Van Nuys, and Downtown Los Angeles via the Flyaway program. Since November 16, 2009, a Flyaway shuttle from the Irvine Metrolink Station to LAX provides nonstop service. Based on the ITAM model, a 0.25 percent reduction in VMT is achieved through implementation of this program.	Community Development Department	
Ongoing	Comprehensive Signal Retiming and Coordination Program: Emissions are highest at the lowest travel speeds. The City is currently retiming and coordinating signals throughout Irvine under its ITEMS (Irvine Traffic Engineering System) program. The City plans to enhance signal coordination in the IBC area by the end of 2011. A program to retime and coordinate traffic signals would produce more even traffic flows, so that vehicles are not stalling and stopping constantly. These types of programs can improve vehicular level of service (LOS), thereby decreasing emissions for the same volume of vehicles. Based on the ITAM model, a 1 percent citywide reduction in VMT is achieved through implementation of this program.	Public Works Department	
Ongoing	Additional Fixed Route Shuttle System to Complement The i Shuttle: In March 2008, the City introduced The i Shuttle service, which complements regional bus service and provides direct express transportation to and from the nearby Tustin Metrolink Station, John Wayne Airport, and throughout the IBC. The i Shuttle currently operates 12 fully accessible, compressed natural gas (CNG) buses and is funded by the City of Irvine and the Orange County Transportation Authority. The City's shuttle system has the potential to further decrease VMT in the City by encouraging	Public Works Department	

3. Mitigation Monitoring Requirements

Table 3-1

Summary of Impacts, Existing Plans, Programs, and Policies (PPPs), Project Design Features (PDFs), Mitigation Measures (MMs) and Level of Significance after Mitigation

Timing	PPPs, PDFs, and MMs	Responsible for Monitoring	Date Completed
Ongoing	employees not living in the IBC to commute to work using mass transit. Fehr & Peers is currently preparing a comprehensive study of additional local shuttles designed to complement the existing fixed route bus service operated by OCTA and the existing The i Shuttle. This report (Irvine Transit Vision, June 2009) identified six new shuttle routes for within the City of Irvine that would connect from either the Irvine Metrolink Station or the Tustin Metrolink Station to various destinations in Irvine. The City will provide additional shuttle service using the Irvine Transit Vision as a guide. Energy Efficient Traffic Lights: New traffic signals installed within the Irvine Business Complex will have light emitting diodes. The City is implementing a program to convert all traffic lights in the City to traffic light emitting diodes.	Public Works Department	
Ongoing	California AB 939 Waste Reduction: The City adopted a Zero Waste program in 2007 to approach waste management. The City recovers approximately 66 percent of its waste for recycling and composting, which exceeds the state's AB 939 waste diversion goals. Furthermore, waste haulers establish rate schedules according to bin size and frequency of collection. Commercial customers that subscribe to smaller bins (e.g., 2 cubic-yard bins) are routinely charged less by haulers. This pricing structure encourages waste reduction and recycling, and tends to minimize hauler pickups.	Public Works Department	
Ongoing	City of Irvine Renewable Energy and Existing Buildings Retrofit Program: Pursuant to City Council Resolution 09-52, the City has received federal funding from the U.S. Department of Energy to establish a Renewable Energy and Existing Retrofit Program. Retrofitting is designed to improve a building's energy consumption by using cost-effective measures that do not require extensive remodeling work. The City of Irvine is proposing to use the "whole building approach" meaning that the City will look at the following: • Thermal envelope (i.e. the shell insulation and air leakage) • Mechanical systems (i.e. HVAC and domestic hot water) • Appliances and lighting that may need replacing The approach will evaluate those areas and their interaction given usage rates, building site, and climate to assess the building's overall energy efficiency and performance and to make targeted recommendations for improvement and ultimately reduce residential demand. The City of Irvine will create a financing district to help property owners finance energy efficiency improvements and renewable energy installations. The City of Irvine is forming a Property Assessed Clean Energy (PACE) District under the Mello-Roos Community Facilities Act of 1982 and its powers as a charter city. Eligible improvements may include energy efficiency, water conservation, and renewable	Community Development Department	

3. Mitigation Monitoring Requirements

<i>Table 3-1</i> <i>Summary of Impacts, Existing Plans, Programs, and Policies (PPPs), Project Design Features (PDFs),</i> <i>Mitigation Measures (MMs) and Level of Significance after Mitigation</i>			
<i>Timing</i>	<i>PPPs, PDFs, and MMs</i>	<i>Responsible for Monitoring</i>	<i>Date Completed</i>
Ongoing	energy improvements to privately owned buildings or property. Potential funding for initial improvements may come from various sources including American Recovery and Reinvestment Act grants, taxable bonded indebtedness, other external financing arrangements, or City funds. PPP 15-15 Safe Route to Schools: The Safe Routes to School program is a federal and state grant program intended to increase the percentage of students walking or cycling to school. Funding is awarded to cities to construct engineering improvements and to start educational, encouragement, and enforcement programs. The City of Irvine has been successful in obtaining grant funding to implement a citywide program that includes walking school buses—groups of students who meet at a designated location and walk to school together, with a parent at the front and back of the group. This encourages students to walk to school and assuages parents' fears of traffic and crime safety risks that are impediments to walking alone. Based on the ITAM model, a 0.2 percent reduction in VMT is achieved through implementation of this program.	Public Works Department	
Ongoing	PPP 15-16 Circulation Phasing Analysis: The amount of emissions increase exponentially as arterial travel speeds decrease. As is the case with many cities in Southern California, there are often defined congestion locations (such as the major intersections along Jamboree Road) where a majority of congestion and delay occurs. The City currently has a Circulation Phasing Analysis program in place. They collect traffic counts at congested locations on a bi-annual basis and monitor locations every three years. The results of the analysis are used to determine future Capital Improvement Projects.	Public Works Department	
Project Design Features			
During preparation of construction bids for, and construction of, new developments	PDF 15-1 City of Irvine Zoning Code Chapter 9-36-20.1, Alternate Transportation Incentives: As described in the proposed zoning for the project, applicants for new developments in the Irvine Business Complex shall require that the construction contractor provide alternative transportation mode incentives such as bus passes and/or carpooling for workers to and from the worksite on days that construction activities require 200 or more workers. These requirements shall be noted on the grading plan cover sheet.	Community Development Department	
During design of new developments	PDF 15-2 City of Irvine Zoning Code Chapter 9-36-20.2, Recycled Materials: As described in the proposed zoning for the project, applicants for new developments in the Irvine Business Complex shall submit evidence to the satisfaction of the Director of Community Development or the Director of Public Works that the project uses recycled materials for at least 20 percent of construction materials. Recycled materials may include salvaged, reused, and recycled content materials. Recycled and/or salvaged building materials shall be shown on building plans and product cut sheets submitted to the	Community Development Department	

3. Mitigation Monitoring Requirements

Table 3-1

Summary of Impacts, Existing Plans, Programs, and Policies (PPPs), Project Design Features (PDFs), Mitigation Measures (MMs) and Level of Significance after Mitigation

Timing	PPPs, PDFs, and MMs	Responsible for Monitoring	Date Completed
	City.		
Ongoing	PDF 15-3 City General Plan Element N, Compact/Mixed-Use Development: The California Energy Commission (CEC) considers compact development forms beneficial for minimizing energy consumption that leads to greenhouse gas emissions. In fact, the CEC's report on the connections between land use and climate change identifies density as the project feature most predictive of the number of vehicle trips and VMT by project occupants. The project locates additional housing opportunities near major employment and transportation centers. On a regional basis, this Land Use PDF will reduce regional VMT.	Community Development Department	
Ongoing	PDF 15-4 City General Plan Element N, High Rate of Internal Trip Capture: With the inclusion of a mix of land uses including office, commercial, industrial, and residential in the project area, the proposed project significantly reduces trips outside the project area. This reduces trip length and congestion on the local circulation system outside the project area.	Community Development Department	
Ongoing	PDF 15-5 City of Irvine Zoning Code Chapter 9-36-20.7, Office/Commercial Development Heat Island Standards: New parking lots serving retail and office developments shall include tree plantings designed to result in 50 percent shading of parking lot surface areas within 15 years. These shading requirements shall apply to all impervious surfaces on which a vehicle can drive, including parking stalls, driveways, and maneuvering areas within parking areas. Commercial developments shall provide landscapes with drought-resistant species and groundcovers, rather than pavement, to reduce heat reflection. Additionally: 1) Buildings are encouraged to be oriented to the south or southwest, where feasible; 2) deciduous trees are encouraged to be planted on the west and south sides of structures.	Community Development Department	
Ongoing	PDF 15-6 City General Plan Element N, Urban Infill Near Multiple Transit Modes: The project would develop high-density housing in an area being served by at least two modes of transit. On March 31, 2008, <i>The i Shuttle</i>, which is operated by the City of Irvine and designed for the IBC community, began operating. The shuttle allows residents and employees to have an alternative way to commute to jobs and locations throughout the IBC. The shuttle offers three routes to accommodate residents and employees traveling within the area and to and from the IBC (see Figure 4-2, <i>The i Shuttle Route</i>). Route A connects the Tustin Metrolink Station to the John Wayne Airport via Von Karman Avenue. Route B connects the Tustin Metrolink Station to the heart of the IBC via Jamboree Road and Michelson Drive. Route C is a midday service in the busiest section of the IBC. Therefore, the project would facilitate walking and nonmotor travel to a greater extent than would be the case for similar development in outlying areas without extensive transit availability. In addition, the high-	Community Development Department	

3. Mitigation Monitoring Requirements

Table 3-1

Summary of Impacts, Existing Plans, Programs, and Policies (PPPs), Project Design Features (PDFs), Mitigation Measures (MMs) and Level of Significance after Mitigation

Timing	PPPs, PDFs, and MMs	Responsible for Monitoring	Date Completed
During design and operation of new commercial, office, and retail developments	density development would include a greater number of potential residents that could use or engage in alternative modes of travel than in a lower density development on the project site. PDF 15-7 City of Irvine Zoning Code Chapter 9-36-21, Transportation Management Association (TMA): The City anticipates establishment of a TMA for the IBC by Spring 2010. Based on the ITAM model, establishment of the TMA for the IBC Vision Plan area would result in a reduction of 8 percent of projected VMT.	Community Development Department	
Ongoing	PDF 15-8 Pedestrian Improvements: The IBC Vision Plan creates funding mechanisms to provide for the implementation of community-orientated pedestrian infrastructure improvements to increase walkability. New streets incorporated into the IBC would reduce the size of the city blocks to a pedestrian scale and pedestrian paseos would connect to the arterials at key locations. In addition, many of the streets in the IBC currently do not have sidewalks. The sidewalk improvement program would be expanded to provide connectivity, and incorporate several new pedestrian bridges, and many existing sidewalks would be moved away from the curb into the setback area. The Creekwalk system is also envisioned adjacent to the San Diego Creek to provide a trail to connect the Great Park from the IBC and the Civic Center.	Public Works Department	
Ongoing	PDF 15-9 City General Plan Element N, Bicycle Improvements: The IBC would provide linkages to the City regional bicycle trail system. Currently continuous on-street bicycle lanes exist only along Main Street. Bicycle lanes are proposed along parts of Jamboree Road, Red Hill Avenue, Von Karman Avenue, Michelson Avenue, Carlson Avenue, Barranca Parkway, and Alton Parkway. Furthermore, the sidewalk system would be shared between pedestrians and bicycles. As part of the Vision Plan, bicycle connections to the San Marco Park, adjacent to the San Diego Creek, would be improved with a new pedestrian bridge. Also refer to PDF 13-1 and PDF 15-7, which allow for creation of a Transportation Management Association (TMA) for the IBC area.	Public Works Department	
Prior to issuance of building permits	PDF 15-10 City of Irvine Zoning Code Chapter 9-36-29.4: Ultra-Low-Flow Fixtures: Applicants for new developments in the Irvine Business Complex shall submit evidence to the satisfaction of the Director of Community Development that toilets, urinals, sinks, showers, and other water fixtures installed on-site are ultra-low-flow water fixtures that exceed the Uniform Plumbing Code. Examples are: 1.28 average gallons per flush high efficiency toilets, 2 gallon per minute (gpm) efficient bathroom faucets, 2.2 gpm efficient kitchen faucets, and 2.2 gpm efficient shower heads.	Community Development Department	

3. Mitigation Monitoring Requirements

Table 3-1

Summary of Impacts, Existing Plans, Programs, and Policies (PPPs), Project Design Features (PDFs), Mitigation Measures (MMs) and Level of Significance after Mitigation

Timing	PDFs, PDFs, and MMs	Responsible for Monitoring	Date Completed
Prior to issuance of building permits	City of Irvine Zoning Code Chapter 9-36-20.5: Landscaping and Irrigation Systems: Applicants for new developments in the Irvine Business Complex shall submit evidence to the satisfaction of the Director of Community Development that landscaping irrigation systems installed in the project are automated, high-efficient irrigation systems that reduce water use, such as an evapotranspiration "smart" weather-based irrigation controller, dual piping for recycled water, and bubbler irrigation; low-angle, low-flow spray heads; moisture sensors; and use of a California-friendly landscape palette. These features will make the project consistent with the intent of the California Water Conservation In Landscaping Act of 2006 (AB 1881), including provisions to reduce the wasteful, uneconomic, inefficient, and unnecessary consumption of water.	Community Development Department	
Ongoing	City of Irvine Zoning Code Chapter 9-36-20.6: Use of Reclaimed Water on All Master Landscaped Areas: If recycled water service is determined by IRWD to be feasible (see PPP 14-1), applicants for new developments in the Irvine Business Complex shall use reclaimed water in all master landscaped areas. This will include master landscaped commercial, multifamily, common, roadways, and park areas. Master landscapes will also incorporate weather-based controllers and efficient irrigation system designs to reduce overwatering, combined with the application of a California-friendly landscape palette.	Irvine Ranch Water District	
Ongoing	City of Irvine Zoning Code Chapter 9-36-20.8: Material Recovery: To reduce waste generated in the IBC and encourage recycling of solid wastes, the Orange County Integrated Waste Management Department operates material recovery facilities to recycle glass, plastic, cans, junk mail, paper, cardboard, greenwaste (e.g., grass, weeds, leaves, branches, yard trimmings, and scrap wood), and scrap metal. Future employees, residents, and customers would participate in these programs. On-site recycling facilities will be required for all commercial, retail, industrial, and multifamily residential developments.	Community Development Department	
Prior to issuance of building permits	City of Irvine Zoning Code Chapter 5-8-4.A.7: GreenPoint Rated Residential Buildings: Applicants for new residential developments in the Irvine Business Complex shall submit evidence to the satisfaction of the Director of Community Development that proposed buildings are designed and constructed to be GreenPoint Rated. GreenPoint Rated developments must achieve a minimum of 50 total points and meet the category-specific point thresholds as specified in the current GreenPoint Rated Builder Handbook. Developments that exceed this minimum are rewarded by a higher grade on their projects. The GreenPoint Rated program is updated every three years to coincide with changes to the California Building Energy Efficiency Standards.	Community Development Department	

3. Mitigation Monitoring Requirements

Table 3-1 Summary of Impacts, Existing Plans, Programs, and Policies (PPPs), Project Design Features (PDFs), Mitigation Measures (MMs) and Level of Significance after Mitigation			
Timing	PDFs, PDFs, and MMs	Responsible for Monitoring	Date Completed
Prior to issuance of building permits	PDF 15-15 City of Irvine Zoning Code Chapter 9-36-20.9: Designed to Earn the Energy Star Non-Residential Buildings: Applicants for new non-residential developments in the Irvine Business Complex shall submit evidence to the satisfaction of the Director of Community Development that proposed buildings are designed and constructed to achieve the 'Designed to Earn the Energy Star' rating. In order achieve the 'Designed to Earn the Energy Star' rating, the architect/design firm must demonstrate that the final estimate of the building's energy use corresponds to a rating of 75 or better using the US EPA's Energy Performance Rating from the Internet-based tool, Target Finder.	Community Development Department	

*Appendix B. Resolution Adopting General Plan
Amendment for IBC Residential
Mixed-Use Vision Plan*



Appendices

This page intentionally left blank.

CITY COUNCIL RESOLUTION NO. 10-80

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF IRVINE APPROVING OF GENERAL PLAN AMENDMENT 00497846-PGA, GENERAL PLAN AMENDMENT CYCLE 2010-3 TO ADOPT THE IRVINE BUSINESS COMPLEX RESIDENTIAL MIXED USE VISION PLAN AS A NEW ELEMENT OF THE GENERAL PLAN; TO INCREASE THE RESIDENTIAL UNIT CAP TO 15,000 UNITS, WITH A CORRESPONDING REDUCTION OF NON-RESIDENTIAL INTENSITY; TO REPLACE THE CURRENT 52 UNIT/ACRE DENSITY CAP WITH A 30 UNIT/ACRE DENSITY MINIMUM, AND UPDATE OTHER ELEMENTS OF THE GENERAL PLAN TO REFLECT REFERENCES TO NEW IBC ELEMENT; FILED BY THE CITY OF IRVINE

WHEREAS, the City of Irvine has an adopted General Plan and Zoning Ordinance;
and

WHEREAS, the City of Irvine Community Development Department has proposed General Plan Amendment 00497846-PGA requesting approval of the following amendments:

- Adopt the Irvine Business Complex Residential Mixed Use Vision Plan as a new element of the General Plan (Exhibit A);
- Amend Land Use Element to reference new IBC Element (Exhibit B)
- Amend Land Use Element Table A-1 to increase the residential unit cap to 15,000 units, with a corresponding reduction of non-residential intensity (Exhibit C);
- Amend Land Use Element Table A-1 to replace the current 52 unit/acre density cap with a 30 unit/acre density minimum (Exhibit C);
- Amend Circulation Element Figure B-1 to reflect the downgrade of Jamboree Road from a 10-lane facility to an 8-lane facility between Barranca Parkway and McGaw Avenue (Remove Note 8.); downgrade Red Hill to 6-lanes between Barranca Parkway and Main Street; downgrade Barranca Parkway to 7-lanes (4 westbound, three eastbound) between Red Hill and Jamboree Road; downgrade main Street to a 6-lane divided arterial between Red Hill and Harvard Avenue; downgrade MacArthur Blvd. to a 7-lane divided highway between Redhill Avenue and Main Street and to a 6-lane divided highway between Fitch and Redhill Avenue (Exhibit D);
- Amend Figure B-4 to reference new IBC trails (Exhibit E)

- Amend Parks and Recreation Element Table K-1 to add additional description of IBC neighborhood parks (Exhibit F)

WHEREAS, General Plan Amendment 00497846-PGA is considered is considered a part of the overall Vision Plan project for the IBC (Vision Plan Project) pursuant to the California Environmental Quality Act (CEQA); and

WHEREAS, the amendment to the Land Use, Circulation, and Recreation Elements, and proposed new IBC Element of the Irvine General Plan will occur within General Plan Amendment Cycle 3 for the 2010 calendar year; and

WHEREAS, the City Council has considered information presented by the applicant, the Community Development Department, and other interested parties at public meetings and hearings held on July 11, 2006, July 25, 2006, February 27, 2007, October 23, 2007, February 26, 2008, April 27, 2010, and July 13, 2010.

NOW, THEREFORE, the City Council of the City of Irvine DOES HEREBY RESOLVE as follows:

SECTION 1. That pursuant to Section 15205 of the State CEQA Guidelines, the City Council reviewed and considered the Final Environmental Impact Report (SCH# 2007011024) (FEIR) in making its recommendation on the Zone Change and the Vision Plan Project.

SECTION 2. Most of the potentially significant environmental impacts of the Vision Plan Project identified in the FEIR have been determined to be less than significant or mitigated to a level that is considered less than significant or changes have been required or incorporated into the Vision Plan Project which avoid or substantially lessen the significant environmental effects.

SECTION 3. Certain impacts of the Vision Plan Project to Air Quality, Noise, Land Use and Traffic have been identified in the FEIR as significant and unavoidable. The specific impacts are summarized in Exhibit A to Resolution No. 10-79. Based upon specific economic, social, technical or other considerations, the City Council finds these effects acceptable and adopts the required facts and findings and Statement of Overriding Considerations (attached as Exhibit B to Resolution No. 10-79).

SECTION 4. Although the FEIR identifies certain significant environmental effects that would result if the Vision Plan Project is approved, most environmental effects can feasibly be avoided or mitigated. The applicable mitigation measures, included within the FEIR as Table 1-2 and incorporated herein as Exhibit C to Resolution No. 10-79, have been incorporated into the Vision Plan Project or identified as requirements of the Vision Plan Project.

SECTION 5. In accordance with Section 8 of the City of Irvine CEQA Procedures, the Planning Commission recommends that the City Council find that the FEIR has been completed in compliance with CEQA and the State CEQA Guidelines, and the City's

CEQA Procedures. The Planning Commission also recommends that the City Council, having final approval authority over the project, certify as complete and adequate the Final EIR.

SECTION 6. Pursuant to Fish and Game Code Section 7.11.4 (C), all required Fish and Game filing fees will be paid subsequent to certification of the FEIR for the Vision Plan Project.

SECTION 7. The findings required by Section 2-11-8 of the City of Irvine Zoning Code for approval of a General Plan Amendment have been made as follows:

1. The proposed general plan amendment is consistent with other elements of the City's General Plan pursuant to Government Code Section 65300.5:

The amendment to the Land Use Element of the Irvine General Plan is consistent with other elements contained within the Irvine General Plan. The proposed amendment does not modify or alter the intent of any of the General Plan elements. The General Plan goals of maintaining balanced and harmonious land use patterns and ensuring that infrastructure and municipal services will be available to serve proposed development will continue to be met. The amendment also includes revisions to elements and associated figures of the General Plan as required reflect the proposed changes in intensity and to maintain internal consistency. Therefore, pursuant to Section 65300.5 of the State Government Code, this amendment is internally consistent with the other elements of the Irvine General Plan.

2. The proposed general plan amendment, if applicable, responds to changes in state and/or federal law pursuant to Section 65300.9 of the State Government Code.

This General Plan amendment has not been initiated in response to state and/or federal law.

3. The proposed general plan amendment has been referred to the County of Orange and any adjacent cities abutting or affected by the proposed action and any other federal agency whose operations or lands may be affected by the proposed decision pursuant to Government Code Section 65352.

The General Plan Amendment has been referred to the adjacent cities of Santa Ana, Tustin, Newport Beach, Costa Mesa, Laguna Beach, Laguna Woods, Laguna Hills, Lake Forest, and Orange and the County of Orange, as well as federal agencies that might be affected by the project such as the U.S. Fish and Wildlife Service.

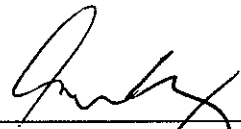
4. The proposed general plan amendment will not be detrimental to the public health, safety, and welfare of the community.

The General Plan Amendment is determined to be in the best interests of the health, safety and welfare of the community. The impacts of the General Plan Amendment have been analyzed in the RDEIR. As a result of the environmental analysis, measures such as existing plans, programs, policies (PPP), project design features (PDF), and mitigation measures (MM) have been developed to ensure that all environmental impacts, except four (Air Quality, Noise, Traffic and potentially Land Use), will be reduced to a level of insignificance, including any potential impacts to the public health, safety and welfare. A Statement of Overriding Considerations has been proposed to address those impacts that cannot feasibly be reduced to a level of insignificance.

SECTION 10. Based on the above findings, the City Council of the City of Irvine DOES HEREBY APPROVE General Plan Amendment 00497846–PGA, as follows:

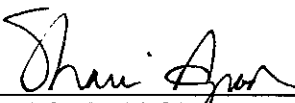
- Adopt the Irvine Business Complex Residential Mixed Use Vision Plan as a new element of the General Plan (Exhibit A);
- Amend Land Use Element to reference new IBC Element (Exhibit B)
- Amend Land Use Element Table A-1 to increase the residential unit cap to 15,000 units, with a corresponding reduction of non-residential intensity (Exhibit C);
- Amend Land Use Element Table A-1 to replace the current 52 unit/acre density cap with a 30 unit/acre density minimum (Exhibit C);
- Amend Circulation Element Figure B-1 to reflect the downgrade of Jamboree Road from a 10-lane facility to an 8-lane facility between Barranca Parkway and McGaw Avenue (Remove Note 8.); downgrade Red Hill to 6-lanes between Barranca Parkway and Main Street; downgrade Barranca Parkway to 7-lanes (4 westbound, three eastbound) between Red Hill and Jamboree Road; downgrade main Street to a 6-lane divided arterial between Red Hill and Harvard Avenue; downgrade MacArthur Blvd. to a 7-lane divided highway between Fitch Avenue and Main Street (Exhibit D);
- Amend Figure B-4 to reference new IBC trails (Exhibit E)
- Amend Parks and Recreation Element Table K-1 to add additional description of IBC neighborhood parks (Exhibit F)

PASSED AND ADOPTED by the City Council of the City of Irvine at a regular meeting held on the 13th day of July, 2010.



MAYOR OF THE CITY OF IRVINE

ATTEST:



CITY CLERK OF THE CITY OF IRVINE

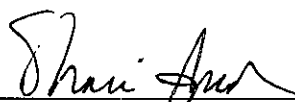
STATE OF CALIFORNIA)
COUNTY OF ORANGE)
CITY OF IRVINE)

I, SHARIE APODACA, City Clerk of the City of Irvine, HEREBY DO CERTIFY that the foregoing resolution was duly adopted at a regular meeting of the City Council of the City of Irvine, held on the 13th day of July, 2010.

AYES: 4 COUNCILMEMBERS: Agran, Choi, Krom and Kang

NOES: 0 COUNCILMEMBERS: None

ABSENT: 1 COUNCILMEMBERS: Shea



CITY CLERK OF THE CITY OF IRVINE

ELEMENT N
IRVINE BUSINESS COMPLEX (IBC)

GOAL: To create a cohesive planning framework for residential and mixed use development in the IBC that is compatible with existing non-residential development.

Description of the IBC Element

The IBC Element formally establishes the goals and objectives for future planning for residential and mixed use development in the IBC based on the IBC Vision Plan and Mixed Use Overlay Zoning Code Planning Process conducted by the City of Irvine between 2005-2010. The text of the Vision Plan document is presented in this element, reformatted into City of Irvine General Plan objective and policy statements.

Introduction

The Irvine Business Complex (IBC) is a unique part of the City of Irvine. Dating from the 1970s, the IBC was developed solely as a commercial and industrial center serving Southern California as a regional economic and employment base, including hotel, restaurant, commercial, retail, industrial, and office uses. (Figure N-1 Regional Location)

Transition in land use was contemplated in the original entitlement program for the IBC with the amount and variety of land use within an individual parcel being dictated by a trip generation strategy. A provision was created that permits Transfer of Development Rights between parcels based upon trip generation and environmental analysis. Market forces, however, have increased development pressures in the IBC and are encouraging a rapid transition from a suburban mixed-use commercial and industrial center into a more urban regional mixed-use center. This evolution, to a more urban environment, will include an array of commercial, industrial, retail and residential land uses constituting changes to the look, feel, and function of the business complex.

In early 2004, the number of applications for residential units within the IBC increased dramatically and City of Irvine anticipates that the total number of units in the IBC could increase to more than 10,000 within the next five to ten years. This increase in residential units represents a significant increase over the original residential cap of 3,896 dwelling units in the IBC established in 1992. The City of Irvine identified the opportunity for a mixed-use

community with a coordinated urban design framework within the IBC while ensuring the continued economic viability of existing and future businesses.

These development pressures have created the desire for a vision to bring the IBC-into the 21st Century. The purpose of this Vision Plan is to develop a comprehensive strategy and guiding urban design framework for future IBC development. This Vision Plan and the Irvine Business Complex Residential Mixed-Use (IBCRMU) Overlay Zone, call for creating sustainable urban neighborhoods within a framework of new streets and open spaces; a new approach than has traditionally been considered within other residential areas of Irvine.

This Vision Plan reflects a long-term view of the IBC as a mixed-use community, and reflects the best planning techniques available to assist in the evolution of the IBC from a traditional office and industrial area. This Vision Plan also builds on the principles established through the public meeting process and at the IBC Design Charrette held in July 2005.

Together, the Vision Plan and the IBCRMU Overlay Zone will become the basis for determining the coordination of public and private sector initiatives for the development and implementation of a sustainable, quality mixed-use community within the IBC.

Existing Conditions

Location

Lying on the southwestern edge of the City of Irvine and adjacent to the cities of Tustin, Santa Ana and Newport Beach, the IBC is a regional hub within Orange County. The IBC extends over 2,7600 acres, making it the largest business complex in Orange County. The complex was originally designed as the bustling working machine for the City, creating a unique environment for economic growth and vitality.

The boundaries of the Irvine Business Complex, located on the southwestern portion of the City of Irvine, are well defined. John Wayne Airport forms the northwestern boundary and San Diego Creek forms the southeastern boundary, with two arterial roads - Barranca Parkway and Campus Drive – forming the northeast and southwest boundaries of the IBC area.

Regional Influences

There are several regional influences that are important in terms of the location of the IBC. These influences include:

John Wayne Airport

The IBC benefits from its close proximity to the John Wayne Airport, which provides an important transportation hub for the region. The airport has a service area of three million people with an annual volume of over nine million passengers. To keep up with population growth, the County has approved plans to expand facilities at the airport. The airport is located at the intersection of Michelson Drive and MacArthur Boulevard.

University of California Irvine (UCI)

The UCI campus is located on 1,500 acres to the east of the IBC. According to the UCI 2007 Long Range Development Plan, student enrollment by 2025 is anticipated to be over 35,000 students. The campus is anticipated to employ more than 11,000 people and provides a rich resource for the IBC area.

Regional Development

The developments proposed at the former MCAS Tustin (Tustin Legacy) and El Toro (Great Park and Great Park Neighborhoods), and the existing Spectrum Center, along with the South Coast Metro area within Costa Mesa and Santa Ana are emerging as significant draws within the region, both to residents and visitors. The IBC has played an important role in the image of the City since regional transportation connections flow through the IBC between the airport and these regional facilities.

San Diego Creek

The San Diego Creek, which runs along the southeastern boundary of the IBC, provides an important connection to a comprehensive system of parks and open space developed within the City of Irvine. The San Joaquin Wildlife Sanctuary, which abuts the IBC, offers ten miles of trails for walkers, joggers, bikers. The “Mountains to the Sea” trail, a 22-mile network of hiking, biking, and riding trails, connecting the historical Irvine Ranch and the northern foothills, to Upper Newport Bay and the Pacific Ocean, runs along the eastern side of the San Diego Creek.

Planning Issues

Transportation

Existing streets within the IBC are designed to accommodate high speed through traffic, especially on the major arterials. These wide streets make it difficult for pedestrians and bicycles to cross and would not be classified as “pedestrian-friendly” in character. However, any future planning must maintain the street capacities required to accommodate development previously approved within the IBC and address capacities as needed for any additional proposed intensity.

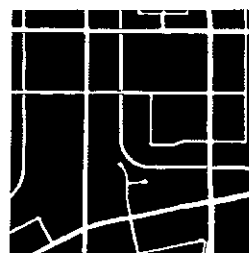
The IBC is served by a system of public transportation bus routes aligned on most major arterial streets. Currently, there are a number of local and regional bus routes serving the IBC. The routes are part of the wider Orange County Transportation Authority (OCTA) network of buses and trains within the region. The Tustin Metrolink train station is located 1.5 miles to the north of the IBC. There are existing OCTA bus routes that service the IBC from other parts of the region. The existing bus routes provide connectivity throughout the IBC along Alton Parkway, Michelson Drive, Red Hill Avenue, Jamboree Road, Dupont Drive, Main Street, and Von Karman Avenue.

On March 31, 2008 the i shuttle, which is operated by the City of Irvine and designed for the IBC community, began operating. The shuttle allows residents and employees to have an alternative way to commute to jobs and locations throughout the IBC.

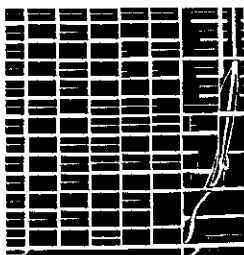
The shuttle offers multiple routes to accommodate residents and employees traveling within the area and to and from the IBC. Future expansion of the shuttle service is anticipated as demand increases.

Existing Urban Form

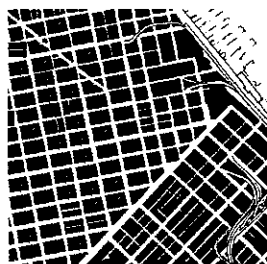
The existing block system within the IBC has evolved based on industrial functionality and large user size resulting in a large grid, “super block” street pattern. For these practical reasons, little or no consideration was given to the pedestrian. In the book *Great Streets* by Allan B. Jacobs, the IBC was compared to various cities throughout the world in terms of scale and block size. The blocks within the IBC are three and four times the size of notable “walkable cities” such as Santa Monica and San Francisco. The comparative studies, below, show the disparity in the size of the blocks between the IBC and more urban, pedestrian-oriented environments, which typically are comprised of smaller blocks.



Irvine Street Blocks



Santa Monica
Street Blocks



San Francisco
Street Blocks

Many streets within the IBC do not have sidewalks and on-street parking is not permitted in a majority of the complex. The large scale of the blocks and width of the streets have restricted pedestrian connectivity. As a result, accessibility and pedestrian movement is very difficult.

The existing urban form in many areas of the IBC lacks a distinctive “sense of place” or strong identity. The IBC tends to blend with neighboring industrial areas in adjacent jurisdictions with no clear demarcation. The perception of the area comes from its wide streets which provide the dominating visual experience with buildings typically set far back from the street. These characteristics are appropriate for a business park, but lack human scale, diversity and visual richness if a high value, mixed-use or residential district is the goal.

Existing Uses

The IBC offers a wide range of industrial and service industries ranging from specialty pharmaceutical, healthcare and medical products, clothing manufacturers and other commercial and financial institutions. As a result of the close proximity to the airport, other service industries have developed, including hotels and restaurants. Several companies, like such as Allergan and Edwards Life Sciences,

have located their company headquarters within the IBC, some of which date back prior to the City of Irvine’s incorporation in 1971. It is important that existing businesses be allowed to not only continue their business as usual but are empowered to expand consistent with current development rights.

Trends

Increased Housing Demand

A number of factors have created an impetus for the IBC to transition to an urban, mixed-use center. These factors include:

- A desire for housing in closer proximity to local jobs.
- An emphasis on a newer lifestyle geared more towards urban living rather than traditional suburban living.
-

Resident and Employee Characteristics

Alfred Gobar Associates performed a survey of the current residents of the IBC in 2005 and an additional survey of residents and employees within the IBC in 2007. All IBC residents currently reside in higher density apartment and condo-style dwellings. The characteristics of these existing households are seen to predict fundamental demographic traits (household size, number of cars, number of children, etc.) of future residents expected to reside in new, higher density housing planned in the IBC area.

Characteristics of special note found through the survey are as follows:

Resident Surveys

- Approximately 25-40 percent of IBC residents also work in the IBC.
- There is an average of 1.65 persons per household
- 48% of households are single-person; 20% include 3 or more persons
- Roughly 10% of households have children present; less than 4% have children present full-time; balance only on weekdays, weekends, or scheduled visits
- Nearly 30% of households in current residence less than 1 year; 67% of households in current residence less than 3 years
- Approximately 57% of households bought their home; 43% rent their home
- Approximately 47% of current households relocated from another home in Irvine-Central O.C

Business Survey

- 57% of IBC businesses are engaged in office activities, 12% in retail activities, 16% in industrial activities, and 18% in various miscellaneous activities, including lodging, education, etc.
- 43% of surveyed businesses have been in the IBC over 10 years while

20% have been in the IBC no more than two years

- 25% of surveyed businesses have relocated to the IBC, with 78% of these businesses coming from other sites in Irvine or Central Orange County
- 1 out of 3 IBC businesses indicate plans to expand their operations. Of these businesses 40% plan to expand within the next 12 months while another 30% plan to expand within the next 24 months
- Of the IBC businesses planning to expand, about 60% are seeking a site in the IBC. Less than 5% of businesses expanding plan to add more than 25,000 square feet, while 85% plan to add less than 10,000 square feet

Parks and Open Space

A number of private, internal recreation facilities have been developed as part of the residential developments within the IBC. These facilities are predominantly gated or indoor facilities serving the individual developments.

The Bill Barber Marine Corps Memorial Park, located adjacent to the IBC, serves the area for Community Park outdoor recreation facilities as well as the San Joaquin Freshwater Marsh and San Diego Creek Trail.

Community Participation

Throughout the IBC planning process, the involvement of various individuals, organizations, key stakeholders, local businesses and developers have been sought to build and develop a broad based consensus for the effective Vision Plan. The Irvine City Council adopted a series of recommendations directing the preparation of this document as well as the IBC Residential Mixed-Use Overlay Zone. As part of this effort, the City Council adopted five vision elements for use in guiding the preparation of development standards, which serve as the five objectives outlined in this element, as follows:

- Protect the existing job base within the IBC.
- Develop mixed-use cores.
- Provide transportation, pedestrian, and visual connectivity.
- Create useable open space.
- Develop safe, well-designed neighborhoods.

The City hosted a IBC Design Charrette to develop new standards and guidelines for residential development within the IBC. Key urban design principles created at the Design Charrette have formed the basis of this element and the IBC Vision Framework Plan (Figure N-2)

Identification of Issues

1. How can the existing job base in the IBC be protected from impacts of residential and mixed use development.
2. How can the planning process accommodate a wide range of uses in the IBC?
3. How can the transportation network and pedestrian linkages in the IBC be improved to facilitate mobility through the evolving neighborhoods in the IBC.
4. How can open space areas be provided for residents and employees in the IBC?
5. How can new residential and mixed use neighborhoods be designed to be compatible with the surrounding IBC environment?

The Vision – Overarching Concepts

The purpose of the Vision Plan, as incorporated into this IBC Element is to address the opportunities and constraints previously discussed and develop an urban design framework to guide future development in the IBC. This element suggests a dynamic mix of uses, with urban housing integrated into a conceptual framework of streets, landscape improvements, pedestrian walkways, and urban open spaces.

In order to achieve a balanced urban environment, the IBC needs walkable neighborhoods where people can work, live, and play; feeling part of an evolving and vibrant cosmopolitan city. This requires a mix of uses and places that are activated both day and night, drawing together diverse community segments both business and residential.

Provide a Guide for Future Development

This IBC Element will serve as a guide for public improvements within the complex, including criteria for park locations, a conceptual new street network, and improvements to the streetscape design.

Provide Housing Opportunities

New residential development will provide for a range of housing opportunities including rowhouses, live-work units, courtyard housing, commercial blocks, podiums, liners and towers (all as defined in the IBC Design Criteria adopted in conjunction with this element), while still retaining the mature industrial development and its associated job base.

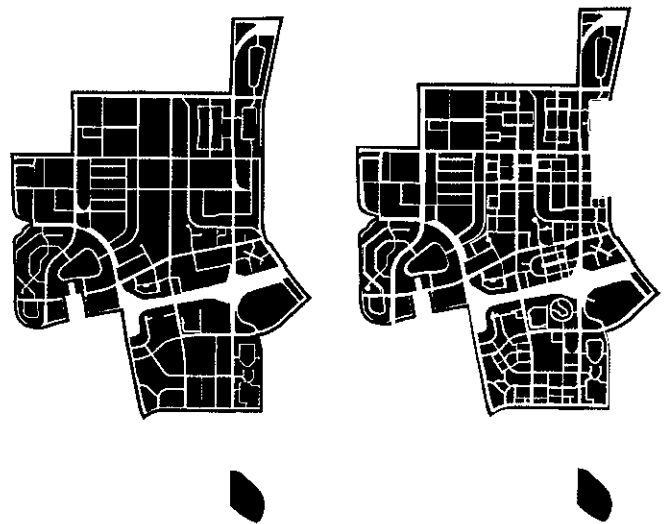
Private developments will be subject to the regulations of the new IBC Residential Mixed Use (RMU) Overlay Zone. In addition, a funding mechanism will be established concurrently with the adoption of this element to provide for implementation of the community-oriented pedestrian and infrastructure improvements to increase walkability within the IBC as outlined in this document.

Create New Streets and Smaller Blocks

A key consideration for the future of the IBC is the introduction of new streets, reducing the size of blocks to a pedestrian scale. A component of walkable neighborhoods is smaller blocks. While the existing arterial road system needs to continue to function as planned to move vehicles through the IBC, the new streets and pedestrian paseos will connect to the arterials at key locations.

New connections will be encouraged and designed that keep ultimate curb locations as planned under existing policies and requirements but move the sidewalk away from the curb into the required setback area where appropriate. Landscape parkways or wide sidewalks with tree wells will be encouraged in key locations.

The new standards in the IBCRMU Overlay Zone and associated-design criteria will lead to buildings that are more human-scaled, on smaller blocks, which provide a greater variety of pedestrian-friendly experiences.



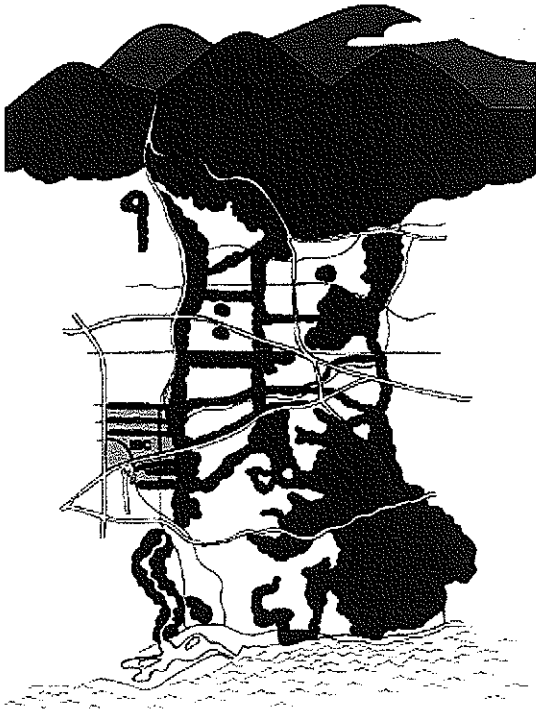
Existing Street
Network

Conceptual Street
Network

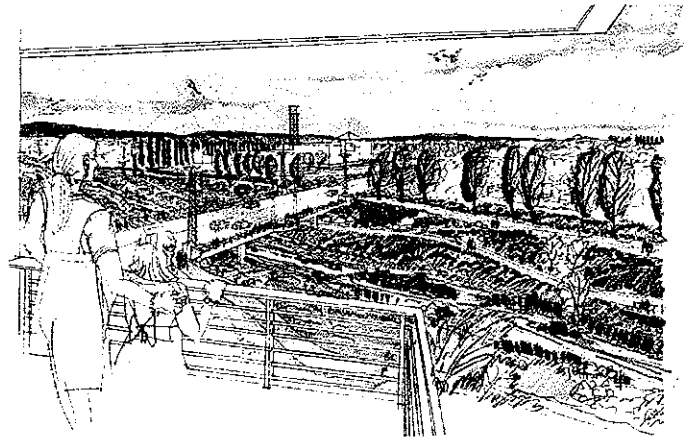
Develop a Pedestrian Linkage System

A system of pedestrian linkages, parks, and urban open spaces will be a critical component of future projects connecting residential to employment opportunities within the IBC as well as link to the San Diego Creek and San Joaquin Marsh.

A pedestrian “Creekwalk” system is envisioned adjacent to the San Diego Creek that will ultimately provide a trail connection to the Great Park from the IBC and the Civic Center.



**Open Space Connection –
Mountains to Bay**



Creekwalk – IBC Illustrative Concept

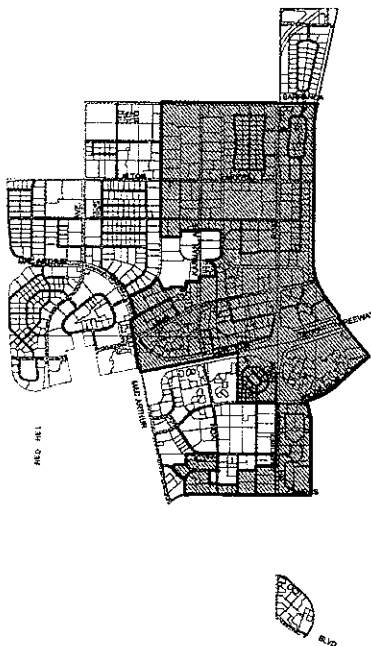
Vision Framework Plan

The Vision Framework Plan (Figure N-2) provides the land use and urban design structure by which new residential development may occur. The Framework is a summary exhibit of the key elements and attributes to ensure the development of high quality, sustainable neighborhoods and a mixture of uses which will achieve and maintain the highest economic value within the long-term like the Land Use Element of the General Plan. The Regulating Plan in the IBC RMU Overlay Zone implements the objectives and policies of this Vision Element.

New Districts

The IBC Element distinguishes the character of the different areas of the IBC by creating two districts, each with its own unique identity, based on the existing urban character within these districts and the opportunities for additional mixed-use development within. (see Figure N-3, IBC RMU Regulating Plan). The purpose of creating different districts is to influence the pattern of development and land uses within each district. This will be achieved through a range of land uses, development types, scale of buildings, the streetscape design, and setbacks. As a whole, the districts will create distinct areas which will become the focus for the activity or facility within each district and together they will create a unique 'sense of place' within the City of Irvine.

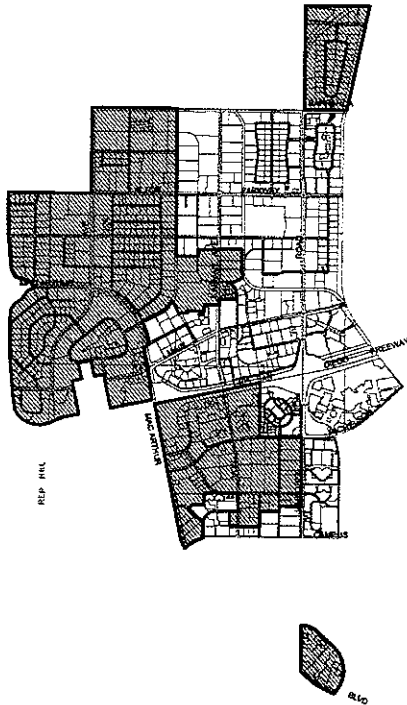
Urban Neighborhood (UN)



The Urban Neighborhood District includes the majority of the IBC and allows a range of land uses and buildings of up to twenty stories (however, in certain areas more precisely defined in Figure 1, following Section 5-8-3 of the Zoning Code as approved for first reading on July 13, 2010, the height limitation for residential buildings in the Urban Neighborhood District is limited to 75 feet). Generally, these neighborhoods are envisioned to be primarily residential with retail, offices and restaurants allowed on the first floor.

- Auto-oriented uses are not appropriate in this district.
- Street frontages throughout the district are pedestrian-oriented.
- Off-street parking is provided in shared garages, or located away from street frontages behind buildings.
- On-site parking may be appropriate on the new connector streets.
- Streetscapes are urban in character with enhanced pedestrian experience.

Business Complex (BC)



The Business Complex District is applied to portions of the IBC characterized by existing longstanding office and industrial uses that are expected to remain. This District accommodates new industrial uses and an expansion of existing uses.

- Residential uses are not permitted in this area.
- The land use types and standards allowed in the district are determined by the base zoning designation.
- Streetscapes are suburban in character with wide setbacks and landscaped areas, as originally planned for this area.
- Off-street parking is provided in parking lots, adjacent to the streets.
- On-street parking is restricted within this district.

Vision Elements

The following five Vision Elements, discussed as Objectives N-1 through N-5, organize the Vision Plan and includes key principles identified during public meetings. Following the introduction of each Vision Element are the key components that implement the Vision Plan.

Response to Issues

The following objectives, and policies have been formulated to respond to land use issues.



OBJECTIVE N-1 JOB BASE

Protect Existing Job Base



In order to maintain long-term property value and economic health, the IBC will not only attract new office, retail, and residential uses but will protect those businesses that wish to remain and possibly expand. As market strength shifts between uses over time, the value of all uses will be enhanced by a fully integrated and mixed-use district approach. New residential neighborhoods must coexist with mature industrial uses for the balanced community concept to succeed.

The following policies support Objective N-1:

Policy (a): Preserve a core area to protect the existing job base and provide for future job growth.

Policy (b): Provide housing opportunities for the local and regional employment base that support and complement commercial and industrial uses in the IBC.

Policy (c): Maintain existing zoning rights for all property owners.

Policy (d): Create criteria that protect both industrial and residential operations.

Overlay Zone Implementation

The Overlay Zone allows all property owners to maintain their current zoning for non-residential development subject to existing development standards. The Overlay Zone only applies to properties for which new residential is proposed. The Business Complex District designation also protects a number of existing businesses. The Overlay Zone outlines land use criteria by which residential and mixed use projects will be evaluated.

OBJECTIVE N-2 MIXED USE AREAS

Develop Mixed Use Areas

The development of mixed-use districts within the IBC will help stimulate and reinforce the integration of uses and provide housing adjacent to local services and jobs within a walkable environment.

The following policies support Objective N-2:

Policy (a): Allow for locations for mixed-use cores of higher density commercial and residential development.

Policy (b): Create pedestrian activity centers within and around the cores with services, food, child care, and transit within walking distance of residences and employment.

Policy (c): Provide incentives for mixed-use and the inclusion of retail and other support services within core areas.

OBJECTIVE N-3 CONNECTIVITY

Provide Transportation, Pedestrian and Visual Connectivity

The Vision Plan suggests a more ‘pedestrian oriented, urban living experience’ within the emerging residential and mixed-use districts of the IBC. In the long-term, it is hoped that the need to drive within the IBC will be reduced. To achieve this, it is essential that each new development make a positive contribution towards an expanded and connected street system, comfortable and secure walking paths and an expanded transit opportunity. Attractive buildings, ‘eyes on the street’ residential design and integrated open space will also encourage an enhanced pedestrian and vehicular experience.

In an attempt to transition from large-scale blocks to sustainable urban residential neighborhoods, new residential developments will be encouraged to utilize smaller blocks and more interconnected streets and pedestrian ways to create a network of linkages.

The following policies support Objective N-3:

Policy (a): Enhance project relationships to transit systems, including the i-Shuttle, Metrolink, OCTA buses and UCI shuttles.

Policy (b): On larger projects, introduce additional local streets within and between parcels to improve vehicular, emergency and pedestrian access.

Policy (c): Provide pedestrian linkages that facilitate improved resident access to local services, recreation facilities, the City's trail network and transit access.

Policy (d): Create attractive, safe (eyes on the street) and well landscaped pedestrian environments.

Policy (e): Provide linkages and support facilities to promote use of city and regional bicycle trail systems.

Policy (f): Connect all new residential development with existing and future transit services.

Policy (g): Work with school districts to establish safe routes to schools for IBC residents.

Arterial Streets

Arterial streets within the IBC are proposed to maintain wider building setbacks of 30 feet from ultimate curb line with an extensive landscaped frontage. New roadway sections proposed for the City's standard plans for roadways include a parkway adjacent to the street and a sidewalk are proposed. In addition, on-street bike

lanes will connect along Red Hill Avenue, Von Karman Avenue and parts of Jamboree Road, into the wider City of Irvine Bikeways network.

Gateways and Landmarks

A hierarchy of gateways has been identified to create identity for the IBC and strengthen and unify the Urban Neighborhood Districts. The introduction of these elements, such as new bridges or enhancement to existing bridges at key intersections will enhance the 'sense of place' and identity for the area, and will let visitors know they have arrived at a major destination. The gateways will create a strong urban design context through the uses of architectural and streetscape design elements. These design elements could include also civic or monumental gateways, landmark buildings, new urban plazas, street lighting, new hardscape and landscape treatments, integrated with public art.

Regional Gateways

The IBC is highly visible when viewed from the 405 freeway. The 405 freeway bisects the IBC, and the off ramps at Jamboree Road and MacArthur Boulevard, could create an "entrance" to the IBC.

Local Gateways

These local gateways to the IBC need to be recognized and enhanced, to provide an identity to the area as a vibrant place to live and work. The pedestrian bridges over Jamboree Road could form important gateways for local residents in the adjacent neighborhoods and the City of Irvine, to the IBC.

Streetscape

The rapid transition of land use in the IBC provides an opportunity to create a distinctive streetscape system of tree-lined streets, new sidewalks, street lighting and furniture, bicycle trails, parks, plazas and open spaces.

The streetscape elements including gateways, public art, light fixtures, street furniture, and signs need to be coordinated with a landscape concept plan unique to the IBC. This landscape concept plan (Figure N-4) should be designed to reinforce pedestrian walkability and create a unified and coordinated planting structure to the IBC, with some variations within the different districts to create some visual interest and ecological variety within the landscape. One of the next steps to implement the Vision Plan is to refine the Landscape Concept Plan and update the Master Streetscape Plan.

To create this distinctive streetscape, the following elements should be provided:

- Wide tree-lined sidewalks with a canopy of shade trees, benches, and coordinated street furniture, including bus shelters and trash receptacles.
- Visual unification and integration of the facilities and uses within the IBC through the use of streetscape, lighting, special paving, and landscape treatments.
- Shared sidewalks for pedestrians and bicycles
- Pedestrian connections to the transit system.
- Landscape street planting program that can be coordinated with future developments.

- Pedestrian and bicycle connectivity to every public park and urban open space.
- Enhanced intersection treatments and pavement.

The implementation of the streetscape within the various rights-of-way will occur as new sites are developed within the IBC, unless otherwise determined by the City. Every development within the IBC should be thought of as an opportunity to enhance the walkability and livability of the area and contribute to the streetscape system.

Generally, for arterial and local streets, sidewalks are proposed to be located away from the street with a landscaped parkway providing a buffer between pedestrians and traffic.

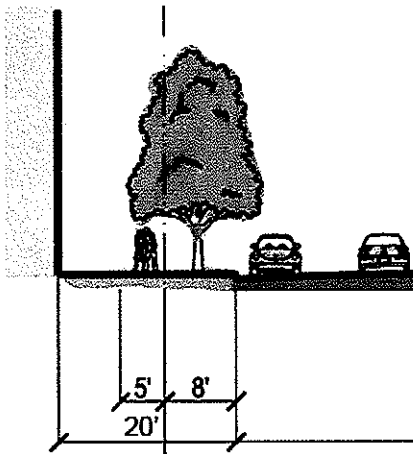
Road Capacity

The vehicular capacity of these streets is important to maintain while improving the pedestrian experience. Certain arterial streets are planned to be widened - including Main Street and Red Hill Avenue. In conjunction with the certified EIR for the Vision Plan project, certain roadways will be downgraded - including Jamboree Road between Barranca and McGaw (10-lanes to 8-lanes) and Barranca Parkway between Red Hill and Jamboree (8-lanes to 7-lanes). In conjunction with the certified EIR for the Vision Plan project and upon approval of an Amendment to the County of Orange's Master Plan of Arterial Highways, certain roadways will be downgraded - including Von Karman Avenue (6-lanes to 4-lanes) and Alton Parkway between Red Hill and Jamboree (6-lanes to 4-lanes)..

Local Streets

The proposed new streets, as well as existing local streets, in the IBC are smaller scale; providing the opportunity for a more pedestrian oriented 'green' network of streets, connecting business and residential districts to the San Diego Creek and the citywide open space system. Canopy trees for shade are proposed in eight-foot parkways and a minimum of five-feet for sidewalks should be provided.

The existing east-west streets proposed to be enhanced for pedestrian use include: Alton Parkway, Barranca Parkway, Campus Drive, McGaw Avenue, Main Street and Michelson Drive.



Typical Local Street Cross Section

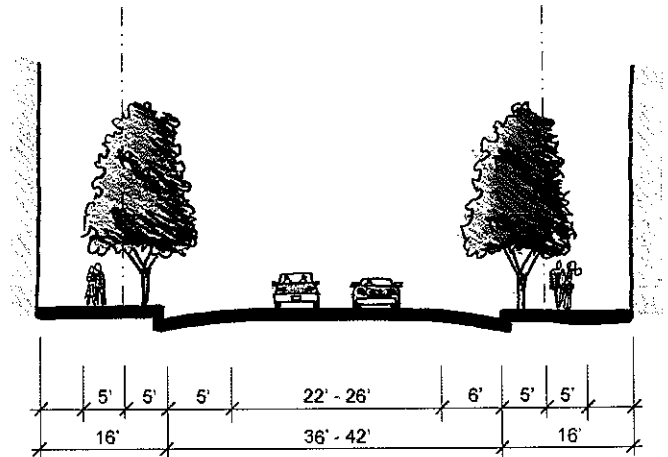
Expanding the Street Network

The Vision Plan as outlined in this element seeks to address the imbalance between pedestrian and automobile users, by deconstructing large super blocks into smaller parcels through the creation of new local vehicular and walking streets. The ultimate aim is to provide improved connectivity between blocks and the existing street network for the benefit of all the community. This system will encourage access to the interior of existing large parcels. This proposed street network will provide improved emergency fire and police access, trash pick-up, access to parking areas, and a more pedestrian friendly access system to local services, workplaces, and transit.

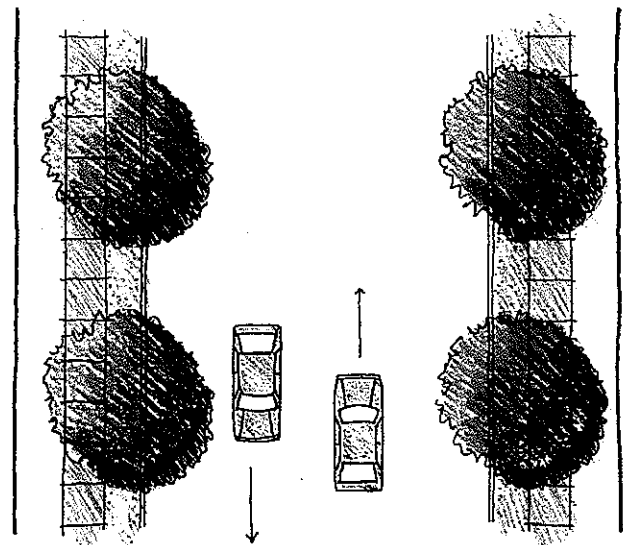
While maintaining the existing arterials and enhancing the pedestrian experience, the plan calls for the introduction of a “finer grain” street pattern allowing for a greater diversity in housing types by reducing the scale and size of developments and making it easier to mix housing types within a single large project site. The smaller blocks can create a more walkable pedestrian network by providing various routes to a variety of destinations.

Proposed sections for these new streets are shown in the section of this element on Typical Street Cross Sections. When a new street straddles or is adjacent to a property line, the first development will be required to provide selected improvements as identified in the street sections of this Vision document and in the Overlay Zone adjacent to their project and a minimum travel way to ensure fire access. The proposed conceptual street plan shows conceptual locations of new local streets.

To maintain connectivity, new local streets should not be gated.



New Conceptual Street Section



New Conceptual Street (IBC Private Way) Plan

Transit

The City Council adopted a Citywide Transit Vision in April 2009. The Citywide Transit Vision is in compliance with a development condition for Planning Area 40. The Transit Vision evaluates a citywide rubber-tired clean technology shuttle system intended to provide convenient, safe, environmentally friendly, direct connections from Irvine and Tustin Stations to other development areas in the Irvine Spectrum, the Orange County Great Park and Heritage Fields, Woodbury/North Irvine, and the IBC.

The Citywide Transit Vision builds on the success of the City's i-Shuttle, the University of California Irvine Student Shuttle Program, and the planned expansion of Metrolink service by the Orange County Transportation Authority (OCTA). Implementation of the City service is expected to occur in phases.

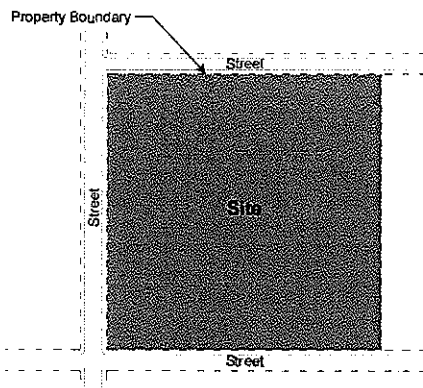
Complete the Sidewalk System

Many of the streets within the IBC do not have sidewalks. The existing sidewalk improvement program will continue to be implemented and embellished with enhanced standards for improved walkability and connectivity to create an interconnected system of pedestrian-friendly boulevards, avenues and streets.

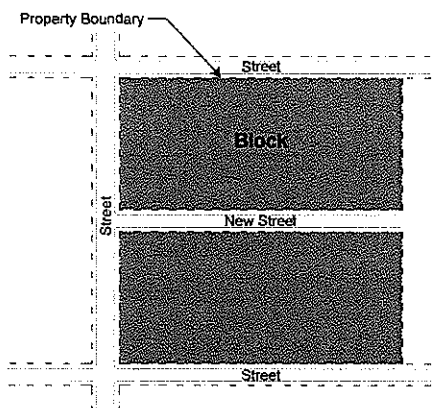
Proposed Completion/Infill of Existing Sidewalks

Overlay Zone Implementation

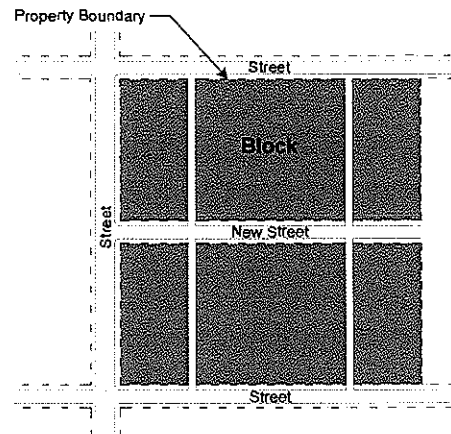
The Overlay Zone recommends new development exceeding a certain size to incorporate new vehicular or walking streets that improve access, create smaller block sizes and induce a mix of housing types. New streets shall connect with the existing street network except in cases where intersection spacing precludes such connections; in such cases walking streets shall be provided. Sidewalks and parkways are required adjacent to new residential development. These sidewalks will be located within the private setback area. Street setbacks have been established for all the streets within the Overlay.



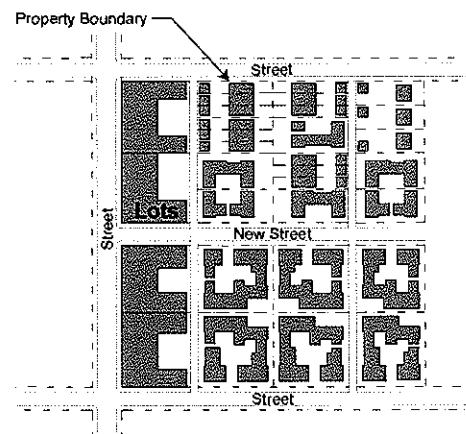
Existing Block Size



Introduce Streets



Introduce New Streets/Access



Mix of Housing Types

OBJECTIVE N-4 OPEN SPACE

Create Usable Open Space

Higher density neighborhoods need parks and urban space to offset building intensity and provide space for informal activities. The vision is to create a system of new public parks, urban plazas, open spaces, and private or public recreation areas that are interconnected by streets, bikeways, and trails. Well crafted and programmed public space encourages people gathering and neighborhood events.

The following policies support Objective N-4:

Policy (a): Contribute fees to new community park within or adjacent to the IBC that serves new residents and provides a variety of amenities.

Policy (b): Provide smaller, neighborhood scale parks and urban open space within and between projects that provide local park areas for residents.

Policy (c): Provide private on-site recreational facilities and open space for use by neighborhood residents in meeting recreation, health and wellness needs.

Policy (d): In addition to providing the park and recreational requirements, additional private open space in the form of patios, courtyards, and balconies for most dwellings will be required.

Policy (e): Provide a balance between landscape and built form by providing sufficient planting space around buildings and within internal spaces.

Regional Open Space

The San Diego Creek and the San Joaquin Freshwater Marsh, which lie adjacent to the IBC, are part of the wider open space system adjacent and easily accessible to the IBC. This open space system is a mosaic of habitats ranging from wetlands and coastal sage scrub, and includes an important ecologically diverse ecosystem.

This open space system then connects with the Santa Ana Mountains along several open space corridors, including Peters Canyon Wash and Jeffrey Open Space Trail (the 'Mountains to the Sea' trail), and the Upper Newport Bay Ecological Reserve to the Pacific Ocean. This extensive open space system offers a comprehensive network of 43 miles of off-street and 132 miles of on-street trails for biking.

As part of this Vision, the open space system provides a unique resource on the doorstep of the residents and businesses of the IBC. An opportunity exists to provide an interconnected system of streets, bikeways and trails, connecting the new streets, parks, and urban plazas within the IBC to the wider system of City open space.

Parks and Public Spaces

Parks in the City of Irvine are provided at 5 acres per 1,000 population. Within the IBC, Community Park dedication shall only be provided through payment of in-lieu fees at the required 2 acres per 1,000 population. Neighborhood Parks in the City of Irvine are provided at 3 acres per 1,000 population. However, in order to provide needed public facilities within the IBC, minor modifications in the park dedication distribution is needed. The public/private distribution of Neighborhood Park land within the IBC is proposed to be allocated for the Overlay Zone as follows:

- Public: two acres per 1,000 population
- Private: one acre per 1,000 population

The following new parks should be provided in the IBC:

- A new Community Park south of the 405 freeway. Bill Barber marine Corps Memorial Park serves the park needs for the area north of the 405 freeway.
- At least six new Neighborhood Parks to provide a local park within one-half mile of every resident. Such parks would be part of the continued requirements for recreational facilities for residential development

projects, but could be given public park credit if designed as urban open space with public access. This would help create a network of urban open space as part of the proposed development within the IBC

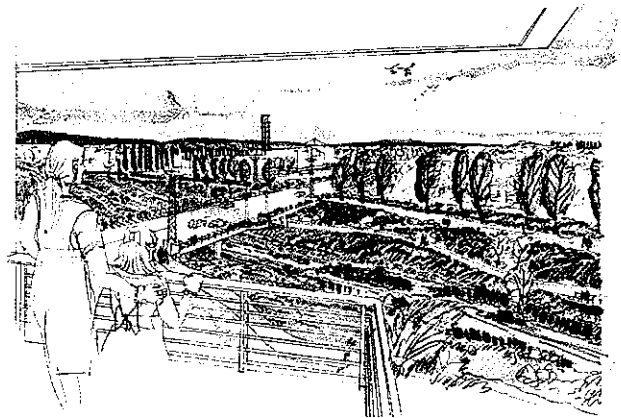
- Community/civic building within the IBC to serve the needs of the IBC community; facilities could include a library and a community building with meeting rooms, theater, or gallery space.

San Diego Creek ‘Creekwalk’

San Diego Creek ranks as one of Irvine’s most valuable natural assets. It defines the eastern boundary of the Irvine Business Complex (IBC) while also serving as an integral component of the regional open space network – connecting the Orange County Great Park, Irvine Open Space Preserve, and the Upper Newport Bay Ecologic Reserve.

Existing Conditions

The Creek affords several opportunities to provide the city and IBC with meaningful recreational and park amenities. It is uniquely situated to draw users to itself by becoming a destination to experience the natural environment and partake in programmed activities and events. Presently, the Creek’s west bank is inaccessible in parts. Transmission lines of Southern California Edison (SCE) run alongside the Creek. Abutting SCE’s corridor are chain link fences that define the rear edges of adjoining low-rise developments – typically occupied by parking lots and service areas. A multi-purpose trail is located on the east side of the Creek channel – this can potentially be connected with a new trail system on the west bank. The character of the Creek channel itself is a blend of man-made, rip-rap embankments and natural, riparian environment.



Creekwalk Perspective

Urban Design Opportunities

The SCE corridor along the San Diego Creek forms the eastern boundary of the IBC. It traverses from Main Street to Barranca Parkway. This corridor is ideally located for reconfiguration into an accessible linear open space to serve as the interface between the IBC and the creek environment. This open space, designated as “Irvine’s Creekwalk”, will provide valuable amenities, serve as a destination, and also create opportunities for new Creek edge development by significantly enhancing the value of land in its vicinity, which will benefit both landowners and the City.

It is vital, above all, to announce the presence of the Creek. Enhancing existing creek crossings by introducing sculptural features will signify the importance of the crossings as gateways and points of arrival and transition. The alignment of the Creek affords excellent opportunities to create special places and vista points. The two most significant are the existing promontories downstream of Barranca Parkway and upstream of Main Street. Located strategically at bends in the Creek, they provide excellent downstream and upstream views. There are also opportunities to build new pedestrian bridges across the Creek to connect and make the trail system continuous on both banks. The concrete buttresses that extend on the upstream side of existing bridges at Main Street and Alton Parkway could support new pedestrian walkways.

The long term vision of the Creekwalk includes the introduction of a new street – which will flank the western edge of the open space. This new street will improve access and help to activate the Creek's edge. Also in the long term, the City should encourage mid-rise residential development (with some street-level restaurants and cafes) along the Creek to positively change the character of the water's edge. Key developments along the Creek should in the future be expanded and reoriented to acknowledge the waterway. This is particularly important with regard to Irvine City Hall and Jamboree Center since the Creek currently serves as backyard for these key uses.

Articulation of Creekwalk

San Diego Creek will not revert to its untouched natural state; nor is it

Creekwalk's intention to make it do so. The proposed design takes the Creek's urban setting as an opportunity to interpret and express the interface of natural and urban edges.

The linear open space will have twin and contrasting characters. Closer to the Creek's edge several varieties of natural grasses of Southern California will be introduced to highlight the Creek's water-oriented environment. Closer to the urban edge, manicured grasses and formal pathways are proposed. This zone incorporates urban elements, such as children's play areas, pathways, benches, and public artwork. Transition from the natural to the urban occurs at trails which form the spine of the open space.

Special plazas are proposed within the Creekwalk area at or near the termination of east-west streets and pedestrian pathways. These incorporate elements that will draw users to the Creek's edge – such as, vista points, special paving, lighting, and water features. The plazas punctuate the mile-long length of the open space, and where possible Bougainvillea shrubs may cascade down the rocky rip-rap to soften the edge of the Creek. The design proposes no other intervention within the Flood Control District's right-of-way.

Any available parcel near the eastern end of McGaw Avenue (outside SCE's right-of-way) could potentially become a new neighborhood park. This park, in conjunction with a proposed plaza within the Creekwalk will become the Creek's most significant node and destination. McGaw Avenue will serve as the main east-west connection to the Creekwalk, providing both physical and

visual linkages from Jamboree Road. The neighborhood park helps to draw the Creek's natural environment into the urban fabric, thereby enhancing development potential value along McGaw to Jamboree.

A new pedestrian bridge is proposed across the Creek to connect the plaza at McGaw with San Marco Park on the east bank. Two new trail bridges are also proposed – at Alton and at Main – supported on the upstream buttresses of the existing road bridges.

Implementation

The Creekwalk and adjacent new street will most probably be developed in an incremental manner recognizing the distributed patterns of landownership and undetermined availability of funding. One potential scenario of phasing could envision the neighborhood park and adjoining plaza be the first pieces implemented, followed by smaller plazas and their corresponding pedestrian connections to Murphy Avenue. These in turn can be followed by the missing segments of Creekwalk and adjacent new street, building piece by piece the full vision of the proposed design. This phasing strategy has convenient 'pick and choose' options that allow the City to first implement pieces of the project that will have maximum benefit and likelihood of success – knowing that these short term actions will not preclude realization of the long term vision.



Existing San Diego Creek

Trails and Bikeways

The City of Irvine has an extensive trails and bikeways network throughout the City.

However, the connections from the IBC to this network are very limited.

Continuous on-street bicycle lanes currently exist only along Main Street. Bicycle lanes are proposed along parts of Jamboree Road, Red Hill Avenue, Von Karman, Michelson Carlson Avenue, Barranca Parkway, and Alton Parkway.

Key principles are:

- Establish the San Diego Creek Creekwalk, along the easement on the west side of the creek, further connecting the 'Mountain to the Sea' Trail.
- Improve bicycle and pedestrian connections to San Marco Park, adjacent to the San Diego Creek, across the San Diego Creek with a new pedestrian bridge.
- Explore the opportunity to develop new shared use trails along the existing drainage channels and creeks within the IBC – Barranca channel and the Armstrong channel.
- As a larger team effort, establish the 'Rails to Trails' program to convert the abandoned railroads within the IBC, to walking and bicycle trails. The trails will eventually connect to the wider system of public realm improvements to create an interconnected pedestrian/bicycling experience within the street network of the IBC.

Bridges

The San Diego Creek forms an important physical feature between the IBC and the City of Irvine. Several existing bridges cross the creek providing vehicular and pedestrian access to the IBC.

The Vision creates an opportunity to celebrate these crossings, as gateways to the IBC and provide a 'sense of arrival' to the IBC. These gateways could be enhanced with the provision of new civic or monumental features including new street lighting, monuments, signage, street furniture, and landscaping.

The major bridges include Barranca and Alton Parkways, Main Street, and Michelson Drive. The Coronado Bridge also forms an important local connection across the creek, providing access to the IBC (Figure N-5).

To provide enhanced pedestrian connectivity to the IBC, new bridges are proposed to create enhanced pedestrian and bicycle connections with the IBC and to the wider system of trails.

Several new pedestrian bridges are envisioned within the IBC:

- Across the San Diego Creek, connecting to Bill Barber Marine Corps Memorial Park.
- Across the San Diego Creek, connecting McGaw to the new 'Creekwalk,' San Marco Park, and the existing 'Mountains to the Sea' trail along the San Diego Creek.
- A bridge crossing on Jamboree Road from Central Park to Park Place.
- Improve the bridge/underpass along San Juan Diego Creek at the 405 freeway.

Overlay Zone Implementation

The IBC Design Criteria adopted in conjunction with this element and the Residential Mixed Use Overlay Zone describes the type of open spaces that can qualify for the public and private Neighborhood Park requirement. Urban open spaces such as plazas and squares may qualify as a Public Neighborhood Park if they meet the design criteria.

OBJECTIVE N-5 NEIGHBORHOOD DESIGN

Develop Safe, Well Designed Neighborhoods

A major goal of the IBC Vision Plan is to create long lasting and enduring neighborhoods that maintain their value and socio-economic vitality. The Vision Plan and the Overlay Zone should provide a strong and appropriately scaled framework of urban blocks, streets, parks, and urban open spaces. Only by providing these essentials can a truly rich, sustainable urban community be achieved. The new Overlay Zone and associated Design Criteria will regulate the building form and encourage a diverse mix and variety of urban living choices.

The residential uses should be compatible with the existing businesses within the IBC. This element and associated Overlay Zone and Design Guidelines attempt to set the framework to create a high quality living environment for both businesses and residents.

The following policies support Objective N-5:

Policy (a): Build sustainable and energy efficient residential buildings.

Policy (b): Create a pedestrian friendly walking environment that is attractive, safe, and engaging.

Policy (c): Provide visually rich and engaging street scenes along designated local and collector roads, encouraging pedestrian use and adding aesthetic value to neighborhoods.

Policy (d): Visually differentiate and emphasize retail in the mixed-use residential developments.

Policy (e): Implement suitable landscape and building treatments along arterial roadways.

Policy (f): Be sensitive to existing industrial uses when designing new residential developments.

Policy (g): Encourage variation in building heights and housing types (liners, podium, and towers) to avoid massive “project” appearance within each IBC residential project.

Policy (h): Design buildings with articulated massing and roof forms to avoid an institutional character and feel.

Policy (i): Incorporate architectural detailing that leads to a sense of quality, diversity, and authenticity in design.

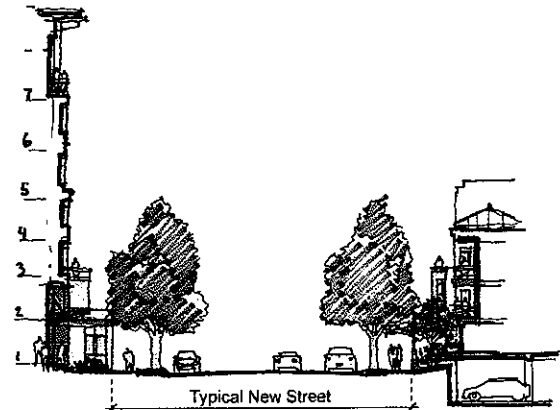
Policy (j): Design roof forms with variation and that are attractive when seen from both the ground and taller buildings.

Policy (k): Buffer and blend parking structures into the neighborhood so that they are not visually obtrusive or detract from the quality of the pedestrian environment.

Policy (l): Provide parking solutions that are incentives for creative site planning and neighborhood design.

Policy (m): Create a safer living and work environment through use of Crime Prevention Through Environmental Design (CPTED) principles.

Policy (n) Develop residential uses that are not in conflict with nearby John Wayne Airport Operations



Typical Setback Cross Section

Street Frontages - Setbacks

The IBC has developed in a manner that has resulted in a patchwork of building frontages and setbacks. Building setbacks currently range between 20 to 40 feet measured from the curb. These setbacks were designed with the vehicle in mind which has created an environment that is unfriendly to pedestrians within the IBC. In addition, some buildings along Jamboree Road turn their backs on the major streets and do not contribute to an attractive street frontage.

Buildings should be designed in a manner that creates an attractive, safe pedestrian scale along public streets.

A hierarchy of street setbacks has been established in the IBCRMU Overlay Zone which proposes different setbacks for different types of streets and in some cases location within the IBC. A typical street cross section is shown below demonstrating the relationship between buildings and street. Detailed cross sections can be found in the Typical Street Cross Sections section of this element.

Provide Variation in Housing and Building Types

A healthy variety of housing and building types not only enhances long term economic stability but provides a public benefit by serving a wider demographic spectrum. It is especially important for the IBC to have a balance of for-sale and rental housing, if the districts are to maintain values and quality over time. The following housing types are considered appropriate within the IBC:

- Rowhouse;
- Live/work;
- Court;
- Mixed-use commercial block;
- Liner;
- Podium; and
- Tower.

Multiple housing types are encouraged within individual development projects to create blocks and buildings of a size and scale that are not overwhelming. Height and coverage criteria within the IBCRMU Overlay Zone will guide developments toward appropriate variations in block size, building density and integrated open space.

Provide Variety in Building Heights

The scale of buildings varies dramatically within the IBC. The existing scale of the built form remains fairly uniform throughout the IBC, with 1 and 2 story industrial buildings throughout, and the introduction of numerous “wrapped” 4 story residential building types built with the residential units built to clad or wrap the exterior of the parking structure. There are two notable areas, the existing multiple use districts, mainly adjacent to the I-405,

where the height of buildings increases with towers up to 20 stories.

Towers and tall buildings contribute to the skyline and act as landmarks and visual references for the area. The Vision Plan enhances the existing concentration of tall buildings within the IBC, in particular within the Multiple Use Districts.

The Overlay Zone provides specific design criteria to require building heights to vary within a project as well as from district to district. An overall goal is to guide taller buildings to areas around mixed-use/commercial cores.

Landmarks

New buildings should address arterial street intersections with architecture and/or landscape enhancements, offering an opportunity to create visual cues and reference points for both visitors and locals within the IBC. Corner buildings should be both expressive and visually interesting and contribute to the character of the urban neighborhoods and the street scene as a whole, but consistent with the underlying Code.

Parking

The Vision seeks to create safe attractive parking places for businesses, residents and visitors and address opportunities for shared use parking throughout the IBC.

- Develop a shared parking structure strategy for use by workers during the day and residents to use at night.
- Develop strategies to re-use existing under-utilized parking structures within the IBC.

- Encourage employer transit subsidies to reduce employee parking demand.

Protection from Airport Operations

The IBC Residential Mixed-Use Overlay District (*Section 5-8-4.C.*) incorporates a number of development standards to mitigate residential impacts on airport operations. These standards include maximum *noise levels*, *maximum building heights*, required notification of residents (*including deed and tenant disclosures*) of the airport proximity and compliance with obstruction lighting and marking criteria.

Sustainability

While the IBC is Irvine's largest job center with approximately 83,000 jobs, this business district is rapidly transitioning into an urban core for Orange County. This element will guide the evolution of the IBC into a mixed-use, pedestrian-friendly, residential, industrial, office, commercial and recreational center. The implementation of the IBC Vision Plan and associated Overlay Zone and Design Criteria, as contained in this element, promotes the City's long-term sustainability goals of mobility, livability, and prosperity.

Mobility

The Irvine Business Complex (IBC) is now transitioning from a highly successful business district into a mixed-use urban core for central Orange County, and to help guide this process, the City has developed the Vision Plan, as incorporated into this IBC Element, which will allow a total of 15,000 residential units in the IBC. The City has also created an infrastructure improvement plan for the IBC which

includes pedestrian linkages, trails, bridges, sidewalks, a library, parks and recreation facilities. In March 2008, the City implemented a shuttle service, complementing regional bus service and providing direct express service to and from the nearby Tustin Metrolink Station, John Wayne Airport, and throughout the IBC, providing employees and residents with an alternative mode of transportation for making trips in and outside the IBC. The shuttle, known as the "i" operates fully accessible, compressed natural gas busses, and is funded by the City of Irvine and OCTA.

With approximately 90,000 jobs, the IBC is one of two major job centers in the city. The area also includes more than 4,500 housing units. The desirability of the IBC and the resulting high price of land create a challenge for the City in producing affordable housing.

However, the concentration of such a large mix of residences and employment, in addition to approximately 1.3 million sq. ft. of retail services within the 1,800-acre mixed use core of the IBC does provide opportunities for decreased commute times and distances by providing jobs closer to employment, and allowing for combining vehicle trips for both work and non-work related (i.e. shopping, recreation) purposes.

Livability

The opportunity to transition the IBC into a mixed use center resulted in the IBC Vision Plan. Through a series of community workshops, the City developed this plan to incorporate not only residential land uses into the area, but also the amenities and support services that Irvine's residential communities desire.

The land uses in the IBC have noticeably changed over the decades from tilt-up manufacturing and light industrial, to high-rise office, hotel and high-density residential. Luxury apartments and high-rise condominiums have been built along Jamboree Road, mixed with retail centers, restaurants, offices and light manufacturing. The City has supported and facilitated this mix of uses, and through the implementation of the IBC Vision Plan the City will help add the additional amenities and connectivity that will make this urban center a truly livable community. The IBC's housing units include studios and apartments, lofts, townhouses, and luxury high-rise apartments and condominiums, creating an excellent mix of choices for the IBC workforce who can live close to work avoiding long commutes. The City's shuttle system further improves livability, decreasing traffic congestion by encouraging employees not living in the IBC to commute to work using mass transit.

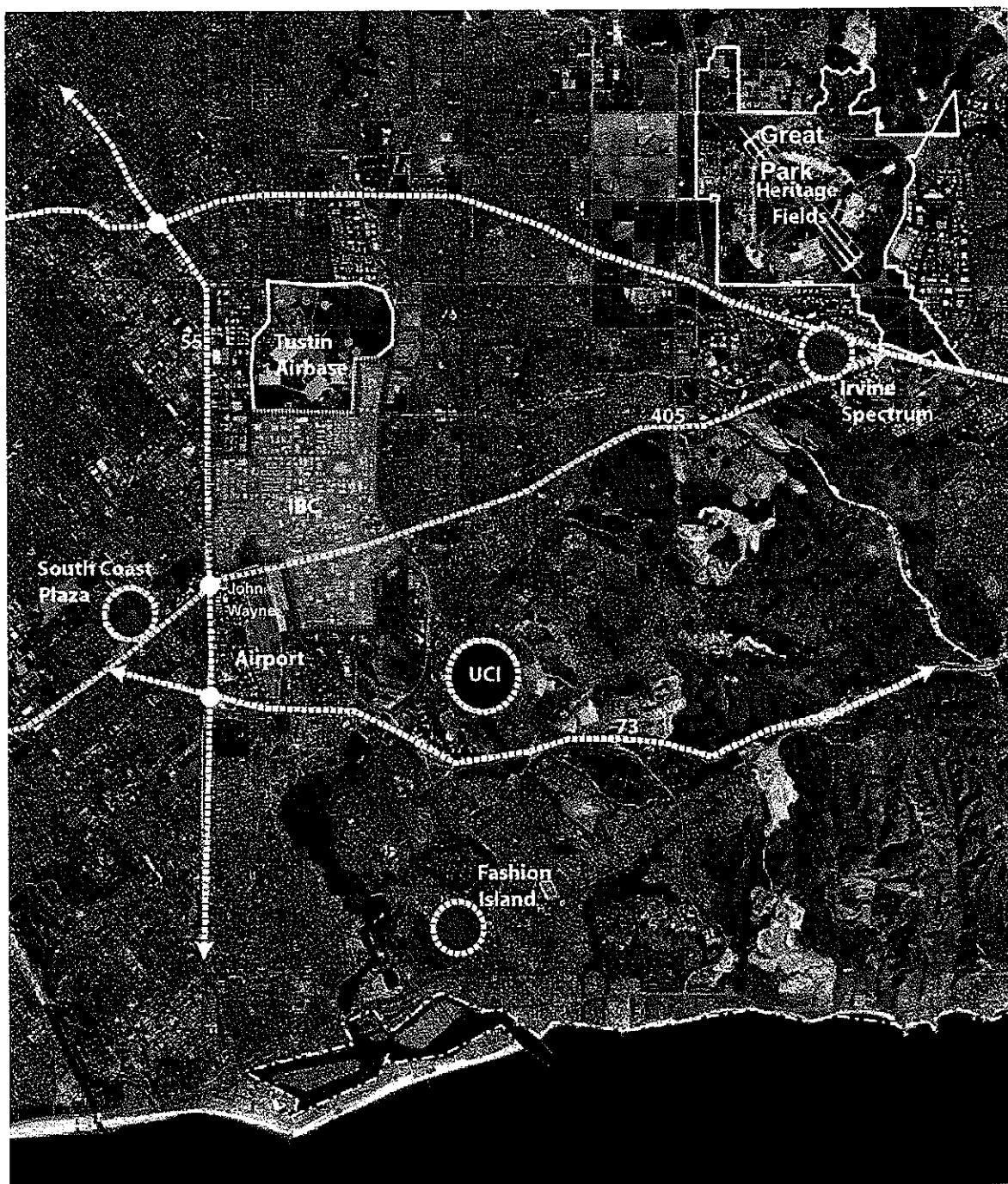
Prosperity

The variety of housing that has been built in the IBC includes rental and ownership with monthly apartment rents

up to \$3,100 and luxury condos priced over \$3 million.

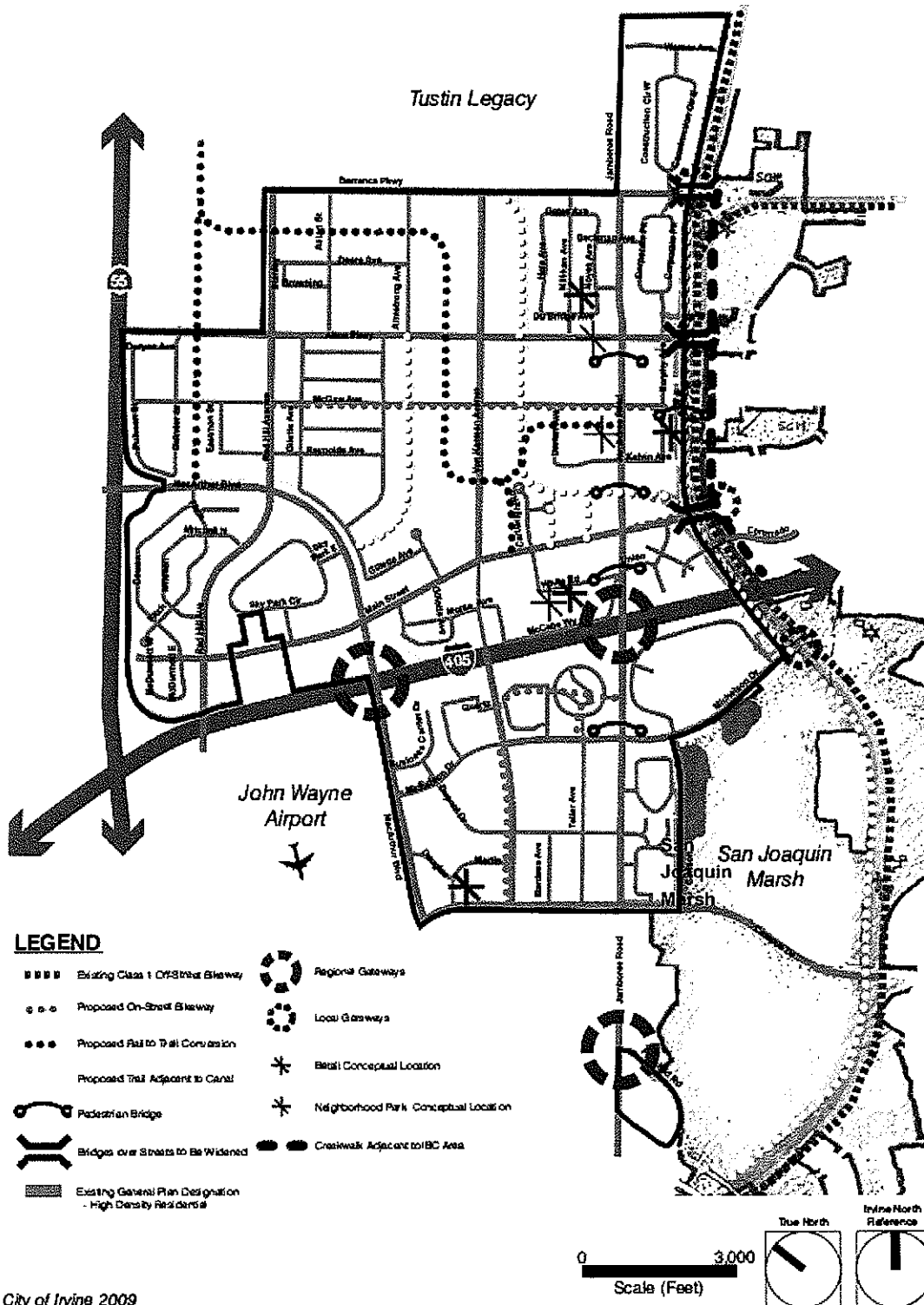
The City's Housing Strategy is designed to create a full spectrum of housing to meet the shelter needs of all income groups in all stages of life. The City's affordable housing programs ensure that the community is served, regardless of race, ethnicity or income. In addition, the City's long-term commitment to Universal Design features ensures that housing units will be accessible to all persons.

Irvine's Housing Strategy, and IBC planning policies are all part of the local policies that ensure the balanced growth of this community and support the principles of the SCAG 2% Compass Blueprint plan to encourage balanced growth in Southern California. By incorporating County funds for the shuttle system and State affordable housing funds together with local resources, Irvine is an outstanding example of how SCAG's and the State's growth policies can and should be implemented.



City of Irvine
General Plan

Figure N-1
Regional Location

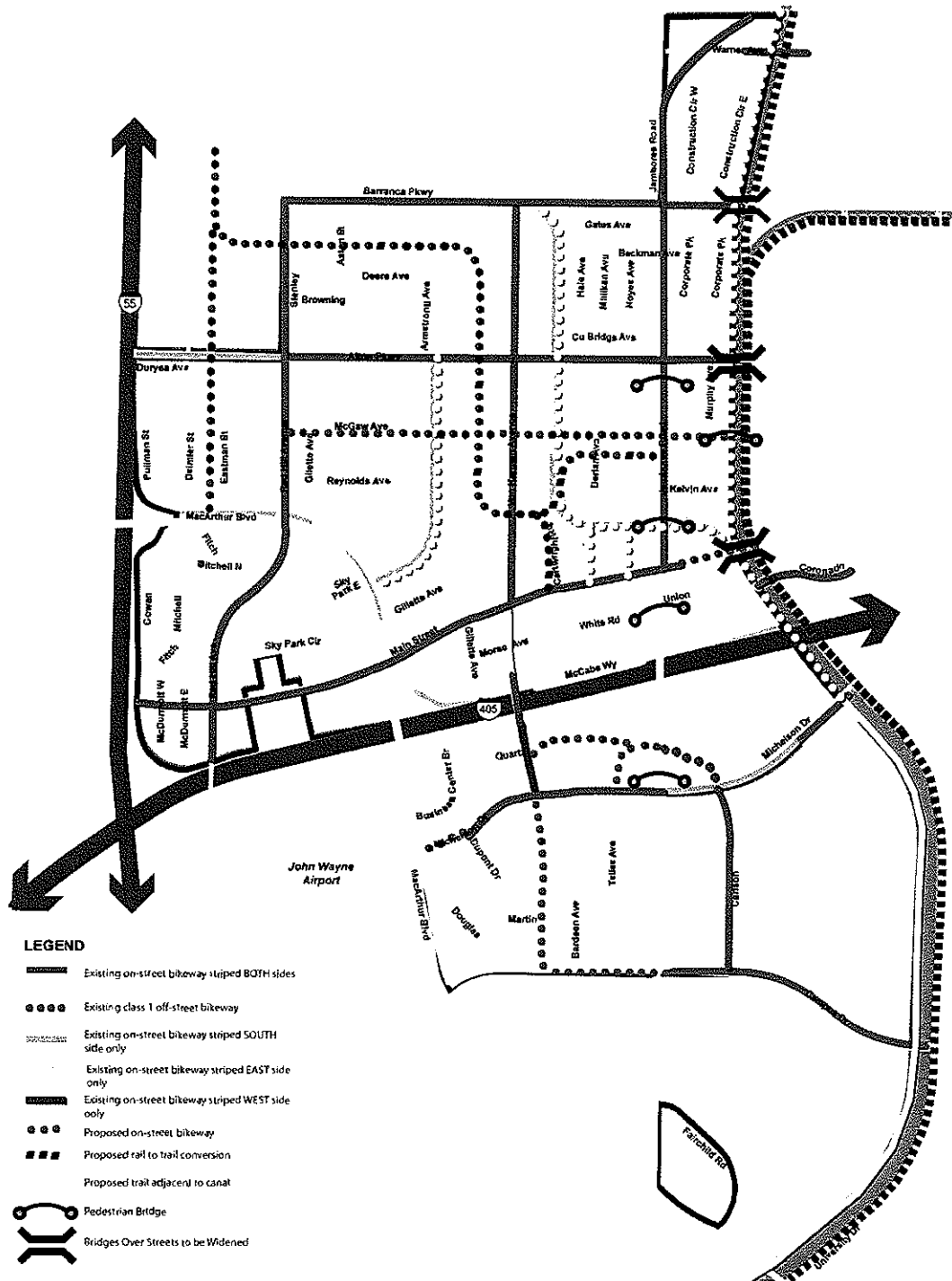


Source: City of Irvine 2009



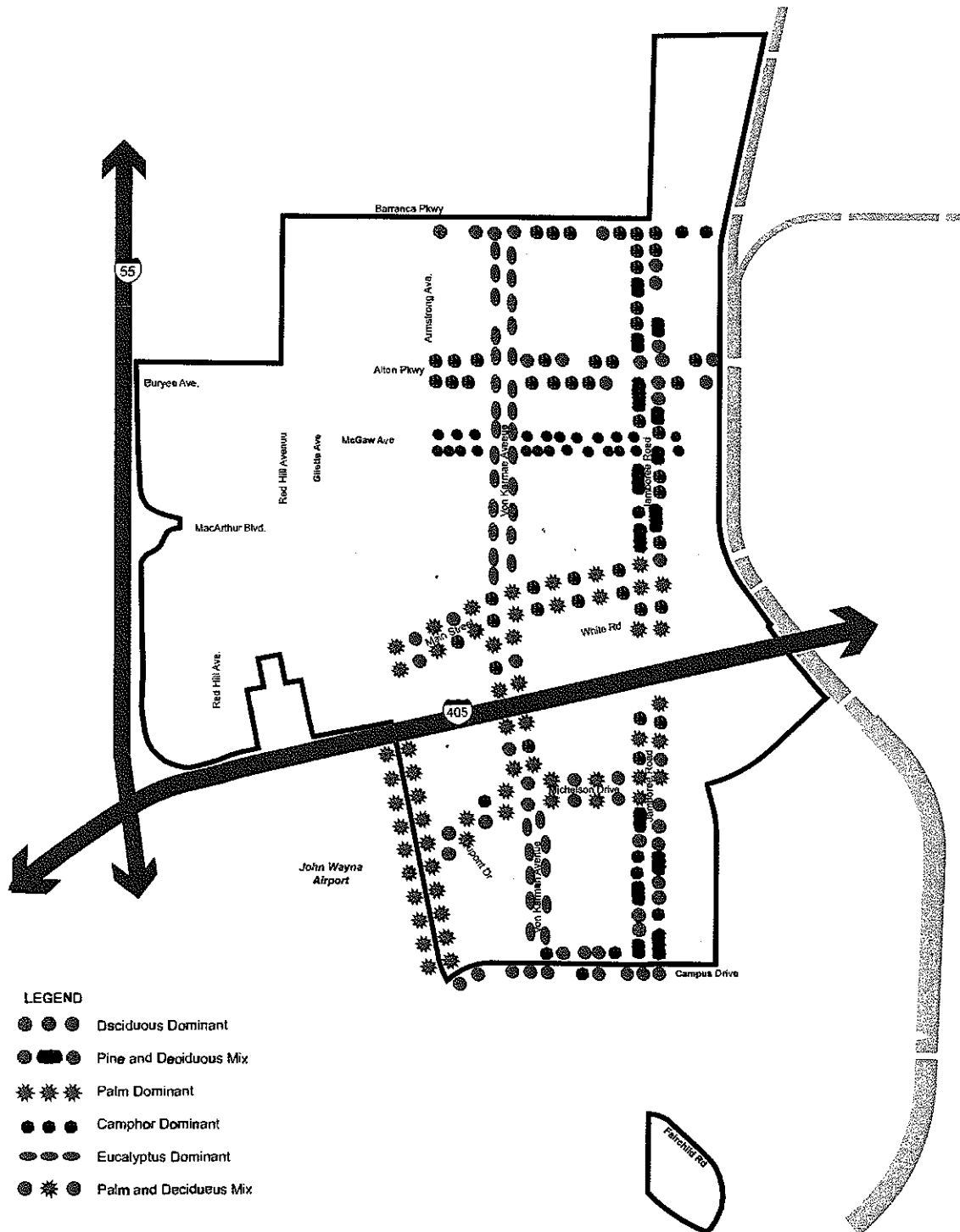
City of Irvine
General Plan

Figure N-2
IBC Vision
Framework Plan



City of Irvine
General Plan

Figure N-4
IBC Trail System



Conceptual Landscape Plan
Irvine Business Complex

500 0 500 1,000
Feet
Source: City of Irvine
January 6, 2006



City of Irvine
General Plan

Figure N-5
Conceptual Landscape
Plan for Major Roadways

and community owned facilities. Also includes uses that may be privately owned, but are nonprofit and generally open to the public. Typical uses would be post offices, libraries, museums, places of worship, child care centers, fire facilities, police stations, government buildings, non-profit housing, utilities and other related uses.

Commercial

Definition: A variety of facilities for the sale and purchase of commodities and services.

Neighborhood Commercial. This land use category provides convenience shopping opportunities such as dry cleaners, grocery stores, barber shops, restaurants and similar types of uses for the surrounding planning area.

Community Commercial. This land use category includes uses intended to serve the needs of the community at large, including the industrial and business areas. Automobile service, retail, professional/administrative offices, commercial recreation facilities, service businesses, and similar types of uses are allowed under this designation. Research and development uses are conditionally permissible if compatible with surrounding land uses.

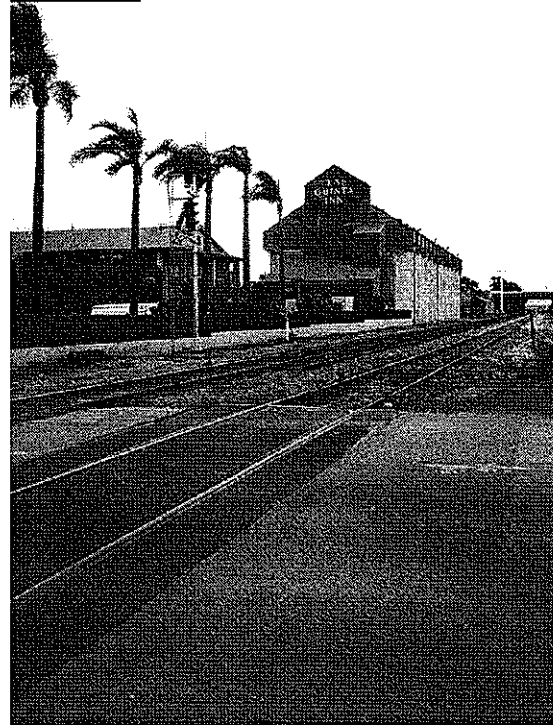
Regional Commercial. This land use category includes uses intended to serve a broad population base. Businesses in this designation provide a wider array of services such as major department stores, specialty shops, professional offices, hotels and motels, and institutional and government uses. This mix of uses, combined with convenient access to many modes of transportation, also can accommodate the inclusion of high-density residential development.

Commercial Recreation. This land use category includes recreational and leisure

time activities such as amusement parks and miniature golf courses.

Old Town Irvine

Industrial



Definition: The manufacture, production, and processing of goods.

Research/Industrial. This land use category includes uses intended for the manufacturing, research and development, storage, and distribution of materials or products; administrative, professional, and business offices associated with manufacturing uses; and employee-oriented retail services.

Urban/Industrial. (Irvine Business Complex) This land use category

provides for offices, industry, and support commercial, mixed with high-density housing, and a variety of activities. Typical uses are professional/medical offices, industrial manufacturing, research and development, support service retail, restaurants, multifamily housing and hotel/motels. The IBC Element of the General Plan outlines the framework for future development of the IBC as a mixed-use community.

Multi-use

Definition: The integration of a variety of land uses and intensities.

Multi-use. This land use category includes uses which are high intensity and urban in character. Typical uses include medium to high density residential, commercial, institutional, and offices.

Orange County Great Park

Definition: The development of regionally significant conservation and open space, parks and recreation, educational facilities, and other public-oriented land uses, integrated with privately developed multi-use, residential, commercial, and industrial properties, at the former MCAS El Toro site.

The Orange County Great Park land use category ensures the development of a Great Park and other cultural and institutional uses at the former MCAS El Toro site. The site will serve as a countywide asset consistent with the intent of the citizens of Orange County, who adopted Measure W, the "Orange County Central Park and Nature Preserve Initiative," in March 2002. This land use

category includes habitat preservation, conservation and open space, parks and recreation, education, institutional, and other public-oriented land uses as well as opportunities for the private development of agriculture, research and development, commercial, transit-oriented, and residential development. The baseline development intensities for this land use category are shown in Table A-4 Base Plan Maximum Intensity Standards for the Orange County Great Park (Planning Areas 30 and 51). In order to develop at the maximum intensities listed in Table A-5 Overlay Plan Maximum Intensity Standards for the Orange County Great Park (Planning Areas 30 and 51), property-owners must enter into development agreements, which will require the dedication of land and the funding of infrastructure improvements in excess of the City's standard requirements and the commitment to long-term maintenance of public facilities.

Military

Definition: Land under the jurisdiction of the United States.

The Military land use category currently shown on the Land Use Element map shall be retained within the General Plan until such time as the City's planning efforts establish new and compatible land uses for MCAS Tustin.

Conservation and Open Space

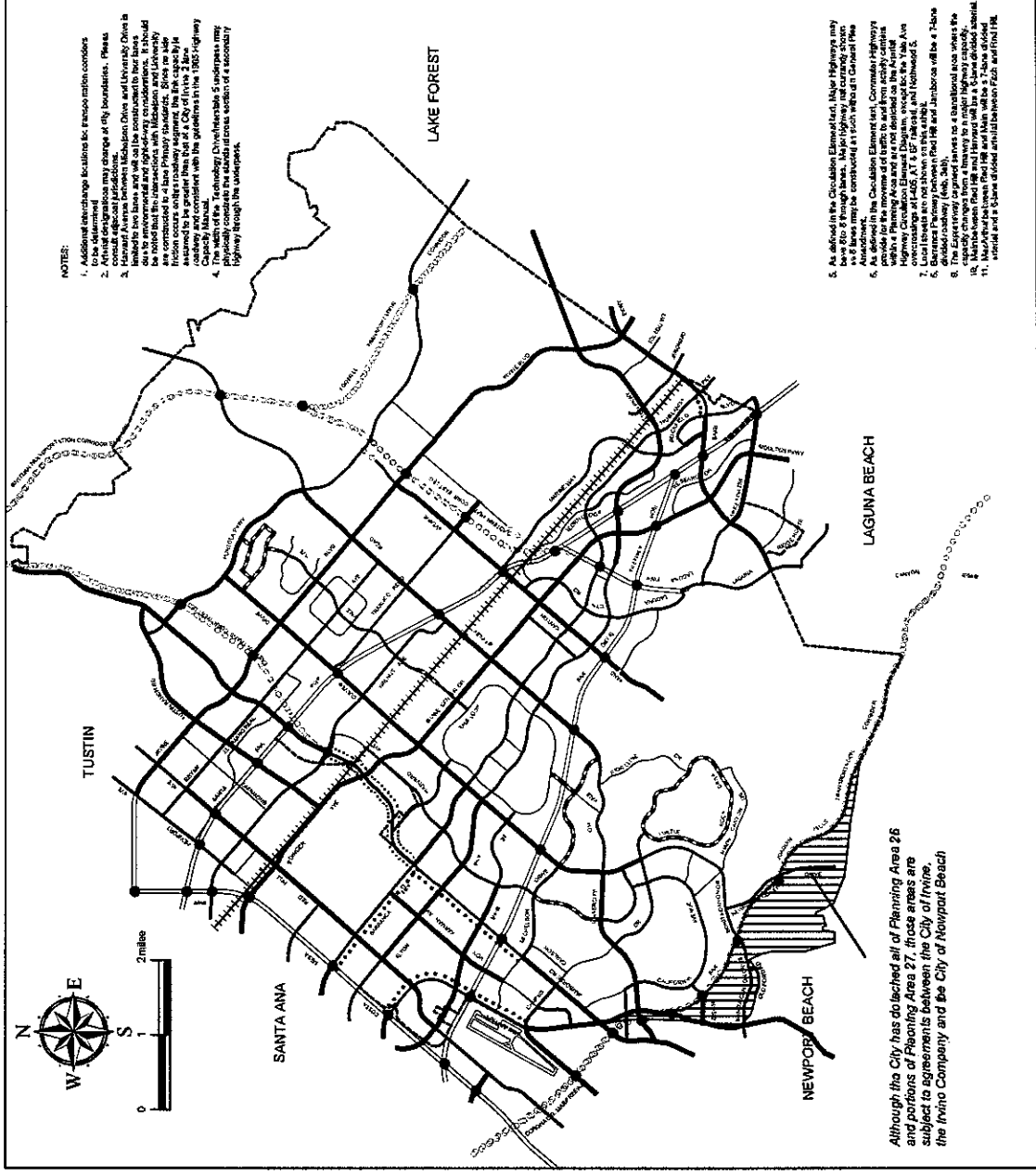
Definition: Land or water that is essentially unimproved for the purposes of management and natural resources, production of preservation or enhancement of resources, outdoor recreation, or public health and safety.

TABLE A-J MAXIMUM INTENSITY STANDARDS BY PLANNING AREA

Planning Area Number	Zone	RESIDENTIAL					MULTI-USE ⁽¹⁾⁽¹⁵⁾		INSTITUTIONAL ⁽¹⁾		INDUSTRIAL		COMMERCIAL		Regional Commercial D.U.	Maximum Regulatory Dwelling Units ⁽¹⁶⁾	Maximum Square Feet	ADDITIVE		Maximum Units ⁽¹⁷⁾	Planning Area Number
		Low 0-1 D.U.	Medium 0-5 D.U.	High 0-25 D.U.	Unallocated Residential Units ⁽¹⁸⁾	Unallocated D.U.	0-40 D.U.	Public Facility Sq. Ft.	Educational Facility Sq. Ft.	Urban/Industrial ⁽¹⁹⁾ 300 D.U./acre min.	Square Feet	Research/Industrial Sq. Ft.	Community Commercial Sq. Ft.	Neighborhood Commercial Sq. Ft.	Regional Commercial Sq. Ft.			D.U.	Sq. Ft.		
1 ⁽¹⁾		4,088			0	0	0	0	0	0	0	0	132,500	0	0	0	132,500	0	0	4,088	1 ⁽¹⁾
3 ⁽¹⁾		0	0	0	0	0	0	4,580	408,050	0	0	1,425,000	136,000	0	0	0	0	0	0	3 ⁽¹⁾	3 ⁽¹⁾
5		750	2,439	630	0	0	0	0	0	0	0	0	136,000	0	854,000	0	2,907,430	162	0	8,131	5
6 ⁽¹⁾		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,839	6 ⁽¹⁾
8		1,188	4,453	2,046	425	68	0	0	188,174	0	0	500,000	175,000	0	0	0	800,000	0	0	4,670	8
9 ⁽¹⁾		0	0	0	0	0	0	0	0	0	0	0	829,400	0	0	121	1,474,365	0	0	8,301	9 ⁽¹⁾
10 ⁽²⁰⁾		0	0	0	0	0	0	0	0	0	0	0	0	285,500	0	0	450,000	0	0	8,832	10 ⁽²⁰⁾
11 ⁽²⁰⁾		0	0	0	0	0	0	0	0	0	0	0	813,698	73,661	0	0	3,869,990	0	0	2,883	11 ⁽²⁰⁾
12 ⁽²⁰⁾		0	0	0	0	0	0	99,623	367,880	0	0	2,822,921	490,214	55,885	0	0	1,084,476	0	0	5,420	12 ⁽²⁰⁾
13		0	0	0	0	0	0	194,440	150,000	0	0	3,446,031	955,000	150,000	0	0	5,345,471	0	0	4,260	13
14 ⁽²⁰⁾		0	0	0	0	0	0	1,585,363	0	0	0	3,558,010	0	0	0	0	5,143,733	0	0	0	14 ⁽²⁰⁾
15 ⁽²⁰⁾		0	0	0	0	0	0	227,322	91,313	0	0	3,558,010	618,801	179,206	0	0	1,117,342	0	0	5,285	15 ⁽²⁰⁾
16		0	0	0	0	0	0	331,079	388,245	0	0	0	715,736	221,053	0	0	1,972,468	116	0	9,616	16
17 ⁽²⁰⁾		0	0	0	0	0	0	0	0	0	0	1,060,000	150,000	0	0	0	1,210,000	120	0	0	17 ⁽²⁰⁾
18 ⁽²⁰⁾		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,673	0	0	2,673	18 ⁽²⁰⁾
19 ⁽²⁰⁾		0	0	0	0	0	0	92,74	0	0	0	0	66,896	0	0	0	303,764	0	0	750	19 ⁽²⁰⁾
20 ⁽²⁰⁾		0	0	0	0	0	0	36,956	155,078	0	0	0	0	173,542	0	197,500	1,784	0	0	1,784	20 ⁽²⁰⁾
21 ⁽²⁰⁾		0	0	0	0	0	0	30,000	538,921	0	0	0	0	0	0	0	303,764	0	0	2,805	21 ⁽²⁰⁾
22 ⁽²⁰⁾		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	569,221	0	0	4,250	22 ⁽²⁰⁾
23		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	400	0	0	400	23
24 ⁽²⁰⁾		0	0	0	0	0	0	112,130	0	0	0	0	0	0	0	0	1,123,300	0	0	1,640	24 ⁽²⁰⁾
25		0	0	0	0	0	0	25,500	0	0	0	0	0	0	0	0	748,803	0	0	2,757	25
26 ⁽²⁰⁾		0	0	0	0	0	0	0	0	0	0	1,456,170	0	0	0	0	1,456,170	0	0	2,155	26 ⁽²⁰⁾
27 ⁽²⁰⁾		0	0	0	0	0	0	210,740	0	0	0	0	0	0	0	0	210,740	0	0	2,155	27 ⁽²⁰⁾
28		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28
29		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29
30 ⁽²⁰⁾		0	0	0	0	0	0	53,500	761,000	0	0	1,600,000	102,000	0	0	0	761,000	0	0	435	30 ⁽²⁰⁾
31		0	0	0	0	0	0	350,370	0	0	0	6,888,385	147,359	0	0	0	1,755,500	0	0	301 ⁽¹⁶⁾	31
32		0	0	0	0	0	0	0	0	0	0	4,553,127	1,398,947	0	0	0	7,386,112	0	0	0	32
33 ⁽¹⁶⁾		0	0	0	0	0	0	0	0	0	0	0	0	0	9,902,980	0	5,784,074	0	0	3,150	33 ⁽¹⁶⁾
34		0	0	0	0	0	0	62,101	0	0	0	4,763,300	963,939	0	0	0	9,902,980	0	0	3,150	34
35		0	0	0	0	0	0	0	0	0	0	12,815,738	1,252,654	0	0	0	5,727,230	0	0	0	35
36 ⁽²¹⁾		0	0	0	0	0	0	0	0	9,401	48,787,662	0	0	0	0	0	14,130,493	655	0	15,655	36 ⁽²¹⁾
37 ⁽²¹⁾		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	48,787,662	0	0	0	37 ⁽²¹⁾
38 ⁽²¹⁾		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,413	38 ⁽²¹⁾
39		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,700	0	0	3,700	39
40		0	0	0	0	0	0	0	100,000	0	0	1,662,332	205,000	0	0	0	3,507,352	0	0	3,518	40
50 ⁽²⁰⁾		0	0	0	0	0	0	0	9,810,293	0	0	0	0	0	0	0	9,810,293	0	0	9,500	50 ⁽²⁰⁾
51 ⁽¹⁸⁾⁽⁷⁾⁽⁴⁵⁾		0	0	0	0	0	0	1,254,500	1,432,600	0	0	1,000,000	225,000	0	0	0	4,790,100	0	0	3,625	51 ⁽¹⁸⁾⁽⁷⁾⁽⁴⁵⁾
Unallocated		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Unallocated
TOTAL	400	11,534	44,757	34,010	1,954	037	4,105	4,577,708	14,533,204	9,401	48,787,662	47,331,032	9,400,039	1,266,200	10,756,980	3,271	905,500	1,053	1,355,359	127,126	TOTAL

TABLE A-1 MAXIMUM INTENSITY STANDARDS BY PLANNING AREA- DETACHED LANDS

Planning Area Number	Zone	RESIDENTIAL			Unallocated Residential Units ⁽¹⁸⁾	MULTI-USE ⁽¹⁾⁽¹⁵⁾		INSTITUTIONAL ⁽¹⁾		0-40 D.U.	INDUSTRIAL		Research/Industrial Sq. Ft.	Community Commercial Sq. Ft.	Neighborhood Commercial Sq. Ft.	Regional Commercial Sq. Ft.	Maximum Dwelling Units ⁽¹⁶⁾	Maximum Square Feet	MILITARY		Maximum Dwelling Units ⁽¹⁶⁾	Planning Area Number
		Low 0-1 D.U.	Medium 0-5 D.U.	High 0-25 D.U.		0-40 D.U.	Square Feet	Public Facility Sq. Ft.	Educational Facility Sq. Ft.		Urban/Industrial ⁽¹⁹⁾ 0-40 D.U.	Square Feet							0-10 D.U.	Sq. Ft.		
26 ⁽²⁾		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,800	26 ⁽²⁾
27		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,800	27
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,800	TOTAL





**City of Irvine
General Plan**

Figure B-1

**MASTER PLAN
OF ARTERIAL
HIGHWAYS**

LEGEND

- City Sphere of Influence
- Interchange
- ==== Freeway
- Transportation Corridor
- Expressway
- Major Highway 8-Lanes
- Major Highway 6-Lanes
- Primary Highway
- Secondary Highway
- Commuter Highway

NOTE: Not all commuter highways are shown on the map



City of Irvine General Plan

Figure B-4

TRAILS NETWORK

LEGEND

City Sphere
of Influence

Class I (Off-Street) Trails

Class II (On-Street) Trails
are on all street shown on
this exhibit except for Barranco
between Jamboree and Redhill,
along Mac Arthur between Jamboree
Road, northwest to city limits, and
along the west side of Jamboree Road
between Michelson Drive and the
San Diego (405) Freeway.

Riding and Hiking Trails

See Figure N-4 for planned trail network in
Irvine Business Complex.

NOTE: The Trail Network Diagram is illustrative
only and not indicative of precise alignments

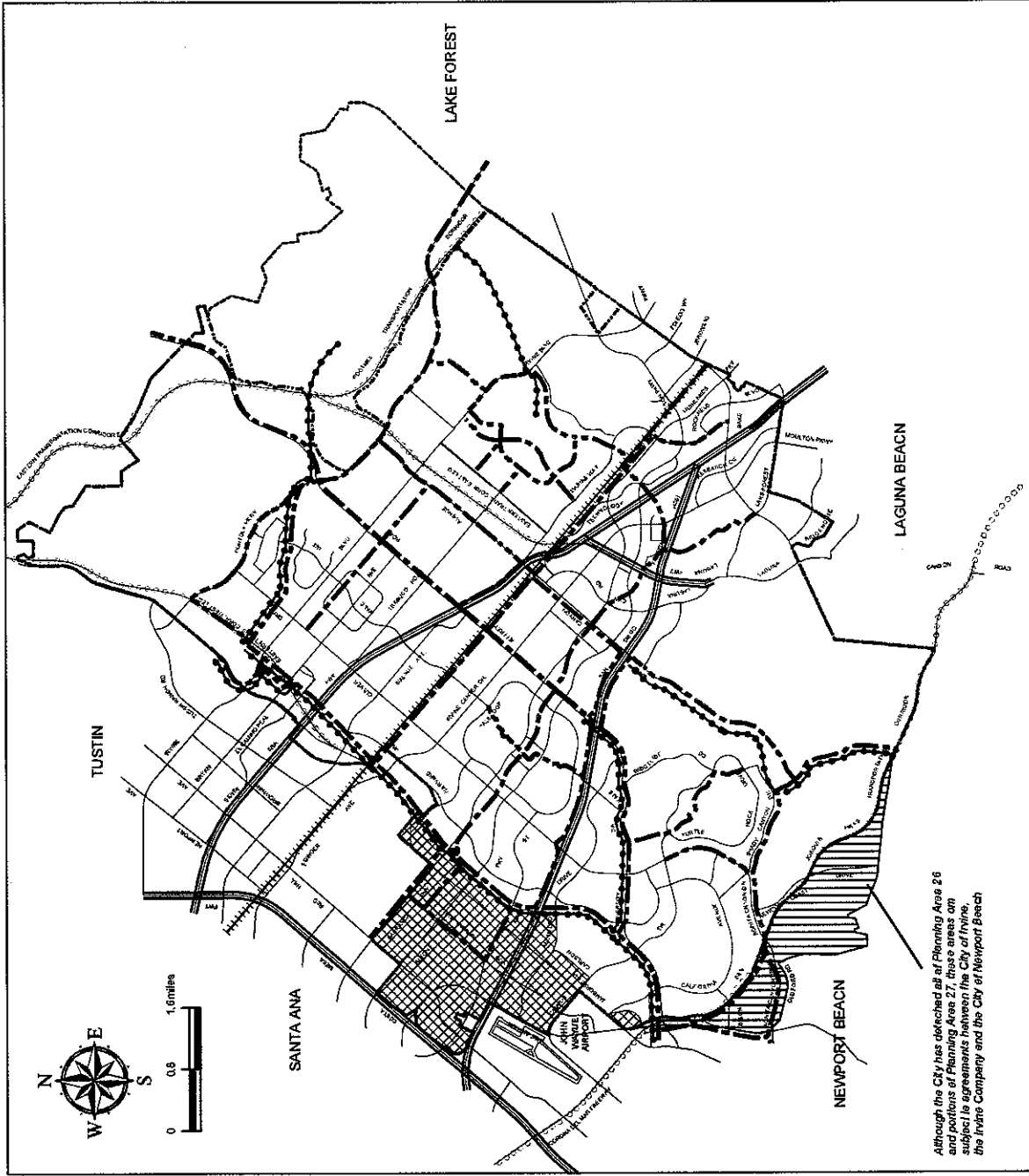


Table K-1

Parks and Recreation Facility Descriptions

PARK FACILITIES: There are five types of park facilities provided in Irvine. Each type is described below:

- **Regional Open Space:** Regional open space areas are lands primarily acquired through the dedications agreed to under the Implementation Actions Program of the Conservation and Open Space Element. Once dedicated to the city the land becomes permanent public open space area. These areas vary in size and location throughout the City and may have full or limited public access depending on the environmental sensitivity.
- **Regional Parks:** Regional parks are owned by the County of Orange and managed by the Harbors, Beaches and Parks Department. There is no mandated dedication standard or park size required. Regional parks can be active or passive parks.
- **Community Parks:** These parks are generally a minimum of 20 acres in size (excluding greenbelts, trails and school grounds) and able to serve a population of 10,000 persons. An exception to this standard exists in Lower Peters Canyon (Planning Area 4) where community parks may be a minimum of 10 acres in size (excluding greenbelts and school grounds). Community parks are owned and maintained by the City. Colonel Bill Barber Marine Corps Memorial Park, Heritage Community Park, Harvard Community Park and Turtle Rock Community Park are examples of community parks in Irvine. Community parks are developed with facilities that are Citywide in scope and are intended to serve more than one residential village.
- **Public Neighborhood Parks:** These parks are generally a minimum of 4 acres in size (excluding greenbelts, trails and school grounds) and able to serve a minimum population of 2,500 persons. Public parks are owned and maintained by the city. Orchard Park, San Carlo Park and Chaparral Park are examples of public neighborhood parks.
- **Private Neighborhood Parks:** These parks are a minimum of one third of an acre in size and able to serve the immediate development or specific planned community in which they are located. Private parks are owned and maintained by homeowner associations or maintenance district. They are generally minimum one third acre in size for developments with densities under 30 dwelling units per acre and minimum 6,000 square feet in size for developments with densities over 31 dwelling units per acre, except for developments in Planning Area 36 where the parks will comply with provisions contained in the "IBC Residential Mixed Use Vision and Overlay Zoning Code."

*Appendix C. Ordinances Adopting
Amendments to the Zoning and
Municipal Codes*



Appendices

This page intentionally left blank.

CITY COUNCIL ORDINANCE NO. 10-07

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF IRVINE APPROVING ZONE CHANGE 00497861-PZC TO ADD CHAPTER 5-8 IRVINE BUSINESS COMPLEX RESIDENTIAL MIXED USE OVERLAY ZONING CODE; UPDATE REFERENCES TO EXISTING INTENSITY LIMITS AND TRAFFIC MITIGATION IN CHAPTER 9-36; TO INCREASE THE RESIDENTIAL UNIT CAP TO 15,000 UNITS, WITH A CORRESPONDING REDUCTION OF NON-RESIDENTIAL INTENSITY; TO REPLACE THE CURRENT 52 UNIT/ACRE DENSITY CAP WITH A 30 UNIT/ACRE DENSITY MINIMUM AND AMEND OTHER SECTIONS OF THE ZONING CODE TO REFLECT NEW REFERENCES TO VISION PLAN AND OVERLAY ZONING CODE; FILED BY THE CITY OF IRVINE

WHEREAS, The City of Irvine has proposed Zone Change 00497861-PZC requesting the following:

- Add Chapter 5-8 establishing the IBC Residential/Mixed-Use Overlay Zone (Exhibit A);
- Amend Chapter 9-36 to update IBC provisions related to the Vision Plan project and change zoning of properties at 2810 Kelvin; 2301 Martin Street; and 2851 Alton Parkway from 5.3 IBC Residential to 5.1 IBC Multi-Use (Exhibit B);
- Amend Chapter 1-2 Definitions to add definitions related to the Vision Plan project (Exhibit C);
- Amend Chapter 3-27 Setbacks- to update IBC provisions related to the Vision Plan project (Exhibit D);
- Amend Chapter 3-37 IBC Zoning Standards to update IBC provisions related to the Vision Plan project (Exhibit E);
- Amend Chapter 2-17-3 Master Plan Application Requirements to update IBC provisions related to the Vision Plan project (Exhibit F);
- Amend Section 3-3-1 Land Use Matrix to update IBC provisions related to the Vision Plan project (Exhibit G);
- Amend Section 2-28-5 Sexually Oriented Business Findings to update definition of IBC "trips" consistent with the Vision Plan project (Exhibit H);

- Amend Section. 4-3-4 Automobile Parking Matrix to adjust parking requirements for private neighborhood recreational amenities (Appendix I).

WHEREAS, the City of Irvine has an adopted Zoning Code; and

WHEREAS, Zone Change 00497861-PZC is considered a part of the overall Vision Plan project for the IBC (Vision Plan Project) pursuant to the California Environmental Quality Act (CEQA); and

WHEREAS, the City Council has considered information presented by the applicant, the Community Development Department, and other interested parties at public meetings and hearings held on July 11, 2006, July 25, 2006, February 27, 2007, October 23, 2007, February 26, 2008, April 27, 2010, and July 13, 2010.

NOW, THEREFORE, the City Council of the City of Irvine DOES HEREBY ORDAIN as follows:

SECTION 1. That pursuant to Section 15205 of the State CEQA Guidelines, the City Council reviewed and considered the Final Environmental Impact Report (SCH# 2007011024) (FEIR) in making its recommendation on the Zone Change and the Vision Plan Project.

SECTION 2. Most of the potentially significant environmental impacts of the Vision Plan Project identified in the FEIR have been determined to be less than significant or mitigated to a level that is considered less than significant or changes have been required or incorporated into the Vision Plan Project which avoid or substantially lessen the significant environmental effects.

SECTION 3. Certain impacts of the Vision Plan Project to Air Quality, Noise, Land Use and Traffic have been identified in the FEIR as significant and unavoidable. The specific impacts are summarized in Exhibit A to Resolution No 10-79. Based upon specific economic, social, technical or other considerations, the City Council finds these effects acceptable and adopts the required facts and findings and Statement of Overriding Considerations (attached as Exhibit B to Resolution No. 10-79).

SECTION 4. Although the FEIR identifies certain significant environmental effects that would result if the Vision Plan Project is approved, most environmental effects can feasibly be avoided or mitigated. The applicable mitigation measures, included within the FEIR as Table 1-2 and incorporated herein as Exhibit C to Resolution No. 10-79, have been incorporated into the Vision Plan Project or identified as requirements of the Vision Plan Project.

SECTION 5. In accordance with Section 8 of the City of Irvine CEQA Procedures, the Planning Commission recommends that the City Council find that the FEIR has been completed in compliance with CEQA and the State CEQA Guidelines, and the City's CEQA Procedures. The Planning Commission also recommends that the City Council, having final approval authority over the project, certify as complete and adequate the

Final EIR.

SECTION 6. Pursuant to Fish and Game Code Section 7.11.4 (C), all required Fish and Game filing fees will be paid subsequent to certification of the FEIR for the Vision Plan Project.

SECTION 7. The findings required by Section 2-38-7 of the City of Irvine Zoning Code for approval of a zone change have been made as follows:

- A. The proposed zone change is consistent with the City of Irvine General Plan.

The zone change is consistent with the goals and objectives of the General Plan, including the new IBC Element of the General Plan. The code provisions implement the General Plan goals and objectives for protection of existing uses and ensure land use compatibility.

- B. The proposed zone change is consistent with any applicable concept plan.

The implementing zoning for this area is consistent with the General Plan and there is no existing concept plan applicable to the IBC. The Zone Change and RDEIR have adequately addressed the Concept Plan criteria. As a result, the Director of Community Development approved a concept plan waiver in accordance with Section 2-8-3 of the Zoning Code. The proposed zone change will allow development of the site consistent with the established General Plan categories. In addition, any issues normally addressed through the concept plan process are addressed within the RDEIR and Zoning Code Sections 5-8 and 9-36.

- C. The proposed zone change meets all the requirements set forth within Division 8 for the dedication of permanent open space through a specified phased implementation program for affected planning areas and zoning districts.

The project is not subject to this provision of the code.

- D. The proposed zone change is in the best interest of the public health, safety and welfare of the community.

The zone change is consistent with all applicable provisions of the Zoning Code and is determined to be in the best interests of the health, safety and welfare of the community. The impacts of the zone change application have been analyzed in the RDEIR. As a result of the environmental analysis, measures such as existing plans, programs, policies (PPP), project design features (PDF), and mitigation measures (MM) have been developed to ensure that all environmental impacts, except four (Air Quality, Noise, Traffic and potentially Land Use), will be reduced to a level of insignificance, including any potential impacts to the public health, safety and welfare. A Statement of Overriding Considerations has been proposed to address those impacts that cannot feasibly be reduced to a level of insignificance.

- E. Based upon information available at the time of approval, adequate sewer and water lines, utilities, sewage treatment capacity, drainage facilities, police protection, fire protection/emergency medical care, vehicular circulation and school facilities will be available to serve the area affected by the proposed zone change when development occurs.

The project is located in a developed area already served by exiting facilities and services. In addition, the mitigation measures and project design features in the RDEIR and the requirements of subsequent discretionary approvals (such as the tentative parcel map, master plans and conditional use permits) will ensure that adequate utilities, services, and facilities are provided in conjunction with the development of the project. Where adequate improvements do not exist, the applicant will be required to provide such improvements to the infrastructure when development occurs.

- F. If the proposed zone change affects land located within the coastal zone, the proposed zone change will comply with the provisions of the land use plan of the certified local coastal program.

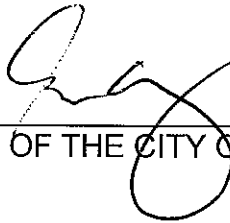
A portion of the IBC is located within the coastal zone, but project does not affect this area.

SECTION 9. Based on the above findings, The City of Irvine DOES HEREBY APPROVE Zone Change 00497861-PZC amending the City's Zoning Code as follows:

- Add Chapter 5-8 establishing the IBC Residential/Mixed use Overlay Zone (Exhibit A);
- Amend Chapter 9-36 to update IBC provisions related to the Vision Plan project and change zoning of properties at 2810 Kelvin; 2301 Martin Street; and 2851 Alton Parkway from 5.3 IBC Residential to 5.1 IBC Multi-Use (Exhibit B);
- Amend Chapter 1-2 Definitions to add definitions related to the Vision Plan project (Exhibit C);
- Amend Chapter 3-27 Setbacks- to update IBC provisions related to the Vision Plan project (Exhibit D);
- Amend Chapter 3-37 IBC Zoning Standards to update IBC provisions related to the Vision Plan project (Exhibit E);
- Amend Chapter 2-17-3 Master Plan Application Requirements to update IBC provisions related to the Vision Plan project (Exhibit F);
- Amend Section 3-3-1 Land Use Matrix to update IBC provisions related to the Vision Plan project (Exhibit G);

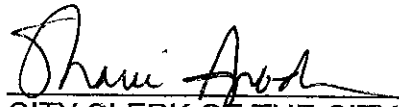
- Amend Section 2-28-5 Sexually Oriented Business Findings to update definition of IBC "trips" consistent with the Vision Plan project (Exhibit H);
- Amend Section. 4-3-4 Automobile Parking Matrix to adjust parking requirements for private neighborhood recreational amenities (Appendix I).

PASSED AND ADOPTED by the City Council of the City of Irvine at an adjourned regular meeting held on the 27th day of July 2010, by the following roll call vote:



MAYOR OF THE CITY OF IRVINE

ATTEST:



CITY CLERK OF THE CITY OF IRVINE

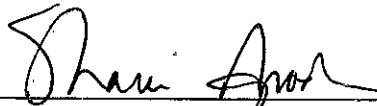
STATE OF CALIFORNIA)
COUNTY OF ORANGE) SS
CITY OF IRVINE)

I, SHARIE APODACA, City Clerk of the City of Irvine, HEREBY DO CERTIFY that the foregoing Ordinance was introduced for first reading on July 13th, 2010, and duly adopted at an adjourned regular meeting of the City Council of the City of Irvine held on the 27th day of July, 2010, by the following vote:

AYES: 5 COUNCILMEMBERS: Agran, Choi, Krom, Shea and Kang

NOES: 0 COUNCILMEMBERS: None

ABSENT: 0 COUNCILMEMBERS: None



CITY CLERK OF THE CITY OF IRVINE

CHAPTER 5-8. IRVINE BUSINESS COMPLEX RESIDENTIAL MIXED-USE OVERLAY DISTRICT

Sec. 5-8-1. Purpose.

Sec. 5-8-2. Applicability.

Sec. 5-8-3. Regulating Plan and Districts.

Sec. 5-8-4. Special Development Requirements.

Sec. 5-8-5 Urban Neighborhood (UN) Standards.

Sec. 5-8-6. Business Complex (BC).

Sec 5-8-7. IBC Infrastructure Improvement Fee Program

5-8-1. Purpose.

The Irvine Business Complex Residential and Mixed-Use (IBCRMU) Overlay District establishes districts that are intended to provide for the orderly transition of certain portions of the IBC from exclusively industrial and/or office areas into pedestrian-oriented districts that accommodate a mixture of retail, office, and residential uses, while protecting existing businesses.

This Overlay District implements the following goals and objectives as defined in the IBC Element of the General Plan and corresponding IBC Design Criteria:

IBC Vision Plan Goals:

- A. Protect the existing job base;
- B. Develop mixed-use cores;
- C. Provide transportation, pedestrian, and visual connectivity;
- D. Create usable outdoor areas; and
- E. Develop, safe well-designed neighborhoods.

These goals are further implemented through the following objectives:

- A. Create a walkable urban environment that encourages on-street pedestrian activity and reduces dependence on the automobile for everyday needs.
- B. Develop an urban framework to ensure the appearance, location, and scale of buildings compliment the character of the area in which they are located.
- C. Ensure compatibility between existing and proposed businesses within the IBC.
- D. Provide a mix of building types allowing variety and choice in urban living.
- E. Provide a variety of outdoor areas for both passive and active recreation as an amenity for residents and employees.
- F. Establish sustainable new urban development within the IBCRMU Overlay District.

5-8-2. Applicability.

All proposed residential or residential mixed-use development/redevelopment, subdivisions, and new residential land uses within the IBCRMU Overlay shall comply with all applicable requirements of this Chapter, including the provisions outlined below:

- A. Regulating Plan.** The Regulating Plan (Section 5-8-3) defines and identifies the three IBCRMU Overlay Districts as follows: Urban Neighborhood (UN), Multiple Use (MU), and Business Complex (BC).
- B. Additional Applicable Requirements.** All development pursuant to this Overlay Zone is subject to the development intensity maximums established in Section 9-36 of the Zoning Code.
- C. Administrative Relief.** Requests for administrative relief shall be considered by the Planning Commission in conjunction with the associated discretionary review application and shall be subject to the requirements of Chapter 2-22 of the Zoning Code. In order for the Planning Commission to approve administrative relief from the overlay zone requirements, except where noted in this section, the approval body shall find that:
 - 1. The proposed project meets the intent of the IBCRMU Overlay Zone and Vision Plan.
 - 2. The request will not negatively impact the appearance of the project site or the surrounding properties.
 - 3. The proposed project will not adversely impact operations of adjacent non-residential uses.

5-8-3. Regulating Plan and Districts.

- A. Purpose.** This Section establishes the districts applied to property within the IBCRMU Overlay by the Regulating Plan. The Regulating Plan divides the area within the IBCRMU Overlay into separate districts. The districts allocate land uses and suggest architectural types as well as provide guidelines for building placement and height.
- B. Zones Established.** The following districts are established for the purposes of the IBCRMU Overlay District, and are applied to property within the Overlay Zone boundary as shown on the Regulating Plan, as provided in Section 5-8-5 and 5-8-6. Existing Current underlying zoning designations in Chapter 9-36 remain unchanged except as noted on the zoning map in Chapter 9-36-2.

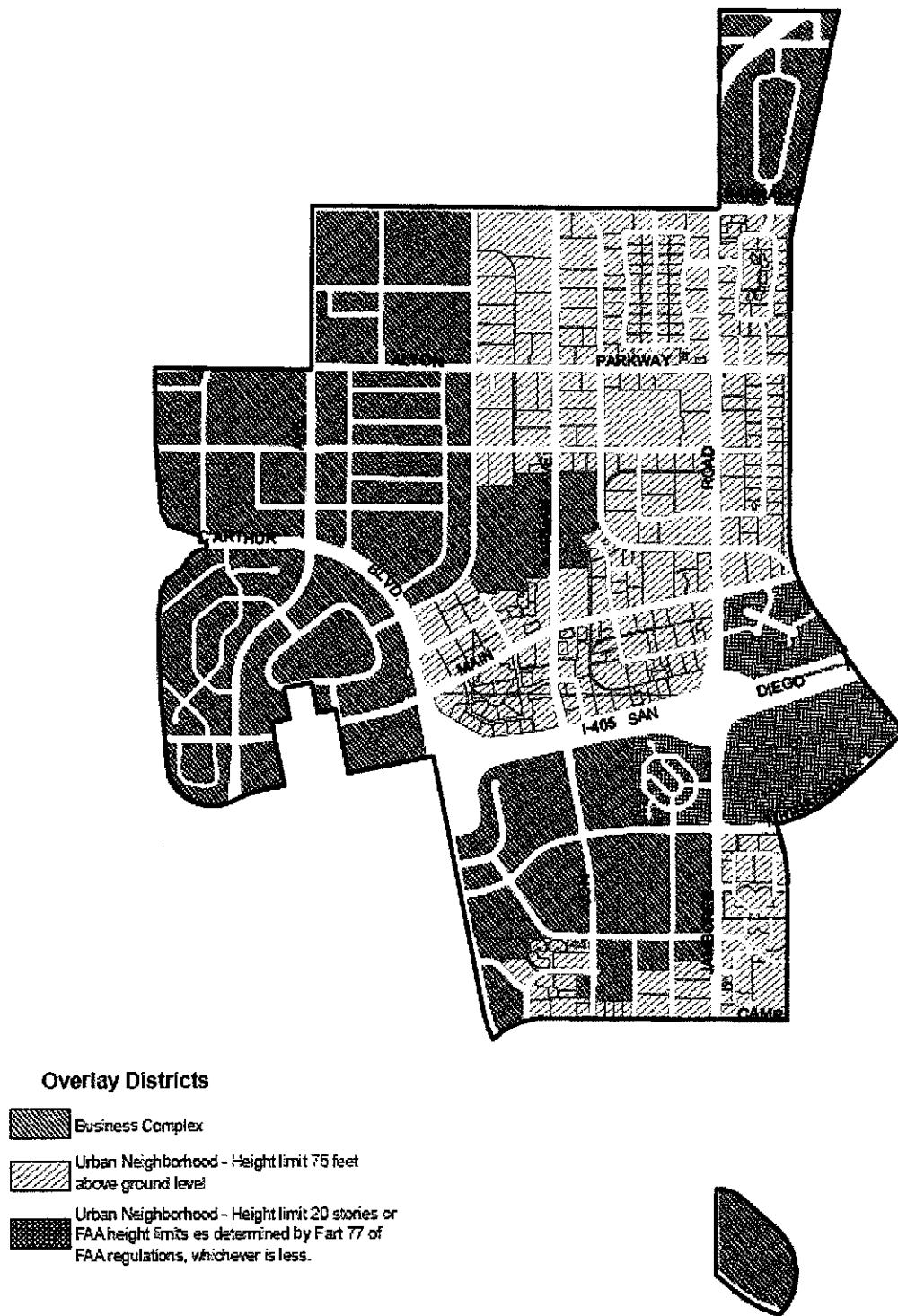


Figure 1- IBC Residential Mixed Use Overlay Zone Regulating Plan

5-8-4. Special Development Requirements.

A. Compatibility Standards. The following standards are intended to ensure the compatibility of uses within a residential or mixed-use project.

1. Development Adjacent to San Diego Creek or San Joaquin Marsh

- a. For buildings four or more stories in height located within 100 feet of the San Joaquin Marsh or San Diego Creek, the project applicant shall demonstrate that architectural plans do not specify the use of highly reflective glass windows, and utilize angles that are not highly reflective in order to reduce light and glare impacts on the marsh and creek environment, and to reduce the incidence of bird collisions, to the satisfaction of the Community Development Director.
- b. Landscape plans for areas located within 100 feet of the San Joaquin Marsh or San Diego Creek shall not include exotic plant species that may be invasive to native habitats. Exotic plant species not to be used include those species listed on Lists A and B of the California Invasive Plant Council's (Cal-IPC) list of "Exotic Pest Plants of Greatest Ecological Concern in California as of October 1999." Or subsequent documentation.

2. Compatibility with Surrounding Uses. The IBC mixed use environment is an urbanized area, therefore land use compatibility issues are expected to occur. Therefore, applicants for new residential and/or residential mixed use development shall submit data as determined by the Director of Community Development for the City to evaluate compatibility with surrounding uses with respect to issues including, but limited to the following:

- a. Noise
- b. Odors
- c. Truck traffic and deliveries
- d. Hazardous Materials handling/storage
- e. Air emissions
- f. Soil/Groundwater contamination
- g. John Wayne Airport compatibility

3. Residential Disclosures: All discretionary applications for residential or residential mixed use shall include a condition of approval for disclosure to residents clearly outlining the issues associated with living in a mixed-use environment. The language for this disclosure shall be as specified by the Community Development Director. Copies of each signed disclosure shall be made available for review upon written request by the City. Such disclosure shall also include additional wording regarding proximity to John Wayne Airport, pursuant to Section 11010 of the Business and Professions Code, as follows:

Notice of Airport in Vicinity

This property is presently located in the vicinity of an airport, within what is known as an airport influence area. For that reason, the property may be subject to some of the

annoyances or inconveniences associated with proximity to airport operations (for example: noise, vibration, or odors). Individual sensitivities to those annoyances can vary from person to person. You may wish to consider what airport annoyances, if any, are associated with the property before you complete your purchase and determine whether they are acceptable to you.

4. Air Quality Standards

For residential and residential mixed use projects, the following air quality standards are required, or as otherwise mandated by state regulations:

- a. Applicants for new residential/mixed-use developments in the Irvine Business Complex shall require that the construction contractor to utilize off-road construction equipment that conforms to Tier 3 of the United States Environmental Protection Agency, or higher emissions standards. The construction contractor shall be made aware of this requirement prior to the start of construction activities. Use of Tier 3 or higher off-road construction equipment shall be stated on all grading plans. The construction contractor shall maintain a list of all operating equipment in use on the project site. The construction equipment list shall state the makes, models, and numbers of construction equipment on-site.
- b. Applicants for new residential/mixed-use developments in the Irvine Business Complex shall require that the construction contractor to properly service and maintain construction equipment in accordance with the manufacturer's recommendations. Non-essential idling of construction equipment shall be restricted to five minutes or less in compliance with California Air Resources Board's Rule 2449.
- c. Applicants for new developments in the Irvine Business Complex shall require that the construction contractor prepare a dust control plan and implement the following measures during ground-disturbing activities in addition to the existing requirements for fugitive dust control under South Coast Air Quality Management District Rule 403 to further reduce PM10 and PM2.5 emissions. To assure compliance, the City shall verify compliance that these measures have been implemented during normal construction site inspections:
 - During all grading activities, the construction contractor shall reestablish ground cover on the construction site through seeding and watering.
 - During all construction activities, the construction contractor shall sweep streets with Rule 1186 compliant PM₁₀-efficient vacuum units on a daily basis if silt is carried over to adjacent public thoroughfares or occurs as a result of hauling.
 - During all construction activities, the construction contractor shall maintain a minimum 24-inch freeboard on trucks hauling dirt, sand, soil, or other loose materials and tarp materials with a fabric cover or other suitable means.
 - During all construction activities, the construction contractor shall water exposed ground surfaces and disturbed areas a minimum of every three hours on the construction site and a minimum of three times per day.
 - During all construction activities, the construction contractor shall limit on-site vehicle speeds on unpaved roads to no more than 15 miles per hour.
 - The construction contractor shall apply chemical soil stabilizers to reduce wind erosion.

- d. Prior to the issuance of building permits, plans shall indicate that coatings and solvents with a volatile organic compound (VOC) content lower than required under Rule 1113 (i.e., Super Compliant Paints) shall be used. All architectural coatings shall be applied either by (1) using a high-volume, low-pressure (HVLP) spray method operated at an air pressure between 0.1 and 10 pounds per square inch gauge (psig) to achieve a 65 percent application efficiency; or (2) manual application using a paintbrush, hand-roller, trowel, spatula, dauber, rag, or sponge, to achieve a 100 percent application efficiency. The construction contractor shall also use precoated/natural colored building materials, where feasible.
- e. Applicants for new residential developments in the Irvine Business Complex within 500 feet of Interstate 405 shall be required to install high efficiency Minimum Efficiency Reporting Value (MERV) filters of MERV 14 or better in the intake of residential ventilation systems. Heating, air conditioning and ventilation (HVAC) systems shall be installed with a fan unit power designed to force air through the MERV 14 filter. To ensure long-term maintenance and replacement of the MERV 14 filters in the individual units, the following shall occur:
- i) The developer, sale, and/or rental representative shall provide notification to all affected tenants/residents of the potential health risk from I-405 for all affected units, per item 7 of this section.
 - ii) For rental units within 500 feet of the I-405, the owner/property manager shall maintain and replace MERV 14 filters in accordance with the manufacturer's recommendations. The property owner shall inform renters of increased risk of exposure to diesel particulates from I-405 or SR-55 when windows are open.
 - iii) For residential owned units within 500 feet of I-405, the Homeowner's Association (HOA) shall incorporate requirements for long-term maintenance in the Covenant Conditions and Restrictions and inform homeowners of their responsibility to maintain the MERV 14 filter in accordance with the manufacturer's recommendations. The HOA shall inform homeowner's of increased risk of exposure to diesel particulates from I-405 when windows are open.
- f. For all residential or residential mixed-use projects located within the distances to industrial uses as outlined below the Project Applicant shall submit a health risk assessment (HRA) prepared in accordance with policies and procedures of the state Office of Environmental Health Hazard Assessment (OEHHA) and the South Coast Air Quality Management District (SCAQMD) to the Community Development Director prior to approval of any future discretionary residential or residential mixed use project. If the HRA shows that the incremental cancer risk exceeds one in one-hundred thousand ($1.0E-05$), or the appropriate noncancer hazard index exceeds 1.0, the applicant will be required to identify and demonstrate that Best Available Control Technologies for Toxics (T-BACTs) are capable of reducing potential cancer and noncancer risks to an acceptable level, including appropriate enforcement mechanisms. T-BACTs may include, but are not limited to, scrubbers at the industrial facility, or installation of Minimum Efficiency Reporting Value (MERV) filters rated at 14 or better at all residential units.

- 1,000 feet from the truck bays of an existing distribution center that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units, or where transport refrigeration unit operations exceed 300 hours per week.
 - 1,000 feet from an existing chrome plating facility, or existing facility using Hexavalent Chromium.
 - 300 feet from a dry cleaning facility using perchloroethylene using one machine and 500 feet from a dry cleaning facility using perchloroethylene using two machines.
 - 50 feet from gas pumps within a gas-dispensing facility and 300 feet from gas pumps within a gasoline dispensing facility with a throughput of 3.6 million gallons per year or greater.
- g. For all discretionary residential or residential mixed-use projects located within 1,000 feet of an industrial facility which emits toxic air contaminants (TACs), the Project Applicant shall submit a health risk assessment (HRA) prepared in accordance with policies and procedures of the state Office of Environmental Health Hazard Assessment (OEHHA) and the South Coast Air Quality Management District (SCAQMD) to the Community Development Director prior to approval of any discretionary residential or residential mixed-use projects. If the HRA shows that the incremental cancer risk exceeds one in one-hundred thousand ($1.0E-05$), or the appropriate noncancer hazard index exceeds 1.0, the applicant will be required to identify and demonstrate that Best Available Control Technologies for Toxics (T-BACTs) are capable of reducing potential cancer and noncancer risks to an acceptable level, including appropriate enforcement mechanisms. T-BACTs may include, but are not limited to, scrubbers at the industrial facility, or installation of Minimum Efficiency Reporting Value (MERV) filters rated at 14 or better at all residential units. "
- h. For all residential projects located within 1,000 feet of an industrial facility that emits substantial odors, which includes but is not limited to:
- wastewater treatment plants
 - composting, greenwaste, or recycling facilities
 - fiberglass manufacturing facilities
 - painting/coating operations
 - coffee roasters
 - food processing facilities,

The Project Applicant shall submit an odor assessment to the Community Development Director prior to approval of any future discretionary action that verifies that the South Coast Air Quality Management District (SCAQMD) has not received three or more verified odor complaints. If the Odor Assessment identifies that the facility has received three such complaints, the applicant will be required to identify and demonstrate that Best Available Control Technologies for Toxics (T-BACTs) are capable of reducing potential odors to an acceptable level, including appropriate enforcement mechanisms. T-BACTs may include, but are not limited to, scrubbers at the industrial facility, or installation of Minimum Efficiency Reporting Value (MERV) filters rated at 14 or better at all residential units.

5. Noise Standards

- a. Prior to issuance of grading permits, the project applicant shall incorporate the following measures as a note on the grading plan cover sheet to ensure that the greatest distance between noise sources and sensitive receptors during construction activities has been achieved.
 - Construction equipment, fixed or mobile, shall be equipped with properly operating and maintained noise mufflers consistent with manufacturer's standards.
 - Construction staging areas shall be located away from off-site sensitive uses during the later phases of project development.
 - The project contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site, whenever feasible.
- b. Individual projects that involve vibration-intensive construction activities, such as pile drivers, jack hammers, and vibratory rollers, occurring near sensitive-receptors shall be evaluated for potential vibration impacts. If construction-related vibration is determined to exceed the Federal Transit Administration vibration-annoyance criteria of 78 VdB during the daytime, mitigation measures, such as use of less vibration intensive equipment or construction techniques shall be implemented.
- c. The project applicant shall submit evidence to the satisfaction of the Director of Community Development that occupancy disclosure notices for units with patios and/or balconies that do not meet the 65 dBA CNEL are provided to all future tenants pursuant to the City's Noise Ordinance.

6. Hazardous Materials Standards

Individual development sites may have existing facilities, such as transformers or clarifiers, to be demolished as part of a proposed development. To mitigate hazardous materials-related impacts during the removal of such facilities, the Director of Community Development, in conjunction with the Orange County Fire Authority, shall include specific project conditions of approval as part of the discretionary review process for the proposed development.

7. Green-Point Rated Development

Applicants for new residential developments in the Irvine Business Complex shall submit evidence to the satisfaction of the Director of Community Development that proposed buildings are designed and constructed to be GreenPoint Rated. GreenPoint Rated developments must achieve a minimum of 50 total points and meet the category-specific point thresholds as specified in the current GreenPoint Rated Builder Handbook. Developments that exceed this minimum are rewarded by a higher grade on their projects. The GreenPoint Rated program is updated every three years to coincide with changes to the California Building Energy Efficiency Standards.

B. Public Safety Standards.

1. Plans submitted for discretionary review of residential development shall include the following safety features:
 - a. Recreation areas shall be located adjacent to residential uses whenever possible. These areas shall be visible to residents from within their dwellings to allow for “eyes on the street” proper visual surveillance. Placement of windows, landscaping, lighting, and recreation uses shall be coordinated to enhance resident surveillance opportunity, but not to detract from the recreational use.
 - b. General utilization of the concepts of Crime Prevention Through Environmental Design (CPTED) in the planning and development stages.
2. The inclusion of the following items shall be verified by the Public Safety Department prior to issuance of the first building permit for a residential unit.
 - a. Development of a security plan for residential and/or mixed-used projects that includes:
 - (1) Management contact for public safety issues available 24-hours a day;
 - (2) Cameras for monitoring and recording vehicles and persons entering the site;
 - (3) Comprehensive tenant screening process for apartments tenants;
 - (4) Quick removal of graffiti; and
 - (5) Enforcement of restricted parking spaces.
 - b. Preparation of a standardized, high density, “wayfinding” sign program to aid emergency responders in finding individual residential units quickly and easily.
 - c. A Click2Enter radio frequency access system shall be installed at any vehicle and pedestrian access point controlled by privacy gates.
 - d. Security. Residential units shall be designed to ensure the security of residents through the provision of secured entrances and exits that are separate from the non-residential uses. Non-residential and residential uses shall not have common entrance hallways or common balconies. These separations shall be shown on the development plan and the separations shall be permanently maintained.
 - e. Lighting. Outdoor lighting associated with commercial uses shall be shaded and directed to minimize impact to surrounding residential uses, but shall provide sufficient illumination for access and meet the Uniform Security Code requirements for lighting. Such lighting shall not blink, flash or oscillate.
 - f. Windows. Residential windows of buildings directly adjacent to industrial uses shall generally be directed away from loading areas and docks, unless view-restricting architectural elements are utilized.

C. Airport Restrictions. Development within the Airport Land Use Commission ("ALUC") jurisdiction shall meet the following requirements in order to support John Wayne Airport operations.

1. Building Height limitations, recordation of aviation easements, obstruction lighting and marking, and airport proximity disclosures and signage shall be provided as required by the per Orange County Airport Environs Land Use Plan standards for John Wayne Airport.
2. Building heights shall not penetrate Federal Aviation Regulation (FAR) Part 77 Imaginary Surfaces for John Wayne Airport.
3. Residential land uses shall be prohibited in John Wayne Airport Safety Zone 3.
4. Sound Attenuation. For all residential dwelling units within the 60 CNEL contour of John Wayne Airport, the maximum interior noise levels shall not exceed 45 dBA CNEL with windows closed, and shall not exceed the single event noise criteria outlined in the Noise Element of the General Plan of the loudest 10 percent of single noise events (Lmax10) shall not exceed 65 dBA daytime (7 a.m. to 7 p.m.) and 55 dBA nighttime (7 p.m. to 7 a.m.).
5. Parks located within the John Wayne Airport 60 dBA CNEL shall include signage indicating proximity to John Wayne Airport and related overflight and noise.
6. Residential uses are prohibited within the 1985 John Wayne Airport Master Plan 65 dBA CNEL contour.
7. Applicants for a conditional use permit for a heliport or helistop shall provide evidence that the proposed heliport or helistop complies fully with State of California permit procedures and with any and all conditions of approval imposed by the Federal Aviation Administration (FAA), the Airport Land Use Commission for Orange County (ALUC), and by the Caltrans Division of Aeronautics.

D. Additional Requirements

1. Libraries. In the event that a city-wide library impact fee is adopted and in force at the time of discretionary project approval, the project applicant shall pay this fee prior to issuance of building permits.
2. San Diego Creekwalk
 - a. Prior to approval of the design for the San Diego Creek Trail improvements/extension, the City shall examine alternative locations of the proposed trail and methods that could be used to minimize potential impacts (e.g., fencing and buffers). The design shall consider an alternative that excludes a trail segment along the most sensitive part of San Diego Creek (the northwestern side of the creek between Campus Drive and MacArthur Boulevard).
 - b. Prior to issuance of grading permits for the San Diego Creek Trail, a note shall be placed on all grading plans that construction activities involving the use of heavy equipment are prohibited during the bird nesting season (March 15 to September 15). If minor construction activities are carried out during the bird nesting season, a

qualified biologist shall conduct a preconstruction survey in the off-site habitat to determine the location of any active bird nests in the area, including but not limited to raptors and least Bell's vireo. The survey should begin not more than three days prior to the beginning of construction activities. The wildlife agencies shall be notified if any nesting least Bell's vireo are found. During construction, active nesting sites shall be monitored to ensure that construction levels do not exceed 60 dBA Leq. Should these noise levels be exceeded, the City shall implement noise attenuation measures, potentially including the erection of temporary noise curtains sufficient to reduce noise levels at occupied nesting sites to acceptable levels. Nest monitoring should continue until fledglings have dispersed or the nest has been determined to be a failure, as approved by the wildlife agencies.

3. Accessory Retail For project sites located more than ¼ mile from existing neighborhood-oriented retail services, applicants for residential development of 500 units or more, or non-residential developments of 250,000 sq. ft. or more are strongly encouraged to provide accessory retail uses as defined in the City of Irvine Zoning Code. Should accessory retail uses not be provided, applicants shall provide written rationale for not doing so, as part of the Conditional Use Permit application.

5-8-5 Urban Neighborhood (UN) Standards.

The UN District incorporates portions of the IBC appropriate for sustainable residential neighborhoods, employment, and mixed-use blocks. This district is intended for residential projects to cluster in nodes around local services. Small scattered residential projects are discouraged within the UN District. Mixed-use is encouraged with ground floor uses including residential, retail, offices, and restaurants, and upper floors accommodating offices or residential. New, smaller, non-arterial streets within this district are proposed to be pedestrian-oriented with highly articulated residential frontages. Roadways will be defined by both residential and non-residential building facades and characterized by a lush, dominant landscape.

- A. Maximum Building Height: As specified in Figure I in Section 5-8-3.
- B. Creekwalk. All properties abutting the San Diego Creek channel shall consider the San Diego Creek edge as a street frontage. Where feasible, private ways, public and private streets shall be located adjacent to the Creek edge.

5-8-6. Business Complex (BC)

The intent of the Business Complex District is to maintain the existing industrial character of the northwesterly portion of the IBC, consistent with the Council-adopted goal of protecting existing businesses in the IBC. Due to a number of constraints, including the proximity of John Wayne airport and the extent of existing industrial uses, residential uses are not appropriate for this area and are therefore prohibited. Properties in the BC District are subject to the requirements of the underlying IBC base zoning and as specified in Section 5-8-4.C Airport Restrictions.

CHAPTER 9-36. PLANNING AREA 36 (IRVINE BUSINESS COMPLEX)

- Sec. 9-36-1. Generally.
- Sec. 9-36-2. Land use zoning map.
- Sec. 9-36-3. Introduction.
- Sec. 9-36-4. Intent.
- Sec. 9-36-5. Statistical analysis.
- Sec. 9-36-6. Reserved.
- Sec. 9-36-7. Special development requirements.
- Sec. 9-36-8. Irvine Business Complex land use and development intensity value database.
- Sec. 9-36-9. Subdivisions, mergers and adjustments.
- Sec. 9-36-10. Procedure for analysis of average daily development intensity values.
- Sec. 9-36-11. High-traffic-generating commercial uses.
- Sec. 9-36-12. Reserved.
- Sec. 9-36-13. Sites providing amenities.
- Sec. 9-36-14. IBC Transportation Improvement Fee Program.
- Sec. 9-36-15. IBC Neighborhood Infrastructure Improvement Fee Program
- Sec. 9-36-16. Affordable housing.
- Sec. 9-36-17. Required participation in mitigation measures.
- Sec. 9-36-18. Transfer of development rights.
- Sec. 9-36-19. Procedure for analysis of trip capture within 5.0 IBC Mixed-Use District.
- Sec. 9-36-20. Environmental Standards
- Sec. 9-36-21. Transportation Management Association
- Sec. 9-36-22. Heliports
- Sec. 9-36-23. Accessory Retail

Sec. 9-36-1. Generally.

Please see this chapter 9-36 for the development standards and sections 3-30-29, 3-30-31 and 3-30-32 to see which uses are permitted and conditionally permitted.

(Code 1976, § V.E-836; Ord. No. 92-3, 4-14-92; Ord. No. 92-20, § 6, 11-10-92; Ord. No. 93-14, § 3, 10-12-93; Ord. No. 94-2, § 3, 2-8-94; Ord. No. 94-3, § 2, 4-26-94; Ord. No. 94-7, § 3, 6-14-94; Ord. No. 95-4, 5-9-95; Ord. No. 95-6, § 3, 5-27-95; Ord. No. 95-22, § 3, 11-28-95)

Sec. 9-36-2. Land use zoning map.

(See Planning Area 36 map following section 9-36-5.)

(Code 1976, § V.E-836.1; Ord. No. 92-3, 4-14-92; Ord. No. 92-20, § 6, 11-10-92; Ord. No. 93-14, § 3, 10-12-93; Ord. No. 94-2, § 3, 2-8-94; Ord. No. 94-3, § 2, 4-26-94; Ord. No. 94-7, § 3, 6-14-94; Ord. No. 95-4, 5-9-95; Ord. No. 95-6, § 3, 5-27-95; Ord. No. 95-22, § 3, 11-28-95; Ord. No. 03-15, § 5, 5-13-03; Ord. No. 03-28, § 5, 9-9-03; Ord. No. 03-34, § 5, 1-22-04; Ord. No. 04-08, § 5, 8-24-04; Ord. No. 04-09, § 6, 9-14-04; Ord. No. 05-15, § 6, 7-12-05; Ord. No. 05-18, § 6, 9-27-05; Ord. No. 05-22, § 5, 10-11-05; Ord. No. 05-23, § 6, 10-21-05; Ord. No. 05-27, § 5, 1-10-06; Ord. No. 06-08, § 6, 7-11-06; Ord. No. 06-11, § 5, 8-22-06; Ord. No. 06-13, § 6, 8-22-06; Ord. No. 07-05, § 5, 4-10-07; Ord. No. 07-07, § 5, 4-10-07; Ord. No. 07-09, 4-10-07)

Sec. 9-36-3. Introduction.

A. Planning Area 36, Irvine Business Complex, is located along the western edge of the City. Boundaries include State Route 55 (Costa Mesa Freeway) and the John Wayne/Orange County Airport to the west, former USMCAS Tustin to the north, Peters Canyon Wash, the San Diego Creek and the San Joaquin Marsh to the east, and MacArthur Boulevard and Campus Drive (Newport Beach) to the south.

B. The planning area is divided into four districts. The Multi-Use District is comprised of nearly all portions of the planning area located south of Barranca Parkway. The Residential and Mixed-Use Districts are located in several areas within the Multi-Use District boundaries. The Industrial District is comprised of all portions of the planning area north of Barranca Parkway.

(Code 1976, § V.E-836.2; Ord. No. 92-3, 4-14-92; Ord. No. 92-20, § 6, 11-10-92; Ord. No. 93-14, § 3, 10-12-93; Ord. No. 94-2, § 3, 2-8-94; Ord. No. 94-3, § 2, 4-26-94; Ord. No. 94-7, § 3, 6-14-94; Ord. No. 95-4, 5-9-95; Ord. No. 95-6, § 3, 5-27-95; Ord. No. 95-22, § 3, 11-28-95; Ord. No. 00-02, § 4, 2-8-00; Ord. No. 03-34, § 5, 1-22-04; Ord. No. 04-08, § 5, 8-24-04; Ord. No. 04-09, § 6, 9-14-04)

Sec. 9-36-4. Intent.

It is the intent of this chapter to specify regulations to maintain the development and traffic intensity at the levels analyzed in and mitigated by the final program environmental impact report for the 2010 IBC Vision Plan project.

(Code 1976, § V.E-836.2.A; Ord. No. 92-3, 4-14-92; Ord. No. 92-20, § 6, 11-10-92; Ord. No. 93-14, § 3, 10-12-93; Ord. No. 94-2, § 3, 2-8-94; Ord. No. 94-3, § 2, 4-26-94; Ord. No. 94-7, § 3, 6-14-94; Ord. No. 95-4, 5-9-95; Ord. No. 95-6, § 3, 5-27-95; Ord. No. 95-22, § 3, 11-28-95)

Sec. 9-36-5. Statistical analysis.

GROSS SQUARE FOOTAGE

TABLE INSET:

Land Use Category	Area Number	Gross Acreage	Net Acreage	Maximum Number of Dwelling Units	Estimated Number of Gross Square Feet
Mixed-Use (IBC)	5.0	40.3	50.08		
Multi-Use (IBC)	5.1	2,518.83	2,015.58		
Industrial (IBC)	5.2	123	92		
Residential (IBC)	5.3	81.87	85.34		

IBC Vision Plan Residential/Mixed Use Overlay				<u>15,000</u>	
TOTAL*		2,764	2,243	15,000	48,787,662

DEVELOPMENT INTENSITY VALUES

TABLE INSET:

	Area Number	A.M.	P.M.	Average Daily	
TOTAL		63,476	76,173	812,673	

*The "Estimated Number of Gross Square Feet" within Planning Area 36 can adjust upward or downward based upon the mix of land uses and is not considered a development cap as is the case in other planning areas. This estimated number can be adjusted as needed by City Staff as long as the resulting Planning Area development intensity is within the Planning Area Development Intensity Value budget. Land uses may be changed to any permitted or conditionally permitted use within the corresponding zoning district, within the established development intensity values.

(Code 1976, § V.E-836.3; Ord. No. 92-3, 4-14-92; Ord. No. 92-20, § 6, 11-10-92; Ord. No. 93-14, § 3, 10-12-93; Ord. No. 94-2, § 3, 2-8-94; Ord. No. 94-3, § 2, 4-26-94; Ord. No. 94-7, § 3, 6-14-94; Ord. No. 95-4, 5-9-95; Ord. No. 95-6, § 3, 5-27-95; Ord. No. 95-22, § 3, 11-28-95; Ord. No. 99-10, § 3, 5-11-99; Ord. No. 01-03, § 4, 3-13-01; Ord. No. 03-15, § 5, 5-13-03; Ord. No. 03-26, § 6, 9-9-03; Ord. No. 03-34, § 5, 1-22-04; Ord. No. 04-08, § 5, 8-24-04; Ord. No. 04-09, § 6, 9-14-04; Ord. No. 05-15, § 6, 7-12-05; Ord. No. 05-18, § 6, 9-27-05; Ord. No. 05-22, § 5, 10-11-05; Ord. No. 05-23, § 6, 10-11-05; Ord. No. 05-27, § 5, 1-10-06; Ord. No. 06-08, § 6, 7-11-06; Ord. No. 06-11, § 5, 8-22-06; Ord. No. 06-13, § 6, 8-22-06; Ord. No. 07-05, § 5, 4-10-07; Ord. No. 07-07, § 5, 4-10-07; Ord. No. 07-09, 4-10-07)

See. 9-36-6. Reserved.

Sec. 9-36-7. Special development requirements.

See Division 3 and Chapter 5-8 for applicable general development requirements.

(Code 1976, § V.E-836.4; Ord. No. 92-3, 4-14-92; Ord. No. 92-20, § 6, 11-10-92; Ord. No. 93-14, § 3, 10-12-93; Ord. No. 94-2, § 3, 2-8-94; Ord. No. 94-3, § 2, 4-26-94; Ord. No. 94-7, § 3, 6-14-94; Ord. No. 95-4, 5-9-95; Ord. No. 95-6, § 3, 5-27-95; Ord. No. 95-22, § 3, 11-28-95)

Sec. 9-36-8. Irvine Business Complex land use development intensity value database.

A. *Intent of this section.* It is the intent of this section to define the policies used to maintain a land use and development intensity value database for monitoring and regulating the types of land uses and intensity for each property in the Irvine Business Complex.

B. The Director of Community Development shall maintain a land use and development intensity value database for the Irvine Business Complex.

1. The IBC land use and development intensity value database shall specify the quantity, in gross square footage, dwelling units and hotel rooms as defined by the Zoning Code, for all existing, approved and zoned development in the planning area by legal parcel and according to the following general land use categories:

- a. Office.
- b. Industrial.
- c. Retail.
- d. Hotel
- e. Residential.
- f. Zoning potential.
- g. Miniwarehouse.
- h. Hotel, Extended-Stay

2. The land use and development intensity value database shall specify the corresponding a.m., p.m. and average daily? development intensity values allocated for both existing and build-out conditions for each legal parcel in the planning area, which correspond to the traffic intensity levels (vehicle trips) analyzed in and mitigated by the final program environmental impact report for the 2010 IBC Vision Plan project.

Development Intensity Value allocations for a.m. and p.m. represent a five-day average weekday, and may vary plus or minus ten percent each day. These allocations shall be based upon the following trip factors:

TABLE INSET:

Use	A.M.	P.M.	Average Daily	Unit
Office	.0013	.00138	.01377	sq. ft.
Industrial	.00045	.00042	.00462	sq. ft.
Retail	.00254	.00696	.084	sq. ft.
Hotel;	0.42	0.68	10.00	room
Residential	0.50	0.52	6.30	du*
Zoning potential	.0013	.00138	.01377	sq. ft.
Mini-warehouse	0.00029	.00027	.00304	sq. ft.
Hotel, extended stay	0.38	0.42	5.14	Room

*Dwelling unit.

3. a. The applicable general land use category for each permitted and conditional use within Planning Area 36 is specified through the use of general land use codes. These codes are included in the land use matrix of this zoning ordinance (see section 3-3-1) and are defined as follows:

29 Office

30 Industrial

31 Commercial

32 Hotel

33 Residential

34 Zoning potential

35 Undefined uses

36 Uses assumed to have no traffic generation

37 Mini-warehouse

38 Hotel, extended stay

b. The following two codes deal with uses, which require special treatment:

35 Undefined uses: Undefined uses include, but are not limited to the following: churches, community facilities, government facilities, commercial recreation, outdoor storage, commercial schools, private schools and public schools, accessory uses, manufactured structures, warehouse and sales outlet, and drive-thru facilities. The general land use categories and corresponding development intensity value rates shall be based upon the City's adopted development intensity value rates as defined in the Table Inset above for the specific land uses proposed. The Directors of Public Works and Community Development shall determine which of the general land use category trip rates and corresponding fee most closely resembles the trip generation of the proposed use, based upon the above-noted development intensity value rates, for purposes of establishing a development intensity value.

36 Uses assumed to have no traffic generation: These include parks, pushcarts and heliports for which no traffic generation shall be assumed. Several conditional and permitted uses have also been identified as potential high-traffic-generating uses. Refer to section 9-36-11 for additional regulations concerning these uses.

4. *Adjustments to database.* The Director of Community Development shall regularly adjust the land use and development intensity value database to reflect the status of existing and approved development in relation to the maximum square footage, dwelling unit and trip allocations for the planning area. In the event the approved development case (i.e. conditional use permit, master plan, development agreement, site design or zoning compliance) has expired, the trip allocation and development intensity associated with the approved development shall remain available for use on the site, subject to the terms and conditions of any required discretionary approval. If the proposed development requires a discretionary approval as identified in Division 2 of this Zoning Code, that discretionary case must be approved prior to the use of the development intensity. If no discretionary case is required and the use is a "permitted use", the development of the intensity shall be subject to all applicable development standards.

Unused development intensity may be transferred to another location within the Irvine Business Complex with the approval of a transfer of development rights per Section 9-36-17.

a. If, as a result of periodic monitoring, the City finds that the allocated intensity for a particular location in the database is inconsistent with what is approved, all necessary adjustments shall be made to the database to reflect what has been documented as approved. Applicants wishing to challenge the intensity allocations for a particular site shall submit floor plans and/or other documentation acceptable to the Director of Community Development to receive credit for existing square footage which was previously approved and inspected by the City.

5. *Credit for existing square footage uses and intensity.* In cases where an existing structure is located on the site of a proposed project, credit can be granted for the existing gross building square footage, by use, for purposes of applying the intensity to the proposed project. The procedure for granting credit is as follows:

a. The applicant shall submit a floor plan of the existing building illustrating the uses and gross square footage devoted to each use prior to the project proposal. The Community Development Department shall verify that appropriate approvals were granted for the establishment of these uses (i.e. building permits). The Department shall calculate the number of a.m., p.m., and average daily development intensity values attributable to the approved uses using the ratios specified in this section 9-36-8.

b. Requests for credit for existing gross square footage shall be reviewed and approved by the Director of Community Development for projects which do not require a conditional use permit and by the approval authority for projects requiring a use permit. Credit can only be retained by the applicant if it obtains appropriate permits from the City for any interior alterations or demolitions of buildings. Any demolition must proceed prior to the issuance of any building permits for new structures on the site, or in accordance with a phasing plan approved by the Director of Community Development. (Code 1976, § V.E-836.5.1; Ord. No. 92-3, 4-14-92; Ord. No. 92-20, § 6, 11-10-92; Ord. No. 93-14, § 3, 10-12-93; Ord. No. 94-2, § 3, 2-8-94; Ord. No. 94-3, § 2, 4-26-94; Ord. No. 94-7, § 3, 6-14-94; Ord. No. 95-4, 5-9-95; Ord. No. 95-6, § 3, 5-27-95; Ord. No. 95-

22, § 3, 11-28-95; Ord. No. 98-20, § 2, 12-8-98; Ord. No. 99-10, § 3, 5-11-99; Ord. No. 01-07, § 2, 5-8-01; Ord. No. 03-02, § 4, 1-14-03; Ord. No. 03-34, § 5, 1-22-04; Ord. No. 04-09, § 6, 9-14-04; Ord. No. 05-16, § 2, 7-12-05)

Sec. 9-36-9. Subdivisions, mergers and adjustments.

A. *Intent.* The following regulations are intended to ensure that the finite quantities of development allocated to each legal parcel in the IBC land use and development intensity value database are accurate and current and that allocated development intensity to each legal parcel is not exceeded as subsequent subdivisions occur.

B. *Applicability.* These regulations apply to all applications submitted for properties located in Planning Area 36 (IBC) for tentative parcel maps, tentative tract maps, lot mergers and lot line adjustments.

C. *Development intensity distribution.*

1. Prior to the approval of any final map, lot merger or lot line adjustment for properties located in Planning Area 36, applicants shall submit to the Director of Community Development for review and approval a document specifying the proposed distribution of development intensity for each legal parcel. The approved document shall then be recorded by the County of Orange Recorder's Office.

2. All initial intensity allocations made to a legal parcel shall be carried through to subsequent subdivisions.

3. Total development intensity shall not exceed the intensity allocated under the original subdivision configuration existing at the time of the adoption of the 2010 IBC Vision Plan project and associated zone change. (Code 1976, § V.E-836.5.2; Ord. No. 92-3, 4-14-92; Ord. No. 92-20, § 6, 11-10-92; Ord. No. 93-14, § 3, 10-12-93; Ord. No. 94-2, § 3, 2-8-94; Ord. No. 94-3, § 2, 4-26-94; Ord. No. 94-7, § 3, 6-14-94; Ord. No. 95-4, 5-9-95; Ord. No. 95-6, § 3, 5-27-95; Ord. No. 95-22, § 3, 11-28-95)

Sec. 9-36-10. Procedure for analysis of average daily development intensity values

A. *Intent.* This section provides a procedure for (1) analyzing average daily development intensity value for development proposals and (2) identifying and mitigating anticipated traffic impacts (if any) of developments that propose to exceed allocated Average Daily development intensity values .

B. *Applicability.* This section applies to development applications which propose to exceed the Average Daily development intensity values limits specified for a parcel in the IBC database.

C. *Traffic study.*

I. A traffic study shall be required for development applications proposing to exceed the Average Daily development intensity value limits for a parcel within the Irvine Business Complex. Assigned general land use category development intensity values shall be utilized for determining whether Average Daily development intensity values a.m./p.m. development intensity value allocations in the IBC database are exceeded

2. The traffic study shall be reviewed and findings shall be made and approved by the Directors of Public Works and Community Development.

D. *Findings.* The following findings must be made in order to approve projects proposing to exceed the Average Daily Development Intensity Values limits specified for a site in the IBC database:

1. Approval of the project will not result in exceeding the a.m. and p.m. development intensity value established for the project site in the IBC database. The average daily development intensity value limits established for the project site in the IBC database may be exceeded only if the traffic analysis has identified impacts and mitigation measures that show the circulation system has the capacity to accommodate the project.
2. Approval of the project will not jeopardize the ability of the City of Irvine to qualify for funding sources, including but not limited to the Orange County congestion management program (CMP).

E. *Waiver* Should any of the findings listed above not be made, the application shall submit a request for a waiver for review and approval by the Director of Community Development.

(Code 1976, § V.E-836.5.3; Ord. No. 92-3, 4-14-92; Ord. No. 92-20, § 6, 11-10-92; Ord. No. 93-14, § 3, 10-12-93; Ord. No. 94-2, § 3, 2-8-94; Ord. No. 94-3, § 2, 4-26-94; Ord. No. 94-7, § 3, 6-14-94; Ord. No. 95-4, 5-9-95; Ord. No. 95-6, § 3, 5-27-95; Ord. No. 95-22, § 3, 11-28-95)

Sec. 9-36-11. High-traffic-generating commercial uses.

A. *Intent of this section.* It is the intent and purpose of this section to assure that certain land uses which generate high levels of traffic are prevented from exceeding the levels of traffic originally analyzed in the environmental documents for Planning Area 36. These specific land uses are identified with a footnote (T) in the City-wide land use matrix (see section 3-3-I).

B. In projects which include uses identified with a footnote (T) in the land use matrix (section 3-3-1), a conditional use permit shall be required. In addition to the required materials listed in section 2-9-3, the conditional use permit application shall include a traffic analysis prepared under the direction of the Director of Community Development. Assigned general land use category development intensity value rates shall be utilized for determining whether Average Daily or a.m./p.m. development intensity value allocations in the database are exceeded. Traffic study requirements may be waived if the project does not meet the minimum traffic generation threshold specified in the traffic study guidelines.

C. Prior to approval of an extended stay hotel project, the applicant shall submit a vehicle trip generation rate verification study. This study shall demonstrate that the individual project's trip generation rates are consistent with the IBC extended stay hotel development intensity value rates. The Planning Commission shall review and render a decision on whether the individual project's vehicle trip rates are consistent with the IBC extended stay hotel development intensity value rate prior to planning commission review of the project.

D. *Findings.* In addition to the findings listed in section 2-9-7, the following findings shall be made in order to approve a conditional use permit for High-traffic-generating commercial uses:

1. Approval of the project will not result in exceeding the a.m. and p.m. development intensity value allocations established for the project site in the IBC land use and development intensity value database. The average daily development intensity value limits established for the project site in the IBC land use and development intensity value database may be exceeded only if no impacts are identified, or the traffic analysis has

identified impacts and mitigation measures that show the circulation system has the capacity to accommodate the project.

2. Approval of the project will not jeopardize the ability of the City of Irvine to qualify for funding sources such as but not limited to the Orange County Congestion Management Program (CMP) or Measure M.

(Code 1976, § V.E-836.5.4; Ord. No. 92-3, 4-14-92; Ord. No. 92-20, § 6, 11-10-92; Ord. No. 93-14, § 3, 10-12-93; Ord. No. 94-2, § 3, 2-8-94; Ord. No. 94-3, § 2, 4-26-94; Ord. No. 94-7, § 3, 6-14-94; Ord. No. 95-4, 5-9-95; Ord. No. 95-6, § 3, 5-27-95; Ord. No. 95-22, § 3, 11-28-95; Ord. No. 99-10, § 3, 5-11-99; Ord. No. 04-03, § 3, 2-24-04)
Sec. 9-36-12. Reserved.

Sec. 9-36-13. Sites providing amenities.

A. *Intent of this section.*

1. The intent of this section is to recognize developments which were built during the period in which the Extraordinary Amenities section of the IBC Mixed-Use zoning ordinance was in place (June 30, 1982 to October 23, 1990) and which constructed amenities during that period in conformance with the ordinance.

2. As part of the database for the Irvine Business Complex, special square footage allocations shall be included to account for amenity credits for eligible locations. To apply for these allocations, applicants must obtain a conditional use permit which must be approved by the City of Irvine Planning Commission.

B. *Eligibility.* Limited to those properties which were built and actually constructed qualifying amenities during the period between June 30, 1982, and October 23, 1990. (See IBC database for reserved intensity for amenities.)

C. *Review procedure.*

1. Types of amenities allowed: Amenities such as extraordinary open space, parks, plazas, facilities for the arts, athletic facilities, and child care centers. They shall provide a benefit not only to the site, but also to the larger community. The City shall receive assurance that any structure or area proposed for credit will be used for that purpose for the life of the project receiving this credit through the provision of a document to be recorded separate from the deed.

2. The site in which the amenity area is located shall be a minimum of ten gross acres (as recorded on the legal map) in order for the area to qualify. If the site consists of more than one parcel, then the parcels which comprise the ten-gross-acre minimum site must be linked by a comprehensive plan such as a conditional use permit, or master plan, approved by the Planning Commission or Zoning Administrator between June 30, 1982, and October 23, 1990.

3. For each gross square foot of amenity area provided, one gross square foot of office development may be added, up to a maximum of 2,178 gross square feet per gross acre.

4. Any open space, park, or plaza for which credit is being requested shall comply with the criteria noted below. These criteria shall not apply to areas devoted to lakes or other water elements.

a. The area must be in addition to that necessary to meet landscaping, park and setback requirements.

b. *Minimum size.* The area must contain a minimum of 4,000 gross square feet.

c. *Sunlight patterns.* The amenity area shall be able to receive direct sunlight on at least 30 percent of the surface area from 10:00 a.m. to 2:00 p.m. between the fall and spring equinox.

d. *Design and landscaping.* At least one major element, such as but not limited to artwork or water, shall be included in the amenity area. The dominant landscape elements shall be trees and turf. The amount of impervious surface should not exceed 40 percent of the amenity area unless unique design considerations are offered.

5. Approval of extraordinary amenity credit shall be granted through a conditional use permit.

(Code 1976, § V.E-836.5.5; Ord. No. 92-3, 4-14-92; Ord. No. 92-20, § 6, 11-10-92; Ord. No. 93-14, § 3, 10-12-93; Ord. No. 94-2, § 3, 2-8-94; Ord. No. 94-3, § 2, 4-26-94; Ord. No. 94-7, § 3, 6-14-94; Ord. No. 95-4, 5-9-95; Ord. No. 95-6, § 3, 5-27-95; Ord. No. 95-22, § 3, 11-28-95)

Sec. 9-36-14. IBC Traffic Improvement Fee Program.

A. *Intent.* The intent of the 2010 IBC Traffic Improvement Fee program is to provide partial funding for the implementation of the areawide circulation mitigation program identified in the Final Program Environmental Impact Report, for the Irvine Business Complex Vision Plan/Mixed Use Overlay Zoning Code.

B. *Basis for the fee program.*

1. This fee program is based upon demonstrated projected development and its anticipated circulation impacts. As such, development which necessitates circulation mitigation measures beyond those identified for existing development and future development with vesting approvals (as defined in section 9-36-14.E) shall pay the current fee in effect at the time of building permit issuance.

2. The IBC Traffic Improvement Fee program establishes variable fees per unit of development for specific land uses, which in turn correspond to the trip generation of each land use. Fair share cost is derived by dividing the total cost of the required circulation improvements for future development into the total number of trips assumed to be generated by projects that are subject to this fee program. The cost per trip is then converted into cost per unit of development for the corresponding land use. (Refer to the IBC circulation improvements funding program for matrices showing the fee calculations.)

C. *Boundaries of the final fee district.* All property within the Irvine Business Complex (Planning Area 36) as shown in section 9-36-2 of this zoning ordinance is included in the final fee district.

D. *Final fee schedule.*

1. Section 9-36-5 of this zoning ordinance specifies the maximum amount of development intensity values (vehicular trips from the 1992 IBC EIR) allowed to be generated as a result of the build-out of the Irvine Business Complex. As part of the traffic study prepared for the 2010 IBC Vision Plan *project*, a study was performed which identifies the traffic impacts of future development within IBC. The traffic study also identifies specific circulation improvements necessary to mitigate the impacts of the projected future development and the cost of the implementation of such improvements.

2. A final fee schedule based upon the nexus analysis and the estimated cost of improvements shall be established by resolution of the City Council.

E. *Applicability.*

1. The 2010 IBC Traffic Improvement Fee program shall apply to all development for which building permits are issued subsequent to the adoption of the 2010 IBC Vision Plan project, regardless of when the development case was approved. These provisions apply to permits for new structures, and additions of square footage to existing structures.
2. Development agreements, and projects for which building permit applications approved prior to the effective date of these regulations, are exempt from the requirements of this fee program.

F. *Timing of compliance.*

1. All development projects within the Irvine Business Complex for which building permits are issued after the effective date of the 2010 IBC zoning ordinance shall comply with the requirements of the 2010 IBC Transportation Improvement fee program. Fees required by this section shall be paid prior to the issuance of any building permits or as specified by procedures adopted by the City Council and in effect at the time building permits are issued.
2. Applicants can elect to pre-pay the IBC Traffic Improvement fees for their projects at any time prior to the issuance of building permits; however, payment of fees solely does not constitute final approval or vesting entitlement for the project.

G. *Construction of areawide improvements in lieu of payment of fees.* Where an applicant is required to pay fees for areawide improvements (improvements which serve the IBC or mitigate impacts to the IBC) under the provisions of these regulations, with the approval of the Directors of Public Works and Community Development, the applicant may construct improvements which are included in the 2010 IBC Vision Plan final program EIR and equivalent in cost to the fees owed. The applicant shall submit an estimate of the construction cost for each improvement it proposes to construct. The Director of Public Works shall verify the estimated construction cost, or make any necessary revisions thereto. The value of the proposed improvements must equal or exceed the required fee in order for the Director of Public Works to approve the applicant's request to substitute construction of improvements for payment of fees.

H. *Exemptions from fees.* The following types of land uses shall be exempt from payment of fees for circulation improvements:

1. Square footage within a building used to provide recreation or services exclusively to employees who work within the building. The uses shall benefit the employees, and, by providing recreation or services on-site, have the potential to reduce the number of trips employees make to other locations. Examples of such uses include cafeterias, exercise facilities, and employee credit unions. Determination of whether or not a proposed use qualifies for this exemption shall be made by the Director of Community Development. This exemption can only be granted if the property owner enters into an agreement with the City and recorded against the property, ensuring that the square footage remains in the exempt use.
2. Square footage within the principal building(s) on a site or in a separate building(s) used for resident, employee or customer parking. This exemption does not apply to areas within a building(s) used for vehicle storage.

I. *Adjustments to fees.* The Director of Public Works shall, on July 1st of each year, apply an adjustment to the Irvine Business Complex (IBC) development fee rates according to the following methodology:

1. *Adjustment in construction cost.* The development fee program shall be evaluated annually in comparison with the California Highway Construction Cost Index (CCI) as published by Caltrans. The fee rates shall be adjusted to reflect fluctuations in the CCI.
2. *Adjustment in land cost.* In addition to the annual adjustment in construction costs, the fee rates shall be adjusted to account for the projected land acquisition costs for the right-of-way necessary to construct the roadway improvements. A land value appraisal assessment will be conducted every three years. The fees shall be adjusted to reflect the latest land cost estimates based on the findings of the appraisal assessment. The land cost adjustment shall be applied every three years. There will be no adjustment rate utilized in years in which no land value appraisals are conducted. As part of this review, the Director of Public Works shall also review the IBC development fees to ensure that the fees would not, over time, exceed the reasonable cost of constructing the required improvements.
3. *Calculation of Fees.* An average of the past five years of fees will be utilized to determine the current year fee.
4. *Changes to Fee Methodology.* At its first meeting in June of each year, the Planning Commission shall be informed if adjustments to fee rates in June of each year. Any change to the methodology for annual adjustment of fees for the IBC Traffic Improvement fee program shall be approved by a resolution of the City Council.

J. Creation of IBC fee account.

1. The City shall establish an IBC circulation improvement fee account immediately after the adoption of the 2010 IBC Vision Plan/Overlay Zoning Code project.
2. The City of Irvine shall maintain the funds in this account separate from other funds of the City of Irvine. Fees collected pursuant to this fee program shall be deposited at the time collected into the IBC circulation fee account; and both the fees and the accrued interest shall be expended only for the implementation (i.e., project reports, design, construction) of the IBC circulation improvements as specified in the IBC Vision Plan/Overlay Zoning Code EIR, and any amendments and revisions thereto.
3. On an annual basis, the Manager of Fiscal Services shall present a report on the status of the IBC circulation fee program to the City Council. The report shall provide information on the fee account revenues, expenditures and the projected fee revenues and expenditure.

K. IBC Traffic Study Update. Every five years following the certification of the Final EIR for the 2010 Vision Plan project, the City shall undertake an updated comprehensive traffic study for the IBC, to evaluate the implementation of the original traffic study and update mitigation as needed. The study shall review both interim and buildout year scenarios.

L. Requirements for provision of local improvements. In addition to the responsibility to participate in funding the areawide improvements, applicants may be required to construct local improvements if such improvements as identified in the conditions of approval are deemed necessary by the Directors of Public Works and Community Development.

1. *Review and determination process.* In conjunction with applications for development proposals, the applicant may be required to provide a traffic study analysis to identify any local improvements necessary to address the traffic impacts of the project. If as a result of this analysis the Directors of Public Works and Community Development determine that

local improvements are needed, the applicant shall be required to provide these improvements as a condition of approval of the development project.

2. *Payment of fees in lieu of construction of local improvements.* Applicants may pay fees in lieu of construction of required local improvements subject to the approval of the Directors of Public Works and Community Development. The in-lieu fee shall be equal to the construction cost of the required improvements.

3. *Timing of compliance.* Prior to the issuance of building permits, the applicant shall submit an estimate of the construction cost for each required improvement. The Director of Public Works shall verify the estimated construction cost, or shall revise the estimate. The fees paid by the applicant shall equal the cost accepted by the Director of Public Works..

(Code 1976, § V.E-836.5.6; Ord. No. 92-3, 4-14-92; Ord. No. 92-20, § 6, 11-10-92; Ord. No. 93-14, § 3, 10-12-93; Ord. No. 94-2, § 3, 2-8-94; Ord. No. 94-3, § 2, 4-26-94; Ord. No. 94-7, § 3, 6-14-94; Ord. No. 95-4, 5-9-95; Ord. No. 95-6, § 3, 5-27-95; Ord. No. 95-22, § 3, 11-28-95; Ord. No. 04-03, § 3, 2-24-04; Ord. No. 05-21, § 3, 10-11-05)

Sec.9-36-15. IBC *Neighborhood* Infrastructure Improvement Fee Program.

A. *Intent.* The intent of the 2010 IBC *Neighborhood* Infrastructure Improvement Fee Program is to *provide funding for* the implementation of the areawide neighborhood infrastructure improvements identified in the 2010 IBC Vision Plan.

B. *Basis for the fee program.*

1. The fee program is based upon a program of neighborhood and pedestrian-oriented infrastructure improvements endorsed by the City Council as part of the development of the IBC Vision Plan. As such, new development which necessitates construction of these improvements beyond those identified for existing development and future development with vesting approvals (as defined in section 5-8-7.E) shall pay its fair share of the cost for the infrastructure improvements.

2. The IBC Infrastructure Improvement Fee establishes variable fees per unit of residential development, based on provision of affordable units on or off site, and whether said units are for rent or for sale. Fair Share cost is a per unit amount per type of unit as determined during the Vision Plan process, and analyzed in the associated nexus study.

3. Timing of implementation and phasing, and final design of the improvements identified as part of the Vision Plan project shall be determined by the City Council.

C. *Boundaries of the final fee district.* All property on which residential or residential mixed use development is proposed within the Urban Neighborhood district within the Irvine Business Complex Residential Mixed Use Overlay Zone as shown in section 5-8-3 of this zoning ordinance is included in the final fee district.

D. *Final fee schedule.*

1. A final fee schedule based upon the nexus analysis and the estimated cost of improvements shall be established by resolution of the City Council.

E. *Applicability.*

1. The 2010 IBC Neighborhood Infrastructure Improvement Fee program shall apply to all residential or residential mixed-use development for which building permits are issued subsequent to the adoption of the 2010 IBC Vision Plan project, regardless of when the

development case was approved. These provisions apply to permits for new units, and additions to existing residential or residential mixed-use development.

2. Development agreements, and projects for which building permit applications are approved prior to the effective date of these regulations, are exempt from the requirements of this fee program.

F. Timing of compliance.

1. All projects within Urban Neighborhood Overlay District (as defined in Chapter 5-8 of this code) within the Irvine Business Complex for which building permits are issued after the effective date of the 2010 IBC zoning ordinance shall comply with the requirements of the 2010 IBC Neighborhood Infrastructure Improvement Fee Program. Fees required by this section shall be paid prior to the issuance of any building permits or as specified by procedures adopted by the City Council and in effect at the time building permits are issued.

2. Applicants can elect to pre-pay the IBC Infrastructure Improvement Fees for their projects at any time prior to the issuance of building permits; however, payment of fees solely does not constitute final approval or vesting entitlement for the project and will not be refundable.

G. Exemptions from fees. The following types of land uses shall be exempt from payment of fees for infrastructure improvements pursuant to this section:

H. Adjustments to fees. The Directors of Public Works *and Community Development* shall, on July 1st of each year, commencing in 2010, apply an adjustment to the Irvine Business Complex (IBC) Infrastructure Improvement Fee rates according to the following methodology:

1. *Adjustment in construction cost.* The public benefit amounts endorsed by City Council motion on July 25, 2006 shall be adjusted annually, pursuant to the Engineering News Record, Construction Cost Index.

2. *Adjustment in land cost.* In addition to the annual adjustment in construction costs, the fee rates shall be adjusted to account for the projected land acquisition costs for the right-of-way necessary to construct the infrastructure improvements. A land value appraisal assessment will be conducted every three years, beginning in 2010. The fees shall be calculated to reflect the latest land cost estimates based on the findings of the appraisal assessment. The land cost adjustment shall be applied every three years. There will be no adjustment rate utilized in years in which no land value appraisals are conducted. As part of this review, the Director of Public Works shall also review the IBC Infrastructure Improvement Fees to ensure that the fees would not, over time, exceed the reasonable cost of constructing the required improvements.

3. *Calculation of Fees.* Once available, an average of the past five years of fees will be utilized to determine the current year fee.

4. *Changes to Fee Methodology.* At its first meeting in June of each year, the Planning Commission shall be informed if adjustments to fee rates in June of each year. Any change to the methodology for annual adjustment of fees for the IBC Traffic Improvement fee program shall be approved by a resolution of the City Council

1. Creation of IBC Neighborhood Infrastructure Improvement Fee Account.

1. The City shall establish an IBC Neighborhood Infrastructure Improvement Fee Account immediately after the adoption of the 2010 IBC Vision Plan/Overlay Zoning Code project.

2. The City of Irvine shall maintain the funds in this account separate from other funds of the City of Irvine. Fees collected pursuant to this fee program shall be deposited at the time collected into the IBC Infrastructure Improvement Fee Account; and both the fees and the accrued interest shall be expended only for the implementation (i.e., project reports, design, construction) of the IBC circulation improvements as specified in the IBC Vision Plan/Overlay Zoning Code EIR, and any amendments and revisions thereto.

Sec. 9-36-16. Affordable housing.

Applications for conditional use permits for residential development shall demonstrate compliance with the housing element of the general plan and City Council Resolution No. 91-28, or subsequent resolution. The conditional use permit will be conditioned to assure compliance with the housing element.

(Code 1976, § V.E-836.5.7; Ord. No. 92-3, 4-14-92; Ord. No. 92-20, § 6, 11-10-92; Ord. No. 93-14, § 3, 10-12-93; Ord. No. 94-2, § 3, 2-8-94; Ord. No. 94-3, § 2, 4-26-94; Ord. No. 94-7, § 3, 6-14-94; Ord. No. 95-4, 5-9-95; Ord. No. 95-6, § 3, 5-27-95; Ord. No. 95-22, § 3, 11-28-95)

Sec. 9-36-17. Required participation in mitigation measures.

All parcels located within the Irvine Business Complex (Planning Area 36) are subject to the applicable mitigation measures and conditions of approval adopted by the City as part of the Irvine Business Complex Vision Plan/Overlay Zoning Code project approval and the final environmental impact report.

(Code 1976, § V.E-836.5.8; Ord. No. 92-3, 4-14-92; Ord. No. 92-20, § 6, 11-10-92; Ord. No. 93-14, § 3, 10-12-93; Ord. No. 94-2, § 3, 2-8-94; Ord. No. 94-3, § 2, 4-26-94; Ord. No. 94-7, § 3, 6-14-94; Ord. No. 95-4, 5-9-95; Ord. No. 95-6, § 3, 5-27-95; Ord. No. 95-22, § 3, 11-28-95)

Sec. 9-36-18. Transfer of development rights.

A. *Intent.* It is the intent of this section to allow transfer of development rights between sites within the Irvine Business Complex. Development rights may be transferred from a sending site to a receiving site within the Irvine Business Complex subject to the approval of a master plan development case for the transfer of development rights (TDRMP) and/or conditional use permit, depending upon what is otherwise required, except as specified in subsection H of this Section. Approved TDRMP and/or CUP development cases shall include conceptual project plans and other required information which describe how the intensity on the receiving site shall be used. Development intensity transferred to a receiving site through an approved TDR shall remain available for use on the project site in accordance with this section until it is used for development or transferred to another eligible site through appropriate mechanisms described in this section. All conditions of approval affiliated with a TDR approval shall continue to apply

to the use of the intensity on the subject site regardless of discretionary approval expiration. If the proposed use requires a discretionary approval separate from the TDR approval, and the separate entitlement either has not been approved or has been approved but has expired, the transferred intensity may not be used unless and until the separate discretionary approval is approved. In the event the intensity is transferred to another site via a new transfer of development rights conditional use permit or master plan, any new conditions of approval shall take precedence.

B. *Determination of TDR eligibility.* Both the sending and receiving sites shall be located within the boundaries of the Irvine Business Complex (Planning Area 36).

C. *Master plan application.*

1. Applications to conduct a transfer of development rights shall include the following information for the receiving site:

a. Conceptual site plan.

b. Access plan option.

2. The application shall conceptually identify the proposed use of the total intensity for the receiving site and the adjusted AM, PM and Average Daily development intensity value budget for both the sending and receiving sites. All three components (i.e. AM, PM and Average Daily) of intensity must be transferred as a block of intensity.

D. *Determination of development rights to be transferred.*

1. The master plan application is required to facilitate review of the conceptual site plan for the receiving site. As such, the materials required for a TDR master plan development case shall conceptually identify the approximate locations and configurations of development and potential access points on the receiving site as well as the corresponding distribution of intensity by legal parcel: a.m., p.m. and average daily development intensity values,, gross square feet of building area, by use; dwelling units; and hotel rooms.

2. The application shall also identify the intensity to be transferred from the sending site to the receiving site.

3. The sending site shall retain sufficient a.m. and p.m. and average daily development intensity values to achieve 0.125 floor area ratio (FAR) office equivalency on the site.

4. The City shall have the discretion to permit an applicant to transfer development intensity values in excess of those which would result in the sending parcel being developed at less than a 0.125 FAR office equivalency. In such case, the applicant shall have the option of either (1) providing an irrevocable offer of dedication of the parcel to the City for public purposes or (2) demonstrating that a viable project exists which will reasonably function with less than 0.125 FAR of office equivalency. Such offer or demonstration shall occur prior to the issuance of building permits.

E. *Transfer of development rights fee.* A fee shall be charged for the transfer of development rights payable within 30 calendar days after the recordation of the TDR agreement.

1. *Fee rate.* Transfer of development rights fees shall be charged as established by resolution through the City Council.

2. *Fee calculation.*

Development intensity Value Fee× Transferred P.M. Development intensity Values =
Total TDR Fee

F. *Findings.* The following findings shall be made in order to approve a transfer of development rights development case (MP and/or CUP). These findings are in addition to the findings required in division 2 (chapter 2-9 and chapter 2-17) of this ordinance.

1. The project shall not adversely affect City infrastructure and services.
2. There is no adverse impact on the surrounding circulation system. The performance criteria as established in the 2010 IBC Vision Plan/Overlay Zoning Code project final program EIR is maintained as a result of no impact, or adequate mitigation.

G. *IBC database adjustments.* A site which transfers development intensity values ("sending site") shall retain sufficient a.m., p.m., and average daily development intensity values to achieve 0.125 floor area ratio (FAR) office equivalency on the site, except as provided below:

1. The following requirements apply to all master plan and/or conditional use permit applications for transfers of development rights:
 - a. Prior to submittal of applications for building permits for either the sending or receiving site, the applicant shall submit an instrument prepared to the satisfaction of the Director of Community Development and the City Attorney executing a transfer of development rights agreement between the receiving and sending site(s). The following information shall be included in the agreement:
 - (1) The amount of a.m., p.m., and average daily development intensity values transferred values;
 - (2) The remaining amount of a.m., p.m., and average daily development intensity values, including gross square feet of building area, for each site.
 - b. Prior to issuance of building permits for either the sending or receiving site, the agreement between the sending and receiving site as described above shall be recorded in the office of the Orange County Recorder.

H. A CUP or Master Plan shall not be required for transfers of development intensity values for *permitted land uses* between parcels located within the same Traffic Analysis Zones (TAZ's as defined in the 2010 IBC Vision Plan and Overlay Zoning Code EIR. Such transfers may also be permitted between adjacent zones without the requirement for a CUP or Master Plan if a direct physical relationship between sites in adjacent TAZ's can be demonstrated to the satisfaction of the Director of Community Development. Such transfers shall also be exempt from TDR fee requirements. All other TDR provisions of this section shall apply.

(Code 1976, § V.E-836.5.9; Ord. No. 92-3, 4-14-92; Ord. No. 92-20, § 6, 11-10-92; Ord. No. 93-14, § 3, 10-12-93; Ord. No. 94-2, § 3, 2-8-94; Ord. No. 94-3, § 2, 4-26-94; Ord. No. 94-7, § 3, 6-14-94; Ord. No. 95-4, 5-9-95; Ord. No. 95-6, § 3, 5-27-95; Ord. No. 95-22, § 3, 11-28-95; Ord. No. 01-07, § 2, 5-8-01)

Sec. 9-36-19. Procedure for analysis of development intensity and vehicle trip capture within 5.0 IBC Mixed-Use and 5.1 IBC Multi-Use Districts.

A. *Intent.* This section provides a procedure for analysis of development intensity and vehicle trip capture rates for mixed-use projects locating within the 5.0 IBC Mixed-Use and 5.1 IBC Multi-Use Zoning Districts.

B. *Applicability.* This section applies only to development applications for mixed-use projects that propose to locate within the 5.0 IBC Mixed-Use and 5.1 IBC Multi-Use Zoning Districts and formally request a development intensity and vehicle trip capture.

C. *Traffic study*

1. A traffic study shall be required for development applications proposing to utilize trip capture for a parcel within the 5.0 IBC Mixed-Use Zoning District. The most recent ITE formulas and methodologies, as determined by the Directors of Public Works and Community Development, shall be used for calculating the appropriate development intensity and vehicle trip capture rates.

2. The traffic study shall be reviewed and findings shall be made and approved by the Director of Public Works and Community Development.

D. *Findings.* The following findings must be made in order to approve an on-site trip capture rate for a mixed-use project located within the 5.0 IBC Mixed-Use and 5.1 IBC Multi-Use Zoning Districts.

1. Approval of the project will not result in exceeding the development intensity value identified in the IBC database. The trip capture rate may be used only if the traffic analysis has identified *no* impacts, or if impacts have been identified, demonstrate mitigation measures that show the circulation system has the capacity to accommodate the project.

2. Average Daily development intensity values may be exceeded subject to the provisions of Section 9-36-11 E of this Chapter.

3. Approval of the project will not jeopardize the ability of the City of Irvine to qualify for funding sources, including but not limited to the Orange County Congestion Management Program (CMP).

(Ord. No. 04-09, § 6, 9-14-04)

Sec 9-36-20 Environmental Standards

1. Applicants for new developments in the Irvine Business Complex shall require that the construction contractor provide alternative transportation mode incentives, such as bus passes, and/or carpooling for workers to and from the worksite on days that construction activities require 200 or more workers. These requirements shall be noted on the grading plan cover sheet.

2. Applicants for new developments in the Irvine Business Complex shall submit evidence to the satisfaction of the Director of Community Development or Director of Public Works that the project uses recycled materials for at least 20 percent of construction materials. Recycled materials may include salvaged, reused, and recycled content materials. Recycled and/or salvaged building materials shall be shown on building plans and product cut sheets submitted to the City.

3. Applicants for new developments in the Irvine Business Complex shall require that the construction contractor utilize off-road construction equipment that conforms to Tier 3 of the United States Environmental Protection Agency, or higher emissions standards for construction equipment over 50 horsepower that are commercially available. The construction contractor shall be made aware of this requirement prior to the start of construction activities.

4. Applicants for new developments in the Irvine Business Complex shall submit evidence to the satisfaction of the Director of Community Development that toilets, urinals, sinks, showers, and other water fixtures installed on-site are ultra-low-flow water fixtures that exceed the Uniform Plumbing Code. Such examples include: 1.28 average gallon/flush high efficiency toilets; 2 GPM efficient bathroom faucets, 2.2 GPM efficient kitchen faucets, and 2.2 GPM efficient shower heads.
5. Applicants for new developments in the Irvine Business Complex shall submit evidence to the satisfaction of the Director of Community Development that landscaping irrigation systems installed the project are automated, high-efficient irrigation systems that reduce water use, such as an evapotranspiration (ET) “smart” weather-based irrigation controller, dual piping, bubbler irrigation; low-angle, low-flow spray heads; moisture sensors, and use of a California Friendly Landscape Palette. These features will make the project consistent with the intent of California Water Conservation in Landscaping Act of 2006 (AB 1881), including provisions to reduce the wasteful, uneconomic, inefficient, and unnecessary consumption of water.
6. Reclaimed water shall be used on all master landscaped areas: This will include master landscapes commercial, multifamily, common, roadways, and park areas. The use of reclaimed water directly offsets potable water demand and reduces the GHG emissions associated with irrigation by approximately 70 percent. Master landscapes will also incorporate weather-based ET controllers and efficient irrigation system design to reduce over watering combined with the application of a California Friendly Landscape Palette.
7. New parking lots shall include tree plantings designed to result in 50 percent shading of parking lot surface areas within 15 years. These shading requirements shall apply to all impervious surfaces on which a vehicle can drive, including parking stalls, driveways, drive aisles, and other maneuvering areas within parking areas. Landscaping shall be provided with drought-tolerant species and groundcovers rather than pavement, in order to reduce heat deflection.
8. On-site recycling facilities shall be provided on all new developments as required by the Director or Public Works.
9. Applicants for new non-residential developments in the Irvine Business Complex shall submit evidence to the satisfaction of the Director of Community Development that proposed buildings are designed and constructed to achieve the ‘Designed to Earn the Energy Star’ rating. In order achieve the ‘Designed to Earn the Energy Star’ rating, the architect/design firm must demonstrate that the final estimate of the building’s energy use correspond to a rating of 75 or better using the US EPA’s Energy Performance Rating from the Internet based tool Target Finder.

9-36-2I Transportation Management Association

This section allows for the formation of a Transportation Management Association (TMA) within the Irvine Business Complex, the structure and operation of which shall be

determined by the Director of Public Works. The objectives of the TMA shall include, but not be limited to the following:

1. Monitor travel demand at employment sites and provide reports on trip generation to the City of Irvine;
2. Offer employees and property owners assistance with transportation services on a voluntary basis.
3. Deliver transportation services to commuters, such as ridesharing, transit and Metrolink information.
4. Represent the IBC in local transportation matters
5. Oversee and fund the implementation and expansion of the i-shuttle system.

9-36-22 Heliports

Applicants for a conditional use permit for a heliport or helistop shall provide evidence that the proposed heliport or helistop complies fully with State of California permit procedures and with any and all conditions of approval imposed by the Federal Aviation Administration (FAA), the Airport Land Use Commission for Orange County (ALUC), and by the Caltrans Division of Aeronautics.

9-36-23 Accessory Retail

For project sites located more than ¼ mile from existing neighborhood-oriented retail services, applicants for residential development of 500 units or more, or non-residential developments of 250,000 sq. ft. or more are strongly encouraged to provide accessory retail uses as defined in the City of Irvine Zoning Code. Should accessory retail uses not be provided, applicants shall provide written rationale for not doing so, as part of the Conditional Use Permit application.

Sec. 1-2-1. General definitions.

Development intensity Value: A measure of development intensity utilized within the City's Irvine Business Complex (IBC) database. Development intensity values for a.m., p.m, and average daily correspond to "vehicle trips" previously identified in the IBC database originally established following the adoption of the 1992 IBC rezoning and intensity allocations.

General land use category: A designation for one of the categories in the Irvine Business Complex land use and development intensity value database with a specific development intensity value rate and utilized to calculate building intensity. These categories are not zoning districts as described elsewhere in this zoning ordinance. The database is based upon eight general land use categories: Office, Industrial, Residential, Retail, Zoning Potential, Lodging. Two other categories describe special situations: undefined uses and uses assumed to have no traffic generation. See section 9-36-8 additional information regarding development intensity value rates for each general land use code. (Note: this term is not to be confused with "General Land Use Category" as described in the City of Irvine general plan.)

IBC Development intensity: development intensity and affiliated development intensity values associated with either a 0.25 FAR Office Equivalency or a discretionary approval which may grant intensity and development intensity values above and beyond a 0.25 FAR Office Equivalency. IBC Development intensity is tracked through the Irvine Business Complex land use and development intensity value database. See section 9-36-8.

IBC Industrial: A general land use category used in the Irvine Business Complex database where the manufacturing, assembly, storage or wholesale distribution of a product occurs. (See section 3-3-1 for specific land uses permitted or conditionally permitted in each zoning district.)

IBC Lodging: A general land use category used in the Irvine Business Complex database which includes specific uses such as transient lodging to the general public and additional services such as restaurants, hotels, motels, meeting rooms, and recreation facilities. (See section 3-3-1 for specific land uses permitted or conditionally permitted in each zoning district.)

IBC Office: A general land use category used in the Irvine Business Complex database comprising all office uses where the managerial, administrative and clerical functions of a business or industry are conducted, or where members of a profession such as attorneys or accountants conduct business. (See section 3-3-1 for specific land uses permitted or conditionally permitted in each zoning district.)

IBC Residential: A general land use category used in the Irvine Business Complex database which comprises all dwelling units and supporting facilities such as neighborhood community facilities and parks. (See section 3-3-1 for specific land uses permitted or conditionally permitted in each zoning district.)

IBC Retail: A general land use category used in the Irvine Business Complex database which is devoted to retail uses such as the sales of goods and services. (See section 3-3-1 for specific land uses permitted or conditionally permitted in each zoning district.)

IBC Zoning Potential: A general land use category used in the Irvine Business Complex database which represents the difference between the calculated 0.25 FAR standard intensity allocation for a given vacant or under-utilized parcel and the built

and/or approved gross square footage for that parcel. Development intensity value rates for Zoning Potential correspond to those associated with IBC Office development intensity value rates.

Office equivalency: Development intensity within PA 36 (IBC) which is based upon vehicle development intensity value rates commensurate with office development.

Receiving site (TDR): A site within the IBC to which development rights (gross square feet based upon an development intensity value budget) may be transferred in accordance with the provisions of section 9-36-17 (TDR).

Sending site (TDR): A site within the IBC that has the ability to transfer development rights (gross square feet based upon an development intensity value budget in the IBC database) in accordance with the provisions of section 9-36-17 (TDR).

Undefined uses: A general land use category used in the Irvine Business Complex zoning ordinance which includes accessory uses, manufactured structures, and drive-thru, churches, community and government facilities, commercial recreation, outdoor storage, and commercial, private and public schools. Corresponding vehicle trip rates shall be determined by the Director of Public Works at the time of project submittal consistent with development intensity value rates approved by the City, and shall be based upon the specific land uses proposed.

Uses assumed to have no traffic generation: A general land use category used within the Irvine Business Complex (PA 36) that describes uses for which no development intensity value is assumed. These include parks, pushcarts and heliports for which no development intensity value shall be assumed.

CHAPTER 3-27. SETBACK STANDARDS

Sec. 3-27-1. Applicability.

Sec. 3-27-2. General setback requirements.

Sec. 3-27-3. Exceptions to setback requirements.

Sec. 3-27-4. Intrusions into required setbacks.

Sec. 3-27-5. Setback requirements for legal nonconforming structures.

Sec. 3-27-6. Reserved.

Sec. 3-27-7. Lattice/trellis patio cover, cabana, pool house and gazebo setback requirements.

Sec. 3-27-8. Pools and spas and mechanical equipment setback requirements.

Sec. 3-27-9. Open parking area setback requirements.

Sec. 3-27-10. Garage and carport setback requirements.

Sec. 3-27-11. Mobile home park building setback requirements.

Sec. 3-27-12. Reserved.

Sec. 3-27-13. Residential building additions.

Sec. 3-27-1. Applicability.

Setback standards apply to all residential and nonresidential developments. In addition to the general requirements, this chapter identifies specific standards as well as the exceptions to the setback standards.

(Code 1976, § V.E-318.1; Ord. No. 92-3, 4-14-92; Ord. No. 92-20, § 6, 11-10-92; Ord. No. 92-21, 11-24-92; Ord. No. 94-7, § 3, 6-14-94; Ord. No. 95-1, § 5, 1-10-95; Ord. No. 95-4, § 1, 5-9-95)

Sec. 3-27-2. General setback requirements.

A. *Streets.* The setback is measured from the curb face corresponding to the ultimate right-of-way. Refer to chapter 3-37 for specific setback distances for each land use category and arterial roadway designation. Exceptions to setback distances for specific roadways are shown in the setback exceptions matrix (at the end of this section). Please refer to the footnotes found in each Irvine Business Complex (IBC) zoning category regarding exceptions to the measurement of streetside (building) setbacks.

1. When a planning area edge exists between a residential use and a street, the interior setbacks shall apply.
2. When a planning area edge exists between a commercial use and a street, the planning area edge boundary or the streetside setback shall apply, whichever is greater.
3. When a residential lot has two street frontages (e.g., corner lot), the streetside setback or the side yard property line setback requirement shall apply, whichever is more restrictive.
4. When residential buildings are located where the side yard is dedicated by easement in perpetuity to the adjacent property, the walls directly adjacent to the easement are permitted to have eaves as described below:
 - a. In situations where the easement is less than three feet in width, eaves are prohibited.
 - b. In situations where the easement is three feet in width, the entire width of the eave, including any rain gutter, shall be no greater than one foot, measured from the face of the exterior wall.

c. In situations where the easement is at least five feet in width, the entire width of the eave, including any rain gutter, shall be no greater than three feet, measured from the face of the exterior wall.

d. In situations where eaves are permitted and the slope of the roofline causes water to drain toward the easement, rain gutters are required to ensure water does not flow onto the easement.

e. In all instances the face of the eave, including any rain gutter, shall be setback a minimum of two feet from any property line, consistent with Section 503.2.1 and table 5-A of the Uniform Building Code.

B. *Interior boundaries.* The setbacks are measured from the side or rear property line of the site (see definition of "Site").

1. Rear and side setbacks may be zero. See development standards in chapter 3-37.

C. *Planning Area 4.* For setbacks along arterials and the planning area edge within Planning Area 4 (Lower Peters Canyon), see section 9-4-7.C.1.

SETBACK EXCEPTIONS MATRIX

If a project is adjacent to any of the following roadway segments, use the setback distance (in feet) listed under the appropriate land use category below. If the project is not adjacent to any of the following roadway segments, refer to the setback distance requirements found in sections 3-37-2 through 3-37-38.

TABLE INSET:

ROADWAY SEGMENT 5.0 IBC Mixed-Use 5.1 IBC Multi-Use 5.2 IBC Industrial 5.3 IBC Residential

Alton:

Redhill to Culver 40

Campus:

Jamboree to University 40 30

Main Street:

SR-55 to Harvard 40 2 40 30 1

Michelson:

Von Karman to Jamboree 30 3 40

Jamboree to Harvard 40

Redhill:

I-405 to Main 40

Von Karman:

Michelson to Main 40

Main to Barranca 40

Footnotes:

1. In 5.3B, 20 feet.
2. For the property located on the northeast corner of Jamboree and Main Street located in the 5.0 IBC Mixed Use district, the setbacks for residential land uses from Jamboree and Main Street frontage shall be no less than 20 feet as measured from the ultimate right-of-way/property line of this parcel. For the non-residential portions of this same project site, the setbacks from Main Street shall be no less than 12 feet as measured from the ultimate right-of-way/property line of this parcel.
3. For the property located at the northwest corner of Jamboree Road and Michelson Drive and designated in 5.0A IBC Mixed-Use district, the minimum setback from Michelson Drive, between Teller and Obsidian, shall be no less than 23 feet as measured from the ultimate curb face of Michelson Drive. This reduced setback shall override the applicable requirements for special landscaped street in Section 3-15-9.
(Code 1976, § V.E-318.2; Ord. No. 92-3, 4-14-92; Ord. No. 92-20, § 6, 11-10-92; Ord. No. 92-21, 11-24-92; Ord. No. 94-7, § 3, 6-14-94; Ord. No. 95-1, § 5, 1-10-95; Ord. No. 95-4, § 1, 5-9-95; Ord. No. 97-05, 5-13-97; Ord. No. 97-06, § 3, 5-13-97; Ord. No. 03-15, § 5, 5-13-03; Ord. No. 03-34, § 5, 1-27-04; Ord. No. 04-09, § 6, 9-14-04; Ord. No. 05-16, § 2, 7-12-05; Ord. 05-29, § 3, 1-10-06)

Sec. 3-27-3. Exceptions to setback requirements.

The following are allowed in any required setback area but shall not obstruct sight distance for access (this shall be determined by performing a sight distance measurement pursuant to Engineering Standard Plan 403):

- A. Driveway entrances.
- B. Flagpoles (see chapter 3-9 and chapter 3-13).
- C. Fountains.
- D. Landscaping.
- E. Lattice/trellis patio cover (see section 3-27-7).
- F. Mechanical equipment (see section 3-27-8).
- G. Patios (uncovered).
- H. Detached fireplace/chimney
- I. Walks.
- J. Walls and fences (see chapter 3-35).

See Chapter 5-8 and IBC Residential/Mixed Use Design Criteria for exceptions to setback requirements for residential or residential mixed use projects within the Irvine Business Complex.

(Code 1976, § V.E-318.3; Ord. No. 92-3, 4-14-92; Ord. No. 92-20, § 6, 11-10-92; Ord. No. 92-21, 11-24-92; Ord. No. 94-7, § 3, 6-14-94; Ord. No. 95-1, § 5, 1-10-95; Ord. No. 95-4, § 1, 5-9-95; Ord. No. 03-02, § 4, 1-14-03)

Sec. 3-27-4. Intrusions into required setbacks.

The following are allowed to intrude a maximum of three feet into a required setback:

- A. Architectural features.
- B. Eaves (see Section 3-27-2.5).

- C. Fireplaces.
- D. Steps and staircases (open).
- E. Balconies on all floors of only mid-rise and high-rise residential developments of four stories and above (applies only to zoning categories 5.0, 5.1 and 5.3 in the IBC).

See Chapter 5-8 and IBC Residential/Mixed Use Design Criteria for exceptions to setback requirements for residential or residential mixed use projects within the Irvine Business Complex.

(Code 1976, § V.E-318.4; Ord. No. 92-3, 4-14-92; Ord. No. 92-20, § 6, 11-10-92; Ord. No. 92-21, 11-24-92; Ord. No. 94-7, § 3, 6-14-94; Ord. No. 95-1, § 5, 1-10-95; Ord. No. 95-4, § 1, 5-9-95; Ord. No. 05-16, § 2, 7-12-05)

Sec. 3-37-28.1. 5.0 IBC Mixed Use.

A. *Intent* . The Mixed-Use land use district is intended as a zoning designation in which a wide variety of uses are allowed on the same site. This district allows a mix of commercial, retail and residential uses and also restricts the amount of traditional industrial/warehouse uses that can be found in other IBC districts. This category encourages mixed-use projects by allowing a combination of commercial, office, residential, and institutional uses within the same project site. Specific uses, particularly those proposed to serve the needs of the residential and employee populations of this district, such as residential, retail, office, schools, parks, libraries and theatres, are especially encouraged in this area. Special provisions apply to several of the conditional commercial uses in this area that generate high levels of traffic.

B. *Permitted uses.*

TABLE INSET:

GLU 1 Category	Use
35	Accessory use
36	Agriculture (interim use)
31	Bar, tavern and cocktail lounge 2
35 T	Commercial recreation (under 1,500 square feet)
31	Financial institution (except drive-thru)
35 T	Government facility
31 T	Health club
35	Home care
35	Home occupation permit
29	Information center
29	Large family day care
35	Manufactured structure permit (up to two years)
33	Model home sales complex
29	Office, administrative, business, professional
29	Office, design professional
29	Office, headquarters
29 T	Office, medical
31	Outdoor vendor

36	Park
36	Parking Structure
36	Public park facility
36	Pushcart
29	Research and development
31 T	Restaurant
31 T	Restaurant, fast food
31	Retail and/or service business, general (except drive-thru)
36	Reverse vending machine
35	School, commercial
35	School, private
35	School, public
33	Senior housing
31	Supermarket
29	Veterinary services, domestic
35	Wireless Communication Facility (may require a wireless communication facility permit, a minor conditional use permit, a major conditional use permit or may be prohibited, depending on the type of installation and the location of the installation site, pursuant to the review procedures matrix in Section 2-37.5-3.

C. Conditional uses .

TABLE INSET:

GLU 1 Category	Use
31	Arcade, game
34	Caretaker's quarters
29	Child care center
35 T	Commercial recreation (over 1,500 square feet)
35	Community facility
29 T	Conference/convention facility
30	Congregate care facility
30	Convalescent home
31 T	Convenience, liquor store

31 T	Financial institution, drive-thru
31 T	Fraternal and service club
36	Heliport
29	Hospital
38 T	Hotel, extended stay
32	Hotel, motel
35	Manufactured structure (over two years)
31	Massage establishment and related business
31	Outdoor sales
33	Residential, attached
33	Residential care facility
33	Residential shelter
31	Restaurant, "Type 47" ABC License operating after 12:00 a.m.
30	Small collection facility
35	Utility building and facility

D. Maximum building intensity.

1. The IBC land use database specifies maximum development allocations in a.m. and p.m. peak hour and average daily automobile development intensity values for each legal parcel or site. It also identifies the existing gross square feet, number of dwelling units and hotel rooms for each legal parcel in the IBC. In addition, the database estimates the build-out potential based on the 0.25 FAR in office equivalency for each site. Developments shall not exceed the allocated a.m. and p.m. development intensity values specified in the database for a particular site.

2. A traffic study shall be required for development proposals that exceed the maximum ADT limitation. A conditional use permit may also be required. Refer to Section 9-36-10 for special regulations that pertain to applications proposing to exceed the maximum ADT limit.

3. The minimum allowable density shall be 30 units per acre. For calculation of residential intensity, density averaging shall be allowed, whereby the total number of dwelling units proposed is divided by the net acreage of the residential and open space/park portions of the project site. The maximum residential density shall be 30-52 dwelling units per net acre, except that the maximum allowable density may be increased to 30-56 dwelling units per net acre if the development provides twenty percent of the units in the development as on-site affordable housing in accordance with the following criteria:

- Five percent of the units for Income II (30--50 percent of median area income); and
- Five percent of the units for Income III (50--80 percent of median area income); and
- Ten percent of the units for Income IV (80--120 percent of median area income); and

E. Minimum site size. 3

- General commercial/retail uses: 10,000 square feet.
- All other nonresidential uses: 30,000 square feet.

3. Residential uses: One-half (0.5) acre.

F. *Maximum site coverage.* 4

1. Nonresidential uses: 65 percent.

2. Residential and mixed-use developments: 75 percent.

G. *Maximum building height.* FAA height limits as determined in accordance with part 77 of the FAA regulations.

H. *Landscaping.*

1. Site landscaping. A minimum of 15 percent landscaping is required for each improved nonresidential building site.

I. *Setbacks.*

See Chapter 5-8 and IBC Residential/Mixed Use Design Criteria for setbacks for residential and residential mixed use developments).

1. Freeways, transportation corridors:

Residential uses: 40 feet (30 feet from I-405 right-of-way (5.0A))

Nonresidential uses: 25 feet

2. Major highways:

Nonresidential uses: 25 feet

3. Primary highways:

Nonresidential uses: 20 feet

4. Secondary highways:

Nonresidential uses: 20 feet

5. Commuter highways and local streets:

Nonresidential uses: 15 feet

6. Private drives: 10 feet

7. Building to building setbacks: 10 feet

8. Side setbacks: 10 feet

9. Rear setbacks:

Nonresidential uses: 5 feet

10. Improvements permitted within the setback area:

a. Steps, and open and enclosed stairways, except that they may not be located within ten feet of the face of curb.

b. Architectural projections such as eaves, column and buttresses may extend six feet into a 30-foot setback, and three feet into a setback of less than 30 feet.

c. On-site recreational amenities as required by Zoning Code Chapter 2-22, and further outlined in the Park Plan and Park Design for the site.

d. Balconies on all floors of only mid-rise and high-rise residential developments of four stories and above.

e. See Chapter 5-8 and IBC Residential/Mixed Use Design Criteria for improvements allowed in setback areas for residential and residential mixed use developments.

J. *Sidewalks.* Sidewalks shall be installed along all frontages in the planning area in accordance with the sidewalk plan for the Irvine Business Complex adopted by the City of Irvine. Additional sidewalks and other pedestrian access facilities shall be required as needed to facilitate pedestrian circulation between places of employment, restaurants, parks, and institutional, retail and residential uses. The width of sidewalks adjacent to and around retail areas and/or park and open space areas shall be determined during the master plan process or established through grading plan reviews.

K. *Lighting.*

1. Exterior lighting is required for all employee and visitor parking areas, walkways, and building entrances and exits.
2. No light standard shall exceed ten feet in height unless the light standard has a light cutoff of 90 degrees or less, in which case the maximum height shall be 30 feet.
3. No light source shall be affixed to any building so that rays are perpendicular to the building face.
4. All direct rays shall be confined to the site.

L. Screening.

1. All building operating mechanical equipment shall be screened from off-site view.

M. Parking. Parking shall be provided in accordance with division 4 of the zoning ordinance except for the following:

1. For mixed-use buildings and/or parcels, each use shall have parking as per the requirements of division 4 of the zoning ordinance. If an applicant desires a reduction in these standards when applying for City approval, the applicant must submit a parking study stating the request and the reasons why the reduced ratio is appropriate for the proposed use. This study shall be reviewed and approved by the approval body prior to, or concurrent with, the approval of the project.
2. Vehicle parking shall not be permitted within the streetside setback where the property abuts a street designated as a special landscaped street, or within ten feet of the ultimate right-of-way line for property along other public streets. On street parking on interior private courts, street and/or drives shall be allowed based on the City-adopted Standard Plans.
3. Parking requirements for all residential units shall be based on the parking standards as set forth in division 4 of the zoning ordinance. If an applicant desires a reduction in these standards when applying for a conditional use permit approval, the applicant must submit a parking study stating the request and the reasons why the reduced ratio is appropriate for the proposed rental residential units. This study shall be reviewed and approved by the Planning Commission prior to, or concurrent with, the approval of the master plan.
4. See Chapter 5-8 and IBC Residential/Mixed Use Design Criteria for parking requirements for residential and residential mixed use developments.

N. Private drives. For residential projects that propose to include private drives, all private drives shall meet the standards stated in the City's private drive policy in effect at the time of conditional use permit approval.

O. Affordable housing requirement. Any residential units built must comply with chapters 2-3 and 9-36 of this zoning ordinance.

Footnotes:

T A traffic study is required for this use; see section 9-36-11. No traffic study will be required for any use with this footnote if the use was considered as part of a traffic study prepared for any mixed-use development provided the traffic study was prepared and approved within the past 12 months. For "31T Restaurant" and "31T Restaurant, fast food," the Director of Public Works shall determine whether a traffic study approved more than 12 months ago is adequate.

1 General land use (GLU) categories identify the development intensity value generation rates used for analyzing a corresponding permitted or conditional use in the IBC. See section 9-36-8 for additional information regarding development intensity value rates for each general land use category.

2 Any "Bar, Tavern Cocktail Lounge" proposing to locate in the same building as a residential use, shall be subject to the Conditional Use Permit procedures contained in Zoning Code Chapter 2-9.

3 This requirement shall not be construed to prevent condominium-type developments that have smaller lot sizes as long as they have a mandatory owners' association, and the land area under the jurisdiction of the owners' association meets the minimum lot size requirements.

4 If useable open space, landscape or hardscape is placed over the parking structure, then that portion of the parking structure covered by these areas shall not count towards building site coverage, provided that the parking structure is designed in keeping with the architectural theme of the residential units, and is screened from off site views either completely or with a berm having a minimum height of five feet. In any non-residential projects which propose the use of parking structure(s), those portions of the structure which meet the following criteria shall not be counted in determining compliance with the limits on building site coverage:

- a. The roof of the structure is within five feet of the surface grade existing on the site prior to the development of the project; and
- b. The roof of the structure is, in effect, replacing the ground surface in the functions that it performs (i.e., it will be covered by such improvements as surface parking, access drives, landscaping, walkways, and plazas in a manner similar to the design that would be used if the roof were land surface); and
- c. Any portion of the parking structure that is above the existing grade is screened from off-site views.

5 On-site parking shall not be permitted within 25 feet of exterior boundaries of the site.

6 If the use of the adjoining parcel is residential, then the building setback may be a minimum of five feet, but in no instance shall any structure be located closer than ten feet to another structure. Additionally, for buildings within the 5.0A IBC Mixed-Use district, and located on lots immediately adjacent to any private park, the setback may be five feet, but in no instance shall any structure be located closer than ten feet to another structure.

7 Other than the improvements noted, streetside setbacks shall be landscaped.

8 For the property located at the northwest corner of Jamboree Road and Michelson Drive and designated in 5.0A IBC Mixed-Use district, the minimum setback from Michelson Drive, between Teller and Obsidian, shall be no less than 23 feet as measured from the ultimate curb face of Michelson Drive. This reduced setback shall override the applicable requirements for special landscaped street in Section 3-15-9.

(Ord. No. 03-34, § 5, 1-22-04; Ord. No. 04-08, § 5, 8-24-04; Ord. No. 04-09, § 6, 9-14-04; Ord. No. 05-13, § 4, 7-12-05; Ord. No. 05-16, § 2, 7-12-05)

Sec. 3-37-29. 5.1 IBC Multi-Use.

A. *Intent.* The Multi-Use land use district is intended as an area in which a wide variety of uses are allowed. Specific institutional uses, particularly those proposed to serve the needs of the residential and employee populations of this district, such as schools, parks, libraries and theaters, are especially encouraged in this area. Special provisions apply to several of the conditional commercial uses in this area which generate high levels of traffic.

B. *Permitted uses.*

TABLE INSET:

GLU 1 Category	Use
35	Accessory use
36	Agriculture (interim use)
35 T	Commercial recreation (under 1,500 square feet)
31	Equipment rental
30	Greenhouse
29	Industry, service
29	Information center
35	Manufactured structure permit (up to two years)
30	Manufacturing, light
29	Office, administrative, business, professional
29	Office, design professional
29	Office, headquarters
31	Outdoor vendor
36	Park
36	Public park facility
36	Pushcart
30	Recreational vehicle storage, private
29	Research and development
31	Retail and/or service business, general (except drive-thru)
35	Retail business, home improvement related
36	Reverse vending machine
35	School, public
31	Supermarket
29	Veterinary services, domestic
35	Warehouse and sales outlet
30	Warehousing, storage, and distribution

35	Wireless Communication Facility (may require a wireless communication facility permit, a minor conditional use permit, a major conditional use permit or may be prohibited, depending on the type of installation and the location of the installation site, pursuant to the review procedures matrix in Section 2-37.5-3.

C. *Conditional uses.*

TABLE INSET:

GLU 1 Category	Use
29	Ambulance service
31	Bar, tavern and cocktail lounge
34	Caretaker's quarters
31 T	Carwash
29	Child care center
35	Church 2
35 T	Commercial recreation (over 1,500 square feet)
35	Community facility
35	Composting facility
29 T	Conference/convention facility
30	Congregate care facility
30	Convalescent home
31 T	Convenience, liquor store
31 T	Department store
35 T	Drive-thru
31	Escort bureau/introductory service
31 T	Financial institution (except drive-thru)
31 T	Financial institution, drive-thru
31 T	Fraternal and service club
31	Funeral home, mortuary
31 T	Gas station/fuel dispenser
35 T	Government facility
31 T	Health club
36	Heliport

29	Hospital
38 T	Hotel, extended stay
32	Hotel, motel
30 T	Large collection facility
35	Manufactured structure (over two years)
30	Manufacturing, heavy
31	Massage establishment and related business
37	Miniwarehouse
29 T	Office, medical 5
31	Outdoor sales
35	Outdoor storage
33	Residential, attached
31 T	Restaurant 3
31 T	Restaurant, fast food (drive-thru)
31 T	Restaurant, fast food (except drive-thru)
31 T	Restaurant, "Type 47" ABC License operating after 12:00 a.m.
35	School, commercial 4
35	School, private 4
30	Small collection facility
35	Utility building and facility
30	Vehicle body repair, paint, or restoration
31	Vehicle leasing and rental
31	Vehicle repair
31	Vehicle sales

D. Maximum building intensity.

1. The IBC land use database specifies maximum development allocations in a.m. and p.m. peak hour and average daily development intensity values for each legal parcel or site. It also identifies the existing gross square feet, number of dwelling units and hotel rooms for each legal parcel in the IBC. In addition, the database estimates the build-out potential based on the 0.25 FAR in office equivalency for each site. Developments shall not exceed the allocated a.m. and p.m. development intensity values allocations specified in the database for a particular site.

2. A traffic study shall be required for development proposals which exceed the maximum ADT limitation. A conditional use permit may also be required. Refer to section

9-36-10 for special regulations that pertain to applications proposing to exceed the maximum ADT limit.

E. *Minimum site size.*

1. General commercial/retail uses: 10,000 square feet.6
2. All other uses: 30,000 square feet.6

F. *Maximum site coverage.* 7

1. Structures with at least 75 percent of gross floor area in manufacturing or warehouse uses: 65 percent.
2. All other uses: 50 percent.8

G. *Maximum building height.* FAA height limits as determined in accordance with part 77 of the FAA regulations.

H. *Landscaping.*

1. *Site landscaping.* A minimum of 15 percent landscaping is required for each improved building site.

I. *Setbacks.*

See Chapter 5-8 and IBC Residential/Mixed Use Design Criteria for setbacks for residential and residential mixed use developments).

1. Street setbacks: 40 feet 9,10
2. Side setbacks: 10 feet 11
3. Rear setbacks: 0 feet 12
4. Improvements permitted within the setback area:
 - a. Steps, and open and unenclosed stairways, except that they may not be located within ten feet of the streetside property line.
 - b. Architectural projections such as eaves, columns and buttresses may extend six feet into a 30-foot or 40-foot street setback, and three feet into a setback less than 30 feet (for streets widened since 6/30/82; see footnote 10). However, for those parcels along Main Street, MacArthur Boulevard, and Jamboree Road, the architectural projections indicated above may encroach six feet into the 12-foot, eight-foot, and 15-foot streetside setbacks, respectively.
 - c. Balconies on all floors of only mid-rise and high-rise residential developments of four stories and above.
 - d. See Chapter 5-8 and IBC Residential/Mixed Use Design Criteria for improvements allowed in setback areas for residential and residential mixed use developments.

5. Setbacks for structures built over public streets:

- a. Intent: Structures spanning public street rights-of-way require special design considerations. This section is intended to serve several purposes. The first of these is to ensure that a tunnel-like effect is avoided along public street rights-of-way, even if such structures are developed on a series of properties. In addition, such developments are intended to observe setback requirements consistent with those applied to all other structures in the area. Finally, these regulations are intended to ensure that adequate vertical clearance for vehicular traffic across the impacted street rights-of-way is maintained.
- b. Buildings which are located on either side of a public street must maintain the following setbacks and clearances.
 - (1) The vertical plane of the building which faces the street must be at or outside the required building setback from that street.

(2) A clearance of at least 20 feet from the surface of the roadway to the underside of the bridge or useable floor area must be maintained. Signs shall be provided on bridges indicating the vertical clearance from the street.

(3) If more than one bridge is proposed over the same street, the bridges can be no closer together than the width of the two bridges added together.

(4) This section does not apply to pedestrian and/or bicycle overcrossings.

J. *Sidewalks.* Sidewalks shall be installed along all street frontages in the planning area in accordance with the sidewalk plan for the Irvine Business Complex adopted by the City of Irvine. Additional sidewalks and other pedestrian access facilities shall be required as needed to facilitate pedestrian circulation between places of employment, restaurants, parks, and institutional, retail and residential uses.

K. *Lighting.*

1. Exterior lighting is required for all employee and visitor parking areas, walkways, and building entrances and exits.

2. No light standard shall exceed ten feet in height unless the light standard has a light cutoff of 90 degrees or less, in which case the maximum height shall be 30 feet.

3. No light source shall be affixed to any building so that rays are perpendicular to the building face.

4. All direct rays shall be confined to the site.

L. *Screening.*

1. All building operating mechanical equipment shall be screened from off-site view.

2. All outside storage areas shall be screened with an opaque wall or fence.

M. *Parking.* Parking shall be provided in accordance with division 4 of the zoning ordinance except for the following:

1. In no instance shall parking exceed one space per 500 square feet for an industrial, storage, or warehouse use.

2. For mixed use buildings, each use shall have parking as per the requirements of the City's zoning ordinance. Those portions devoted to an industrial, storage or warehousing use shall not exceed one space per 500 square feet of gross floor area.

3. Vehicle parking shall not be permitted within the streetside setback where the property abuts a street designated as a special landscaped street, or within ten feet of the ultimate right-of-way line for property along other streets.

4. See Chapter 5-8 and IBC Residential/Mixed Use Design Criteria for parking requirements for residential and residential mixed use developments.

T A traffic study is required for this use; see section 9-36-11.

1 General land use (GLU) categories identify the development intensity value rates used for analyzing a corresponding permitted or conditional use in the IBC. See section 9-36-8 for additional information regarding development intensity value rates for each general land use category.

2 A church that proposes to locate in an existing permanent building and meets all the general development standards will not require a conditional use permit (CUP). However, churches with permanent child care or private school activities shall be subject to a conditional use permit.

3 A restaurant that proposes to locate in an existing building previously approved for restaurant use, and meets all the general development standards, including parking, will not require a conditional use permit.

4 A commercial or private school for adults (18 years and older) that proposes to locate in an existing permanent building and meets all the general development standards will not require a conditional use permit. However, private school activities that

are to be a part of a church located in this zoning district shall be subject to a conditional use permit.

5 A medical office located in an existing retail development which meets all the general development standards, including parking, will not require a conditional use permit and no traffic study will be required.

6 This requirement shall not be construed to prevent condominium-type developments which have smaller lot sizes as long as they have a mandatory owners' association, and the land area under the jurisdiction of the owners' association meets the minimum lot size requirements.

7 In projects which include a parking structure, those portions of the structure which meet the following criteria shall not be counted in determining compliance with the limits on building site coverage:

- a. The roof of the structure is within five feet of the surface grade existing on the site prior to the development of the project; and
- b. The roof of the structure is, in effect, replacing the ground surface in the functions that it performs, i.e., it will be covered by such improvements as surface parking, access drives, landscaping, walkways, and plazas in a manner similar to the design that would be used if the roof were land surface; and
- c. Any portion of the parking structure which is above the existing grade is screened from off-site views.

8 In projects which include an aboveground parking structure, the limit on building site coverage shall be determined as follows:

- a. Coverage attributable to the buildings containing the primary use of the parcel shall not exceed 50 percent; and
- b. Total coverage, which includes the primary buildings(s) and the parking structure(s), shall not exceed 65 percent.

9 Building streetside setbacks have been reduced for portions of Main Street, MacArthur Boulevard and Jamboree Road due to road widening projects located along these streets within the IBC. The setback for the portions of each street affected by these setback reductions are set forth and described as follows:

- a. Main Street: 12 feet.
 1. Those parcels located along the north side of Main Street beginning at the Costa Mesa (I-55) Freeway extending east to the San Diego Creek Channel;
 2. Those parcels along the south side of Main Street beginning at the Costa Mesa (I-55) Freeway extending east to MacArthur Boulevard; and
 3. One parcel (Lot 5 of Tract 65/46-47) located on the southwest corner of Main Street and Jamboree Road.
- b. MacArthur Boulevard: 8 feet.
 1. Those parcels located on the east side of MacArthur Boulevard beginning at Douglas and extending to the San Diego (I-405) Freeway.
- c. Jamboree Road: 15 feet.
 1. Those parcels located on the east and west side of Jamboree Road beginning at Main Street and north to Alton Parkway; and
 2. Those parcels located on the west side of Jamboree Road beginning at Alton Parkway extending to the first parcel (Lot 5 of Tract 7815) on the northwest corner of Beckman and Jamboree Road.

These building streetside setbacks shall be measured from the ultimate right-of-way/property line of each parcel. Refer to appendix A, chapter 9-36, for properties affected by the IBC roadway widening project.

The minimum special landscaped street setback may be equal to or greater than the building setback associated with those streets affected by roadway widenings.

10 If the ultimate right-of-way for any street, with the exception of those portions of Main Street, MacArthur Boulevard, or Jamboree Road, as specified in footnote 9 above, is widened subsequent to June 30, 1982, then the minimum setback may be 30 feet from the right-of-way/property line. This provision shall not be construed to allow existing structures to expand by virtue of the reduced setback, except for those structures that are located on a parcel that is adjacent to those portions of Main Street, MacArthur Boulevard, or Jamboree Road and as specified in footnote 9 above.

11 May be zero feet provided that the main building on the abutting lot is at zero feet, and both parcels are developed at the same time.

12 Any parcel with two or more street frontages may have one interior property line with a setback of zero feet.

(Code 1976, § V.E-325.5.1; Ord. No. 92-3, 4-14-92; Ord. No. 93-14, § 3, 10-12-93; Ord. No. 94-2, § 3, 2-8-94; Ord. No. 94-7, § 3, 6-14-94; Ord. No. 94-15, § 3, 12-13-94; Ord. No. 94-16, 12-13-94; Ord. No. 95-3, § 3B, 4-25-95; Ord. No. 95-4, § 1, 5-9-95; Ord. No. 95-7, § 4, 7-11-95; Ord. No. 95-8, § 3, 7-11-95; Ord. No. 95-12, § 3, 9-12-95; Ord. No. 95-16, § 2, 10-10-95; Ord. No. 96-2, § 2, 1-23-96; Ord. No. 96-18, § 4, 12-10-96; Ord. No. 97-05, 5-13-97; Ord. No. 98-20, § 2, 12-8-98; Ord. No. 99-10, § 3, 5-11-99; Ord. No. 03-29, § 3, 9-23-03; Ord. No. 05-13, § 4, 7-12-05; Ord. No. 05-16, § 2, 7-12-05)

Sec. 3-37-30. Reserved.

Sec. 3-37-31. 5.2 IBC Industrial.

A. *Intent.* It is the intent of this section to preserve a viable industrial base in the IBC and to protect nonindustrial land uses from the nuisances and hazards often associated with industrial activities, by establishing an exclusively industrial district. The area designated for this district has historically been exclusively industrial, and is currently unsuitable for most nonindustrial uses (e.g., residential, retail).

B. *Permitted uses.*

TABLE INSET:

GLU 1 Category	Use
35	Accessory use
36	Agriculture (interim use)
34	Caretaker's quarters
31	Equipment rental
30	Greenhouse
29	Information center
29	Industry, service
35	Manufactured structure permit (up to two years)
30	Manufacturing, light
29	Office, design professional

31	Outdoor vendor
30	Packing plants for agriculture products
36	Park
36	Pushcart
30	Recreational vehicle storage, public
36	Reverse vending machine
35	School, public
35	Sexually oriented business
30	Vehicle assembly
31	Vehicle repair
30	Vehicle storage
30	Warehousing, storage and distribution
35	Wireless Communication Facility (may require a wireless communication facility permit, a minor conditional use permit, a major conditional use permit or may be prohibited, depending on the type of installation and the location of the installation site, pursuant to the review procedures matrix in Section 2-37.5-3.

C. Conditional uses.

TABLE INSET:

GLU 1 Category	Use
36	Ambulance service
31 T	Carwash
29	Child care center
35	Church 2
31 T	Convenience, liquor store
35 T	Community facility
30	Composting facility
30 T	Concrete recycling facility
35 T	Drive-thru
31 T	Gas station/fuel dispenser
35 T	Government facility
30 T	Hazardous waste facility

36	Heliport
38	Hotel, extended stay
32	Hotel, motel
30 T	Large collection facility
35	Manufactured structure permit (over two years)
30	Manufacturing, heavy
30 T	Materials recovery facility
37	Miniwarehouse
31	Outdoor sales
35	Outdoor storage
31 T	Restaurant 3
31 T	Restaurant (fast food, except drive-thru)
31 T	Restaurant, "Type 47" ABC License operating after 12:00 a.m.
31 T	Retail and/or service business, general (except drive-thru)
30	Small collection facility
31 T	Solid waste transfer station
30 T	Truck terminal
35	Utility building and facility
30	Vehicle body repair, paint or restoration
30	Vehicle impound yard
31	Vehicle leasing and rental
31	Vehicle sales
30	Vehicle wrecking yard
31	Warehouse and sales outlet

D. *Maximum building intensity.*

1. The IBC land use database specifies maximum development allocations in a.m. and p.m. peak hour and average daily development intensity values for each legal parcel or site. It also identifies the existing gross square feet, number of dwelling units and hotel rooms for each legal parcel in the IBC. In addition, the database estimates the build-out potential based on the 0.25 FAR in office equivalency for each site. Developments shall not exceed the allocated a.m. and p.m. development intensity values specified in the database for a particular site.

2. No tenant shall have more than 15 percent of the gross square footage of their use devoted to accessory offices use in support of the primary industrial use.

3. A traffic study shall be required for development proposals which exceed the maximum ADT limitation. A conditional use permit may also be required. Refer to section 9-36-10 for special regulations that pertain to applications proposing to exceed the maximum ADT limit.

E. *Minimum site size.* One acre. 4

F. *Maximum site coverage:* 5 65 percent.

G. *Maximum building height.* 35 feet. 6

H. *Landscaping.*

1. *Site landscaping.* A minimum of 15 percent landscaping is required for each improved building site.

I. *Setbacks.*

1. Streetside setbacks: 40 feet.7,8

2. Side setbacks: 10 feet.8,9

3. Rear setbacks: 0 feet.10

4. Improvements permitted within the setback area:

a. Steps, and open and unenclosed stairways, except that they may not be located within ten feet of the streetside property line.

b. Architectural projections such as eaves, columns and buttresses may extend six feet into a 30-foot setback, and three feet into a setback less than 30 feet.

5. Setbacks for structures built over public streets:

a. Intent: Structures spanning public street rights-of-way require special design considerations. This section is intended to serve several purposes. The first of these is to ensure that a tunnel-like effect is avoided along public street rights-of-way, even if structures such as bridges are developed on a series of properties. In addition, such developments are intended to observe setback requirements consistent with those applied to all other structures in the area. Finally, these regulations are intended to ensure that adequate vertical clearance for vehicular traffic across the impacted street rights-of-way is maintained.

b. Buildings which are located on either side of a public street must maintain the following setbacks and clearances:

(1) The vertical plane of the building which faces the street must be at or outside the required building setback from that street.

(2) A clearance of at least 20 feet from the surface of the roadway to the underside of the bridge or usable floor area must be maintained. Signs shall be provided on bridges indicating the vertical clearance from the street.

(3) If more than one bridge is proposed over the same street, the bridges can be no closer together than the width of the two bridges added together.

(4) This section does not apply to pedestrian and/or bicycle overcrossings.

J. *Sidewalks.* Sidewalks shall be installed along all street frontages in the planning area in accordance with the sidewalk plan for the Irvine Business Complex adopted by the City of Irvine. Additional sidewalks and other pedestrian access facilities shall be required as needed to facilitate pedestrian circulation between places of employment, restaurants, parks, and institutional, retail and residential uses.

K. *Lighting.*

1. Exterior lighting is required for all employee and visitor parking areas, walkways, and building entrances and exits.

2. No light standard shall exceed ten feet in height unless the light standard has a light cutoff of 90 degrees or less, in which case the maximum height shall be 30 feet.

3. No light source shall be affixed to any building so that rays are perpendicular to the building face.

4. All direct rays shall be confined to the site.

L. *Screening.*

1. All building operating mechanical equipment shall be screened from off-site view.

2. All outside storage areas shall be screened with an opaque wall or fence.

M. *Parking.* Parking shall be provided in accordance with division 4 of the zoning ordinance except for the following:

1. In no instance shall the City require parking to exceed one space per 500 square feet for an industrial, storage, or warehouse use.

2. For mixed use buildings, each use shall have parking as per the requirements of the City's zoning ordinance. Those portions devoted to an industrial, storage or warehousing use shall not exceed one space per 500 square feet of gross floor area.

3. Vehicle parking shall not be permitted within the streetside setback where the property abuts a street designated as a special landscaped street, or within ten feet of the ultimate right-of-way line for property along other streets.

T A traffic study is required for this use; see section 9-36-11.

1 General land use (GLU) categories identify the development intensity values used for analyzing a corresponding permitted or conditional use in the IBC. See section 9-36-8 for additional information regarding development intensity values for each general land use category.

2 A church that proposes to locate in an existing permanent building and meets all the general development standards will not require a conditional use permit (CUP). However, churches with permanent child care or private school activities shall be subject to a conditional use permit.

3 A restaurant that proposes to locate in an existing building previously approved for restaurant use, and meets all the general development standards, including parking, will not require a conditional use permit.

4 This requirement shall not be construed to prevent condominium-type developments which have smaller lot sizes as long as they have a mandatory owners' association, and the land area under the jurisdiction of the owners' association meets the minimum lot size requirements.

5 In projects which include a parking structure, those portions of the structure which meet the following criteria shall not be counted in determining compliance with the limits on building site coverage:

a. The roof of the structure is within five feet of the surface grade existing on the site prior to the development of the project; and

b. The roof of the structure is, in effect, replacing the ground surface in the functions that it performs, i.e., it will be covered by such improvements as surface parking, access drives, landscaping, walkways, and plazas in a manner similar to the design that would be used if the roof were land surface; and

c. Any portion of the parking structure which is above the existing grade is screened from off-site views.

6 The height of equipment or machinery which is necessary to the operation of a permitted use may exceed 35 feet but may not exceed FAA height limits.

7 If the ultimate right-of-way for a street is widened subsequent to June 30, 1982, then the minimum setback may be 30 feet from the right-of-way/property line. This provision shall not be construed to allow existing structures to expand by virtue of the reduced setback.

8 Transfer station and material recovery facility enclosure setbacks to be determined by the Planning Commission at time of CUP review.

9 May be zero feet provided that the main building on the abutting lot is at zero feet, and both parcels are developed at the same time.

10 Any parcel with two or more street frontages may have one interior property line with a setback of zero feet.

(Code 1976, § V.E-325.5.2; Ord. No. 92-3, 4-14-92; Ord. No. 92-21, § 6, 11-24-92; Ord. No. 93-7, 6-22-93; Ord. No. 93-14, § 3, 10-12-93; Ord. No. 94-2, § 3, 2-8-94; Ord. No. 94-7, § 3, 6-14-94; Ord. No. 94-15, § 3, 12-13-94; Ord. No. 94-16, 12-13-94; Ord. No. 95-3, § 3B, 4-25-95; Ord. No. 95-4, § 1, 5-9-95; Ord. No. 95-7, § 4, 7-11-95; Ord. No. 95-8, § 3, 7-11-95; Ord. No. 95-12, § 3, 9-12-95; Ord. No. 95-16, § 2, 10-10-95; Ord. No. 96-2, § 2, 1-23-96; Ord. No. 96-18, § 4, 12-10-96; Ord. No. 98-20, § 2, 12-8-98; Ord. No. 99-10, § 3, 5-11-99; Ord. No. 99-14, § 2, 6-8-99; Ord. No. 05-13, § 4, 7-12-05; Ord. No. 05-16, § 2, 7-12-05)

Sec. 3-37-32. 5.3 IBC Residential.

A. *Intent.* It is the intent of this section to ensure that previously approved but unbuilt residential projects are not threatened by the development of noncompatible land uses (e.g., hazardous materials). The regulation is intended, however, to permit the development of nonresidential uses, provided they are compatible with residential development. Special provisions are also included to allow for other uses under certain circumstances.

TABLE INSET:

(5.3)	Irvine Business Complex Residential
(5.3A)	
(5.3B)	Lot 2 of Parcel Map 43/6
(5.3C)	
(5.3D)	Lot 17, Tract 8018

B. *Intensity standard.*

30-45 dwelling units per net acre (5.3)

30-50 dwelling units per net acre (5.3A, 5.3B)

30-52 dwelling units per net acre (5.3C)

30-58 dwelling units per net acre (5.3D)

Sites with approved applications for residential development shall be limited to the quantity of dwelling units approved.

C. *Permitted uses.*

TABLE INSET:

GLU 1 Category	Use
35	Accessory use
36	Agriculture (interim use)
36	Home care
36	Home occupation permit

35	Manufactured structure permit (less than two years)
36	Park
36	Public park facility
36	Pushcart
29	Residential shelter
35	Schools, public
35	Wireless Communication Facility (may require a wireless communication facility permit, a minor conditional use permit, a major conditional use permit or may be prohibited, depending on the type of installation and the location of the installation site, pursuant to the review procedures matrix in Section 2-37.5-3.

D. *Conditional uses.*

TABLE INSET:

GLU 1 Category	Use
29	Child care center
35	Church 2
35	Community facility
30	Congregate care facility
30	Convalescent home
29	Information center
35	Manufactured structure (over two years)
31	Model home sales complex
30	Recreational vehicle storage, private
33	Residential, attached
29	Residential care facility
33	Residential, single-family detached
33	Residential, second unit
35	School, private 3
33	Senior housing
35	Utility building and facility

E. *Minimum site size.* One-half (0.5) acre. 4

F. *Maximum site coverage.* 65 percent. 5

G. *Maximum building height.* FAA height limits as determined in accordance with part 77 of the FAA regulations.

H. *Setbacks.* 7,8

See Chapter 5-8 and IBC Residential/Mixed Use Design Criteria for setbacks for residential and residential mixed use developments.

1. From:

TABLE INSET:

Freeways, transportation corridors	30 feet
Major highways	30 feet 5.3B: 20 feet (Main Street only)
Primary highways	30 feet
Secondary highways	30 feet
Commuter highways and local streets	30 feet 5.3C: 20 feet 5.3D: 20 feet
Private drives	10 feet
Interior boundary 6,7 :	30 feet 5.3B: Minimum 10-foot interior setback from easterly property line. 5.3C: 10 feet 5.3D: 10 feet

2. Improvements permitted in the setback area:9

- a. Steps, and open and unenclosed staircases, except that they shall not be permitted within ten feet of the face of curb.
- b. Architectural projections such as eaves, columns, buttresses, bay windows and fireplaces may extend six feet into a 30-foot setback, and three feet into any setback less than 30 feet. However, for those parcels along Jamboree Road, the architectural projections indicated above may encroach six feet into the 15-foot streetside setback only.
- c. Balconies on all floors of only mid-rise and high-rise residential developments of four stories and above.
- d. See Chapter 5-8 and IBC Residential/Mixed Use Design Criteria for improvements allowed in setback areas for residential and residential mixed use developments.

I. *Sidewalks.* Sidewalks shall be installed along all street frontages in the planning area in accordance with the sidewalk plan for the Irvine Business Complex adopted by the City of Irvine. Additional sidewalks and other pedestrian access facilities shall be

required as needed to facilitate pedestrian circulation between places of employment, restaurants, parks, and institutional, retail and residential uses.

J. *Parking.* Parking requirements for all residential units shall be based on the parking standards as set forth in division 4 of the zoning ordinance. If an applicant desires a reduction in these standards when applying for a conditional use permit approval, the applicant must submit a parking study stating the request and the reasons why the reduced ratio is appropriate for the proposed rental and/or for-sale residential units. This study shall be reviewed and approved by the Planning Commission prior to, or concurrent with, the approval of the conditional use permit. See Chapter 5-8 and IBC Residential/Mixed Use Design Criteria for parking requirements for residential and residential mixed use developments.

K. *Private drives.* All private drives shall meet the standards stated in the City's private drive policy in effect at the time of conditional use permit approval.

L. *Fences.* The height and materials of all fences, berms and walls constructed as acoustical barriers shall be reviewed and approved as part of conditional use permit approval. All other fences shall be limited to a maximum of six feet.

M. *Affordable housing requirement.* Any residential units built must comply with chapter 9-36 of this zoning ordinance.

N. *Special note.* If due to environmental considerations (i.e., hazardous materials) the City denies a development application for a residential project, the total allocated development intensity values to the parcel can be used for uses permitted or conditionally permitted within the multiple-use district. Conversions shall be subject to all regulations and policies in effect at time of approval.

1 General land use (GLU) categories identify the development intensity value rates used for analyzing a corresponding permitted or conditional use in the IBC. See section 9-36-8 for additional information regarding development intensity value rates for each general land use category.

2 A church that proposes to locate in an existing permanent building and meets all the general development standards will not require a conditional use permit (CUP).

3 A private school for adults (18 years and older) that proposes to locate in an existing permanent building and meets all the general development standards will not require a conditional use permit. However, private school activities that are to be a part of a church located in this zoning district shall be subject to a conditional use permit.

4 This requirement shall not be construed to prevent condominium-type developments which have smaller lot sizes as long as they have a mandatory owners' association, and the land area under the jurisdiction of the owners' association meets the minimum lot size requirements.

5 If usable open space, landscape or hardscape is placed over the parking structure, then that portion of the parking structure covered by these areas shall not count towards building site coverage, provided that the parking structure is designed in keeping with the architectural theme of the residential units, and is screened with a berm having a minimum height of five feet.

6 If the use of the adjoining parcel is residential, then the building setback shall be a minimum of five feet, but in no instance shall any structure be located closer than ten feet to another structure.

7 On-site parking shall not be permitted within 30 feet of exterior boundaries of the site, except for the parcel (Lot 1 of Tract 13037) located on the southwest corner of Jamboree Road and Kelvin which is impacted by the IBC road widening. However, on-

site parking is permitted to cross parcel lines within a site as long as a legal document is executed ensuring that the parking area will continue to function as a single entity.

8 For those parcels that are located along Jamboree Road, and are impacted by the IBC roadway widening project, the building streetside setback will be reduced to 15 feet. This building streetside setback shall be measured from the new ultimate right-of-way/property line of each parcel.

9 Other than the improvements noted, streetside setbacks shall be landscaped. (Code 1976, § V.E-325.5.3; Ord. No. 92-3, 4-14-92; Ord. No. 92-21, § 6, 11-24-92; Ord. No. 93-7, 6-22-93; Ord. No. 93-14, § 3, 10-12-93; Ord. No. 94-2, § 3, 2-8-94; Ord. No. 94-7, § 3, 6-14-94; Ord. No. 94-15, § 3, 12-13-94; Ord. No. 94-16, 12-13-94; Ord. No. 95-3, § 3B, 4-25-95; Ord. No. 95-4, § 1, 5-9-95; Ord. No. 95-7, § 4, 7-11-95; Ord. No. 95-8, § 3, 7-11-95; Ord. No. 95-12, § 3, 9-12-95; Ord. No. 95-16, § 2, 10-10-95; Ord. No. 96-2, § 2, 1-23-96; Ord. No. 96-18, § 4, 12-10-96; Ord. No. 0-1-03, § 4, 3-13-01; Ord. No. 03-15, § 5, 5-13-03; Ord. No. 03-26, § 6, 9-9-03; Ord. No. 05-13, § 4, 7-12-05; Ord. No. 05-15, § 6, 7-12-05; Ord. No. 05-16, § 2, 7-12-05; Ord. No. 05-23, § 6, 10-11-05; Ord. No. 06-08, § 6, 7-11-06; Ord. No. 07-07, § 5, 4-10-07)

Sec. 2-17-3. Application requirements.

A. *Persons eligible.* The property owner or authorized agent of the property owner, the City Council, the Planning Commission, and the Director of Community Development may initiate a master plan application.

B. The information listed below is required at the time a master plan application is submitted to the Community Development Department:

1. A complete development case application signed by the property owner or its authorized representative.
2. A deposit or fee as set forth by an ordinance or resolution of the City Council.
3. A letter of justification describing and explaining how the proposed project will satisfy the findings required in section 2-17-7.
4. Information required for public meetings and hearings, as determined by the Director of Community Development (see chapter 2-23).
5. Information as required by City of Irvine master plan information sheet.
6. Other information as required by the Director of Community Development.
7. When a master plan involves park amenity credits or the dedication of park land, the application shall incorporate all the requirements listed in chapter 2-22 (Park Procedure).
8. Special requirements for projects located in the Irvine Business Complex (Planning Area 36): In addition to the application requirements specified in this section, the required plans shall also:
 - a. Detail the quantity and distribution of a.m. and p.m. peak hour development intensity values, and average daily development intensity values, both existing and proposed, for each corresponding legal parcel within the site.
 - b. Detail the quantity and distribution of uses and gross square feet, hotel rooms, and residential dwelling units (as appropriate), both existing and proposed, for each corresponding legal parcel within the site.
 - c. Illustrate the legal boundaries on the site plan and provide both gross and net acreage figures for each legal parcel within the site.
9. Special requirements for transfer of development rights project applications proposed for receiving site locations within the Irvine Business Complex (Planning Area 36): In addition to the application requirements specified in this section, the required plans shall also:
 - a. Submit a traffic analysis scope of work for the project consistent with the traffic study guidelines and prepare an analysis to the satisfaction of the Director of Public Works . (Code 1976, § V.E-212.3; Ord. No. 92-3, 4-14-92; Ord. No. 92-20, § 6, 11-10-92; Ord. No. 93-14, § 3, 10-12-93; Ord. No. 94-7, § 3, 6-14-94; Ord. No. 95-4, § 1, 5-9-95; Ord. No. 96-18, § 4, 12-10-96)

Sec. 3-3-1. Land use matrix.

The following land use matrix shows the uses which are permitted, conditionally permitted, and prohibited in specific zoning districts in the City of Irvine. The land use matrix is intended to serve as a mere guide for the convenience of the user of this zoning ordinance. Where the text of this zoning ordinance differs from the land use matrix, the text shall prevail. This section 3-3-1 does not cover Planning Areas 33, 34, and 38 because they are covered by a development agreement and/or vesting tentative map (during the period in which vesting maps are valid). See chapters 9-33, 9-34 and 9-38.

TABLE INSET:

<i>Some permitted and conditionally</i> NOTE: permitted uses may require a master plan application; see chapter 2-17. <i>Prohibited = . Conditionally Permitted = C Permitted = P</i>		
LAND USE	5.0 IBC Mixed Use	5.1 IBC Multi-Use
Residential, attached	C (93)	C (93)

ZONING ORDINANCE LAND USE MATRIX-ENDNOTES

- 1 All agricultural uses are prohibited on the frontal slopes of Quail Hill within Planning Area 16, except cattle grazing.
- 2 Prior to open space dedication to a public agency.
- 3 Interim use.
- 4 4.2A: Prohibited (Walnut Village).
- 5 Uses in 4.2C ("Old Town Irvine"), subject to provisions of the Historio Overlay District. See chapter 5-5.
- 6 Permitted only in Planning Areas 12, 13, 17, 31, 32, 34, 35, 40.
- 7 Permitted only in 5.5B Jamboree Business Center, East; 5.5C Planning Area 17; 5.5D Irvine Spectrum 8, if located 225 feet or more from the Jeffery Open Space Spine; and 5.5A Irvine Spectrum 6.
- 8 Reserved.
- 9 Reserved.
- 10 Only in 1.3A (Planning Area 12), otherwise, prohibited.
- 11 4.2B: Conditional.
- 12 4.1C: Prohibited (Rancho San Joaquin).
- 13 Only in public parks.
- 14 Only in conjunction with a health club and/or hotel/motel.
- 15 Only in conjunction with a health club.
- 16 3.1A: Prohibited (University Town Center).
- 17 3.1B: 31.0--51.0 dwelling units per acre (Westpark).
- 18 4.1A: Freestanding restaurants: Conditional (Northwood).
- 19 4.1B: Conditional (Northwood).
- 20 Only in 1.2B (Planning Area 27), otherwise, prohibited.
- 21 4.2B: Prohibited.
- 22 4.1B: Prohibited (Northwood).
- 23 4.2A: Only with auto parts sales, otherwise, prohibited (Walnut Village).
- 24 Agricultural products, only.

- 25 Permitted only in Planning Areas 12, 13, 32, 34, 35.
- 26 5.4A: Prohibited.
- 27 Only in Planning Areas 23 and 51.
- 28 Only in 4.3B (Planning Area 13), 4.3D (Planning Area 34), and 4.3 (Planning Area 35), otherwise prohibited.
- 29 Office development intensity values apply to this use. Consult section 9-36-8.B.3 (IBC General Land Uses) for more information.
- 30 Industrial development intensity values apply to this use. Consult section 9-36-8.B.3 (IBC General Land Uses) for more information.
- 31 Retail development intensity values apply to this use. Consult section 9-36-8.B.3 (IBC General Land Uses) for more information.
- 32 Lodging development intensity values apply to this use. Consult section 9-36-8.B.3 (IBC General Land Uses) for more information.
- 33 Residential development intensity values apply to this use. Consult section 9-36-8.B.3 (IBC General Land Uses) for more information.
- 34 Zoning Potential development intensity values apply to this use. Consult section 9-36-8.B.3 (IBC General Land Uses) for more information.
- 35 This use is designated "Undefined" for development intensity value budgeting purposes. Consult section 9-36-8.B.3 (IBC General Land Uses) for more information.
- 36 This use is assumed to have no traffic generation for development intensity value budgeting purposes. Consult section 9-36-8.B.3 (IBC General Land Uses) for more information.
- 37 Incidental offices in conjunction with permitted or conditionally permitted uses may occupy up to 50% of a parcel or site.
- 38 A church, commercial and private school for adults (18 years and older) that proposes to locate in an existing permanent building and meets all the general development standards, will not require a conditional use permit (CUP). However, churches with permanent child care or private school activities to be located in Zoning Districts 5.1, 5.2 and 5.4 shall be subject to a conditional use permit.
- 39 A restaurant that proposes to locate in an existing building previously approved for restaurant use, and meets all the general development standards including parking, will not require a conditional use permit (CUP).
- 40 A conditional use permit is not required for this land use. See chapter 2-28 of the zoning ordinance for requirements to obtain a sexually-oriented business permit.
- 41 All proposed non-classroom related activities on school sites (as defined by California state law) shall require a conditional use permit (CUP) subject to the review of the appropriate approval body as cited in chapter 2-9.
- 42 Conditionally permitted in Planning Areas 12 only.
- 43 Reserved.
- 44 Prohibited in Planning Area 30.
- 45 Reserved.
- 46 Prohibited in Planning Areas 30 and 51.
- 47 Conditionally permitted in Planning Area 51.
- 48 Permitted in Planning Area 51.
- 49 May be permanent in Planning Areas 30 and 51 only.
- 50 Reserved.
- 51 A medical office located in an existing retail development which meets all the general development standards including parking, will not require a conditional use permit and no traffic study will be required.
- 52 Reserved.
- 53 Reserved.

- 54 Reserved.
- 55 Manufacturing, storage, handling, and distribution of munitions, explosives, petrochemicals, or gasoline and related petroleum products, are prohibited within the Browning and G.C.A. Corridors except that nothing herein shall prohibit underground storage of petrochemicals or gasoline and related petroleum products incidental to a permitted use. See special development requirement #14 in section 9-10-7 for further clarification and exhibits.
- 56 Any auditorium, amphitheater, and assembly halls with seating capacity for more than 1,500 persons shall be prohibited within the Browning and G.C.A. Corridors. See special development requirement #14 in section 9-10-7 for further clarification and exhibits.
- 57 Conditionally permitted in zoning district 5.5A only (Planning Area).
- 58 4.2L: Permitted in Planning Area 17.
- 59 4.2M: Conditionally Permitted in Planning Area 17.
- 60 4.2M: Prohibited in Planning Area 17.
- 61 Only in 5.5B Jamboree Business Center East, 5.5C Planning Area 17, and 5.5A Spectrum 6.
- 62 5.5C: Permitted in Planning Area 17; 5.5D Irvine Spectrum 8; 5.5E Planning Area 9; and 5.5F Planning Area 6.
- 63 Only in 5.5B Jamboree Center East, and 5.5C Planning Area 17.
- 64 A conditional use permit for a mini-warehouse in the 3.1D (Woodbridge) Multi-Use district and 3.1G (Northwood) Multi-Use district shall require review and approval by the Planning Commission.
- 65 All certified sober living facilities shall be subject to County certification guidelines.
- 66 1.4A: Conditionally permitted in Planning Area 16 only.
- 67 5.5E and 5.5F if located on a parcel more than 200 feet from a street intervening between residential and Medical and Science uses. If less than 200 feet, conditionally permitted.
- 68 Permitted only in 5.5B Jamboree Business Center, East; 5.5C Planning Area 17; and 5.5D Irvine Spectrum 8, if located 225 feet or more from the Jeffery Open Space Spine.
- 69 Prohibited in 5.5E and 5.5F.
- 70 Prohibited in 5.5B Jamboree Business Center, East.
- 71 Prohibited in 5.5B Jamboree Business Center, East; 5.5E and 5.5F.
- 72 Prohibited in 5.5B Jamboree Business Center, East; conditionally permitted in 5.5D Irvine Spectrum 8, if located 225 feet or more from the Jeffery Open Space Spine.
- 73 Any "Bar, Tavern Cocktail Lounge" proposing to locate within the same building as a residential use, shall be subject to the conditional use permit procedures contained in Zoning Code Chapter 2-9.
- 74 A wireless communication facility, depending on the proposed type of antenna, may be permitted in any zoning district through wireless communication facility permit, a minor conditional use permit or a major conditional use permit as indicated in the table provided in Section 2-37.5.3.
- 75 Only in 4.2C: Planning Area 13; 4.2E: Planning Area 34; 4.2E: Planning Area 35; and 4.2E: Planning Area 10, otherwise, prohibited.
- 76 4.2N: Drive-thru permitted subject to master plan
- 77 4.2N: permitted subject to master plan
- 78 4.2L: Drive-thru permitted; 4.2N and 4.2O: permitted subject to master plan
- 79 Permitted in 4.2L, 4.2M, 4.2N and 4.2O only.
- 80 Mini warehouse development intensity values apply to this use. Consult section 9-36-8.B.3 (IBC General Land Uses) for more information.

81 A financial institution located in an existing building which meets all the general development standards including parking, will not require a conditional use permit and no traffic study will be required.

82 Only in 8.1A.

83 In conjunction with demolition, removal and recovery of existing buildings, structures and landscaping associated with the former military use of the property.

84 Only within agriculture area.

85 3.1E only.

86 Prohibited in 3.1F.

87 3.1H only.

88 Permitted in 3.1H.

89 Prohibited in 3.1H.

90 Conditionally permitted in 3.1H.

91 4.2O: subject to master plan.

92 4.2O: prohibited use.

93. 93. Conditionally permitted in Urban Neighborhood overlay zone as defined in Chapter 5-8. Prohibited outside of this overlay zone.

T A traffic study is required for this use, see section 9-36-11 for additional information.

Traffic study requirement may be waived if project does not meet minimum traffic generation threshold specified in traffic study guidelines.

(Code 1976, § V.E-3002; Ord. No. 92-3, 4-14-92; Ord. No. 92-20, § 6, 11-10-92; Ord. No. 93-14, § 3, 10-12-93; Ord. No. 94-10, § 2, 7-12-94; Ord. No. 94-7, § 3, 6-14-94; Ord. No. 95-3, § 3A, 4-25-95; Ord. No. 95-4, § 1, 5-9-95; Ord. No. 95-8, § 3, 7-11-95; Ord. No. 96-2, § 2, 1-23-96; Ord. No. 96-18, § 4, 12-10-96; Ord. No. 97-05, 5-13-97; Ord. No. 99-10, § 3, 5-11-99; Ord. No. 99-14, § 2, 6-8-99; Ord. No. 99-21, § 4, 11-30-99; Ord. No. 00-03, § 4, 2-22-00; Ord. No. 00-11, § 3.A, 10-10-00; Ord. No. 00-14, § 4.A, 11-14-00; Ord. No. 01-15, § 4, 9-25-01; Ord. No. 03-02, § 4, 1-14-03; Ord. No. 03-07, § 5, 3-11-03; Ord. No. 03-13, § 9, 5-13-03; Ord. No. 03-18, § 4, 6-10-03; Ord. No. 03-29, § 3, 9-23-03; Ord. No. 03-34, § 5, 1-22-04; Ord. No. 04-04, § 5, 2-24-04; Ord. No. 05-05, § 4, 2-8-05; Ord. No. 05-12, § 6, 6-28-05; Ord. No. 05-13, § 4, 7-12-05; Ord. No. 05-16, § 2, 7-12-05; Ord. No. 05-19, § 4, 9-27-05; Ord. No. 06-18, § 4, 10-24-06; Ord. No. 07-16, § 6, 8-14-07; Ord. No. 08-06, § 5, 7-8-08; Ord. No. 08-08, § 5, 8-12-08; Ord. No. 08-12, § 3, 9-9-08)

Sec. 2-28-5. Findings.

The Planning Commission shall approve and issue a sexually oriented business permit if the Planning Commission finds that:

- A. The sexually oriented business is located in the General Industrial or IBC Industrial zones.
- B. The sexually oriented business is not proposed to be located within 2,300 feet of any residential zone or residential use approved by the Cities of Irvine, Lake Forest, Laguna Hills, and Tustin, or the United States Marine Corps.
- C. The sexually oriented business is not proposed to be located within 2,300 feet of any lot upon which there is located a religious institution, public park facility, child care center or school.
- D. *Reserved.*
- E. The sexually oriented business is not proposed to be located within 500 feet of another sexually oriented business.
- F. The distance of separation required by findings B, C, D and E shall be made using a straight line, without regard to intervening structures or objects, from the property line of the lot on which the sexually oriented business shall be located to the nearest property line of the lot upon which is located a residential use, a religious institution, the Irvine Multi-Modal Transportation Center, the James Musiok Facility, a public park facility, a school, a child care center or a sexually oriented business. If the use to which the measurement is being taken is located on the same lot as the sexually oriented business, the distance between the two shall be measured in a straight line between the front doors of each use without regard to intervening structures or objects.
- G. The sexually oriented business complies with the City's parking standards for the underlying use. Where no City parking standard exists for a particular use, a parking study shall be prepared and completed for the use in question. The study shall demonstrate that the sexually oriented business for which the applicant is seeking approval provides parking sufficient to satisfy the demand demonstrated by the parking study.
- H. The sexually oriented business is not proposed to be located completely, or partially, within any mobile structure or pushcart.
- I. The sexually oriented business will not stage any special events, promotions, festivals, concerts or the like that would increase the demand for parking beyond the approved number of spaces for the particular use.
- J. The sexually oriented business will not conduct any massage, acupuncture, tattooing, acupressure, fortunetelling or escort services on the premises.
- K. The sexually oriented business provides a security system that visually records and monitors parking lot areas.
- L. The sexually oriented business complies with the City's sign regulations as contained in division 7 of the zoning ordinance.
- M. The sexually oriented business complies with the development and design requirements of the planning area in which it is to be located.
- N. The sexually oriented business will not display any sexually oriented material or sexually oriented merchandise which would be visible from any location other than from within the sexually oriented business.
- O. The sexually oriented business will not be accessible to any person under the age of 18 if no liquor is served, or 21 if liquor is served.
- P. The sexually oriented business shall not operate between the hours of 10:00 p.m. and 7:00 a.m.
- Q. Neither the applicant, if an individual, nor any of the officers or general partners, if a corporation or partnership, of the sexually oriented business shall have been found guilty

within the past two years of violating any of the provisions of a sexually oriented business permit or similar permit or license in any city, county, territory or state, or of any misdemeanor or felony classified by the state as a sex related offence including but not limited to a violation of the following penal code sections and their sub parts and sub sections: 220, 261, 262, 264, 264.1, 265, 266, (inc. 266a--266k) 267, 286, 286.5, 288, 288a, 289, 647, 647b 647d 647.6.

R. The sexually oriented business shall provide separate restroom facilities for male and female patrons. The restrooms shall be free from sexually oriented materials and sexually oriented merchandise. Only one person shall be allowed in the restroom at any time.

S. The interior of the adult oriented business will be configured such that there is an unobstructed view, by use of the naked eye, and unaided by video, closed circuit cameras or any other means, of every public area of the premises, including but not limited to the interior of all individual viewing areas, from a manager's station which is no larger than 32 square feet of floor area with no single dimension being greater than eight (8) feet and located in a public portion of the establishment. No public area, including but not limited to the interior of any individual viewing area, will be obscured by any door, curtain, wall, two-way mirror, or other device which would prohibit a person from seeing into the interior of the individual viewing area, solely with the use of the naked eye and unaided by video, closed circuit cameras or any other means, from the manager's station. A manager will be stationed in the manager's station at all times the business is in operation or open to the public in order to enforce all rules and regulations. No individual viewing area will be designated or operated to permit occupancy of more than one person at any one time.

T. All areas of the sexually oriented business shall be illuminated at a minimum of 1.25 footcandles, minimally maintained and evenly distributed at ground level.

U. The individual viewing areas of the sexually oriented business shall be operated and maintained with no holes or other openings or means of direct visual or physical access between the interior space of two or more individual viewing areas. "Individual viewing area" shall mean a viewing area designed for occupancy by one person.

V. The sexually oriented business complies with the objective design and development requirements for the zone in which the use will occur.

W. A traffic study has been prepared for the sexually oriented business in conformance with the City of Irvine traffic study guidelines. The applicant shall make all necessary improvements to reduce all project-related traffic impacts which exceed the applicable planning area's adopted trip or IBC development intensity value cap or any street, roadway or arterial's adopted level of service are reduced to the adopted levels. Said improvements have been made conditions of project approval.

Sec. 4-3-4. - Automobile parking matrix.

53.	Private park, less than 1 acre:	3 spaces (minimum) plus additional parking provided for major facilities per section 4-3-4.53 ^{1, 2}	100%	¹ One space must be reserved for handicapped parking. ² No parking required for private parks in PA 36
54.	Private and public neighborhood park, equal to or greater than 1 acre:	5 spaces, minimum, for first 2 acres, and 1 space (minimum) for each additional acre. Additional parking provided for major facilities per section 4-3-4.53 ^{1, 2}	100%	¹ One space must be reserved for handicapped parking. If 25 or more parking spaces, refer to Title 24 of the State of California. ² No parking required for private parks in PA 36
56.	Major facilities:			
	Athletic Field 1)	15 stalls per play field plus 1 stall/3 fixed seats ¹	100%	¹ Including a 50-foot long curbside drop-off area for buses that shall not encroach into the drive aisle. ² For purposes of calculating parking requirements, community center square footage shall include only the assembly space of the facility (classrooms, media rooms, multi-purpose rooms, club rooms). Staff offices, if any, shall require 1 stall per on-site employee. ³ Applicant shall submit a parking study. See Section 4-3-3.B. In addition, swimming pools with spectator seating shall provide parking at 1 stall/3 seats plus a fifty-foot long drop-off area for buses. The drop-off area must not encroach into the drive aisle.
	Community Center, Public 2) Community center, private (separate lot within a master homeowner's association) Community center, private (apartments of any density and attached or detached residential condominiums over 31 units per acre)	1 stall per 50 square feet of gross floor area ² 1 stall per 100 square feet of gross floor area ² 1 stall per 200 square feet of gross floor area. ^{2, 4, 6, 7}	100%	⁴ No parking required for private community centers or private pools in PA 36
	Olympic Pool 3)	To be determined by the approval body for the proposed use 3,4	100%	

	Junior Olympic pool 5)	1 stall/150 square feet of water surface area 4	100%	5Wading pool and spa square footage shall not be considered in this calculation. 6Reductions of up to a maximum of 75% from this standard may be approved by the Director of Community Development with the recommendation of the Director of Community Services. 7No parking is required for recreational Improvements within this category that do not receive park credit.

CITY COUNCIL ORDINANCE NO. 10-08

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF IRVINE AMENDING CHAPTER 10, DEDICATIONS, OF DIVISION 5, SUBDIVISIONS, OF THE CITY'S MUNICIPAL CODE, TO ADD A NEW SECTION TO INCORPORATE NEW URBAN PARK STANDARDS INTO THE CITY'S PARK DEDICATION REQUIREMENTS FOR THE IBC AND AMEND SECTION 5-5-1000D(1) TO REMOVE A 50 UNIT PER ACRE DENSITY CAP FOR DETERMINING PERSONS PER HOUSEHOLD

WHEREAS, the City of Irvine, as part of the Irvine Business Complex (IBC) Vision Plan project, is proposing to amend the Municipal Code to update park standards for the IBC; and

WHEREAS, the City of Irvine has an adopted Municipal Code; and

WHEREAS, the proposed Municipal Code Amendment is considered a part of the overall Vision Plan project for the IBC (Vision Plan Project) pursuant to the California Environmental Quality Act (CEQA); and

WHEREAS, the City Council has considered information presented by the applicant, the Community Development Department, and other interested parties at public meetings and hearings held on July 11, 2006, July 25, 2006, February 27, 2007, October 23, 2007, February 26, 2008, April 27, 2010, and July 13, 2010.

NOW, THEREFORE, the City Council of the City of Irvine DOES HEREBY ORDAIN as follows:

SECTION 1. That pursuant to Section 15205 of the State CEQA Guidelines, the City Council reviewed and considered the Final Environmental Impact Report (SCH# 2007011024) (FEIR) in making its recommendation on the Zone Change and the Vision Plan Project.

SECTION 2. Most of the potentially significant environmental impacts of the Vision Plan Project identified in the FEIR have been determined to be less than significant or mitigated to a level that is considered less than significant or changes have been required or incorporated into the Vision Plan Project which avoid or substantially lessen the significant environmental effects.

SECTION 3. Certain impacts of the Vision Plan Project to Air Quality, Noise, Land Use and Traffic have been identified in the FEIR as significant and unavoidable. The specific impacts are summarized in Exhibit A to Resolution No 10-79. Based upon specific economic, social, technical or other considerations, the City Council finds these effects acceptable and adopts the required facts and findings and Statement of Overriding Considerations (attached as Exhibit B to Resolution No. 10-79).

SECTION 4. Although the FEIR identifies certain significant environmental effects that would result if the Vision Plan Project is approved, most environmental effects can feasibly be avoided or mitigated. The applicable mitigation measures, included within the FEIR as Table 1-2 and incorporated herein as Exhibit C to Resolution No. 10-79, have been incorporated into the Vision Plan Project or identified as requirements of the Vision Plan Project.

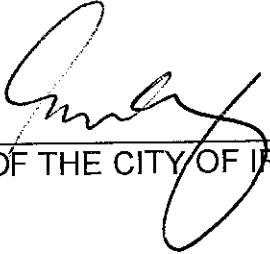
SECTION 5. In accordance with Section 8 of the City of Irvine CEQA Procedures, the Planning Commission recommends that the City Council find that the FEIR has been completed in compliance with CEQA and the State CEQA Guidelines, and the City's CEQA Procedures. The Planning Commission also recommends that the City Council, having final approval authority over the project, certify as complete and adequate the Final EIR.

SECTION 6. Pursuant to Fish and Game Code Section 7.11.4 (C), all required Fish and Game filing fees will be paid subsequent to certification of the FEIR for the Vision Plan Project.

SECTION 7. Chapter 10, Dedications, of Division 5, Subdivisions, of the Irvine Municipal Code is hereby amended as outlined in Exhibit A.

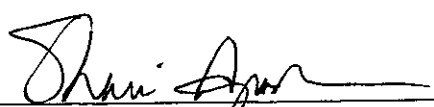
SECTION 8. If any section, subsection, subdivision, sentence, clause, phrase, or portion of this Ordinance is, for any reason, held to be invalid or unconstitutional by the decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this Ordinance. The City Council hereby declares that it would have adopted this Ordinance and each section, subsection, subdivision, sentence, clause, phrase, or portion thereof, irrespective of the fact that any one or more sections, subsection, subdivision, sentence, clause, phrase, or portions thereof be declared invalid or unconstitutional.

PASSED AND ADOPTED by the City Council of the City of Irvine at an adjourned regular meeting held on the 27th day of July, 2010.



MAYOR OF THE CITY OF IRVINE

ATTEST:



CITY CLERK OF THE CITY OF IRVINE

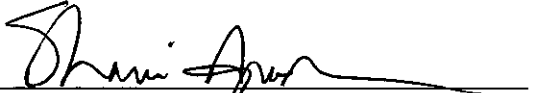
STATE OF CALIFORNIA)
COUNTY OF ORANGE)
CITY OF IRVINE)

I, SHARIE APODACA, City Clerk of the City of Irvine, HEREBY DO CERTIFY that the foregoing Ordinance was introduced for first reading on July 13th, 2010, and duly adopted at an adjourned regular meeting of the City Council of the City of Irvine held on the 27th day of July, 2010, by the following vote:

AYES: 5 COUNCILMEMBERS: Agran, Choi, Krom, Shea and Kang

NOES: 0 COUNCILMEMBERS: None

ABSENT: 0 COUNCILMEMBERS: None


CITY CLERK OF THE CITY OF IRVINE

Sec. 5-5-1004. Park dedication.

A. Requirements:

1. As a condition of approval of a tentative map, the subdivider shall dedicate land, and/or improvements/amenities, and/or pay a fee for the purpose of developing new or rehabilitating existing park or recreational facilities to serve the subdivision. This requirement shall apply to all subdivisions except those exempted by section 66477 of the Government Code (sometimes referred to hereinafter as the 'Quimby Act') or any successor statute.
2. Except as provided in subsection A.3 below, if the proposed subdivision contains 50 parcels or less, the subdivider shall not be required to dedicate any land for park and recreational purposes without his or her consent, but shall pay a fee in accordance with subsection D.2 below.
3. When a condominium project, stock cooperative, or community apartment project exceeds 50 dwelling units, dedication of land may be required notwithstanding that the number of parcels may be less than 50.

B. Terms defined: The following definitions shall govern the meaning of words in this section unless from the context in which the word is used, a different meaning is clearly intended.

1. Fair market value: The estimated per acre value of entitled land with basic infrastructure abutting the property in the proposed project as determined by the Planning Commission based upon an appraisal by a qualified appraiser. Basic infrastructure to the site shall include rough grading, installation of streets, curbs and gutters, and installation of trunk line utilities. Off-site basic infrastructure improvements costs are not eligible for park credit since they are considered in the land appraisal. Items potentially eligible to receive park dedication credits (i.e., minimum improvements, recreational amenities, and associated improvement costs) are not included as part of the appraisal process. Only development projects seeking credits for park dedication in-lieu fees, improvements, and/or amenities shall undergo an independent fair market value land appraisal process specified in the City of Irvine park/facility standards manual. In the event the applicant disagrees with the fair market value determination, the applicant shall use the appeal process specified in the park/facility standards manual. All appraisal costs shall be paid by the applicant prior to the recordation of any final map or issuance of any grading or building permit.
2. Improvements:
 - a. Minimum improvements: Improvements as are deemed necessary by the City to develop land for park and recreation facilities. Such improvements may include but are not limited to site grading, automatic irrigation systems, adequate drainage, lawn, shrubs, trees, concrete walkways and walkway lighting.

- b. Recreational amenities: Park improvements which provide a recreational opportunity for the user, such as ball fields, trails, play/tot lots, and community buildings as described by the schedule of improvements in the Park/Public Facility Standards. To receive park dedication credit, the amenities must be developed to City design standards outlined in the park/facility standards manual.
 - c. Improvement costs: Costs that are associated with the development and construction of minimum improvements and/or recreational amenities. These costs must be directly attributable to the park project to be eligible for park credit as described in the schedule of improvement values in the Park/Public Facility Standards.
3. Park: A parcel or contiguous parcels of land which is/are owned, operated, and maintained by a public agency or private association and which provides recreational land and facilities for the benefit and enjoyment of the residents and visitors of the City. The City designates parks in the following classifications:
- a. Community parks: Parks that serve a minimum population of 10,000 and more than one planning area. Community parks are preferred to be a minimum of 20 acres in size, excluding encumbrances that limit design opportunities, such as eucalyptus windrows, creek beds and/or washes, detention basins, easements, greenbelts, and school grounds. Typical facilities include community centers, athletic facilities, large multi-use swimming pools, picnic areas, day care centers, and cultural centers. Community parks are owned and maintained by the City. Siting of community parks shall be in accordance with criteria established in the community park site identification and evaluation section of the community parks master plan.
 - b. Public neighborhood parks: Parks that serve a minimum population of 2,500. These parks are to be a minimum of four acres in size, excluding encumbrances that limit design opportunities, such as eucalyptus windrows, creek beds and/or washes, detention basins, easements, greenbelts, and school grounds. Typical facilities include active and passive open space, playground equipment, sports fields and picnic areas. Public neighborhood parks are owned and maintained by the City. No public park shall be located within a residential gated community. Public neighborhood park sites shall be publicly accessible by two existing or proposed public streets and visible to the general public. If possible, public neighborhood park sites should be adjacent to a school and/or public trail.
 - c. Private neighborhood parks: Those parks that serve the immediate subdivision/development or specific planned community in which they are located and meet requirements specified in subsection F.2.a of this section, except where noted in Section F.2.a. Typical facilities include passive and active play areas, swimming pools, spas, tennis courts and clubhouses. Private neighborhood parks are owned and maintained by a homeowner's association. Private

neighborhood parks larger than one acre in size located within a gated community must remain accessible to pedestrians and bicyclists of the general public. Except to the extent otherwise required by law, including but not limited to the Quimby Act, no access requirement prescribed herein shall have the effect of superseding a homeowner association's right to restrict the use of private neighborhood parks under its ownership. Private neighborhood parks one acre or less in size located within a gated community are not required to provide pedestrian, bicyclist or vehicle access.

- C. Park dedication standards: All standards for park dedication shall comply with the Quimby Act (State of California Government Code section 66477), the California Subdivision Map Act and the City of Irvine general plan - parks and recreation element.

The developer of residential subdivisions shall dedicate park land and/or fees in lieu, at the rate of five acres per 1,000 population, apportioned as follows:

Two acres -- Community parks

Three acres -- Neighborhood parks

Where:

The public/private distribution of neighborhood park land shall be left to the discretion of the Planning Commission upon the recommendation of the Community Services Commission during the approval of the park plan.

- D. Manner of compliance: The requirements of subsections A and C may be complied with by the provision of park land, park improvements/recreational amenities, the payment of a park fee, or combination of park land, fees, and/or improvements/amenities in accordance with the provisions of this section.

1. When the requirements of subsections A and C are complied with solely on the basis of providing park land, the minimum amount of land to be provided shall be based on the dedication standard and the density classifications and persons per dwelling unit included in the following table:

TABLE INSET:

Dwelling Units per Net acre	Average Number of Persons per Dwelling Unit	Acres per Dwelling Unit
0 to 1.0	3.25*	0.0163*
1.1 to 6.5	2.94	0.0146
6.6 to 12.5	2.57	0.0128
12.6 to 31.0	2.29	0.0115
31.1 and above	1.30	0.0065

- * There were no developed units in the Estate category at the time of the 2000 Census. Therefore, the data was left unchanged.

Notwithstanding any calculation made pursuant to the figures provided in this table, the amount of land required for dedication shall not exceed the statutory maximum of five acres per 1,000 persons.

2. Whenever the requirements of subsections A and C are complied with solely on the basis of the payment of park fees, the amount of such fees shall be computed by multiplying the number of proposed dwelling units by the acres per dwelling unit shown in the table in subsection D.1 and by multiplying the resultant acreage amount by the fair market value of land being developed.
3. Whenever the requirements of subsections A and C are complied with by both the provision of park land and payment of a park fee, the amount of the park fee shall be computed by determining the required amount of park land in accordance with the provisions of subsection D.1 and subtracting the amount of park land actually provided. The remainder shall be converted to a fee in accordance with the provisions of subsection D.2.

E. Disposition of land or fees:

1. The amount and location of land to be dedicated or the fees to be paid shall bear a reasonable relationship to the use of the park and recreational facilities by the future inhabitants of the subdivision.
2. All park fees shall be paid directly to the City Cashier prior to the issuance of any residential building permits for the building site or sites from which fees are to be derived. These fees are to be used only for the purpose of developing new or rehabilitating existing park or recreational facilities to serve the subdivision.
3. The Director of Community Services shall include in the strategic business plan and the annual budget how, when, and where the land or fees, or both, which were dedicated to the city to develop park and recreational facilities will be used to serve the residents of the subdivision. Any fees collected under subsections D.2. and 3. of this chapter shall be committed within five years after the payment of such fees or the issuance of building permits on one half of the lots created by the subdivision, whichever occurs later. If such fees are not committed, they shall be distributed and paid to the then record owners of the subdivision in the same proportion that the size of their lot bears to the total area of all lots within the subdivision.
4. A park phasing plan is required as part of the park plan when more than one park is proposed in a subdivision. The park phasing plan shall specify when each park shall be developed to best serve the residents of the subdivision. This schedule will be required as a condition of subdivision map approval.

- F. Credits: All parks must comply with the most current, applicable national and state codes, regulations, and standards. All public park improvements/recreational amenities (park dedication credit or no park dedication credit) and private park improvements/recreational amenities receiving park dedication credits must comply with the most current, applicable City codes and standards in the Park/Public Facility Standards.

The subdivider may be eligible to receive credit for park and recreational improvements and apply that credit toward park dedication requirements under the following provisions:

1. Public parks: The value of all eligible minimum improvements, recreational amenities, and improvement costs for the development of public parks shall be a credit against the payment of fees or dedication of land established by this section and the park standards manual. Public park credit shall be granted only when pedestrian, bicyclist, and vehicle access are maintained in perpetuity.
2. Private neighborhood parks: Private land and associated recreational amenities/improvement costs for park and recreational purposes in a proposed development may be eligible to be credited against the requirement for dedication of park land, as set forth in subsection D. Such park land and recreational amenities are to be privately owned and perpetually maintained and operated by the future residents or owner of the development. Eligibility of private park land and associated recreational amenities/improvement costs for park dedication credit shall be subject to approval by the Planning Commission upon recommendation of the Community Services Commission in conjunction with the approval of a park plan. In no event shall such amount of credit exceed the value of the amenities. The value of the amenities to be credited will be determined on the same cost basis as prescribed in subsections B.1., 2. and D.1., 3. Evaluation of private neighborhood park land, recreational amenities, and improvement costs for park dedication credit shall be based on the following criteria:
 - a. That the private park land meet the minimum size requirement of one-third acre, except as follows:
 - i. Developments with densities over 31 dwelling units per net acre located in any Planning Area except in Planning Area 36, where the following requirements shall apply:
 - (i) For developments with less than 200 units, the main private park or recreation area shall be a minimum 6,000 square feet in size; For developments over 200 units, the main private park or recreation area shall be minimum 0.33 acres in size;
 - (ii) The minimum size of the private park or recreation area may include the entire area used for active recreation, including areas that are not eligible for park land credit for example because they are located on a podium, a rooftop or a parking garage, or have units above; However, only the portion of the private park or recreation area that is used exclusively for

- recreation (no other uses above or below) may receive park land credit;
 - (iii) Smaller areas within the same development may receive neighborhood park land and/or improvement credit if they contain active recreational amenities (such as pools, recreation buildings, tot lots, sports courts, etc.) and are connected with pedestrian walkways to the main recreation area or park that is at least 6,000 square feet in size.
 - ii. Developments located in Planning Area 36, where requirements contained in IBC Residential Mixed Use Design Criteria shall apply;
 - b. That the proposed private park land is reasonably adaptable for use for park and recreational purposes, taking into consideration such factors as size, shape, topography, geology, access, and location of the private park land;
 - c. That the private neighborhood park shall meet the pedestrian, bicyclist and vehicular access requirements as prescribed in subsection B.
 - d. That the following areas or subdivision design features are ineligible for private park credit: Leasing offices, yards, court areas (except in Planning Area 36), setbacks, village edges, landscaped village entries, greenbelts (paseos), meandering streams, eucalyptus windrows and circulation improvements such as bicycle, hiking and equestrian trails;
 - e. That the location of the land provides convenient access to housing and schools;
 - f. That the perpetual private ownership and maintenance of the land is adequately provided for by a recorded written agreement;
 - g. That the use of the private park land is perpetually restricted for park and recreational purposes which cannot be defeated or eliminated without the consent of the City Council and in no event without providing equivalent park and recreational space elsewhere in the development;
 - h. That the proposed amenities be suitable to meet the recreation needs of the residents the park is to serve;
 - i. That the amenities accepted for full credit for private parks shall be those amenities typically found in public parks as described in section 5-5-1004B.3; and
 - j. That for private parks in excess of one acre, access to the public (excluding vehicular access) shall not be prevented to the extent as described in subsection B.3.
3. Banking park credits: Park dedication credits may be eligible to be banked in the form of acres under the following circumstances:
- a. Community parks: Park dedication credit for a community park may be banked and applied towards other community park sites within nearby planning area(s) as determined during approval of the park plan.
 - b. Neighborhood parks: When the timing of park development is not synchronized with residential development within a planning area, neighborhood park dedication credits may be eligible to be banked, as determined during approval of the park plan, if the following conditions are met:
 - (i) Banked public neighborhood park credits may only be applied towards any neighborhood park site in the planning area within one-half mile from the units which generated the dedication.

- (ii) Banked private neighborhood park credits may only be applied towards private parks within the subject tract map boundaries.
- (iii) Banked private neighborhood park credits generated by gated residential developments may only be applied towards private parks within the privacy gates of the units which pay for the park's maintenance.

4. Use of Quimby Act fees:

- a. Developers of in-fill housing projects with 50 or less units may comply with park dedication requirements solely by payment of in-lieu fees. Neighborhood park in-lieu fees shall be used at the nearest public neighborhood park. Community park in-lieu fees shall be used at the nearest community park(s).
- b. Developers of residential projects needing to meet park dedication requirements must select one of the following to satisfy their obligation. For the private park requirement, the developer shall either construct park improvements/recreational amenities at new or existing private parks or pay in lieu fees to the City which shall be applied towards public parks and/or amenities. The in-lieu fees shall be applied towards public parks and/or amenities. The in-lieu fees shall not be granted to existing private homeowner associations. The disposition of City in-lieu fees shall be included in the annual strategic business plan and budget processes.

5. Urban plazas and courtyards: Urban plazas and courtyards are ineligible for park dedication credit, except in Planning Area 36. An urban plaza or courtyard is an area such that the subject land and water is not covered with buildings or structures. The area may have been created as part of the urban building or landscaping design process and be between buildings. The area may or may not be landscaped. Such areas provide limited recreational opportunities and primarily serve passive and circulation uses.

G. Dedication standard reductions: In order to encourage the construction of low- and moderate-income housing, the city has adopted the following policy:

- 1. The developer of new units affordable for households of low and moderate income, as defined in the City of Irvine General Plan - Housing Element, may be allowed to reduce the dedication standard to a minimum of three and one-half acres per 1,000 population, upon review of the Community Services Commission and approval by the Planning Commission during the approval of the park plan. The distribution of the three and one-half acres shall be as follows: One and one-half acres - community parks, and two acres - neighborhood parks. The public/private distribution of neighborhood park land shall be determined during the approval of the park plan.
- 2. Dedication standard reduction requests shall be subject to the park plan processing procedures as described in Zoning Ordinance section 2-22-3. Approval of a request for this reduction shall be subject to the applicant's provision of documentation

regarding the following criteria:

- a. That the reduction in park dedication will help lower the cost of construction of the units planned for low-or moderate-income households.
- b. That the new rental units will be guaranteed as rentals for low-income households for a minimum of ten years.
- c. That projects for family units will be located within one-half mile of a publicly maintained park and/or school playground.

H. Appeals:

1. Any person may appeal a determination of the Planning Commission regarding the interpretation of this division. Appeals shall be filed with the City Clerk and shall be accompanied by a letter stating the reasons for the appeal. Any such appeals shall be filed within 15 calendar days from the date of determination.
2. An appeal shall be accompanied by a fee/deposit as required by City Council resolution. An appeal by a member of the City Council shall not be subject to the payment of a deposit/fee.
3. The City Clerk shall schedule the appeal for a hearing within 60 days of receipt of the appeal. Notice of the time and place the City Council will consider the appeal shall be mailed by the City Clerk to the applicant and to the person who filed the appeal (if other than the applicant).
4. The City Council shall hold at least one public hearing on any appeal in accordance with Zoning Ordinance chapter 2-5.
5. The City Council may affirm, reverse or modify the previous decision. The decision of the City Council shall be final.

*Appendix D. Amendments to Park Standards
Manual*



Appendices

This page intentionally left blank.

A. PUBLIC PARK DEDICATION

Land proposed to be dedicated for public park purposes shall be shown on the tentative tract map. All dedications of land shall be in accordance with the Subdivision Map Act. Land shall be conveyed in fee simple to the City of Irvine free and clear of all encumbrances, except those which will not interfere with the use of the land for its intended purposes as defined in the City's General Plan and which the City of Irvine agrees to accept. It is preferred that dedications occur on the final map, however, a separate document, (i.e. Grant Deed, Irrevocable Offer of Dedication) may be used to convey land. When a separate document is used, a Subdivision Application shall be submitted to the City Engineer for processing. The Subdivision Application and conveyance document must comply with all pertinent conditions of approval for public park dedications. Upon approval by the City, the conveyance document will be recorded.

B. PRIVATE PARK DEDICATION

Private park dedications shall be evaluated on a case-by-case basis per Subdivision Ordinance Section 5-5-1004 (F). Per Section 5-5-1004 (B) (3), private neighborhood parks shall be a minimum of one-third (0.33) acre in size for developments with densities under 31 dwelling units per acre and minimum 6,000 square feet in size for developments with densities over 31 dwelling units per acre, except for developments in Planning Area 36 where the parks will comply with provisions contained in the IBC Residential/Mixed Use Design Criteria and Chapter 5-8 of the City of Irvine Zoning Code. If several areas are proposed for park dedication credit, they should be physically linked together to form a network of recreational opportunities; however each individual area shall be evaluated for a minimum of 100 feet wide or special design considerations. Subdivisions which include land required as a private park shall be required to submit a written instrument reserving such required park land in perpetuity prior to the issuance of building permits to be approved by the Directors of Community Development and Community Services.

Please note that for subdivisions and/or residential development projects, conditions of approval for private park dedications may be applied on a case-by-case basis depending upon the specifics of the application.

*Appendix E. IBC Residential/Mixed Use Design
Criteria*



Appendices

This page intentionally left blank.

CITY COUNCIL RESOLUTION NO. 10-81

A RESOLUTION OF THE PLANNING COMMISSION OF THE
CITY OF IRVINE RECOMMENDING TO THE CITY COUNCIL
APPROVAL OF MASTER PLAN 00497860-PMP TO ESTABLISH
DESIGN CRITERIA FOR RESIDENTIAL-MIXED USE
PROJECTS WITHIN THE IRVINE BUSINESS COMPLEX

WHEREAS, the City of Irvine has an adopted General Plan and Zoning Ordinance;
and

WHEREAS, the City of Irvine has proposed 00497860-PMP to establish design
criteria for residential-mixed use projects within the Irvine Business Complex; and

WHEREAS, Master Plan 00497860-PMP (Master Plan) is considered a part of the
overall Vision Plan project for the IBC (Vision Plan Project) pursuant to the California
Environmental Quality Act (CEQA); and

WHEREAS, the City Council has considered information presented by the
applicant, the Community Development Department, and other interested parties at public
meetings and hearings held on July 11, 2006, July 25, 2006, February 27, 2007, October
23, 2007, February 26, 2008, April 27, 2010, and July 13, 2010.

NOW, THEREFORE, the City Council of the City of Irvine DOES HEREBY
RESOLVE as follows:

SECTION 1. That pursuant to Section 15205 of the State CEQA
Guidelines, the City Council reviewed and considered the Final Environmental Impact
Report (SCH# 2007011024) (FEIR) in making its recommendation on the Zone Change
and the Vision Plan Project.

SECTION 2. Most of the potentially significant environmental impacts of the Vision
Plan Project identified in the FEIR have been determined to be less than significant or
mitigated to a level that is considered less than significant or changes have been required
or incorporated into the Vision Plan Project which avoid or substantially lessen the
significant environmental effects.

SECTION 3. Certain impacts of the Vision Plan Project to Air Quality, Noise, Land
Use and Traffic have been identified in the FEIR as significant and unavoidable. The
specific impacts are summarized in Exhibit A to Resolution No. 10-79. Based upon
specific economic, social, technical or other considerations, the City Council finds these
effects acceptable and adopts the required facts and findings and Statement of
Overriding Considerations (attached as Exhibit B to Resolution No. 10-79).

SECTION 4. Although the FEIR identifies certain significant environmental effects
that would result if the Vision Plan Project is approved, most environmental effects can

feasibly be avoided or mitigated. The applicable mitigation measures, included within the FEIR as Table 1-2 and incorporated herein as Exhibit C to Resolution No. 10-79, have been incorporated into the Vision Plan Project or identified as requirements of the Vision Plan Project.

SECTION 5. In accordance with Section 8 of the City of Irvine CEQA Procedures, the Planning Commission recommends that the City Council find that the FEIR has been completed in compliance with CEQA and the State CEQA Guidelines, and the City's CEQA Procedures. The Planning Commission also recommends that the City Council, having final approval authority over the project, certify as complete and adequate the Final EIR.

SECTION 6. Pursuant to Fish and Game Code Section 7.11.4 (C), all required Fish and Oame filing fees will be paid subsequent to certification of the FEIR for the Vision Plan Project.

SECTION 7. That, in accordance with Section 2-17-7 of the City of Irvine Zoning Code, the following findings for approving a master plan have been established:

1. That the proposed plan is consistent with applicable general and specific plans.

The design criteria in the Master Plan are consistent with the General Plan, and implement the neighborhood identify and mobility goals and objectives of the IBC Element.

2. The proposed master plan is consistent with the City's Zoning Ordinance.

In accordance with Section 5-8 of the Zoning Code, the design criteria in the Master Plan were established to ensure proper design flexibility be allowed for residential development projects while maintaining neighborhood character and pedestrian scale design. Therefore, the proposed Master Plan is consistent with the City's Zoning Ordinance.

3. The proposed master plan is in the best interests of the public health, safety and welfare of the community.

The proposed design criteria in the Master Plan implement goals of sustainable planning and smart growth by ensuring a strong level of neighborhood pedestrian oriented design. Therefore, the criteria are consistent with all applicable provisions of the General Plan and Zoning Code and the Master Plan is determined to be in the best interests of the health, safety and welfare of the community.

4. The proposed master plan complies with all applicable requirements set forth within division 8 pertaining to the dedication of permanent open space through a phased dedication implementation program for affected planning areas and zoning districts

The project is not subject to this provision.

5. If the proposed master plan affects land located within the coastal zone, the proposed master plan will comply with the provisions of the land use plan of the certified local coastal program.

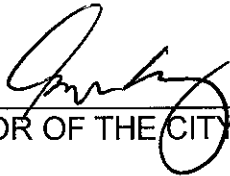
A portion of the IBC is located within the coastal zone, but the design criteria do not apply to this area as no residential development is permitted in this area

6. In Planning Area 30, the proposed master plan provides for compatibility between existing and future uses within the City of Irvine, to the extent those uses are known.

The project is not located in Planning Area 30.

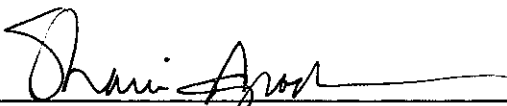
NOW, THEREFORE, based on the above findings the City Council of the City of Irvine DOES HEREBY APPROVE Master Plan 00497860-PMP (Exhibit A).

PASSED AND ADOPTED by the City Council of the City of Irvine at a regular meeting held on the 13th day of July, 2010.



MAYOR OF THE CITY OF IRVINE

ATTEST:



CITY CLERK OF THE CITY OF IRVINE

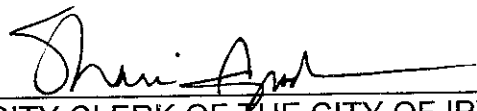
STATE OF CALIFORNIA)
COUNTY OF ORANGE)
CITY OF IRVINE)

I, SHARIE APODACA, City Clerk of the City of Irvine, HEREBY DO CERTIFY that the foregoing resolution was duly adopted at a regular meeting of the City Council of the City of Irvine, held on the 13th day of July, 2010.

AYES: 4 COUNCILMEMBERS: Agran, Choi, Krom and Kang

NOES: 0 COUNCILMEMBERS: None

ABSENT: 1 COUNCILMEMBERS: Shea


CITY CLERK OF THE CITY OF IRVINE

**Irvine Business Complex
Residential/Mixed-Use
Design Criteria
April 2010**

1.0 Introduction

1.1 Purpose and Intent

To ensure a consistent standard of residential mixed-use design quality throughout the IBC, the City of Irvine has established a set of Residential Mixed-Use Design Criteria. These Design Criteria are intended to guide the physical development of any residential or mixed use project that contains a component of residential use located within the boundaries of the Irvine Business Complex (IBC). They are intended to assist in ensuring that the design of each development remains true to the principles established in the IBC Vision process and Vision summary document. These Design Criteria have been approved by the City Council in conjunction with the General Plan Amendment and Zone Change implementing the IBC Residential/Mixed Use Vision Plan and Overlay Zoning Code. Subsequent amendments to these criteria may be approved by the Planning Commission.

This document establishes the framework through which design continuity can be achieved while accommodating varying tastes, materials and building methods. It provides standards and criteria for new construction and for remodels or additions.

These criteria are intended to complement the IBC Residential Mixed-Use Overlay Zone (Chapter 5-8 of the Zoning Code).

Recognition of and compliance with the Design Criteria is required for all residential and residential mixed-use development projects unless an alternative criteria meeting the same intent is approved by the Planning Commission as part of the discretionary project approval. In addition, exemptions to complying with certain specific criteria may be granted by the Planning Commission if it can be demonstrated that a particular criteria would be either inapplicable or inappropriate for a given project.

Therefore, while greater flexibility than is typically allowed within traditional zoning standards are permitted in the implementation of these Design Criteria, they nevertheless are deemed critical to the success of the mixed use environment within the IBC and should not be considered voluntary.

For discretionary residential projects in process with the City at the time of the adoption of these criteria, the City acknowledges the applicants have worked towards meeting the intent of these criteria as the criteria were being developed. Therefore, these criteria do not apply to residential projects in process at the time of criteria adoption, so long as the project design following adoption of the criteria is in substantial conformance with the design as proposed prior to criteria adoption.

1.2 Project Location and Description

These criteria shall be utilized for new residential and residential/mixed use developments in all areas within the Irvine Business Complex, generally defined as the area between John Wayne Airport, the San Diego Creek, Barranca Parkway and Campus Drive and located within the City of Irvine.

Consistency

These criteria are intended to define standards consistent with the Vision established for residential and mixed-use projects within the IBC. Should these criteria be found in conflict with regulatory codes, building codes and/or other statutes pertaining to construction within the IBC, those codes and statutes should supersede.

2.0 Limitations on the Location of Residential Development within the IBCRMU Overlay

- A. Required Street Frontage.** In order to provide adequate emergency and public access, all proposed development sites should have a minimum frontage of 100 feet along a public or private street. An IBC Private Service Street or IBC Walking Street as defined in this criteria does not qualify as a frontage street for purposes of this requirement.
- B. Distance from Freeways.** All outdoor public recreational areas should be located more than 500 feet from the nearest lane of traffic on the Interstate 405, unless adequate building screening can be provided.

3.0 Frontage Type Standards

3.1 Purpose

This section identifies the frontage types (architectural design definition representing the front of the building facing the street) allowed within the Overlay District area, and for each type, provides a description of the type's intent and design standards to ensure that proposed development is consistent with the City's goals for building form and character within the IBC. Design flexibility is encouraged by the use of different frontage types within a specific project.

3.2 Allowable Frontage Types by Overlay District

The Frontage Types allowed in each District are identified in Table 3-1.

Table 3-1: Frontage Requirements

BUILDING FRONTAGE TYPE	BUILDING FRONTAGE ALLOWED
Arcade	Y
Exposed Parking Garage	E
Forecourt	Y
Gallery	N
Residential Edge	Y
Stoop	Y
Storefront	Y

UN = Urban Neighborhood

MU = Multiple Use District

Y = Permitted

N = Not Permitted

E = Permitted by exception only *

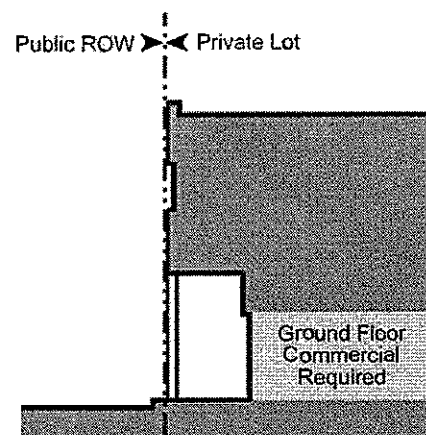
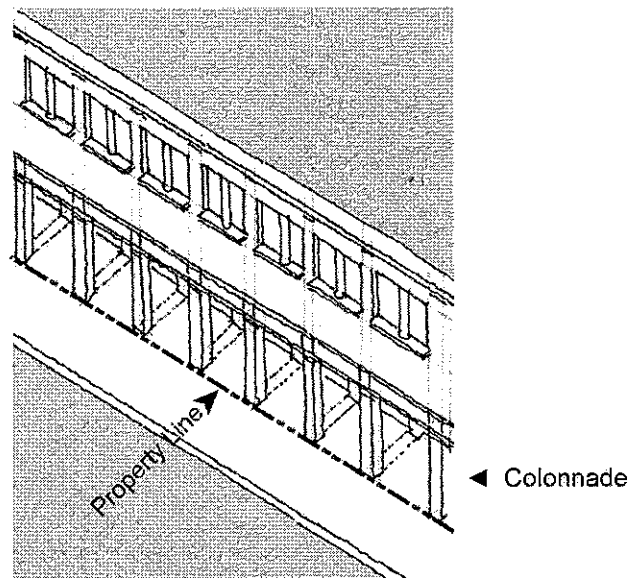
- * Exceptions include parking garages located on property boundaries not adjacent to public or private streets except on IBC service streets.

3.3 Standards

Arcade

Arcades are façades with an attached colonnade which are covered by upper stories. This type is ideal for retail use, but only when the sidewalk is fully incorporated under the roof. This frontage type cannot cover the public right-of-way as can the Gallery frontage type.

- Arcades should be no less than 10 feet wide clear in all directions.
- At least 65% of the first floor storefront wall area oriented to the street should consist of transparent glazed windows or glazed entries.

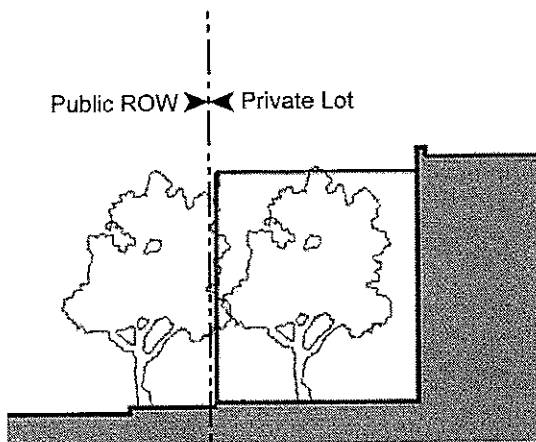
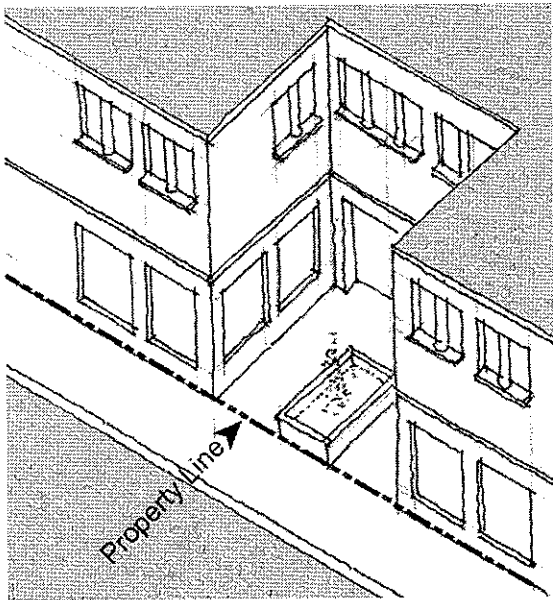


Arcade Diagrams

Forecourt

Forecourts are recessed courts within a storefront, gallery, or arcade frontage. The forecourt is suitable for gardens, vehicular drop offs, and utility off loading.

- The forecourt on a street frontage occupied by primarily commercial uses should not be deeper than 50 feet.
- A fence or wall at the property line may be used to define the private space of the yard. The fence or wall shall not exceed 42" in height. When forecourts are more than 18" above grade, completely solid privacy walls are discouraged.
- The forecourt may also be raised from the sidewalk, but should not exceed 36" above the sidewalk grade.

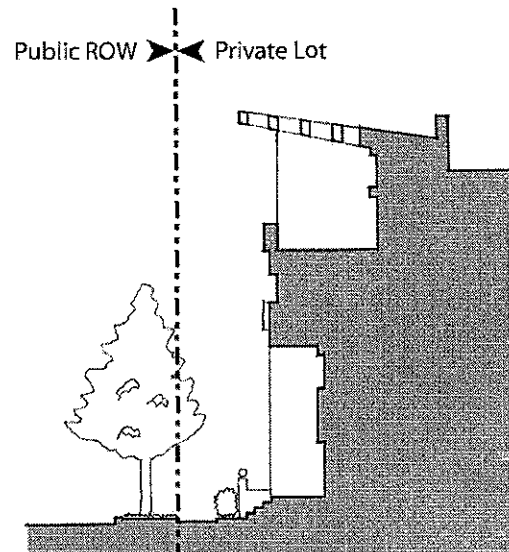
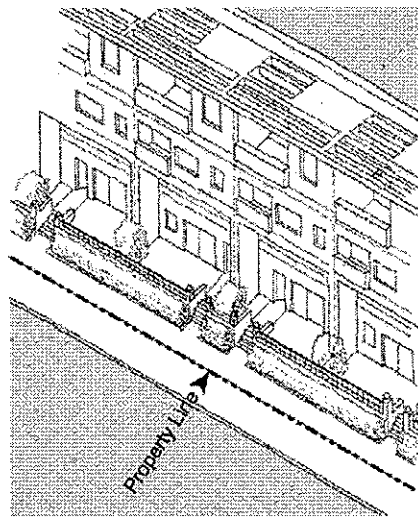


Forecourt Diagrams

Residential Edge

On multi-story buildings that have residential as a ground floor use, a pedestrian-friendly, “human scale” edge needs to be maintained along collector and local level street frontages. This is achieved by providing ground floor residential dwellings with individual entries, porches, stoops, overhangs and other devices that communicate individual home identity.

- Ground floor dwellings should have individual entries and walkway connections connecting to the adjacent street, considering sensitivity to surrounding land uses.
- Parallel on-street parking should be provided along adjacent street edges in front of dwellings where allowed for by the Director of Public Works.
- Exposed parking structure frontage along the ground level is highly discouraged and should be screened from adjacent streets with ground floor residential units, live-work, commercial use, community facilities or other uses.
- Building entries should be articulated with stoops, porches, balconies, overhangs and other architectural devices that articulate the façade and create visual interest.
- Fences or walls defining the front yard, or patio should not exceed 42” in height. When patios are more than 18” above grade, completely solid privacy walls are discouraged.

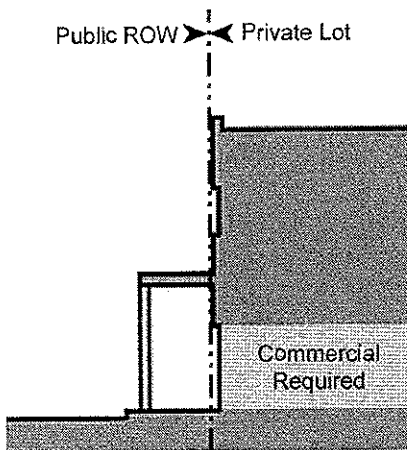
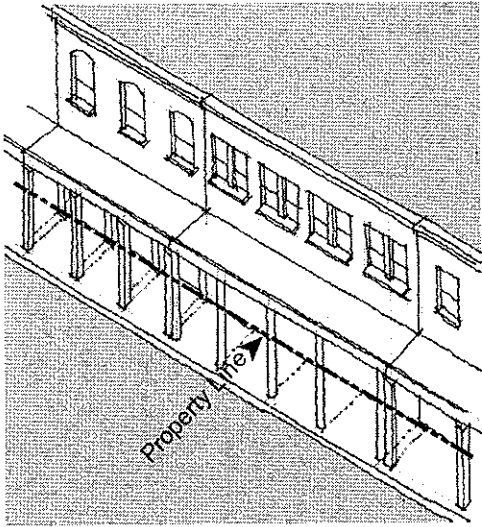


Residential Edge Diagrams

Gallery

Galleries are storefronts with an attached colonnade that projects over the sidewalk and encroaches into the public right-of-way. This frontage type is ideal for retail use but only when the sidewalk is fully incorporated under the roof.

- Galleries should be no less than 15 feet wide clear in all directions.
- At least 65% of the first floor storefront wall area should consist of transparent glazed windows or glazed entries.



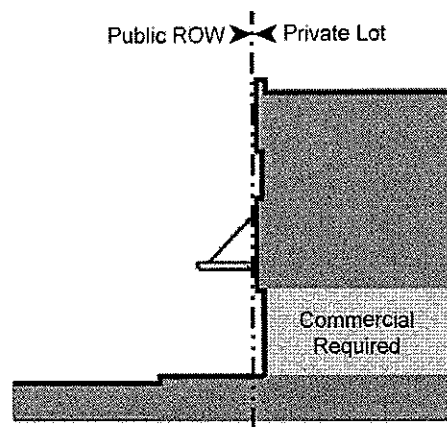
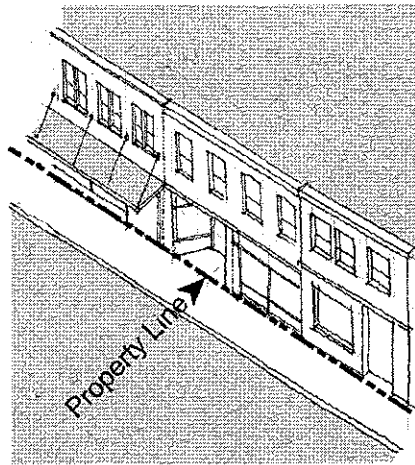
Gallery Diagrams

Storefront

Storefronts are façades placed at or close to the property line with the entrance at sidewalk grade and commonly equipped with cantilevered shed roof(s) or awning(s).

Recessed storefronts are also acceptable.

- Storefronts should be between 12 and 16 feet tall, as measured from the adjacent sidewalk.
- At least 65% of the first floor wall area should consist of transparent glazed storefront or glazed entries
- A maximum 18 inch deep area, measured out from the face of the building so long as a 5 foot clear path of travel on the adjacent sidewalk is maintained, is permitted within which a commercial tenant may customize store front design.



Storefront Diagrams

4.0 Architectural Design Criteria

A. Building Massing, Height, and Architectural Detail

The intent of these criteria is to provide housing projects that have a variety in building massing, height as well as architectural detail. Large building masses should be articulated through variations in roof lines and building heights, as well as the introduction of arcades, colonnades, recessed entrances, window bays, separated wall surfaces, and variations in setbacks. Façades adjacent to public and private streets should be enhanced with architectural detail, contrasting materials and colors, cornices, window details and fenestrations.

There are four primary design criteria that all new residential projects within the IBC should comply with. Additionally, projects should also comply with 4 out of 6 additional secondary design standards.

Primary Design-Criteria

1. Maximum length of building frontage

Any single building frontage may not be longer than 220 feet without a break of at least 15 feet in depth and 15 feet in width.

2. Active ground floor

Ground floor dwellings oriented to public or private streets should be accessed individually and directly from the abutting street, with individual front stoops or porches. Ground floor units may be provided with an additional/secondary entry from interior building courts/corridors.

- Exceptions are dwellings facing arterial streets, private service streets, or within courtyards.
- Where site grades prohibit direct access, a separate walkway may be provided at the top or bottom of the finished grade.
- Towers (over 5 stories) should be designed with a base of two to five stories located at the minimum building setback, lined by residential, community facility and/or commercial uses accessed at the ground level. Building frontages exceeding 5 stories should set back an additional 20 feet from the three to five story building base. Tower elements at corners are not included.

3. Building base, middle and cap

All buildings should be composed of three parts: base, middle and cap regardless of architectural style.

- The base or ground floor treatments generally articulated by individual dwelling entries, stoops and porches (except commercial ground floors).
- A middle consisting of a multi-story façade element with varied fenestration, color and/or breaks in wall plane.

- A top floor or cornice level that is recessed, modulated, exhibits a strong cornice line or overhang, or is otherwise emphasized.

4. **Corner Articulation**

Buildings at corners of collectors and/or arterial street intersections (as defined by the General Plan Circulation Element) should receive special treatment to enhance the pedestrian experience and create visual corner focal points.

Corner treatments may include but are not limited to:

- Tower elements, variation in height should be at least 1 story up or down.
- Larger scale of windows, openings and entry ways.
- Shift of color and material.
- Enhanced or articulated massing.
- Public art, such as murals or sculptural elements.

Secondary Design Standards

Residential projects should incorporate at least 4 out the following 6 secondary design standards in their design:

1. **Building façade** - The wall plane of a building façade should not extend longer than 120 feet without a break in the plane not less than six (6) feet in depth. Balconies do not qualify.
2. **Building tops** - Tops of building façades should be visually terminated through the use of articulated rooftops; stepped parapets, hip and/or vaulted roofs, stepped terraces, domes and/or other forms of multifaceted building tops.
3. **Architectural window articulation** - **Architectural window articulation** should be designed to create visual interest and distinctive building façades. This may be done through a variation in opening size, varied and/or orderly grouping of windows, or the use of recessed windows. Large total blank wall areas in excess of 20 linear feet and more than one-story in height (without windows, detail or entrances) are prohibited.
4. **Varied building heights** - Buildings should be designed with variations in building heights to help create visual interest and a distinctive street frontage. On buildings of five or more stories, one dominant building height should not exceed 70 percent of the building footprint, and 80 percent for buildings up to four stories. Parking structures, either podium or freestanding, are not included in the calculation.
5. **Building color** - Building façades should be designed to incorporate the use of contrasting/complementary colors and materials which reflect rather than absorb the hot/harsh Southern California sun. The predominant building colors (65% or more) should be white, off-white, light ochre, beige, or other light earth tones with other darker tones/colors used to accentuate door or window openings, cornices and other architectural elements/features.

-
6. **Glass building wall** - Building elevations that include a glass curtain wall should be designed to incorporate a contrast/ratio between punched openings and curtain wall elements. Curtain wall elements shall not exceed 85 percent of any one building façade.

- The use of reflective glass is prohibited.

B. Courtyard Space

In order to provide light, ventilation, and usable outdoor areas for residents, buildings oriented toward the interiors of blocks should be formed around courtyards of reasonable proportion and scale.

1. Courtyard housing, liner buildings and podium buildings should be designed to provide courtyard space of a size at least 15% of the total aggregate site size.
2. Tower blocks should be designed to provide courtyard space of a size of at least 20% of the total site size.
3. Minimum courtyard space dimensions should be 40 feet.
4. Courtyard spaces should be connected to each other and/or to the street by landscaped walkways.
5. Courtyard spaces may be located on podiums.

C. Pedestrian Access

1. Primary pedestrian entries for commercial/retail uses should be directly from a street or plaza.
2. For projects proposed adjacent to creeks, retail uses, or recreational areas, the project developer shall participate in the development of pedestrian connections to these facilities on a fair-share basis, including provision of pedestrian bridges as needed, consistent with the connectivity goals of the IBC Element of the General Plan. These connections are separate from and in addition to those outlined in the IBC Public Infrastructure Improvement Program adopted as part of the IBC Vision Plan.

D. Utility Service Areas

Utility/service areas and mechanical/electrical/backflow prevention equipment shall be located and screened to reduce their visibility from public and communal gathering areas and set back from the roadway as far as possible; methods of screening that are compatible with the project's architecture should be utilized.

5.0 Block Standards

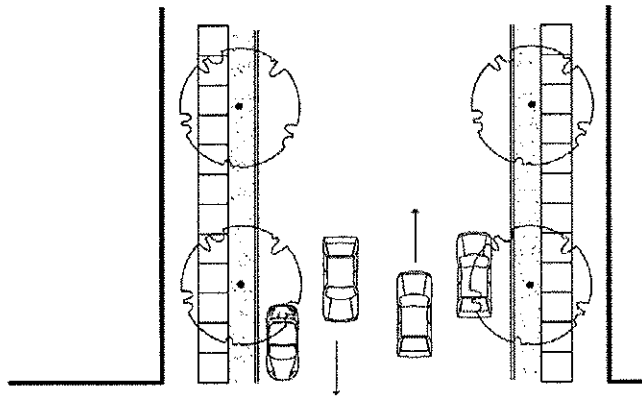
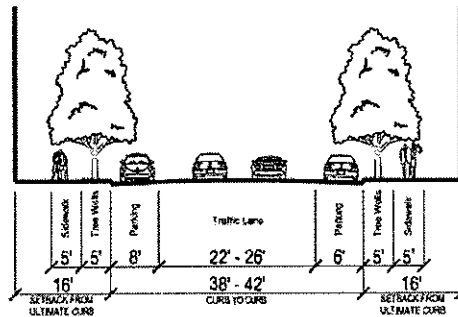
- A. Purpose.** This section establishes the standards for residential and mixed-use block size. A maximum block size criteria has been established to create and maintain a connected network of streets that improve connectivity, walkability, emergency access, and a variety of building types.
- B. Applicability.** Each block within a project should be designed in compliance with the standards of this Chapter, and is subject to the review of the Community Development Department.
- C. Maximum Block Size.** Blocks should not be longer than 600 feet on the long dimension and 400 feet on the short dimension. If either dimension is exceeded a new street should be added to create a block size not exceeding said dimensions.
- D. Street Types.** Street types to be used to define and create allowed block sizes are as follows.
- Any existing public arterial streets;
 - Any existing public collector streets;
 - Any existing public local streets; and
 - For any new private way except IBC Private Service Street, which is intended for service and emergency access only; however, the Walking Street should be used only when vehicular connectivity to an arterial is infeasible, as determined by the Director of Public Works.
- E. Street Connectivity.** Streets should be aligned and located in a manner to create a connected street pattern.
- New streets should link, or be aligned to ultimately link, to other local, collector, and/or arterial streets.
 - In cases where new streets cannot connect to arterials due to intersection spacing constraints, or other constraints as determined by the Directors of Public Works and Community Development, the street may:
End before the arterial with adequate vehicular turnaround area, and continue as a pedestrian walkway connecting to the arterial adjacent sidewalk, or
Provide a “walking street” as depicted in Section 6.0.

6.0 Street Standards

As provided in these criteria, new ungated streets should be provided in new residential/residential mixed-use developments to enhance the walkability and circulation and to create smaller blocks.

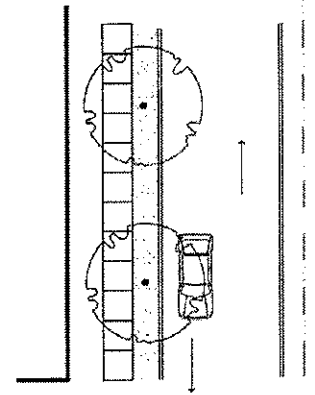
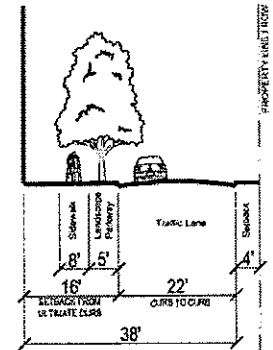
- A. **Conceptual Location.** New streets should be located in general conformance with the Conceptual Street Locations Plan defined in General Plan Figure N-7
- B. **Width Variations for Emergency Access.** The curb to curb dimension may vary depending on adjacent building heights in order to meet OCFA access and operational requirements.
- C. **Bus Stops.** Bus stops should be located and designed in accordance with the Orange County Transportation Authority (OCTA) Bus Stop Safety and Design Guidelines, i-Shuttle routes, and in consultation with City and OCTA staff. Applicants should be required to install bus turnouts, shelters, and related amenities, or pay an in-lieu fee to the City, as determined by the Director of Public Works.

D. IBC Private Way



Design Speed	20 mph
Curb to Curb Width	38'-42'
Traffic Lanes	1 lane each direction
Avg. Daily Trips	Not to exceed 850
Bike Lane	none
Parking	parallel on both sides (opt.)
Curb Type	vertical
Curb Radius	20'
Sidewalk Width	5'

Interim Section



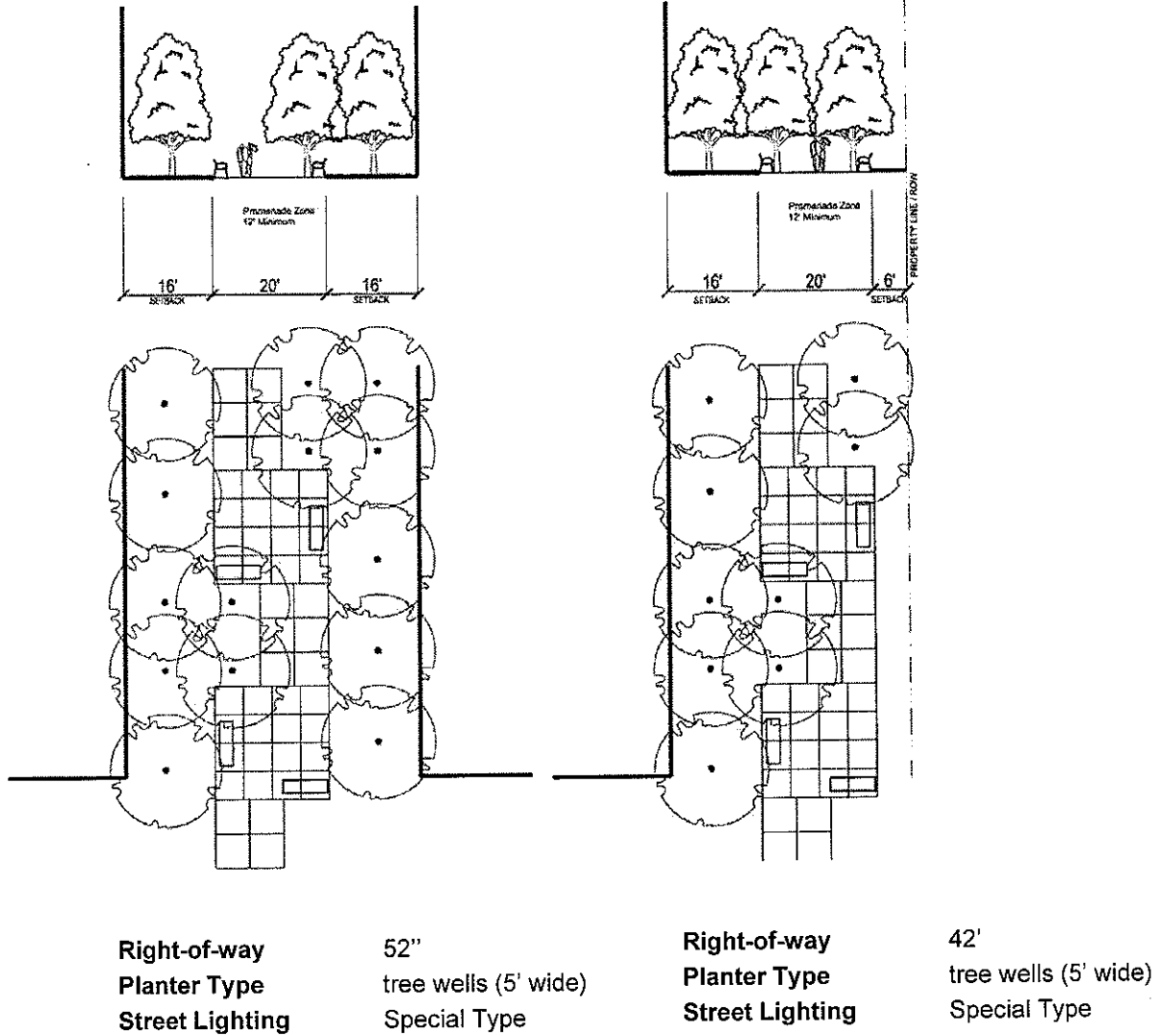
Design Speed	20 mph
Curb to Curb Width	22'
Traffic Lanes	1 lane each direction
Bike Lane	none
Curb Type	vertical
Curb Radius	20'
Sidewalk Width	5' on one side
Parkway Width	None
Planter Width	5'
Planter type	Continuous landscape parkway
Street Lighting	City standard

NOTES:

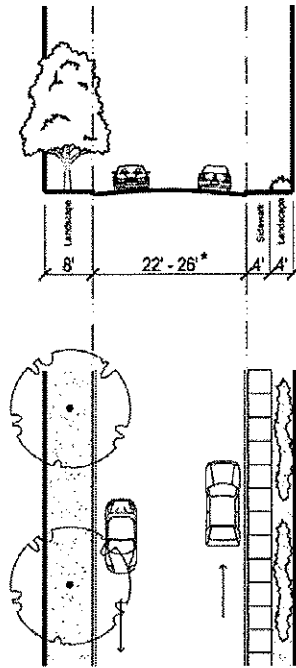
1. 42 feet pavement width required when adjacent building height is greater than 65 feet (for Orange County Fire Authority requirements).
2. On-street parking is required where residential fronts the street, except for the interim section.
3. Where the sidewalk is set back from the curb with a landscaped parkway, and curbside parking is allowed, the landscaping within the parkway shall include hard, flat, traversable surfaces for motorist and passengers to get to the sidewalk.

E. IBC Walking Street

Interim Section



F. IBC Private Service Street Court



Design Speed	20 mph
Curb to Curb Width*	22'-26'
Right-of-way width	N/A
Traffic Lanes	1 lane each direction
Avg. Daily Trips	Not to exceed 120
Median	none
Bike Lane	none
Parking	none
Curb Type	vertical
Curb Radius	20'
Sidewalk Width	4' on one side
Parkway Width	none
Planted Area	4' one side/8' other side
Planter Type	none
Street Lighting	City standard
Maximum length	300 feet from curb face of abutting private court, way or street

*NOTE: Shall be 26 feet wide when adjacent building height is greater than 65 feet (for Orange County Fire Authority requirements).

7.0 Setbacks

Every building or structure built under the provisions of these criteria ~~this zone~~ should provide setbacks as follows:

A. Setbacks Abutting Public Rights-of-Way and Private Streets.

1. **Minimum Setback.** All properties should have a minimum setback for the full width of the property as indicated in Table 7-2 Setbacks.
 - a. Setbacks shall be measured from the ultimate curb face location.

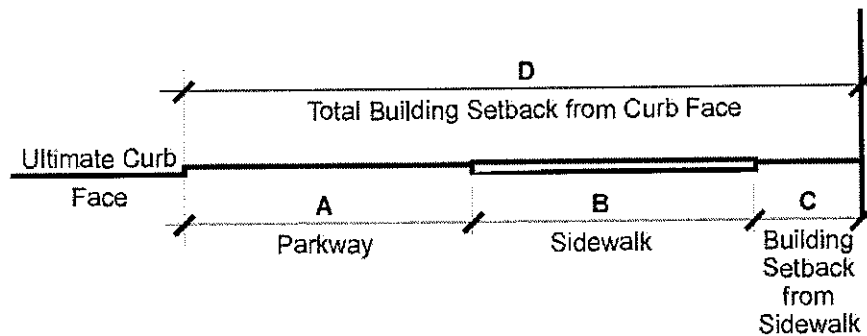


Table 7-2: Setbacks

Street	A Parkway Width (feet)	B Sidewalk Width (feet)	C Building Setback from Sidewalk (feet)	D Total Building Setback from Curb (feet)
NEW STREETS				
IBC Private Court	0	8	0	8
IBC Private Way	5	5	6	16
IBC Service Street	0	8	0	8
EXISTING STREETS				
Alton Parkway*	8	8	14	30
Armstrong Avenue	6	6	8	20
Barranca Parkway*	8	10	22	30
Bardeen Avenue	6	6	8	20
Beckman Avenue	6	6	8	20
Business Center Drive	6	6	8	20

Street	A Parkway Width (feet)	B Sidewalk Width (feet)	G Building Setback from Sidewalk (feet)	D Total Building Setback from Curb (feet)
Campus Drive*	8	8	14	30
Cartwright Road	6	6	8	20
Corporate Park	6	6	8	20
Derian Avenue	6	6	8	20
Douglas Drive	6	6	8	20
DuBridge Avenue	6	6	8	20
Gates Avenue	6	6	8	20
Gillette Avenue	6	6	8	20
Hale Avenue	6	6	8	20
Kelvin Avenue	6	6	8	20
Jamboree Road (north of Main Street)*	8	8	14	30
Jamboree Road (between Main Street and Michelson Drive)*	8	8	8	24
Jamboree Road (south of Michelson Drive)*	8	8	12	30
Macarthur Boulevard*	8	8	14	30
Main Street*	8	8	8	24
McCabe Way	6	6	8	20
MoGaw Avenue	6	6	8	20
Martin Street	6	6	8	20
Michelson Drive*	8	8	8	24
Millikan Avenue	6	6	8	20
Murphy	6	6	8	20
Morse Avenue	6	6	8	20
Noyes Avenue	6	6	8	20
Quartz	6	6	8	20
Richter Avenue	6	6	8	20
Teller Avenue	6	6	8	20
Union	6	6	8	20

Street	A Parkway Width (feet)	B Sidewalk Width (feet)	C Building Setback from Sidewalk (feet)	D Total Building Setback from Cnrb (feet)
Von Karman Avenue (Main Street to Barranca Parkway)*	8	8	14	30
Von Karman Avenue (Michelson Dr. to Campus)*	8	8	8	24
Wade Street	6	6	8	20
White Road	6	6	8	20

***Existing Arterial Streets**

NOTES:

1. Additional sidewalk width may be required around schools or other locations where pedestrians congregate (such as theaters, restaurants and churches).
2. Seating and fountains, statuary, or street art should not be situated such that pedestrians viewing them are unaware of, or inadvertently get too close to, traffic along the adjacent traveled way.
3. Should Building Code requirements specify lesser setbacks, the Building Code requirements shall prevail.

2. Required Improvement within Setbacks. Setbacks abutting public rights-of-way, private streets, private service streets, and private ways should be improved and maintained as noted below:

- a. For projects adjacent to streets identified in Table 7-2, as well as newly constructed public and private streets, the portion of the setback adjacent to the right-of-way should be improved with a parkway and sidewalk consistent with dimensions identified in this Section. On public streets, a private property easement for the sidewalk should be provided to the City.
- b. Setback areas should be fully landscaped with turf or groundcover, trees, shrubs or other plants, and/or decorated paving and walking surfaces.
- c. Setback areas should be permanently maintained in a neat and orderly manner by the property owner, homeowners association, or maintenance district.

3. **Acceleration and Right Turn Lanes.** Required setbacks from the curb should be maintained where right turn lanes, acceleration lanes or deceleration lanes and bus turn outs are required, except in the following condition:
 - a. A full or partial height building mass may be extended out to the ~~normal~~ setback line consistent with the ultimate curb face of the nearby through lane if located on the corner or if deceleration lane is required on a non-corner property, and not exceeding 30% of the length of the increased setback. The extended building mass must represent a corner architectural elevation and form unique to the block and designed to accentuate the arterial corner location., unless the building is not located on the corner of two public streets.
4. **Permitted Encroachments within Setbacks:** Setbacks abutting public rights-of-way, private streets, private service streets, and private ways may include the following encroachments, in addition to those outlined in Section 3-27 of the City of Irvine Zoning Code:
 - a. Encroachments as permitted in Chapter 3-27 of the Zoning Ordinance.
 - b. Stoops and balconies may encroach not more that five (5) feet into the required setback.
 - c. Patios and courtyards may encroach not more that five (5) feet into the required setback.
 - d. Ramps for disabled access.
 - e. Outdoor seating and dining areas in conjunction with full-service restaurants and food retailers i.e. coffee shops, ice cream shops, sandwich shops, outdoor vending, and pushcarts provided that such areas shall be designed to not adversely affect safe and efficient pedestrian circulation, subject to review and approval by the Director of Community Development.
 - f. Public art displays, fountains, ponds, planters, outdoor seating areas, benches, decorative trash receptacles, way finding signs, planters, public plazas, or other similar amenities and attractive street furnishings that create public gathering places, as permitted by existing regulations.
 - g. News racks that are designed to be aesthetically harmonious with the character of the area and not cause obstruction or adversely affect the safe and efficient circulation of pedestrian and vehicular traffic.
 - h. Awnings, canopies, galleries, and arcades.
 - h. Signs as permitted in section 8 of these Design Criteria.
5. **Permitted Encroachments within Public Rights of Ways:** All Right of Way encroachments need to maintain a five (5) foot clear path of travel.
 - a. Encroachments as permitted in Chapter 3-32 of the Zoning Ordinance
 - b. Ramps for disabled access.
 - b. Improvements for bus transit and shuttle stops.

-
- d. Outdoor seating and dining areas in conjunction with full-service restaurants and food retailers i.e. coffee shops, ice cream shops, sandwich shops, outdoor vending, and pushcarts provided that such areas shall be designed to not adversely affect the safe and efficient circulation of pedestrian and vehicular traffic, subject to review and approval by the Director of Community Development and Director of Public Works.
 - e. News racks that are designed to be aesthetically harmonious with the character of the area and not cause obstruction or adversely affect the safe and efficient circulation of pedestrian and vehicular traffic.
 - f. Galleries as defined in Frontage Type Standards (Section 3 of these Design Criteria)
 - g. Signs as permitted in Section 8 of these Design Criteria

8.0 Signs

- A. Applicability of Other Regulations.** The signage provisions in Division 7 of the Irvine Municipal Code shall apply to projects within the IBCRMU Overlay, except that the following signage elements are permitted when a coordinated sign program is provided as described in Subsection Below.
- B.** A sign program for residential and mixed use projects should be submitted for review pursuant to the procedures outlined in Sections 2-21-2, 2-31-3 and Division 7 of the Zoning Code. The approval body for the sign program shall be as specified in Section 2-21-4 of the Zoning Code, with the exception of neon signs, which are permitted pursuant to this section as part of the required sign program, subject to review and approval by the Planning Commission.
 - 1. Awning signs and projecting signs are permitted for buildings with ground floor commercial uses, pursuant to the sign regulations in the Zoning Code.
 - 2. Thematic elements or three-dimensional object or non-habitable structure such as a gateway, tower, sculpture, spire, and similar architectural features to entertain pedestrians are permitted.

9.0 Parking Structure, Parking Demand, Loading, and Vehicle Access

A. Townhomes, Live/Work and Courtyard Homes

Townhomes, live/work, and courtyard homes should provide vehicular access from the rear of the unit, with access to garages by private service drives located at the rear or side of the building. Garages access is prohibited on primary street (as defined in the General Plan Circulation Element) frontages except where necessary to provide access to podium or subterranean parking.

B. Freestanding Parking Structure Treatments

Portions of any parking structure facing a street should be “lined” with residential units or community/commercial facilities so that at least 70% of the ground floor length of the parking structure is visually screened from the street.

1. Parking structures that are located along property lines, not directly adjacent to streets and/or parks or within an industrial buffer zone should utilize architectural detailing, façade treatment, artwork, or other architectural features to enhance the façade.
2. The landscape area should be a minimum of 8 feet in depth at the ground level where the landscaping is the only means of visual screening.
3. Upper levels of any structures should be of similar color and material to adjacent buildings, and include enhanced architectural treatment to provide façade variation. View of cars should be screened by a 42-inch high parapet.
4. Parking structures should incorporate a squeal-free floor treatment.

C. Podium Parking Structure Treatments

Podium parking garages should be depressed so that no more than 3.5 feet of the podium above grade is exposed to view from public or private streets. Exposed portions should be architecturally treated with stoops, porches, courtyards, vents and screened with landscape plantings. Exceptions are the following:

1. Along an arterial street or greater (as defined by the General Plan Circulation Element) up to 5 feet of enclosed or naturally ventilated parking structure may be exposed. Such exposed areas should be screened with berming, landscape material, or other devices.
2. Where it can be demonstrated to the satisfaction of the Chief Building Official that water table conditions preclude the prescribed maximum 3.5 foot podium height without incurring extraordinary costs, up to 5 feet may be exposed. In addition to stoops and porches, such exposed areas should be screened with berming, landscape material, or other devices.
3. Where existing site slope conditions preclude maintaining the maximum 3.5 foot podium height, up to 50% of a podium side may extend up to 5 feet above grade.

-
4. Where a podium parking structure extends higher than 3.5 feet above grade (or 5 feet on an arterial street), except in the cases noted above, it should be treated as a freestanding parking structure with at least 70% of the ground-level exposed parking structure lined with residential, community or commercial uses, and enhanced architectural treatment to provide façade variation for upper levels. In such a case the same exceptions shall also be granted as listed for free standing parking structures.

D. Parking Demand Study. The integration of multiple uses to capitalize on shared parking dynamics leading to reduced parking requirements and intensification of use is highly encouraged. Refer to zoning code Sec. 4-6-3.A for shared parking requirements. Further requirements are below.

1. A shared parking demand analysis may be requested of the applicant for including the design of the parking areas, including ingress and egress. Reductions in standard parking requirements, should be determined as part of the discretionary case application based upon information contained in a parking demand study prepared by a licensed traffic engineer.
2. The parking demand study shall be prepared at the property owner/developer's expense and be provided at the time of discretionary application for the use, and subject to the provisions of Section 4-6-3 of the Zoning Code..

E. Number of Spaces for Residential Uses. Parking requirements for residential uses shall be as provided in Chapter 4 of the Zoning Code; except however, in such an instance when the parking demand study supports a different parking ratio as approved by the Planning Commission as part of the discretionary action.

1. **Valet Parking.** Valet parking may be permitted pursuant to Section 4-8-1 provided that valet services are provided for and managed by an on-site management company or homeowner's association.

Where tandem parking is provided for non-residential uses, a valet attendant is required.

The portions of the parking lot or structure where the valet attendant parks vehicles, if it is within the drive aisles, shall be physically separated from the areas of self-parking, such that the vehicular circulation is not impeded, and dead-ends are not created, for those who wish to self-park (if allowed).

2. **Drop-off and Pick-up Locations.** Drop-off and pick-up locations should be incorporated into the design of parking areas, as determined by an access study or part of a larger traffic analysis to be submitted at the time of the discretionary case application.

The drop off and pick up locations should not impede the vehicular circulation for those who wish to access the self-parking areas (if provided), nor should they obstruct emergency vehicle access to the buildings.

- F. **Vehicle Access.** All vehicle access should be designed and improved in accordance with the City of Irvine Standards and Transportation Design Procedures..

- G. **Credit for On-Street Parking.** Residential visitor parking required by the Zoning Ordinance may be located on new streets created by the residential or mixed-use development pursuant to this overlay Zone.

- H. **Shared Visitor Parking.** For mixed-use residential projects containing greater than two percent of the project square footage of neighborhood-serving uses (as defined by the accessory retail provisions of the Zoning Code, shared parking may be requested through the Administrative Relief Process outlined in the Zoning Code, based on City review and approval of a shared parking demand analysis for the project submitted by the project applicant. Existing local streets that are deemed by Director of Public Works for on-street parking may also be credited for visitor parking. Required parking for recreational areas will not be eligible for use as shared visitor parking.

- I. **Parking Location.** The location of spaces for residential uses shall be provided per in Chapter 4.3, except that the location of visitor parking may not exceed 500 feet from the primary entrance to the residence.

1. Parking entrances to subterranean garages and/or driveways shall be located to the side or rear of each lot, except for towers, which may allow for such access from the front of the lot via a circular or plaza-type driveway entrance from the street.

- J. **Loading Areas.** Off-street loading spaces should be provided as follows:

1. **Non-residential.** Non-residential off-street loading requirements should be located as far as feasible from residential units to minimize noise and odor impacts.

2. Residential.

- a. Residential uses should have one off-street loading space or moving plaza for every 150 units.

Loading spaces shall be conveniently located near an entrance to the building and in close proximity to the freight elevator. The path of travel of those loading and unloading should not obstruct access to the parking structure.

- c. Loading spaces or moving plazas should be incorporated into the design of vehicular access areas.
- d. Decorative paving, removable bollards, and potted plants are permitted and encouraged to enhance loading spaces or moving plazas .plazas.
- e. Loading spaces or moving plazas may be located on a local street, or private way subject to the approval of the Director of Public Works. The adjacent parkway and setback landscape treatment should be designed to allow for loading and unloading. The applicant must demonstrate that the loading space can not be accommodated within the property or along a private street. The property management must monitor and provide signage to reserve the loading space for exclusive use by moving vans and delivery vehicles.

10.0 Park and Recreation Criteria

A. Purpose. This section identifies the range of park types and alternative park design standards for parks to be developed in the IBCRMU Overlay District. Private Neighborhood Parks may be accommodated entirely on the subject property or combined with an adjacent property being developed through dedication or through payment of in-lieu fees to comply with the requirements of this section.

B. Approvals - Park Credit Exceptions. Parks shall be designed in compliance with the standards of this section, and Section 2-22 of the Zoning Ordinance and Section 5-5-1004 of the Irvine Municipal Code. Areas not eligible for park credits are: required setbacks, fire lanes, sidewalks that provide access to individual units, trails, leasing offices, property management offices, business centers, conference rooms, and other non-recreational spaces.

C. Park Dedication Distribution. Parks should be provided as required in Section 5-5-1004 of the Municipal Code Park Dedication at five acres per 1,000 residents. Community Parks Dedication in the IBCRMU should only be provided through payment of in-lieu fees for the two acres per 1,000 residents Community Park requirement. However within the IBCRMU Overlay, the public/private distribution of neighborhood park land should be allocated as follows:

Public	Two acres per 1,000 residents

Public and/or Private One acre per 1,000 residents

- D. When 750 units are provided within a project the public neighborhood park requirement should be met on-site and must be accessible for the general public. This park should be at least one acre in size.
- E. For projects over 375 units but less than 750 units, the property owner has the option to provide a 0.5 acre public park that is privately maintained. This park will count towards the public park requirement if public access is retained in perpetuity.
- F. **Locations of Public Parks.** Public parks should not be located along streets designated as arterials, freeway onramps or off-ramps, bridges, or similar areas, and should be subject to the City noise attenuation requirements for exterior residential areas. Parks should be located in such a way as to minimize pedestrian hazards and maximize pedestrian access.
- G. **Playgrounds in IBC Residential Projects.** Projects with fewer than 500 units will be exempt from this requirement if located within ¼ mile walking distance from a public playground. For residential projects less than 275 units, tot-lots will not be required on site. For projects with 275 or more units, tot-lots will be required at a rate of 1.2 sq. ft. per person, and will be located on site. The minimum total tot-lot size shall be 400 sq. ft. and may include use of space efficient play features such as climbing rocks, sculptures designed for children, and interactive water features.
- H. **Allowable Types and Requirements.** The following urban open space types are summarized in Table 10-1, Types and Requirements of Neighborhood Parks. In addition, each type is further described and its specific design and programmatic standards are identified.

Table 10-1: Types and Requirements of Neighborhood Parks

Public Park Types	Requirements and Characteristics		
	Minimum Size (ac)	Parking Required	Public Park Credit
Urban Plaza/Square	0.25 ac	No	Yes
Neighborhood Park	0.5 ac	Yes*	Yes**
Community Building	750 sq. ft.	Yes	Yes

* No, if street parking is available on adjacent street.

** If HOA maintained with public access in perpetuity or publicly maintained.

Private Park Types	Requirements and Characteristics			
	Minimum Size (ac)	Parking Required	Private Park Credit	
Community Building	750 sq. ft	No	Yes	(amenity credit)
Courtyard, ungated	6,000 sq. ft	No	Yes	
Recreational Area	0.137 ac	No	Yes	
Roof Garden	0.137 ac	No	Yes	(amenity credit)
Neighborhood Park (private)	0.5 ac	No	Yes	
Urban Plaza/Square	0.25 ac	No	Yes	

1. **Community Building.** A building, where the community can meet and have social interaction with other residents. Typically community buildings act as a focal point within the development, located adjacent to important streets.

- a. **Spatial Configuration.**

- (1) Size: Minimum 750 square feet.
 - (2) Minimum Public Streets Adjacent to Building:
Public buildings: one.
Private buildings: zero.
 - (3) Access: Can be restricted for private facilities.

- b. **Typical Program and Use.**

- (1) Including but not limited to meeting rooms, open play area, fitness center, arts and crafts rooms, restrooms.
 - (2) Parking: Per City Code.

- c. **Location.** Community buildings can be located in public or private space.

2. **Courtyard.** The smallest of park types, the ungated courtyard is intended to satisfy passive park needs between streetscapes at the corners of development, within projects or between developments, to create areas of urban recreational space within the neighborhood.

- a. **Spatial Configuration.**

- (1) Minimum size: 6,000 square feet (.137 acres).
 - (2) Minimum dimension: Height of the tallest adjacent building or 40 feet, whichever is greater.
 - (3) Public Streets Siding Park: Not required.
 - (4) Pedestrian access: Ungated with at least two pedestrian access points required.

- b. **Typical Program and Use.**
 - (1) Including but not limited to seating area, landscaping, picnic tables, tot lot, water feature, garden, and/or structure (i.e. gazebo) - 1,000 square feet maximum.
 - (2) Parking: none.
 - c. **Design and Style**
 - (1) Landscape coverage: 10% minimum.
 - (2) Tree size: Minimum 24-inch box
- 3. **Private Recreational Area.** A recreational area with recreational facilities to meet the needs of the residents within the site.
 - a. **Spatial Configuration.**
 - (1) Size: 6,000 square feet. (0.137 acres) (2) Minimum number of public streets siding park: Not required
 - (3) Access: Restricted (considered private neighborhood park).
 - b. **Typical Program and Use.**
 - (1) Including but not limited to: athletic courts, swimming pool, playground, walking/fitness trail, dog park, putting green, restrooms, private community building or structures: 1,500 square feet maximum.
 - (2). Parking: Per the Zoning Ordinance.
- 4. **Roof Garden.** A private garden or urban space on top of the roof or upper floors of a building or a parking structure, which provides usable outdoor space in an urban setting. The size of the structure restricts the size and form of the space.
 - a. **Spatial Configuration.**
 - (1) Size: 6,000 square feet (0.137 acres).
 - (2) Minimum Public Streets Siding Park: not applicable.
 - (3) Access: Restricted (considered private neighborhood park).
 - (4) Pedestrian Circulation.
 - b. **Typical Program and Use.**
 - (1) Including but not limited to swimming pool, spa, sun terrace, running track, athletic courts, gardens, structure.
 - (2) Parking: none.
 - c. **Design and Style.**
 - (1) Landscape Coverage: 5% minimum.
 - (2) Tree size: Minimum 24-inch box.
- 5. **Neighborhood Park.** A public or private park situated between or at the center of neighborhoods that accommodates various recreational needs, such as a neighborhood gathering space, open turf, tennis or basketball courts, picnic area, dog parks, play equipment, but excludes large muscle sport facilities.

-
- a. **Spatial Configuration.**
 - (1) Size: Minimum 0.5 acre with a minimum dimension of 100 feet.
 - (2) Minimum Public Streets Siding Park: one; two are preferred.
 - (3) Access: Can be public or private ownership. Pool area, courts, or buildings may have restricted access in private parks. If public park credit is requested, the park must be publicly maintained, or be privately maintained with public access retained in perpetuity.
 - b. **Typical Program and Use.**
 - (1) Including but not limited to athletic courts, fitness trail, walking trail, restrooms, dog park, playground, pool complex, community building, multi-use turf area structures: 1,500 square feet maximum.
 - (2) Parking: Per the Zoning Ordinance.
 - c. **Location.** Public neighborhood parks receiving park credits cannot be located on major arterials, unless it meets the General Plan Noise Standards for parks.
6. **Urban Plaza/Square.** A public urban space, typically located adjacent to streets, or as focal points. Buildings should define edges.
- a. **Spatial Configuration.**
 - (1) Size: 0.25 to 0.75 acre.
 - (2) Minimum Public Streets Siding Park: one; two are preferred
 - (3) Access: Unrestricted.
 - b. **Typical Program and Use.**
 - (1). Urban/civic space, including but not limited to benches, amphitheater, shade trees, water feature, artwork, pavilion - 1,500 square feet maximum.
 - (2) Parking: none.
 - c. **Design and Style.**
 - (1) Landscape coverage: 10% minimum.
 - (2) Tree size: Minimum 24-inch box

Definitions

A. Purpose. This Section provides definitions of terms and phrases used in these Design Criteria that are technical or specialized, or that may not reflect common usage. If any of the definitions in this Section conflict with definitions in the Zoning Ordinance or other provisions of the Municipal Code, these definitions shall control for the purposes of this Code. If a word is not defined in this Section, or in other provisions of the Municipal Code, the Director of Community Development shall determine the correct definition.

B. Definitions of Specialized Terms and Phrases.

As used in this Code, each of the following terms and phrases shall have the meaning ascribed to them in this Section, unless the context in which they are used clearly requires otherwise.

Arcade: A series of arches linked together, usually as an element of a building.

Architectural (Building) Type: A structure defined by the combination of configuration, placement and function.

Avigation Easement: As defined by the John Wayne Airport Land Use Commission.

Block: The aggregate of private/public lots, passages, common drives and, lanes, circumscribed by thoroughfares.

Buffer: Physical separation between uses.

Civic: The term defining not-for-profit organizations dedicated to the arts, culture, education, government, transit, and municipal parking facilities.

Civic, Governmental and Culture: This land use type applies to community facilities, municipal offices, district headquarters, education, theaters, museums, galleries and other similar gathering places for the purpose of public meetings or events.

Civic Space: An open area dedicated for public use, typically for community gatherings.

Colonnade: A series of columns similar to an arcade but spanned by straight lintels rather than arches, linked together, usually as an element of a building.

Context: The particular combination of elements that create a specific environment. A Context Zone (e.g., UN) is administratively similar to the land use zones in conventional zoning ordinances, except that in addition to specifying the building use, density, height and setback, all the relevant elements and characteristics of the intended environment are integrated. The integration includes the characteristics of the private lot and building as well as those of the enfronting public streetscape. Their combination and the ratio of natural-urban intensity is determined by their location on the Transect.

Cornice: Any molded projection which finishes or crowns the part to which it is attached.

Curb: The upright edge at the back edge of the gutter of the vehicular pavement detailed as a raised curb or a swale. The curb usually incorporates the drainage system.

Design Speed: The velocity at which a thoroughfare can be comfortably driven without the constraints of signage or enforcement. There are 4 ranges of speed: Very Low: below 20mph, Low: 20-25mph, Moderate: 25-35mph and High: above 35mph. This factor determines the character and context for a particular segment of the Thoroughfare system.

Elevation (Building): The exterior walls of a building not along a frontage. Also referred to as 'Facade' when the elevation is along a frontage line.

Entrance (Principal): The principal point of access for pedestrians to a building. In the support of pedestrian activity, the Principal Entrance should address the frontage rather than to the parking.

Facade: The exterior wall of a building that is set along a frontage line. Facades support the public realm and are subject to frontage requirements additional to those required of elevations.

Fenestration: The arrangement of windows in a building to provide interior light; also used as decorative elements in a facade.

Flats: A single floor residence.

Flex space: An integrated residence and working space.

Forecourt: A semi-public exterior space partially surrounded by a building and also opening to a thoroughfare. These spaces usually lead to a Court, which is a private

exterior space. It is often used as a vehicular entrance or drop-off, and its landscape may be improved with paving.

Frontage Type: The architectural element of a building between the public right-of-way and the private property associated with the building. Frontage Types combined with the public realm create the perceptible streetscape.

IBC Service Street: An IBC Service Street is a street providing access to service and parking within a project, not a through street typically connected to the general street system.

IBC Private Way: An IBC Private Way is a new street created to reduce the block size within the IBC conceptually located as per the Vision Plan.

IBC Vision Plan: Element N of the City of Irvine General Plan

IBC Walking Street: A pedestrian connection used to create smaller blocks in the IBC (See Section 5-8-13 G.).

Liner: A building that conceals a larger building, such as a public garage, that is designed for occupancy by retail, service, and/or office uses on the ground floor, with upper floors also configured for those uses or for residences.

Lintel: A horizontal beam of wood or stone over an opening of a door or window to support the weight above it.

Live/Work: An integrated residence and working space, occupied and utilized by a single household in a structure, either single-family or multi-family, that has been designed or structurally modified to accommodate joint residential occupancy and work activity.

Loft: A two-story volume residence with a mezzanine. Second stories of lofts on the top level of a building shall be counted as a separate story for purposes of the Zoning Ordinance. Exceptions to this definition are permitted as allowed by the Building Code for purposes of building plan check.

Lot Width: The length of the Principal Frontage Line.

Mixed-Use Main Street: A Mixed Use Main street is a street characterized by continuous active ground floor retail storefronts and convenient parking to encourage pedestrian activity.

Moving Plaza: Temporary loading area for deliveries to a residential complex.

Net Developable Area: The area defined by blocks which is not to remain for public uses such as Plazas, Squares, Streets or Streetscapes.

Planter: The layer of the streetscape which accommodates street trees. Planters may be continuous or individual according to the Thoroughfare and location within the neighborhood.

Podium: A building type with a partially or fully submerged parking garage that uses the deck of the garage as the base of the building.

Porch: An open air room added to the mass of a building with floor and roof, with no walls on at least two sides. Different from a balcony or deck as surrounds main entry; provides transition from the public space of the street to the private space of the dwelling unit.

Rear-loaded: A Rear Loaded residential building is one that has vehicular access from the back of the building accessible through a service way.

Service Rooms: Residential rooms such as laundry rooms or closet which do not serve as sleeping, dining, cooking or gathering rooms.

Sidewalk: The paved layer of the public frontage dedicated exclusively to pedestrian activity.

Stoop: A small porch or platform at the entrance of a residence. This element is typically raised 1.5 to 3 feet from grade to correspond to the adjacent first floor. The building types that use this element do so to maintain the occupant's sense of privacy because of their typically short distance from the frontage line. A stoop provides a transition from the public space of the street to the private space of the dwelling unit.

Thoroughfare: A vehicular way incorporating moving lanes and parking lanes (except private service streets/lanes) within a right-of-way.

Townhomes: Attached residential units that are two to three stories high.

Tuck-under parking: Individual parking garages that are located under the living unit of residential buildings but still accessed by surface driveways.

Type: A form physically defined by its function, its disposition on the lot and its configuration, including frontage and height.

Urban Open Space: Public (or private, but open to the public) open spaces or recreational areas within the IBC, meeting the criteria defined within these Design Criteria, as distinguished from open space and recreation areas as defined for other areas of the City in the General Plan, and Zoning and Subdivision Codes.

Appendix F. RDEIR Air Quality Appendix



Appendices

This page intentionally left blank.

Irvine Business Center

Caline Results

Ambient CO

For Source Receptor Area 18/17

AQMD Projected CO Concentrations

	Year	One Hour	Year	Eight Hour
Ambient	2010	5.8	2010	4.7
	2020	5.8	2020	4.7
	2015	5.8	2015	4.7

1 hr/8hr deterioration 70%

SCAQMD CEQA website: <http://www.aqmd.gov/ceqa/handbook/CO/CO.html>

One-Hour CO Concentrations		Eight-Hour CO Concentrations		
Intersections	Loop Road at Warner Ave	Loop Road at Warner Ave	Significant Impact?	
Receptor	Project	Project	1 hour	8 Hour
NE	6.3	4.4	NO	NO
SE	6.3	4.4	NO	NO
SW	6.2	4.3	NO	NO
NW	6.4	4.5	NO	NO
Intersections	Jamboree at Barranca	Jamboree at Barranca	Significant Impact?	
Receptor	Proj	Project	1 hour	8 Hour
NE	6.7	4.7	NO	NO
SE	6.7	4.7	NO	NO
SW	6.8	4.8	NO	NO
NW	6.6	4.6	NO	NO
Intersections	Jamboree at Main	Jamboree at Main	Significant Impact?	
Receptor	Project	Project	1 hour	8 Hour
NE	6.8	4.8	NO	NO
SE	6.8	4.8	NO	NO
SW	6.5	4.6	NO	NO
NW	6.7	4.7	NO	NO
Intersections	Jamboree at I-405 SB Ramps	Jamboree at I-405 SB Ramps	Significant Impact?	
Receptor	Project	Project	1 hour	8 Hour
NE	7.3	5.1	NO	NO
SE	7.0	4.9	NO	NO
SW	7.0	4.9	NO	NO
NW	7.4	5.2	NO	NO
Intersections	Jamboree at Michelson	Jamboree at Michelson	Significant Impact?	
Receptor	Project	Project	1 hour	8 Hour
NE	6.7	4.7	NO	NO
SE	6.8	4.8	NO	NO
SW	6.8	4.8	NO	NO
NW	6.6	4.6	NO	NO
Intersections	Franklin at Walnut	Franklin at Walnut	Significant Impact?	
Receptor	Project	Project	1 hour	8 Hour
NE	6.2	4.3	NO	NO
SE	6.3	4.4	NO	NO
SW	6.2	4.3	NO	NO
NW	6.2	4.3	NO	NO

Table 2**Projected Future Year 1-hour CO Concentrations (ppm)**

		Y E A R				
Monitoring Site Location		1999	2000	2010	2015	2020
1	Central LA	7	6.7	5.1	5.1	5.1
2	West LA	6	5.8	4.4	4.4	4.4
3	Hawthorne	10	9.6	7.3	7.3	7.3
4	Long Beach	7	6.7	5.1	5.1	5.1
6	Reseda	9	8.6	6.5	6.6	6.6
7	Burbank	9	8.6	6.5	6.6	6.6
8	Pasadena	9	8.6	6.5	6.6	6.6
9	Azusa	5	4.8	3.6	3.6	3.6
10	Pomona	10	9.6	7.3	7.3	7.3
11	Pico Rivera	7	6.7	5.1	5.1	5.1
12	Lynwood	19	18.2	13.8	13.8	13.9
12	Compton	19	18.2	13.8	13.8	13.9
13	Santa Clarita	7	6.7	5.1	5.1	5.1
16	La Habra	11	10.5	8.0	8.0	8.0
17	Anaheim*	8	7.7	5.8	5.8	5.8
18	Costa Mesa	8	7.7	5.8	5.8	5.8
19	El Toro	4	3.8	2.9	2.9	2.9
23	Rubidoux	7	6.7	5.1	5.1	5.1
23	Banning AP**	7	6.7	5.1	5.1	5.1
30	Palm Springs	3	2.9	2.2	2.2	2.2
34	San Bernardino	5	4.8	3.6	3.6	3.6

*Anaheim data recovery rate: 33.7%

**Banning AP data recovery rate: 82.2%

Table 3**Projected Future Year 8-hour CO Concentrations (ppm)**

		Y E A R				
Monitoring Site Location		1999	2000	2010	2015	2020
1	Central LA	6.3	6.0	4.6	4.6	4.6
2	West LA	3.8	3.6	2.8	2.8	2.8
3	Hawthorne	8.4	8.1	6.1	6.1	6.1
4	Long Beach	5.4	5.2	3.9	3.9	3.9
6	Reseda	7.6	7.3	5.5	5.5	5.5
7	Burbank	9	8.6	6.5	6.6	6.6
8	Pasadena	6.6	6.3	4.8	4.8	4.8
9	Azusa	3.9	3.7	2.8	2.8	2.8
10	Pomona	6.7	6.4	4.9	4.9	4.9
11	Pico Rivera	5.6	5.4	4.1	4.1	4.1
12	Lynwood	11	10.5	8.0	8.0	8.0
12	Compton	11.7	11.2	8.5	8.5	8.5
13	Santa Clarita	3.6	3.5	2.6	2.6	2.6
16	La Habra	5.3	5.1	3.9	3.9	3.9
17	Anaheim*	5.3	5.1	3.9	3.9	3.9
18	Costa Mesa	6.4	6.1	4.7	4.7	4.7
19	El Toro	2.5	2.4	1.8	1.8	1.8
23	Rubidoux	4.4	4.2	3.2	3.2	3.2
23	Banning AP**	4.1	3.9	3.0	3.0	3.0
30	Palm Springs	1.8	1.7	1.3	1.3	1.3
34	San Bernardino	4	3.8	2.9	2.9	2.9

*Anaheim data recovery rate: 33.7%

**Banning AP data recovery rate: 82.2%

Table B.9 Arterial Classification According to Their Functional and Design Categories

DESIGN CATEGORY	FUNCTIONAL CATEGORY	
	PRINCIPAL ARTERIAL	MINOR ARTERIAL
Typical suburban	I	II
Intermediate	II	II or III
Typical Urban	II or III	III

Source: Highway Capacity Manual (TRB, 1994)

Table B.10 Average Cruise Speed as a Function of Arterial Classification and Free-Flow Speed

ARTERIAL CLASSIFICATION	I			II		III		
FREE-FLOW SPEED (MPH)	45	40	35	35	30	35	30	25
AVERAGE CRUISE SPEED (MPH)	33	31	29	28	27	28	24	22

Derived from Table 11-4 of the Highway Capacity Manual (TRB, 1994)

NOTE: It is best to have an estimate of free-flow speed. If one is lacking, however, use the above table assuming the following default values:

For Classification	Free-Flow Speed (mph)
I	40
II	35
III	30

B.4 Calculating 1-Hour CO Concentrations

Microscale dispersion models are used to calculate 1-hour CO concentrations. The protocol recommends the use of CALINE4, a model that has been widely used in California¹. There is one restriction to the use of CALINE4. The *intersection link* option of CALINE4 should not be used because it calculates modal emissions based on an algorithm developed for an outdated vehicle fleet. Guidance on the input parameters required by CALINE4 is presented in the remainder of this section, including guidance on how to set up the link network for intersection analyses (see Sections B.4.4 and B.4.5).

B.4.1 Present Background Concentration

Background concentration is a very important element in a microscale CO analysis. The background concentration is added to the project contribution to assess the impact of the project on the air quality. The methodology shown in Figure B.1 should be used to

¹ The recommendation to use CALINE4 does not preclude the use of other models approved by EPA such as CAL3QHC.

EMFAC2007 - CO Hotspot Analysis

Title: OrangeCounty2013
Version: Emfac2007 V2.3 1-Nov-06
Run Date: 11/9/2009 9:16:33
Scenario Year: 2015 - All model years in the range 1971 to 2015 selected
Season: Winter
Area: Orange

Emfac2007 Emission Factors
County Average Orange County

Table 1:00 Running Exhaust (grams/mile, grams/idle-hour)

Pollutant Name Carbon Monoxide Temperature 60F Relative Humidity 70%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
0	0	0	20.718	46.876	0	0	4.527
5	2.47	3.489	4.889	12.981	30.524	27.805	3.705
10	2.191	3.08	4.008	8.765	20.012	23.372	3.126
15	1.965	2.752	3.401	6.105	13.888	20.488	2.706
20	1.778	2.483	2.963	4.531	10.2	18.7	2.395
25	1.621	2.26	2.636	3.68	7.927	17.763	2.16
30	1.488	2.072	2.387	3.109	6.518	17.577	1.976
35	1.375	1.914	2.195	2.733	5.67	18.157	1.832
40	1.279	1.781	2.049	2.506	5.218	19.638	1.723
45	1.199	1.671	1.944	2.404	5.079	22.316	1.647
50	1.133	1.582	1.878	2.418	5.23	26.73	1.607

Franklin_Walnut.txt

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Franklin at Walnut
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= 1.0 M/S Z0= 175. CM ALT= 0. (M)
BRG= WORST CASE VD= .0 CM/S
CLAS= 7 (G) VS= .0 CM/S
MIXH= 1000. M AMB= 5.8 PPM
SIGTH= 5. DEGREES TEMP= 15.0 DEGREE (C)

II. LINK VARIABLES

LINK	* DESCRIPTION	* X1	LINK COORDINATES (M) Y1	X2	Y2	* TYPE	VPH	EF (G/MI)	H (M)	W (M)
A.	NF	5	-450	5	-150	* AG	271	1.9	.0	13.2
B.	NA	7	-150	7	0	* AG	23	3.5	.0	10.8
C.	ND	7	0	7	150	* AG	163	2.4	.0	9.9
D.	NE	5	150	5	450	* AG	163	1.9	.0	13.2
E.	SF	-5	450	-5	150	* AG	601	1.9	.0	13.2
F.	SA	-7	150	-7	0	* AG	538	3.5	.0	10.8
G.	SD	-7	0	-7	-150	* AG	327	2.4	.0	9.9
H.	SE	-5	-150	-5	-450	* AG	327	1.9	.0	13.2
I.	WF	450	5	150	5	* AG	1028	1.9	.0	13.2
J.	WA	150	7	0	7	* AG	780	2.5	.0	10.8
K.	WD	0	7	-150	7	* AG	1415	2.1	.0	9.9
L.	WE	-150	5	-450	5	* AG	1415	1.9	.0	13.2
M.	EF	-450	-5	-150	-5	* AG	1588	2.0	.0	13.2
N.	EA	-150	-7	0	-7	* AG	1576	2.7	.0	10.8
O.	ED	0	-7	150	-7	* AG	1583	2.2	.0	9.9
P.	EE	150	-5	450	-5	* AG	1583	2.0	.0	13.2
Q.	NL	0	-150	0	0	* AG	248	3.5	.0	9.9
R.	SL	0	150	0	0	* AG	63	3.5	.0	9.9
S.	WL	150	0	0	0	* AG	248	2.5	.0	9.9
T.	EL	-150	0	0	0	* AG	12	2.6	.0	9.9

FF

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

Franklin_Walnut.txt

JOB: Franklin at Walnut
 RUN: Hour 1 (WORST CASE ANGLE)
 POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (M)		
		X	Y	Z
1. NE	*	16	16	1.8
2. SE	*	16	-16	1.8
3. SW	*	-16	-16	1.8
4. NW	*	-16	16	1.8

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	*	BRG (DEG)	* PRED * CONC * (PPM)	*	CONC/LINK (PPM)							
					A	B	C	D	E	F	G	H
1. NE	*	264.	* 6.2	*	.0	.0	.0	.0	.0	.0	.0	.0
2. SE	*	276.	* 6.3	*	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	*	84.	* 6.2	*	.0	.0	.0	.0	.0	.0	.0	.0
4. NW	*	96.	* 6.2	*	.0	.0	.0	.0	.0	.0	.0	.0

RECEPTOR	*	CONC/LINK (PPM)											
		I	J	K	L	M	N	O	P	Q	R	S	T
1. NE	*	.0	.0	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0
2. SE	*	.0	.0	.0	.0	.0	.3	.0	.0	.0	.0	.0	.0
3. SW	*	.0	.0	.0	.0	.0	.0	.2	.0	.0	.0	.0	.0
4. NW	*	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

FF

Jamboree_Barranca.txt

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Jamboree at Barranca
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= 1.0 M/S Z0= 175. CM ALT= 0. (M)
BRG= WORST CASE VD= .0 CM/S
CLAS= 7 (G) VS= .0 CM/S
MIXH= 1000. M AMB= 5.8 PPM
SIGTH= 5. DEGREES TEMP= 15.0 DEGREE (C)

II. LINK VARIABLES

LINK	* *	LINK	COORDINATES (M)	* *	TYPE	VPH	EF (G/MI)	H (M)	W (M)		
DESCRIPTION	*	X1	Y1	X2	Y2	*					
A. NF	*	11	-450	11	-150	*	AG	3417	1.9	.0	20.4
B. NA	*	14	-150	14	0	*	AG	3168	2.9	.0	21.6
C. ND	*	14	0	14	150	*	AG	3309	2.3	.0	14.4
D. NE	*	11	150	11	450	*	AG	3309	1.9	.0	20.4
E. SF	*	-11	450	-11	150	*	AG	2242	1.9	.0	20.4
F. SA	*	-14	150	-14	0	*	AG	1886	2.7	.0	21.6
G. SD	*	-14	0	-14	-150	*	AG	3088	2.3	.0	14.4
H. SE	*	-11	-150	-11	-450	*	AG	3088	1.9	.0	20.4
I. WF	*	450	7	150	7	*	AG	1990	1.9	.0	13.2
J. WA	*	150	13	0	13	*	AG	904	3.1	.0	18.0
K. WD	*	0	13	-150	13	*	AG	1369	3.4	.0	9.9
L. WE	*	-150	7	-450	7	*	AG	1369	1.9	.0	13.2
M. EF	*	-450	-7	-150	-7	*	AG	1530	1.9	.0	13.2
N. EA	*	-150	-9	0	-9	*	AG	1278	3.4	.0	10.8
O. ED	*	0	-9	150	-9	*	AG	1413	3.4	.0	9.9
P. EE	*	150	-7	450	-7	*	AG	1413	1.9	.0	13.2
Q. NL	*	0	-150	0	0	*	AG	249	2.6	.0	9.9
R. SL	*	0	150	0	0	*	AG	356	2.6	.0	9.9
S. WL	*	150	0	0	0	*	AG	1086	3.6	.0	9.9
T. EL	*	-150	0	0	0	*	AG	252	3.1	.0	9.9

FF

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

Jamboree_Barranca.txt
 JOB: Jamboree at Barranca
 RUN: Hour 1 (WORST CASE ANGLE)
 POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (M)		
		X	Y	Z
1. NE	*	28	25	1.8
2. SE	*	28	-17	1.8
3. SW	*	-28	-17	1.8
4. NW	*	-28	25	1.8

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	*	BRG (DEG)	* PRED * CONC * (PPM)	*	CONC/LINK (PPM)							
					A	B	C	D	E	F	G	H
1. NE	*	187.	* 6.7	*	.0	.5	.0	.0	.0	.0	.0	.1
2. SE	*	342.	* 6.7	*	.0	.1	.3	.0	.0	.1	.0	.0
3. SW	*	81.	* 6.8	*	.0	.1	.0	.0	.0	.0	.2	.0
4. NW	*	165.	* 6.6	*	.0	.1	.0	.0	.0	.0	.3	.0

RECEPTOR	*	CONC/LINK (PPM)											
		I	J	K	L	M	N	O	P	Q	R	S	T
1. NE	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2. SE	*	.0	.0	.0	.0	.0	.0	.2	.0	.0	.0	.0	.0
3. SW	*	.0	.0	.0	.0	.0	.0	.3	.0	.0	.0	.1	.0
4. NW	*	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0

FF

Jamboree_I-405SB.txt

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Jamboree at I-405 SB Ramps
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= 1.0 M/S Z0= 175. CM ALT= 0. (M)
BRG= WORST CASE VD= .0 CM/S
CLAS= 7 (G) VS= .0 CM/S
MIXH= 1000. M AMB= 5.8 PPM
SIGTH= 5. DEGREES TEMP= 15.0 DEGREE (C)

II. LINK VARIABLES

LINK	* DESCRIPTION	* X1	* Y1	* X2	* Y2	* TYPE	* VPH	* EF (G/MI)	* H (M)	* W (M)
A.	NF	9	-450	9	-150	AG	3940	1.9	.0	20.4
B.	NA	9	-150	9	0	AG	3940	3.5	.0	14.4
C.	ND	9	0	9	150	AG	3972	2.3	.0	14.4
D.	NE	9	150	9	450	AG	3972	1.9	.0	20.4
E.	SF	-9	450	-9	150	AG	3418	1.9	.0	20.4
F.	SA	-9	150	-9	0	AG	3418	3.1	.0	14.4
G.	SD	-9	0	-9	-150	AG	4298	2.3	.0	14.4
H.	SE	-9	-150	-9	-450	AG	4298	1.9	.0	20.4
I.	WF	450	4	150	4	AG	2612	2.1	.0	9.6
J.	WA	150	4	0	4	AG	1092	3.9	.0	9.9
K.	WD	0	4	-150	4	AG	640	3.9	.0	9.9
L.	WE	-150	4	-450	4	AG	640	2.1	.0	9.6
M.	ED	0	-7	150	-7	AG	1060	3.9	.0	9.9
N.	EE	150	-4	450	-4	AG	1060	2.1	.0	9.6
O.	WL	150	0	0	0	AG	1520	3.9	.0	9.9

III. RECEPTOR LOCATIONS

RECEPTOR	* X	* Y	* Z
1. NE	19	8	1.8
2. SE	19	-16	1.8
3. SW	-19	-16	1.8
4. NW	-19	8	1.8

FF

Jamboree_I-405SB.txt

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: Jamboree at I-405 SB Ramps
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	* * * * *	BRG (DEG)	* * * * *	PRED CONC (PPM)	* * * * *	A	B	C	CONC/LINK (PPM)		F	G	H
									D	E			
1. NE	*	189.	*	7.3	*	.0	.8	.0	.0	.0	.0	.0	.1
2. SE	*	343.	*	7.0	*	.0	.2	.4	.0	.0	.3	.0	.0
3. SW	*	81.	*	7.0	*	.0	.2	.0	.0	.0	.0	.3	.0
4. NW	*	96.	*	7.4	*	.0	.0	.2	.0	.0	.3	.0	.0

RECEPTOR	* * * * *	CONC/LINK (PPM)						
		I	J	K	L	M	N	O
1. NE	*	.0	.2	.0	.0	.1	.0	.2
2. SE	*	.0	.0	.0	.0	.1	.0	.1
3. SW	*	.0	.1	.0	.0	.3	.0	.2
4. NW	*	.0	.4	.1	.0	.1	.0	.4

FF

Jamboree_Main.txt

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Jamboree at Main
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= 1.0 M/S Z0= 175. CM ALT= 0. (M)
BRG= WORST CASE VD= .0 CM/S
CLAS= 7 (G) VS= .0 CM/S
MIXH= 1000. M AMB= 5.8 PPM
SIGTH= 5. DEGREES TEMP= 15.0 DEGREE (C)

II. LINK VARIABLES

LINK	*	LINK	COORDINATES (M)	*		EF	H	W		
DESCRIPTION	*	X1	Y1	X2	Y2	TYPE	VPH	(G/MI)	(M)	(M)
A. NF	*	11	-450	11	-150	* AG	3701	1.9	.0	20.4
B. NA	*	14	-150	14	0	* AG	3149	2.8	.0	21.6
C. ND	*	14	0	14	150	* AG	3993	2.6	.0	14.4
D. NE	*	11	150	11	450	* AG	3993	1.9	.0	20.4
E. SF	*	-11	450	-11	150	* AG	2758	1.9	.0	20.4
F. SA	*	-16	150	-16	0	* AG	2447	2.6	.0	25.2
G. SD	*	-16	0	-16	-150	* AG	3006	2.2	.0	14.4
H. SE	*	-11	-150	-11	-450	* AG	3006	1.9	.0	20.4
I. WF	*	450	9	150	9	* AG	2379	1.9	.0	16.8
J. WA	*	150	13	0	13	* AG	1926	3.5	.0	18.0
K. WD	*	0	13	-150	13	* AG	1911	3.0	.0	10.8
L. WE	*	-150	9	-450	9	* AG	1911	1.9	.0	16.8
M. EF	*	-450	-9	-150	-9	* AG	1230	1.9	.0	16.8
N. EA	*	-150	-13	0	-13	* AG	644	3.2	.0	18.0
O. ED	*	0	-13	150	-13	* AG	1158	2.4	.0	10.8
P. EE	*	150	-9	450	-9	* AG	1158	1.9	.0	16.8
Q. NL	*	0	-150	0	0	* AG	552	2.6	.0	9.9
R. SL	*	0	150	0	0	* AG	311	2.6	.0	9.9
S. WL	*	150	0	0	0	* AG	453	3.2	.0	9.9
T. EL	*	-150	0	0	0	* AG	586	3.4	.0	9.9

FF

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

Jamboree_Main.txt

JOB: Jamboree at Main
 RUN: Hour 1 (WORST CASE ANGLE)
 POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (M)		
		X	Y	Z
1. NE	*	28	25	1.8
2. SE	*	28	-25	1.8
3. SW	*	-32	-25	1.8
4. NW	*	-32	25	1.8

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	*	BRG (DEG)	* PRED * CONC * (PPM)	*	CONC/LINK (PPM)							
					A	B	C	D	E	F	G	H
1. NE	*	187.	* 6.8	*	.0	.5	.0	.0	.0	.0	.0	.1
2. SE	*	347.	* 6.8	*	.0	.1	.4	.0	.0	.0	.0	.0
3. SW	*	76.	* 6.5	*	.0	.1	.0	.0	.0	.0	.2	.0
4. NW	*	97.	* 6.7	*	.0	.0	.1	.0	.0	.2	.0	.0

RECEPTOR	*	CONC/LINK (PPM)											
	*	I	J	K	L	M	N	O	P	Q	R	S	T
	*												
1. NE	*	.0	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2. SE	*	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	*	.0	.1	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0
4. NW	*	.0	.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

FF

Jamboree_Michelson.txt

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Jamboree at Michelson
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= 1.0 M/S Z0= 175. CM ALT= 0. (M)
BRG= WORST CASE VD= .0 CM/S
CLAS= 7 (G) VS= .0 CM/S
MIXH= 1000. M AMB= 5.8 PPM
SIGTH= 5. DEGREES TEMP= 15.0 DEGREE (C)

II. LINK VARIABLES

LINK	* DESCRIPTION	* X1	* Y1	* X2	* Y2	* TYPE	* VPH	* EF (G/MI)	* H (M)	* W (M)
A.	NF	9	-450	9	-150	AG	2999	1.9	.0	20.4
B.	NA	13	-150	13	0	AG	2933	2.6	.0	21.6
C.	ND	13	0	13	150	AG	2857	2.1	.0	14.4
D.	NE	9	150	9	450	AG	2857	1.9	.0	20.4
E.	SF	-11	450	-11	150	AG	3541	1.9	.0	20.4
F.	SA	-14	150	-14	0	AG	2427	2.6	.0	21.6
G.	SD	-14	0	-14	-150	AG	3765	2.2	.0	14.4
H.	SE	-11	-150	-11	-450	AG	3765	1.9	.0	20.4
I.	WF	450	7	150	7	AG	1610	1.9	.0	13.2
J.	WA	150	11	0	11	AG	555	3.4	.0	14.4
K.	WD	0	11	-150	11	AG	871	2.5	.0	9.9
L.	WE	-150	7	-450	7	AG	871	1.9	.0	13.2
M.	EF	-450	-7	-150	-7	AG	1281	1.9	.0	13.2
N.	EA	-150	-11	0	-11	AG	967	3.4	.0	14.4
O.	ED	0	-11	150	-11	AG	1938	3.9	.0	9.9
P.	EE	150	-7	450	-7	AG	1938	1.9	.0	13.2
Q.	NL	0	-150	0	0	AG	66	2.5	.0	9.9
R.	SL	0	150	0	0	AG	1114	2.7	.0	9.9
S.	WL	150	0	0	0	AG	1055	3.9	.0	9.9
T.	EL	-150	0	0	0	AG	314	3.4	.0	9.9

FF

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

Jamboree_Michelson.txt
 JOB: Jamboree at Michelson
 RUN: Hour 1 (WORST CASE ANGLE)
 POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (M)		
		X	Y	Z
1. NE	*	26	21	1.8
2. SE	*	26	-21	1.8
3. SW	*	-28	-21	1.8
4. NW	*	-28	21	1.8

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	*	BRG (DEG)	* PRED * CONC * (PPM)	*	CONC/LINK (PPM)							
					A	B	C	D	E	F	G	H
1. NE	*	187.	* 6.7	*	.0	.4	.0	.0	.0	.0	.0	.1
2. SE	*	342.	* 6.8	*	.0	.1	.2	.0	.0	.1	.0	.0
3. SW	*	80.	* 6.8	*	.0	.1	.0	.0	.0	.0	.2	.0
4. NW	*	164.	* 6.6	*	.0	.1	.0	.0	.0	.1	.3	.0

RECEPTOR	*	CONC/LINK (PPM)											
		I	J	K	L	M	N	O	P	Q	R	S	T
1. NE	*	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0
2. SE	*	.0	.0	.0	.0	.0	.0	.2	.0	.0	.0	.0	.0
3. SW	*	.0	.0	.0	.0	.0	.0	.4	.0	.0	.0	.1	.0
4. NW	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

FF

Loop_Warner.txt

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Loop Road at Warner Ave
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= 1.0 M/S Z0= 175. CM ALT= 0. (M)
BRG= WORST CASE VD= .0 CM/S
CLAS= 7 (G) VS= .0 CM/S
MIXH= 1000. M AMB= 5.8 PPM
SIGTH= 5. DEGREES TEMP= 15.0 DEGREE (C)

II. LINK VARIABLES

LINK	*	LINK	COORDINATES (M)	*		EF	H	W		
DESCRIPTION	*	X1	Y1	X2	Y2	TYPE	VPH	(G/MI)	(M)	(M)
A. NF	*	4	-450	4	-150	* AG	727	2.1	.0	9.6
B. NA	*	5	-150	5	0	* AG	661	3.5	.0	9.9
C. ND	*	5	0	5	150	* AG	517	2.7	.0	9.9
D. NE	*	4	150	4	450	* AG	517	2.1	.0	9.6
E. SF	*	-4	450	-4	150	* AG	759	2.1	.0	9.6
F. SA	*	-5	150	-5	0	* AG	561	3.5	.0	9.9
G. SD	*	-5	0	-5	-150	* AG	378	2.5	.0	9.9
H. SE	*	-4	-150	-4	-450	* AG	378	2.1	.0	9.6
I. WF	*	450	7	150	7	* AG	1863	1.9	.0	13.2
J. WA	*	150	13	0	13	* AG	1830	2.7	.0	18.0
K. WD	*	0	13	-150	13	* AG	2104	2.6	.0	9.9
L. WE	*	-150	7	-450	7	* AG	2104	1.9	.0	13.2
M. EF	*	-450	-7	-150	-7	* AG	754	1.9	.0	13.2
N. EA	*	-150	-11	0	-11	* AG	459	2.6	.0	14.4
O. ED	*	0	-11	150	-11	* AG	1104	2.1	.0	9.9
P. EE	*	150	-7	450	-7	* AG	1104	1.9	.0	13.2
Q. NL	*	0	-150	0	0	* AG	66	3.4	.0	9.9
R. SL	*	0	150	0	0	* AG	198	3.4	.0	9.9
S. WL	*	150	0	0	0	* AG	33	2.6	.0	9.9
T. EL	*	-150	0	0	0	* AG	295	2.6	.0	9.9

FF

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

Loop_Warner.txt

JOB: Loop Road at Warner Ave
 RUN: Hour 1 (WORST CASE ANGLE)
 POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (M)		
		X	Y	Z
1. NE	*	12	25	1.8
2. SE	*	12	-21	1.8
3. SW	*	-12	-21	1.8
4. NW	*	-12	25	1.8

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	*	BRG (DEG)	* PRED * CONC * (PPM)	*	CONC/LINK (PPM)							
					A	B	C	D	E	F	G	H
1. NE	*	262.	* 6.3	*	.0	.0	.0	.0	.0	.0	.0	.0
2. SE	*	351.	* 6.3	*	.0	.0	.1	.0	.0	.0	.0	.0
3. SW	*	6.	* 6.2	*	.0	.0	.0	.0	.0	.2	.0	.0
4. NW	*	97.	* 6.4	*	.0	.0	.0	.0	.0	.0	.0	.0

RECEPTOR	*	CONC/LINK											
	*	(PPM)											
	*	I	J	K	L	M	N	O	P	Q	R	S	T
	*												
1. NE	*	.0	.0	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0
2. SE	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
4. NW	*	.0	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

FF

Project: **Irvine Business Center**

% COLD START

PROJ * 30%
NO PROJ 30%

% HOT START

PROJ 30%
NO PROJ 30%

*COMPOSITE BASED ON TABLE B.6 of the Caltrans Transportation Project-Level Carbon Monoxide Protocol.

Traffic data: **Traffic Volumes, roadway configurations, and speed limits based on Traffic Study provided by Parson Brinkerhoff, 2009**

Intersection: Loop Road at Warner Ave Speed Limit
Peak Hour: **PM** Loop 35
Year: **2015** Warner 50

Scenario: **W Project**

North Link			South - Link			West - Link			East - Link			TOTAL
LT	THRU	RT	LT	THRU	RT	LT	THRU	RT	LT	THRU	RT	
66	192	469	198	323	238	33	1800	30	295	437	22	4,103

Intersection: Jamboree at Barranca Speed Limit
Peak Hour: **PM** Jamboree 50
Year: **2015** Barranca 50

Scenario: **W Project**

North Link			South - Link			West - Link			East - Link			TOTAL
LT	THRU	RT	LT	THRU	RT	LT	THRU	RT	LT	THRU	RT	
249	2929	239	356	1542	344	1086	776	128	252	818	460	9,179

Intersection: Jamboree at Main Speed Limit
Peak Hour: **PM** Jamboree 50
Year: **2015** Main 50

Scenario: **W Project**

North Link			South - Link			West - Link			East - Link			TOTAL
LT	THRU	RT	LT	THRU	RT	LT	THRU	RT	LT	THRU	RT	
552	2654	495	311	2261	186	453	1173	753	586	352	292	10,068

Project: **Irvine Business Center**

% COLD START

PROJ * 30%
NO PROJ 30%

% HOT START

PROJ 30%
NO PROJ 30%

*COMPOSITE BASED ON TABLE B.6 of the Caltrans Transportation Project-Level Carbon Monoxide Protocol.

Traffic data: Traffic Volumes, roadway configurations, and speed limits based on Traffic Study provided by Parson Brinkerhoff, 2009

Intersection: Jamboree at I-405 SB Ramps

Peak Hour: PM Speed Limit
Year: 2015 Jamboree 50
I-405 SB Ramps 35

Scenario: W Project

North Link			South - Link			West - Link			East - Link			TOTAL
LT	THRU	RT	LT	THRU	RT	LT	THRU	RT	LT	THRU	RT	
0	2880	1060	0	2778	640	1520	0	1092	0	0	0	9,970

Intersection: Jamboree at Michelson

Peak Hour: PM Speed Limit
Year: 2015 Jamboree 50
Scenario: W Project Michelson 45

North Link			South - Link			West - Link			East - Link			TOTAL
LT	THRU	RT	LT	THRU	RT	LT	THRU	RT	LT	THRU	RT	
66	2372	561	1114	2006	421	1055	384	171	314	263	704	9,431

Intersection: Franklin at Walnut

Peak Hour: PM Speed Limit
Year: 2015 Franklin 45
Scenario: W Project Walnut 45

North Link			South - Link			West - Link			East - Link			TOTAL
LT	THRU	RT	LT	THRU	RT	LT	THRU	RT	LT	THRU	RT	
248	11	12	63	11	527	248	640	140	12	1508	68	3,488

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: P:\COI-21\Technical Studies\Air\Modeling\construction\RecirculatedConstruction.urb924

Project Name: Recirculated IBC Vision Plan - Construction

Project Location: Orange County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2010 TOTALS (tons/year unmitigated)	19.93	92.74	234.06	0.33	178.39	4.32	182.71	37.46	3.92	41.39	35,379.82
2010 TOTALS (tons/year mitigated)	19.93	92.74	234.06	0.33	31.41	4.32	35.73	6.77	3.92	10.69	35,379.82
Percent Reduction	0.00	0.00	0.00	0.00	82.39	0.00	80.44	81.94	0.00	74.17	0.00
2011 TOTALS (tons/year unmitigated)	18.84	84.36	217.73	0.33	177.71	4.00	181.70	37.32	3.62	40.94	35,238.63
2011 TOTALS (tons/year mitigated)	18.84	84.36	217.73	0.33	31.29	4.00	35.29	6.74	3.62	10.36	35,238.63
Percent Reduction	0.00	0.00	0.00	0.00	82.39	0.00	80.58	81.94	0.00	74.69	0.00
2012 TOTALS (tons/year unmitigated)	17.91	76.88	203.72	0.33	178.39	3.66	182.05	37.46	3.31	40.78	35,370.49
2012 TOTALS (tons/year mitigated)	17.91	76.88	203.72	0.33	31.41	3.66	35.08	6.77	3.31	10.08	35,370.49
Percent Reduction	0.00	0.00	0.00	0.00	82.39	0.00	80.73	81.94	0.00	75.28	0.00
2013 TOTALS (tons/year unmitigated)	16.98	69.45	189.56	0.33	178.39	3.35	181.74	37.46	3.03	40.49	35,368.59
2013 TOTALS (tons/year mitigated)	16.98	69.45	189.56	0.33	31.41	3.35	34.77	6.77	3.03	9.79	35,368.59
Percent Reduction	0.00	0.00	0.00	0.00	82.39	0.00	80.87	81.94	0.00	75.81	0.00
2014 TOTALS (tons/year unmitigated)	16.14	62.41	176.88	0.33	178.39	3.04	181.43	37.46	2.74	40.20	35,366.79
2014 TOTALS (tons/year mitigated)	16.14	62.41	176.88	0.33	31.41	3.04	34.45	6.77	2.74	9.51	35,366.79
Percent Reduction	0.00	0.00	0.00	0.00	82.39	0.00	81.01	81.94	0.00	76.36	0.00
2015 TOTALS (tons/year unmitigated)	15.32	55.72	164.89	0.33	178.39	2.79	181.18	37.46	2.51	39.97	35,365.47
2015 TOTALS (tons/year mitigated)	15.32	55.72	164.89	0.33	31.41	2.79	34.20	6.77	2.51	9.28	35,365.47
Percent Reduction	0.00	0.00	0.00	0.00	82.39	0.00	81.12	81.94	0.00	76.79	0.00
2016 TOTALS (tons/year unmitigated)	14.62	50.14	154.43	0.33	178.39	2.55	180.94	37.46	2.29	39.75	35,362.96
2016 TOTALS (tons/year mitigated)	14.62	50.14	154.43	0.33	31.41	2.55	33.96	6.77	2.29	9.05	35,362.96
Percent Reduction	0.00	0.00	0.00	0.00	82.39	0.00	81.23	81.94	0.00	77.22	0.00
2017 TOTALS (tons/year unmitigated)	13.94	45.13	144.00	0.33	177.71	2.35	180.06	37.32	2.10	39.42	35,225.88
2017 TOTALS (tons/year mitigated)	13.94	45.13	144.00	0.33	31.29	2.35	33.64	6.74	2.10	8.84	35,225.88
Percent Reduction	0.00	0.00	0.00	0.00	82.39	0.00	81.32	81.94	0.00	77.57	0.00

2018 TOTALS (tons/year unmitigated)	13.42	41.08	135.38	0.33	178.39	2.18	180.57	37.46	1.95	39.41	35,360.27
2018 TOTALS (tons/year mitigated)	13.42	41.08	135.38	0.33	31.41	2.18	33.60	6.77	1.95	8.72	35,360.27
Percent Reduction	0.00	0.00	0.00	0.00	82.39	0.00	81.40	81.94	0.00	77.89	0.00
2019 TOTALS (tons/year unmitigated)	12.90	37.35	126.88	0.33	178.39	2.02	180.41	37.46	1.80	39.26	35,359.63
2019 TOTALS (tons/year mitigated)	12.90	37.35	126.88	0.33	31.41	2.02	33.43	6.77	1.80	8.57	35,359.63
Percent Reduction	0.00	0.00	0.00	0.00	82.39	0.00	81.47	81.94	0.00	78.18	0.00
2020 TOTALS (tons/year unmitigated)	12.46	34.24	119.44	0.34	179.07	1.93	181.00	37.61	1.72	39.32	35,494.52
2020 TOTALS (tons/year mitigated)	12.46	34.24	119.44	0.34	31.53	1.93	33.46	6.79	1.72	8.51	35,494.52
Percent Reduction	0.00	0.00	0.00	0.00	82.39	0.00	81.51	81.94	0.00	78.36	0.00
2021 TOTALS (tons/year unmitigated)	11.18	27.47	90.87	0.33	178.39	1.76	180.15	37.46	1.56	39.02	35,355.09
2021 TOTALS (tons/year mitigated)	11.18	27.47	90.87	0.33	31.41	1.76	33.18	6.77	1.56	8.33	35,355.09
Percent Reduction	0.00	0.00	0.00	0.00	82.39	0.00	81.58	81.94	0.00	78.66	0.00
2022 TOTALS (tons/year unmitigated)	11.14	27.37	90.53	0.33	177.71	1.76	179.46	37.32	1.56	38.87	35,219.63
2022 TOTALS (tons/year mitigated)	11.14	27.37	90.53	0.33	31.29	1.76	33.05	6.74	1.56	8.30	35,219.63
Percent Reduction	0.00	0.00	0.00	0.00	82.39	0.00	81.58	81.94	0.00	78.66	0.00
2023 TOTALS (tons/year unmitigated)	11.14	27.37	90.53	0.33	177.71	1.76	179.46	37.32	1.56	38.87	35,219.63
2023 TOTALS (tons/year mitigated)	11.14	27.37	90.53	0.33	31.29	1.76	33.05	6.74	1.56	8.30	35,219.63
Percent Reduction	0.00	0.00	0.00	0.00	82.39	0.00	81.58	81.94	0.00	78.66	0.00
2024 TOTALS (tons/year unmitigated)	11.22	27.58	91.22	0.33	179.07	1.77	180.84	37.61	1.57	39.17	35,490.55
2024 TOTALS (tons/year mitigated)	11.22	27.58	91.22	0.33	31.53	1.77	33.30	6.79	1.57	8.36	35,490.55
Percent Reduction	0.00	0.00	0.00	0.00	82.39	0.00	81.58	81.94	0.00	78.66	0.00
2025 TOTALS (tons/year unmitigated)	11.18	27.47	90.87	0.33	178.39	1.76	180.15	37.46	1.56	39.02	35,355.09
2025 TOTALS (tons/year mitigated)	11.18	27.47	90.87	0.33	31.41	1.76	33.18	6.77	1.56	8.33	35,355.09
Percent Reduction	0.00	0.00	0.00	0.00	82.39	0.00	81.58	81.94	0.00	78.66	0.00
2026 TOTALS (tons/year unmitigated)	10.57	24.97	76.12	0.33	178.39	1.70	180.09	37.46	1.51	38.97	35,353.42
2026 TOTALS (tons/year mitigated)	10.57	24.97	76.12	0.33	31.41	1.70	33.11	6.77	1.51	8.27	35,353.42
Percent Reduction	0.00	0.00	0.00	0.00	82.39	0.00	81.61	81.94	0.00	78.77	0.00
2027 TOTALS (tons/year unmitigated)	10.57	24.97	76.12	0.33	178.39	1.70	180.09	37.46	1.51	38.97	35,353.42
2027 TOTALS (tons/year mitigated)	10.57	24.97	76.12	0.33	31.41	1.70	33.11	6.77	1.51	8.27	35,353.42
Percent Reduction	0.00	0.00	0.00	0.00	82.39	0.00	81.61	81.94	0.00	78.77	0.00
2028 TOTALS (tons/year unmitigated)	10.52	24.88	75.83	0.33	177.71	1.70	179.40	37.32	1.50	38.82	35,217.96

Page: 1

11/19/2009 04:10:08 PM

2028 TOTALS (tons/year mitigated)	10.52	24.88	75.83	0.33	31.29	1.70	32.99	6.74	1.50	8.24	35,217.96
Percent Reduction	0.00	0.00	0.00	0.00	82.39	0.00	81.61	81.94	0.00	78.77	0.00
2029 TOTALS (tons/year unmitigated)	10.57	24.97	76.12	0.33	178.39	1.70	180.09	37.46	1.51	38.97	35,353.42
2029 TOTALS (tons/year mitigated)	10.57	24.97	76.12	0.33	31.41	1.70	33.11	6.77	1.51	8.27	35,353.42
Percent Reduction	0.00	0.00	0.00	0.00	82.39	0.00	81.61	81.94	0.00	78.77	0.00

Phase Assumptions

Phase: Demolition 1/1/2010 - 12/31/2029 - Default Demolition Description

Building Volume Total (cubic feet): 1.198854E+07

Building Volume Daily (cubic feet): 45375

On Road Truck Travel (VMT): 630.21

Off-Road Equipment:

3 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

2 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

Phase: Mass Grading 1/1/2010 - 12/31/2029 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 140

Maximum Daily Acreage Disturbed: 35

Fugitive Dust Level of Detail: Default

38.2 lbs per acre-day

On Road Truck Travel (VMT): 164.67

Off-Road Equipment:

1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

3 Scrapers (313 hp) operating at a 0.72 load factor for 8 hours per day

3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 1/1/2010 - 12/31/2029 - Default Trenching Description

Off-Road Equipment:

4 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

2 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Paving 1/1/2010 - 12/31/2029 - Default Paving Description

Acres to be Paved: 348.94

Off-Road Equipment:

1 Pavers (100 hp) operating at a 0.62 load factor for 8 hours per day

2 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day

Page: 1

11/19/2009 04:10:08 PM

2 Rollers (95 hp) operating at a 0.56 load factor for 6 hours per day

Phase: Building Construction 1/1/2010 - 12/31/2029 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 7 hours per day

3 Forklifts (145 hp) operating at a 0.3 load factor for 8 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 1/1/2010 - 12/31/2029 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Mitigated

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2010	19.93	92.74	234.06	0.33	31.41	4.32	35.73	6.77	3.92	10.69	35,379.82
Asphalt 01/01/2010-12/31/2029	0.45	2.61	1.56	0.00	0.00	0.22	0.23	0.00	0.21	0.21	218.74
Paving Off-Gas	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.42	2.50	1.37	0.00	0.00	0.22	0.22	0.00	0.20	0.20	185.16
Paving On Road Diesel	0.01	0.10	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.28
Paving Worker Trips	0.00	0.01	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.30
Building 01/01/2010-12/31/2029	10.22	63.78	218.82	0.33	1.40	2.84	4.25	0.50	2.56	3.06	32,470.12
Building Off Road Diesel	0.53	3.04	1.87	0.00	0.00	0.22	0.22	0.00	0.20	0.20	294.84
Building Vendor Trips	4.18	50.31	38.17	0.09	0.34	2.04	2.37	0.11	1.87	1.98	9,576.45
Building Worker Trips	5.51	10.43	178.78	0.24	1.07	0.59	1.65	0.38	0.49	0.88	22,598.83
Coating 01/01/2010-12/31/2029	6.28	0.01	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.13
Architectural Coating	6.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.01	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.13
Demolition 01/01/2010-12/31/2029	0.91	8.57	4.50	0.00	2.50	0.39	2.89	0.52	0.36	0.88	908.16
Fugitive Dust	0.00	0.00	0.00	0.00	0.13	0.00	0.13	0.03	0.00	0.03	0.00
Demo Off Road Diesel	0.72	6.06	3.42	0.00	0.00	0.29	0.29	0.00	0.27	0.27	539.29
Demo On Road Diesel	0.18	2.50	0.92	0.00	0.01	0.10	0.11	0.00	0.09	0.09	348.58
Demo Worker Trips	0.00	0.01	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.30
Mass Grading 01/01/2010-	1.52	13.14	6.64	0.00	27.51	0.64	28.14	5.74	0.58	6.33	1,285.67

Page: 1

11/19/2009 04:10:08 PM

Mass Grading Dust	0.00	0.00	0.00	0.00	27.50	0.00	27.50	5.74	0.00	5.74	0.00
Mass Grading Off Road Diesel	1.46	12.47	6.08	0.00	0.00	0.61	0.61	0.00	0.56	0.56	1,153.99
Mass Grading On Road Diesel	0.05	0.65	0.24	0.00	0.00	0.03	0.03	0.00	0.02	0.02	91.08
Mass Grading Worker Trips	0.01	0.02	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.60
Trenching 01/01/2010-12/31/2029	0.55	4.63	2.40	0.00	0.00	0.23	0.23	0.00	0.21	0.21	480.00
Trenching Off Road Diesel	0.54	4.62	2.14	0.00	0.00	0.23	0.23	0.00	0.21	0.21	447.52
Trenching Worker Trips	0.01	0.01	0.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.48
2011	18.84	84.36	217.73	0.33	31.29	4.00	35.29	6.74	3.62	10.36	35,238.63
Asphalt 01/01/2010-12/31/2029	0.43	2.47	1.52	0.00	0.00	0.21	0.22	0.00	0.20	0.20	217.89
Paving Off-Gas	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.39	2.37	1.34	0.00	0.00	0.21	0.21	0.00	0.19	0.19	184.45
Paving On Road Diesel	0.01	0.09	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.23
Paving Worker Trips	0.00	0.01	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.22
Building 01/01/2010-12/31/2029	9.36	57.42	203.24	0.33	1.40	2.63	4.03	0.50	2.36	2.86	32,340.10
Building Off Road Diesel	0.49	2.84	1.81	0.00	0.00	0.20	0.20	0.00	0.19	0.19	293.71
Building Vendor Trips	3.84	45.06	35.39	0.09	0.33	1.81	2.15	0.11	1.66	1.77	9,539.60
Building Worker Trips	5.03	9.52	166.04	0.24	1.06	0.61	1.68	0.38	0.52	0.90	22,506.80
Coating 01/01/2010-12/31/2029	6.26	0.01	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.06
Architectural Coating	6.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.01	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.06
Demolition 01/01/2010-12/31/2029	0.86	7.93	4.23	0.00	2.49	0.36	2.85	0.52	0.33	0.85	904.68
Fugitive Dust	0.00	0.00	0.00	0.00	0.13	0.00	0.13	0.03	0.00	0.03	0.00
Demo Off Road Diesel	0.69	5.68	3.26	0.00	0.00	0.27	0.27	0.00	0.25	0.25	537.22
Demo On Road Diesel	0.17	2.24	0.82	0.00	0.01	0.09	0.10	0.00	0.08	0.08	347.24
Demo Worker Trips	0.00	0.01	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.22
Mass Grading 01/01/2010-	1.42	12.26	6.27	0.00	27.40	0.58	27.98	5.72	0.53	6.26	1,280.74
Mass Grading Dust	0.00	0.00	0.00	0.00	27.40	0.00	27.40	5.72	0.00	5.72	0.00
Mass Grading Off Road Diesel	1.36	11.66	5.75	0.00	0.00	0.56	0.56	0.00	0.51	0.51	1,149.57
Mass Grading On Road Diesel	0.04	0.58	0.22	0.00	0.00	0.02	0.03	0.00	0.02	0.02	90.73
Mass Grading Worker Trips	0.01	0.02	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.43
Trenching 01/01/2010-12/31/2029	0.51	4.28	2.34	0.00	0.00	0.21	0.22	0.00	0.20	0.20	478.15
Trenching Off Road Diesel	0.51	4.27	2.10	0.00	0.00	0.21	0.21	0.00	0.20	0.20	445.81
Trenching Worker Trips	0.01	0.01	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.35
2012	17.91	76.88	203.72	0.33	31.41	3.66	35.08	6.77	3.31	10.08	35,370.49
Asphalt 01/01/2010-12/31/2029	0.41	2.35	1.50	0.00	0.00	0.20	0.20	0.00	0.19	0.19	218.73
Paving Off-Gas	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.37	2.26	1.34	0.00	0.00	0.20	0.20	0.00	0.18	0.18	185.16
Paving On Road Diesel	0.01	0.08	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.28
Paving Worker Trips	0.00	0.01	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.29
Building 01/01/2010-12/31/2029	8.59	51.67	189.80	0.33	1.40	2.41	3.81	0.50	2.16	2.66	32,460.84

Page: 1

11/19/2009 04:10:08 PM

Building Off Road Diesel	0.45	2.67	1.78	0.00	0.00	0.19	0.19	0.00	0.17	0.17	294.84
Building Vendor Trips	3.53	40.28	32.90	0.09	0.34	1.60	1.94	0.11	1.47	1.58	9,576.45
Building Worker Trips	4.60	8.73	155.12	0.24	1.07	0.62	1.68	0.38	0.52	0.90	22,589.55
Coating 01/01/2010-12/31/2029	6.28	0.01	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.12
Architectural Coating	6.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.01	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.12
Demolition 01/01/2010-12/31/2029	0.81	7.38	4.02	0.00	2.50	0.33	2.83	0.52	0.30	0.82	908.15
Fugitive Dust	0.00	0.00	0.00	0.00	0.13	0.00	0.13	0.03	0.00	0.03	0.00
Demo Off Road Diesel	0.65	5.37	3.14	0.00	0.00	0.25	0.25	0.00	0.23	0.23	539.29
Demo On Road Diesel	0.15	2.00	0.74	0.00	0.01	0.08	0.09	0.00	0.07	0.07	348.58
Demo Worker Trips	0.00	0.01	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.29
Mass Grading 01/01/2010-	1.35	11.49	5.96	0.00	27.51	0.53	28.04	5.74	0.49	6.24	1,285.66
Mass Grading Dust	0.00	0.00	0.00	0.00	27.50	0.00	27.50	5.74	0.00	5.74	0.00
Mass Grading Off Road Diesel	1.30	10.95	5.49	0.00	0.00	0.51	0.51	0.00	0.47	0.47	1,153.99
Mass Grading On Road Diesel	0.04	0.52	0.19	0.00	0.00	0.02	0.02	0.00	0.02	0.02	91.08
Mass Grading Worker Trips	0.01	0.02	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.58
Trenching 01/01/2010-12/31/2029	0.48	3.99	2.31	0.00	0.00	0.19	0.19	0.00	0.18	0.18	479.99
Trenching Off Road Diesel	0.47	3.98	2.09	0.00	0.00	0.19	0.19	0.00	0.18	0.18	447.52
Trenching Worker Trips	0.01	0.01	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.47
2013	16.98	69.45	189.56	0.33	31.41	3.35	34.77	6.77	3.03	9.79	35,368.59
Asphalt 01/01/2010-12/31/2029	0.38	2.22	1.48	0.00	0.00	0.19	0.19	0.00	0.17	0.18	218.72
Paving Off-Gas	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.35	2.15	1.32	0.00	0.00	0.19	0.19	0.00	0.17	0.17	185.16
Paving On Road Diesel	0.01	0.07	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.28
Paving Worker Trips	0.00	0.01	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.29
Building 01/01/2010-12/31/2029	7.80	45.98	176.23	0.33	1.40	2.19	3.60	0.50	1.96	2.46	32,458.95
Building Off Road Diesel	0.42	2.48	1.74	0.00	0.00	0.17	0.17	0.00	0.15	0.15	294.84
Building Vendor Trips	3.21	35.51	30.34	0.09	0.34	1.41	1.74	0.11	1.29	1.40	9,576.86
Building Worker Trips	4.17	7.98	144.15	0.24	1.07	0.62	1.69	0.38	0.52	0.90	22,587.25
Coating 01/01/2010-12/31/2029	6.28	0.01	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.12
Architectural Coating	6.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.01	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.12
Demolition 01/01/2010-12/31/2029	0.77	6.82	3.80	0.00	2.50	0.30	2.80	0.52	0.28	0.80	908.15
Fugitive Dust	0.00	0.00	0.00	0.00	0.13	0.00	0.13	0.03	0.00	0.03	0.00
Demo Off Road Diesel	0.63	5.06	3.02	0.00	0.00	0.23	0.23	0.00	0.22	0.22	539.29
Demo On Road Diesel	0.14	1.76	0.65	0.00	0.01	0.07	0.08	0.00	0.06	0.06	348.58
Demo Worker Trips	0.00	0.01	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.29
Mass Grading 01/01/2010-	1.29	10.73	5.66	0.00	27.51	0.49	28.00	5.74	0.45	6.20	1,285.65
Mass Grading Dust	0.00	0.00	0.00	0.00	27.50	0.00	27.50	5.74	0.00	5.74	0.00
Mass Grading Off Road Diesel	1.24	10.26	5.23	0.00	0.00	0.47	0.47	0.00	0.44	0.44	1,153.99
Mass Grading On Road Diesel	0.04	0.46	0.17	0.00	0.00	0.02	0.02	0.00	0.02	0.02	91.08

Page: 1

11/19/2009 04:10:08 PM

Mass Grading Worker Trips	0.01	0.01	0.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.58
Trenching 01/01/2010-12/31/2029	0.45	3.70	2.29	0.00	0.00	0.18	0.18	0.00	0.16	0.16	479.98
Trenching Off Road Diesel	0.45	3.68	2.08	0.00	0.00	0.18	0.18	0.00	0.16	0.16	447.52
Trenching Worker Trips	0.01	0.01	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.46
2014	16.14	62.41	176.88	0.33	31.41	3.04	34.45	6.77	2.74	9.51	35,366.79
Asphalt 01/01/2010-12/31/2029	0.36	2.10	1.46	0.00	0.00	0.18	0.18	0.00	0.16	0.16	218.72
Paving Off-Gas	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.33	2.04	1.31	0.00	0.00	0.18	0.18	0.00	0.16	0.16	185.16
Paving On Road Diesel	0.00	0.06	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.28
Paving Worker Trips	0.00	0.01	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.29
Building 01/01/2010-12/31/2029	7.13	40.71	164.06	0.33	1.40	1.99	3.40	0.50	1.77	2.27	32,457.16
Building Off Road Diesel	0.38	2.30	1.70	0.00	0.00	0.14	0.14	0.00	0.13	0.13	294.84
Building Vendor Trips	2.91	31.08	27.97	0.09	0.34	1.23	1.57	0.11	1.12	1.24	9,577.17
Building Worker Trips	3.83	7.32	134.38	0.24	1.07	0.62	1.69	0.38	0.52	0.90	22,585.15
Coating 01/01/2010-12/31/2029	6.28	0.01	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.12
Architectural Coating	6.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.01	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.12
Demolition 01/01/2010-12/31/2029	0.73	6.26	3.60	0.00	2.50	0.27	2.77	0.52	0.25	0.77	908.15
Fugitive Dust	0.00	0.00	0.00	0.00	0.13	0.00	0.13	0.03	0.00	0.03	0.00
Demo Off Road Diesel	0.60	4.72	2.91	0.00	0.00	0.21	0.21	0.00	0.19	0.19	539.29
Demo On Road Diesel	0.13	1.53	0.57	0.00	0.01	0.06	0.07	0.00	0.05	0.06	348.58
Demo Worker Trips	0.00	0.01	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.29
Mass Grading 01/01/2010-	1.22	9.93	5.42	0.00	27.51	0.45	27.95	5.74	0.41	6.15	1,285.65
Mass Grading Dust	0.00	0.00	0.00	0.00	27.50	0.00	27.50	5.74	0.00	5.74	0.00
Mass Grading Off Road Diesel	1.18	9.51	5.02	0.00	0.00	0.43	0.43	0.00	0.40	0.40	1,153.99
Mass Grading On Road Diesel	0.03	0.40	0.15	0.00	0.00	0.01	0.02	0.00	0.01	0.01	91.08
Mass Grading Worker Trips	0.01	0.01	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.58
Trenching 01/01/2010-12/31/2029	0.42	3.41	2.25	0.00	0.00	0.15	0.16	0.00	0.14	0.14	479.98
Trenching Off Road Diesel	0.42	3.40	2.06	0.00	0.00	0.15	0.15	0.00	0.14	0.14	447.52
Trenching Worker Trips	0.01	0.01	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.46
2015	15.32	55.72	164.89	0.33	31.41	2.79	34.20	6.77	2.51	9.28	35,365.47
Asphalt 01/01/2010-12/31/2029	0.34	1.97	1.43	0.00	0.00	0.16	0.17	0.00	0.15	0.15	218.72
Paving Off-Gas	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.31	1.91	1.30	0.00	0.00	0.16	0.16	0.00	0.15	0.15	185.16
Paving On Road Diesel	0.00	0.05	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.28
Paving Worker Trips	0.00	0.01	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.29
Building 01/01/2010-12/31/2029	6.49	35.91	152.54	0.33	1.40	1.83	3.23	0.50	1.62	2.12	32,455.86
Building Off Road Diesel	0.35	2.11	1.67	0.00	0.00	0.13	0.13	0.00	0.12	0.12	294.84
Building Vendor Trips	2.63	27.06	25.76	0.09	0.34	1.07	1.41	0.11	0.98	1.10	9,577.62
Building Worker Trips	3.51	6.74	125.11	0.24	1.07	0.62	1.69	0.38	0.52	0.90	22,583.40

Page: 1

11/19/2009 04:10:08 PM

Coating 01/01/2010-12/31/2029	6.28	0.01	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.12
Architectural Coating	6.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.01	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.12
Demolition 01/01/2010-12/31/2029	0.67	5.68	3.42	0.00	2.50	0.24	2.74	0.52	0.22	0.75	908.15
Fugitive Dust	0.00	0.00	0.00	0.00	0.13	0.00	0.13	0.03	0.00	0.03	0.00
Demo Off Road Diesel	0.56	4.35	2.80	0.00	0.00	0.20	0.20	0.00	0.18	0.18	539.29
Demo On Road Diesel	0.11	1.33	0.50	0.00	0.01	0.05	0.06	0.00	0.04	0.05	348.58
Demo Worker Trips	0.00	0.01	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.29
Mass Grading 01/01/2010-	1.14	9.10	5.18	0.00	27.51	0.41	27.91	5.74	0.38	6.12	1,285.65
Mass Grading Dust	0.00	0.00	0.00	0.00	27.50	0.00	27.50	5.74	0.00	5.74	0.00
Mass Grading Off Road Diesel	1.10	8.74	4.82	0.00	0.00	0.39	0.39	0.00	0.36	0.36	1,153.99
Mass Grading On Road Diesel	0.03	0.35	0.13	0.00	0.00	0.01	0.02	0.00	0.01	0.01	91.08
Mass Grading Worker Trips	0.01	0.01	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.57
Trenching 01/01/2010-12/31/2029	0.39	3.05	2.23	0.00	0.00	0.15	0.15	0.00	0.13	0.13	479.98
Trenching Off Road Diesel	0.39	3.04	2.05	0.00	0.00	0.14	0.14	0.00	0.13	0.13	447.52
Trenching Worker Trips	0.01	0.01	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.46
2016	14.62	50.14	154.43	0.33	31.41	2.55	33.96	6.77	2.29	9.05	35,362.96
Asphalt 01/01/2010-12/31/2029	0.32	1.84	1.42	0.00	0.00	0.15	0.15	0.00	0.14	0.14	218.72
Paving Off-Gas	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.29	1.79	1.29	0.00	0.00	0.15	0.15	0.00	0.14	0.14	185.16
Paving On Road Diesel	0.00	0.04	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.28
Paving Worker Trips	0.00	0.01	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.28
Building 01/01/2010-12/31/2029	5.95	32.06	142.48	0.33	1.40	1.68	3.09	0.50	1.49	1.99	32,453.36
Building Off Road Diesel	0.32	1.94	1.65	0.00	0.00	0.11	0.11	0.00	0.11	0.11	294.84
Building Vendor Trips	2.40	23.91	23.96	0.09	0.34	0.95	1.29	0.11	0.87	0.98	9,577.87
Building Worker Trips	3.23	6.22	116.88	0.24	1.07	0.62	1.69	0.38	0.52	0.90	22,580.66
Coating 01/01/2010-12/31/2029	6.28	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.12
Architectural Coating	6.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.12
Demolition 01/01/2010-12/31/2029	0.63	5.18	3.26	0.00	2.50	0.22	2.72	0.52	0.21	0.73	908.14
Fugitive Dust	0.00	0.00	0.00	0.00	0.13	0.00	0.13	0.03	0.00	0.03	0.00
Demo Off Road Diesel	0.52	4.01	2.70	0.00	0.00	0.18	0.18	0.00	0.17	0.17	539.29
Demo On Road Diesel	0.10	1.17	0.45	0.00	0.01	0.04	0.05	0.00	0.04	0.04	348.58
Demo Worker Trips	0.00	0.01	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.28
Mass Grading 01/01/2010-	1.07	8.34	4.98	0.00	27.51	0.37	27.87	5.74	0.34	6.08	1,285.64
Mass Grading Dust	0.00	0.00	0.00	0.00	27.50	0.00	27.50	5.74	0.00	5.74	0.00
Mass Grading Off Road Diesel	1.04	8.02	4.66	0.00	0.00	0.36	0.36	0.00	0.33	0.33	1,153.99
Mass Grading On Road Diesel	0.03	0.31	0.12	0.00	0.00	0.01	0.01	0.00	0.01	0.01	91.08
Mass Grading Worker Trips	0.01	0.01	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.57
Trenching 01/01/2010-12/31/2029	0.37	2.71	2.21	0.00	0.00	0.12	0.12	0.00	0.11	0.11	479.97
Trenching Off Road Diesel	0.36	2.70	2.04	0.00	0.00	0.12	0.12	0.00	0.11	0.11	447.52

Trenching Worker Trips	0.00	0.01	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.45
2017	13.94	45.13	144.00	0.33	31.29	2.35	33.64	6.74	2.10	8.84	35,225.88
Asphalt 01/01/2010-12/31/2029	0.30	1.72	1.39	0.00	0.00	0.14	0.14	0.00	0.13	0.13	217.88
Paving Off-Gas	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.27	1.67	1.28	0.00	0.00	0.14	0.14	0.00	0.13	0.13	184.45
Paving On Road Diesel	0.00	0.04	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.23
Paving Worker Trips	0.00	0.01	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.20
Building 01/01/2010-12/31/2029	5.44	28.72	132.46	0.33	1.40	1.57	2.97	0.50	1.38	1.88	32,327.44
Building Off Road Diesel	0.29	1.77	1.62	0.00	0.00	0.10	0.10	0.00	0.09	0.09	293.71
Building Vendor Trips	2.21	21.27	22.30	0.09	0.33	0.85	1.18	0.11	0.77	0.89	9,541.52
Building Worker Trips	2.94	5.68	108.54	0.24	1.06	0.62	1.68	0.38	0.52	0.90	22,492.22
Coating 01/01/2010-12/31/2029	6.26	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.05
Architectural Coating	6.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.05
Demolition 01/01/2010-12/31/2029	0.60	4.70	3.11	0.00	2.49	0.20	2.69	0.52	0.19	0.71	904.66
Fugitive Dust	0.00	0.00	0.00	0.00	0.13	0.00	0.13	0.03	0.00	0.03	0.00
Demo Off Road Diesel	0.50	3.66	2.60	0.00	0.00	0.17	0.17	0.00	0.15	0.15	537.22
Demo On Road Diesel	0.09	1.04	0.40	0.00	0.01	0.04	0.05	0.00	0.03	0.04	347.24
Demo Worker Trips	0.00	0.01	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.20
Mass Grading 01/01/2010-	1.01	7.60	4.78	0.00	27.40	0.33	27.73	5.72	0.30	6.03	1,280.71
Mass Grading Dust	0.00	0.00	0.00	0.00	27.40	0.00	27.40	5.72	0.00	5.72	0.00
Mass Grading Off Road Diesel	0.98	7.32	4.48	0.00	0.00	0.32	0.32	0.00	0.30	0.30	1,149.57
Mass Grading On Road Diesel	0.02	0.27	0.11	0.00	0.00	0.01	0.01	0.00	0.01	0.01	90.73
Mass Grading Worker Trips	0.01	0.01	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.41
Trenching 01/01/2010-12/31/2029	0.34	2.39	2.19	0.00	0.00	0.11	0.11	0.00	0.10	0.10	478.13
Trenching Off Road Diesel	0.34	2.38	2.03	0.00	0.00	0.11	0.11	0.00	0.10	0.10	445.81
Trenching Worker Trips	0.00	0.01	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.33
2018	13.42	41.08	135.38	0.33	31.41	2.18	33.60	6.77	1.95	8.72	35,360.27
Asphalt 01/01/2010-12/31/2029	0.29	1.61	1.38	0.00	0.00	0.13	0.13	0.00	0.12	0.12	218.72
Paving Off-Gas	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.26	1.57	1.28	0.00	0.00	0.13	0.13	0.00	0.12	0.12	185.16
Paving On Road Diesel	0.00	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.28
Paving Worker Trips	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.28
Building 01/01/2010-12/31/2029	5.03	26.11	124.09	0.33	1.40	1.48	2.88	0.50	1.30	1.80	32,450.70
Building Off Road Diesel	0.27	1.63	1.60	0.00	0.00	0.09	0.09	0.00	0.08	0.08	294.84
Building Vendor Trips	2.05	19.21	20.97	0.09	0.34	0.77	1.11	0.11	0.70	0.81	9,578.59
Building Worker Trips	2.72	5.27	101.52	0.24	1.07	0.62	1.69	0.38	0.52	0.90	22,577.28
Coating 01/01/2010-12/31/2029	6.28	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.12
Architectural Coating	6.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.12

Page: 1

11/19/2009 04:10:08 PM

Demolition 01/01/2010-12/31/2029	0.56	4.30	3.00	0.00	2.50	0.18	2.68	0.52	0.17	0.69	908.14
Fugitive Dust	0.00	0.00	0.00	0.00	0.13	0.00	0.13	0.03	0.00	0.03	0.00
Demo Off Road Diesel	0.47	3.36	2.54	0.00	0.00	0.15	0.15	0.00	0.14	0.14	539.29
Demo On Road Diesel	0.09	0.94	0.37	0.00	0.01	0.03	0.04	0.00	0.03	0.03	348.58
Demo Worker Trips	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.28
Mass Grading 01/01/2010-	0.94	6.96	4.65	0.00	27.51	0.30	27.80	5.74	0.27	6.02	1,285.63
Mass Grading Dust	0.00	0.00	0.00	0.00	27.50	0.00	27.50	5.74	0.00	5.74	0.00
Mass Grading Off Road Diesel	0.91	6.71	4.37	0.00	0.00	0.29	0.29	0.00	0.26	0.26	1,153.99
Mass Grading On Road Diesel	0.02	0.24	0.10	0.00	0.00	0.01	0.01	0.00	0.01	0.01	91.08
Mass Grading Worker Trips	0.00	0.01	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.56
Trenching 01/01/2010-12/31/2029	0.32	2.10	2.18	0.00	0.00	0.10	0.10	0.00	0.09	0.09	479.97
Trenching Off Road Diesel	0.32	2.10	2.03	0.00	0.00	0.10	0.10	0.00	0.09	0.09	447.52
Trenching Worker Trips	0.00	0.01	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.45
2019	12.90	37.35	126.88	0.33	31.41	2.02	33.43	6.77	1.80	8.57	35,359.63
Asphalt 01/01/2010-12/31/2029	0.27	1.51	1.36	0.00	0.00	0.12	0.12	0.00	0.11	0.11	218.71
Paving Off-Gas	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.24	1.47	1.27	0.00	0.00	0.11	0.11	0.00	0.11	0.11	185.16
Paving On Road Diesel	0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.28
Paving Worker Trips	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.28
Building 01/01/2010-12/31/2029	4.64	23.72	115.88	0.33	1.40	1.40	2.80	0.50	1.22	1.72	32,450.06
Building Off Road Diesel	0.25	1.49	1.58	0.00	0.00	0.07	0.07	0.00	0.07	0.07	294.84
Building Vendor Trips	1.91	17.39	19.69	0.09	0.34	0.70	1.04	0.11	0.64	0.75	9,578.96
Building Worker Trips	2.49	4.84	94.60	0.24	1.07	0.62	1.69	0.38	0.52	0.90	22,576.26
Coating 01/01/2010-12/31/2029	6.28	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.11
Architectural Coating	6.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.11
Demolition 01/01/2010-12/31/2029	0.52	3.92	2.89	0.00	2.50	0.16	2.66	0.52	0.15	0.67	908.14
Fugitive Dust	0.00	0.00	0.00	0.00	0.13	0.00	0.13	0.03	0.00	0.03	0.00
Demo Off Road Diesel	0.44	3.07	2.47	0.00	0.00	0.13	0.13	0.00	0.12	0.12	539.29
Demo On Road Diesel	0.08	0.85	0.34	0.00	0.01	0.03	0.04	0.00	0.03	0.03	348.58
Demo Worker Trips	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.28
Mass Grading 01/01/2010-	0.89	6.35	4.51	0.00	27.51	0.26	27.77	5.74	0.24	5.99	1,285.63
Mass Grading Dust	0.00	0.00	0.00	0.00	27.50	0.00	27.50	5.74	0.00	5.74	0.00
Mass Grading Off Road Diesel	0.87	6.12	4.26	0.00	0.00	0.25	0.25	0.00	0.23	0.23	1,153.99
Mass Grading On Road Diesel	0.02	0.22	0.09	0.00	0.00	0.01	0.01	0.00	0.01	0.01	91.08
Mass Grading Worker Trips	0.00	0.01	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.56
Trenching 01/01/2010-12/31/2029	0.30	1.84	2.16	0.00	0.00	0.08	0.09	0.00	0.08	0.08	479.97
Trenching Off Road Diesel	0.29	1.84	2.03	0.00	0.00	0.08	0.08	0.00	0.08	0.08	447.52
Trenching Worker Trips	0.00	0.01	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.45
2020	12.46	34.24	119.44	0.34	31.53	1.93	33.46	6.79	1.72	8.51	35,494.52

Page: 1

11/19/2009 04:10:08 PM

Asphalt 01/01/2010-12/31/2029	0.25	1.41	1.36	0.00	0.00	0.11	0.11	0.00	0.10	0.10	219.55
Paving Off-Gas	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.22	1.38	1.26	0.00	0.00	0.11	0.11	0.00	0.10	0.10	185.86
Paving On Road Diesel	0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.33
Paving Worker Trips	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.36
Building 01/01/2010-12/31/2029	4.29	21.78	108.63	0.33	1.41	1.36	2.77	0.50	1.19	1.69	32,573.81
Building Off Road Diesel	0.22	1.38	1.58	0.00	0.00	0.07	0.07	0.00	0.06	0.06	295.97
Building Vendor Trips	1.79	15.92	18.61	0.09	0.34	0.64	0.98	0.11	0.59	0.70	9,616.02
Building Worker Trips	2.28	4.49	88.44	0.24	1.07	0.65	1.72	0.39	0.54	0.93	22,661.83
Coating 01/01/2010-12/31/2029	6.31	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.18
Architectural Coating	6.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.18
Demolition 01/01/2010-12/31/2029	0.49	3.60	2.81	0.00	2.51	0.15	2.66	0.52	0.14	0.66	911.62
Fugitive Dust	0.00	0.00	0.00	0.00	0.13	0.00	0.13	0.03	0.00	0.03	0.00
Demo Off Road Diesel	0.41	2.82	2.42	0.00	0.00	0.13	0.13	0.00	0.12	0.12	541.35
Demo On Road Diesel	0.08	0.77	0.31	0.00	0.01	0.03	0.04	0.00	0.02	0.03	349.91
Demo Worker Trips	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.36
Mass Grading 01/01/2010-	0.84	5.82	4.42	0.00	27.61	0.23	27.84	5.77	0.21	5.98	1,290.56
Mass Grading Dust	0.00	0.00	0.00	0.00	27.61	0.00	27.61	5.77	0.00	5.77	0.00
Mass Grading Off Road Diesel	0.82	5.61	4.18	0.00	0.00	0.23	0.23	0.00	0.21	0.21	1,158.42
Mass Grading On Road Diesel	0.02	0.20	0.08	0.00	0.00	0.01	0.01	0.00	0.01	0.01	91.43
Mass Grading Worker Trips	0.00	0.01	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.71
Trenching 01/01/2010-12/31/2029	0.28	1.62	2.16	0.00	0.00	0.08	0.08	0.00	0.07	0.07	481.81
Trenching Off Road Diesel	0.27	1.62	2.03	0.00	0.00	0.08	0.08	0.00	0.07	0.07	449.24
Trenching Worker Trips	0.00	0.01	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.57
2021	11.18	27.47	90.87	0.33	31.41	1.76	33.18	6.77	1.56	8.33	35,355.09
Asphalt 01/01/2010-12/31/2029	0.25	1.40	1.33	0.00	0.00	0.11	0.11	0.00	0.10	0.10	218.71
Paving Off-Gas	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.22	1.37	1.26	0.00	0.00	0.11	0.11	0.00	0.10	0.10	185.16
Paving On Road Diesel	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.28
Paving Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.27
Building 01/01/2010-12/31/2029	3.07	15.38	80.35	0.33	1.40	1.21	2.61	0.50	1.05	1.55	32,445.56
Building Off Road Diesel	0.22	1.37	1.57	0.00	0.00	0.06	0.06	0.00	0.06	0.06	294.84
Building Vendor Trips	1.35	10.90	14.44	0.09	0.34	0.47	0.80	0.11	0.42	0.54	9,580.60
Building Worker Trips	1.50	3.12	64.34	0.24	1.07	0.67	1.74	0.38	0.57	0.95	22,570.12
Coating 01/01/2010-12/31/2029	6.28	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.11
Architectural Coating	6.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.11
Demolition 01/01/2010-12/31/2029	0.47	3.34	2.69	0.00	2.50	0.14	2.64	0.52	0.13	0.65	908.13
Fugitive Dust	0.00	0.00	0.00	0.00	0.13	0.00	0.13	0.03	0.00	0.03	0.00
Demo Off Road Diesel	0.41	2.81	2.41	0.00	0.00	0.13	0.13	0.00	0.12	0.12	539.29

Page: 1

11/19/2009 04:10:08 PM

Demo On Road Diesel	0.06	0.53	0.22	0.00	0.01	0.02	0.03	0.00	0.01	0.02	348.58
Demo Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.27
Mass Grading 01/01/2010-	0.83	5.73	4.34	0.00	27.51	0.23	27.74	5.74	0.21	5.96	1,285.62
Mass Grading Dust	0.00	0.00	0.00	0.00	27.50	0.00	27.50	5.74	0.00	5.74	0.00
Mass Grading Off Road Diesel	0.81	5.58	4.16	0.00	0.00	0.22	0.22	0.00	0.21	0.21	1,153.99
Mass Grading On Road Diesel	0.02	0.14	0.06	0.00	0.00	0.00	0.01	0.00	0.00	0.00	91.08
Mass Grading Worker Trips	0.00	0.01	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.55
Trenching 01/01/2010-12/31/2029	0.27	1.62	2.12	0.00	0.00	0.08	0.08	0.00	0.07	0.07	479.96
Trenching Off Road Diesel	0.27	1.61	2.03	0.00	0.00	0.08	0.08	0.00	0.07	0.07	447.52
Trenching Worker Trips	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.44
2022	11.14	27.37	90.53	0.33	31.29	1.76	33.05	6.74	1.56	8.30	35,219.63
Asphalt 01/01/2010-12/31/2029	0.25	1.39	1.32	0.00	0.00	0.11	0.11	0.00	0.10	0.10	217.87
Paving Off-Gas	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.22	1.37	1.26	0.00	0.00	0.11	0.11	0.00	0.10	0.10	184.45
Paving On Road Diesel	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.23
Paving Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.20
Building 01/01/2010-12/31/2029	3.06	15.32	80.04	0.33	1.40	1.20	2.60	0.50	1.04	1.54	32,321.25
Building Off Road Diesel	0.22	1.36	1.56	0.00	0.00	0.06	0.06	0.00	0.06	0.06	293.71
Building Vendor Trips	1.34	10.85	14.39	0.09	0.33	0.47	0.80	0.11	0.42	0.54	9,543.90
Building Worker Trips	1.50	3.11	64.09	0.24	1.06	0.67	1.73	0.38	0.56	0.95	22,483.64
Coating 01/01/2010-12/31/2029	6.26	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.04
Architectural Coating	6.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.04
Demolition 01/01/2010-12/31/2029	0.47	3.33	2.68	0.00	2.49	0.14	2.63	0.52	0.13	0.65	904.66
Fugitive Dust	0.00	0.00	0.00	0.00	0.13	0.00	0.13	0.03	0.00	0.03	0.00
Demo Off Road Diesel	0.41	2.80	2.40	0.00	0.00	0.13	0.13	0.00	0.12	0.12	537.22
Demo On Road Diesel	0.06	0.53	0.22	0.00	0.01	0.02	0.03	0.00	0.01	0.02	347.24
Demo Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.20
Mass Grading 01/01/2010-	0.83	5.71	4.32	0.00	27.40	0.23	27.63	5.72	0.21	5.93	1,280.70
Mass Grading Dust	0.00	0.00	0.00	0.00	27.40	0.00	27.40	5.72	0.00	5.72	0.00
Mass Grading Off Road Diesel	0.81	5.56	4.15	0.00	0.00	0.22	0.22	0.00	0.21	0.21	1,149.57
Mass Grading On Road Diesel	0.02	0.14	0.06	0.00	0.00	0.00	0.01	0.00	0.00	0.00	90.73
Mass Grading Worker Trips	0.00	0.01	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.39
Trenching 01/01/2010-12/31/2029	0.27	1.61	2.11	0.00	0.00	0.08	0.08	0.00	0.07	0.07	478.12
Trenching Off Road Diesel	0.27	1.61	2.02	0.00	0.00	0.07	0.07	0.00	0.07	0.07	445.81
Trenching Worker Trips	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.31
2023	11.14	27.37	90.53	0.33	31.29	1.76	33.05	6.74	1.56	8.30	35,219.63
Asphalt 01/01/2010-12/31/2029	0.25	1.39	1.32	0.00	0.00	0.11	0.11	0.00	0.10	0.10	217.87
Paving Off-Gas	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.22	1.37	1.26	0.00	0.00	0.11	0.11	0.00	0.10	0.10	184.45

Page: 1

11/19/2009 04:10:08 PM

Paving On Road Diesel	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.23
Paving Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.20
Building 01/01/2010-12/31/2029	3.06	15.32	80.04	0.33	1.40	1.20	2.60	0.50	1.04	1.54	32,321.25
Building Off Road Diesel	0.22	1.36	1.56	0.00	0.00	0.06	0.06	0.00	0.06	0.06	293.71
Building Vendor Trips	1.34	10.85	14.39	0.09	0.33	0.47	0.80	0.11	0.42	0.54	9,543.90
Building Worker Trips	1.50	3.11	64.09	0.24	1.06	0.67	1.73	0.38	0.56	0.95	22,483.64
Coating 01/01/2010-12/31/2029	6.26	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.04
Architectural Coating	6.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.04
Demolition 01/01/2010-12/31/2029	0.47	3.33	2.68	0.00	2.49	0.14	2.63	0.52	0.13	0.65	904.66
Fugitive Dust	0.00	0.00	0.00	0.00	0.13	0.00	0.13	0.03	0.00	0.03	0.00
Demo Off Road Diesel	0.41	2.80	2.40	0.00	0.00	0.13	0.13	0.00	0.12	0.12	537.22
Demo On Road Diesel	0.06	0.53	0.22	0.00	0.01	0.02	0.03	0.00	0.01	0.02	347.24
Demo Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.20
Mass Grading 01/01/2010-	0.83	5.71	4.32	0.00	27.40	0.23	27.63	5.72	0.21	5.93	1,280.70
Mass Grading Dust	0.00	0.00	0.00	0.00	27.40	0.00	27.40	5.72	0.00	5.72	0.00
Mass Grading Off Road Diesel	0.81	5.56	4.15	0.00	0.00	0.22	0.22	0.00	0.21	0.21	1,149.57
Mass Grading On Road Diesel	0.02	0.14	0.06	0.00	0.00	0.00	0.01	0.00	0.00	0.00	90.73
Mass Grading Worker Trips	0.00	0.01	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.39
Trenching 01/01/2010-12/31/2029	0.27	1.61	2.11	0.00	0.00	0.08	0.08	0.00	0.07	0.07	478.12
Trenching Off Road Diesel	0.27	1.61	2.02	0.00	0.00	0.07	0.07	0.00	0.07	0.07	445.81
Trenching Worker Trips	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.31
2024	11.22	27.58	91.22	0.33	31.53	1.77	33.30	6.79	1.57	8.36	35,490.55
Asphalt 01/01/2010-12/31/2029	0.25	1.40	1.33	0.00	0.00	0.11	0.11	0.00	0.10	0.10	219.55
Paving Off-Gas	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.22	1.38	1.26	0.00	0.00	0.11	0.11	0.00	0.10	0.10	185.86
Paving On Road Diesel	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.33
Paving Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.35
Building 01/01/2010-12/31/2029	3.09	15.44	80.66	0.33	1.41	1.21	2.62	0.50	1.05	1.55	32,569.87
Building Off Road Diesel	0.22	1.38	1.58	0.00	0.00	0.07	0.07	0.00	0.06	0.06	295.97
Building Vendor Trips	1.35	10.94	14.50	0.09	0.34	0.47	0.81	0.11	0.43	0.54	9,617.31
Building Worker Trips	1.51	3.13	64.59	0.24	1.07	0.68	1.75	0.39	0.57	0.95	22,656.59
Coating 01/01/2010-12/31/2029	6.30	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.18
Architectural Coating	6.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.18
Demolition 01/01/2010-12/31/2029	0.47	3.36	2.70	0.00	2.51	0.14	2.65	0.52	0.13	0.66	911.61
Fugitive Dust	0.00	0.00	0.00	0.00	0.13	0.00	0.13	0.03	0.00	0.03	0.00
Demo Off Road Diesel	0.41	2.82	2.42	0.00	0.00	0.13	0.13	0.00	0.12	0.12	541.35
Demo On Road Diesel	0.06	0.53	0.22	0.00	0.01	0.02	0.03	0.00	0.01	0.02	349.91
Demo Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.35
Mass Grading 01/01/2010-	0.83	5.75	4.35	0.00	27.61	0.23	27.84	5.77	0.21	5.98	1,290.55

Page: 1

11/19/2009 04:10:08 PM

Mass Grading Dust	0.00	0.00	0.00	0.00	27.61	0.00	27.61	5.77	0.00	5.77	0.00
Mass Grading Off Road Diesel	0.82	5.61	4.18	0.00	0.00	0.23	0.23	0.00	0.21	0.21	1,158.42
Mass Grading On Road Diesel	0.02	0.14	0.06	0.00	0.00	0.00	0.01	0.00	0.00	0.00	91.43
Mass Grading Worker Trips	0.00	0.01	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.70
Trenching 01/01/2010-12/31/2029	0.27	1.62	2.13	0.00	0.00	0.08	0.08	0.00	0.07	0.07	481.80
Trenching Off Road Diesel	0.27	1.62	2.03	0.00	0.00	0.08	0.08	0.00	0.07	0.07	449.24
Trenching Worker Trips	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.56
2025	11.18	27.47	90.87	0.33	31.41	1.76	33.18	6.77	1.56	8.33	35,355.09
Asphalt 01/01/2010-12/31/2029	0.25	1.40	1.33	0.00	0.00	0.11	0.11	0.00	0.10	0.10	218.71
Paving Off-Gas	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.22	1.37	1.26	0.00	0.00	0.11	0.11	0.00	0.10	0.10	185.16
Paving On Road Diesel	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.28
Paving Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.27
Building 01/01/2010-12/31/2029	3.07	15.38	80.35	0.33	1.40	1.21	2.61	0.50	1.05	1.55	32,445.56
Building Off Road Diesel	0.22	1.37	1.57	0.00	0.00	0.06	0.06	0.00	0.06	0.06	294.84
Building Vendor Trips	1.35	10.90	14.44	0.09	0.34	0.47	0.80	0.11	0.42	0.54	9,580.60
Building Worker Trips	1.50	3.12	64.34	0.24	1.07	0.67	1.74	0.38	0.57	0.95	22,570.12
Coating 01/01/2010-12/31/2029	6.28	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.11
Architectural Coating	6.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.11
Demolition 01/01/2010-12/31/2029	0.47	3.34	2.69	0.00	2.50	0.14	2.64	0.52	0.13	0.65	908.13
Fugitive Dust	0.00	0.00	0.00	0.00	0.13	0.00	0.13	0.03	0.00	0.03	0.00
Demo Off Road Diesel	0.41	2.81	2.41	0.00	0.00	0.13	0.13	0.00	0.12	0.12	539.29
Demo On Road Diesel	0.06	0.53	0.22	0.00	0.01	0.02	0.03	0.00	0.01	0.02	348.58
Demo Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.27
Mass Grading 01/01/2010-	0.83	5.73	4.34	0.00	27.51	0.23	27.74	5.74	0.21	5.96	1,285.62
Mass Grading Dust	0.00	0.00	0.00	0.00	27.50	0.00	27.50	5.74	0.00	5.74	0.00
Mass Grading Off Road Diesel	0.81	5.58	4.16	0.00	0.00	0.22	0.22	0.00	0.21	0.21	1,153.99
Mass Grading On Road Diesel	0.02	0.14	0.06	0.00	0.00	0.00	0.01	0.00	0.00	0.00	91.08
Mass Grading Worker Trips	0.00	0.01	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.55
Trenching 01/01/2010-12/31/2029	0.27	1.62	2.12	0.00	0.00	0.08	0.08	0.00	0.07	0.07	479.96
Trenching Off Road Diesel	0.27	1.61	2.03	0.00	0.00	0.08	0.08	0.00	0.07	0.07	447.52
Trenching Worker Trips	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.44
2026	10.57	24.97	76.12	0.33	31.41	1.70	33.11	6.77	1.51	8.27	35,353.42
Asphalt 01/01/2010-12/31/2029	0.25	1.39	1.31	0.00	0.00	0.11	0.11	0.00	0.10	0.10	218.71
Paving Off-Gas	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.22	1.37	1.26	0.00	0.00	0.11	0.11	0.00	0.10	0.10	185.16
Paving On Road Diesel	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.28
Paving Worker Trips	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.27
Building 01/01/2010-12/31/2029	2.47	12.99	65.71	0.33	1.40	1.15	2.55	0.50	1.00	1.49	32,443.90

Page: 1

11/19/2009 04:10:08 PM

Building Off Road Diesel	0.22	1.37	1.57	0.00	0.00	0.06	0.06	0.00	0.06	0.06	294.84
Building Vendor Trips	1.17	9.19	12.46	0.09	0.34	0.41	0.75	0.11	0.37	0.48	9,581.44
Building Worker Trips	1.08	2.43	51.68	0.24	1.07	0.67	1.74	0.38	0.57	0.95	22,567.62
Coating 01/01/2010-12/31/2029	6.28	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.11
Architectural Coating	6.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.11
Demolition 01/01/2010-12/31/2029	0.47	3.26	2.65	0.00	2.50	0.14	2.64	0.52	0.13	0.65	908.13
Fugitive Dust	0.00	0.00	0.00	0.00	0.13	0.00	0.13	0.03	0.00	0.03	0.00
Demo Off Road Diesel	0.41	2.81	2.41	0.00	0.00	0.13	0.13	0.00	0.12	0.12	539.29
Demo On Road Diesel	0.05	0.45	0.19	0.00	0.01	0.01	0.02	0.00	0.01	0.02	348.58
Demo Worker Trips	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.27
Mass Grading 01/01/2010-	0.83	5.71	4.31	0.00	27.51	0.23	27.73	5.74	0.21	5.96	1,285.62
Mass Grading Dust	0.00	0.00	0.00	0.00	27.50	0.00	27.50	5.74	0.00	5.74	0.00
Mass Grading Off Road Diesel	0.81	5.58	4.16	0.00	0.00	0.22	0.22	0.00	0.21	0.21	1,153.99
Mass Grading On Road Diesel	0.01	0.12	0.05	0.00	0.00	0.00	0.01	0.00	0.00	0.00	91.08
Mass Grading Worker Trips	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.54
Trenching 01/01/2010-12/31/2029	0.27	1.62	2.10	0.00	0.00	0.08	0.08	0.00	0.07	0.07	479.96
Trenching Off Road Diesel	0.27	1.61	2.03	0.00	0.00	0.08	0.08	0.00	0.07	0.07	447.52
Trenching Worker Trips	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.44
2027	10.57	24.97	76.12	0.33	31.41	1.70	33.11	6.77	1.51	8.27	35,353.42
Asphalt 01/01/2010-12/31/2029	0.25	1.39	1.31	0.00	0.00	0.11	0.11	0.00	0.10	0.10	218.71
Paving Off-Gas	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.22	1.37	1.26	0.00	0.00	0.11	0.11	0.00	0.10	0.10	185.16
Paving On Road Diesel	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.28
Paving Worker Trips	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.27
Building 01/01/2010-12/31/2029	2.47	12.99	65.71	0.33	1.40	1.15	2.55	0.50	1.00	1.49	32,443.90
Building Off Road Diesel	0.22	1.37	1.57	0.00	0.00	0.06	0.06	0.00	0.06	0.06	294.84
Building Vendor Trips	1.17	9.19	12.46	0.09	0.34	0.41	0.75	0.11	0.37	0.48	9,581.44
Building Worker Trips	1.08	2.43	51.68	0.24	1.07	0.67	1.74	0.38	0.57	0.95	22,567.62
Coating 01/01/2010-12/31/2029	6.28	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.11
Architectural Coating	6.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.11
Demolition 01/01/2010-12/31/2029	0.47	3.26	2.65	0.00	2.50	0.14	2.64	0.52	0.13	0.65	908.13
Fugitive Dust	0.00	0.00	0.00	0.00	0.13	0.00	0.13	0.03	0.00	0.03	0.00
Demo Off Road Diesel	0.41	2.81	2.41	0.00	0.00	0.13	0.13	0.00	0.12	0.12	539.29
Demo On Road Diesel	0.05	0.45	0.19	0.00	0.01	0.01	0.02	0.00	0.01	0.02	348.58
Demo Worker Trips	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.27
Mass Grading 01/01/2010-	0.83	5.71	4.31	0.00	27.51	0.23	27.73	5.74	0.21	5.96	1,285.62
Mass Grading Dust	0.00	0.00	0.00	0.00	27.50	0.00	27.50	5.74	0.00	5.74	0.00
Mass Grading Off Road Diesel	0.81	5.58	4.16	0.00	0.00	0.22	0.22	0.00	0.21	0.21	1,153.99
Mass Grading On Road Diesel	0.01	0.12	0.05	0.00	0.00	0.00	0.01	0.00	0.00	0.00	91.08

Page: 1

11/19/2009 04:10:08 PM

Mass Grading Worker Trips	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.54
Trenching 01/01/2010-12/31/2029	0.27	1.62	2.10	0.00	0.00	0.08	0.08	0.00	0.07	0.07	479.96
Trenching Off Road Diesel	0.27	1.61	2.03	0.00	0.00	0.08	0.08	0.00	0.07	0.07	447.52
Trenching Worker Trips	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.44
2028	10.52	24.88	75.83	0.33	31.29	1.70	32.99	6.74	1.50	8.24	35,217.96
Asphalt 01/01/2010-12/31/2029	0.25	1.39	1.31	0.00	0.00	0.11	0.11	0.00	0.10	0.10	217.87
Paving Off-Gas	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.22	1.37	1.26	0.00	0.00	0.11	0.11	0.00	0.10	0.10	184.45
Paving On Road Diesel	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.23
Paving Worker Trips	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.19
Building 01/01/2010-12/31/2029	2.46	12.94	65.45	0.33	1.40	1.14	2.54	0.50	0.99	1.49	32,319.59
Building Off Road Diesel	0.22	1.36	1.56	0.00	0.00	0.06	0.06	0.00	0.06	0.06	293.71
Building Vendor Trips	1.16	9.16	12.41	0.09	0.33	0.41	0.74	0.11	0.37	0.48	9,544.73
Building Worker Trips	1.08	2.42	51.48	0.24	1.06	0.67	1.73	0.38	0.56	0.95	22,481.15
Coating 01/01/2010-12/31/2029	6.26	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.04
Architectural Coating	6.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.04
Demolition 01/01/2010-12/31/2029	0.46	3.25	2.64	0.00	2.49	0.14	2.63	0.52	0.13	0.65	904.65
Fugitive Dust	0.00	0.00	0.00	0.00	0.13	0.00	0.13	0.03	0.00	0.03	0.00
Demo Off Road Diesel	0.41	2.80	2.40	0.00	0.00	0.13	0.13	0.00	0.12	0.12	537.22
Demo On Road Diesel	0.05	0.45	0.19	0.00	0.01	0.01	0.02	0.00	0.01	0.02	347.24
Demo Worker Trips	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.19
Mass Grading 01/01/2010-	0.82	5.68	4.29	0.00	27.40	0.23	27.63	5.72	0.21	5.93	1,280.69
Mass Grading Dust	0.00	0.00	0.00	0.00	27.40	0.00	27.40	5.72	0.00	5.72	0.00
Mass Grading Off Road Diesel	0.81	5.56	4.15	0.00	0.00	0.22	0.22	0.00	0.21	0.21	1,149.57
Mass Grading On Road Diesel	0.01	0.12	0.05	0.00	0.00	0.00	0.01	0.00	0.00	0.00	90.73
Mass Grading Worker Trips	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.39
Trenching 01/01/2010-12/31/2029	0.27	1.61	2.09	0.00	0.00	0.08	0.08	0.00	0.07	0.07	478.12
Trenching Off Road Diesel	0.27	1.61	2.02	0.00	0.00	0.07	0.07	0.00	0.07	0.07	445.81
Trenching Worker Trips	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.31
2029	10.57	24.97	76.12	0.33	31.41	1.70	33.11	6.77	1.51	8.27	35,353.42
Asphalt 01/01/2010-12/31/2029	0.25	1.39	1.31	0.00	0.00	0.11	0.11	0.00	0.10	0.10	218.71
Paving Off-Gas	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.22	1.37	1.26	0.00	0.00	0.11	0.11	0.00	0.10	0.10	185.16
Paving On Road Diesel	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.28
Paving Worker Trips	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.27
Building 01/01/2010-12/31/2029	2.47	12.99	65.71	0.33	1.40	1.15	2.55	0.50	1.00	1.49	32,443.90
Building Off Road Diesel	0.22	1.37	1.57	0.00	0.00	0.06	0.06	0.00	0.06	0.06	294.84
Building Vendor Trips	1.17	9.19	12.46	0.09	0.34	0.41	0.75	0.11	0.37	0.48	9,581.44
Building Worker Trips	1.08	2.43	51.68	0.24	1.07	0.67	1.74	0.38	0.57	0.95	22,567.62

11/19/2009 04:10:08 PM

Coating 01/01/2010-12/31/2029	6.28	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.11
Architectural Coating	6.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.11
Demolition 01/01/2010-12/31/2029	0.47	3.26	2.65	0.00	2.50	0.14	2.64	0.52	0.13	0.65	908.13
Fugitive Dust	0.00	0.00	0.00	0.00	0.13	0.00	0.13	0.03	0.00	0.03	0.00
Demo Off Road Diesel	0.41	2.81	2.41	0.00	0.00	0.13	0.13	0.00	0.12	0.12	539.29
Demo On Road Diesel	0.05	0.45	0.19	0.00	0.01	0.01	0.02	0.00	0.01	0.02	348.58
Demo Worker Trips	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.27
Mass Grading 01/01/2010-	0.83	5.71	4.31	0.00	27.51	0.23	27.73	5.74	0.21	5.96	1,285.62
Mass Grading Dust	0.00	0.00	0.00	0.00	27.50	0.00	27.50	5.74	0.00	5.74	0.00
Mass Grading Off Road Diesel	0.81	5.58	4.16	0.00	0.00	0.22	0.22	0.00	0.21	0.21	1,153.99
Mass Grading On Road Diesel	0.01	0.12	0.05	0.00	0.00	0.00	0.01	0.00	0.00	0.00	91.08
Mass Grading Worker Trips	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.54
Trenching 01/01/2010-12/31/2029	0.27	1.62	2.10	0.00	0.00	0.08	0.08	0.00	0.07	0.07	479.96
Trenching Off Road Diesel	0.27	1.61	2.03	0.00	0.00	0.08	0.08	0.00	0.07	0.07	447.52
Trenching Worker Trips	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.44

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 1/1/2010 - 12/31/2029 - Default Mass Site Grading/Excavation Description

For Soil Stabilizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stabilizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stabilizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: P:\COI-21\Technical Studies\Air\Modeling\construction\RecirculatedConstruction.urb924

Project Name: Recirculated IBC Vision Plan - Construction

Project Location: Orange County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2010 TOTALS (lbs/day unmitigated)	152.72	710.62	1,793.58	2.56	1,366.97	33.12	1,400.09	287.06	30.07	317.13	271,109.71
2010 TOTALS (lbs/day mitigated)	152.72	710.62	1,793.58	2.56	240.70	33.12	273.82	51.85	30.07	81.92	271,109.71
2011 TOTALS (lbs/day unmitigated)	144.90	648.95	1,674.84	2.56	1,366.97	30.75	1,397.72	287.06	27.87	314.93	271,066.35
2011 TOTALS (lbs/day mitigated)	144.90	648.95	1,674.84	2.56	240.70	30.75	271.45	51.85	27.87	79.72	271,066.35
2012 TOTALS (lbs/day unmitigated)	137.27	589.11	1,561.09	2.56	1,366.97	28.07	1,395.05	287.06	25.40	312.46	271,038.20
2012 TOTALS (lbs/day mitigated)	137.27	589.11	1,561.09	2.56	240.70	28.07	268.78	51.85	25.40	77.25	271,038.20
2013 TOTALS (lbs/day unmitigated)	130.12	532.21	1,452.60	2.56	1,366.97	25.70	1,392.67	287.06	23.20	310.26	271,023.67
2013 TOTALS (lbs/day mitigated)	130.12	532.21	1,452.60	2.56	240.70	25.70	266.40	51.85	23.20	75.05	271,023.67
2014 TOTALS (lbs/day unmitigated)	123.66	478.24	1,355.42	2.56	1,366.97	23.31	1,390.28	287.06	20.98	308.05	271,009.86
2014 TOTALS (lbs/day mitigated)	123.66	478.24	1,355.42	2.56	240.70	23.31	264.01	51.85	20.98	72.84	271,009.86
2015 TOTALS (lbs/day unmitigated)	117.37	426.94	1,263.52	2.56	1,366.97	21.39	1,388.37	287.06	19.22	306.28	270,999.75
2015 TOTALS (lbs/day mitigated)	117.37	426.94	1,263.52	2.56	240.70	21.39	262.10	51.85	19.22	71.07	270,999.75
2016 TOTALS (lbs/day unmitigated)	112.03	384.19	1,183.41	2.56	1,366.97	19.56	1,386.53	287.06	17.53	304.59	270,980.54
2016 TOTALS (lbs/day mitigated)	112.03	384.19	1,183.41	2.56	240.70	19.56	260.26	51.85	17.53	69.38	270,980.54
2017 TOTALS (lbs/day unmitigated)	107.27	347.16	1,107.69	2.56	1,366.97	18.07	1,385.04	287.06	16.16	303.22	270,968.28
2017 TOTALS (lbs/day mitigated)	107.27	347.16	1,107.69	2.56	240.70	18.07	258.77	51.85	16.16	68.01	270,968.28
2018 TOTALS (lbs/day unmitigated)	102.85	314.81	1,037.36	2.56	1,366.97	16.74	1,383.71	287.06	14.93	301.99	270,959.96
2018 TOTALS (lbs/day mitigated)	102.85	314.81	1,037.36	2.56	240.70	16.74	257.44	51.85	14.93	66.78	270,959.96

2019 TOTALS (lbs/day unmitigated)	98.88	286.23	972.25	2.56	1,366.97	15.49	1,382.47	287.06	13.79	300.85	270,954.99
2019 TOTALS (lbs/day mitigated)	98.88	286.23	972.25	2.56	240.70	15.49	256.20	51.85	13.79	65.64	270,954.99
2020 TOTALS (lbs/day unmitigated)	95.10	261.36	911.74	2.56	1,366.97	14.74	1,381.71	287.06	13.10	300.16	270,950.54
2020 TOTALS (lbs/day mitigated)	95.10	261.36	911.74	2.56	240.70	14.74	255.44	51.85	13.10	64.95	270,950.54
2021 TOTALS (lbs/day unmitigated)	85.66	210.51	696.35	2.56	1,366.97	13.52	1,380.49	287.06	11.97	299.03	270,920.26
2021 TOTALS (lbs/day mitigated)	85.66	210.51	696.35	2.56	240.70	13.52	254.23	51.85	11.97	63.82	270,920.26
2022 TOTALS (lbs/day unmitigated)	85.66	210.51	696.35	2.56	1,366.97	13.52	1,380.49	287.06	11.97	299.03	270,920.26
2022 TOTALS (lbs/day mitigated)	85.66	210.51	696.35	2.56	240.70	13.52	254.23	51.85	11.97	63.82	270,920.26
2023 TOTALS (lbs/day unmitigated)	85.66	210.51	696.35	2.56	1,366.97	13.52	1,380.49	287.06	11.97	299.03	270,920.26
2023 TOTALS (lbs/day mitigated)	85.66	210.51	696.35	2.56	240.70	13.52	254.23	51.85	11.97	63.82	270,920.26
2024 TOTALS (lbs/day unmitigated)	85.66	210.51	696.35	2.56	1,366.97	13.52	1,380.49	287.06	11.97	299.03	270,920.26
2024 TOTALS (lbs/day mitigated)	85.66	210.51	696.35	2.56	240.70	13.52	254.23	51.85	11.97	63.82	270,920.26
2025 TOTALS (lbs/day unmitigated)	85.66	210.51	696.35	2.56	1,366.97	13.52	1,380.49	287.06	11.97	299.03	270,920.26
2025 TOTALS (lbs/day mitigated)	85.66	210.51	696.35	2.56	240.70	13.52	254.23	51.85	11.97	63.82	270,920.26
2026 TOTALS (lbs/day unmitigated)	80.96	191.35	583.27	2.56	1,366.97	13.05	1,380.02	287.06	11.54	298.60	270,907.41
2026 TOTALS (lbs/day mitigated)	80.96	191.35	583.27	2.56	240.70	13.05	253.75	51.85	11.54	63.39	270,907.41
2027 TOTALS (lbs/day unmitigated)	80.96	191.35	583.27	2.56	1,366.97	13.05	1,380.02	287.06	11.54	298.60	270,907.41
2027 TOTALS (lbs/day mitigated)	80.96	191.35	583.27	2.56	240.70	13.05	253.75	51.85	11.54	63.39	270,907.41
2028 TOTALS (lbs/day unmitigated)	80.96	191.35	583.27	2.56	1,366.97	13.05	1,380.02	287.06	11.54	298.60	270,907.41
2028 TOTALS (lbs/day mitigated)	80.96	191.35	583.27	2.56	240.70	13.05	253.75	51.85	11.54	63.39	270,907.41
2029 TOTALS (lbs/day unmitigated)	80.96	191.35	583.27	2.56	1,366.97	13.05	1,380.02	287.06	11.54	298.60	270,907.41
2029 TOTALS (lbs/day mitigated)	80.96	191.35	583.27	2.56	240.70	13.05	253.75	51.85	11.54	63.39	270,907.41

Phase Assumptions

Phase: Demolition 1/1/2010 - 12/31/2029 - Default Demolition Description

Building Volume Total (cubic feet): 1.198854E+07

Building Volume Daily (cubic feet): 45375

On Road Truck Travel (VMT): 630.21

Off-Road Equipment:

- 3 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
- 2 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

Phase: Mass Grading 1/1/2010 - 12/31/2029 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 140

Maximum Daily Acreage Disturbed: 35

Fugitive Dust Level of Detail: Default

38.2 lbs per acre-day

On Road Truck Travel (VMT): 164.67

Off-Road Equipment:

- 1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
- 1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day
- 1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day
- 3 Scrapers (313 hp) operating at a 0.72 load factor for 8 hours per day
- 3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day
- 1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 1/1/2010 - 12/31/2029 - Default Trenching Description

Off-Road Equipment:

- 4 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
- 2 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day
- 2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Paving 1/1/2010 - 12/31/2029 - Default Paving Description

Acres to be Paved: 348.94

Off-Road Equipment:

- 1 Pavers (100 hp) operating at a 0.62 load factor for 8 hours per day
- 2 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day
- 2 Rollers (95 hp) operating at a 0.56 load factor for 6 hours per day

Phase: Building Construction 1/1/2010 - 12/31/2029 - Default Building Construction Description

Off-Road Equipment:

- 1 Cranes (399 hp) operating at a 0.43 load factor for 7 hours per day
- 3 Forklifts (145 hp) operating at a 0.3 load factor for 8 hours per day
- 1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day
- 3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
- 1 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 1/1/2010 - 12/31/2029 - Default Architectural Coating Description
Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100
Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50
Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250
Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100
Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250
Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:
CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 1/1/2010-12/31/2010	<u>152.72</u>	<u>710.62</u>	<u>1,793.58</u>	<u>2.56</u>	<u>240.70</u>	<u>33.12</u>	<u>273.82</u>	<u>51.85</u>	<u>30.07</u>	<u>81.92</u>	<u>271,109.71</u>
Asphalt 01/01/2010-12/31/2029	3.47	19.97	11.97	0.00	0.01	1.71	1.72	0.00	1.58	1.58	1,676.13
Paving Off-Gas	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	3.20	19.17	10.47	0.00	0.00	1.68	1.68	0.00	1.55	1.55	1,418.81
Paving On Road Diesel	0.05	0.73	0.27	0.00	0.00	0.03	0.03	0.00	0.03	0.03	101.76
Paving Worker Trips	0.04	0.07	1.23	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.56
Building 01/01/2010-12/31/2029	78.30	488.72	1,676.77	2.52	10.75	21.79	32.54	3.82	19.65	23.47	248,813.14
Building Off Road Diesel	4.08	23.31	14.31	0.00	0.00	1.67	1.67	0.00	1.54	1.54	2,259.28
Building Vendor Trips	32.01	385.49	292.47	0.70	2.58	15.62	18.19	0.87	14.32	15.19	73,382.76
Building Worker Trips	42.22	79.93	1,369.99	1.81	8.17	4.50	12.68	2.95	3.79	6.74	173,171.11
Coating 01/01/2010-12/31/2029	48.15	0.06	1.04	0.00	0.01	0.00	0.01	0.00	0.00	0.01	131.28
Architectural Coating	48.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.03	0.06	1.04	0.00	0.01	0.00	0.01	0.00	0.00	0.01	131.28
Demolition 01/01/2010-12/31/2029	6.99	65.69	34.48	0.03	19.15	2.99	22.14	4.00	2.75	6.74	6,959.09
Fugitive Dust	0.00	0.00	0.00	0.00	19.06	0.00	19.06	3.96	0.00	3.96	0.00
Demo Off Road Diesel	5.54	46.44	26.23	0.00	0.00	2.22	2.22	0.00	2.05	2.05	4,132.45
Demo On Road Diesel	1.41	19.18	7.02	0.02	0.09	0.76	0.85	0.03	0.70	0.73	2,671.08
Demo Worker Trips	0.04	0.07	1.23	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.56
Mass Grading 01/01/2010-	11.64	100.69	50.91	0.01	210.77	4.87	215.64	44.02	4.48	48.50	9,851.90
Mass Grading Dust	0.00	0.00	0.00	0.00	210.73	0.00	210.73	44.01	0.00	44.01	0.00
Mass Grading Off Road Diesel	11.19	95.53	46.62	0.00	0.00	4.66	4.66	0.00	4.29	4.29	8,842.87
Mass Grading On Road Diesel	0.37	5.01	1.84	0.01	0.02	0.20	0.22	0.01	0.18	0.19	697.93
Mass Grading Worker Trips	0.08	0.14	2.46	0.00	0.01	0.01	0.02	0.01	0.01	0.01	311.11
Trenching 01/01/2010-12/31/2029	4.18	35.49	18.40	0.00	0.01	1.76	1.77	0.00	1.62	1.62	3,678.17

Trenching Off Road Diesel	4.12	35.38	16.43	0.00	0.00	1.75	1.75	0.00	1.61	1.61	3,429.28
Trenching Worker Trips	0.06	0.11	1.97	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.89
Time Slice 1/3/2011-12/30/2011	<u>144.90</u>	<u>648.95</u>	<u>1,674.84</u>	<u>2.56</u>	<u>240.70</u>	<u>30.75</u>	<u>271.45</u>	<u>51.85</u>	<u>27.87</u>	<u>79.72</u>	<u>271,066.35</u>
Asphalt 01/01/2010-12/31/2029	3.28	18.97	11.73	0.00	0.01	1.65	1.66	0.00	1.52	1.52	1,676.09
Paving Off-Gas	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	3.02	18.25	10.34	0.00	0.00	1.62	1.62	0.00	1.49	1.49	1,418.81
Paving On Road Diesel	0.05	0.66	0.24	0.00	0.00	0.03	0.03	0.00	0.02	0.02	101.76
Paving Worker Trips	0.03	0.07	1.15	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.52
Building 01/01/2010-12/31/2029	72.01	441.67	1,563.42	2.52	10.75	20.21	30.96	3.82	18.18	22.01	248,770.03
Building Off Road Diesel	3.77	21.85	13.95	0.00	0.00	1.57	1.57	0.00	1.45	1.45	2,259.28
Building Vendor Trips	29.53	346.62	272.23	0.70	2.58	13.93	16.50	0.87	12.76	13.63	73,381.54
Building Worker Trips	38.70	73.20	1,277.24	1.81	8.17	4.71	12.89	2.95	3.97	6.92	173,129.21
Coating 01/01/2010-12/31/2029	48.15	0.06	0.97	0.00	0.01	0.00	0.01	0.00	0.00	0.01	131.24
Architectural Coating	48.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.03	0.06	0.97	0.00	0.01	0.00	0.01	0.00	0.00	0.01	131.24
Demolition 01/01/2010-12/31/2029	6.62	61.00	32.54	0.03	19.15	2.77	21.93	4.00	2.55	6.55	6,959.05
Fugitive Dust	0.00	0.00	0.00	0.00	19.06	0.00	19.06	3.96	0.00	3.96	0.00
Demo Off Road Diesel	5.29	43.71	25.06	0.00	0.00	2.10	2.10	0.00	1.93	1.93	4,132.45
Demo On Road Diesel	1.30	17.22	6.33	0.02	0.09	0.67	0.76	0.03	0.62	0.64	2,671.08
Demo Worker Trips	0.03	0.07	1.15	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.52
Mass Grading 01/01/2010-	10.89	94.31	48.19	0.01	210.77	4.46	215.23	44.02	4.10	48.12	9,851.83
Mass Grading Dust	0.00	0.00	0.00	0.00	210.73	0.00	210.73	44.01	0.00	44.01	0.00
Mass Grading Off Road Diesel	10.48	89.68	44.24	0.00	0.00	4.27	4.27	0.00	3.93	3.93	8,842.87
Mass Grading On Road Diesel	0.34	4.50	1.65	0.01	0.02	0.17	0.20	0.01	0.16	0.17	697.93
Mass Grading Worker Trips	0.07	0.13	2.29	0.00	0.01	0.01	0.02	0.01	0.01	0.01	311.04
Trenching 01/01/2010-12/31/2029	3.95	32.95	17.99	0.00	0.01	1.65	1.66	0.00	1.52	1.52	3,678.11
Trenching Off Road Diesel	3.90	32.84	16.15	0.00	0.00	1.64	1.64	0.00	1.51	1.51	3,429.28
Trenching Worker Trips	0.06	0.11	1.84	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.83
Time Slice 1/2/2012-12/31/2012	<u>137.27</u>	<u>589.11</u>	<u>1,561.09</u>	<u>2.56</u>	<u>240.70</u>	<u>28.07</u>	<u>268.78</u>	<u>51.85</u>	<u>25.40</u>	<u>77.25</u>	<u>271,038.20</u>
Asphalt 01/01/2010-12/31/2029	3.12	17.98	11.52	0.00	0.01	1.56	1.57	0.00	1.43	1.44	1,676.07
Paving Off-Gas	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.86	17.34	10.24	0.00	0.00	1.53	1.53	0.00	1.41	1.41	1,418.81
Paving On Road Diesel	0.05	0.58	0.22	0.00	0.00	0.02	0.03	0.00	0.02	0.02	101.76
Paving Worker Trips	0.03	0.06	1.07	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.49
Building 01/01/2010-12/31/2029	65.83	395.92	1,454.42	2.52	10.75	18.43	29.18	3.82	16.53	20.35	248,742.05
Building Off Road Diesel	3.48	20.42	13.62	0.00	0.00	1.42	1.42	0.00	1.31	1.31	2,259.28

Building Vendor Trips	27.07	308.64	252.14	0.70	2.58	12.28	14.86	0.87	11.25	12.12	73,382.76
Building Worker Trips	35.28	66.86	1,188.65	1.81	8.17	4.73	12.90	2.95	3.97	6.92	173,100.01
Coating 01/01/2010-12/31/2029	48.15	0.05	0.90	0.00	0.01	0.00	0.01	0.00	0.00	0.01	131.22
Architectural Coating	48.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.03	0.05	0.90	0.00	0.01	0.00	0.01	0.00	0.00	0.01	131.22
Demolition 01/01/2010-12/31/2029	6.21	56.52	30.82	0.03	19.15	2.51	21.66	4.00	2.31	6.31	6,959.02
Fugitive Dust	0.00	0.00	0.00	0.00	19.06	0.00	19.06	3.96	0.00	3.96	0.00
Demo Off Road Diesel	4.99	41.17	24.10	0.00	0.00	1.92	1.92	0.00	1.77	1.77	4,132.45
Demo On Road Diesel	1.18	15.30	5.66	0.02	0.09	0.58	0.67	0.03	0.54	0.57	2,671.08
Demo Worker Trips	0.03	0.06	1.07	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.49
Mass Grading 01/01/2010-	10.31	88.05	45.70	0.01	210.77	4.10	214.87	44.02	3.77	47.79	9,851.78
Mass Grading Dust	0.00	0.00	0.00	0.00	210.73	0.00	210.73	44.01	0.00	44.01	0.00
Mass Grading Off Road Diesel	9.94	83.94	42.08	0.00	0.00	3.94	3.94	0.00	3.62	3.62	8,842.87
Mass Grading On Road Diesel	0.31	4.00	1.48	0.01	0.02	0.15	0.18	0.01	0.14	0.15	697.93
Mass Grading Worker Trips	0.06	0.12	2.14	0.00	0.01	0.01	0.02	0.01	0.01	0.01	310.98
Trenching 01/01/2010-12/31/2029	3.66	30.58	17.73	0.00	0.01	1.47	1.48	0.00	1.35	1.36	3,678.06
Trenching Off Road Diesel	3.61	30.48	16.02	0.00	0.00	1.46	1.46	0.00	1.35	1.35	3,429.28
Trenching Worker Trips	0.05	0.10	1.71	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.79
Time Slice 1/1/2013-12/31/2013	<u>130.12</u>	<u>532.21</u>	<u>1,452.60</u>	<u>2.56</u>	<u>240.70</u>	<u>25.70</u>	<u>266.40</u>	<u>51.85</u>	<u>23.20</u>	<u>75.05</u>	<u>271,023.67</u>
Asphalt 01/01/2010-12/31/2029	2.93	17.03	11.34	0.00	0.01	1.46	1.47	0.00	1.34	1.34	1,676.05
Paving Off-Gas	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.69	16.46	10.15	0.00	0.00	1.43	1.43	0.00	1.32	1.32	1,418.81
Paving On Road Diesel	0.04	0.51	0.19	0.00	0.00	0.02	0.02	0.00	0.02	0.02	101.76
Paving Worker Trips	0.03	0.05	0.99	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.48
Building 01/01/2010-12/31/2029	59.79	352.31	1,350.41	2.52	10.75	16.80	27.55	3.82	15.01	18.84	248,727.62
Building Off Road Diesel	3.19	19.04	13.34	0.00	0.00	1.26	1.26	0.00	1.16	1.16	2,259.28
Building Vendor Trips	24.63	272.13	232.46	0.70	2.58	10.79	13.37	0.87	9.88	10.75	73,385.93
Building Worker Trips	31.97	61.15	1,104.61	1.81	8.17	4.74	12.92	2.95	3.97	6.92	173,082.41
Coating 01/01/2010-12/31/2029	48.14	0.05	0.84	0.00	0.01	0.00	0.01	0.00	0.00	0.01	131.21
Architectural Coating	48.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.02	0.05	0.84	0.00	0.01	0.00	0.01	0.00	0.00	0.01	131.21
Demolition 01/01/2010-12/31/2029	5.92	52.25	29.13	0.03	19.15	2.31	21.46	4.00	2.12	6.12	6,959.01
Fugitive Dust	0.00	0.00	0.00	0.00	19.06	0.00	19.06	3.96	0.00	3.96	0.00
Demo Off Road Diesel	4.82	38.74	23.13	0.00	0.00	1.80	1.80	0.00	1.65	1.65	4,132.45
Demo On Road Diesel	1.07	13.45	5.01	0.02	0.09	0.50	0.59	0.03	0.46	0.49	2,671.08
Demo Worker Trips	0.03	0.05	0.99	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.48
Mass Grading 01/01/2010-	9.87	82.24	43.37	0.01	210.77	3.77	214.54	44.02	3.47	47.49	9,851.74

11/19/2009 04:09:53 PM

Mass Grading Dust	0.00	0.00	0.00	0.00	210.73	0.00	210.73	44.01	0.00	44.01	0.00
Mass Grading Off Road Diesel	9.53	78.62	40.07	0.00	0.00	3.63	3.63	0.00	3.34	3.34	8,842.87
Mass Grading On Road Diesel	0.28	3.52	1.31	0.01	0.02	0.13	0.15	0.01	0.12	0.13	697.93
Mass Grading Worker Trips	0.06	0.11	1.98	0.00	0.01	0.01	0.02	0.01	0.01	0.01	310.95
Trenching 01/01/2010-12/31/2029	3.48	28.32	17.52	0.00	0.01	1.36	1.37	0.00	1.25	1.26	3,678.04
Trenching Off Road Diesel	3.43	28.24	15.94	0.00	0.00	1.35	1.35	0.00	1.25	1.25	3,429.28
Trenching Worker Trips	0.05	0.09	1.59	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.76
Time Slice 1/1/2014-12/31/2014	<u>123.66</u>	<u>478.24</u>	<u>1,355.42</u>	<u>2.56</u>	<u>240.70</u>	<u>23.31</u>	<u>264.01</u>	<u>51.85</u>	<u>20.98</u>	<u>72.84</u>	<u>271,009.86</u>
Asphalt 01/01/2010-12/31/2029	2.78	16.11	11.16	0.00	0.01	1.37	1.38	0.00	1.26	1.26	1,676.04
Paving Off-Gas	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.54	15.61	10.07	0.00	0.00	1.34	1.34	0.00	1.24	1.24	1,418.81
Paving On Road Diesel	0.04	0.45	0.17	0.00	0.00	0.02	0.02	0.00	0.02	0.02	101.76
Paving Worker Trips	0.03	0.05	0.92	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.46
Building 01/01/2010-12/31/2029	54.61	311.92	1,257.13	2.52	10.75	15.28	26.03	3.82	13.60	17.42	248,713.91
Building Off Road Diesel	2.93	17.65	13.06	0.00	0.00	1.11	1.11	0.00	1.02	1.02	2,259.28
Building Vendor Trips	22.31	238.20	214.34	0.70	2.58	9.42	11.99	0.87	8.61	9.48	73,388.31
Building Worker Trips	29.37	56.07	1,029.73	1.81	8.17	4.76	12.93	2.95	3.97	6.92	173,066.32
Coating 01/01/2010-12/31/2029	48.14	0.04	0.78	0.00	0.01	0.00	0.01	0.00	0.00	0.01	131.20
Architectural Coating	48.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.02	0.04	0.78	0.00	0.01	0.00	0.01	0.00	0.00	0.01	131.20
Demolition 01/01/2010-12/31/2029	5.56	47.99	27.60	0.03	19.15	2.06	21.21	4.00	1.89	5.89	6,958.99
Fugitive Dust	0.00	0.00	0.00	0.00	19.06	0.00	19.06	3.96	0.00	3.96	0.00
Demo Off Road Diesel	4.57	36.20	22.26	0.00	0.00	1.62	1.62	0.00	1.49	1.49	4,132.45
Demo On Road Diesel	0.97	11.74	4.41	0.02	0.09	0.43	0.52	0.03	0.40	0.43	2,671.08
Demo Worker Trips	0.03	0.05	0.92	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.46
Mass Grading 01/01/2010-	9.31	76.06	41.49	0.01	210.77	3.42	214.18	44.02	3.14	47.16	9,851.72
Mass Grading Dust	0.00	0.00	0.00	0.00	210.73	0.00	210.73	44.01	0.00	44.01	0.00
Mass Grading Off Road Diesel	9.01	72.90	38.49	0.00	0.00	3.29	3.29	0.00	3.03	3.03	8,842.87
Mass Grading On Road Diesel	0.25	3.07	1.15	0.01	0.02	0.11	0.14	0.01	0.10	0.11	697.93
Mass Grading Worker Trips	0.05	0.10	1.85	0.00	0.01	0.01	0.02	0.01	0.01	0.01	310.92
Trenching 01/01/2010-12/31/2029	3.25	26.12	17.26	0.00	0.01	1.18	1.20	0.00	1.09	1.09	3,678.02
Trenching Off Road Diesel	3.21	26.04	15.78	0.00	0.00	1.18	1.18	0.00	1.08	1.08	3,429.28
Trenching Worker Trips	0.04	0.08	1.48	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.74
Time Slice 1/1/2015-12/31/2015	<u>117.37</u>	<u>426.94</u>	<u>1,263.52</u>	<u>2.56</u>	<u>240.70</u>	<u>21.39</u>	<u>262.10</u>	<u>51.85</u>	<u>19.22</u>	<u>71.07</u>	<u>270,999.75</u>
Asphalt 01/01/2010-12/31/2029	2.62	15.09	10.99	0.00	0.01	1.26	1.27	0.00	1.16	1.17	1,676.02
Paving Off-Gas	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Paving Off Road Diesel	2.38	14.65	9.98	0.00	0.00	1.25	1.25	0.00	1.15	1.15	1,418.81
Paving On Road Diesel	0.03	0.39	0.15	0.00	0.00	0.01	0.02	0.00	0.01	0.01	101.76
Paving Worker Trips	0.02	0.05	0.86	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.45
Building 01/01/2010-12/31/2029	49.72	275.18	1,168.89	2.52	10.75	14.01	24.76	3.82	12.43	16.26	248,703.88
Building Off Road Diesel	2.69	16.17	12.80	0.00	0.00	1.03	1.03	0.00	0.94	0.94	2,259.28
Building Vendor Trips	20.14	207.39	197.42	0.70	2.58	8.23	10.81	0.87	7.52	8.39	73,391.70
Building Worker Trips	26.89	51.62	958.67	1.81	8.17	4.76	12.93	2.95	3.97	6.92	173,052.90
Coating 01/01/2010-12/31/2029	48.14	0.04	0.73	0.00	0.01	0.00	0.01	0.00	0.00	0.01	131.19
Architectural Coating	48.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.02	0.04	0.73	0.00	0.01	0.00	0.01	0.00	0.00	0.01	131.19
Demolition 01/01/2010-12/31/2029	5.16	43.55	26.17	0.03	19.15	1.87	21.02	4.00	1.72	5.72	6,958.98
Fugitive Dust	0.00	0.00	0.00	0.00	19.06	0.00	19.06	3.96	0.00	3.96	0.00
Demo Off Road Diesel	4.27	33.33	21.45	0.00	0.00	1.50	1.50	0.00	1.38	1.38	4,132.45
Demo On Road Diesel	0.87	10.18	3.86	0.02	0.09	0.37	0.46	0.03	0.34	0.37	2,671.08
Demo Worker Trips	0.02	0.05	0.86	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.45
Mass Grading 01/01/2010-	8.73	69.71	39.67	0.01	210.77	3.13	213.90	44.02	2.88	46.90	9,851.69
Mass Grading Dust	0.00	0.00	0.00	0.00	210.73	0.00	210.73	44.01	0.00	44.01	0.00
Mass Grading Off Road Diesel	8.46	66.95	36.93	0.00	0.00	3.02	3.02	0.00	2.78	2.78	8,842.87
Mass Grading On Road Diesel	0.23	2.66	1.01	0.01	0.02	0.10	0.12	0.01	0.09	0.10	697.93
Mass Grading Worker Trips	0.05	0.09	1.72	0.00	0.01	0.01	0.02	0.01	0.01	0.01	310.90
Trenching 01/01/2010-12/31/2029	3.00	23.37	17.07	0.00	0.01	1.12	1.13	0.00	1.03	1.03	3,678.00
Trenching Off Road Diesel	2.97	23.30	15.70	0.00	0.00	1.11	1.11	0.00	1.02	1.02	3,429.28
Trenching Worker Trips	0.04	0.07	1.38	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.72
Time Slice 1/1/2016-12/30/2016	<u>112.03</u>	<u>384.19</u>	<u>1,183.41</u>	<u>2.56</u>	<u>240.70</u>	<u>19.56</u>	<u>260.26</u>	<u>51.85</u>	<u>17.53</u>	<u>69.38</u>	<u>270,980.54</u>
Asphalt 01/01/2010-12/31/2029	2.45	14.10	10.84	0.00	0.01	1.16	1.17	0.00	1.07	1.07	1,676.01
Paving Off-Gas	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.22	13.72	9.91	0.00	0.00	1.14	1.14	0.00	1.05	1.05	1,418.81
Paving On Road Diesel	0.03	0.34	0.13	0.00	0.00	0.01	0.02	0.00	0.01	0.01	101.76
Paving Worker Trips	0.02	0.04	0.80	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.43
Building 01/01/2010-12/31/2029	45.58	245.66	1,091.81	2.52	10.75	12.91	23.66	3.82	11.41	15.24	248,684.78
Building Off Road Diesel	2.47	14.84	12.61	0.00	0.00	0.88	0.88	0.00	0.81	0.81	2,259.28
Building Vendor Trips	18.39	183.18	183.57	0.70	2.58	7.27	9.85	0.87	6.63	7.51	73,393.63
Building Worker Trips	24.72	47.64	895.63	1.81	8.17	4.76	12.93	2.95	3.97	6.92	173,031.87
Coating 01/01/2010-12/31/2029	48.14	0.04	0.68	0.00	0.01	0.00	0.01	0.00	0.00	0.01	131.17
Architectural Coating	48.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.02	0.04	0.68	0.00	0.01	0.00	0.01	0.00	0.00	0.01	131.17
Demolition 01/01/2010-12/31/2029	4.83	39.71	24.95	0.03	19.15	1.72	20.87	4.00	1.58	5.58	6,958.96

Fugitive Dust	0.00	0.00	0.00	0.00	19.06	0.00	19.06	3.96	0.00	3.96	0.00
Demo Off Road Diesel	4.02	30.70	20.71	0.00	0.00	1.40	1.40	0.00	1.29	1.29	4,132.45
Demo On Road Diesel	0.79	8.97	3.44	0.02	0.09	0.32	0.41	0.03	0.29	0.32	2,671.08
Demo Worker Trips	0.02	0.04	0.80	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.43
Mass Grading 01/01/2010-	8.22	63.92	38.19	0.01	210.77	2.83	213.60	44.02	2.60	46.63	9,851.65
Mass Grading Dust	0.00	0.00	0.00	0.00	210.73	0.00	210.73	44.01	0.00	44.01	0.00
Mass Grading Off Road Diesel	7.96	61.49	35.68	0.00	0.00	2.74	2.74	0.00	2.52	2.52	8,842.87
Mass Grading On Road Diesel	0.21	2.34	0.90	0.01	0.02	0.08	0.11	0.01	0.08	0.08	697.93
Mass Grading Worker Trips	0.04	0.09	1.61	0.00	0.01	0.01	0.02	0.01	0.01	0.01	310.86
Trenching 01/01/2010-12/31/2029	2.82	20.76	16.94	0.00	0.01	0.94	0.95	0.00	0.86	0.87	3,677.97
Trenching Off Road Diesel	2.79	20.70	15.65	0.00	0.00	0.93	0.93	0.00	0.86	0.86	3,429.28
Trenching Worker Trips	0.04	0.07	1.29	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.69
Time Slice 1/2/2017-12/29/2017	<u>107.27</u>	<u>347.16</u>	<u>1,107.69</u>	<u>2.56</u>	<u>240.70</u>	<u>18.07</u>	<u>258.77</u>	<u>51.85</u>	<u>16.16</u>	<u>68.01</u>	<u>270,968.28</u>
Asphalt 01/01/2010-12/31/2029	2.31	13.20	10.70	0.00	0.01	1.07	1.08	0.00	0.98	0.99	1,675.99
Paving Off-Gas	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.09	12.86	9.83	0.00	0.00	1.05	1.05	0.00	0.97	0.97	1,418.81
Paving On Road Diesel	0.03	0.30	0.12	0.00	0.00	0.01	0.01	0.00	0.01	0.01	101.76
Paving Worker Trips	0.02	0.04	0.75	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.42
Building 01/01/2010-12/31/2029	41.85	220.96	1,018.90	2.52	10.75	12.07	22.82	3.82	10.64	14.47	248,672.61
Building Off Road Diesel	2.25	13.62	12.45	0.00	0.00	0.77	0.77	0.00	0.71	0.71	2,259.28
Building Vendor Trips	16.96	163.65	171.50	0.70	2.58	6.54	9.11	0.87	5.96	6.83	73,396.28
Building Worker Trips	22.64	43.69	834.96	1.81	8.17	4.76	12.93	2.95	3.97	6.92	173,017.06
Coating 01/01/2010-12/31/2029	48.14	0.03	0.63	0.00	0.01	0.00	0.01	0.00	0.00	0.01	131.16
Architectural Coating	48.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.02	0.03	0.63	0.00	0.01	0.00	0.01	0.00	0.00	0.01	131.16
Demolition 01/01/2010-12/31/2029	4.58	36.15	23.89	0.03	19.15	1.55	20.71	4.00	1.43	5.43	6,958.95
Fugitive Dust	0.00	0.00	0.00	0.00	19.06	0.00	19.06	3.96	0.00	3.96	0.00
Demo Off Road Diesel	3.84	28.13	20.04	0.00	0.00	1.27	1.27	0.00	1.17	1.17	4,132.45
Demo On Road Diesel	0.72	7.99	3.10	0.02	0.09	0.28	0.37	0.03	0.26	0.28	2,671.08
Demo Worker Trips	0.02	0.04	0.75	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.42
Mass Grading 01/01/2010-	7.74	58.46	36.76	0.01	210.77	2.55	213.32	44.02	2.34	46.37	9,851.63
Mass Grading Dust	0.00	0.00	0.00	0.00	210.73	0.00	210.73	44.01	0.00	44.01	0.00
Mass Grading Off Road Diesel	7.51	56.29	34.45	0.00	0.00	2.47	2.47	0.00	2.27	2.27	8,842.87
Mass Grading On Road Diesel	0.19	2.09	0.81	0.01	0.02	0.07	0.10	0.01	0.07	0.07	697.93
Mass Grading Worker Trips	0.04	0.08	1.50	0.00	0.01	0.01	0.02	0.01	0.01	0.01	310.83
Trenching 01/01/2010-12/31/2029	2.64	18.35	16.81	0.00	0.01	0.83	0.84	0.00	0.76	0.77	3,677.94
Trenching Off Road Diesel	2.61	18.29	15.61	0.00	0.00	0.82	0.82	0.00	0.76	0.76	3,429.28

Trenching Worker Trips	0.03	0.06	1.20	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.67
Time Slice 1/1/2018-12/31/2018	<u>102.85</u>	<u>314.81</u>	<u>1,037.36</u>	<u>2.56</u>	<u>240.70</u>	<u>16.74</u>	<u>257.44</u>	<u>51.85</u>	<u>14.93</u>	<u>66.78</u>	<u>270,959.96</u>
Asphalt 01/01/2010-12/31/2029	2.19	12.33	10.60	0.00	0.01	0.98	0.99	0.00	0.90	0.90	1,675.98
Paving Off-Gas	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.97	12.02	9.79	0.00	0.00	0.96	0.96	0.00	0.89	0.89	1,418.81
Paving On Road Diesel	0.03	0.27	0.11	0.00	0.00	0.01	0.01	0.00	0.01	0.01	101.76
Paving Worker Trips	0.02	0.04	0.70	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.41
Building 01/01/2010-12/31/2029	38.57	200.05	950.88	2.52	10.75	11.33	22.08	3.82	9.96	13.78	248,664.35
Building Off Road Diesel	2.03	12.45	12.26	0.00	0.00	0.67	0.67	0.00	0.62	0.62	2,259.28
Building Vendor Trips	15.70	147.23	160.69	0.70	2.58	5.90	8.48	0.87	5.37	6.24	73,399.13
Building Worker Trips	20.84	40.37	777.92	1.81	8.17	4.76	12.93	2.95	3.97	6.92	173,005.95
Coating 01/01/2010-12/31/2029	48.13	0.03	0.59	0.00	0.01	0.00	0.01	0.00	0.00	0.01	131.15
Architectural Coating	48.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.02	0.03	0.59	0.00	0.01	0.00	0.01	0.00	0.00	0.01	131.15
Demolition 01/01/2010-12/31/2029	4.28	32.93	22.95	0.03	19.15	1.40	20.55	4.00	1.28	5.28	6,958.94
Fugitive Dust	0.00	0.00	0.00	0.00	19.06	0.00	19.06	3.96	0.00	3.96	0.00
Demo Off Road Diesel	3.59	25.73	19.44	0.00	0.00	1.15	1.15	0.00	1.06	1.06	4,132.45
Demo On Road Diesel	0.67	7.17	2.81	0.02	0.09	0.24	0.33	0.03	0.22	0.25	2,671.08
Demo Worker Trips	0.02	0.04	0.70	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.41
Mass Grading 01/01/2010-	7.21	53.35	35.65	0.01	210.77	2.27	213.04	44.02	2.09	46.11	9,851.61
Mass Grading Dust	0.00	0.00	0.00	0.00	210.73	0.00	210.73	44.01	0.00	44.01	0.00
Mass Grading Off Road Diesel	7.00	51.40	33.52	0.00	0.00	2.20	2.20	0.00	2.02	2.02	8,842.87
Mass Grading On Road Diesel	0.18	1.87	0.73	0.01	0.02	0.06	0.09	0.01	0.06	0.07	697.93
Mass Grading Worker Trips	0.04	0.07	1.40	0.00	0.01	0.01	0.02	0.01	0.01	0.01	310.81
Trenching 01/01/2010-12/31/2029	2.46	16.12	16.69	0.00	0.01	0.76	0.77	0.00	0.70	0.70	3,677.93
Trenching Off Road Diesel	2.43	16.06	15.57	0.00	0.00	0.75	0.75	0.00	0.69	0.69	3,429.28
Trenching Worker Trips	0.03	0.06	1.12	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.65
Time Slice 1/1/2019-12/31/2019	<u>98.88</u>	<u>286.23</u>	<u>972.25</u>	<u>2.56</u>	<u>240.70</u>	<u>15.49</u>	<u>256.20</u>	<u>51.85</u>	<u>13.79</u>	<u>65.64</u>	<u>270,954.99</u>
Asphalt 01/01/2010-12/31/2029	2.05	11.55	10.45	0.00	0.01	0.89	0.90	0.00	0.82	0.82	1,675.98
Paving Off-Gas	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.83	11.27	9.70	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,418.81
Paving On Road Diesel	0.02	0.25	0.10	0.00	0.00	0.01	0.01	0.00	0.01	0.01	101.76
Paving Worker Trips	0.02	0.03	0.65	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.40
Building 01/01/2010-12/31/2029	35.59	181.77	887.95	2.52	10.75	10.70	21.45	3.82	9.38	13.21	248,659.43
Building Off Road Diesel	1.88	11.39	12.14	0.00	0.00	0.57	0.57	0.00	0.52	0.52	2,259.28
Building Vendor Trips	14.61	133.29	150.89	0.70	2.58	5.38	7.95	0.87	4.89	5.76	73,401.96

Building Worker Trips	19.11	37.09	724.92	1.81	8.17	4.76	12.93	2.95	3.97	6.92	172,998.19
Coating 01/01/2010-12/31/2029	48.13	0.03	0.55	0.00	0.01	0.00	0.01	0.00	0.00	0.01	131.15
Architectural Coating	48.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.03	0.55	0.00	0.01	0.00	0.01	0.00	0.00	0.01	131.15
Demolition 01/01/2010-12/31/2029	3.98	30.07	22.14	0.03	19.15	1.24	20.40	4.00	1.14	5.14	6,958.93
Fugitive Dust	0.00	0.00	0.00	0.00	19.06	0.00	19.06	3.96	0.00	3.96	0.00
Demo Off Road Diesel	3.34	23.55	18.92	0.00	0.00	1.02	1.02	0.00	0.94	0.94	4,132.45
Demo On Road Diesel	0.62	6.48	2.57	0.02	0.09	0.22	0.31	0.03	0.20	0.23	2,671.08
Demo Worker Trips	0.02	0.03	0.65	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.40
Mass Grading 01/01/2010-	6.85	48.69	34.59	0.01	210.77	2.01	212.78	44.02	1.85	45.87	9,851.59
Mass Grading Dust	0.00	0.00	0.00	0.00	210.73	0.00	210.73	44.01	0.00	44.01	0.00
Mass Grading Off Road Diesel	6.65	46.93	32.62	0.00	0.00	1.94	1.94	0.00	1.79	1.79	8,842.87
Mass Grading On Road Diesel	0.16	1.69	0.67	0.01	0.02	0.06	0.08	0.01	0.05	0.06	697.93
Mass Grading Worker Trips	0.03	0.07	1.30	0.00	0.01	0.01	0.02	0.01	0.01	0.01	310.80
Trenching 01/01/2010-12/31/2029	2.28	14.13	16.57	0.00	0.01	0.65	0.66	0.00	0.60	0.60	3,677.92
Trenching Off Road Diesel	2.25	14.07	15.53	0.00	0.00	0.64	0.64	0.00	0.59	0.59	3,429.28
Trenching Worker Trips	0.03	0.05	1.04	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.64
Time Slice 1/1/2020-12/31/2020	<u>95.10</u>	<u>261.36</u>	<u>911.74</u>	<u>2.56</u>	<u>240.70</u>	<u>14.74</u>	<u>255.44</u>	<u>51.85</u>	<u>13.10</u>	<u>64.95</u>	<u>270,950.54</u>
Asphalt 01/01/2010-12/31/2029	1.91	10.79	10.35	0.00	0.01	0.83	0.84	0.00	0.77	0.77	1,675.97
Paving Off-Gas	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.70	10.53	9.66	0.00	0.00	0.82	0.82	0.00	0.75	0.75	1,418.81
Paving On Road Diesel	0.02	0.22	0.09	0.00	0.00	0.01	0.01	0.00	0.01	0.01	101.76
Paving Worker Trips	0.02	0.03	0.61	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.39
Building 01/01/2010-12/31/2029	32.78	166.27	829.20	2.52	10.75	10.37	21.12	3.82	9.08	12.91	248,655.02
Building Off Road Diesel	1.71	10.50	12.03	0.00	0.00	0.50	0.50	0.00	0.46	0.46	2,259.28
Building Vendor Trips	13.63	121.51	142.06	0.70	2.58	4.92	7.50	0.87	4.47	5.35	73,404.70
Building Worker Trips	17.44	34.26	675.11	1.81	8.17	4.95	13.13	2.95	4.15	7.10	172,991.04
Coating 01/01/2010-12/31/2029	48.13	0.03	0.51	0.00	0.01	0.00	0.01	0.00	0.00	0.01	131.14
Architectural Coating	48.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.03	0.51	0.00	0.01	0.00	0.01	0.00	0.00	0.01	131.14
Demolition 01/01/2010-12/31/2029	3.76	27.49	21.45	0.03	19.15	1.17	20.32	4.00	1.08	5.07	6,958.92
Fugitive Dust	0.00	0.00	0.00	0.00	19.06	0.00	19.06	3.96	0.00	3.96	0.00
Demo Off Road Diesel	3.17	21.56	18.48	0.00	0.00	0.97	0.97	0.00	0.89	0.89	4,132.45
Demo On Road Diesel	0.58	5.90	2.36	0.02	0.09	0.19	0.28	0.03	0.18	0.21	2,671.08
Demo Worker Trips	0.02	0.03	0.61	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.39
Mass Grading 01/01/2010-	6.41	44.39	33.73	0.01	210.77	1.78	212.55	44.02	1.64	45.66	9,851.58
Mass Grading Dust	0.00	0.00	0.00	0.00	210.73	0.00	210.73	44.01	0.00	44.01	0.00

11/19/2009 04:09:53 PM

Mass Grading Off Road Diesel	6.23	42.79	31.90	0.00	0.00	1.72	1.72	0.00	1.58	1.58	8,842.87
Mass Grading On Road Diesel	0.15	1.54	0.62	0.01	0.02	0.05	0.07	0.01	0.05	0.05	697.93
Mass Grading Worker Trips	0.03	0.06	1.21	0.00	0.01	0.01	0.02	0.01	0.01	0.01	310.79
Trenching 01/01/2010-12/31/2029	2.10	12.40	16.50	0.00	0.01	0.58	0.59	0.00	0.54	0.54	3,677.91
Trenching Off Road Diesel	2.08	12.35	15.53	0.00	0.00	0.58	0.58	0.00	0.53	0.53	3,429.28
Trenching Worker Trips	0.03	0.05	0.97	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.63
Time Slice 1/1/2021-12/31/2021	<u>85.66</u>	<u>210.51</u>	<u>696.35</u>	<u>2.56</u>	<u>240.70</u>	<u>13.52</u>	<u>254.23</u>	<u>51.85</u>	<u>11.97</u>	<u>63.82</u>	<u>270,920.26</u>
Asphalt 01/01/2010-12/31/2029	1.90	10.71	10.16	0.00	0.01	0.83	0.84	0.00	0.76	0.77	1,675.93
Paving Off-Gas	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.70	10.53	9.66	0.00	0.00	0.82	0.82	0.00	0.75	0.75	1,418.81
Paving On Road Diesel	0.02	0.15	0.06	0.00	0.00	0.00	0.01	0.00	0.00	0.01	101.76
Paving Worker Trips	0.01	0.02	0.44	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.36
Building 01/01/2010-12/31/2029	23.56	117.88	615.72	2.51	10.75	9.25	20.00	3.82	8.04	11.86	248,624.97
Building Off Road Diesel	1.71	10.50	12.03	0.00	0.00	0.50	0.50	0.00	0.46	0.46	2,259.28
Building Vendor Trips	10.32	83.50	110.66	0.70	2.58	3.59	6.16	0.87	3.25	4.12	73,414.59
Building Worker Trips	11.53	23.89	493.04	1.81	8.17	5.16	13.34	2.95	4.33	7.28	172,951.10
Coating 01/01/2010-12/31/2029	48.13	0.02	0.37	0.00	0.01	0.00	0.01	0.00	0.00	0.01	131.11
Architectural Coating	48.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.02	0.37	0.00	0.01	0.00	0.01	0.00	0.00	0.01	131.11
Demolition 01/01/2010-12/31/2029	3.62	25.62	20.62	0.03	19.15	1.10	20.25	4.00	1.01	5.01	6,958.89
Fugitive Dust	0.00	0.00	0.00	0.00	19.06	0.00	19.06	3.96	0.00	3.96	0.00
Demo Off Road Diesel	3.17	21.56	18.48	0.00	0.00	0.97	0.97	0.00	0.89	0.89	4,132.45
Demo On Road Diesel	0.44	4.04	1.70	0.02	0.09	0.12	0.21	0.03	0.11	0.14	2,671.08
Demo Worker Trips	0.01	0.02	0.44	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.36
Mass Grading 01/01/2010-	6.36	43.89	33.23	0.01	210.77	1.76	212.53	44.02	1.62	45.64	9,851.51
Mass Grading Dust	0.00	0.00	0.00	0.00	210.73	0.00	210.73	44.01	0.00	44.01	0.00
Mass Grading Off Road Diesel	6.23	42.79	31.90	0.00	0.00	1.72	1.72	0.00	1.58	1.58	8,842.87
Mass Grading On Road Diesel	0.12	1.06	0.44	0.01	0.02	0.03	0.06	0.01	0.03	0.04	697.93
Mass Grading Worker Trips	0.02	0.04	0.89	0.00	0.01	0.01	0.02	0.01	0.01	0.01	310.72
Trenching 01/01/2010-12/31/2029	2.09	12.38	16.23	0.00	0.01	0.58	0.60	0.00	0.54	0.54	3,677.85
Trenching Off Road Diesel	2.08	12.35	15.53	0.00	0.00	0.58	0.58	0.00	0.53	0.53	3,429.28
Trenching Worker Trips	0.02	0.03	0.71	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.57
Time Slice 1/3/2022-12/30/2022	<u>85.66</u>	<u>210.51</u>	<u>696.35</u>	<u>2.56</u>	<u>240.70</u>	<u>13.52</u>	<u>254.23</u>	<u>51.85</u>	<u>11.97</u>	<u>63.82</u>	<u>270,920.26</u>
Asphalt 01/01/2010-12/31/2029	1.90	10.71	10.16	0.00	0.01	0.83	0.84	0.00	0.76	0.77	1,675.93
Paving Off-Gas	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.70	10.53	9.66	0.00	0.00	0.82	0.82	0.00	0.75	0.75	1,418.81

Paving On Road Diesel	0.02	0.15	0.06	0.00	0.00	0.00	0.01	0.00	0.00	0.01	101.76
Paving Worker Trips	0.01	0.02	0.44	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.36
Building 01/01/2010-12/31/2029	23.56	117.88	615.72	2.51	10.75	9.25	20.00	3.82	8.04	11.86	248,624.97
Building Off Road Diesel	1.71	10.50	12.03	0.00	0.00	0.50	0.50	0.00	0.46	0.46	2,259.28
Building Vendor Trips	10.32	83.50	110.66	0.70	2.58	3.59	6.16	0.87	3.25	4.12	73,414.59
Building Worker Trips	11.53	23.89	493.04	1.81	8.17	5.16	13.34	2.95	4.33	7.28	172,951.10
Coating 01/01/2010-12/31/2029	48.13	0.02	0.37	0.00	0.01	0.00	0.01	0.00	0.00	0.01	131.11
Architectural Coating	48.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.02	0.37	0.00	0.01	0.00	0.01	0.00	0.00	0.01	131.11
Demolition 01/01/2010-12/31/2029	3.62	25.62	20.62	0.03	19.15	1.10	20.25	4.00	1.01	5.01	6,958.89
Fugitive Dust	0.00	0.00	0.00	0.00	19.06	0.00	19.06	3.96	0.00	3.96	0.00
Demo Off Road Diesel	3.17	21.56	18.48	0.00	0.00	0.97	0.97	0.00	0.89	0.89	4,132.45
Demo On Road Diesel	0.44	4.04	1.70	0.02	0.09	0.12	0.21	0.03	0.11	0.14	2,671.08
Demo Worker Trips	0.01	0.02	0.44	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.36
Mass Grading 01/01/2010-	6.36	43.89	33.23	0.01	210.77	1.76	212.53	44.02	1.62	45.64	9,851.51
Mass Grading Dust	0.00	0.00	0.00	0.00	210.73	0.00	210.73	44.01	0.00	44.01	0.00
Mass Grading Off Road Diesel	6.23	42.79	31.90	0.00	0.00	1.72	1.72	0.00	1.58	1.58	8,842.87
Mass Grading On Road Diesel	0.12	1.06	0.44	0.01	0.02	0.03	0.06	0.01	0.03	0.04	697.93
Mass Grading Worker Trips	0.02	0.04	0.89	0.00	0.01	0.01	0.02	0.01	0.01	0.01	310.72
Trenching 01/01/2010-12/31/2029	2.09	12.38	16.23	0.00	0.01	0.58	0.60	0.00	0.54	0.54	3,677.85
Trenching Off Road Diesel	2.08	12.35	15.53	0.00	0.00	0.58	0.58	0.00	0.53	0.53	3,429.28
Trenching Worker Trips	0.02	0.03	0.71	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.57
Time Slice 1/2/2023-12/29/2023	<u>85.66</u>	<u>210.51</u>	<u>696.35</u>	<u>2.56</u>	<u>240.70</u>	<u>13.52</u>	<u>254.23</u>	<u>51.85</u>	<u>11.97</u>	<u>63.82</u>	<u>270,920.26</u>
Asphalt 01/01/2010-12/31/2029	1.90	10.71	10.16	0.00	0.01	0.83	0.84	0.00	0.76	0.77	1,675.93
Paving Off-Gas	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.70	10.53	9.66	0.00	0.00	0.82	0.82	0.00	0.75	0.75	1,418.81
Paving On Road Diesel	0.02	0.15	0.06	0.00	0.00	0.00	0.01	0.00	0.00	0.01	101.76
Paving Worker Trips	0.01	0.02	0.44	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.36
Building 01/01/2010-12/31/2029	23.56	117.88	615.72	2.51	10.75	9.25	20.00	3.82	8.04	11.86	248,624.97
Building Off Road Diesel	1.71	10.50	12.03	0.00	0.00	0.50	0.50	0.00	0.46	0.46	2,259.28
Building Vendor Trips	10.32	83.50	110.66	0.70	2.58	3.59	6.16	0.87	3.25	4.12	73,414.59
Building Worker Trips	11.53	23.89	493.04	1.81	8.17	5.16	13.34	2.95	4.33	7.28	172,951.10
Coating 01/01/2010-12/31/2029	48.13	0.02	0.37	0.00	0.01	0.00	0.01	0.00	0.00	0.01	131.11
Architectural Coating	48.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.02	0.37	0.00	0.01	0.00	0.01	0.00	0.00	0.01	131.11
Demolition 01/01/2010-12/31/2029	3.62	25.62	20.62	0.03	19.15	1.10	20.25	4.00	1.01	5.01	6,958.89
Fugitive Dust	0.00	0.00	0.00	0.00	19.06	0.00	19.06	3.96	0.00	3.96	0.00

Demo Off Road Diesel	3.17	21.56	18.48	0.00	0.00	0.97	0.97	0.00	0.89	0.89	4,132.45
Demo On Road Diesel	0.44	4.04	1.70	0.02	0.09	0.12	0.21	0.03	0.11	0.14	2,671.08
Demo Worker Trips	0.01	0.02	0.44	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.36
Mass Grading 01/01/2010-	6.36	43.89	33.23	0.01	210.77	1.76	212.53	44.02	1.62	45.64	9,851.51
Mass Grading Dust	0.00	0.00	0.00	0.00	210.73	0.00	210.73	44.01	0.00	44.01	0.00
Mass Grading Off Road Diesel	6.23	42.79	31.90	0.00	0.00	1.72	1.72	0.00	1.58	1.58	8,842.87
Mass Grading On Road Diesel	0.12	1.06	0.44	0.01	0.02	0.03	0.06	0.01	0.03	0.04	697.93
Mass Grading Worker Trips	0.02	0.04	0.89	0.00	0.01	0.01	0.02	0.01	0.01	0.01	310.72
Trenching 01/01/2010-12/31/2029	2.09	12.38	16.23	0.00	0.01	0.58	0.60	0.00	0.54	0.54	3,677.85
Trenching Off Road Diesel	2.08	12.35	15.53	0.00	0.00	0.58	0.58	0.00	0.53	0.53	3,429.28
Trenching Worker Trips	0.02	0.03	0.71	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.57
Time Slice 1/1/2024-12/31/2024	<u>85.66</u>	<u>210.51</u>	<u>696.35</u>	<u>2.56</u>	<u>240.70</u>	<u>13.52</u>	<u>254.23</u>	<u>51.85</u>	<u>11.97</u>	<u>63.82</u>	<u>270,920.26</u>
Asphalt 01/01/2010-12/31/2029	1.90	10.71	10.16	0.00	0.01	0.83	0.84	0.00	0.76	0.77	1,675.93
Paving Off-Gas	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.70	10.53	9.66	0.00	0.00	0.82	0.82	0.00	0.75	0.75	1,418.81
Paving On Road Diesel	0.02	0.15	0.06	0.00	0.00	0.00	0.01	0.00	0.00	0.01	101.76
Paving Worker Trips	0.01	0.02	0.44	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.36
Building 01/01/2010-12/31/2029	23.56	117.88	615.72	2.51	10.75	9.25	20.00	3.82	8.04	11.86	248,624.97
Building Off Road Diesel	1.71	10.50	12.03	0.00	0.00	0.50	0.50	0.00	0.46	0.46	2,259.28
Building Vendor Trips	10.32	83.50	110.66	0.70	2.58	3.59	6.16	0.87	3.25	4.12	73,414.59
Building Worker Trips	11.53	23.89	493.04	1.81	8.17	5.16	13.34	2.95	4.33	7.28	172,951.10
Coating 01/01/2010-12/31/2029	48.13	0.02	0.37	0.00	0.01	0.00	0.01	0.00	0.00	0.01	131.11
Architectural Coating	48.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.02	0.37	0.00	0.01	0.00	0.01	0.00	0.00	0.01	131.11
Demolition 01/01/2010-12/31/2029	3.62	25.62	20.62	0.03	19.15	1.10	20.25	4.00	1.01	5.01	6,958.89
Fugitive Dust	0.00	0.00	0.00	0.00	19.06	0.00	19.06	3.96	0.00	3.96	0.00
Demo Off Road Diesel	3.17	21.56	18.48	0.00	0.00	0.97	0.97	0.00	0.89	0.89	4,132.45
Demo On Road Diesel	0.44	4.04	1.70	0.02	0.09	0.12	0.21	0.03	0.11	0.14	2,671.08
Demo Worker Trips	0.01	0.02	0.44	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.36
Mass Grading 01/01/2010-	6.36	43.89	33.23	0.01	210.77	1.76	212.53	44.02	1.62	45.64	9,851.51
Mass Grading Dust	0.00	0.00	0.00	0.00	210.73	0.00	210.73	44.01	0.00	44.01	0.00
Mass Grading Off Road Diesel	6.23	42.79	31.90	0.00	0.00	1.72	1.72	0.00	1.58	1.58	8,842.87
Mass Grading On Road Diesel	0.12	1.06	0.44	0.01	0.02	0.03	0.06	0.01	0.03	0.04	697.93
Mass Grading Worker Trips	0.02	0.04	0.89	0.00	0.01	0.01	0.02	0.01	0.01	0.01	310.72
Trenching 01/01/2010-12/31/2029	2.09	12.38	16.23	0.00	0.01	0.58	0.60	0.00	0.54	0.54	3,677.85
Trenching Off Road Diesel	2.08	12.35	15.53	0.00	0.00	0.58	0.58	0.00	0.53	0.53	3,429.28
Trenching Worker Trips	0.02	0.03	0.71	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.57

Time Slice 1/1/2025-12/31/2025	<u>85.66</u>	<u>210.51</u>	<u>696.35</u>	<u>2.56</u>	<u>240.70</u>	<u>13.52</u>	<u>254.23</u>	<u>51.85</u>	<u>11.97</u>	<u>63.82</u>	<u>270,920.26</u>
Asphalt 01/01/2010-12/31/2029	1.90	10.71	10.16	0.00	0.01	0.83	0.84	0.00	0.76	0.77	1,675.93
Paving Off-Gas	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.70	10.53	9.66	0.00	0.00	0.82	0.82	0.00	0.75	0.75	1,418.81
Paving On Road Diesel	0.02	0.15	0.06	0.00	0.00	0.00	0.01	0.00	0.00	0.01	101.76
Paving Worker Trips	0.01	0.02	0.44	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.36
Building 01/01/2010-12/31/2029	23.56	117.88	615.72	2.51	10.75	9.25	20.00	3.82	8.04	11.86	248,624.97
Building Off Road Diesel	1.71	10.50	12.03	0.00	0.00	0.50	0.50	0.00	0.46	0.46	2,259.28
Building Vendor Trips	10.32	83.50	110.66	0.70	2.58	3.59	6.16	0.87	3.25	4.12	73,414.59
Building Worker Trips	11.53	23.89	493.04	1.81	8.17	5.16	13.34	2.95	4.33	7.28	172,951.10
Coating 01/01/2010-12/31/2029	48.13	0.02	0.37	0.00	0.01	0.00	0.01	0.00	0.00	0.01	131.11
Architectural Coating	48.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.02	0.37	0.00	0.01	0.00	0.01	0.00	0.00	0.01	131.11
Demolition 01/01/2010-12/31/2029	3.62	25.62	20.62	0.03	19.15	1.10	20.25	4.00	1.01	5.01	6,958.89
Fugitive Dust	0.00	0.00	0.00	0.00	19.06	0.00	19.06	3.96	0.00	3.96	0.00
Demo Off Road Diesel	3.17	21.56	18.48	0.00	0.00	0.97	0.97	0.00	0.89	0.89	4,132.45
Demo On Road Diesel	0.44	4.04	1.70	0.02	0.09	0.12	0.21	0.03	0.11	0.14	2,671.08
Demo Worker Trips	0.01	0.02	0.44	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.36
Mass Grading 01/01/2010-	6.36	43.89	33.23	0.01	210.77	1.76	212.53	44.02	1.62	45.64	9,851.51
Mass Grading Dust	0.00	0.00	0.00	0.00	210.73	0.00	210.73	44.01	0.00	44.01	0.00
Mass Grading Off Road Diesel	6.23	42.79	31.90	0.00	0.00	1.72	1.72	0.00	1.58	1.58	8,842.87
Mass Grading On Road Diesel	0.12	1.06	0.44	0.01	0.02	0.03	0.06	0.01	0.03	0.04	697.93
Mass Grading Worker Trips	0.02	0.04	0.89	0.00	0.01	0.01	0.02	0.01	0.01	0.01	310.72
Trenching 01/01/2010-12/31/2029	2.09	12.38	16.23	0.00	0.01	0.58	0.60	0.00	0.54	0.54	3,677.85
Trenching Off Road Diesel	2.08	12.35	15.53	0.00	0.00	0.58	0.58	0.00	0.53	0.53	3,429.28
Trenching Worker Trips	0.02	0.03	0.71	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.57
Time Slice 1/1/2026-12/31/2026	<u>80.96</u>	<u>191.35</u>	<u>583.27</u>	<u>2.56</u>	<u>240.70</u>	<u>13.05</u>	<u>253.75</u>	<u>51.85</u>	<u>11.54</u>	<u>63.39</u>	<u>270,907.41</u>
Asphalt 01/01/2010-12/31/2029	1.89	10.68	10.07	0.00	0.01	0.83	0.84	0.00	0.76	0.77	1,675.92
Paving Off-Gas	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.70	10.53	9.66	0.00	0.00	0.82	0.82	0.00	0.75	0.75	1,418.81
Paving On Road Diesel	0.02	0.13	0.06	0.00	0.00	0.00	0.01	0.00	0.00	0.00	101.76
Paving Worker Trips	0.01	0.02	0.36	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.34
Building 01/01/2010-12/31/2029	18.94	99.55	503.49	2.51	10.75	8.80	19.55	3.82	7.63	11.45	248,612.23
Building Off Road Diesel	1.71	10.50	12.03	0.00	0.00	0.50	0.50	0.00	0.46	0.46	2,259.28
Building Vendor Trips	8.94	70.45	95.47	0.70	2.58	3.15	5.72	0.87	2.84	3.71	73,421.01
Building Worker Trips	8.30	18.60	396.00	1.81	8.17	5.16	13.34	2.95	4.33	7.28	172,931.95

Coating 01/01/2010-12/31/2029	48.12	0.01	0.30	0.00	0.01	0.00	0.01	0.00	0.00	0.01	131.10
Architectural Coating	48.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.01	0.30	0.00	0.01	0.00	0.01	0.00	0.00	0.01	131.10
Demolition 01/01/2010-12/31/2029	3.57	25.01	20.31	0.03	19.15	1.08	20.23	4.00	0.99	4.98	6,958.87
Fugitive Dust	0.00	0.00	0.00	0.00	19.06	0.00	19.06	3.96	0.00	3.96	0.00
Demo Off Road Diesel	3.17	21.56	18.48	0.00	0.00	0.97	0.97	0.00	0.89	0.89	4,132.45
Demo On Road Diesel	0.39	3.44	1.48	0.02	0.09	0.10	0.19	0.03	0.09	0.12	2,671.08
Demo Worker Trips	0.01	0.02	0.36	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.34
Mass Grading 01/01/2010-	6.34	43.72	33.00	0.01	210.77	1.76	212.52	44.02	1.61	45.64	9,851.47
Mass Grading Dust	0.00	0.00	0.00	0.00	210.73	0.00	210.73	44.01	0.00	44.01	0.00
Mass Grading Off Road Diesel	6.23	42.79	31.90	0.00	0.00	1.72	1.72	0.00	1.58	1.58	8,842.87
Mass Grading On Road Diesel	0.10	0.90	0.39	0.01	0.02	0.03	0.05	0.01	0.02	0.03	697.93
Mass Grading Worker Trips	0.01	0.03	0.71	0.00	0.01	0.01	0.02	0.01	0.01	0.01	310.68
Trenching 01/01/2010-12/31/2029	2.09	12.38	16.10	0.00	0.01	0.58	0.60	0.00	0.54	0.54	3,677.82
Trenching Off Road Diesel	2.08	12.35	15.53	0.00	0.00	0.58	0.58	0.00	0.53	0.53	3,429.28
Trenching Worker Trips	0.01	0.03	0.57	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.55
Time Slice 1/1/2027-12/31/2027	<u>80.96</u>	<u>191.35</u>	<u>583.27</u>	<u>2.56</u>	<u>240.70</u>	<u>13.05</u>	<u>253.75</u>	<u>51.85</u>	<u>11.54</u>	<u>63.39</u>	<u>270,907.41</u>
Asphalt 01/01/2010-12/31/2029	1.89	10.68	10.07	0.00	0.01	0.83	0.84	0.00	0.76	0.77	1,675.92
Paving Off-Gas	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.70	10.53	9.66	0.00	0.00	0.82	0.82	0.00	0.75	0.75	1,418.81
Paving On Road Diesel	0.02	0.13	0.06	0.00	0.00	0.00	0.01	0.00	0.00	0.00	101.76
Paving Worker Trips	0.01	0.02	0.36	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.34
Building 01/01/2010-12/31/2029	18.94	99.55	503.49	2.51	10.75	8.80	19.55	3.82	7.63	11.45	248,612.23
Building Off Road Diesel	1.71	10.50	12.03	0.00	0.00	0.50	0.50	0.00	0.46	0.46	2,259.28
Building Vendor Trips	8.94	70.45	95.47	0.70	2.58	3.15	5.72	0.87	2.84	3.71	73,421.01
Building Worker Trips	8.30	18.60	396.00	1.81	8.17	5.16	13.34	2.95	4.33	7.28	172,931.95
Coating 01/01/2010-12/31/2029	48.12	0.01	0.30	0.00	0.01	0.00	0.01	0.00	0.00	0.01	131.10
Architectural Coating	48.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.01	0.30	0.00	0.01	0.00	0.01	0.00	0.00	0.01	131.10
Demolition 01/01/2010-12/31/2029	3.57	25.01	20.31	0.03	19.15	1.08	20.23	4.00	0.99	4.98	6,958.87
Fugitive Dust	0.00	0.00	0.00	0.00	19.06	0.00	19.06	3.96	0.00	3.96	0.00
Demo Off Road Diesel	3.17	21.56	18.48	0.00	0.00	0.97	0.97	0.00	0.89	0.89	4,132.45
Demo On Road Diesel	0.39	3.44	1.48	0.02	0.09	0.10	0.19	0.03	0.09	0.12	2,671.08
Demo Worker Trips	0.01	0.02	0.36	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.34
Mass Grading 01/01/2010-	6.34	43.72	33.00	0.01	210.77	1.76	212.52	44.02	1.61	45.64	9,851.47
Mass Grading Dust	0.00	0.00	0.00	0.00	210.73	0.00	210.73	44.01	0.00	44.01	0.00
Mass Grading Off Road Diesel	6.23	42.79	31.90	0.00	0.00	1.72	1.72	0.00	1.58	1.58	8,842.87

Mass Grading On Road Diesel	0.10	0.90	0.39	0.01	0.02	0.03	0.05	0.01	0.02	0.03	697.93
Mass Grading Worker Trips	0.01	0.03	0.71	0.00	0.01	0.01	0.02	0.01	0.01	0.01	310.68
Trenching 01/01/2010-12/31/2029	2.09	12.38	16.10	0.00	0.01	0.58	0.60	0.00	0.54	0.54	3,677.82
Trenching Off Road Diesel	2.08	12.35	15.53	0.00	0.00	0.58	0.58	0.00	0.53	0.53	3,429.28
Trenching Worker Trips	0.01	0.03	0.57	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.55
Time Slice 1/3/2028-12/29/2028	<u>80.96</u>	<u>191.35</u>	<u>583.27</u>	<u>2.56</u>	<u>240.70</u>	<u>13.05</u>	<u>253.75</u>	<u>51.85</u>	<u>11.54</u>	<u>63.39</u>	<u>270,907.41</u>
Asphalt 01/01/2010-12/31/2029	1.89	10.68	10.07	0.00	0.01	0.83	0.84	0.00	0.76	0.77	1,675.92
Paving Off-Gas	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.70	10.53	9.66	0.00	0.00	0.82	0.82	0.00	0.75	0.75	1,418.81
Paving On Road Diesel	0.02	0.13	0.06	0.00	0.00	0.00	0.01	0.00	0.00	0.00	101.76
Paving Worker Trips	0.01	0.02	0.36	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.34
Building 01/01/2010-12/31/2029	18.94	99.55	503.49	2.51	10.75	8.80	19.55	3.82	7.63	11.45	248,612.23
Building Off Road Diesel	1.71	10.50	12.03	0.00	0.00	0.50	0.50	0.00	0.46	0.46	2,259.28
Building Vendor Trips	8.94	70.45	95.47	0.70	2.58	3.15	5.72	0.87	2.84	3.71	73,421.01
Building Worker Trips	8.30	18.60	396.00	1.81	8.17	5.16	13.34	2.95	4.33	7.28	172,931.95
Coating 01/01/2010-12/31/2029	48.12	0.01	0.30	0.00	0.01	0.00	0.01	0.00	0.00	0.01	131.10
Architectural Coating	48.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.01	0.30	0.00	0.01	0.00	0.01	0.00	0.00	0.01	131.10
Demolition 01/01/2010-12/31/2029	3.57	25.01	20.31	0.03	19.15	1.08	20.23	4.00	0.99	4.98	6,958.87
Fugitive Dust	0.00	0.00	0.00	0.00	19.06	0.00	19.06	3.96	0.00	3.96	0.00
Demo Off Road Diesel	3.17	21.56	18.48	0.00	0.00	0.97	0.97	0.00	0.89	0.89	4,132.45
Demo On Road Diesel	0.39	3.44	1.48	0.02	0.09	0.10	0.19	0.03	0.09	0.12	2,671.08
Demo Worker Trips	0.01	0.02	0.36	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.34
Mass Grading 01/01/2010-	6.34	43.72	33.00	0.01	210.77	1.76	212.52	44.02	1.61	45.64	9,851.47
Mass Grading Dust	0.00	0.00	0.00	0.00	210.73	0.00	210.73	44.01	0.00	44.01	0.00
Mass Grading Off Road Diesel	6.23	42.79	31.90	0.00	0.00	1.72	1.72	0.00	1.58	1.58	8,842.87
Mass Grading On Road Diesel	0.10	0.90	0.39	0.01	0.02	0.03	0.05	0.01	0.02	0.03	697.93
Mass Grading Worker Trips	0.01	0.03	0.71	0.00	0.01	0.01	0.02	0.01	0.01	0.01	310.68
Trenching 01/01/2010-12/31/2029	2.09	12.38	16.10	0.00	0.01	0.58	0.60	0.00	0.54	0.54	3,677.82
Trenching Off Road Diesel	2.08	12.35	15.53	0.00	0.00	0.58	0.58	0.00	0.53	0.53	3,429.28
Trenching Worker Trips	0.01	0.03	0.57	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.55
Time Slice 1/1/2029-12/31/2029	<u>80.96</u>	<u>191.35</u>	<u>583.27</u>	<u>2.56</u>	<u>240.70</u>	<u>13.05</u>	<u>253.75</u>	<u>51.85</u>	<u>11.54</u>	<u>63.39</u>	<u>270,907.41</u>
Asphalt 01/01/2010-12/31/2029	1.89	10.68	10.07	0.00	0.01	0.83	0.84	0.00	0.76	0.77	1,675.92
Paving Off-Gas	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.70	10.53	9.66	0.00	0.00	0.82	0.82	0.00	0.75	0.75	1,418.81
Paving On Road Diesel	0.02	0.13	0.06	0.00	0.00	0.00	0.01	0.00	0.00	0.00	101.76

Paving Worker Trips	0.01	0.02	0.36	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.34
Building 01/01/2010-12/31/2029	18.94	99.55	503.49	2.51	10.75	8.80	19.55	3.82	7.63	11.45	248,612.23
Building Off Road Diesel	1.71	10.50	12.03	0.00	0.00	0.50	0.50	0.00	0.46	0.46	2,259.28
Building Vendor Trips	8.94	70.45	95.47	0.70	2.58	3.15	5.72	0.87	2.84	3.71	73,421.01
Building Worker Trips	8.30	18.60	396.00	1.81	8.17	5.16	13.34	2.95	4.33	7.28	172,931.95
Coating 01/01/2010-12/31/2029	48.12	0.01	0.30	0.00	0.01	0.00	0.01	0.00	0.00	0.01	131.10
Architectural Coating	48.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.01	0.30	0.00	0.01	0.00	0.01	0.00	0.00	0.01	131.10
Demolition 01/01/2010-12/31/2029	3.57	25.01	20.31	0.03	19.15	1.08	20.23	4.00	0.99	4.98	6,958.87
Fugitive Dust	0.00	0.00	0.00	0.00	19.06	0.00	19.06	3.96	0.00	3.96	0.00
Demo Off Road Diesel	3.17	21.56	18.48	0.00	0.00	0.97	0.97	0.00	0.89	0.89	4,132.45
Demo On Road Diesel	0.39	3.44	1.48	0.02	0.09	0.10	0.19	0.03	0.09	0.12	2,671.08
Demo Worker Trips	0.01	0.02	0.36	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.34
Mass Grading 01/01/2010-	6.34	43.72	33.00	0.01	210.77	1.76	212.52	44.02	1.61	45.64	9,851.47
Mass Grading Dust	0.00	0.00	0.00	0.00	210.73	0.00	210.73	44.01	0.00	44.01	0.00
Mass Grading Off Road Diesel	6.23	42.79	31.90	0.00	0.00	1.72	1.72	0.00	1.58	1.58	8,842.87
Mass Grading On Road Diesel	0.10	0.90	0.39	0.01	0.02	0.03	0.05	0.01	0.02	0.03	697.93
Mass Grading Worker Trips	0.01	0.03	0.71	0.00	0.01	0.01	0.02	0.01	0.01	0.01	310.68
Trenching 01/01/2010-12/31/2029	2.09	12.38	16.10	0.00	0.01	0.58	0.60	0.00	0.54	0.54	3,677.82
Trenching Off Road Diesel	2.08	12.35	15.53	0.00	0.00	0.58	0.58	0.00	0.53	0.53	3,429.28
Trenching Worker Trips	0.01	0.03	0.57	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.55

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 1/1/2010 - 12/31/2029 - Default Mass Site Grading/Excavation Description

For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stablizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: P:\COI-21\Technical Studies\Air\Modeling\construction\ExistingGPCConstruction.urb924

Project Name: Recirculated IBC Existing General Plan - Construction

Project Location: Orange County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2010 TOTALS (tons/year unmitigated)	16.88	69.97	169.51	0.23	177.96	3.35	181.32	37.31	3.05	40.36	25,342.86
2010 TOTALS (tons/year mitigated)	16.88	69.97	169.51	0.23	30.98	3.35	34.34	6.61	3.05	9.66	25,342.86
Percent Reduction	0.00	0.00	0.00	0.00	82.59	0.00	81.06	82.27	0.00	76.05	0.00
2011 TOTALS (tons/year unmitigated)	16.05	63.93	157.81	0.23	177.28	3.11	180.39	37.17	2.83	39.99	25,241.70
2011 TOTALS (tons/year mitigated)	16.05	63.93	157.81	0.23	30.86	3.11	33.98	6.59	2.83	9.42	25,241.70
Percent Reduction	0.00	0.00	0.00	0.00	82.59	0.00	81.16	82.27	0.00	76.46	0.00
2012 TOTALS (tons/year unmitigated)	15.37	58.55	147.81	0.23	177.96	2.86	180.82	37.31	2.59	39.90	25,336.12
2012 TOTALS (tons/year mitigated)	15.37	58.55	147.81	0.23	30.98	2.86	33.84	6.61	2.59	9.21	25,336.12
Percent Reduction	0.00	0.00	0.00	0.00	82.59	0.00	81.28	82.27	0.00	76.93	0.00
2013 TOTALS (tons/year unmitigated)	14.68	53.21	137.70	0.23	177.96	2.63	180.59	37.31	2.38	39.69	25,334.71
2013 TOTALS (tons/year mitigated)	14.68	53.21	137.70	0.23	30.98	2.63	33.61	6.61	2.38	8.99	25,334.71
Percent Reduction	0.00	0.00	0.00	0.00	82.59	0.00	81.39	82.27	0.00	77.35	0.00
2014 TOTALS (tons/year unmitigated)	14.05	48.10	128.66	0.23	177.96	2.39	180.35	37.31	2.15	39.46	25,333.38
2014 TOTALS (tons/year mitigated)	14.05	48.10	128.66	0.23	30.98	2.39	33.37	6.61	2.15	8.77	25,333.38
Percent Reduction	0.00	0.00	0.00	0.00	82.59	0.00	81.50	82.27	0.00	77.78	0.00
2015 TOTALS (tons/year unmitigated)	13.43	43.16	120.11	0.23	177.96	2.20	180.16	37.31	1.98	39.29	25,332.38
2015 TOTALS (tons/year mitigated)	13.43	43.16	120.11	0.23	30.98	2.20	33.18	6.61	1.98	8.59	25,332.38
Percent Reduction	0.00	0.00	0.00	0.00	82.59	0.00	81.58	82.27	0.00	78.13	0.00
2016 TOTALS (tons/year unmitigated)	12.90	38.97	112.65	0.23	177.96	2.01	179.97	37.31	1.80	39.11	25,330.54
2016 TOTALS (tons/year mitigated)	12.90	38.97	112.65	0.23	30.98	2.01	32.99	6.61	1.80	8.42	25,330.54
Percent Reduction	0.00	0.00	0.00	0.00	82.59	0.00	81.67	82.27	0.00	78.48	0.00
2017 TOTALS (tons/year unmitigated)	12.38	35.16	105.18	0.23	177.28	1.84	179.12	37.17	1.65	38.82	25,232.31
2017 TOTALS (tons/year mitigated)	12.38	35.16	105.18	0.23	30.86	1.84	32.71	6.59	1.65	8.24	25,232.31
Percent Reduction	0.00	0.00	0.00	0.00	82.59	0.00	81.74	82.27	0.00	78.77	0.00

Page: 1

11/30/2009 11:31:45 AM

2018 TOTALS (tons/year unmitigated)	11.99	32.04	99.02	0.23	177.96	1.71	179.67	37.31	1.53	38.84	25,328.53
2018 TOTALS (tons/year mitigated)	11.99	32.04	99.02	0.23	30.98	1.71	32.69	6.61	1.53	8.14	25,328.53
Percent Reduction	0.00	0.00	0.00	0.00	82.59	0.00	81.80	82.27	0.00	79.03	0.00
2019 TOTALS (tons/year unmitigated)	11.59	29.14	92.95	0.23	177.96	1.57	179.54	37.31	1.41	38.71	25,328.03
2019 TOTALS (tons/year mitigated)	11.59	29.14	92.95	0.23	30.98	1.57	32.56	6.61	1.41	8.02	25,328.03
Percent Reduction	0.00	0.00	0.00	0.00	82.59	0.00	81.87	82.27	0.00	79.28	0.00
2020 TOTALS (tons/year unmitigated)	11.25	26.71	87.64	0.23	178.64	1.50	180.14	37.45	1.33	38.79	25,424.61
2020 TOTALS (tons/year mitigated)	11.25	26.71	87.64	0.23	31.10	1.50	32.60	6.64	1.33	7.98	25,424.61
Percent Reduction	0.00	0.00	0.00	0.00	82.59	0.00	81.90	82.27	0.00	79.44	0.00
2021 TOTALS (tons/year unmitigated)	10.36	22.30	67.40	0.23	177.96	1.39	179.36	37.31	1.24	38.55	25,324.58
2021 TOTALS (tons/year mitigated)	10.36	22.30	67.40	0.23	30.98	1.39	32.38	6.61	1.24	7.85	25,324.58
Percent Reduction	0.00	0.00	0.00	0.00	82.59	0.00	81.95	82.27	0.00	79.63	0.00
2022 TOTALS (tons/year unmitigated)	10.32	22.22	67.14	0.23	177.28	1.39	178.67	37.17	1.23	38.40	25,227.56
2022 TOTALS (tons/year mitigated)	10.32	22.22	67.14	0.23	30.86	1.39	32.25	6.59	1.23	7.82	25,227.56
Percent Reduction	0.00	0.00	0.00	0.00	82.59	0.00	81.95	82.27	0.00	79.63	0.00
2023 TOTALS (tons/year unmitigated)	10.32	22.22	67.14	0.23	177.28	1.39	178.67	37.17	1.23	38.40	25,227.56
2023 TOTALS (tons/year mitigated)	10.32	22.22	67.14	0.23	30.86	1.39	32.25	6.59	1.23	7.82	25,227.56
Percent Reduction	0.00	0.00	0.00	0.00	82.59	0.00	81.95	82.27	0.00	79.63	0.00
2024 TOTALS (tons/year unmitigated)	10.40	22.39	67.65	0.23	178.64	1.40	180.04	37.45	1.24	38.70	25,421.61
2024 TOTALS (tons/year mitigated)	10.40	22.39	67.65	0.23	31.10	1.40	32.50	6.64	1.24	7.88	25,421.61
Percent Reduction	0.00	0.00	0.00	0.00	82.59	0.00	81.95	82.27	0.00	79.63	0.00
2025 TOTALS (tons/year unmitigated)	10.36	22.30	67.40	0.23	177.96	1.39	179.36	37.31	1.24	38.55	25,324.58
2025 TOTALS (tons/year mitigated)	10.36	22.30	67.40	0.23	30.98	1.39	32.38	6.61	1.24	7.85	25,324.58
Percent Reduction	0.00	0.00	0.00	0.00	82.59	0.00	81.95	82.27	0.00	79.63	0.00
2026 TOTALS (tons/year unmitigated)	9.93	20.67	56.93	0.23	177.96	1.36	179.32	37.31	1.20	38.51	25,323.29
2026 TOTALS (tons/year mitigated)	9.93	20.67	56.93	0.23	30.98	1.36	32.34	6.61	1.20	7.82	25,323.29
Percent Reduction	0.00	0.00	0.00	0.00	82.59	0.00	81.97	82.27	0.00	79.70	0.00
2027 TOTALS (tons/year unmitigated)	9.93	20.67	56.93	0.23	177.96	1.36	179.32	37.31	1.20	38.51	25,323.29
2027 TOTALS (tons/year mitigated)	9.93	20.67	56.93	0.23	30.98	1.36	32.34	6.61	1.20	7.82	25,323.29
Percent Reduction	0.00	0.00	0.00	0.00	82.59	0.00	81.97	82.27	0.00	79.70	0.00
2028 TOTALS (tons/year unmitigated)	9.89	20.59	56.71	0.23	177.28	1.35	178.63	37.17	1.20	38.37	25,226.27
2028 TOTALS (tons/year mitigated)	9.89	20.59	56.71	0.23	30.86	1.35	32.22	6.59	1.20	7.79	25,226.27
Percent Reduction	0.00	0.00	0.00	0.00	82.59	0.00	81.97	82.27	0.00	79.70	0.00

Page: 1

11/30/2009 11:31:45 AM

2029 TOTALS (tons/year unmitigated)	9.93	20.67	56.93	0.23	177.96	1.36	179.32	37.31	1.20	38.51	25,323.29
2029 TOTALS (tons/year mitigated)	9.93	20.67	56.93	0.23	30.98	1.36	32.34	6.61	1.20	7.82	25,323.29
Percent Reduction	0.00	0.00	0.00	0.00	82.59	0.00	81.97	82.27	0.00	79.70	0.00

Phase Assumptions

Phase: Demolition 1/1/2010 - 12/31/2029 - Default Demolition Description

Building Volume Total (cubic feet): 1.198854E+07

Building Volume Daily (cubic feet): 45375

On Road Truck Travel (VMT): 630.21

Off-Road Equipment:

3 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

2 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

Phase: Mass Grading 1/1/2010 - 12/31/2029 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 140

Maximum Daily Acreage Disturbed: 35

Fugitive Dust Level of Detail: Default

38.2 lbs per acre-day

On Road Truck Travel (VMT): 164.67

Off-Road Equipment:

1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

3 Scrapers (313 hp) operating at a 0.72 load factor for 8 hours per day

3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 1/1/2010 - 12/31/2029 - Default Trenching Description

Off-Road Equipment:

4 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

2 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Paving 1/1/2010 - 12/31/2029 - Default Paving Description

Acres to be Paved: 348.94

Off-Road Equipment:

1 Pavers (100 hp) operating at a 0.62 load factor for 8 hours per day

2 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day

2 Rollers (95 hp) operating at a 0.56 load factor for 6 hours per day

Phase: Building Construction 1/1/2010 - 12/31/2029 - Default Building Construction Description

11/30/2009 11:31:45 AM

1 Cranes (399 hp) operating at a 0.43 load factor for 7 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

1 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Mitigated

[illegible]

11/30/2009 11:31:45 AM

Trenching 01/01/2010-12/31/2029	0.55	4.63	2.40	0.00	0.00	0.23	0.23	0.00	0.21	0.21	480.00
Trenching Off Road Diesel	0.54	4.62	2.14	0.00	0.00	0.23	0.23	0.00	0.21	0.21	447.52
Trenching Worker Trips	0.01	0.01	0.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.48
2011	16.05	63.93	157.81	0.23	30.86	3.11	33.98	6.59	2.83	9.42	25,241.70
Asphalt 01/01/2010-12/31/2029	0.43	2.47	1.52	0.00	0.00	0.21	0.22	0.00	0.20	0.20	217.89
Paving Off-Gas	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.39	2.37	1.34	0.00	0.00	0.21	0.21	0.00	0.19	0.19	184.45
Paving On Road Diesel	0.01	0.09	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.23
Paving Worker Trips	0.00	0.01	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.22
Building 01/01/2010-12/31/2029	6.45	36.98	143.36	0.23	0.97	1.74	2.71	0.35	1.57	1.91	22,348.03
Building Off Road Diesel	0.49	2.84	1.81	0.00	0.00	0.20	0.20	0.00	0.19	0.19	293.71
Building Vendor Trips	2.33	27.27	21.67	0.06	0.20	1.10	1.30	0.07	1.00	1.07	5,804.95
Building Worker Trips	3.63	6.87	119.88	0.17	0.77	0.44	1.21	0.28	0.37	0.65	16,249.37
Coating 01/01/2010-12/31/2029	6.38	0.01	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.21
Architectural Coating	6.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.01	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.21
Demolition 01/01/2010-12/31/2029	0.86	7.93	4.23	0.00	2.49	0.36	2.85	0.52	0.33	0.85	904.68
Fugitive Dust	0.00	0.00	0.00	0.00	0.13	0.00	0.13	0.03	0.00	0.03	0.00
Demo Off Road Diesel	0.69	5.68	3.26	0.00	0.00	0.27	0.27	0.00	0.25	0.25	537.22
Demo On Road Diesel	0.17	2.24	0.82	0.00	0.01	0.09	0.10	0.00	0.08	0.08	347.24
Demo Worker Trips	0.00	0.01	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.22
Mass Grading 01/01/2010-	1.42	12.26	6.27	0.00	27.40	0.58	27.98	5.72	0.53	6.26	1,280.74
Mass Grading Dust	0.00	0.00	0.00	0.00	27.40	0.00	27.40	5.72	0.00	5.72	0.00
Mass Grading Off Road Diesel	1.36	11.66	5.75	0.00	0.00	0.56	0.56	0.00	0.51	0.51	1,149.57
Mass Grading On Road Diesel	0.04	0.58	0.22	0.00	0.00	0.02	0.03	0.00	0.02	0.02	90.73
Mass Grading Worker Trips	0.01	0.02	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.43
Trenching 01/01/2010-12/31/2029	0.51	4.28	2.34	0.00	0.00	0.21	0.22	0.00	0.20	0.20	478.15
Trenching Off Road Diesel	0.51	4.27	2.10	0.00	0.00	0.21	0.21	0.00	0.20	0.20	445.81
Trenching Worker Trips	0.01	0.01	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.35
2012	15.37	58.55	147.81	0.23	30.98	2.86	33.84	6.61	2.59	9.21	25,336.12
Asphalt 01/01/2010-12/31/2029	0.41	2.35	1.50	0.00	0.00	0.20	0.20	0.00	0.19	0.19	218.73
Paving Off-Gas	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.37	2.26	1.34	0.00	0.00	0.20	0.20	0.00	0.18	0.18	185.16
Paving On Road Diesel	0.01	0.08	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.28
Paving Worker Trips	0.00	0.01	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.29
Building 01/01/2010-12/31/2029	5.92	33.34	133.92	0.23	0.98	1.60	2.58	0.35	1.43	1.78	22,431.34
Building Off Road Diesel	0.45	2.67	1.78	0.00	0.00	0.19	0.19	0.00	0.17	0.17	294.84
Building Vendor Trips	2.14	24.38	20.15	0.06	0.20	0.97	1.18	0.07	0.89	0.96	5,827.38
Building Worker Trips	3.32	6.30	111.99	0.17	0.77	0.45	1.22	0.28	0.37	0.65	16,309.12
Coating 01/01/2010-12/31/2029	6.41	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.26
Architectural Coating	6.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Page: 1

11/30/2009 11:31:45 AM

Coating Worker Trips	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.26
Demolition 01/01/2010-12/31/2029	0.81	7.38	4.02	0.00	2.50	0.33	2.83	0.52	0.30	0.82	908.15
Fugitive Dust	0.00	0.00	0.00	0.00	0.13	0.00	0.13	0.03	0.00	0.03	0.00
Demo Off Road Diesel	0.65	5.37	3.14	0.00	0.00	0.25	0.25	0.00	0.23	0.23	539.29
Demo On Road Diesel	0.15	2.00	0.74	0.00	0.01	0.08	0.09	0.00	0.07	0.07	348.58
Demo Worker Trips	0.00	0.01	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.29
Mass Grading 01/01/2010-	1.35	11.49	5.96	0.00	27.51	0.53	28.04	5.74	0.49	6.24	1,285.66
Mass Grading Dust	0.00	0.00	0.00	0.00	27.50	0.00	27.50	5.74	0.00	5.74	0.00
Mass Grading Off Road Diesel	1.30	10.95	5.49	0.00	0.00	0.51	0.51	0.00	0.47	0.47	1,153.99
Mass Grading On Road Diesel	0.04	0.52	0.19	0.00	0.00	0.02	0.02	0.00	0.02	0.02	91.08
Mass Grading Worker Trips	0.01	0.02	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.58
Trenching 01/01/2010-12/31/2029	0.48	3.99	2.31	0.00	0.00	0.19	0.19	0.00	0.18	0.18	479.99
Trenching Off Road Diesel	0.47	3.98	2.09	0.00	0.00	0.19	0.19	0.00	0.18	0.18	447.52
Trenching Worker Trips	0.01	0.01	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.47
2013	14.68	53.21	137.70	0.23	30.98	2.63	33.61	6.61	2.38	8.99	25,334.71
Asphalt 01/01/2010-12/31/2029	0.38	2.22	1.48	0.00	0.00	0.19	0.19	0.00	0.17	0.18	218.72
Paving Off-Gas	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.35	2.15	1.32	0.00	0.00	0.19	0.19	0.00	0.17	0.17	185.16
Paving On Road Diesel	0.01	0.07	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.28
Paving Worker Trips	0.00	0.01	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.29
Building 01/01/2010-12/31/2029	5.38	29.74	124.40	0.23	0.98	1.47	2.44	0.35	1.31	1.65	22,429.94
Building Off Road Diesel	0.42	2.48	1.74	0.00	0.00	0.17	0.17	0.00	0.15	0.15	294.84
Building Vendor Trips	1.95	21.49	18.58	0.06	0.20	0.85	1.06	0.07	0.78	0.85	5,827.65
Building Worker Trips	3.01	5.76	104.07	0.17	0.77	0.45	1.22	0.28	0.37	0.65	16,307.46
Coating 01/01/2010-12/31/2029	6.41	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.26
Architectural Coating	6.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.26
Demolition 01/01/2010-12/31/2029	0.77	6.82	3.80	0.00	2.50	0.30	2.80	0.52	0.28	0.80	908.15
Fugitive Dust	0.00	0.00	0.00	0.00	0.13	0.00	0.13	0.03	0.00	0.03	0.00
Demo Off Road Diesel	0.63	5.06	3.02	0.00	0.00	0.23	0.23	0.00	0.22	0.22	539.29
Demo On Road Diesel	0.14	1.76	0.65	0.00	0.01	0.07	0.08	0.00	0.06	0.06	348.58
Demo Worker Trips	0.00	0.01	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.29
Mass Grading 01/01/2010-	1.29	10.73	5.66	0.00	27.51	0.49	28.00	5.74	0.45	6.20	1,285.65
Mass Grading Dust	0.00	0.00	0.00	0.00	27.50	0.00	27.50	5.74	0.00	5.74	0.00
Mass Grading Off Road Diesel	1.24	10.26	5.23	0.00	0.00	0.47	0.47	0.00	0.44	0.44	1,153.99
Mass Grading On Road Diesel	0.04	0.46	0.17	0.00	0.00	0.02	0.02	0.00	0.02	0.02	91.08
Mass Grading Worker Trips	0.01	0.01	0.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.58
Trenching 01/01/2010-12/31/2029	0.45	3.70	2.29	0.00	0.00	0.18	0.18	0.00	0.16	0.16	479.98
Trenching Off Road Diesel	0.45	3.68	2.08	0.00	0.00	0.18	0.18	0.00	0.16	0.16	447.52
Trenching Worker Trips	0.01	0.01	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.46
2014	14.05	48.10	128.66	0.23	30.98	2.39	33.37	6.61	2.15	8.77	25,333.38

Page: 1

11/30/2009 11:31:45 AM

Asphalt 01/01/2010-12/31/2029	0.36	2.10	1.46	0.00	0.00	0.18	0.18	0.00	0.16	0.16	218.72
Paving Off-Gas	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.33	2.04	1.31	0.00	0.00	0.18	0.18	0.00	0.16	0.16	185.16
Paving On Road Diesel	0.00	0.06	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.28
Paving Worker Trips	0.00	0.01	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.29
Building 01/01/2010-12/31/2029	4.92	26.40	115.87	0.23	0.98	1.34	2.31	0.35	1.19	1.54	22,428.62
Building Off Road Diesel	0.38	2.30	1.70	0.00	0.00	0.14	0.14	0.00	0.13	0.13	294.84
Building Vendor Trips	1.77	18.81	17.14	0.06	0.20	0.75	0.95	0.07	0.68	0.75	5,827.84
Building Worker Trips	2.77	5.28	97.02	0.17	0.77	0.45	1.22	0.28	0.37	0.65	16,305.94
Coating 01/01/2010-12/31/2029	6.41	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.26
Architectural Coating	6.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.26
Demolition 01/01/2010-12/31/2029	0.73	6.26	3.60	0.00	2.50	0.27	2.77	0.52	0.25	0.77	908.15
Fugitive Dust	0.00	0.00	0.00	0.00	0.13	0.00	0.13	0.03	0.00	0.03	0.00
Demo Off Road Diesel	0.60	4.72	2.91	0.00	0.00	0.21	0.21	0.00	0.19	0.19	539.29
Demo On Road Diesel	0.13	1.53	0.57	0.00	0.01	0.06	0.07	0.00	0.05	0.06	348.58
Demo Worker Trips	0.00	0.01	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.29
Mass Grading 01/01/2010-	1.22	9.93	5.42	0.00	27.51	0.45	27.95	5.74	0.41	6.15	1,285.65
Mass Grading Dust	0.00	0.00	0.00	0.00	27.50	0.00	27.50	5.74	0.00	5.74	0.00
Mass Grading Off Road Diesel	1.18	9.51	5.02	0.00	0.00	0.43	0.43	0.00	0.40	0.40	1,153.99
Mass Grading On Road Diesel	0.03	0.40	0.15	0.00	0.00	0.01	0.02	0.00	0.01	0.01	91.08
Mass Grading Worker Trips	0.01	0.01	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.58
Trenching 01/01/2010-12/31/2029	0.42	3.41	2.25	0.00	0.00	0.15	0.16	0.00	0.14	0.14	479.98
Trenching Off Road Diesel	0.42	3.40	2.06	0.00	0.00	0.15	0.15	0.00	0.14	0.14	447.52
Trenching Worker Trips	0.01	0.01	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.46
2015	13.43	43.16	120.11	0.23	30.98	2.20	33.18	6.61	1.98	8.59	25,332.38
Asphalt 01/01/2010-12/31/2029	0.34	1.97	1.43	0.00	0.00	0.16	0.17	0.00	0.15	0.15	218.72
Paving Off-Gas	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.31	1.91	1.30	0.00	0.00	0.16	0.16	0.00	0.15	0.15	185.16
Paving On Road Diesel	0.00	0.05	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.28
Paving Worker Trips	0.00	0.01	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.29
Building 01/01/2010-12/31/2029	4.48	23.36	107.79	0.23	0.98	1.23	2.21	0.35	1.09	1.44	22,427.63
Building Off Road Diesel	0.35	2.11	1.67	0.00	0.00	0.13	0.13	0.00	0.12	0.12	294.84
Building Vendor Trips	1.60	16.38	15.79	0.06	0.20	0.65	0.86	0.07	0.59	0.66	5,828.12
Building Worker Trips	2.53	4.86	90.32	0.17	0.77	0.45	1.22	0.28	0.37	0.65	16,304.68
Coating 01/01/2010-12/31/2029	6.41	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.26
Architectural Coating	6.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.26
Demolition 01/01/2010-12/31/2029	0.67	5.68	3.42	0.00	2.50	0.24	2.74	0.52	0.22	0.75	908.15
Fugitive Dust	0.00	0.00	0.00	0.00	0.13	0.00	0.13	0.03	0.00	0.03	0.00
Demo Off Road Diesel	0.56	4.35	2.80	0.00	0.00	0.20	0.20	0.00	0.18	0.18	539.29
Demo On Road Diesel	0.11	1.33	0.50	0.00	0.01	0.05	0.06	0.00	0.04	0.05	348.58

11/30/2009 11:31:45 AM

Demo Worker Trips	0.00	0.01	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.29
Mass Grading 01/01/2010-	1.14	9.10	5.18	0.00	27.51	0.41	27.91	5.74	0.38	6.12	1,285.65
Mass Grading Dust	0.00	0.00	0.00	0.00	27.50	0.00	27.50	5.74	0.00	5.74	0.00
Mass Grading Off Road Diesel	1.10	8.74	4.82	0.00	0.00	0.39	0.39	0.00	0.36	0.36	1,153.99
Mass Grading On Road Diesel	0.03	0.35	0.13	0.00	0.00	0.01	0.02	0.00	0.01	0.01	91.08
Mass Grading Worker Trips	0.01	0.01	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.57
Trenching 01/01/2010-12/31/2029	0.39	3.05	2.23	0.00	0.00	0.15	0.15	0.00	0.13	0.13	479.98
Trenching Off Road Diesel	0.39	3.04	2.05	0.00	0.00	0.14	0.14	0.00	0.13	0.13	447.52
Trenching Worker Trips	0.01	0.01	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.46
2016	12.90	38.97	112.65	0.23	30.98	2.01	32.99	6.61	1.80	8.42	25,330.54
Asphalt 01/01/2010-12/31/2029	0.32	1.84	1.42	0.00	0.00	0.15	0.15	0.00	0.14	0.14	218.72
Paving Off-Gas	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.29	1.79	1.29	0.00	0.00	0.15	0.15	0.00	0.14	0.14	185.16
Paving On Road Diesel	0.00	0.04	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.28
Paving Worker Trips	0.00	0.01	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.28
Building 01/01/2010-12/31/2029	4.11	20.90	100.72	0.23	0.98	1.14	2.11	0.35	1.00	1.35	22,425.81
Building Off Road Diesel	0.32	1.94	1.65	0.00	0.00	0.11	0.11	0.00	0.11	0.11	294.84
Building Vendor Trips	1.46	14.47	14.69	0.06	0.20	0.58	0.78	0.07	0.53	0.59	5,828.28
Building Worker Trips	2.33	4.49	84.38	0.17	0.77	0.45	1.22	0.28	0.37	0.65	16,302.70
Coating 01/01/2010-12/31/2029	6.41	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.25
Architectural Coating	6.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.25
Demolition 01/01/2010-12/31/2029	0.63	5.18	3.26	0.00	2.50	0.22	2.72	0.52	0.21	0.73	908.14
Fugitive Dust	0.00	0.00	0.00	0.00	0.13	0.00	0.13	0.03	0.00	0.03	0.00
Demo Off Road Diesel	0.52	4.01	2.70	0.00	0.00	0.18	0.18	0.00	0.17	0.17	539.29
Demo On Road Diesel	0.10	1.17	0.45	0.00	0.01	0.04	0.05	0.00	0.04	0.04	348.58
Demo Worker Trips	0.00	0.01	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.28
Mass Grading 01/01/2010-	1.07	8.34	4.98	0.00	27.51	0.37	27.87	5.74	0.34	6.08	1,285.64
Mass Grading Dust	0.00	0.00	0.00	0.00	27.50	0.00	27.50	5.74	0.00	5.74	0.00
Mass Grading Off Road Diesel	1.04	8.02	4.66	0.00	0.00	0.36	0.36	0.00	0.33	0.33	1,153.99
Mass Grading On Road Diesel	0.03	0.31	0.12	0.00	0.00	0.01	0.01	0.00	0.01	0.01	91.08
Mass Grading Worker Trips	0.01	0.01	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.57
Trenching 01/01/2010-12/31/2029	0.37	2.71	2.21	0.00	0.00	0.12	0.12	0.00	0.11	0.11	479.97
Trenching Off Road Diesel	0.36	2.70	2.04	0.00	0.00	0.12	0.12	0.00	0.11	0.11	447.52
Trenching Worker Trips	0.00	0.01	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.45
2017	12.38	35.16	105.18	0.23	30.86	1.84	32.71	6.59	1.65	8.24	25,232.31
Asphalt 01/01/2010-12/31/2029	0.30	1.72	1.39	0.00	0.00	0.14	0.14	0.00	0.13	0.13	217.88
Paving Off-Gas	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.27	1.67	1.28	0.00	0.00	0.14	0.14	0.00	0.13	0.13	184.45
Paving On Road Diesel	0.00	0.04	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.23
Paving Worker Trips	0.00	0.01	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.20

Page: 1

11/30/2009 11:31:45 AM

Building 01/01/2010-12/31/2029	3.76	18.75	93.66	0.23	0.97	1.06	2.03	0.35	0.94	1.28	22,338.71
Building Off Road Diesel	0.29	1.77	1.62	0.00	0.00	0.10	0.10	0.00	0.09	0.09	293.71
Building Vendor Trips	1.34	12.88	13.68	0.06	0.20	0.52	0.72	0.07	0.47	0.54	5,806.16
Building Worker Trips	2.13	4.10	78.37	0.17	0.77	0.45	1.21	0.28	0.37	0.65	16,238.84
Coating 01/01/2010-12/31/2029	6.38	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.21
Architectural Coating	6.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.21
Demolition 01/01/2010-12/31/2029	0.60	4.70	3.11	0.00	2.49	0.20	2.69	0.52	0.19	0.71	904.66
Fugitive Dust	0.00	0.00	0.00	0.00	0.13	0.00	0.13	0.03	0.00	0.03	0.00
Demo Off Road Diesel	0.50	3.66	2.60	0.00	0.00	0.17	0.17	0.00	0.15	0.15	537.22
Demo On Road Diesel	0.09	1.04	0.40	0.00	0.01	0.04	0.05	0.00	0.03	0.04	347.24
Demo Worker Trips	0.00	0.01	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.20
Mass Grading 01/01/2010-	1.01	7.60	4.78	0.00	27.40	0.33	27.73	5.72	0.30	6.03	1,280.71
Mass Grading Dust	0.00	0.00	0.00	0.00	27.40	0.00	27.40	5.72	0.00	5.72	0.00
Mass Grading Off Road Diesel	0.98	7.32	4.48	0.00	0.00	0.32	0.32	0.00	0.30	0.30	1,149.57
Mass Grading On Road Diesel	0.02	0.27	0.11	0.00	0.00	0.01	0.01	0.00	0.01	0.01	90.73
Mass Grading Worker Trips	0.01	0.01	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.41
Trenching 01/01/2010-12/31/2029	0.34	2.39	2.19	0.00	0.00	0.11	0.11	0.00	0.10	0.10	478.13
Trenching Off Road Diesel	0.34	2.38	2.03	0.00	0.00	0.11	0.11	0.00	0.10	0.10	445.81
Trenching Worker Trips	0.00	0.01	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.33
2018	11.99	32.04	99.02	0.23	30.98	1.71	32.69	6.61	1.53	8.14	25,328.53
Asphalt 01/01/2010-12/31/2029	0.29	1.61	1.38	0.00	0.00	0.13	0.13	0.00	0.12	0.12	218.72
Paving Off-Gas	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.26	1.57	1.28	0.00	0.00	0.13	0.13	0.00	0.12	0.12	185.16
Paving On Road Diesel	0.00	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.28
Paving Worker Trips	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.28
Building 01/01/2010-12/31/2029	3.47	17.06	87.76	0.23	0.98	1.00	1.98	0.35	0.88	1.23	22,423.82
Building Off Road Diesel	0.27	1.63	1.60	0.00	0.00	0.09	0.09	0.00	0.08	0.08	294.84
Building Vendor Trips	1.24	11.63	12.87	0.06	0.20	0.47	0.67	0.07	0.43	0.50	5,828.73
Building Worker Trips	1.96	3.80	73.29	0.17	0.77	0.45	1.22	0.28	0.37	0.65	16,300.25
Coating 01/01/2010-12/31/2029	6.41	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.25
Architectural Coating	6.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.25
Demolition 01/01/2010-12/31/2029	0.56	4.30	3.00	0.00	2.50	0.18	2.68	0.52	0.17	0.69	908.14
Fugitive Dust	0.00	0.00	0.00	0.00	0.13	0.00	0.13	0.03	0.00	0.03	0.00
Demo Off Road Diesel	0.47	3.36	2.54	0.00	0.00	0.15	0.15	0.00	0.14	0.14	539.29
Demo On Road Diesel	0.09	0.94	0.37	0.00	0.01	0.03	0.04	0.00	0.03	0.03	348.58
Demo Worker Trips	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.28
Mass Grading 01/01/2010-	0.94	6.96	4.65	0.00	27.51	0.30	27.80	5.74	0.27	6.02	1,285.63
Mass Grading Dust	0.00	0.00	0.00	0.00	27.50	0.00	27.50	5.74	0.00	5.74	0.00
Mass Grading Off Road Diesel	0.91	6.71	4.37	0.00	0.00	0.29	0.29	0.00	0.26	0.26	1,153.99
Mass Grading On Road Diesel	0.02	0.24	0.10	0.00	0.00	0.01	0.01	0.00	0.01	0.01	91.08

11/30/2009 11:31:45 AM

Mass Grading Worker Trips	0.00	0.01	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.56
Trenching 01/01/2010-12/31/2029	0.32	2.10	2.18	0.00	0.00	0.10	0.10	0.00	0.09	0.09	479.97
Trenching Off Road Diesel	0.32	2.10	2.03	0.00	0.00	0.10	0.10	0.00	0.09	0.09	447.52
Trenching Worker Trips	0.00	0.01	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.45
2019	11.59	29.14	92.95	0.23	30.98	1.57	32.56	6.61	1.41	8.02	25,328.03
Asphalt 01/01/2010-12/31/2029	0.27	1.51	1.36	0.00	0.00	0.12	0.12	0.00	0.11	0.11	218.71
Paving Off-Gas	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.24	1.47	1.27	0.00	0.00	0.11	0.11	0.00	0.11	0.11	185.16
Paving On Road Diesel	0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.28
Paving Worker Trips	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.28
Building 01/01/2010-12/31/2029	3.20	15.51	81.97	0.23	0.98	0.95	1.92	0.35	0.83	1.18	22,423.32
Building Off Road Diesel	0.25	1.49	1.58	0.00	0.00	0.07	0.07	0.00	0.07	0.07	294.84
Building Vendor Trips	1.16	10.53	12.08	0.06	0.20	0.43	0.63	0.07	0.39	0.46	5,828.96
Building Worker Trips	1.80	3.49	68.30	0.17	0.77	0.45	1.22	0.28	0.37	0.65	16,299.52
Coating 01/01/2010-12/31/2029	6.41	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.25
Architectural Coating	6.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.25
Demolition 01/01/2010-12/31/2029	0.52	3.92	2.89	0.00	2.50	0.16	2.66	0.52	0.15	0.67	908.14
Fugitive Dust	0.00	0.00	0.00	0.00	0.13	0.00	0.13	0.03	0.00	0.03	0.00
Demo Off Road Diesel	0.44	3.07	2.47	0.00	0.00	0.13	0.13	0.00	0.12	0.12	539.29
Demo On Road Diesel	0.08	0.85	0.34	0.00	0.01	0.03	0.04	0.00	0.03	0.03	348.58
Demo Worker Trips	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.28
Mass Grading 01/01/2010-	0.89	6.35	4.51	0.00	27.51	0.26	27.77	5.74	0.24	5.99	1,285.63
Mass Grading Dust	0.00	0.00	0.00	0.00	27.50	0.00	27.50	5.74	0.00	5.74	0.00
Mass Grading Off Road Diesel	0.87	6.12	4.26	0.00	0.00	0.25	0.25	0.00	0.23	0.23	1,153.99
Mass Grading On Road Diesel	0.02	0.22	0.09	0.00	0.00	0.01	0.01	0.00	0.01	0.01	91.08
Mass Grading Worker Trips	0.00	0.01	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.56
Trenching 01/01/2010-12/31/2029	0.30	1.84	2.16	0.00	0.00	0.08	0.09	0.00	0.08	0.08	479.97
Trenching Off Road Diesel	0.29	1.84	2.03	0.00	0.00	0.08	0.08	0.00	0.08	0.08	447.52
Trenching Worker Trips	0.00	0.01	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.45
2020	11.25	26.71	87.64	0.23	31.10	1.50	32.60	6.64	1.33	7.98	25,424.61
Asphalt 01/01/2010-12/31/2029	0.25	1.41	1.36	0.00	0.00	0.11	0.11	0.00	0.10	0.10	219.55
Paving Off-Gas	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.22	1.38	1.26	0.00	0.00	0.11	0.11	0.00	0.10	0.10	185.86
Paving On Road Diesel	0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.33
Paving Worker Trips	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.36
Building 01/01/2010-12/31/2029	2.96	14.25	76.85	0.23	0.98	0.93	1.90	0.35	0.81	1.16	22,508.78
Building Off Road Diesel	0.22	1.38	1.58	0.00	0.00	0.07	0.07	0.00	0.06	0.06	295.97
Building Vendor Trips	1.08	9.64	11.42	0.06	0.21	0.39	0.60	0.07	0.36	0.43	5,851.52
Building Worker Trips	1.65	3.24	63.85	0.17	0.77	0.47	1.24	0.28	0.39	0.67	16,361.30
Coating 01/01/2010-12/31/2029	6.43	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.30

11/30/2009 11:31:45 AM

Architectural Coating	6.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.30
Demolition 01/01/2010-12/31/2029	0.49	3.60	2.81	0.00	2.51	0.15	2.66	0.52	0.14	0.66	911.62
Fugitive Dust	0.00	0.00	0.00	0.00	0.13	0.00	0.13	0.03	0.00	0.03	0.00
Demo Off Road Diesel	0.41	2.82	2.42	0.00	0.00	0.13	0.13	0.00	0.12	0.12	541.35
Demo On Road Diesel	0.08	0.77	0.31	0.00	0.01	0.03	0.04	0.00	0.02	0.03	349.91
Demo Worker Trips	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.36
Mass Grading 01/01/2010-	0.84	5.82	4.42	0.00	27.61	0.23	27.84	5.77	0.21	5.98	1,290.56
Mass Grading Dust	0.00	0.00	0.00	0.00	27.61	0.00	27.61	5.77	0.00	5.77	0.00
Mass Grading Off Road Diesel	0.82	5.61	4.18	0.00	0.00	0.23	0.23	0.00	0.21	0.21	1,158.42
Mass Grading On Road Diesel	0.02	0.20	0.08	0.00	0.00	0.01	0.01	0.00	0.01	0.01	91.43
Mass Grading Worker Trips	0.00	0.01	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.71
Trenching 01/01/2010-12/31/2029	0.28	1.62	2.16	0.00	0.00	0.08	0.08	0.00	0.07	0.07	481.81
Trenching Off Road Diesel	0.27	1.62	2.03	0.00	0.00	0.08	0.08	0.00	0.07	0.07	449.24
Trenching Worker Trips	0.00	0.01	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.57
2021	10.36	22.30	67.40	0.23	30.98	1.39	32.38	6.61	1.24	7.85	25,324.58
Asphalt 01/01/2010-12/31/2029	0.25	1.40	1.33	0.00	0.00	0.11	0.11	0.00	0.10	0.10	218.71
Paving Off-Gas	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.22	1.37	1.26	0.00	0.00	0.11	0.11	0.00	0.10	0.10	185.16
Paving On Road Diesel	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.28
Paving Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.27
Building 01/01/2010-12/31/2029	2.13	10.22	56.89	0.23	0.98	0.84	1.81	0.35	0.73	1.07	22,419.91
Building Off Road Diesel	0.22	1.37	1.57	0.00	0.00	0.06	0.06	0.00	0.06	0.06	294.84
Building Vendor Trips	0.82	6.60	8.87	0.06	0.20	0.29	0.49	0.07	0.26	0.33	5,829.99
Building Worker Trips	1.09	2.25	46.45	0.17	0.77	0.49	1.26	0.28	0.41	0.69	16,295.09
Coating 01/01/2010-12/31/2029	6.41	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.25
Architectural Coating	6.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.25
Demolition 01/01/2010-12/31/2029	0.47	3.34	2.69	0.00	2.50	0.14	2.64	0.52	0.13	0.65	908.13
Fugitive Dust	0.00	0.00	0.00	0.00	0.13	0.00	0.13	0.03	0.00	0.03	0.00
Demo Off Road Diesel	0.41	2.81	2.41	0.00	0.00	0.13	0.13	0.00	0.12	0.12	539.29
Demo On Road Diesel	0.06	0.53	0.22	0.00	0.01	0.02	0.03	0.00	0.01	0.02	348.58
Demo Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.27
Mass Grading 01/01/2010-	0.83	5.73	4.34	0.00	27.51	0.23	27.74	5.74	0.21	5.96	1,285.62
Mass Grading Dust	0.00	0.00	0.00	0.00	27.50	0.00	27.50	5.74	0.00	5.74	0.00
Mass Grading Off Road Diesel	0.81	5.58	4.16	0.00	0.00	0.22	0.22	0.00	0.21	0.21	1,153.99
Mass Grading On Road Diesel	0.02	0.14	0.06	0.00	0.00	0.00	0.01	0.00	0.00	0.00	91.08
Mass Grading Worker Trips	0.00	0.01	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.55
Trenching 01/01/2010-12/31/2029	0.27	1.62	2.12	0.00	0.00	0.08	0.08	0.00	0.07	0.07	479.96
Trenching Off Road Diesel	0.27	1.61	2.03	0.00	0.00	0.08	0.08	0.00	0.07	0.07	447.52
Trenching Worker Trips	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.44

Page: 1

11/30/2009 11:31:45 AM

2022	10.32	22.22	67.14	0.23	30.86	1.39	32.25	6.59	1.23	7.82	25,227.56
Asphalt 01/01/2010-12/31/2029	0.25	1.39	1.32	0.00	0.00	0.11	0.11	0.00	0.10	0.10	217.87
Paving Off-Gas	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.22	1.37	1.26	0.00	0.00	0.11	0.11	0.00	0.10	0.10	184.45
Paving On Road Diesel	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.23
Paving Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.20
Building 01/01/2010-12/31/2029	2.12	10.18	56.67	0.23	0.97	0.83	1.80	0.35	0.72	1.07	22,334.01
Building Off Road Diesel	0.22	1.36	1.56	0.00	0.00	0.06	0.06	0.00	0.06	0.06	293.71
Building Vendor Trips	0.81	6.57	8.83	0.06	0.20	0.28	0.49	0.07	0.26	0.33	5,807.65
Building Worker Trips	1.08	2.24	46.27	0.17	0.77	0.48	1.25	0.28	0.41	0.68	16,232.65
Coating 01/01/2010-12/31/2029	6.38	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.20
Architectural Coating	6.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.20
Demolition 01/01/2010-12/31/2029	0.47	3.33	2.68	0.00	2.49	0.14	2.63	0.52	0.13	0.65	904.66
Fugitive Dust	0.00	0.00	0.00	0.00	0.13	0.00	0.13	0.03	0.00	0.03	0.00
Demo Off Road Diesel	0.41	2.80	2.40	0.00	0.00	0.13	0.13	0.00	0.12	0.12	537.22
Demo On Road Diesel	0.06	0.53	0.22	0.00	0.01	0.02	0.03	0.00	0.01	0.02	347.24
Demo Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.20
Mass Grading 01/01/2010-	0.83	5.71	4.32	0.00	27.40	0.23	27.63	5.72	0.21	5.93	1,280.70
Mass Grading Dust	0.00	0.00	0.00	0.00	27.40	0.00	27.40	5.72	0.00	5.72	0.00
Mass Grading Off Road Diesel	0.81	5.56	4.15	0.00	0.00	0.22	0.22	0.00	0.21	0.21	1,149.57
Mass Grading On Road Diesel	0.02	0.14	0.06	0.00	0.00	0.00	0.01	0.00	0.00	0.00	90.73
Mass Grading Worker Trips	0.00	0.01	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.39
Trenching 01/01/2010-12/31/2029	0.27	1.61	2.11	0.00	0.00	0.08	0.08	0.00	0.07	0.07	478.12
Trenching Off Road Diesel	0.27	1.61	2.02	0.00	0.00	0.07	0.07	0.00	0.07	0.07	445.81
Trenching Worker Trips	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.31
2023	10.32	22.22	67.14	0.23	30.86	1.39	32.25	6.59	1.23	7.82	25,227.56
Asphalt 01/01/2010-12/31/2029	0.25	1.39	1.32	0.00	0.00	0.11	0.11	0.00	0.10	0.10	217.87
Paving Off-Gas	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.22	1.37	1.26	0.00	0.00	0.11	0.11	0.00	0.10	0.10	184.45
Paving On Road Diesel	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.23
Paving Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.20
Building 01/01/2010-12/31/2029	2.12	10.18	56.67	0.23	0.97	0.83	1.80	0.35	0.72	1.07	22,334.01
Building Off Road Diesel	0.22	1.36	1.56	0.00	0.00	0.06	0.06	0.00	0.06	0.06	293.71
Building Vendor Trips	0.81	6.57	8.83	0.06	0.20	0.28	0.49	0.07	0.26	0.33	5,807.65
Building Worker Trips	1.08	2.24	46.27	0.17	0.77	0.48	1.25	0.28	0.41	0.68	16,232.65
Coating 01/01/2010-12/31/2029	6.38	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.20
Architectural Coating	6.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.20
Demolition 01/01/2010-12/31/2029	0.47	3.33	2.68	0.00	2.49	0.14	2.63	0.52	0.13	0.65	904.66
Fugitive Dust	0.00	0.00	0.00	0.00	0.13	0.00	0.13	0.03	0.00	0.03	0.00
Demo Off Road Diesel	0.41	2.80	2.40	0.00	0.00	0.13	0.13	0.00	0.12	0.12	537.22

11/30/2009 11:31:45 AM

Demo On Road Diesel	0.06	0.53	0.22	0.00	0.01	0.02	0.03	0.00	0.01	0.02	347.24
Demo Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.20
Mass Grading 01/01/2010-	0.83	5.71	4.32	0.00	27.40	0.23	27.63	5.72	0.21	5.93	1,280.70
Mass Grading Dust	0.00	0.00	0.00	0.00	27.40	0.00	27.40	5.72	0.00	5.72	0.00
Mass Grading Off Road Diesel	0.81	5.56	4.15	0.00	0.00	0.22	0.22	0.00	0.21	0.21	1,149.57
Mass Grading On Road Diesel	0.02	0.14	0.06	0.00	0.00	0.00	0.01	0.00	0.00	0.00	90.73
Mass Grading Worker Trips	0.00	0.01	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.39
Trenching 01/01/2010-12/31/2029	0.27	1.61	2.11	0.00	0.00	0.08	0.08	0.00	0.07	0.07	478.12
Trenching Off Road Diesel	0.27	1.61	2.02	0.00	0.00	0.07	0.07	0.00	0.07	0.07	445.81
Trenching Worker Trips	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.31
2024	10.40	22.39	67.65	0.23	31.10	1.40	32.50	6.64	1.24	7.88	25,421.61
Asphalt 01/01/2010-12/31/2029	0.25	1.40	1.33	0.00	0.00	0.11	0.11	0.00	0.10	0.10	219.55
Paving Off-Gas	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.22	1.38	1.26	0.00	0.00	0.11	0.11	0.00	0.10	0.10	185.86
Paving On Road Diesel	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.33
Paving Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.35
Building 01/01/2010-12/31/2029	2.13	10.26	57.11	0.23	0.98	0.84	1.82	0.35	0.73	1.08	22,505.81
Building Off Road Diesel	0.22	1.38	1.58	0.00	0.00	0.07	0.07	0.00	0.06	0.06	295.97
Building Vendor Trips	0.82	6.62	8.90	0.06	0.21	0.29	0.49	0.07	0.26	0.33	5,852.33
Building Worker Trips	1.09	2.26	46.63	0.17	0.77	0.49	1.26	0.28	0.41	0.69	16,357.52
Coating 01/01/2010-12/31/2029	6.43	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.30
Architectural Coating	6.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.30
Demolition 01/01/2010-12/31/2029	0.47	3.36	2.70	0.00	2.51	0.14	2.65	0.52	0.13	0.66	911.61
Fugitive Dust	0.00	0.00	0.00	0.00	0.13	0.00	0.13	0.03	0.00	0.03	0.00
Demo Off Road Diesel	0.41	2.82	2.42	0.00	0.00	0.13	0.13	0.00	0.12	0.12	541.35
Demo On Road Diesel	0.06	0.53	0.22	0.00	0.01	0.02	0.03	0.00	0.01	0.02	349.91
Demo Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.35
Mass Grading 01/01/2010-	0.83	5.75	4.35	0.00	27.61	0.23	27.84	5.77	0.21	5.98	1,290.55
Mass Grading Dust	0.00	0.00	0.00	0.00	27.61	0.00	27.61	5.77	0.00	5.77	0.00
Mass Grading Off Road Diesel	0.82	5.61	4.18	0.00	0.00	0.23	0.23	0.00	0.21	0.21	1,158.42
Mass Grading On Road Diesel	0.02	0.14	0.06	0.00	0.00	0.00	0.01	0.00	0.00	0.00	91.43
Mass Grading Worker Trips	0.00	0.01	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.70
Trenching 01/01/2010-12/31/2029	0.27	1.62	2.13	0.00	0.00	0.08	0.08	0.00	0.07	0.07	481.80
Trenching Off Road Diesel	0.27	1.62	2.03	0.00	0.00	0.08	0.08	0.00	0.07	0.07	449.24
Trenching Worker Trips	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.56
2025	10.36	22.30	67.40	0.23	30.98	1.39	32.38	6.61	1.24	7.85	25,324.58
Asphalt 01/01/2010-12/31/2029	0.25	1.40	1.33	0.00	0.00	0.11	0.11	0.00	0.10	0.10	218.71
Paving Off-Gas	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.22	1.37	1.26	0.00	0.00	0.11	0.11	0.00	0.10	0.10	185.16
Paving On Road Diesel	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.28

Page: 1

11/30/2009 11:31:45 AM

Paving Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.27
Building 01/01/2010-12/31/2029	2.13	10.22	56.89	0.23	0.98	0.84	1.81	0.35	0.73	1.07	22,419.91
Building Off Road Diesel	0.22	1.37	1.57	0.00	0.00	0.06	0.06	0.00	0.06	0.06	294.84
Building Vendor Trips	0.82	6.60	8.87	0.06	0.20	0.29	0.49	0.07	0.26	0.33	5,829.99
Building Worker Trips	1.09	2.25	46.45	0.17	0.77	0.49	1.26	0.28	0.41	0.69	16,295.09
Coating 01/01/2010-12/31/2029	6.41	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.25
Architectural Coating	6.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.25
Demolition 01/01/2010-12/31/2029	0.47	3.34	2.69	0.00	2.50	0.14	2.64	0.52	0.13	0.65	908.13
Fugitive Dust	0.00	0.00	0.00	0.00	0.13	0.00	0.13	0.03	0.00	0.03	0.00
Demo Off Road Diesel	0.41	2.81	2.41	0.00	0.00	0.13	0.13	0.00	0.12	0.12	539.29
Demo On Road Diesel	0.06	0.53	0.22	0.00	0.01	0.02	0.03	0.00	0.01	0.02	348.58
Demo Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.27
Mass Grading 01/01/2010-	0.83	5.73	4.34	0.00	27.51	0.23	27.74	5.74	0.21	5.96	1,285.62
Mass Grading Dust	0.00	0.00	0.00	0.00	27.50	0.00	27.50	5.74	0.00	5.74	0.00
Mass Grading Off Road Diesel	0.81	5.58	4.16	0.00	0.00	0.22	0.22	0.00	0.21	0.21	1,153.99
Mass Grading On Road Diesel	0.02	0.14	0.06	0.00	0.00	0.00	0.01	0.00	0.00	0.00	91.08
Mass Grading Worker Trips	0.00	0.01	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.55
Trenching 01/01/2010-12/31/2029	0.27	1.62	2.12	0.00	0.00	0.08	0.08	0.00	0.07	0.07	479.96
Trenching Off Road Diesel	0.27	1.61	2.03	0.00	0.00	0.08	0.08	0.00	0.07	0.07	447.52
Trenching Worker Trips	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.44
2026	9.93	20.67	56.93	0.23	30.98	1.36	32.34	6.61	1.20	7.82	25,323.29
Asphalt 01/01/2010-12/31/2029	0.25	1.39	1.31	0.00	0.00	0.11	0.11	0.00	0.10	0.10	218.71
Paving Off-Gas	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.22	1.37	1.26	0.00	0.00	0.11	0.11	0.00	0.10	0.10	185.16
Paving On Road Diesel	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.28
Paving Worker Trips	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.27
Building 01/01/2010-12/31/2029	1.71	8.69	46.53	0.23	0.98	0.80	1.78	0.35	0.69	1.04	22,418.63
Building Off Road Diesel	0.22	1.37	1.57	0.00	0.00	0.06	0.06	0.00	0.06	0.06	294.84
Building Vendor Trips	0.71	5.57	7.65	0.06	0.20	0.25	0.46	0.07	0.23	0.30	5,830.51
Building Worker Trips	0.78	1.75	37.31	0.17	0.77	0.49	1.26	0.28	0.41	0.69	16,293.28
Coating 01/01/2010-12/31/2029	6.41	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.25
Architectural Coating	6.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.25
Demolition 01/01/2010-12/31/2029	0.47	3.26	2.65	0.00	2.50	0.14	2.64	0.52	0.13	0.65	908.13
Fugitive Dust	0.00	0.00	0.00	0.00	0.13	0.00	0.13	0.03	0.00	0.03	0.00
Demo Off Road Diesel	0.41	2.81	2.41	0.00	0.00	0.13	0.13	0.00	0.12	0.12	539.29
Demo On Road Diesel	0.05	0.45	0.19	0.00	0.01	0.01	0.02	0.00	0.01	0.02	348.58
Demo Worker Trips	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.27
Mass Grading 01/01/2010-	0.83	5.71	4.31	0.00	27.51	0.23	27.73	5.74	0.21	5.96	1,285.62
Mass Grading Dust	0.00	0.00	0.00	0.00	27.50	0.00	27.50	5.74	0.00	5.74	0.00
Mass Grading Off Road Diesel	0.81	5.58	4.16	0.00	0.00	0.22	0.22	0.00	0.21	0.21	1,153.99

Page: 1

11/30/2009 11:31:45 AM

Mass Grading On Road Diesel	0.01	0.12	0.05	0.00	0.00	0.00	0.01	0.00	0.00	0.00	91.08
Mass Grading Worker Trips	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.54
Trenching 01/01/2010-12/31/2029	0.27	1.62	2.10	0.00	0.00	0.08	0.08	0.00	0.07	0.07	479.96
Trenching Off Road Diesel	0.27	1.61	2.03	0.00	0.00	0.08	0.08	0.00	0.07	0.07	447.52
Trenching Worker Trips	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.44
2027	9.93	20.67	56.93	0.23	30.98	1.36	32.34	6.61	1.20	7.82	25,323.29
Asphalt 01/01/2010-12/31/2029	0.25	1.39	1.31	0.00	0.00	0.11	0.11	0.00	0.10	0.10	218.71
Paving Off-Gas	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.22	1.37	1.26	0.00	0.00	0.11	0.11	0.00	0.10	0.10	185.16
Paving On Road Diesel	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.28
Paving Worker Trips	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.27
Building 01/01/2010-12/31/2029	1.71	8.69	46.53	0.23	0.98	0.80	1.78	0.35	0.69	1.04	22,418.63
Building Off Road Diesel	0.22	1.37	1.57	0.00	0.00	0.06	0.06	0.00	0.06	0.06	294.84
Building Vendor Trips	0.71	5.57	7.65	0.06	0.20	0.25	0.46	0.07	0.23	0.30	5,830.51
Building Worker Trips	0.78	1.75	37.31	0.17	0.77	0.49	1.26	0.28	0.41	0.69	16,293.28
Coating 01/01/2010-12/31/2029	6.41	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.25
Architectural Coating	6.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.25
Demolition 01/01/2010-12/31/2029	0.47	3.26	2.65	0.00	2.50	0.14	2.64	0.52	0.13	0.65	908.13
Fugitive Dust	0.00	0.00	0.00	0.00	0.13	0.00	0.13	0.03	0.00	0.03	0.00
Demo Off Road Diesel	0.41	2.81	2.41	0.00	0.00	0.13	0.13	0.00	0.12	0.12	539.29
Demo On Road Diesel	0.05	0.45	0.19	0.00	0.01	0.01	0.02	0.00	0.01	0.02	348.58
Demo Worker Trips	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.27
Mass Grading 01/01/2010-	0.83	5.71	4.31	0.00	27.51	0.23	27.73	5.74	0.21	5.96	1,285.62
Mass Grading Dust	0.00	0.00	0.00	0.00	27.50	0.00	27.50	5.74	0.00	5.74	0.00
Mass Grading Off Road Diesel	0.81	5.58	4.16	0.00	0.00	0.22	0.22	0.00	0.21	0.21	1,153.99
Mass Grading On Road Diesel	0.01	0.12	0.05	0.00	0.00	0.00	0.01	0.00	0.00	0.00	91.08
Mass Grading Worker Trips	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.54
Trenching 01/01/2010-12/31/2029	0.27	1.62	2.10	0.00	0.00	0.08	0.08	0.00	0.07	0.07	479.96
Trenching Off Road Diesel	0.27	1.61	2.03	0.00	0.00	0.08	0.08	0.00	0.07	0.07	447.52
Trenching Worker Trips	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.44
2028	9.89	20.59	56.71	0.23	30.86	1.35	32.22	6.59	1.20	7.79	25,226.27
Asphalt 01/01/2010-12/31/2029	0.25	1.39	1.31	0.00	0.00	0.11	0.11	0.00	0.10	0.10	217.87
Paving Off-Gas	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.22	1.37	1.26	0.00	0.00	0.11	0.11	0.00	0.10	0.10	184.45
Paving On Road Diesel	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.23
Paving Worker Trips	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.19
Building 01/01/2010-12/31/2029	1.71	8.65	46.35	0.23	0.97	0.80	1.77	0.35	0.69	1.04	22,332.74
Building Off Road Diesel	0.22	1.36	1.56	0.00	0.00	0.06	0.06	0.00	0.06	0.06	293.71
Building Vendor Trips	0.70	5.54	7.62	0.06	0.20	0.25	0.45	0.07	0.23	0.29	5,808.17
Building Worker Trips	0.78	1.75	37.17	0.17	0.77	0.48	1.25	0.28	0.41	0.68	16,230.86

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 1/1/2010 - 12/31/2029 - Default Mass Site Grading/Excavation Description

For Soil Stabilizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stabilizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stabilizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: P:\COI-21\Technical Studies\Air\Modeling\construction\ExistingGPConstruction.urb924

Project Name: Recirculated IBC Existing General Plan - Construction

Project Location: Orange County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2010 TOTALS (lbs/day unmitigated)	129.35	536.18	1,298.92	1.78	1,363.69	25.71	1,389.40	285.90	23.37	309.27	194,198.13
2010 TOTALS (lbs/day mitigated)	129.35	536.18	1,298.92	1.78	237.42	25.71	263.13	50.69	23.37	74.06	194,198.13
2011 TOTALS (lbs/day unmitigated)	123.48	491.73	1,213.89	1.78	1,363.69	23.94	1,387.63	285.90	21.73	307.63	194,166.95
2011 TOTALS (lbs/day mitigated)	123.48	491.73	1,213.89	1.78	237.42	23.94	261.36	50.69	21.73	72.42	194,166.95
2012 TOTALS (lbs/day unmitigated)	117.77	448.66	1,132.63	1.78	1,363.69	21.92	1,385.61	285.90	19.86	305.76	194,146.51
2012 TOTALS (lbs/day mitigated)	117.77	448.66	1,132.63	1.78	237.42	21.92	259.34	50.69	19.86	70.55	194,146.51
2013 TOTALS (lbs/day unmitigated)	112.51	407.77	1,055.20	1.78	1,363.69	20.13	1,383.82	285.90	18.20	304.10	194,135.71
2013 TOTALS (lbs/day mitigated)	112.51	407.77	1,055.20	1.78	237.42	20.13	257.55	50.69	18.20	68.89	194,135.71
2014 TOTALS (lbs/day unmitigated)	107.68	368.62	985.93	1.78	1,363.69	18.28	1,381.97	285.90	16.49	302.39	194,125.50
2014 TOTALS (lbs/day mitigated)	107.68	368.62	985.93	1.78	237.42	18.28	255.70	50.69	16.49	67.18	194,125.50
2015 TOTALS (lbs/day unmitigated)	102.94	330.73	920.39	1.78	1,363.69	16.83	1,380.52	285.90	15.16	301.06	194,117.87
2015 TOTALS (lbs/day mitigated)	102.94	330.73	920.39	1.78	237.42	16.83	254.25	50.69	15.16	65.85	194,117.87
2016 TOTALS (lbs/day unmitigated)	98.89	298.64	863.22	1.78	1,363.69	15.37	1,379.06	285.90	13.81	299.71	194,103.79
2016 TOTALS (lbs/day mitigated)	98.89	298.64	863.22	1.78	237.42	15.37	252.79	50.69	13.81	64.50	194,103.79
2017 TOTALS (lbs/day unmitigated)	95.27	270.42	809.08	1.78	1,363.69	14.18	1,377.87	285.90	12.72	298.62	194,094.67
2017 TOTALS (lbs/day mitigated)	95.27	270.42	809.08	1.78	237.42	14.18	251.60	50.69	12.72	63.41	194,094.67
2018 TOTALS (lbs/day unmitigated)	91.85	245.49	758.81	1.78	1,363.69	13.10	1,376.79	285.90	11.72	297.62	194,088.36
2018 TOTALS (lbs/day mitigated)	91.85	245.49	758.81	1.78	237.42	13.10	250.52	50.69	11.72	62.41	194,088.36
2019 TOTALS (lbs/day unmitigated)	88.80	223.32	712.25	1.78	1,363.69	12.06	1,375.75	285.90	10.77	296.67	194,084.48
2019 TOTALS (lbs/day mitigated)	88.80	223.32	712.25	1.78	237.42	12.06	249.48	50.69	10.77	61.46	194,084.48

Page: 1

11/30/2009 11:31:20 AM

2020 TOTALS (lbs/day unmitigated)	85.85	203.89	669.02	1.78	1,363.69	11.43	1,375.12	285.90	10.19	296.09	194,080.99
2020 TOTALS (lbs/day mitigated)	85.85	203.89	669.02	1.78	237.42	11.43	248.85	50.69	10.19	60.88	194,080.99
2021 TOTALS (lbs/day unmitigated)	79.36	170.92	516.45	1.78	1,363.69	10.69	1,374.38	285.90	9.50	295.40	194,058.12
2021 TOTALS (lbs/day mitigated)	79.36	170.92	516.45	1.78	237.42	10.69	248.11	50.69	9.50	60.19	194,058.12
2022 TOTALS (lbs/day unmitigated)	79.36	170.92	516.45	1.78	1,363.69	10.69	1,374.38	285.90	9.50	295.40	194,058.12
2022 TOTALS (lbs/day mitigated)	79.36	170.92	516.45	1.78	237.42	10.69	248.11	50.69	9.50	60.19	194,058.12
2023 TOTALS (lbs/day unmitigated)	79.36	170.92	516.45	1.78	1,363.69	10.69	1,374.38	285.90	9.50	295.40	194,058.12
2023 TOTALS (lbs/day mitigated)	79.36	170.92	516.45	1.78	237.42	10.69	248.11	50.69	9.50	60.19	194,058.12
2024 TOTALS (lbs/day unmitigated)	79.36	170.92	516.45	1.78	1,363.69	10.69	1,374.38	285.90	9.50	295.40	194,058.12
2024 TOTALS (lbs/day mitigated)	79.36	170.92	516.45	1.78	237.42	10.69	248.11	50.69	9.50	60.19	194,058.12
2025 TOTALS (lbs/day unmitigated)	79.36	170.92	516.45	1.78	1,363.69	10.69	1,374.38	285.90	9.50	295.40	194,058.12
2025 TOTALS (lbs/day mitigated)	79.36	170.92	516.45	1.78	237.42	10.69	248.11	50.69	9.50	60.19	194,058.12
2026 TOTALS (lbs/day unmitigated)	76.10	158.38	436.23	1.78	1,363.69	10.39	1,374.08	285.90	9.22	295.12	194,048.20
2026 TOTALS (lbs/day mitigated)	76.10	158.38	436.23	1.78	237.42	10.39	247.81	50.69	9.22	59.91	194,048.20
2027 TOTALS (lbs/day unmitigated)	76.10	158.38	436.23	1.78	1,363.69	10.39	1,374.08	285.90	9.22	295.12	194,048.20
2027 TOTALS (lbs/day mitigated)	76.10	158.38	436.23	1.78	237.42	10.39	247.81	50.69	9.22	59.91	194,048.20
2028 TOTALS (lbs/day unmitigated)	76.10	158.38	436.23	1.78	1,363.69	10.39	1,374.08	285.90	9.22	295.12	194,048.20
2028 TOTALS (lbs/day mitigated)	76.10	158.38	436.23	1.78	237.42	10.39	247.81	50.69	9.22	59.91	194,048.20
2029 TOTALS (lbs/day unmitigated)	76.10	158.38	436.23	1.78	1,363.69	10.39	1,374.08	285.90	9.22	295.12	194,048.20
2029 TOTALS (lbs/day mitigated)	76.10	158.38	436.23	1.78	237.42	10.39	247.81	50.69	9.22	59.91	194,048.20

Phase Assumptions

Phase: Demolition 1/1/2010 - 12/31/2029 - Default Demolition Description

Building Volume Total (cubic feet): 1.198854E+07

Building Volume Daily (cubic feet): 45375

On Road Truck Travel (VMT): 630.21

Off-Road Equipment:

3 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

2 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

Phase: Mass Grading 1/1/2010 - 12/31/2029 - Default Mass Site Grading/Excavation Description

Page: 1

11/30/2009 11:31:20 AM

Total Acres Disturbed: 140

Maximum Daily Acreage Disturbed: 35

Fugitive Dust Level of Detail: Default

38.2 lbs per acre-day

On Road Truck Travel (VMT): 164.67

Off-Road Equipment:

1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

3 Scrapers (313 hp) operating at a 0.72 load factor for 8 hours per day

3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 1/1/2010 - 12/31/2029 - Default Trenching Description

Off-Road Equipment:

4 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

2 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Paving 1/1/2010 - 12/31/2029 - Default Paving Description

Acres to be Paved: 348.94

Off-Road Equipment:

1 Pavers (100 hp) operating at a 0.62 load factor for 8 hours per day

2 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day

2 Rollers (95 hp) operating at a 0.56 load factor for 6 hours per day

Phase: Building Construction 1/1/2010 - 12/31/2029 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 7 hours per day

3 Forklifts (145 hp) operating at a 0.3 load factor for 8 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 1/1/2010 - 12/31/2029 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
Time Slice 1/1/2010-12/31/2010	<u>129.35</u>	<u>536.18</u>	<u>1,298.92</u>	<u>1.78</u>	<u>237.42</u>	<u>25.71</u>	<u>263.13</u>	<u>50.69</u>	<u>23.37</u>	<u>74.06</u>	<u>194,198.13</u>
Asphalt 01/01/2010-12/31/2029	3.47	19.97	11.97	0.00	0.01	1.71	1.72	0.00	1.58	1.58	1,676.13
Paving Off-Gas	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	3.20	19.17	10.47	0.00	0.00	1.68	1.68	0.00	1.55	1.55	1,418.81
Paving On Road Diesel	0.05	0.73	0.27	0.00	0.00	0.03	0.03	0.00	0.03	0.03	101.76
Paving Worker Trips	0.04	0.07	1.23	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.56
Building 01/01/2010-12/31/2029	53.97	314.29	1,182.41	1.74	7.47	14.37	21.85	2.66	12.94	15.61	171,938.86
Building Off Road Diesel	4.08	23.31	14.31	0.00	0.00	1.67	1.67	0.00	1.54	1.54	2,259.28
Building Vendor Trips	19.42	233.28	179.00	0.43	1.57	9.46	11.03	0.53	8.67	9.20	44,654.18
Building Worker Trips	30.48	57.71	989.10	1.31	5.90	3.25	9.15	2.13	2.74	4.87	125,025.40
Coating 01/01/2010-12/31/2029	49.11	0.04	0.74	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.98
Architectural Coating	49.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.02	0.04	0.74	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.98
Demolition 01/01/2010-12/31/2029	6.99	65.69	34.48	0.03	19.15	2.99	22.14	4.00	2.75	6.74	6,959.09
Fugitive Dust	0.00	0.00	0.00	0.00	19.06	0.00	19.06	3.96	0.00	3.96	0.00
Demo Off Road Diesel	5.54	46.44	26.23	0.00	0.00	2.22	2.22	0.00	2.05	2.05	4,132.45
Demo On Road Diesel	1.41	19.18	7.02	0.02	0.09	0.76	0.85	0.03	0.70	0.73	2,671.08
Demo Worker Trips	0.04	0.07	1.23	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.56
Mass Grading 01/01/2010-	11.64	100.69	50.91	0.01	210.77	4.87	215.64	44.02	4.48	48.50	9,851.90
Mass Grading Dust	0.00	0.00	0.00	0.00	210.73	0.00	210.73	44.01	0.00	44.01	0.00
Mass Grading Off Road Diesel	11.19	95.53	46.62	0.00	0.00	4.66	4.66	0.00	4.29	4.29	8,842.87
Mass Grading On Road Diesel	0.37	5.01	1.84	0.01	0.02	0.20	0.22	0.01	0.18	0.19	697.93
Mass Grading Worker Trips	0.08	0.14	2.46	0.00	0.01	0.01	0.02	0.01	0.01	0.01	311.11
Trenching 01/01/2010-12/31/2029	4.18	35.49	18.40	0.00	0.01	1.76	1.77	0.00	1.62	1.62	3,678.17
Trenching Off Road Diesel	4.12	35.38	16.43	0.00	0.00	1.75	1.75	0.00	1.61	1.61	3,429.28
Trenching Worker Trips	0.06	0.11	1.97	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.89
Time Slice 1/3/2011-12/30/2011	<u>123.48</u>	<u>491.73</u>	<u>1,213.89</u>	<u>1.78</u>	<u>237.42</u>	<u>23.94</u>	<u>261.36</u>	<u>50.69</u>	<u>21.73</u>	<u>72.42</u>	<u>194,166.95</u>
Asphalt 01/01/2010-12/31/2029	3.28	18.97	11.73	0.00	0.01	1.65	1.66	0.00	1.52	1.52	1,676.09
Paving Off-Gas	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	3.02	18.25	10.34	0.00	0.00	1.62	1.62	0.00	1.49	1.49	1,418.81
Paving On Road Diesel	0.05	0.66	0.24	0.00	0.00	0.03	0.03	0.00	0.02	0.02	101.76
Paving Worker Trips	0.03	0.07	1.15	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.52
Building 01/01/2010-12/31/2029	49.63	284.46	1,102.75	1.74	7.47	13.41	20.88	2.66	12.05	14.71	171,907.92
Building Off Road Diesel	3.77	21.85	13.95	0.00	0.00	1.57	1.57	0.00	1.45	1.45	2,259.28

Page: 1

11/30/2009 11:31:20 AM

Building Vendor Trips	17.92	209.77	166.66	0.43	1.57	8.44	10.00	0.53	7.73	8.26	44,653.49
Building Worker Trips	27.94	52.85	922.14	1.31	5.90	3.40	9.30	2.13	2.87	5.00	124,995.15
Coating 01/01/2010-12/31/2029	49.11	0.04	0.69	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.95
Architectural Coating	49.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.02	0.04	0.69	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.95
Demolition 01/01/2010-12/31/2029	6.62	61.00	32.54	0.03	19.15	2.77	21.93	4.00	2.55	6.55	6,959.05
Fugitive Dust	0.00	0.00	0.00	0.00	19.06	0.00	19.06	3.96	0.00	3.96	0.00
Demo Off Road Diesel	5.29	43.71	25.06	0.00	0.00	2.10	2.10	0.00	1.93	1.93	4,132.45
Demo On Road Diesel	1.30	17.22	6.33	0.02	0.09	0.67	0.76	0.03	0.62	0.64	2,671.08
Demo Worker Trips	0.03	0.07	1.15	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.52
Mass Grading 01/01/2010-	10.89	94.31	48.19	0.01	210.77	4.46	215.23	44.02	4.10	48.12	9,851.83
Mass Grading Dust	0.00	0.00	0.00	0.00	210.73	0.00	210.73	44.01	0.00	44.01	0.00
Mass Grading Off Road Diesel	10.48	89.68	44.24	0.00	0.00	4.27	4.27	0.00	3.93	3.93	8,842.87
Mass Grading On Road Diesel	0.34	4.50	1.65	0.01	0.02	0.17	0.20	0.01	0.16	0.17	697.93
Mass Grading Worker Trips	0.07	0.13	2.29	0.00	0.01	0.01	0.02	0.01	0.01	0.01	311.04
Trenching 01/01/2010-12/31/2029	3.95	32.95	17.99	0.00	0.01	1.65	1.66	0.00	1.52	1.52	3,678.11
Trenching Off Road Diesel	3.90	32.84	16.15	0.00	0.00	1.64	1.64	0.00	1.51	1.51	3,429.28
Trenching Worker Trips	0.06	0.11	1.84	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.83
Time Slice 1/2/2012-12/31/2012	<u>117.77</u>	<u>448.66</u>	<u>1,132.63</u>	<u>1.78</u>	<u>237.42</u>	<u>21.92</u>	<u>259.34</u>	<u>50.69</u>	<u>19.86</u>	<u>70.55</u>	<u>194,146.51</u>
Asphalt 01/01/2010-12/31/2029	3.12	17.98	11.52	0.00	0.01	1.56	1.57	0.00	1.43	1.44	1,676.07
Paving Off-Gas	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.86	17.34	10.24	0.00	0.00	1.53	1.53	0.00	1.41	1.41	1,418.81
Paving On Road Diesel	0.05	0.58	0.22	0.00	0.00	0.02	0.03	0.00	0.02	0.02	101.76
Paving Worker Trips	0.03	0.06	1.07	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.49
Building 01/01/2010-12/31/2029	45.37	255.48	1,026.21	1.74	7.47	12.28	19.75	2.66	10.99	13.65	171,887.64
Building Off Road Diesel	3.48	20.42	13.62	0.00	0.00	1.42	1.42	0.00	1.31	1.31	2,259.28
Building Vendor Trips	16.42	186.79	154.41	0.43	1.57	7.44	9.01	0.53	6.81	7.35	44,654.29
Building Worker Trips	25.47	48.27	858.18	1.31	5.90	3.41	9.31	2.13	2.87	5.00	124,974.07
Coating 01/01/2010-12/31/2029	49.11	0.04	0.65	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.94
Architectural Coating	49.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.02	0.04	0.65	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.94
Demolition 01/01/2010-12/31/2029	6.21	56.52	30.82	0.03	19.15	2.51	21.66	4.00	2.31	6.31	6,959.02
Fugitive Dust	0.00	0.00	0.00	0.00	19.06	0.00	19.06	3.96	0.00	3.96	0.00
Demo Off Road Diesel	4.99	41.17	24.10	0.00	0.00	1.92	1.92	0.00	1.77	1.77	4,132.45
Demo On Road Diesel	1.18	15.30	5.66	0.02	0.09	0.58	0.67	0.03	0.54	0.57	2,671.08
Demo Worker Trips	0.03	0.06	1.07	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.49
Mass Grading 01/01/2010-	10.31	88.05	45.70	0.01	210.77	4.10	214.87	44.02	3.77	47.79	9,851.78
Mass Grading Dust	0.00	0.00	0.00	0.00	210.73	0.00	210.73	44.01	0.00	44.01	0.00
Mass Grading Off Road Diesel	9.94	83.94	42.08	0.00	0.00	3.94	3.94	0.00	3.62	3.62	8,842.87
Mass Grading On Road Diesel	0.31	4.00	1.48	0.01	0.02	0.15	0.18	0.01	0.14	0.15	697.93

Page: 1

11/30/2009 11:31:20 AM

Mass Grading Worker Trips	0.06	0.12	2.14	0.00	0.01	0.01	0.02	0.01	0.01	0.01	310.98
Trenching 01/01/2010-12/31/2029	3.66	30.58	17.73	0.00	0.01	1.47	1.48	0.00	1.35	1.36	3,678.06
Trenching Off Road Diesel	3.61	30.48	16.02	0.00	0.00	1.46	1.46	0.00	1.35	1.35	3,429.28
Trenching Worker Trips	0.05	0.10	1.71	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.79
Time Slice 1/1/2013-12/31/2013	<u>112.51</u>	<u>407.77</u>	<u>1,055.20</u>	<u>1.78</u>	<u>237.42</u>	<u>20.13</u>	<u>257.55</u>	<u>50.69</u>	<u>18.20</u>	<u>68.89</u>	<u>194,135.71</u>
Asphalt 01/01/2010-12/31/2029	2.93	17.03	11.34	0.00	0.01	1.46	1.47	0.00	1.34	1.34	1,676.05
Paving Off-Gas	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.69	16.46	10.15	0.00	0.00	1.43	1.43	0.00	1.32	1.32	1,418.81
Paving On Road Diesel	0.04	0.51	0.19	0.00	0.00	0.02	0.02	0.00	0.02	0.02	101.76
Paving Worker Trips	0.03	0.05	0.99	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.48
Building 01/01/2010-12/31/2029	41.21	227.89	953.25	1.74	7.47	11.23	18.70	2.66	10.02	12.68	171,876.94
Building Off Road Diesel	3.19	19.04	13.34	0.00	0.00	1.26	1.26	0.00	1.16	1.16	2,259.28
Building Vendor Trips	14.94	164.70	142.40	0.43	1.57	6.54	8.11	0.53	5.98	6.52	44,656.29
Building Worker Trips	23.08	44.15	797.50	1.31	5.90	3.42	9.33	2.13	2.87	5.00	124,961.37
Coating 01/01/2010-12/31/2029	49.11	0.03	0.60	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.93
Architectural Coating	49.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.02	0.03	0.60	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.93
Demolition 01/01/2010-12/31/2029	5.92	52.25	29.13	0.03	19.15	2.31	21.46	4.00	2.12	6.12	6,959.01
Fugitive Dust	0.00	0.00	0.00	0.00	19.06	0.00	19.06	3.96	0.00	3.96	0.00
Demo Off Road Diesel	4.82	38.74	23.13	0.00	0.00	1.80	1.80	0.00	1.65	1.65	4,132.45
Demo On Road Diesel	1.07	13.45	5.01	0.02	0.09	0.50	0.59	0.03	0.46	0.49	2,671.08
Demo Worker Trips	0.03	0.05	0.99	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.48
Mass Grading 01/01/2010-	9.87	82.24	43.37	0.01	210.77	3.77	214.54	44.02	3.47	47.49	9,851.74
Mass Grading Dust	0.00	0.00	0.00	0.00	210.73	0.00	210.73	44.01	0.00	44.01	0.00
Mass Grading Off Road Diesel	9.53	78.62	40.07	0.00	0.00	3.63	3.63	0.00	3.34	3.34	8,842.87
Mass Grading On Road Diesel	0.28	3.52	1.31	0.01	0.02	0.13	0.15	0.01	0.12	0.13	697.93
Mass Grading Worker Trips	0.06	0.11	1.98	0.00	0.01	0.01	0.02	0.01	0.01	0.01	310.95
Trenching 01/01/2010-12/31/2029	3.48	28.32	17.52	0.00	0.01	1.36	1.37	0.00	1.25	1.26	3,678.04
Trenching Off Road Diesel	3.43	28.24	15.94	0.00	0.00	1.35	1.35	0.00	1.25	1.25	3,429.28
Trenching Worker Trips	0.05	0.09	1.59	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.76
Time Slice 1/1/2014-12/31/2014	<u>107.68</u>	<u>368.62</u>	<u>985.93</u>	<u>1.78</u>	<u>237.42</u>	<u>18.28</u>	<u>255.70</u>	<u>50.69</u>	<u>16.49</u>	<u>67.18</u>	<u>194,125.50</u>
Asphalt 01/01/2010-12/31/2029	2.78	16.11	11.16	0.00	0.01	1.37	1.38	0.00	1.26	1.26	1,676.04
Paving Off-Gas	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.54	15.61	10.07	0.00	0.00	1.34	1.34	0.00	1.24	1.24	1,418.81
Paving On Road Diesel	0.04	0.45	0.17	0.00	0.00	0.02	0.02	0.00	0.02	0.02	101.76
Paving Worker Trips	0.03	0.05	0.92	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.46
Building 01/01/2010-12/31/2029	37.67	202.31	887.85	1.74	7.47	10.25	17.72	2.66	9.11	11.77	171,866.82
Building Off Road Diesel	2.93	17.65	13.06	0.00	0.00	1.11	1.11	0.00	1.02	1.02	2,259.28
Building Vendor Trips	13.54	144.17	131.36	0.43	1.57	5.71	7.28	0.53	5.22	5.75	44,657.80

Page: 1

11/30/2009 11:31:20 AM

Building Worker Trips	21.21	40.48	743.44	1.31	5.90	3.43	9.34	2.13	2.87	5.00	124,949.75
Coating 01/01/2010-12/31/2029	49.10	0.03	0.56	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.92
Architectural Coating	49.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.02	0.03	0.56	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.92
Demolition 01/01/2010-12/31/2029	5.56	47.99	27.60	0.03	19.15	2.06	21.21	4.00	1.89	5.89	6,958.99
Fugitive Dust	0.00	0.00	0.00	0.00	19.06	0.00	19.06	3.96	0.00	3.96	0.00
Demo Off Road Diesel	4.57	36.20	22.26	0.00	0.00	1.62	1.62	0.00	1.49	1.49	4,132.45
Demo On Road Diesel	0.97	11.74	4.41	0.02	0.09	0.43	0.52	0.03	0.40	0.43	2,671.08
Demo Worker Trips	0.03	0.05	0.92	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.46
Mass Grading 01/01/2010-	9.31	76.06	41.49	0.01	210.77	3.42	214.18	44.02	3.14	47.16	9,851.72
Mass Grading Dust	0.00	0.00	0.00	0.00	210.73	0.00	210.73	44.01	0.00	44.01	0.00
Mass Grading Off Road Diesel	9.01	72.90	38.49	0.00	0.00	3.29	3.29	0.00	3.03	3.03	8,842.87
Mass Grading On Road Diesel	0.25	3.07	1.15	0.01	0.02	0.11	0.14	0.01	0.10	0.11	697.93
Mass Grading Worker Trips	0.05	0.10	1.85	0.00	0.01	0.01	0.02	0.01	0.01	0.01	310.92
Trenching 01/01/2010-12/31/2029	3.25	26.12	17.26	0.00	0.01	1.18	1.20	0.00	1.09	1.09	3,678.02
Trenching Off Road Diesel	3.21	26.04	15.78	0.00	0.00	1.18	1.18	0.00	1.08	1.08	3,429.28
Trenching Worker Trips	0.04	0.08	1.48	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.74
Time Slice 1/1/2015-12/31/2015	<u>102.94</u>	<u>330.73</u>	<u>920.39</u>	<u>1.78</u>	<u>237.42</u>	<u>16.83</u>	<u>254.25</u>	<u>50.69</u>	<u>15.16</u>	<u>65.85</u>	<u>194,117.87</u>
Asphalt 01/01/2010-12/31/2029	2.62	15.09	10.99	0.00	0.01	1.26	1.27	0.00	1.16	1.17	1,676.02
Paving Off-Gas	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.38	14.65	9.98	0.00	0.00	1.25	1.25	0.00	1.15	1.15	1,418.81
Paving On Road Diesel	0.03	0.39	0.15	0.00	0.00	0.01	0.02	0.00	0.01	0.01	101.76
Paving Worker Trips	0.02	0.05	0.86	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.45
Building 01/01/2010-12/31/2029	34.33	178.98	825.97	1.74	7.47	9.45	16.92	2.66	8.37	11.03	171,859.26
Building Off Road Diesel	2.69	16.17	12.80	0.00	0.00	1.03	1.03	0.00	0.94	0.94	2,259.28
Building Vendor Trips	12.22	125.53	121.03	0.43	1.57	4.99	6.56	0.53	4.56	5.09	44,659.92
Building Worker Trips	19.41	37.27	692.14	1.31	5.90	3.43	9.34	2.13	2.87	5.00	124,940.06
Coating 01/01/2010-12/31/2029	49.10	0.03	0.52	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.91
Architectural Coating	49.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.03	0.52	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.91
Demolition 01/01/2010-12/31/2029	5.16	43.55	26.17	0.03	19.15	1.87	21.02	4.00	1.72	5.72	6,958.98
Fugitive Dust	0.00	0.00	0.00	0.00	19.06	0.00	19.06	3.96	0.00	3.96	0.00
Demo Off Road Diesel	4.27	33.33	21.45	0.00	0.00	1.50	1.50	0.00	1.38	1.38	4,132.45
Demo On Road Diesel	0.87	10.18	3.86	0.02	0.09	0.37	0.46	0.03	0.34	0.37	2,671.08
Demo Worker Trips	0.02	0.05	0.86	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.45
Mass Grading 01/01/2010-	8.73	69.71	39.67	0.01	210.77	3.13	213.90	44.02	2.88	46.90	9,851.69
Mass Grading Dust	0.00	0.00	0.00	0.00	210.73	0.00	210.73	44.01	0.00	44.01	0.00
Mass Grading Off Road Diesel	8.46	66.95	36.93	0.00	0.00	3.02	3.02	0.00	2.78	2.78	8,842.87
Mass Grading On Road Diesel	0.23	2.66	1.01	0.01	0.02	0.10	0.12	0.01	0.09	0.10	697.93
Mass Grading Worker Trips	0.05	0.09	1.72	0.00	0.01	0.01	0.02	0.01	0.01	0.01	310.90

Page: 1

11/30/2009 11:31:20 AM

Trenching 01/01/2010-12/31/2029	3.00	23.37	17.07	0.00	0.01	1.12	1.13	0.00	1.03	1.03	3,678.00
Trenching Off Road Diesel	2.97	23.30	15.70	0.00	0.00	1.11	1.11	0.00	1.02	1.02	3,429.28
Trenching Worker Trips	0.04	0.07	1.38	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.72
Time Slice 1/1/2016-12/30/2016	<u>98.89</u>	<u>298.64</u>	<u>863.22</u>	<u>1.78</u>	<u>237.42</u>	<u>15.37</u>	<u>252.79</u>	<u>50.69</u>	<u>13.81</u>	<u>64.50</u>	<u>194,103.79</u>
Asphalt 01/01/2010-12/31/2029	2.45	14.10	10.84	0.00	0.01	1.16	1.17	0.00	1.07	1.07	1,676.01
Paving Off-Gas	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.22	13.72	9.91	0.00	0.00	1.14	1.14	0.00	1.05	1.05	1,418.81
Paving On Road Diesel	0.03	0.34	0.13	0.00	0.00	0.01	0.02	0.00	0.01	0.01	101.76
Paving Worker Trips	0.02	0.04	0.80	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.43
Building 01/01/2010-12/31/2029	31.47	160.13	771.81	1.74	7.47	8.72	16.20	2.66	7.70	10.36	171,845.30
Building Off Road Diesel	2.47	14.84	12.61	0.00	0.00	0.88	0.88	0.00	0.81	0.81	2,259.28
Building Vendor Trips	11.16	110.89	112.58	0.43	1.57	4.41	5.98	0.53	4.02	4.56	44,661.15
Building Worker Trips	17.85	34.40	646.62	1.31	5.90	3.43	9.34	2.13	2.87	5.00	124,924.88
Coating 01/01/2010-12/31/2029	49.10	0.03	0.49	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.90
Architectural Coating	49.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.03	0.49	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.90
Demolition 01/01/2010-12/31/2029	4.83	39.71	24.95	0.03	19.15	1.72	20.87	4.00	1.58	5.58	6,958.96
Fugitive Dust	0.00	0.00	0.00	0.00	19.06	0.00	19.06	3.96	0.00	3.96	0.00
Demo Off Road Diesel	4.02	30.70	20.71	0.00	0.00	1.40	1.40	0.00	1.29	1.29	4,132.45
Demo On Road Diesel	0.79	8.97	3.44	0.02	0.09	0.32	0.41	0.03	0.29	0.32	2,671.08
Demo Worker Trips	0.02	0.04	0.80	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.43
Mass Grading 01/01/2010-	8.22	63.92	38.19	0.01	210.77	2.83	213.60	44.02	2.60	46.63	9,851.65
Mass Grading Dust	0.00	0.00	0.00	0.00	210.73	0.00	210.73	44.01	0.00	44.01	0.00
Mass Grading Off Road Diesel	7.96	61.49	35.68	0.00	0.00	2.74	2.74	0.00	2.52	2.52	8,842.87
Mass Grading On Road Diesel	0.21	2.34	0.90	0.01	0.02	0.08	0.11	0.01	0.08	0.08	697.93
Mass Grading Worker Trips	0.04	0.09	1.61	0.00	0.01	0.01	0.02	0.01	0.01	0.01	310.86
Trenching 01/01/2010-12/31/2029	2.82	20.76	16.94	0.00	0.01	0.94	0.95	0.00	0.86	0.87	3,677.97
Trenching Off Road Diesel	2.79	20.70	15.65	0.00	0.00	0.93	0.93	0.00	0.86	0.86	3,429.28
Trenching Worker Trips	0.04	0.07	1.29	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.69
Time Slice 1/2/2017-12/29/2017	<u>95.27</u>	<u>270.42</u>	<u>809.08</u>	<u>1.78</u>	<u>237.42</u>	<u>14.18</u>	<u>251.60</u>	<u>50.69</u>	<u>12.72</u>	<u>63.41</u>	<u>194,094.67</u>
Asphalt 01/01/2010-12/31/2029	2.31	13.20	10.70	0.00	0.01	1.07	1.08	0.00	0.98	0.99	1,675.99
Paving Off-Gas	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.09	12.86	9.83	0.00	0.00	1.05	1.05	0.00	0.97	0.97	1,418.81
Paving On Road Diesel	0.03	0.30	0.12	0.00	0.00	0.01	0.01	0.00	0.01	0.01	101.76
Paving Worker Trips	0.02	0.04	0.75	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.42
Building 01/01/2010-12/31/2029	28.89	144.24	720.47	1.74	7.47	8.18	15.65	2.66	7.20	9.86	171,836.26
Building Off Road Diesel	2.25	13.62	12.45	0.00	0.00	0.77	0.77	0.00	0.71	0.71	2,259.28
Building Vendor Trips	10.30	99.07	105.20	0.43	1.57	3.97	5.54	0.53	3.62	4.15	44,662.80
Building Worker Trips	16.35	31.54	602.82	1.31	5.90	3.43	9.34	2.13	2.87	5.00	124,914.18

Page: 1

11/30/2009 11:31:20 AM

Coating 01/01/2010-12/31/2029	49.10	0.02	0.45	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.89
Architectural Coating	49.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.02	0.45	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.89
Demolition 01/01/2010-12/31/2029	4.58	36.15	23.89	0.03	19.15	1.55	20.71	4.00	1.43	5.43	6,958.95
Fugitive Dust	0.00	0.00	0.00	0.00	19.06	0.00	19.06	3.96	0.00	3.96	0.00
Demo Off Road Diesel	3.84	28.13	20.04	0.00	0.00	1.27	1.27	0.00	1.17	1.17	4,132.45
Demo On Road Diesel	0.72	7.99	3.10	0.02	0.09	0.28	0.37	0.03	0.26	0.28	2,671.08
Demo Worker Trips	0.02	0.04	0.75	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.42
Mass Grading 01/01/2010-	7.74	58.46	36.76	0.01	210.77	2.55	213.32	44.02	2.34	46.37	9,851.63
Mass Grading Dust	0.00	0.00	0.00	0.00	210.73	0.00	210.73	44.01	0.00	44.01	0.00
Mass Grading Off Road Diesel	7.51	56.29	34.45	0.00	0.00	2.47	2.47	0.00	2.27	2.27	8,842.87
Mass Grading On Road Diesel	0.19	2.09	0.81	0.01	0.02	0.07	0.10	0.01	0.07	0.07	697.93
Mass Grading Worker Trips	0.04	0.08	1.50	0.00	0.01	0.01	0.02	0.01	0.01	0.01	310.83
Trenching 01/01/2010-12/31/2029	2.64	18.35	16.81	0.00	0.01	0.83	0.84	0.00	0.76	0.77	3,677.94
Trenching Off Road Diesel	2.61	18.29	15.61	0.00	0.00	0.82	0.82	0.00	0.76	0.76	3,429.28
Trenching Worker Trips	0.03	0.06	1.20	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.67
Time Slice 1/1/2018-12/31/2018	<u>91.85</u>	<u>245.49</u>	<u>758.81</u>	<u>1.78</u>	<u>237.42</u>	<u>13.10</u>	<u>250.52</u>	<u>50.69</u>	<u>11.72</u>	<u>62.41</u>	<u>194,088.36</u>
Asphalt 01/01/2010-12/31/2029	2.19	12.33	10.60	0.00	0.01	0.98	0.99	0.00	0.90	0.90	1,675.98
Paving Off-Gas	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.97	12.02	9.79	0.00	0.00	0.96	0.96	0.00	0.89	0.89	1,418.81
Paving On Road Diesel	0.03	0.27	0.11	0.00	0.00	0.01	0.01	0.00	0.01	0.01	101.76
Paving Worker Trips	0.02	0.04	0.70	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.41
Building 01/01/2010-12/31/2029	26.60	130.73	672.50	1.74	7.47	7.69	15.16	2.66	6.75	9.41	171,830.02
Building Off Road Diesel	2.03	12.45	12.26	0.00	0.00	0.67	0.67	0.00	0.62	0.62	2,259.28
Building Vendor Trips	9.53	89.13	98.59	0.43	1.57	3.58	5.15	0.53	3.26	3.79	44,664.58
Building Worker Trips	15.04	29.14	561.64	1.31	5.90	3.43	9.34	2.13	2.87	5.00	124,906.16
Coating 01/01/2010-12/31/2029	49.10	0.02	0.42	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.89
Architectural Coating	49.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.02	0.42	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.89
Demolition 01/01/2010-12/31/2029	4.28	32.93	22.95	0.03	19.15	1.40	20.55	4.00	1.28	5.28	6,958.94
Fugitive Dust	0.00	0.00	0.00	0.00	19.06	0.00	19.06	3.96	0.00	3.96	0.00
Demo Off Road Diesel	3.59	25.73	19.44	0.00	0.00	1.15	1.15	0.00	1.06	1.06	4,132.45
Demo On Road Diesel	0.67	7.17	2.81	0.02	0.09	0.24	0.33	0.03	0.22	0.25	2,671.08
Demo Worker Trips	0.02	0.04	0.70	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.41
Mass Grading 01/01/2010-	7.21	53.35	35.65	0.01	210.77	2.27	213.04	44.02	2.09	46.11	9,851.61
Mass Grading Dust	0.00	0.00	0.00	0.00	210.73	0.00	210.73	44.01	0.00	44.01	0.00
Mass Grading Off Road Diesel	7.00	51.40	33.52	0.00	0.00	2.20	2.20	0.00	2.02	2.02	8,842.87
Mass Grading On Road Diesel	0.18	1.87	0.73	0.01	0.02	0.06	0.09	0.01	0.06	0.07	697.93
Mass Grading Worker Trips	0.04	0.07	1.40	0.00	0.01	0.01	0.02	0.01	0.01	0.01	310.81
Trenching 01/01/2010-12/31/2029	2.46	16.12	16.69	0.00	0.01	0.76	0.77	0.00	0.70	0.70	3,677.93

Page: 1

11/30/2009 11:31:20 AM

Trenching Off Road Diesel	2.43	16.06	15.57	0.00	0.00	0.75	0.75	0.00	0.69	0.69	3,429.28
Trenching Worker Trips	0.03	0.06	1.12	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.65
Time Slice 1/1/2019-12/31/2019	<u>88.80</u>	<u>223.32</u>	<u>712.25</u>	<u>1.78</u>	<u>237.42</u>	<u>12.06</u>	<u>249.48</u>	<u>50.69</u>	<u>10.77</u>	<u>61.46</u>	<u>194,084.48</u>
Asphalt 01/01/2010-12/31/2029	2.05	11.55	10.45	0.00	0.01	0.89	0.90	0.00	0.82	0.82	1,675.98
Paving Off-Gas	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.83	11.27	9.70	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,418.81
Paving On Road Diesel	0.02	0.25	0.10	0.00	0.00	0.01	0.01	0.00	0.01	0.01	101.76
Paving Worker Trips	0.02	0.03	0.65	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.40
Building 01/01/2010-12/31/2029	24.54	118.87	628.11	1.74	7.47	7.27	14.74	2.66	6.36	9.02	171,826.19
Building Off Road Diesel	1.88	11.39	12.14	0.00	0.00	0.57	0.57	0.00	0.52	0.52	2,259.28
Building Vendor Trips	8.86	80.70	92.59	0.43	1.57	3.27	4.84	0.53	2.97	3.50	44,666.35
Building Worker Trips	13.80	26.78	523.38	1.31	5.90	3.43	9.34	2.13	2.87	5.00	124,900.56
Coating 01/01/2010-12/31/2029	49.10	0.02	0.39	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.88
Architectural Coating	49.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.02	0.39	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.88
Demolition 01/01/2010-12/31/2029	3.98	30.07	22.14	0.03	19.15	1.24	20.40	4.00	1.14	5.14	6,958.93
Fugitive Dust	0.00	0.00	0.00	0.00	19.06	0.00	19.06	3.96	0.00	3.96	0.00
Demo Off Road Diesel	3.34	23.55	18.92	0.00	0.00	1.02	1.02	0.00	0.94	0.94	4,132.45
Demo On Road Diesel	0.62	6.48	2.57	0.02	0.09	0.22	0.31	0.03	0.20	0.23	2,671.08
Demo Worker Trips	0.02	0.03	0.65	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.40
Mass Grading 01/01/2010-	6.85	48.69	34.59	0.01	210.77	2.01	212.78	44.02	1.85	45.87	9,851.59
Mass Grading Dust	0.00	0.00	0.00	0.00	210.73	0.00	210.73	44.01	0.00	44.01	0.00
Mass Grading Off Road Diesel	6.65	46.93	32.62	0.00	0.00	1.94	1.94	0.00	1.79	1.79	8,842.87
Mass Grading On Road Diesel	0.16	1.69	0.67	0.01	0.02	0.06	0.08	0.01	0.05	0.06	697.93
Mass Grading Worker Trips	0.03	0.07	1.30	0.00	0.01	0.01	0.02	0.01	0.01	0.01	310.80
Trenching 01/01/2010-12/31/2029	2.28	14.13	16.57	0.00	0.01	0.65	0.66	0.00	0.60	0.60	3,677.92
Trenching Off Road Diesel	2.25	14.07	15.53	0.00	0.00	0.64	0.64	0.00	0.59	0.59	3,429.28
Trenching Worker Trips	0.03	0.05	1.04	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.64
Time Slice 1/1/2020-12/31/2020	<u>85.85</u>	<u>203.89</u>	<u>669.02</u>	<u>1.78</u>	<u>237.42</u>	<u>11.43</u>	<u>248.85</u>	<u>50.69</u>	<u>10.19</u>	<u>60.88</u>	<u>194,080.99</u>
Asphalt 01/01/2010-12/31/2029	1.91	10.79	10.35	0.00	0.01	0.83	0.84	0.00	0.77	0.77	1,675.97
Paving Off-Gas	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.70	10.53	9.66	0.00	0.00	0.82	0.82	0.00	0.75	0.75	1,418.81
Paving On Road Diesel	0.02	0.22	0.09	0.00	0.00	0.01	0.01	0.00	0.01	0.01	101.76
Paving Worker Trips	0.02	0.03	0.61	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.39
Building 01/01/2010-12/31/2029	22.57	108.80	586.63	1.74	7.47	7.06	14.54	2.66	6.17	8.84	171,822.73
Building Off Road Diesel	1.71	10.50	12.03	0.00	0.00	0.50	0.50	0.00	0.46	0.46	2,259.28
Building Vendor Trips	8.27	73.57	87.19	0.43	1.57	2.99	4.56	0.53	2.72	3.25	44,668.05
Building Worker Trips	12.59	24.74	487.41	1.31	5.90	3.57	9.48	2.13	3.00	5.13	124,895.40
Coating 01/01/2010-12/31/2029	49.10	0.02	0.37	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.88

Page: 1

11/30/2009 11:31:20 AM

Architectural Coating	49.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.02	0.37	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.88
Demolition 01/01/2010-12/31/2029	3.76	27.49	21.45	0.03	19.15	1.17	20.32	4.00	1.08	5.07	6,958.92
Fugitive Dust	0.00	0.00	0.00	0.00	19.06	0.00	19.06	3.96	0.00	3.96	0.00
Demo Off Road Diesel	3.17	21.56	18.48	0.00	0.00	0.97	0.97	0.00	0.89	0.89	4,132.45
Demo On Road Diesel	0.58	5.90	2.36	0.02	0.09	0.19	0.28	0.03	0.18	0.21	2,671.08
Demo Worker Trips	0.02	0.03	0.61	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.39
Mass Grading 01/01/2010-	6.41	44.39	33.73	0.01	210.77	1.78	212.55	44.02	1.64	45.66	9,851.58
Mass Grading Dust	0.00	0.00	0.00	0.00	210.73	0.00	210.73	44.01	0.00	44.01	0.00
Mass Grading Off Road Diesel	6.23	42.79	31.90	0.00	0.00	1.72	1.72	0.00	1.58	1.58	8,842.87
Mass Grading On Road Diesel	0.15	1.54	0.62	0.01	0.02	0.05	0.07	0.01	0.05	0.05	697.93
Mass Grading Worker Trips	0.03	0.06	1.21	0.00	0.01	0.01	0.02	0.01	0.01	0.01	310.79
Trenching 01/01/2010-12/31/2029	2.10	12.40	16.50	0.00	0.01	0.58	0.59	0.00	0.54	0.54	3,677.91
Trenching Off Road Diesel	2.08	12.35	15.53	0.00	0.00	0.58	0.58	0.00	0.53	0.53	3,429.28
Trenching Worker Trips	0.03	0.05	0.97	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.63
Time Slice 1/1/2021-12/31/2021	<u>79.36</u>	<u>170.92</u>	<u>516.45</u>	<u>1.78</u>	<u>237.42</u>	<u>10.69</u>	<u>248.11</u>	<u>50.69</u>	<u>9.50</u>	<u>60.19</u>	<u>194,058.12</u>
Asphalt 01/01/2010-12/31/2029	1.90	10.71	10.16	0.00	0.01	0.83	0.84	0.00	0.76	0.77	1,675.93
Paving Off-Gas	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.70	10.53	9.66	0.00	0.00	0.82	0.82	0.00	0.75	0.75	1,418.81
Paving On Road Diesel	0.02	0.15	0.06	0.00	0.00	0.00	0.01	0.00	0.00	0.01	101.76
Paving Worker Trips	0.01	0.02	0.44	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.36
Building 01/01/2010-12/31/2029	16.29	78.30	435.93	1.74	7.47	6.41	13.88	2.66	5.56	8.23	171,800.08
Building Off Road Diesel	1.71	10.50	12.03	0.00	0.00	0.50	0.50	0.00	0.46	0.46	2,259.28
Building Vendor Trips	6.26	50.56	67.94	0.43	1.57	2.19	3.76	0.53	1.98	2.51	44,674.24
Building Worker Trips	8.32	17.25	355.96	1.31	5.90	3.73	9.63	2.13	3.13	5.26	124,866.56
Coating 01/01/2010-12/31/2029	49.09	0.01	0.27	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.86
Architectural Coating	49.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.01	0.27	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.86
Demolition 01/01/2010-12/31/2029	3.62	25.62	20.62	0.03	19.15	1.10	20.25	4.00	1.01	5.01	6,958.89
Fugitive Dust	0.00	0.00	0.00	0.00	19.06	0.00	19.06	3.96	0.00	3.96	0.00
Demo Off Road Diesel	3.17	21.56	18.48	0.00	0.00	0.97	0.97	0.00	0.89	0.89	4,132.45
Demo On Road Diesel	0.44	4.04	1.70	0.02	0.09	0.12	0.21	0.03	0.11	0.14	2,671.08
Demo Worker Trips	0.01	0.02	0.44	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.36
Mass Grading 01/01/2010-	6.36	43.89	33.23	0.01	210.77	1.76	212.53	44.02	1.62	45.64	9,851.51
Mass Grading Dust	0.00	0.00	0.00	0.00	210.73	0.00	210.73	44.01	0.00	44.01	0.00
Mass Grading Off Road Diesel	6.23	42.79	31.90	0.00	0.00	1.72	1.72	0.00	1.58	1.58	8,842.87
Mass Grading On Road Diesel	0.12	1.06	0.44	0.01	0.02	0.03	0.06	0.01	0.03	0.04	697.93
Mass Grading Worker Trips	0.02	0.04	0.89	0.00	0.01	0.01	0.02	0.01	0.01	0.01	310.72
Trenching 01/01/2010-12/31/2029	2.09	12.38	16.23	0.00	0.01	0.58	0.60	0.00	0.54	0.54	3,677.85
Trenching Off Road Diesel	2.08	12.35	15.53	0.00	0.00	0.58	0.58	0.00	0.53	0.53	3,429.28

11/30/2009 11:31:20 AM

Trenching Worker Trips	0.02	0.03	0.71	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.57
Time Slice 1/3/2022-12/30/2022	<u>79.36</u>	<u>170.92</u>	<u>516.45</u>	<u>1.78</u>	<u>237.42</u>	<u>10.69</u>	<u>248.11</u>	<u>50.69</u>	<u>9.50</u>	<u>60.19</u>	<u>194,058.12</u>
Asphalt 01/01/2010-12/31/2029	1.90	10.71	10.16	0.00	0.01	0.83	0.84	0.00	0.76	0.77	1,675.93
Paving Off-Gas	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.70	10.53	9.66	0.00	0.00	0.82	0.82	0.00	0.75	0.75	1,418.81
Paving On Road Diesel	0.02	0.15	0.06	0.00	0.00	0.00	0.01	0.00	0.00	0.01	101.76
Paving Worker Trips	0.01	0.02	0.44	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.36
Building 01/01/2010-12/31/2029	16.29	78.30	435.93	1.74	7.47	6.41	13.88	2.66	5.56	8.23	171,800.08
Building Off Road Diesel	1.71	10.50	12.03	0.00	0.00	0.50	0.50	0.00	0.46	0.46	2,259.28
Building Vendor Trips	6.26	50.56	67.94	0.43	1.57	2.19	3.76	0.53	1.98	2.51	44,674.24
Building Worker Trips	8.32	17.25	355.96	1.31	5.90	3.73	9.63	2.13	3.13	5.26	124,866.56
Coating 01/01/2010-12/31/2029	49.09	0.01	0.27	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.86
Architectural Coating	49.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.01	0.27	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.86
Demolition 01/01/2010-12/31/2029	3.62	25.62	20.62	0.03	19.15	1.10	20.25	4.00	1.01	5.01	6,958.89
Fugitive Dust	0.00	0.00	0.00	0.00	19.06	0.00	19.06	3.96	0.00	3.96	0.00
Demo Off Road Diesel	3.17	21.56	18.48	0.00	0.00	0.97	0.97	0.00	0.89	0.89	4,132.45
Demo On Road Diesel	0.44	4.04	1.70	0.02	0.09	0.12	0.21	0.03	0.11	0.14	2,671.08
Demo Worker Trips	0.01	0.02	0.44	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.36
Mass Grading 01/01/2010-	6.36	43.89	33.23	0.01	210.77	1.76	212.53	44.02	1.62	45.64	9,851.51
Mass Grading Dust	0.00	0.00	0.00	0.00	210.73	0.00	210.73	44.01	0.00	44.01	0.00
Mass Grading Off Road Diesel	6.23	42.79	31.90	0.00	0.00	1.72	1.72	0.00	1.58	1.58	8,842.87
Mass Grading On Road Diesel	0.12	1.06	0.44	0.01	0.02	0.03	0.06	0.01	0.03	0.04	697.93
Mass Grading Worker Trips	0.02	0.04	0.89	0.00	0.01	0.01	0.02	0.01	0.01	0.01	310.72
Trenching 01/01/2010-12/31/2029	2.09	12.38	16.23	0.00	0.01	0.58	0.60	0.00	0.54	0.54	3,677.85
Trenching Off Road Diesel	2.08	12.35	15.53	0.00	0.00	0.58	0.58	0.00	0.53	0.53	3,429.28
Trenching Worker Trips	0.02	0.03	0.71	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.57
Time Slice 1/2/2023-12/29/2023	<u>79.36</u>	<u>170.92</u>	<u>516.45</u>	<u>1.78</u>	<u>237.42</u>	<u>10.69</u>	<u>248.11</u>	<u>50.69</u>	<u>9.50</u>	<u>60.19</u>	<u>194,058.12</u>
Asphalt 01/01/2010-12/31/2029	1.90	10.71	10.16	0.00	0.01	0.83	0.84	0.00	0.76	0.77	1,675.93
Paving Off-Gas	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.70	10.53	9.66	0.00	0.00	0.82	0.82	0.00	0.75	0.75	1,418.81
Paving On Road Diesel	0.02	0.15	0.06	0.00	0.00	0.00	0.01	0.00	0.00	0.01	101.76
Paving Worker Trips	0.01	0.02	0.44	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.36
Building 01/01/2010-12/31/2029	16.29	78.30	435.93	1.74	7.47	6.41	13.88	2.66	5.56	8.23	171,800.08
Building Off Road Diesel	1.71	10.50	12.03	0.00	0.00	0.50	0.50	0.00	0.46	0.46	2,259.28
Building Vendor Trips	6.26	50.56	67.94	0.43	1.57	2.19	3.76	0.53	1.98	2.51	44,674.24
Building Worker Trips	8.32	17.25	355.96	1.31	5.90	3.73	9.63	2.13	3.13	5.26	124,866.56
Coating 01/01/2010-12/31/2029	49.09	0.01	0.27	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.86
Architectural Coating	49.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Page: 1

11/30/2009 11:31:20 AM

Coating Worker Trips	0.01	0.01	0.27	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.86
Demolition 01/01/2010-12/31/2029	3.62	25.62	20.62	0.03	19.15	1.10	20.25	4.00	1.01	5.01	6,958.89
Fugitive Dust	0.00	0.00	0.00	0.00	19.06	0.00	19.06	3.96	0.00	3.96	0.00
Demo Off Road Diesel	3.17	21.56	18.48	0.00	0.00	0.97	0.97	0.00	0.89	0.89	4,132.45
Demo On Road Diesel	0.44	4.04	1.70	0.02	0.09	0.12	0.21	0.03	0.11	0.14	2,671.08
Demo Worker Trips	0.01	0.02	0.44	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.36
Mass Grading 01/01/2010-	6.36	43.89	33.23	0.01	210.77	1.76	212.53	44.02	1.62	45.64	9,851.51
Mass Grading Dust	0.00	0.00	0.00	0.00	210.73	0.00	210.73	44.01	0.00	44.01	0.00
Mass Grading Off Road Diesel	6.23	42.79	31.90	0.00	0.00	1.72	1.72	0.00	1.58	1.58	8,842.87
Mass Grading On Road Diesel	0.12	1.06	0.44	0.01	0.02	0.03	0.06	0.01	0.03	0.04	697.93
Mass Grading Worker Trips	0.02	0.04	0.89	0.00	0.01	0.01	0.02	0.01	0.01	0.01	310.72
Trenching 01/01/2010-12/31/2029	2.09	12.38	16.23	0.00	0.01	0.58	0.60	0.00	0.54	0.54	3,677.85
Trenching Off Road Diesel	2.08	12.35	15.53	0.00	0.00	0.58	0.58	0.00	0.53	0.53	3,429.28
Trenching Worker Trips	0.02	0.03	0.71	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.57
Time Slice 1/1/2024-12/31/2024	<u>79.36</u>	<u>170.92</u>	<u>516.45</u>	<u>1.78</u>	<u>237.42</u>	<u>10.69</u>	<u>248.11</u>	<u>50.69</u>	<u>9.50</u>	<u>60.19</u>	<u>194,058.12</u>
Asphalt 01/01/2010-12/31/2029	1.90	10.71	10.16	0.00	0.01	0.83	0.84	0.00	0.76	0.77	1,675.93
Paving Off-Gas	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.70	10.53	9.66	0.00	0.00	0.82	0.82	0.00	0.75	0.75	1,418.81
Paving On Road Diesel	0.02	0.15	0.06	0.00	0.00	0.00	0.01	0.00	0.00	0.01	101.76
Paving Worker Trips	0.01	0.02	0.44	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.36
Building 01/01/2010-12/31/2029	16.29	78.30	435.93	1.74	7.47	6.41	13.88	2.66	5.56	8.23	171,800.08
Building Off Road Diesel	1.71	10.50	12.03	0.00	0.00	0.50	0.50	0.00	0.46	0.46	2,259.28
Building Vendor Trips	6.26	50.56	67.94	0.43	1.57	2.19	3.76	0.53	1.98	2.51	44,674.24
Building Worker Trips	8.32	17.25	355.96	1.31	5.90	3.73	9.63	2.13	3.13	5.26	124,866.56
Coating 01/01/2010-12/31/2029	49.09	0.01	0.27	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.86
Architectural Coating	49.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.01	0.27	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.86
Demolition 01/01/2010-12/31/2029	3.62	25.62	20.62	0.03	19.15	1.10	20.25	4.00	1.01	5.01	6,958.89
Fugitive Dust	0.00	0.00	0.00	0.00	19.06	0.00	19.06	3.96	0.00	3.96	0.00
Demo Off Road Diesel	3.17	21.56	18.48	0.00	0.00	0.97	0.97	0.00	0.89	0.89	4,132.45
Demo On Road Diesel	0.44	4.04	1.70	0.02	0.09	0.12	0.21	0.03	0.11	0.14	2,671.08
Demo Worker Trips	0.01	0.02	0.44	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.36
Mass Grading 01/01/2010-	6.36	43.89	33.23	0.01	210.77	1.76	212.53	44.02	1.62	45.64	9,851.51
Mass Grading Dust	0.00	0.00	0.00	0.00	210.73	0.00	210.73	44.01	0.00	44.01	0.00
Mass Grading Off Road Diesel	6.23	42.79	31.90	0.00	0.00	1.72	1.72	0.00	1.58	1.58	8,842.87
Mass Grading On Road Diesel	0.12	1.06	0.44	0.01	0.02	0.03	0.06	0.01	0.03	0.04	697.93
Mass Grading Worker Trips	0.02	0.04	0.89	0.00	0.01	0.01	0.02	0.01	0.01	0.01	310.72
Trenching 01/01/2010-12/31/2029	2.09	12.38	16.23	0.00	0.01	0.58	0.60	0.00	0.54	0.54	3,677.85
Trenching Off Road Diesel	2.08	12.35	15.53	0.00	0.00	0.58	0.58	0.00	0.53	0.53	3,429.28
Trenching Worker Trips	0.02	0.03	0.71	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.57

11/30/2009 11:31:20 AM

Time Slice 1/1/2025-12/31/2025	<u>79.36</u>	<u>170.92</u>	<u>516.45</u>	<u>1.78</u>	<u>237.42</u>	<u>10.69</u>	<u>248.11</u>	<u>50.69</u>	<u>9.50</u>	<u>60.19</u>	<u>194,058.12</u>
Asphalt 01/01/2010-12/31/2029	1.90	10.71	10.16	0.00	0.01	0.83	0.84	0.00	0.76	0.77	1,675.93
Paving Off-Gas	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.70	10.53	9.66	0.00	0.00	0.82	0.82	0.00	0.75	0.75	1,418.81
Paving On Road Diesel	0.02	0.15	0.06	0.00	0.00	0.00	0.01	0.00	0.00	0.01	101.76
Paving Worker Trips	0.01	0.02	0.44	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.36
Building 01/01/2010-12/31/2029	16.29	78.30	435.93	1.74	7.47	6.41	13.88	2.66	5.56	8.23	171,800.08
Building Off Road Diesel	1.71	10.50	12.03	0.00	0.00	0.50	0.50	0.00	0.46	0.46	2,259.28
Building Vendor Trips	6.26	50.56	67.94	0.43	1.57	2.19	3.76	0.53	1.98	2.51	44,674.24
Building Worker Trips	8.32	17.25	355.96	1.31	5.90	3.73	9.63	2.13	3.13	5.26	124,866.56
Coating 01/01/2010-12/31/2029	49.09	0.01	0.27	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.86
Architectural Coating	49.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.01	0.27	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.86
Demolition 01/01/2010-12/31/2029	3.62	25.62	20.62	0.03	19.15	1.10	20.25	4.00	1.01	5.01	6,958.89
Fugitive Dust	0.00	0.00	0.00	0.00	19.06	0.00	19.06	3.96	0.00	3.96	0.00
Demo Off Road Diesel	3.17	21.56	18.48	0.00	0.00	0.97	0.97	0.00	0.89	0.89	4,132.45
Demo On Road Diesel	0.44	4.04	1.70	0.02	0.09	0.12	0.21	0.03	0.11	0.14	2,671.08
Demo Worker Trips	0.01	0.02	0.44	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.36
Mass Grading 01/01/2010-	6.36	43.89	33.23	0.01	210.77	1.76	212.53	44.02	1.62	45.64	9,851.51
Mass Grading Dust	0.00	0.00	0.00	0.00	210.73	0.00	210.73	44.01	0.00	44.01	0.00
Mass Grading Off Road Diesel	6.23	42.79	31.90	0.00	0.00	1.72	1.72	0.00	1.58	1.58	8,842.87
Mass Grading On Road Diesel	0.12	1.06	0.44	0.01	0.02	0.03	0.06	0.01	0.03	0.04	697.93
Mass Grading Worker Trips	0.02	0.04	0.89	0.00	0.01	0.01	0.02	0.01	0.01	0.01	310.72
Trenching 01/01/2010-12/31/2029	2.09	12.38	16.23	0.00	0.01	0.58	0.60	0.00	0.54	0.54	3,677.85
Trenching Off Road Diesel	2.08	12.35	15.53	0.00	0.00	0.58	0.58	0.00	0.53	0.53	3,429.28
Trenching Worker Trips	0.02	0.03	0.71	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.57
Time Slice 1/1/2026-12/31/2026	<u>76.10</u>	<u>158.38</u>	<u>436.23</u>	<u>1.78</u>	<u>237.42</u>	<u>10.39</u>	<u>247.81</u>	<u>50.69</u>	<u>9.22</u>	<u>59.91</u>	<u>194,048.20</u>
Asphalt 01/01/2010-12/31/2029	1.89	10.68	10.07	0.00	0.01	0.83	0.84	0.00	0.76	0.77	1,675.92
Paving Off-Gas	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.70	10.53	9.66	0.00	0.00	0.82	0.82	0.00	0.75	0.75	1,418.81
Paving On Road Diesel	0.02	0.13	0.06	0.00	0.00	0.00	0.01	0.00	0.00	0.00	101.76
Paving Worker Trips	0.01	0.02	0.36	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.34
Building 01/01/2010-12/31/2029	13.12	66.58	356.53	1.74	7.47	6.14	13.61	2.66	5.32	7.98	171,790.27
Building Off Road Diesel	1.71	10.50	12.03	0.00	0.00	0.50	0.50	0.00	0.46	0.46	2,259.28
Building Vendor Trips	5.42	42.65	58.60	0.43	1.57	1.92	3.49	0.53	1.73	2.26	44,678.26
Building Worker Trips	5.99	13.43	285.90	1.31	5.90	3.73	9.63	2.13	3.13	5.26	124,852.73
Coating 01/01/2010-12/31/2029	49.09	0.01	0.21	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.85
Architectural Coating	49.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.01	0.21	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.85

Page: 1

11/30/2009 11:31:20 AM

Demolition 01/01/2010-12/31/2029	3.57	25.01	20.31	0.03	19.15	1.08	20.23	4.00	0.99	4.98	6,958.87
Fugitive Dust	0.00	0.00	0.00	0.00	19.06	0.00	19.06	3.96	0.00	3.96	0.00
Demo Off Road Diesel	3.17	21.56	18.48	0.00	0.00	0.97	0.97	0.00	0.89	0.89	4,132.45
Demo On Road Diesel	0.39	3.44	1.48	0.02	0.09	0.10	0.19	0.03	0.09	0.12	2,671.08
Demo Worker Trips	0.01	0.02	0.36	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.34
Mass Grading 01/01/2010-	6.34	43.72	33.00	0.01	210.77	1.76	212.52	44.02	1.61	45.64	9,851.47
Mass Grading Dust	0.00	0.00	0.00	0.00	210.73	0.00	210.73	44.01	0.00	44.01	0.00
Mass Grading Off Road Diesel	6.23	42.79	31.90	0.00	0.00	1.72	1.72	0.00	1.58	1.58	8,842.87
Mass Grading On Road Diesel	0.10	0.90	0.39	0.01	0.02	0.03	0.05	0.01	0.02	0.03	697.93
Mass Grading Worker Trips	0.01	0.03	0.71	0.00	0.01	0.01	0.02	0.01	0.01	0.01	310.68
Trenching 01/01/2010-12/31/2029	2.09	12.38	16.10	0.00	0.01	0.58	0.60	0.00	0.54	0.54	3,677.82
Trenching Off Road Diesel	2.08	12.35	15.53	0.00	0.00	0.58	0.58	0.00	0.53	0.53	3,429.28
Trenching Worker Trips	0.01	0.03	0.57	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.55
Time Slice 1/1/2027-12/31/2027	<u>76.10</u>	<u>158.38</u>	<u>436.23</u>	<u>1.78</u>	<u>237.42</u>	<u>10.39</u>	<u>247.81</u>	<u>50.69</u>	<u>9.22</u>	<u>59.91</u>	<u>194,048.20</u>
Asphalt 01/01/2010-12/31/2029	1.89	10.68	10.07	0.00	0.01	0.83	0.84	0.00	0.76	0.77	1,675.92
Paving Off-Gas	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.70	10.53	9.66	0.00	0.00	0.82	0.82	0.00	0.75	0.75	1,418.81
Paving On Road Diesel	0.02	0.13	0.06	0.00	0.00	0.00	0.01	0.00	0.00	0.00	101.76
Paving Worker Trips	0.01	0.02	0.36	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.34
Building 01/01/2010-12/31/2029	13.12	66.58	356.53	1.74	7.47	6.14	13.61	2.66	5.32	7.98	171,790.27
Building Off Road Diesel	1.71	10.50	12.03	0.00	0.00	0.50	0.50	0.00	0.46	0.46	2,259.28
Building Vendor Trips	5.42	42.65	58.60	0.43	1.57	1.92	3.49	0.53	1.73	2.26	44,678.26
Building Worker Trips	5.99	13.43	285.90	1.31	5.90	3.73	9.63	2.13	3.13	5.26	124,852.73
Coating 01/01/2010-12/31/2029	49.09	0.01	0.21	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.85
Architectural Coating	49.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.01	0.21	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.85
Demolition 01/01/2010-12/31/2029	3.57	25.01	20.31	0.03	19.15	1.08	20.23	4.00	0.99	4.98	6,958.87
Fugitive Dust	0.00	0.00	0.00	0.00	19.06	0.00	19.06	3.96	0.00	3.96	0.00
Demo Off Road Diesel	3.17	21.56	18.48	0.00	0.00	0.97	0.97	0.00	0.89	0.89	4,132.45
Demo On Road Diesel	0.39	3.44	1.48	0.02	0.09	0.10	0.19	0.03	0.09	0.12	2,671.08
Demo Worker Trips	0.01	0.02	0.36	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.34
Mass Grading 01/01/2010-	6.34	43.72	33.00	0.01	210.77	1.76	212.52	44.02	1.61	45.64	9,851.47
Mass Grading Dust	0.00	0.00	0.00	0.00	210.73	0.00	210.73	44.01	0.00	44.01	0.00
Mass Grading Off Road Diesel	6.23	42.79	31.90	0.00	0.00	1.72	1.72	0.00	1.58	1.58	8,842.87
Mass Grading On Road Diesel	0.10	0.90	0.39	0.01	0.02	0.03	0.05	0.01	0.02	0.03	697.93
Mass Grading Worker Trips	0.01	0.03	0.71	0.00	0.01	0.01	0.02	0.01	0.01	0.01	310.68
Trenching 01/01/2010-12/31/2029	2.09	12.38	16.10	0.00	0.01	0.58	0.60	0.00	0.54	0.54	3,677.82
Trenching Off Road Diesel	2.08	12.35	15.53	0.00	0.00	0.58	0.58	0.00	0.53	0.53	3,429.28
Trenching Worker Trips	0.01	0.03	0.57	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.55

Page: 1

11/30/2009 11:31:20 AM

Time Slice 1/3/2028-12/29/2028	<u>76.10</u>	<u>158.38</u>	<u>436.23</u>	<u>1.78</u>	<u>237.42</u>	<u>10.39</u>	<u>247.81</u>	<u>50.69</u>	<u>9.22</u>	<u>59.91</u>	<u>194,048.20</u>
Asphalt 01/01/2010-12/31/2029	1.89	10.68	10.07	0.00	0.01	0.83	0.84	0.00	0.76	0.77	1,675.92
Paving Off-Gas	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.70	10.53	9.66	0.00	0.00	0.82	0.82	0.00	0.75	0.75	1,418.81
Paving On Road Diesel	0.02	0.13	0.06	0.00	0.00	0.00	0.01	0.00	0.00	0.00	101.76
Paving Worker Trips	0.01	0.02	0.36	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.34
Building 01/01/2010-12/31/2029	13.12	66.58	356.53	1.74	7.47	6.14	13.61	2.66	5.32	7.98	171,790.27
Building Off Road Diesel	1.71	10.50	12.03	0.00	0.00	0.50	0.50	0.00	0.46	0.46	2,259.28
Building Vendor Trips	5.42	42.65	58.60	0.43	1.57	1.92	3.49	0.53	1.73	2.26	44,678.26
Building Worker Trips	5.99	13.43	285.90	1.31	5.90	3.73	9.63	2.13	3.13	5.26	124,852.73
Coating 01/01/2010-12/31/2029	49.09	0.01	0.21	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.85
Architectural Coating	49.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.01	0.21	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.85
Demolition 01/01/2010-12/31/2029	3.57	25.01	20.31	0.03	19.15	1.08	20.23	4.00	0.99	4.98	6,958.87
Fugitive Dust	0.00	0.00	0.00	0.00	19.06	0.00	19.06	3.96	0.00	3.96	0.00
Demo Off Road Diesel	3.17	21.56	18.48	0.00	0.00	0.97	0.97	0.00	0.89	0.89	4,132.45
Demo On Road Diesel	0.39	3.44	1.48	0.02	0.09	0.10	0.19	0.03	0.09	0.12	2,671.08
Demo Worker Trips	0.01	0.02	0.36	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.34
Mass Grading 01/01/2010-	6.34	43.72	33.00	0.01	210.77	1.76	212.52	44.02	1.61	45.64	9,851.47
Mass Grading Dust	0.00	0.00	0.00	0.00	210.73	0.00	210.73	44.01	0.00	44.01	0.00
Mass Grading Off Road Diesel	6.23	42.79	31.90	0.00	0.00	1.72	1.72	0.00	1.58	1.58	8,842.87
Mass Grading On Road Diesel	0.10	0.90	0.39	0.01	0.02	0.03	0.05	0.01	0.02	0.03	697.93
Mass Grading Worker Trips	0.01	0.03	0.71	0.00	0.01	0.01	0.02	0.01	0.01	0.01	310.68
Trenching 01/01/2010-12/31/2029	2.09	12.38	16.10	0.00	0.01	0.58	0.60	0.00	0.54	0.54	3,677.82
Trenching Off Road Diesel	2.08	12.35	15.53	0.00	0.00	0.58	0.58	0.00	0.53	0.53	3,429.28
Trenching Worker Trips	0.01	0.03	0.57	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.55
Time Slice 1/1/2029-12/31/2029	<u>76.10</u>	<u>158.38</u>	<u>436.23</u>	<u>1.78</u>	<u>237.42</u>	<u>10.39</u>	<u>247.81</u>	<u>50.69</u>	<u>9.22</u>	<u>59.91</u>	<u>194,048.20</u>
Asphalt 01/01/2010-12/31/2029	1.89	10.68	10.07	0.00	0.01	0.83	0.84	0.00	0.76	0.77	1,675.92
Paving Off-Gas	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.70	10.53	9.66	0.00	0.00	0.82	0.82	0.00	0.75	0.75	1,418.81
Paving On Road Diesel	0.02	0.13	0.06	0.00	0.00	0.00	0.01	0.00	0.00	0.00	101.76
Paving Worker Trips	0.01	0.02	0.36	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.34
Building 01/01/2010-12/31/2029	13.12	66.58	356.53	1.74	7.47	6.14	13.61	2.66	5.32	7.98	171,790.27
Building Off Road Diesel	1.71	10.50	12.03	0.00	0.00	0.50	0.50	0.00	0.46	0.46	2,259.28
Building Vendor Trips	5.42	42.65	58.60	0.43	1.57	1.92	3.49	0.53	1.73	2.26	44,678.26
Building Worker Trips	5.99	13.43	285.90	1.31	5.90	3.73	9.63	2.13	3.13	5.26	124,852.73
Coating 01/01/2010-12/31/2029	49.09	0.01	0.21	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.85
Architectural Coating	49.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.01	0.21	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.85
Demolition 01/01/2010-12/31/2029	3.57	25.01	20.31	0.03	19.15	1.08	20.23	4.00	0.99	4.98	6,958.87

Page: 1

11/30/2009 11:31:20 AM

Fugitive Dust	0.00	0.00	0.00	0.00	19.06	0.00	19.06	3.96	0.00	3.96	0.00
Demo Off Road Diesel	3.17	21.56	18.48	0.00	0.00	0.97	0.97	0.00	0.89	0.89	4,132.45
Demo On Road Diesel	0.39	3.44	1.48	0.02	0.09	0.10	0.19	0.03	0.09	0.12	2,671.08
Demo Worker Trips	0.01	0.02	0.36	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.34
Mass Grading 01/01/2010-	6.34	43.72	33.00	0.01	210.77	1.76	212.52	44.02	1.61	45.64	9,851.47
Mass Grading Dust	0.00	0.00	0.00	0.00	210.73	0.00	210.73	44.01	0.00	44.01	0.00
Mass Grading Off Road Diesel	6.23	42.79	31.90	0.00	0.00	1.72	1.72	0.00	1.58	1.58	8,842.87
Mass Grading On Road Diesel	0.10	0.90	0.39	0.01	0.02	0.03	0.05	0.01	0.02	0.03	697.93
Mass Grading Worker Trips	0.01	0.03	0.71	0.00	0.01	0.01	0.02	0.01	0.01	0.01	310.68
Trenching 01/01/2010-12/31/2029	2.09	12.38	16.10	0.00	0.01	0.58	0.60	0.00	0.54	0.54	3,677.82
Trenching Off Road Diesel	2.08	12.35	15.53	0.00	0.00	0.58	0.58	0.00	0.53	0.53	3,429.28
Trenching Worker Trips	0.01	0.03	0.57	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.55

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 1/1/2010 - 12/31/2029 - Default Mass Site Grading/Excavation Description

For Soil Stabilizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stabilizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stabilizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

Construction Scenario Assumptions

Construction timeline	20	years	Assumptions for URBEMIS	
Proposed GP	Increase from Existing			
New Retail	390,000		Grading	2,800 acres
New Hotel Rooms	982			140 acres/year
New Office	7,331,662			35 acres
Residential	12,027		Demolition/year:	200,108 sqft /year
Demolition	-4,002,152		width/length	447 for URBEMIS
Existing GP	Increase from Existing			758 sqft/day
New Retail	296,000		width/length	27.5 for URBEMIS
New Hotel Rooms	610		Haul	601,350 CY haul
New Office	9,933,389			30,068 CY/year
Warehouse	102,000			
Industrial	23,000			
Residential	4,444			
Demolition	-4,002,152			
URBEMIS DEFAULT CONSTRUCTION EQUIPMENT LIST				
Paving				
Paving Equipment	2			
Rollers	2			
Pavers	1			
Building Construction				
Forklifts	3			
Tractor/Loader/Backhoes	3			
Cranes	1			
Generator Sets	1			
Welders	1			
Demolition				
Excavators	3			
Rubber Tired Dozers	2			
Rough Grading				
Scrapers	3			
Tractor/Loader/Backhoes	3			
Rubber Tired Dozers	1			
Graders	1			
Water Trucks	1			
Excavators	1			
Trenching				
Excavators	4			
Other Gen. Ind. Equip.	2			
Tractor/Loader/Backhoes	2			

Construction Localized Significance Thresholds - IBC

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)
17	5.00	25	82

Source Receptor Central Orange County

Distance (meters)	25
NOx	183
CO	1323
PM10	13
PM2.5	7

	Acres	25	50	100	200	500
NOx	5	183	167	180	202	246
	5	183	167	180	202	246
	5	183	167	180	202	246
CO	5	1323	1830	2498	4018	9336
	5	1323	1830	2498	4018	9336
	5	1323	1830	2498	4018	9336
PM10	5	13	39	55	88	188
	5	13	39	55	88	188
	5	13	39	55	88	188
PM2.5	5	7	9	15	32	109
	5	7	9	15	32	109
	5	7	9	15	32	109

Central Orange County

5.00 Acres	25	50	100	200	500
NOx	183	167	180	202	246
CO	1323	1830	2498	4018	9336
PM10	13	39	55	88	188
PM2.5	7	9	15	32	109

Acre Below		Acre Above	
SRA No.	Acres	SRA No.	Acres
17	5	17	5
Distance Increment Below			
25			
Distance Increment Above			
25			

Operation Localized Significance Thresholds - IBC

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)
17	5.00	25	82

Source Receptor Central Orange County

Distance (meters)	25
NOx	183
CO	1323
PM10	3
PM2.5	2

	Acres	25	50	100	200	500
NOx	5	183	167	180	202	246
	5	183	167	180	202	246
	5	183	167	180	202	246
CO	5	1323	1830	2498	4018	9336
	5	1323	1830	2498	4018	9336
	5	1323	1830	2498	4018	9336
PM10	5	3	10	14	22	45
	5	3	10	14	22	45
	5	3	10	14	22	45
PM2.5	5	2	3	4	8	27
	5	2	3	4	8	27
	5	2	3	4	8	27

Central Orange County

5.00 Acres	25	50	100	200	500
NOx	183	167	180	202	246
CO	1323	1830	2498	4018	9336
PM10	3	10	14	22	45
PM2.5	2	3	4	8	27

Acre Below		Acre Above	
SRA No.	Acres	SRA No.	Acres
17	5	17	5
Distance Increment Below			
25			
Distance Increment Above			
25			

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: P:\COI-21\Technical Studies\Air\Modeling\Stationary-URBEMIS\Irvine Business Center- Existing.urb924

Project Name: Recirculated DEIR - Existing

Project Location: Orange County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	543.06	259.66	206.92	0.00	0.50	0.50	315,232.01

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	543.06	259.66	206.92	0.00	0.50	0.50	315,232.01

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	19.07	259.54	197.65	0.00	0.47	0.47	315,215.16
Hearth - No Summer Emissions							
Landscape	0.74	0.12	9.27	0.00	0.03	0.03	16.85
Consumer Products	257.06						
Architectural Coatings	266.19						
TOTALS (lbs/day, unmitigated)	543.06	259.66	206.92	0.00	0.50	0.50	315,232.01

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 10% to 0%

Percentage of residences with wood fireplaces changed from 5% to 0%

Percentage of residences with natural gas fireplaces changed from 85% to 100%

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: P:\COI-21\Technical Studies\Air\Modeling\Stationary-URBEMIS\Irvine Business Center- Existing.urb924

Project Name: Recirculated DEIR - Existing

Project Location: Orange County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	543.94	287.25	209.44	0.18	2.71	2.69	350,586.92

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	543.94	287.25	209.44	0.18	2.71	2.69	350,586.92

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	19.07	259.54	197.65	0.00	0.47	0.47	315,215.16
Hearth	1.62	27.71	11.79	0.18	2.24	2.22	35,371.76
Landscaping - No Winter Emissions							
Consumer Products	257.06						
Architectural Coatings	266.19						
TOTALS (lbs/day, unmitigated)	543.94	287.25	209.44	0.18	2.71	2.69	350,586.92

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 10% to 0%

Percentage of residences with wood fireplaces changed from 5% to 0%

Percentage of residences with natural gas fireplaces changed from 85% to 100%

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: P:\COI-21\Technical Studies\Air\Modeling\Stationary-URBEMIS\Irvine Business Center- Existing GP.urb924

Project Name: Recirculated DEIR - Existing GP

Project Location: Orange County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	849.75	377.20	287.59	0.00	0.72	0.71	459,609.30

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	849.75	377.20	287.59	0.00	0.72	0.71	459,609.30

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	27.81	377.08	278.32	0.00	0.69	0.68	459,592.45
Hearth - No Summer Emissions							
Landscape	0.74	0.12	9.27	0.00	0.03	0.03	16.85
Consumer Products	485.04						
Architectural Coatings	336.16						
TOTALS (lbs/day, unmitigated)	849.75	377.20	287.59	0.00	0.72	0.71	459,609.30

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 10% to 0%

Percentage of residences with wood fireplaces changed from 5% to 0%

Percentage of residences with natural gas fireplaces changed from 85% to 100%

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: P:\COI-21\Technical Studies\Air\Modeling\Stationary-URBEMIS\Irvine Business Center- Existing GP.urb924

Project Name: Recirculated DEIR - Existing GP

Project Location: Orange County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	852.07	429.36	300.57	0.33	4.92	4.86	526,333.63

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	852.07	429.36	300.57	0.33	4.92	4.86	526,333.63

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	27.81	377.08	278.32	0.00	0.69	0.68	459,592.45
Hearth	3.06	52.28	22.25	0.33	4.23	4.18	66,741.18
Landscaping - No Winter Emissions							
Consumer Products	485.04						
Architectural Coatings	336.16						
TOTALS (lbs/day, unmitigated)	852.07	429.36	300.57	0.33	4.92	4.86	526,333.63

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 10% to 0%

Percentage of residences with wood fireplaces changed from 5% to 0%

Percentage of residences with natural gas fireplaces changed from 85% to 100%

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: P:\COI-21\Technical Studies\Air\Modeling\Stationary-URBEMIS\Irvine Business Center- Proposed GP.urb924

Project Name: Recirculated DEIR - Proposed GP

Project Location: Orange County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	1,232.15	438.08	307.92	0.00	0.84	0.83	538,364.97

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	1,232.15	438.08	307.92	0.00	0.84	0.83	538,364.97

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	32.57	437.96	298.65	0.00	0.81	0.80	538,348.12
Hearth - No Summer Emissions							
Landscape	0.74	0.12	9.27	0.00	0.03	0.03	16.85
Consumer Products	874.05						
Architectural Coatings	324.79						
TOTALS (lbs/day, unmitigated)	1,232.15	438.08	307.92	0.00	0.84	0.83	538,364.97

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 10% to 0%

Percentage of residences with wood fireplaces changed from 5% to 0%

Percentage of residences with natural gas fireplaces changed from 85% to 100%

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: P:\COI-21\Technical Studies\Air\Modeling\Stationary-URBEMIS\Irvine Business Center- Proposed GP.urb924

Project Name: Recirculated DEIR - Proposed GP

Project Location: Orange County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	1,236.92	532.17	338.74	0.60	8.43	8.34	658,616.36

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	1,236.92	532.17	338.74	0.60	8.43	8.34	658,616.36

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	32.57	437.96	298.65	0.00	0.81	0.80	538,348.12
Hearth	5.51	94.21	40.09	0.60	7.62	7.54	120,268.24
Landscaping - No Winter Emissions							
Consumer Products	874.05						
Architectural Coatings	324.79						
TOTALS (lbs/day, unmitigated)	1,236.92	532.17	338.74	0.60	8.43	8.34	658,616.36

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 10% to 0%

Percentage of residences with wood fireplaces changed from 5% to 0%

Percentage of residences with natural gas fireplaces changed from 85% to 100%

Greenhouse Gas Emissions - Transportation 2008

		Existing
Trips/day		508,690
VMT/day		3,047,574
Running Emission Rate (lbs/mile)		
CO	0.01	27,822
PM10	0.00	396
NOx	0.00	4,602
ROG	0.00	1,901
SO2	0.00	47
Starting Emissions (lbs/trip)		
CO	0.03	16,805
PM10	0.00	18
NOx	0.00	1,078
ROG	0.00	1,479
SO2	0.00	2
Evaporative Emissions		
VOC (HS)	0.00	276
VOC (Dirunal)	0.01	4,109
VOC (Resting)	0.00	1,068
VOC (Running)	0.00	63
Total ROG		5,515

Greenhouse Gas Emissions - Transportation 2008

Total Emissions	SCAQMD Threshold	
CO	550	44,627
PM10	150	414
PM2.5	55	410
NOx	55	5,680
ROG	55	8,896
S02	150	49

assumes PM2.5 is 99 percent of PM10 for mobile sources

1 Ton = 2,000 lbs		
CO		7,810
PM10		73
PM2.5		72
NOx		994
ROG		1,557
S02		9

1 Ton = 0.9071847 Mtons		
CO		7,085
PM10		66
PM2.5		65
NOx		902
ROG		1,412
S02		8

convert to MMTons **0.70**

Greenhouse Gas Emissions - Transportation 2008

Assumptions

SCAQMD. CEQA Air Quality Handbook. Appendix Table A9-5-F, Input Assumptions to Determine Speed by Trip Type.

Assumes annual is daily * 350 days a year to account for weekend trip reductions.

County Average Speeds (miles per hour)

	1987	2010
San Bernardino County:	26.0	23.0

Based on SCAQMD. 1993. CEQA Air Quality Handbook. Table A9-5-I, Estimating Temperatures Needed to Choose Composite Emission Factors:

	Orange (Area 1)	
	CO	60
	NOx	70
	ROG/VOC	85
Average annual WRCC	CO2	75
Starting emissions:	assumes that cars rest for an average of 480 minutes between trips, based on an 8 hour workday (60 minutes/hour * 8 hours = 480 minutes)	
Hot Soak:	Assumes 20 minutes	
Diurnal Loss	Assumes 16 hours for partial day diurnal loss based on 16 hours between work end and next day start	
Resting Loss	Assumes 8 hours for partial day resting loss, based on an 8-hour workday	
Evaporative	Assumes 60 minutes for evaporative running loss emissions	

Greenhouse Gas Emissions - Transportation 2030

		Vehicle Miles Traveled			
		Existing - 2008	Existing No Project -2030	Existing General Plan	Project
	Trips/day	508,690	508,690	672,309	697,308
	VMT/day	3,047,574	3,064,337	3,974,097	3,909,327
Running Emission Rate (lbs/mile)		Emissions (lbs/day)			
CO	0.00	7,646	7,688	9,970	9,808
PM10	0.00	370	372	482	474
NOx	0.00	1,135	1,142	1,481	1,457
ROG	0.00	470	473	613	603
SO2	0.00	47	47	61	60
Starting Emissions (lbs/trip)		Emissions (lbs/day)			
CO	0.01	4,984	4,984	6,587	6,832
PM10	0.00	357	357	471	489
NOx	0.00	329	329	434	450
ROG	0.00	378	378	499	518
SO2	0.00	2	2	3	3
Evaporative Emissions		Emissions (lbs/day)			
VOC (HS)	0.00	120	120	159	164
VOC (Dirunal)	0.00	1,579	1,579	2,087	2,164
VOC (Resting)	0.00	467	467	617	640
VOC (Running)	0.00	28	28	37	38
Total ROG		2,194	2,194	2,899	3,007

Greenhouse Gas Emissions - Transportation 2030

Total Emissions	SCAQMD Threshold	Emissions (lbs/day)			
CO	550	12,630	12,672	16,557	16,640
PM10	150	726	728	953	963
PM2.5	55	719	721	944	953
NOx	55	1,464	1,470	1,915	1,907
ROG	55	3,042	3,044	4,012	4,128
SO2	150	49	50	64	63

assumes PM2.5 is 99 percent of PM10 for mobile sources

	1 Ton = 2,000 lbs	Emissions (tons/year)		
CO	2,210	2,218	2,897	2,912
PM10	127	127	167	169
PM2.5	126	126	165	167
NOx	256	257	335	334
ROG	532	533	702	722
S02	9	9	11	11

1 Ton = 0.9071847 Mtons	Emissions (Mtons/year)			
CO	2,005	2,012	2,629	2,642
PM10	115	116	151	153
PM2.5	114	114	150	151
NOx	232	233	304	303
ROG	483	483	637	655
S02	8	8	10	10

convert to MMTons

0.71

0.71

0.93

0.91

Greenhouse Gas Emissions - Transportation 2030

Assumptions

SCAQMD. CEQA Air Quality Handbook. Appendix Table A9-5-F, Input Assumptions to Determine Speed by Trip Type.

Assumes annual is daily * 350 days a year to account for weekend trip reductions.

County Average Speeds (miles per hour)

	1987	2010	2035	2013
San Bernardino County:	26.0	23.0	19.7	22.6

Based on SCAQMD. 1993. CEQA Air Quality Handbook. Table A9-5-I, Estimating Temperatures Needed to Choose Composite Emission Factors:

Orange (Area 1)

CO 60

NOx 70

ROG/VOC 85

Starting emissions: assumes that cars rest for an average of 480 minutes between trips, based on an 8 hour workday (60 minutes/hour * 8 hours = 480 minutes)

Hot Soak: Assumes 20 minutes

Diurnal Loss Assumes 16 hours for partial day diurnal loss based on 16 hours between work end and next day start

Resting Loss Assumes 8 hours for partial day resting loss, based on an 8-hour workday

Evaporative Assumes 60 minutes for evaporative running loss emissions

TABLE A9 - 5 - E

**FREEWAY/NON-FREEWAY AND WORK/NON-WORK VMT AND ADT PERCENT
ASSUMPTIONS, BY PERIOD OF DAY**
(in Percent)

First estimate project related ADT. By using the following ADT rates determine work and nonwork related percent of ADT for that time period. Using these rates determine vehicle miles traveled by trip-type. By using the following VMT rates determine percent VMT on freeways and non-freeways for that time period. Use next table to determine speeds. Speeds are needed to determine emission factors to be used.

Travel Period of the Day Types/Trip-Types		Percent VMT By Road-Type and Period of the Day							
		Am Peak		Off Peak		Pm Peak		Daily	
		1987	2010	1987	2010	1987	2010	1987	2010
Percent VMT Traveled									
on Freeways		51.1	51.1	52.2	52.2	47.0	47.0	50.6	50.6
on Non-freeways		48.9	48.9	47.8	47.8	53.0	53.0	49.4	49.4
		Percent ADT By Trip-Type and Period of the Day							
Percent Trips Associated With									
Work-ADT		58.88	58.95	26.47	26.6	32.46	32.61	--	--
Non work- ADT		41.12	41.05	73.53	73.4	67.54	67.38	--	--

Source: Based on LARTS (Prepared by CalTrans District 7, November 15, 1991)

TABLE A9 - 5 - F

INPUT ASSUMPTIONS TO DETERMINE SPEEDS BY TRIP-TYPE
(Miles per Hour)

Include an assumption for the road-type. Select recommended default for the travel period of the day for each pollutant. Include the appropriate speed for each trip-type. Select the emission factors from tables 9 - 5 - J, K, L, or N for that speed. Then use the formula at the beginning of Table A9 - 5. Weighted average between weekday and weekend speeds should be determined for each time period before selecting the emission factor.

Travel Period of the Day Area Types Road-Types Year			Traveling Speeds by Counties, Road-type and Period of the Day							
			Am Peak*		Off Peak*		Pm Peak*		Daily	
			1987	2010	1987	2010	1987	2010	1987	2010
*Recommended Defaults			(CO _x and NO _x)		(ROCs)		(SO _x , PM10 & Pb)			
Regional Average Speeds			22.8	21.2	31.8	30.4	19.6	17.4	25.4	23.2
HOV (mitigation)			34.0	31.0	58.0	53.0	35.0	28.0	49.0	40.0
Freeways			33.0	33.0	51.0	49.0	29.0	26.0	40.0	38.0
Non-Freeway			18.7	16.0	27.7	26.0	14.7	12.0	20.7	17.7
Major			17.0	15.0	29.0	28.0	15.0	12.0	21.0	18.0
Primary			21.0	15.0	29.0	25.0	15.0	11.0	22.0	17.0
Secondary			18.0	18.0	25.0	25.0	14.0	13.0	19.0	18.0
County Average Speeds										
Los Angeles			24.0	21.0	34.0	33.0	18.0	15.0	26.0	23.0
Orange County			22.0	21.0	36.0	36.0	19.0	18.0	27.0	26.0
Riverside			40.0	27.0	46.0	42.0	34.0	22.0	41.0	32.0
San Bernardino			34.0	27.0	39.0	35.0	30.0	20.0	35.0	28.0

* Use AM Peak Speeds to select emission factors for CO_x and NO_x; use Off Peak Speeds to select emission factors for ROC; use PM Peak Speeds for SO_x, PM10 and Pb.

The District takes limited measurements of reactive organic compounds (ROCs). Temperature estimates are based on the 10 worst ozone exceedance days. Ozone is formed from reactions between ROC and NOx in the presence of sunlight. Greater levels of ozone are formed at higher temperatures. ROC emission increases are high during high temperatures due to evaporative and combusive emissions, with minimal evaporative emissions during cooler weather. For Areas 1 and 2, ROC emission factors were adjusted to 85°F, while for Area 3, these were adjusted to 100°F. (0.92 factor was used to convert Total Organic Compounds to Reactive Organic Gases.) Following are the pollutant concentrations exceedance day temperatures and selected temperatures for the composite emission factors:

Time of the Day	Exceedance Temperature			Temperatures For Each Area (°F)
	6-11	12-14	15-17	
Carbon Monoxide (CO)				
Orange (Area 1)	<u>60</u>	71	66	60
Los Angeles Coastal (Area 2)	<u>57.5</u>	70	65	60
Los Angeles Inland (Area 2)	<u>60.5</u>	73	64	60
Riverside (Area 3)	<u>64</u>	75	68	60
San Bernardino (Area 4)	<u>62.5</u>	79	73	60
Oxides of Nitrogen (NOx)				
Orange (Area 1)	<u>71</u>	82	77	70
Los Angeles Coastal (Area 2)	<u>67.5</u>	76	72	75
Los Angeles Inland (Area 2)	<u>82.5</u>	91	83	75
Riverside (Area 3)	<u>77</u>	87	81	80
San Bernardino (Area 4)	<u>82.5</u>	93	86	80
Reactive Organic Compounds (ROC)				
Orange (Area 1)	75	<u>83</u>	80	85
Los Angeles Coastal (Area 2)	71	<u>78</u>	75	85
Los Angeles Inland (Area 2)	83.5	<u>93.5</u>	88	85
Riverside (Area 3)	88.25	<u>99.5</u>	96	100
San Bernardino (Area 4)	86.0	<u>99.5</u>	97	100

Tables A9 - 5 - J - 1 thru 10, and Table A9 - 5 - L
Emission factors for passenger vehicles

Tables A9 - 5 - K - 1 thru 10, and Table A9 - 5 - L
Emission factors for trucks

Tables A9 - 5 - N - 1 thru 3
Emission factors for motorcycles

Tables A11 - 5 - H - 1 thru 10
Emission factors for buses

PA-36: IRVINE BUSINESS CENTER

Source: Fehr & Peers, 2009, revised. ITAM Model based on Parson Brinkerhoff, 2009.

TABLE 1
VMT SUMMARY FOR IBC AND CITY OF IRVINE

VMT Calculation	Scenario			
	2008	2030 General Plan	2030 No Project	2030 With Project
IBC VMT	3,047,574	3,974,097	3,064,337	3,909,327
IBC VT	508,690	672,309	508,690	697,308
IBC VMT/Trip	6.67	6.61	6.59	6.33
Increase in trips from existing			37%	188,618
Increase in VMT from existing			28%	861,753
Increase in trips from existing GP				24,999
Increase in VMT from existing GP				-64,770

Title: Orange County-2008
 Version: Emfac2007 V2.3 Nov, 1 2006
 Run Date: 2/19/2009 14:02:59
 Scen Year: 2008- All Model years in the range 1965 to 2008 selected
 Season: Annual
 Area: Orange County

Running Emissions (grams/mile)

Pollutant Name: Carbon Monoxide (CO) Temperature: 60F Relative Humidity: 70%

Speed							
MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
0	0	0	20.418	42.354	0	0	4.257
15	4.017	4.394	5.202	12.598	16.185	28.383	4.744
20	3.571	3.911	4.447	9.461	11.891	25.832	4.141
23	3.352	3.672	4.102	8.254	10.155	25.002	3.862
25	3.222	3.53	3.907	7.593	9.244	24.707	3.7

Pollutant Name: PM10 Temperature: 60F Relative Humidity: 70%

Speed							
MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
0	0	0	0.039	1.131	0	0	0.039
15	0.023	0.043	0.043	0.657	0.404	0.04	0.052
20	0.017	0.031	0.032	0.484	0.314	0.034	0.038
23	0.014	0.026	0.027	0.434	0.275	0.032	0.033
25	0.013	0.024	0.025	0.405	0.253	0.031	0.03

Pollutant Name: PM10 (Tire Wear) Temperature: 60F Relative Humidity: 70%

Speed							
MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
0	0	0	0	0	0	0	0
15	0.008	0.008	0.009	0.02	0.009	0.004	0.008
20	0.008	0.008	0.009	0.02	0.009	0.004	0.008
23	0.008	0.008	0.009	0.02	0.009	0.004	0.008
25	0.008	0.008	0.009	0.02	0.009	0.004	0.008

Pollutant Name: PM10 (Break Wear) Temperature: 60F Relative Humidity: 70%

Speed							
MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
0	0	0	0	0	0	0	0
15	0.013	0.013	0.013	0.018	0.013	0.006	0.013
20	0.013	0.013	0.013	0.018	0.013	0.006	0.013
23	0.013	0.013	0.013	0.018	0.013	0.006	0.013
25	0.013	0.013	0.013	0.018	0.013	0.006	0.013

Pollutant Name: Oxides of Nitrogen (NOx) Temperature: 70F Relative Humidity: 70%

Speed							
MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
0	0	0	3.65	68.926	0	0	2.57
15	0.285	0.433	0.791	11.407	17.122	0.94	0.766
20	0.259	0.39	0.723	10.034	14.692	0.971	0.685
23	0.247	0.37	0.693	9.721	13.72	0.99	0.658
25	0.24	0.359	0.677	9.552	13.233	1.004	0.643

Pollutant Name: Total Organic Gases (ROG) **Temperature:** 85F **Relative Humidity:** 70%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
0	0	0	3.533	9.234	0	0	0.793
15	0.293	0.291	0.437	2.011	2.207	3.481	0.387
20	0.219	0.218	0.324	1.218	1.637	2.995	0.283
23	0.188	0.187	0.277	1.054	1.395	2.798	0.245
25	0.172	0.171	0.251	0.96	1.264	2.699	0.224

Pollutant Name: Carbon Dioxide (CO2) **Temperature:** 75F **Relative Humidity:** 70%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
0	0	0	824.898	4487.966	0	0	253.826
15	616.262	759.347	1035.796	1793.95	2326.995	171.255	760.002
20	501.024	617.673	835.523	1594.707	2273.433	151.204	621.69
23	450.951	556.1	749.595	1540.23	2251.621	141.577	562.691
25	423.669	522.549	703.083	1509.002	2240.145	136.01	530.542

Pollutant Name: Sulfur Dioxide (SO2) **Temperature:** 85F **Relative Humidity:** 70%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
0	0	0	0.008	0.043	0	0	0.002
15	0.007	0.008	0.011	0.017	0.022	0.002	0.008
20	0.005	0.007	0.009	0.015	0.022	0.002	0.007
23	0.005	0.006	0.008	0.015	0.022	0.002	0.006
25	0.005	0.006	0.007	0.014	0.022	0.002	0.006

Starting Emissions (grams/trip)

Pollutant Name: Carbon Monoxide (CO) **Temperature:** 60F **Relative Humidity:** All

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	1.124	1.094	2.476	7.077	4.291	5.612	1.696
10	1.932	1.959	4.557	10.741	7.316	5.594	2.888
20	3.464	3.603	8.48	17.639	12.995	5.622	5.143
30	4.886	5.13	12.085	23.965	18.178	5.737	7.227
40	6.197	6.542	15.37	29.719	22.865	5.939	9.139
50	7.398	7.839	18.337	34.9	27.057	6.227	10.88
60	8.488	9.019	20.984	39.509	30.753	6.602	12.449
120	11.542	12.167	21.298	33.321	25.966	8.227	14.558
180	8.509	9.098	18.858	35.504	27.147	9.657	11.92
240	9.055	9.688	19.779	37.582	28.306	11.731	12.636
300	9.556	10.227	20.652	39.556	29.441	13.576	13.3
360	10.013	10.715	21.477	41.424	30.554	15.191	13.913
420	10.425	11.153	22.254	43.187	31.644	16.577	14.475
480	10.794	11.54	22.982	44.845	32.711	17.732	14.985
540	11.118	11.876	23.663	46.399	33.755	18.658	15.444
600	11.398	12.161	24.295	47.847	34.776	19.354	15.851
660	11.634	12.395	24.879	49.191	35.775	19.82	16.207
720	11.826	12.579	25.416	50.429	36.75	20.057	16.512

Pollutant Name:	PM10		Temperature: 60F		Relative Humidity:		All
Time							
min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.001	0.001	0.001	0.001	0	0.015	0.001
10	0.001	0.002	0.002	0.001	0.001	0.014	0.002
20	0.002	0.004	0.004	0.002	0.001	0.011	0.003
30	0.004	0.006	0.006	0.002	0.001	0.008	0.005
40	0.004	0.008	0.007	0.003	0.002	0.006	0.006
50	0.005	0.01	0.009	0.003	0.002	0.005	0.007
60	0.006	0.011	0.01	0.004	0.002	0.004	0.008
120	0.009	0.016	0.014	0.005	0.003	0.01	0.012
180	0.01	0.018	0.015	0.006	0.003	0.016	0.013
240	0.01	0.019	0.016	0.006	0.004	0.021	0.014
300	0.011	0.02	0.017	0.006	0.004	0.025	0.014
360	0.011	0.021	0.017	0.007	0.004	0.029	0.015
420	0.012	0.021	0.018	0.007	0.004	0.033	0.016
480	0.012	0.022	0.019	0.007	0.004	0.035	0.016
540	0.012	0.023	0.019	0.007	0.004	0.037	0.017
600	0.013	0.023	0.02	0.008	0.004	0.039	0.017
660	0.013	0.024	0.02	0.008	0.004	0.04	0.017
720	0.013	0.024	0.02	0.008	0.005	0.04	0.018

Pollutant Name:	Oxides of Nitrogen (NOx)		Temperature:	70F	Relative Humidity:		All
Time							
min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.254	0.395	0.814	0.702	0.714	0.22	0.418
10	0.295	0.445	1.001	1.041	1.07	0.246	0.504
20	0.369	0.534	1.332	1.636	1.694	0.292	0.655
30	0.43	0.608	1.604	2.122	2.204	0.331	0.779
40	0.479	0.668	1.818	2.498	2.597	0.364	0.877
50	0.514	0.712	1.972	2.764	2.875	0.39	0.948
60	0.537	0.741	2.067	2.92	3.038	0.408	0.992
120	0.561	0.783	2.137	2.941	3.06	0.412	1.029
180	0.563	0.786	2.135	2.929	3.048	0.403	1.03
240	0.558	0.78	2.121	2.911	3.03	0.392	1.023
300	0.552	0.771	2.101	2.886	3.007	0.378	1.012
360	0.544	0.759	2.074	2.856	2.977	0.361	0.998
420	0.533	0.744	2.041	2.819	2.941	0.342	0.981
480	0.521	0.726	2.001	2.777	2.898	0.319	0.961
540	0.507	0.705	1.955	2.728	2.85	0.294	0.937
600	0.49	0.681	1.903	2.673	2.796	0.266	0.91
660	0.472	0.654	1.844	2.612	2.736	0.235	0.879
720	0.452	0.624	1.779	2.545	2.669	0.201	0.845

Pollutant Name: Total Organic Gases (ROG) **Temperature:** 85F **Relative Humidity:** All

Time	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
min							
5	0.085	0.071	0.154	0.468	0.285	1.259	0.123
10	0.134	0.116	0.274	0.649	0.429	1.303	0.19
20	0.226	0.201	0.496	0.988	0.697	1.413	0.316
30	0.31	0.279	0.697	1.298	0.939	1.555	0.431
40	0.386	0.349	0.875	1.578	1.155	1.728	0.536
50	0.454	0.413	1.032	1.829	1.344	1.932	0.628
60	0.51	0.466	1.163	2.023	1.493	2.045	0.705
120	0.686	0.65	1.529	2.42	1.793	2.355	0.93
180	0.772	0.73	1.653	2.579	1.908	2.544	1.026
240	0.818	0.774	1.75	2.734	2.02	2.735	1.087
300	0.863	0.817	1.844	2.885	2.129	2.925	1.147
360	0.907	0.859	1.936	3.032	2.234	3.113	1.206
420	0.95	0.9	2.026	3.175	2.337	3.3	1.263
480	0.993	0.94	2.113	3.314	2.436	3.487	1.319
540	1.034	0.98	2.198	3.45	2.532	3.672	1.374
600	1.074	1.019	2.281	3.581	2.625	3.855	1.427
660	1.113	1.056	2.361	3.709	2.715	4.038	1.479
720	1.151	1.093	2.439	3.832	2.802	4.22	1.529

Pollutant Name: Carbon Dioxide (CO2) **Temperature:** 75F **Relative Humidity:** 70%

Time	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
min							
5	11.034	13.834	17.001	8.679	3.975	26.992	12.939
10	13.567	16.553	22.011	12.32	5.727	29.66	16.034
20	18.952	22.451	32.485	19.521	9.194	34.857	22.583
30	24.759	28.963	43.567	26.615	12.61	39.865	29.611
40	30.988	36.088	55.255	33.601	15.976	44.686	37.118
50	37.641	43.826	67.55	40.479	19.291	49.32	45.105
60	44.716	52.179	80.453	47.251	22.555	53.766	53.571
120	91.796	111.295	160.809	76.847	36.81	74.401	109.065
180	105.09	127.167	185.315	88.315	42.398	75.913	124.951
240	118.074	142.765	209.082	99.106	47.655	77.34	140.442
300	130.747	158.089	232.109	109.222	52.584	78.68	155.539
360	143.109	173.138	254.397	118.661	57.183	79.934	170.24
420	155.16	187.913	275.945	127.424	61.452	81.101	184.547
480	166.901	202.414	296.754	135.511	65.392	82.183	198.458
540	178.331	216.641	316.823	142.921	69.002	83.178	211.975
600	189.45	230.593	336.153	149.656	72.283	84.087	225.097
660	200.259	244.271	354.743	155.714	75.234	84.91	237.824
720	210.757	257.675	372.594	161.096	77.856	85.647	250.156

Pollutant Name: Sulfur Dioxide (SO2) Temperature: 85F Relative Humidity: 70%

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
30	0	0	0.001	0.001	0	0	0
40	0	0	0.001	0.001	0	0.001	0
50	0	0	0.001	0.001	0	0.001	0.001
60	0.001	0.001	0.001	0.001	0.001	0.001	0.001
120	0.001	0.001	0.002	0.001	0.001	0.001	0.001
180	0.001	0.001	0.002	0.001	0.001	0.001	0.001
240	0.001	0.002	0.002	0.002	0.001	0.001	0.002
300	0.001	0.002	0.003	0.002	0.001	0.001	0.002
360	0.002	0.002	0.003	0.002	0.001	0.001	0.002
420	0.002	0.002	0.003	0.002	0.001	0.001	0.002
480	0.002	0.002	0.003	0.002	0.001	0.001	0.002
540	0.002	0.002	0.003	0.002	0.001	0.001	0.002
600	0.002	0.002	0.004	0.002	0.001	0.001	0.002
660	0.002	0.003	0.004	0.002	0.001	0.001	0.003
720	0.002	0.003	0.004	0.002	0.001	0.001	0.003

Hot Soak Emissions (grams/trip)

Pollutant Name: Total Organic Gases (ROG) Temperature: 85F Relative Humidity: All

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.094	0.07	0.048	0.017	0.086	0.234	0.076
10	0.175	0.129	0.089	0.032	0.159	0.436	0.142
20	0.303	0.225	0.156	0.056	0.272	0.759	0.246
30	0.396	0.295	0.207	0.073	0.35	0.999	0.322
40	0.432	0.323	0.227	0.079	0.379	1.094	0.352

Hot soak results are scaled to reflect zero emissions for trip lengths of less than 5 minutes (about 25% of in-use trips).

Partial Day Diurnal Loss Emissions (grams/hour)

Pollutant Name: Total Organic Gases (ROG) Temperature: All Relative Humidity: All

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
60	0.07	0.053	0.041	0.004	0.002	0.13	0.061
80	0.139	0.103	0.077	0.009	0.004	0.306	0.122
100	0.261	0.193	0.144	0.017	0.007	0.568	0.229

Partial Day Resting Loss Emissions (grams/hour)

Pollutant Name: Total Organic Gases (ROG) Temperature: All Relative Humidity: All

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
60	0.03	0.023	0.018	0.002	0.001	0.052	0.026
80	0.054	0.043	0.033	0.004	0.002	0.105	0.049
100	0.132	0.105	0.081	0.009	0.003	0.281	0.119

Evaporative Running Loss Emissions (grams/minute)

Pollutant Name: Total Organic Gases (ROG) Temperature: 85F Relative Humidity: All

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
1	0.026	0.31	0.278	0.194	0.431	0.104	0.163
2	0.031	0.162	0.147	0.107	0.236	0.14	0.095
3	0.036	0.115	0.104	0.079	0.171	0.159	0.075
4	0.04	0.093	0.084	0.065	0.139	0.17	0.066
5	0.042	0.08	0.073	0.057	0.12	0.178	0.061
10	0.048	0.057	0.052	0.041	0.082	0.2	0.052
15	0.051	0.053	0.048	0.036	0.07	0.212	0.052
20	0.053	0.053	0.048	0.034	0.065	0.222	0.053
25	0.054	0.055	0.05	0.033	0.062	0.23	0.055
30	0.055	0.056	0.051	0.034	0.062	0.232	0.055
35	0.055	0.056	0.051	0.034	0.063	0.233	0.055
40	0.055	0.057	0.051	0.034	0.063	0.235	0.056
45	0.056	0.057	0.052	0.034	0.063	0.236	0.056
50	0.055	0.057	0.052	0.034	0.064	0.234	0.056
55	0.055	0.058	0.052	0.034	0.064	0.231	0.056
60	0.054	0.058	0.053	0.035	0.064	0.229	0.056

Summary of Emission Rates

	Running Emissions (lbs/mile)	Starting Emissions (lbs/trip)	Hot Soak Emissions (lbs/trip)	Partial Day Diurnal Loss Emissions (lbs/hour)	Partial Day Resting Loss Emissions (lbs/hour)	Evaporative Resting Loss Emissions (lbs/minute)
Carbon Monoxide (CO)	0.009	0.033				
Particulate Matter (PM10)	0.000	0.000				
Oxides of Nitrogen (NOx)	0.002	0.002				
Reactive Organic Gases (ROG)	0.001	0.003	0.001	0.008	0.002	0.000
Carbon Dioxide (CO2)	1.371	0.438				
Sulfur Oxide (SO2)	0.000	0.000				

Hot Soak:

Assumes 20 minutes

Diurnal Loss

Assumes 16 hours for partial day diurnal loss based on 16 hours between work end and next day start

Resting Loss

Assumes 8 hours for partial day resting loss, based on an 8-hour workday

Evaporative

Assumes 60 minutes for evaporative running loss emissions

1 gram = 0.0022046 lbs

0.0022046

Title: Orange County-2030.
 Version: Emfac2007 V2.3 Nov, 1 2006
 Run Date: 2/12/2009 9:30:28
 Scen Year: 2030- All Model years in the range 1986 to 2030 selected
 Season: Annual
 Area: Orange County

Running Emissions (grams/mile)

Pollutant Name: Carbon Monoxide (CO) **Temperature:** 60F **Relative Humidity:** 70%

Speed							
MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
0	0	0	20.041	38.233	0	0	4.459
15	0.794	1.343	1.675	2.222	8.741	17.903	1.268
20	0.727	1.228	1.506	1.629	6.416	16.365	1.138
23	0.69	1.165	1.419	1.456	5.476	15.766	1.076
25	0.667	1.126	1.367	1.364	4.983	15.485	1.038

Pollutant Name: PM10 **Temperature:** 60F **Relative Humidity:** 70%

Speed							
MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
0	0	0	0.037	0.382	0	0	0.02
15	0.025	0.056	0.06	0.135	0.254	0.019	0.045
20	0.018	0.04	0.043	0.113	0.197	0.017	0.033
23	0.015	0.034	0.037	0.104	0.172	0.016	0.028
25	0.013	0.031	0.033	0.099	0.158	0.015	0.026

Pollutant Name: PM10 (Tire Wear) **Temperature:** 60F **Relative Humidity:** 70%

Speed							
MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
0	0	0	0	0	0	0	0
15	0.008	0.008	0.009	0.022	0.009	0.004	0.009
20	0.008	0.008	0.009	0.022	0.009	0.004	0.009
23	0.008	0.008	0.009	0.022	0.009	0.004	0.009
25	0.008	0.008	0.009	0.022	0.009	0.004	0.009

Pollutant Name: PM10 (Break Wear) **Temperature:** 60F **Relative Humidity:** 70%

Speed							
MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
0	0	0	0	0	0	0	0
15	0.013	0.013	0.013	0.019	0.013	0.006	0.013
20	0.013	0.013	0.013	0.019	0.013	0.006	0.013
23	0.013	0.013	0.013	0.019	0.013	0.006	0.013
25	0.013	0.013	0.013	0.019	0.013	0.006	0.013

Pollutant Name: Oxides of Nitrogen (NOx) **Temperature:** 70F **Relative Humidity:** 70%

Speed							
MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
0	0	0	3.714	81.514	0	0	3.582
15	0.048	0.094	0.18	2.419	9.975	0.939	0.193
20	0.044	0.085	0.164	2.046	8.618	0.921	0.169
23	0.041	0.081	0.157	1.932	8.078	0.915	0.16
25	0.04	0.078	0.153	1.866	7.809	0.914	0.155

Pollutant Name: Total Organic Gases (ROG) **Temperature:** 85F **Relative Humidity:** 70%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
0	0	0	3.352	6.911	0	0	0.765
15	0.042	0.075	0.103	0.439	1.166	3.051	0.095
20	0.031	0.054	0.076	0.284	0.87	2.553	0.07
23	0.026	0.046	0.064	0.257	0.743	2.35	0.06
25	0.023	0.041	0.058	0.241	0.675	2.247	0.056

Pollutant Name: Carbon Dioxide (CO2) **Temperature:** 75F **Relative Humidity:** 70%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
0	0	0	894.491	4785.766	0	0	313.032
15	608.944	765.553	1036.801	1911.26	2023.698	190.618	774.215
20	494.885	622.226	835.1	1680.937	1927.419	168.656	633.366
23	445.338	559.946	748.668	1621.768	1888.212	158.96	573.872
25	418.347	526.013	701.915	1587.306	1867.583	153.723	541.43

Pollutant Name: Sulfur Dioxide (SO2) **Temperature:** 85F **Relative Humidity:** 70%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
0	0	0	0.009	0.046	0	0	0.003
15	0.007	0.008	0.011	0.018	0.019	0.002	0.008
20	0.005	0.007	0.009	0.016	0.019	0.002	0.007
23	0.005	0.006	0.008	0.015	0.018	0.002	0.006
25	0.005	0.006	0.007	0.015	0.018	0.002	0.006

Starting Emissions (grams/trip)

Pollutant Name: Carbon Monoxide (CO) **Temperature:** 60F **Relative Humidity:** All

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.13	0.224	0.622	1.133	3.147	3.365	0.335
10	0.258	0.443	1.229	2.22	6.166	4.329	0.644
20	0.502	0.865	2.395	4.255	11.82	6.162	1.235
30	0.733	1.265	3.501	6.107	16.963	7.866	1.791
40	0.952	1.643	4.544	7.774	21.595	9.443	2.311
50	1.157	2	5.527	9.257	25.715	10.89	2.795
60	1.349	2.335	6.447	10.556	29.323	12.209	3.244
120	2.103	3.647	9.594	8.945	24.847	16.315	4.539
180	1.485	2.595	7.023	9.206	25.574	12.254	3.424
240	1.607	2.815	7.607	9.476	26.324	13.364	3.683
300	1.716	3.008	8.124	9.755	27.098	14.385	3.914
360	1.81	3.177	8.574	10.042	27.896	15.318	4.118
420	1.89	3.319	8.956	10.338	28.718	16.162	4.295
480	1.956	3.436	9.27	10.643	29.565	16.918	4.444
540	2.009	3.527	9.517	10.956	30.435	17.585	4.565
600	2.047	3.593	9.696	11.278	31.328	18.163	4.659
660	2.071	3.633	9.808	11.608	32.246	18.653	4.726
720	2.081	3.648	9.852	11.947	33.188	19.055	4.765

Pollutant Name:		PM10			Temperature: 60F		Relative Humidity:		All
Time	min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL	
5		0.046	0.107	0.635	0.218	0.886	0.165	0.193	
10		0.049	0.113	0.674	0.328	1.335	0.207	0.21	
20		0.055	0.124	0.745	0.522	2.123	0.281	0.242	
30		0.06	0.134	0.805	0.68	2.765	0.342	0.268	
40		0.064	0.142	0.855	0.802	3.262	0.39	0.289	
50		0.067	0.149	0.895	0.888	3.612	0.425	0.306	
60		0.07	0.154	0.925	0.939	3.817	0.448	0.317	
120		0.075	0.167	1.005	0.953	3.874	0.453	0.34	
180		0.078	0.173	1.014	0.949	3.859	0.451	0.345	
240		0.077	0.172	1.007	0.944	3.838	0.444	0.343	
300		0.076	0.17	0.994	0.937	3.808	0.435	0.339	
360		0.075	0.167	0.977	0.927	3.772	0.424	0.333	
420		0.074	0.163	0.955	0.917	3.727	0.412	0.326	
480		0.072	0.158	0.928	0.904	3.676	0.397	0.318	
540		0.069	0.153	0.896	0.889	3.616	0.381	0.308	
600		0.067	0.147	0.86	0.873	3.549	0.362	0.296	
660		0.063	0.139	0.819	0.855	3.475	0.342	0.284	
720		0.06	0.132	0.773	0.834	3.393	0.32	0.269	

Pollutant Name:		Oxides of Nitrogen (NOx)			Temperature: 70F		Relative Humidity:		All
Time	min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL	
5		0.042	0.099	0.597	0.205	0.835	0.154	0.181	
10		0.045	0.105	0.634	0.309	1.258	0.193	0.197	
20		0.051	0.115	0.7	0.492	2.001	0.263	0.226	
30		0.056	0.124	0.757	0.641	2.606	0.32	0.251	
40		0.059	0.132	0.804	0.756	3.074	0.365	0.271	
50		0.062	0.138	0.842	0.837	3.404	0.398	0.287	
60		0.065	0.142	0.87	0.884	3.597	0.419	0.297	
120		0.07	0.154	0.943	0.891	3.623	0.422	0.318	
180		0.07	0.155	0.943	0.888	3.609	0.418	0.319	
240		0.069	0.154	0.936	0.883	3.589	0.411	0.316	
300		0.069	0.152	0.925	0.876	3.562	0.403	0.313	
360		0.067	0.149	0.909	0.867	3.527	0.393	0.307	
420		0.066	0.146	0.888	0.857	3.486	0.382	0.301	
480		0.064	0.142	0.863	0.845	3.437	0.368	0.293	
540		0.062	0.137	0.834	0.832	3.382	0.353	0.284	
600		0.06	0.131	0.8	0.816	3.319	0.337	0.274	
660		0.057	0.125	0.762	0.799	3.25	0.318	0.262	
720		0.054	0.118	0.719	0.78	3.173	0.298	0.248	

Pollutant Name: Total Organic Gases (ROG) **Temperature:** 85F **Relative Humidity:** All

Time	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
min							
5	0.005	0.009	0.033	0.054	0.163	0.637	0.019
10	0.01	0.017	0.065	0.104	0.319	0.783	0.034
20	0.02	0.033	0.127	0.198	0.604	1.064	0.063
30	0.029	0.048	0.185	0.281	0.856	1.33	0.089
40	0.037	0.062	0.24	0.353	1.075	1.581	0.114
50	0.044	0.076	0.291	0.413	1.261	1.817	0.136
60	0.051	0.088	0.339	0.463	1.414	1.988	0.157
120	0.08	0.144	0.55	0.561	1.711	2.371	0.237
180	0.092	0.165	0.593	0.595	1.815	2.52	0.259
240	0.098	0.175	0.63	0.628	1.916	2.68	0.275
300	0.103	0.186	0.667	0.66	2.014	2.837	0.291
360	0.109	0.196	0.704	0.691	2.108	2.99	0.307
420	0.114	0.206	0.74	0.721	2.2	3.141	0.322
480	0.12	0.216	0.776	0.75	2.288	3.288	0.337
540	0.125	0.226	0.812	0.778	2.372	3.432	0.352
600	0.13	0.236	0.847	0.804	2.453	3.572	0.367
660	0.136	0.246	0.883	0.83	2.531	3.71	0.382
720	0.141	0.255	0.917	0.854	2.606	3.844	0.397

Pollutant Name: Carbon Dioxide (CO2) **Temperature:** 75F **Relative Humidity:** 70%

Time	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
min							
5	12.21	15.367	21.663	2.852	3.038	13.326	14.537
10	13.709	17.262	24.532	5.688	6.06	15.525	16.504
20	17.207	21.681	31.144	11.312	12.053	19.843	21.019
30	21.372	26.939	38.921	16.874	17.978	24.053	26.305
40	26.203	33.035	47.862	22.372	23.836	28.156	32.363
50	31.701	39.969	57.967	27.807	29.627	32.151	39.193
60	37.866	47.742	69.237	33.179	35.351	36.039	46.796
120	88.224	111.159	159.552	56.432	60.126	53.502	107.307
180	100.144	126.187	181.329	66.67	71.034	57.729	121.972
240	112.044	141.189	203.022	76.304	81.298	61.707	136.569
300	123.925	156.164	224.629	85.333	90.919	65.437	151.098
360	135.787	171.112	246.152	93.758	99.896	68.92	165.559
420	147.629	186.034	267.59	101.579	108.228	72.154	179.952
480	159.452	200.93	288.942	108.796	115.918	75.14	194.278
540	171.256	215.799	310.21	115.409	122.963	77.878	208.535
600	183.041	230.641	331.392	121.417	129.364	80.368	222.725
660	194.806	245.457	352.49	126.821	135.122	82.611	236.847
720	206.551	260.246	373.503	131.62	140.236	84.605	250.901

Pollutant Name: Sulfur Dioxide (SO2) Temperature: 85F Relative Humidity: 70%

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0
40	0	0	0.001	0	0	0	0
50	0	0	0.001	0	0.001	0	0
60	0	0	0.001	0	0.001	0.001	0
120	0.001	0.001	0.002	0.001	0.001	0.001	0.001
180	0.001	0.001	0.002	0.001	0.001	0.001	0.001
240	0.001	0.001	0.002	0.001	0.001	0.001	0.001
300	0.001	0.002	0.002	0.001	0.001	0.001	0.002
360	0.001	0.002	0.003	0.001	0.001	0.001	0.002
420	0.001	0.002	0.003	0.001	0.002	0.001	0.002
480	0.002	0.002	0.003	0.001	0.002	0.001	0.002
540	0.002	0.002	0.003	0.001	0.002	0.001	0.002
600	0.002	0.002	0.003	0.001	0.002	0.001	0.002
660	0.002	0.002	0.004	0.001	0.002	0.001	0.002
720	0.002	0.003	0.004	0.001	0.002	0.001	0.002

Hot Soak Emissions (grams/trip)

Pollutant Name: Total Organic Gases (ROG) Temperature: 85F Relative Humidity: All

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.026	0.046	0.035	0.004	0.044	0.185	0.034
10	0.048	0.085	0.066	0.007	0.081	0.345	0.062
20	0.083	0.147	0.113	0.012	0.138	0.602	0.107
30	0.106	0.19	0.147	0.015	0.178	0.792	0.139
40	0.115	0.206	0.159	0.017	0.193	0.868	0.151

Hot soak results are scaled to reflect zero emissions for trip lengths of less than 5 minutes (about 25% of in-use trips).

Partial Day Diurnal Loss Emissions (grams/hour)

Pollutant Name: Total Organic Gases (ROG) Temperature: All Relative Humidity: All

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
60	0.02	0.039	0.038	0.001	0.001	0.138	0.031
80	0.031	0.059	0.057	0.002	0.002	0.306	0.049
100	0.056	0.103	0.1	0.003	0.004	0.563	0.088

Partial Day Resting Loss Emissions (grams/hour)

Pollutant Name: Total Organic Gases (ROG) Temperature: All Relative Humidity: All

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
60	0.012	0.026	0.026	0.001	0.001	0.054	0.019
80	0.014	0.04	0.041	0.001	0.001	0.104	0.028
100	0.025	0.069	0.071	0.002	0.002	0.3	0.052

Evaporative Running Loss Emissions (grams/minute)

Pollutant Name: Total Organic Gases (ROG) Temperature: 85F Relative Humidity: All

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
1	0.009	0.23	0.253	0.071	0.753	0.005	0.123
2	0.007	0.118	0.13	0.036	0.385	0.038	0.064
3	0.008	0.083	0.092	0.025	0.263	0.055	0.047
4	0.009	0.067	0.074	0.02	0.203	0.066	0.039
5	0.01	0.058	0.063	0.017	0.167	0.073	0.035
10	0.012	0.04	0.043	0.011	0.095	0.088	0.027
15	0.013	0.035	0.038	0.01	0.073	0.093	0.025
20	0.013	0.034	0.036	0.009	0.063	0.097	0.024
25	0.014	0.033	0.036	0.009	0.057	0.099	0.024
30	0.014	0.033	0.036	0.009	0.058	0.1	0.024
35	0.014	0.033	0.036	0.009	0.058	0.101	0.024
40	0.014	0.034	0.036	0.009	0.058	0.101	0.024
45	0.014	0.034	0.036	0.009	0.059	0.102	0.024
50	0.014	0.034	0.037	0.009	0.059	0.103	0.024
55	0.014	0.034	0.037	0.009	0.059	0.103	0.025
60	0.014	0.034	0.037	0.009	0.06	0.104	0.025

Summary of Emission Rates

	Running Emissions (lbs/mile)	Starting Emissions (lbs/trip)	Hot Soak Emissions (lbs/trip)	Partial Day Diurnal Loss Emissions (lbs/hour)	Partial Day Resting Loss Emissions (lbs/hour)	Evaporative Resting Loss Emissions (lbs/minute)
Carbon Monoxide (CO)	0.003	0.010				
Particulate Matter (PM10)	0.000	0.001				
Oxides of Nitrogen (NOx)	0.000	0.001				
Reactive Organic Gases (ROG)	0.000	0.001	0.000	0.003	0.001	0.000
Carbon Dioxide (CO2)	1.396	0.428				
Sulfur Oxide (SO2)	0.000	0.000				
Hot Soak:	Assumes 20 minutes					
Diurnal Loss	Assumes 16 hours for partial day diurnal loss based on 16 hours between work end and next day start					
Resting Loss	Assumes 8 hours for partial day resting loss, based on an 8-hour workday					
Evaporative	Assumes 60 minutes for evaporative running loss emissions					
1 gram = 0.0022046 lbs						
0.0022046						

*Appendix G. City Response to Records Requests
from Remy, Thomas, Moose and
Manley, LLP*



Appendices

This page intentionally left blank.



February 10, 2010

Mr. Jason W. Holder
Remy, Thomas, Moose, and Manley, LLP
455 Capitol Mall, Suite 210
Sacramento, CA 95814

Dear Mr. Holder:

Enclosed are responses to your two public record requests of February 3 and February 5, 2010. Also in your letter was a request for an additional 21-day extension of the period for comment. As you know, the City of Irvine already granted an earlier request from the City of Tustin for a 10-day extension of the period for comment, which concludes at the end of Monday, February 15, 2010.

We find no rationale in granting another substantial extension to the public review period as requested. Nevertheless, we will grant an additional two days until the end of business, Wednesday, February 17, 2010.

Sincerely,

Douglas Williford, AICP
Director of Community Development

cc: Sean Joyce, City Manager
Phil Kohn, City Attorney
Bill Jacobs, Principal Planner
Douglas Holland, Tustin City Attorney
Elizabeth Binsack, Tustin Director of Community Development
Dan Smith, Traffic Consultant



February 10, 2010

Jason W. Holder
Remy, Thomas, Moore and Manley, LLP
455 Capitol Mall, Suite 210
Sacramento, CA 95814

Dear Mr. Holder,

The attached information responds to your request of February 3, 2010 under the California Public Records Act (Government Code § 6250 et seq.) regarding the following:

1. The *Working Draft of 2008 Citywide Circulation Phasing Report*, PB 2009.
2. The most recent Traffic Monitoring Report for Irvine Business Complex Sliding Interim Year Analysis.
3. The proposed "downgrading" of the designation for seven IBC arterial segments and one interchange in the Master Plan of Arterial Highways ("MPAH").

Please find the documents provided by the City's Community Development Department for Items 1 & 2. The Department does not have any information to provide for Item 3.

Sincerely,

A handwritten signature in black ink, appearing to read "Jill M. Schoener".

JILL M. SCHOENER, CRM
Municipal Records Administrator
City Clerk's Office of Records and Information

JMS:jn



February 10, 2010

Jason W. Holder
Remy, Thomas, Moore and Manley, LLP
455 Capitol Mall, Suite 210
Sacramento, CA 95814

Dear Mr. Holder,

The attached information responds to your request of February 5, 2010 under the California Public Records Act (Government Code § 6250 et seq.). Please find the documents provided by the City's Community Development Department.

With regard to your request for trip information for all ITAM 8.4 external stations for all traffic analysis scenario runs of the model, please be advised that public records within the specific compilation of data that you request do not exist, as that information is stored as raw traffic model data.

Sincerely,

A handwritten signature in black ink, reading 'Jill M. Schoener'.

JILL M. SCHOENER, CRM
Municipal Records Administrator
City Clerk's Office of Records and Information

JMS;jn

Appendix H. New and Revised EIR Figures



Appendices

This page intentionally left blank.

3. Project Description

IBC Vision Plan Framework



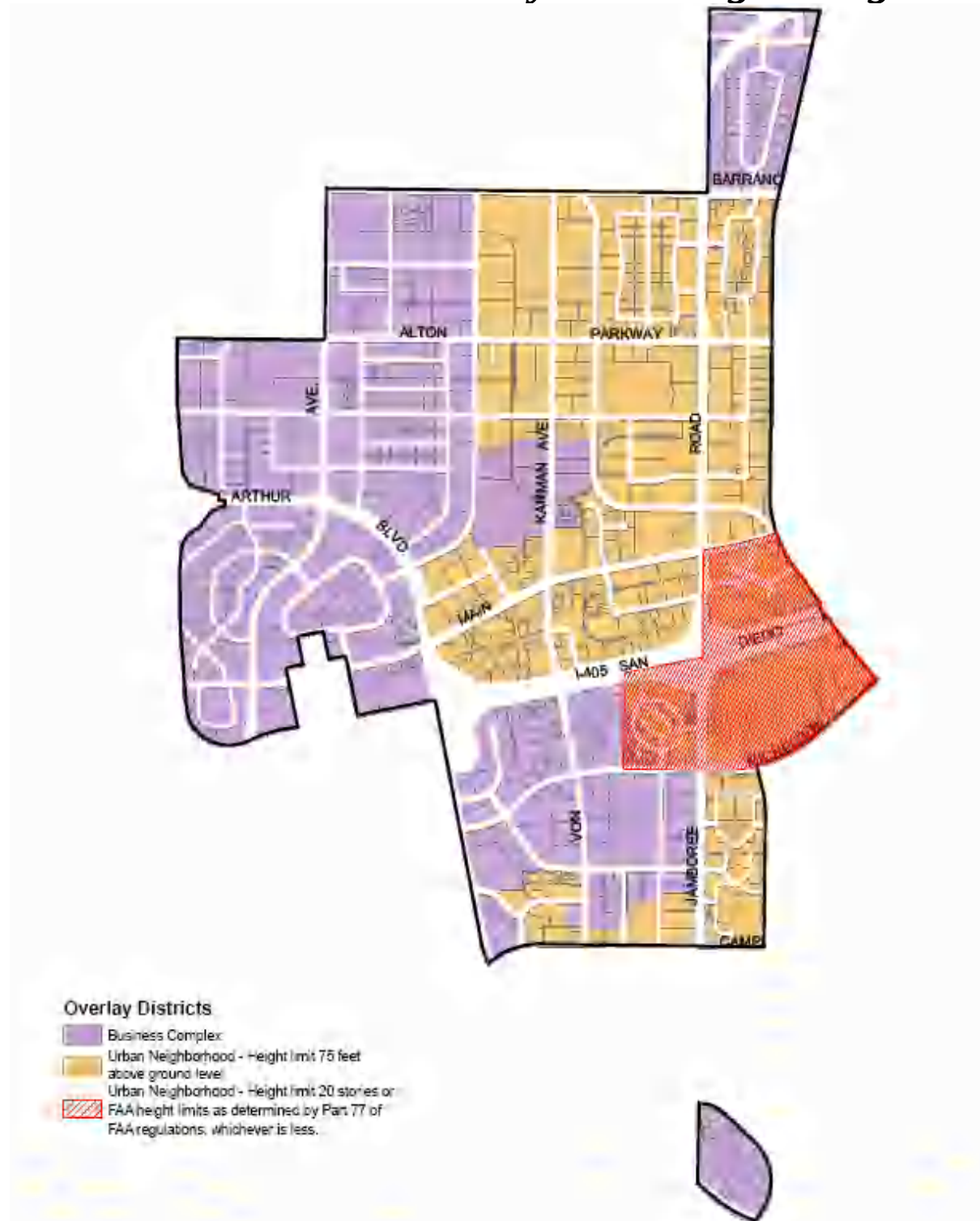
Source: City of Irvine 2009

IBC Vision Plan and Mixed Use Overlay Zoning Code Recirculated DEIR

City of Irvine • **Figure 3-4**

3. Project Description

Overlay Zone Regulating Plan



3. Project Description

Transfer of Development Rights Assumptions

Project Name	TAZ ID	Project #	Total Trip Budget (Existing)			Existing Land Use							Remaining Approval		Total Trip Budget (Project)			Project Acres	Fixed Land Use							Remaining Approval	
						Res.	Office	Retail	Ind.	Hotel	Extended Stay Hotel	Office Equiv.							Office	Ind.	AM	PM	ADT	Res.	Office		
			AM	PM	ADT																						
Project Data for Pending Residential Projects requiring TDR																											
Martin Street Condos (Receiving Site)	526	702	93	112	1,159	0	68,858	3,000	0	0	0	0	0	0	134	156	1,593	3.66	82	68,858	3,000	0	0	0	0	0	0
Campus Center (Sending Site)*	544	723	790	1,827	22,842	202	0	3,343	0	0	0	523,468	0	0	749	1,783	22,408	3.31	202	0	3,343	0	0	0	491,929	0	0
2851 Alton (Receiving Site)	464	19	57	56	592	0	12,700	0	66,100	0	0	8,093	0	0	87	88	911	3.72	170	0	0	0	0	0	0	0	0
Campus Center (Sending Site)*	544	723	749	1,784	22,325	202	0	3,343	0	0	0	492,309	0	0	719	1751	22,089	3.31	202	0	3,343	0	0	0	468,741	0	0
ITC - Mixed Use (Receiving Site)	543 & 545	56, 97 & 98	446	539	5,652	0	170,975	24,825	53,768	0	0	67,108	0	0	682	790	8,157	18.84	1,000	44,000	30,000	0	0	0	0	0	0
Campus Center (Sending Site)*	544	723	720	1,751	21,997	202	0	3,343	0	0	0	470,001	0	0	483	1,500	19,584	3.31	202	0	3,343	0	0	0	286,857	0	0
Avalon Jamboree - Phase II (Receiving Site)	446	334	42	42	437	0	8,326	0	40,649	0	0	9,746	0	0	73	75	766	2.8	144	0	0	0	0	0	0	0	0
Campus Center (Sending Site)*	544	723	533	1,500	18,436	202	0	3,343	0	0	0	290,001	0	0	452	1,467	19,255	3.31	202	0	3,343	0	0	0	262,944	0	0
Park Avenue Apartments (Receiving Site)	446	530	37	38	389	0	15,922	0	24,566	0	0	4,084	0	0	63	66	668	2.53	126	0	0	0	0	0	0	0	0
2777 McGaw (Sending Site)	456	802	115	122	1,217	0	0	0	88,350	0	0	57,692	0	0	89	94	938	6.54	0	0	0	88,350	0	0	37,402	0	0
2852 Kelvin (Receiving Site)	492	363 & 364	50	54	531	0	15,900	0	13,398	0	0	18,147	0	0	83	89	881	3.2	166	0	0	0	0	0	0	0	0
2801 Kelvin (Sending Site)	485	361	160	170	1,699	248	0	0	0	0	0	9,920	0	0	149	158	1,582	5.26	248	0	0	0	0	1,458	0	0	
2777 McGaw (Sending Site)	456	802	89	94	938	0	0	0	88,350	0	0	37,402	0	0	67	71	705	6.54	0	0	0	88,350	0	0	20,479	0	0
Kilroy (Receiving Site)	445 & 455	671	125	127	1,311	0	60,008	0	101,413	0	0	1,041	0	0	175	180	1,840	9.15	347	0	0	0	0	0	0	0	0
2555 Main (Sending Site)	490	428	331	355	3,972	481	0	0	0	0	0	69,231	0	0	281	302	3,443	9.9	481	0	0	0	0	0	30,825	0	0
Project Data for Pending Non-Residential Projects requiring TDR																											
Element Hotel (Receiving Site)	465	49	22	22	234	0	6,000	0	23,400	0	0	3,152	0	0	49	51	523	1.52	0	0	0	0	0	122	0	0	0
17572 Armstrong (Sending Site)	460	43	109	115	1,151	0	0	0	20,500	0	0	76,710	0	0	82	86	862	1.82	0	0	0	20,500	0	0	55,696	0	0
Hines Master Plan (Receiving Site)	528 & 535	501 & 656	704	727	7,431	0	25,825	0	143,727	0	0	137,712	314,712	0	1,060	1,195	12,014	16	0	785,000	15,500	0	0	0	0	0	0
16651 Noyes (Sending Site)	431	592	23	25	248	0	8,000	0	6,317	0	0	7,506	0	0	14	16	152	0.89	0	8,000	0	6,317	0	0	919		
88 Corporate Park (Sending Site)	443	170	20	31	345	0	0	2,453	0	0	0	10,091	0	0	6	17	206	0.35	0	0	2,453	0	0	0	0		
1 Edwards Way (Sending Site)	404	2	787	830	8,325	0	75,496	0	100,026	0	0	30,908	463,980	1,795	657	692	6,948	15.99	0	75,496	0	100,026	0	0	0*	394,888*	1,795
2555 Main (Sending Site)	490	428	409	528	5,608	481	0	0	0	0	0	129,231	0	0	331	355	3,972	9.9	481	0	0	0	0	0	69,231	0	0
18691 Jamboree (Sending Site)	535	339	709	753	9,085	0	0	0	0	0	0	545,385	0	0	583	619	7,750	7.5	0	0	0	0	0	0	488,462		
Project Data for Pending Non-Residential Projects - No TDR																											
Irvine Crossings Master Plan Modification and TPM	462 & 478	476	365	380	3,853	0	4,726	0	196,300	0	0	34,615	173,774	0	365	380	3,853	21	0	4,726	0	196,300	0	0	34,615	173,774	0
Diamond Jamboree Master Plan Modification	456	801	268	642	7,629	0	26,647	86,441	0	0	0	75	0	0	302	679	7,994	28	0	26,647	86,441	0	0	0	26,632	0	0
Master Plan for G/FREHC Center	535	339	583	623	7,589	0	0	0	0	0	0	448,462	0	0	527	749	8,969	7.49	0	197,130	26,000	0	250	0	0	0	
Allergan Master Plan Modification*	518	698	57	59	608	0	0	0	0	0	0	42,753	0	0	325	345	3,443	3.98	0	250,000	0	0	0	0	0	0	
McGaw - Tentative Tract Map	415	296 & 458	29	29	304	0	13,338	0	26,072	0	0	0	0	0	29	29	304	0.28	0	13,338	0	26,072	0	0	0	0	0
Modification to CUP for Park Place	516	503	5,840	7,480	80,168	232	2,649,224	89,122	0	0	0	85,072	1,049,970	735	5,840	7,480	80,168	134	232	2,649,224	89,122	0	0	0	85,072	1,049,970	735
Alton - Tentative Parcel Map for Non-Residential Condos	440	1	82	81	856	0	10,270	0	111,310	0	0	14,512	0	0	82	81	856	5.3	0	10,270	0	111,310	0	0	14,512	0	0
Business Center - Tentative Parcel Map	502	82 & 83	42	44	442	0	32,100	0	0	0	0	0	0	0	42	44	442	2.04	0	32,100	0	0	0	0	0	0	0

Source: City of Irvine 2009

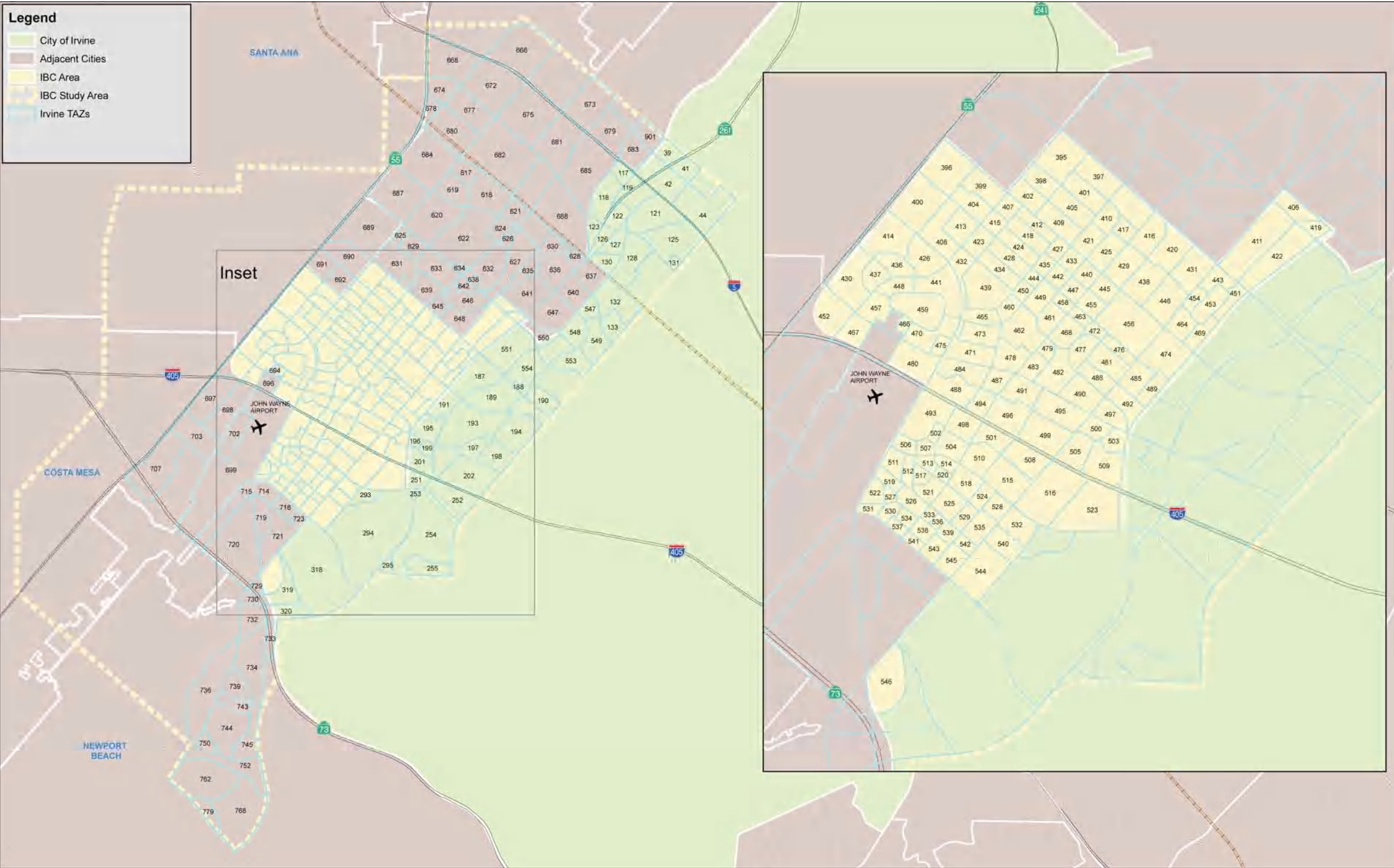


Transfer of Development Rights Assumptions

Project Name	Fixed Trip Budget																					Remaining Approval			Remaining Approval			Fixed Acreage							Remaining Approval		
	Residential			Office			Retail			Industrial			Hotel			Extended Stay Hotel			Office Equivalency			Office			Industrial			Res.	Office	Retail	Ind.	Hotel	Extended Stay Hotel	Office Equiv.			
	AM	PM	ADT	AM	PM	ADT	AM	PM	ADT	AM	PM	ADT	AM	PM	ADT	AM	PM	ADT	AM	PM	ADT	AM	PM	ADT	AM	PM	ADT										
Project Data for Pending Residential Projects requiring TDR																																					
Martin Street Condos (Receiving Site)	41	43	517	86	91	907	7	21	252	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.02	1.64	0	0	0	0	0	0	0	0
Campus Center (Sending Site) *	101	105	1,273	0	0	0	8	23	281	0	0	0	0	0	0	0	0	0	640	679	6,774	0	0	0	0	0	0	3.23	0	0.08	0	0	0	0	11.3	0	0
2851 Alton (Receiving Site)	86	89	920	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.72	0	0	0	0	0	0	0	0	0	
Campus Center (Sending Site) *	101	105	1,273	0	0	0	8	23	281	0	0	0	0	0	0	0	0	0	609	647	6,455	0	0	0	0	0	0	3.23	0	0.08	0	0	0	0	10.7	0	0
ITC - Mixed Use (Receiving Site)	500	520	6,300	57	61	606	76	209	2,520	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17.18	1.01	0.68	0	0	0	0	0	0	0	
Campus Center (Sending Site) *	101	105	1,273	0	0	0	8	23	281	0	0	0	0	0	0	0	0	0	373	396	3,950	0	0	0	0	0	0	3.23	0	0.08	0	0	0	0	6.6	0	0
Avalon Jamboree - Phase II (Receiving Site)	73	75	766	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.8	0	0	0	0	0	0	0	0	0	
Campus Center (Sending Site) *	101	105	1,273	0	0	0	8	23	281	0	0	0	0	0	0	0	0	0	342	363	3,621	0	0	0	0	0	0	3.23	0	0.08	0	0	0	0	6.1	0	0
Park Avenue Apartments (Receiving Site)	63	66	668	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.53	0	0	0	0	0	0	0	0	0	
2777 McGaw (Sending Site)	0	0	0	0	0	0	0	0	0	40	37	408	0	0	0	0	0	0	49	52	515	0	0	0	0	0	0	0	0	0	2.02	0	0	0.8	0	0	
2852 Kelvin (Receiving Site)	83	88	764	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.2	0	0	0	0	0	0	0	0	0	
2801 Kelvin (Sending Site)	124	129	1,562	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	20	0	0	0	0	0	0	5.26	0	0	0	0	0	0	0.03	0	0	
2777 McGaw (Sending Site)	0	0	0	0	0	0	0	0	0	40	37	408	0	0	0	0	0	0	27	28	282	0	0	0	0	0	0	0	0	0	2.02	0	0	0.5	0	0	
Kilroy (Receiving Site)	176	181	1,850	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9.15	0	0	0	0	0	0	0	0	0	
2555 Main (Sending Site)	241	250	3,030	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40	43	424	0	0	0	0	0	0	7	0	0	0	0	0	0	0.72	0	0	
Project Data for Pending Non-Residential Projects requiring TDR																																					
Element Hotel (Receiving Site)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	59	61	627	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.52	0	0	
17572 Armstrong (Sending Site)	0	0	0	0	0	0	0	0	0	9	9	95	0	0	0	0	0	0	72	77	767	0	0	0	0	0	0	0	0	0	0	0.47	0	0	1.1	0	0
Hines Master Plan (Receiving Site)	0	0	0	1,021	1,083	10,809	39	108	1,302	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	0.35	0	0	0	0	0	0	0
16651 Noyes (Sending Site)	0	0	0	20	56	672	0	0	0	3	3	29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.18	0	0.14	0	0	0	0.02	0	0	
88 Corporate Park (Sending Site)	0	0	0	0	0	0	6	17	206	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.05	0	0	0	0	0	0	0	
1 Edwards Way (Sending Site)	0	0	0	98	104	1,040	0	0	0	45	42	462	0	0	0	0	0	0	0	0	0	514	546	5,446	1	1	8	0	1.7	0	2.3	0	0	0	9	0.04	
2555 Main (Sending Site)	241	250	3,030	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	90	96	953	0	0	0	0	0	0	7	0	0	0	0	0	1.6	0	0	
18691 Jamboree (Sending Site)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	583	619	6,175	0	0	0	0	0	0	0	0	0	0	0	0	0	10.35	0	0	
Project Data for Pending Non-Residential Projects - No TDR																																					
Irvine Crossings Master Plan Modification and TPM	0	0	0	6	7	65	0	0	0	88	82	907	0	0	0	0	0	0	45	48	477	226	240	2,393	0	0	0	0	0.09	0	4.5	0	0	0.79	3.9	0	
Diamond Jamboree Master Plan Modification	0	0	0	35	37	367	220	602	7,261	0	0	0	0	0	0	0	0	35	37	367	0	0	0	0	0	0	0	0	0.6	1.9	0	0	0	0.6	0	0	
Master Plan for GIFFEHC Center	0	0	0	315	335	3,339	64	176	2,130	0	0	0	147	238	3,500	0	0	0	0	0	0	0	0	0	0	0	0	5.5	0.58	0	0.41	0	0	0	0		
Allergan Master Plan Modification*	0	0	0	325	345	3,443	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5.7	0	0	0	0	0	0	0		
McGaw - Tentative Tract Map	0	0	0	17	18	184	0	0	0	12	11	120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0	0.59	0	0	0	0	0		
Modification to CUP for Park Place	116	121	1,462	3,444	3,656	36,480	226	620	7,486	0	0	0	0	0	0	0	0	111	117	1,171	1,365	1,449	14,458	0	0	3	2.32	60.8	2	0	0	0	1.9	24.1	0.01		
Alton - Tentative Parcel Map for Non-Residential Condos	0	0	0	13	14	141	0	0	0	50	47	514	0	0	0	0	0	19	20	200	0	0	0	0	0	0	0	0.23	0	2.5	0	0	0.33	0	0		
Business Center - Tentative Parcel Map	0	0	0	42	44	442	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.04	0	0	0	0	0	0	0		

Source: City of Irvine 2009

IBC Study Area Traffic Analysis Zones (TAZ)



0 6,150
Scale (Feet)



Source: Parsons Brinckerhoff 2009

2015 Cumulative Baseline No Project Daily Arterial Deficiencies



Source: Parsons Brinckerhoff 2009



2015 Cumulative With Project Daily Arterial Deficiencies



Source: Parsons Brinckerhoff 2009

Post-2030 Cumulative Baseline No Project Daily Arterial Deficiencies



Source: Parsons Brinckerhoff 2009

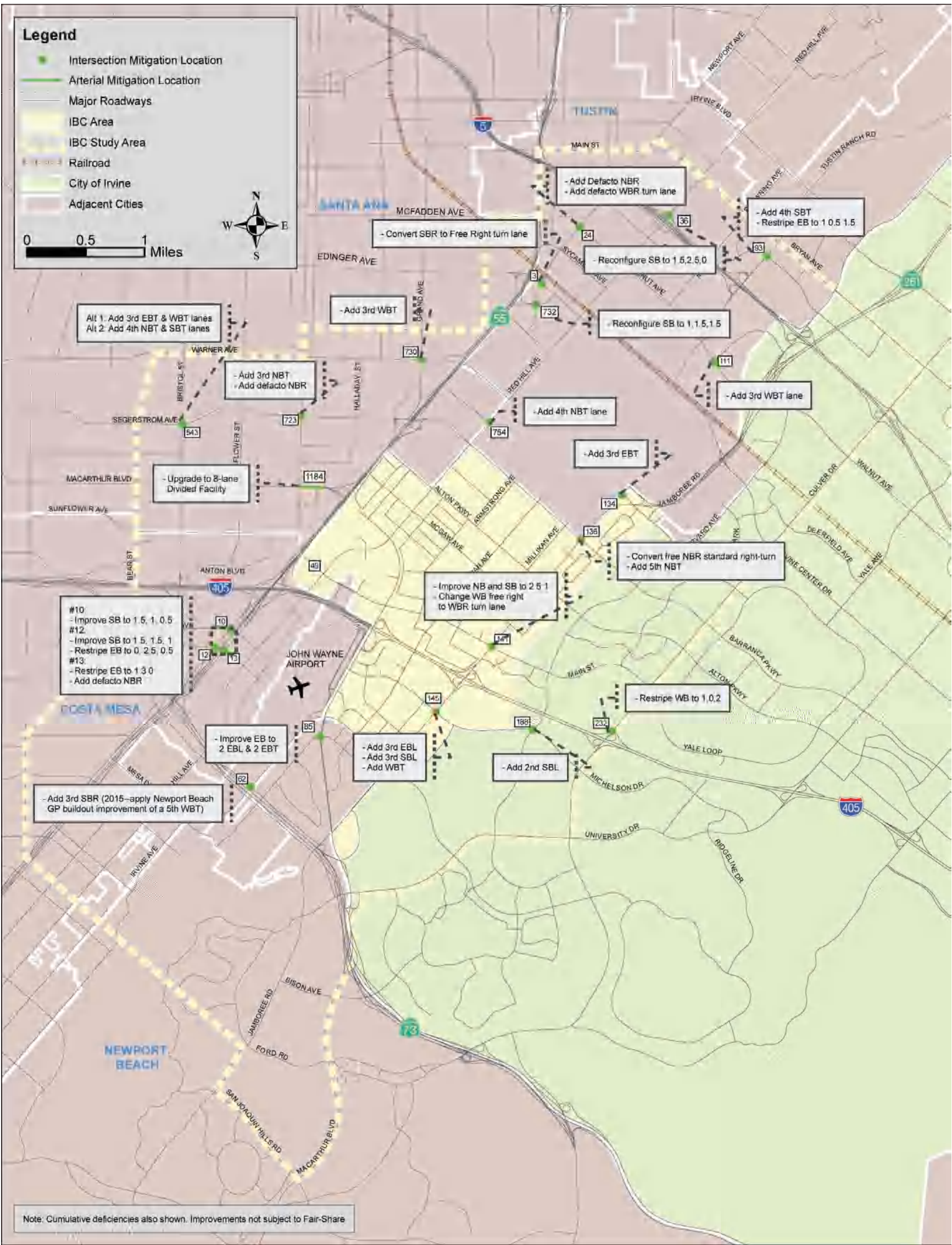


Post-2030 Cumulative With Project Daily Arterial Deficiencies



Source: Parsons Brinckerhoff 2009

IBC Vision Study Area Improvement Locations



Source: Parsons Brinckerhoff 2009



Appendix I. Revised Traffic Study Pages



Appendices

This page intentionally left blank

IRVINE BUSINESS COMPLEX VISION PLAN
Traffic Study

Prepared for:



City of Irvine

Prepared by:



Parsons Brinckerhoff

March 2010



TABLE OF CONTENTS

ES.1	EXECUTIVE SUMMARY.....	a
ES.1.1	Introduction	a
ES.1.2	Analysis Scope and Methodology.....	b
ES.1.3	Project Related Traffic Impacts	b
ES.1.4	Fair-share.....	c
ES.1.5	Mitigation Strategies	fe
ES.1.6	MPAH and General Plan Amendment	gf
1.0	INTRODUCTION	1
1.1	Purpose 1	
1.2	Study Area.....	1
1.3	Project Description.....	4
1.4	Transfer of Development Rights.....	4
1.5	Land Use Changes	4
1.6	Transportation Setting.....	6
1.6.1	Rail	6
1.6.2	Local Bus.....	6
1.6.3	Bicycle and Riding and Hiking Trails	6
1.6.4	Pedestrian.....	6
1.6.5	i Shuttle.....	6
1.7	Project Highlights	10
1.8	Report Organization.....	10
2.0	Methodology	11
2.1	Traffic Analysis Methodology	11
2.2	Traffic Forecasting Methodology.....	11
2.2.1	Trip Generation	11
2.2.2	Trip Distribution.....	11
2.2.3	Mode Choice.....	12
2.2.4	Traffic Assignment.....	12
2.2.5	Trip Budget.....	12
2.3	Traffic Counts.....	13
2.4	Intersection Analysis	13
2.5	Arterial Analysis	14
2.6	Freeway and Ramp Volume/Capacity & HCM Density Analysis	14
2.6.1	Freeway Mainlines	14
2.6.2	Freeway Ramps.....	15
2.7	Performance Criteria	15
2.7.1	Advanced Traffic Management System (ATMS) Credit	22
3.0	Existing Conditions.....	23
3.1	Introduction	23
3.2	Existing Land Use.....	23
3.3	Existing Daily Arterial Segment Analysis	23
3.4	Existing Peak Hour Link Analysis	32
3.5	Existing Intersection Analysis	32
3.6	Existing Freeway Mainline Analysis.....	38



3.7	Existing Freeway Ramp Analysis	42
3.8	Existing With Project	49
3.9	Existing With Project Daily Arterial Segment Analysis	49
3.10	Existing With Project Peak Hour Link Analysis	59
3.11	Existing With Project Peak Hour Intersection Analysis	62
3.12	Existing With Project Peak Hour Freeway Mainline Analysis	67
3.13	Existing With Project Peak Hour Freeway Ramp Analysis	73
4.0	2015 Future Conditions	82
4.1	Introduction	82
4.2	2015 Cumulative Baseline No Project	82
4.3	2015 Cumulative Baseline No Project Land Use and Trip Generation	82
4.4	2015 Cumulative Baseline No Project Daily Arterial Segment Analysis	83
4.5	2015 Cumulative Baseline No Project Peak Hour Link Analysis	90
4.6	2015 Cumulative Baseline No Project Peak Hour Intersection Analysis	93
4.7	2015 Cumulative Baseline No Project Peak Hour Freeway Mainline Analysis	102
4.8	2015 Cumulative Baseline No Project Peak Hour Freeway Ramp Analysis	105
4.9	2015 Cumulative With Project	112
4.10	2015 Cumulative With Project Land Use and Trip Generation	112
4.11	2015 Cumulative With Project Daily Arterial Segment Analysis	116
4.12	2015 Cumulative With Project Peak Hour Link Analysis	116
4.13	2015 Cumulative With Project Peak Hour Intersection Analysis	127
4.14	2015 Cumulative With Project Peak Hour Freeway Mainline Analysis	127
4.15	2015 Cumulative With Project Peak Hour Freeway Ramp Analysis	139
5.0	Post-2030 Future Conditions	147
5.1	Introduction	147
5.2	Post-2030 Cumulative Baseline No Project	147
5.3	Post-2030 Cumulative Baseline No Project Land Use and Trip Generation	147
5.4	Post-2030 Cumulative Baseline No Project Daily Arterial Segment Analysis	148
5.5	Post-2030 Cumulative Baseline No Project Peak Hour Link Analysis	155
5.6	Post-2030 Cumulative Baseline No Project Peak Hour Intersection Analysis	158
5.7	Post-2030 Cumulative Baseline No Project Peak Hour Mainline Analysis	166
5.8	Post-2030 Cumulative Baseline No Project Peak Hour Freeway Ramp Analysis	169
5.9	Post-2030 Cumulative With Project	176
5.10	Post-2030 Cumulative With Project Land Use and Trip Generation	176
5.11	Post-2030 Cumulative With Project Daily Arterial Segment Analysis	180
5.12	Post-2030 Cumulative With Project Peak Hour Link Analysis	187
5.13	Post-2030 Cumulative With Project Peak Hour Intersection Analysis	187
5.14	Post-2030 Cumulative With Project Peak Hour Freeway Mainline Analysis	198
5.15	Post-2030 Cumulative With Project Freeway Ramp Analysis	203
6.0	Future Improvements and Mitigation for IBC Vision Plan	211
6.1	Development of Mitigation Strategies	211
6.2	Fee Assessment/Fair-share for Improvements	211
6.3	Policy Framework	212
6.4	Intersection Improvements	212
6.4.1	Costa Mesa	215
6.4.2	Irvine	215
6.4.3	Newport Beach	217
6.4.4	Santa Ana	218
6.4.5	Tustin	220



6.5	Existing Conditions With Project Impacts.....	223
6.6	Arterial Improvements	224
6.7	Freeway Mainline and Ramp Improvements	224
6.7.1	Freeway Mainlines	224
6.7.2	Freeway Ramps	226
6.8	Unavoidable Impacts and Overriding Considerations	227
6.8.1	City of Irvine Intersections	227
6.8.2	City of Costa Mesa, Newport Beach, Santa Ana, and Tustin Intersections and Arterial Segments	227
6.8.3	Caltrans Mainline Segments and Ramps.....	227
7.0	Buildout Alternative Analysis	229
7.1	Post-2030 Existing General Plan Buildout	229
7.2	Post-2030 Existing General Plan Buildout Land Use and Trip Generation	229
7.3	Post-2030 Existing General Plan Buildout Daily Arterial Segment Analysis.....	233
7.4	Post-2030 Existing General Plan Buildout Peak Hour Link Analysis.....	241
7.5	Post-2030 Existing General Plan Buildout Intersection Analysis	245
7.6	Post-2030 Existing General Plan Buildout Freeway Mainline Analysis	245
7.7	Post-2030 Existing General Plan Buildout Peak Hour Freeway Ramp Analysis	259
7.8	Post-2030 With Project (MPAH Network).....	267
7.9	Post-2030 With Project (MPAH Network) Land Use and Trip Generation.....	267
7.10	Post-2030 With Project (MPAH Network) Daily Arterial Segment Analysis	267
7.11	Post-2030 With Project (MPAH Network) Peak Hour Link Analysis	~~277~~ 276
7.12	Post-2030 With Project (MPAH Network) Peak Hour Intersection Analysis.....	277
7.13	Post-2030 With Project (MPAH Network) Peak Hour Freeway Mainline Analysis	290
7.14	Post-2030 With Project (MPAH Network) Peak Hour Freeway Ramp Analysis.....	295
8.0	Conclusions	303
8.1	Project Related Traffic Impacts	303
8.2	Freeway/Tollway Mainline and Ramp Improvements	305
8.3	Alternative Buildout Scenarios	305
8.4	MPAH and General Plan Amendment	306
9.0	References	~~308~~307
10.0	Glossary of Transportation Terms	313
11.0	Appendices	313
	Appendix A: Trip Generation Quantities by TAZ (Within IBC)	
	Appendix B: ICU Worksheets	
	Appendix C: HCS Mainline Analysis	
	Appendix D: HCS Ramp Analysis	
	Appendix E: Intersection Improvement List	
	Appendix F: ICU Worksheets for Mitigation Intersections	
	Appendix G: Mitigation Strategies	
	Appendix H: Fair-share Analysis	
	Appendix I: HCM Intersection Analysis	
	Appendix J: Land Use Quantities by TAZ (Within IBC)	



List of Figures

Figure 1.1: IBC Study Area.....	3
Figure 1.2: IBC Study Area Traffic Analysis Zones (TAZ).....	5
Figure 1.3: OCTA Bus Routes.....	7
Figure 1.4: City of Irvine Bicycle System	8
Figure 1.5: i Shuttle Routes	9
Figure 3.1: Existing Daily Arterial ADT	30
Figure 3.2: Existing Arterial Daily Deficiencies	31
Figure 3.3: Existing AM Peak Hour Intersection Deficiencies.....	39
Figure 3.4: Existing PM Peak Hour Intersection Deficiencies	40
Figure 3.5: Existing Freeway AM Peak Hour Deficiencies	47
Figure 3.6: Existing Freeway PM Peak Hour Deficiencies	48
Figure 3.7: Land Use Comparison between IBC Vision Plan and Existing No Project (Residential Units).....	50
Figure 3.8: Land Use Comparison between IBC Vision Plan and Existing No Project (Office Mix)	51
Figure 3.9: Land Use Comparison between IBC Vision Plan and Existing No Project (Industrial Mix)	52
Figure 3.10: Existing With Project Daily Arterial ADT	60
Figure 3.11: Existing With Project Daily Arterial Deficiencies	61
Figure 3.12: Existing With Project Intersection AM Peak Hour Deficiencies.....	68
Figure 3.13: Existing With Project Intersection PM Peak Hour Deficiencies	69
Figure 3.14: Existing With Project Freeway AM Peak Hour Deficiencies	80
Figure 3.15: Existing With Project Freeway PM Peak Hour Deficiencies	81
Figure 4.1: 2015 Cumulative Baseline No Project Daily Arterial ADT	91
Figure 4.2: 2015 Cumulative Baseline No Project Daily Arterial Deficiencies.....	92
Figure 4.3: 2015 Cumulative Baseline No Project AM Peak Hour Intersection Deficiencies	100
Figure 4.4: 2015 Cumulative Baseline No Project PM Peak Hour Intersection Deficiencies	101
Figure 4.5: 2015 Cumulative Baseline No Project Freeway AM Peak Hour Deficiencies.....	110
Figure 4.6: 2015 Cumulative Baseline No Project Freeway PM Peak Hour Deficiencies.....	111
Figure 4.7: Land Use Comparison between 2015 IBC Vision Plan and 2015 No Project (Residential Units).....	113
Figure 4.8: Land Use Comparison between 2015 IBC Vision Plan and 2015 No Project (Office Mix).....	114
Figure 4.9: Land Use Comparison between 2015 IBC Vision Plan and 2015 No Project (Industrial Mix).....	115
Figure 4.10: 2015 Cumulative With Project Daily Arterial ADT	124
Figure 4.11: 2015 Cumulative With Project Daily Arterial Deficiencies.....	125
Figure 4.12: 2015 Cumulative With Project AM Peak Hour Intersection Deficiencies	133
Figure 4.13: 2015 Cumulative With Project PM Peak Hour Intersection Deficiencies.....	134
Figure 4.14: 2015 Cumulative With Project Freeway AM Peak Hour Deficiencies	145
Figure 4.15: 2015 Cumulative With Project Freeway PM Peak Hour Deficiencies.....	146
Figure 5.1: Post-2030 Cumulative Baseline No Project Daily Arterial ADT	156
Figure 5.2: Post-2030 Cumulative Baseline No Project Daily Arterial Deficiencies	157
Figure 5.3: Post-2030 Cumulative Baseline No Project AM Peak Hour Intersection Deficiencies	164
Figure 5.4: Post-2030 Cumulative Baseline No Project PM Peak Hour Intersection Deficiencies	165
Figure 5.5: Post-2030 Cumulative Baseline No Project Freeway AM Peak Hour Deficiencies	174
Figure 5.6: Post-2030 Cumulative Baseline No Project Freeway PM Peak Hour Deficiencies.....	175
Figure 5.7: Land Use Comparison between Post-2030 IBC Vision Plan With Project and No Project (Residential Units)	177
Figure 5.8: Land Use Comparison between Post-2030 IBC Vision Plan With Project and No Project (Office Mix)	178
Figure 5.9: Land Use Comparison between Post-2030 IBC Vision Plan With Project and No Project (Industrial Mix).....	179
Figure 5.10: Post-2030 Cumulative With Project Daily Arterial ADT	188
Figure 5.11: Post-2030 Cumulative With Project Daily Arterial Deficiencies	189
Figure 5.12: Post-2030 Cumulative With Project AM Peak Hour Intersection Deficiencies.....	196
Figure 5.13: Post-2030 Cumulative With Project PM Peak Hour Intersection Deficiencies	197
Figure 5.14: Post-2030 Cumulative With Project Freeway AM Peak Hour Deficiencies	209
Figure 5.15: Post-2030 Cumulative With Project Freeway PM Peak Hour Deficiencies.....	210
Figure 6.1: IBC Vision Study Area Improvement Locations	214
Figure 7.1: Land Use Comparison between Post-2030 IBC Vision Plan and General Plan Buildout (Residential Units).....	230
Figure 7.2: Land Use Comparison between Post-2030 IBC Vision Plan and General Plan Buildout (Office Mix)	231
Figure 7.3: Land Use Comparison between Post-2030 IBC Vision Plan and General Plan Buildout (Industrial Mix)	232
Figure 7.4: Post-2030 Existing General Plan Buildout Daily Arterial ADT.....	243
Figure 7.5: Post-2030 Existing General Plan Buildout Daily Arterial Deficiencies.....	244



Figure 7.6: Post-2030 Existing General Plan Buildout AM Peak Hour Intersection Deficiencies.....	253
Figure 7.7: Post-2030 Existing General Plan Buildout PM Peak Hour Intersection Deficiencies.....	254
Figure 7.8: Post-2030 Existing General Plan Buildout Freeway AM Peak Hour Deficiencies.....	265
Figure 7.9: Post-2030 Existing General Plan Buildout Freeway PM Peak Hour Deficiencies.....	266
Figure 7.10: Post-2030 With Project (MPAH Network) Daily Arterial ADT.....	279
Figure 7.11: Post-2030 With Project (MPAH Network) Daily Arterial Deficiencies.....	280
Figure 7.12: Post-2030 With Project (MPAH Network) AM Peak Hour Intersection Deficiencies.....	288
Figure 7.13: Post-2030 With Project (MPAH Network) PM Peak Hour Intersection Deficiencies.....	289
Figure 7.14: Post-2030 With Project (MPAH Network) Freeway AM Peak Hour Deficiencies.....	301
Figure 7.15: Post-2030 With Project (MPAH Network) Freeway PM Peak Hour Deficiencies.....	302

List of Tables

Table ES.1.1: Intersection/Arterial Segment Project Impacts/Cumulative Deficiencies.....	ed
Table ES.1.2: Mitigation Strategies.....	fe
Table 1.1: IBC Vision Plan Land Use.....	1
Table 2.1: Socioeconomic Based Trip Rates.....	12
Table 2.2: Trip Generation Summary for Future Forecast Scenarios.....	12
Table 2.3: V/C Ratio and LOS.....	16
Table 2.4: Freeway Mainline Segment Density LOS.....	17
Table 2.5: Freeway Ramp Density LOS.....	17
Table 2.6: Circulation System Performance Criteria — Arterial Segments.....	18
Table 2.7: Circulation System Performance Criteria — Intersections.....	18
Table 2.8: Circulation System Performance Criteria — Freeway Mainlines and Ramps (V/C Analysis).....	19
Table 2.9: Study Area Committed Roadway Improvements.....	20
Table 2.10: Study Area Committed Intersection Improvements.....	21
Table 3.1: Existing Land Use Summary.....	23
Table 3.2: Existing Daily Arterial LOS Summary.....	24
Table 3.3: Existing Arterial Peak Hour Link Analysis.....	32
Table 3.4: Existing Intersection Peak Hour LOS Summary.....	33
Table 3.5: Existing Peak Hour Freeway Mainline LOS.....	41
Table 3.6: Existing Peak Hour Freeway Ramp LOS.....	44
Table 3.7: Existing With Project Land Use Summary.....	49
Table 3.8: Existing With Project Daily Arterial LOS.....	53
Table 3.9: Existing With Project Peak Hour Link Analysis.....	59
Table 3.10: Existing With Project Peak Hour Intersection LOS.....	62
Table 3.11: Existing With Project Peak Hour Freeway Mainline LOS.....	70
Table 3.12: Existing Peak Hour Freeway Ramp LOS.....	74
Table 4.1: 2015 Cumulative Baseline No Project Land Use Summary.....	83
Table 4.2: 2015 Cumulative Baseline No Project Trip Generation.....	83
Table 4.3: 2015 Cumulative Baseline No Project Daily Arterial LOS.....	84
Table 4.4: 2015 Cumulative Baseline No Project Peak Hour Link Analysis.....	93
Table 4.5: 2015 Cumulative Baseline No Project Peak Hour Intersection LOS.....	94
Table 4.6: 2015 Cumulative Baseline No Project Freeway Peak Hour Mainline LOS.....	103
Table 4.7: 2015 Cumulative Baseline No Project Peak Hour Freeway Ramp LOS.....	105
Table 4.8: 2015 Cumulative With Project Land Use Summary.....	112
Table 4.9: 2015 Cumulative With Project Trip Generation.....	112
Table 4.10: 2015 Cumulative With Project Daily Arterial LOS.....	117
Table 4.11: 2015 Cumulative With Project Peak Hour Link Analysis.....	126
Table 4.12: 2015 Cumulative With Project Peak Hour Intersection LOS.....	128
Table 4.13: 2015 Cumulative With Project Freeway Peak Hour Mainline LOS.....	135
Table 4.14: 2015 Cumulative With Project Peak Hour Freeway Ramp LOS.....	140
Table 5.1: Post-2030 Cumulative Baseline No Project Land Use Summary.....	147
Table 5.2: Post-2030 Cumulative Baseline No Project Trip Generation.....	148
Table 5.3: Post-2030 Cumulative Baseline No Project Daily Arterial LOS.....	148
Table 5.4: Post-2030 Cumulative Baseline No Project Peak Hour Link Analysis.....	158
Table 5.5: Post-2030 Cumulative Baseline No Project Peak Hour Intersection LOS.....	159
Table 5.6: Post-2030 Cumulative Baseline No Project Freeway Peak Hour Mainline LOS.....	168
Table 5.7: Post-2030 Cumulative Baseline No Project Peak Hour Freeway Ramp LOS.....	170



Table 5.8: Post-2030 Cumulative With Project Land Use Summary	176
Table 5.9: Post-2030 Cumulative With Project Trip Generation	176
Table 5.10: Post-2030 Cumulative With Project Daily Arterial LOS	181
Table 5.11: Post-2030 Cumulative With Project Peak Hour Link Analysis	190
Table 5.12: Post-2030 Cumulative With Project Peak Hour Intersection LOS	191
Table 5.13: Post-2030 Cumulative With Project Freeway Peak Hour Mainline LOS	199
Table 5.14: Post-2030 Cumulative With Project Peak Hour Freeway Ramp LOS	204
Table 6.1: Fair-share Analysis Computational Example	212
Table 6.2: IBC Intersections and Arterial Segments with Project Related Impacts and Future Cumulative Deficiencies	213
Table 6.3: City of Costa Mesa Proposed Intersection Mitigation	216
Table 6.4: City of Irvine Proposed Intersection Mitigation	216
Table 6.5: City of Newport Beach Proposed Intersection Mitigation	219
Table 6.6: City of Santa Ana Proposed Intersection Mitigation	219
Table 6.7: City of Tustin Proposed Intersection Mitigation	222
Table 6.8: 2008 Existing Conditions with Project Intersection Mitigation	223
Table 6.9: Arterial Segment Daily LOS After Mitigation	224
Table 6.10: Freeway Mainline Project Impacts and Fair-share	225
Table 6.11: Freeway Ramp Project Impacts and Fair-share	226
Table 7.1: Post-2030 Existing General Plan Buildout Land Use Summary	229
Table 7.2: Post-2030 Existing General Plan Buildout Trip Generation	229
Table 7.3: Post-2030 Existing General Plan Buildout Daily Arterial LOS	233
Table 7.4: Post-2030 Existing General Plan Buildout Peak Hour Link Analysis	242
Table 7.5: Post-2030 Existing General Plan Buildout Peak Hour Intersection LOS	246
Table 7.6: Post-2030 Existing General Plan Buildout Peak Hour Freeway Mainline LOS	255
Table 7.7: Post-2030 Existing General Plan Buildout Freeway Peak Hour Freeway Ramp LOS	260
Table 7.8: Post-2030 With Project (MPAH Network) Daily Arterial LOS	268
Table 7.9: Post-2030 With Project (MPAH Network) Peak Hour Link Analysis	277
Table 7.10: Post-2030 With Project (MPAH Network) Peak Hour Intersection LOS	281
Table 7.11: Post-2030 With Project (MPAH Network) Peak Hour Freeway Mainline LOS	292
Table 7.12: Post-2030 With Project (MPAH Network) Freeway Peak Hour Freeway Ramp LOS	296
Table 8.1: Intersection/Arterial Segment Project Impacts/Cumulative Deficiencies	304



for the IBC Vision have been assessed and conclusions discussed in the next section. Hence, there are no arterial segment deficiencies or project related impacts expected in future forecast scenarios for locations within Newport Beach, Costa Mesa, and Tustin. For the City of Santa Ana, daily arterial volume-to-capacity ratio (V/C) is used to assess deficiencies in the arterial network. An increase of 0.01 or more of the daily V/C ratio constitutes a project impact when compared with the no project conditions.

For arterial segments within the City of Santa Ana, daily arterial LOS analysis showed that the segment of MacArthur Boulevard, from Main Street to SR-55 has a significant project related impact under the Post-2030 future forecast conditions and will require mitigation.

~~MacArthur Boulevard between Main Street and SR-55 cannot be mitigated to below a level of significance without upgrading the road classification from a Major Arterial to a Principal Arterial. MacArthur Boulevard between Main Street and SR-55 cannot be mitigated to below a level of significance without upgrading the segment from a Major Arterial (six-lanes) to a Principal Arterial (eight-lanes). The classification would not need to be upgraded in the MPAH, as the MPAH designations represent a minimum standard that jurisdictions, such as Irvine or Santa Ana, may build upon.~~ Reclassification would provide one additional lane in each direction and potentially require an amendment to the City of Santa Ana General Plan. This forecast deficiency constitutes a project related significant impact according to the City of Santa Ana's performance criteria. The City of Irvine is responsible for a fair-share of this improvement for the Post-2030 future scenario.

Intersection Deficiencies

Intersection analysis was conducted for all intersections within the defined IBC Vision study area, with additional intersections added to the ~~original 1992 IBC Vision Plan study area~~ original 1992 Irvine Business Complex General Plan Amendment and Rezoning Project study area at the request of adjacent jurisdictions. For each jurisdiction, the established and published criteria for evaluating significant impacts have been employed in this study. Project impacts are identified for the study area using the methodology for each respective jurisdiction.

For intersections with a project related significant impact, the Project would be responsible for its fair-share to improve the intersection back to an acceptable level of service (or existing conditions if the intersection is currently deficient). Cumulative deficiencies (where the intersection is deficient under future conditions with no project related impact) are also evaluated but the project is not responsible for a fair-share of the cost of the improvement. The project impacts are determined using the definition of significant impacts from each city's traffic impact analysis protocol, discussed in **Chapter 2**.

ES.1.4 Fair-share

The fair-share methodology is applied to locations for which the project is responsible for paying its fair-share of the cost of the arterial segment or intersection improvement. For significant project related impacts outside the City of Irvine for future scenarios, the cost of improvements would be on a fair-share basis. For intersections within the City of Irvine where there is a significant project related impact under the future scenarios, the improvement would be the full responsibility of the project. Cumulative deficiencies are identified as those intersections that fail in both the No Project and With Project conditions but do not have a project impact. Therefore, the Project will not be contributing toward improvements on cumulative deficient intersections. For significant project related impacts to arterial segments outside the City of Irvine in the future forecast scenarios the cost of improvements would be on a fair-share basis. Further discussion of fair-share is presented in **Chapter 6**.

To determine the fair-share cost allocation for each deficient intersection and arterial segment, fair-share analysis was conducted under each scenario. As the fair-share varied by project scenario, for cost assessment purposes, the highest forecast fair-share percentage for each intersection was reported. The cost of proposed improvements will be presented in a supplemental nexus report, subsequent to the finalization of the IBC Vision Environmental Impact Report (EIR). Under future forecast conditions there are a number of deficient intersections. **Table ES 1.1** demonstrates the deficiencies, project impacts, and fair-shares under each future scenario.



ES.1.5 Mitigation Strategies

The IBC Vision Traffic Study has proposed improvements for all intersections within the study area with a significant project related impact as well as all forecast cumulative deficiencies. The project is responsible for contributing its fair-share to future improvements at intersections where the project has a significant impact outside the City of Irvine. Proposed mitigation strategies have utilized other studies in adjacent jurisdictions and have been vetted through site analyses to propose improvements that are feasible and reasonable. **Table ES 1.2** displays the mitigation strategies for each deficient intersection within the IBC study area.

Table ES.1.2: Mitigation Strategies

Intersection ID #	Intersection Name	Jurisdiction	Improvement Strategy
2015 Project Impacts and Cumulative Deficiencies			
145	Jamboree Road at Michelson Drive (project impact)	Irvine	Add 3rd SB and EB left turn lanes (No WBT lane needed)
62	Campus Drive at Bristol Street NB (project impact)	NB	Apply Newport Beach's General Plan buildout improvement of 5th WBT lane
36	Red Hill Avenue at El Camino Real (cumulative deficiency)	Tustin	Reconfigure SB to 1.5,2.5,0
93	Tustin Ranch Road at El Camino Real (project impact)	Tustin	Add 4th SBT lane, Restripe EB to 1,0.5,1.5
111	Franklin Avenue at Walnut Avenue (cumulative deficiency)	Tustin	Add 3rd WBT lane
134	Loop Road/Park Avenue at Warner Avenue (project impact)	Tustin	Add 3rd EBT lane
732	SR-55 NB Ramps/Del Amo Avenue at Newport Avenue (cumulative deficiency)	Tustin	Reconfigure SB to 1,1.5,1.5
P-2030 Impacts and Cumulative Deficiencies			
10	SR-55 Frontage Road SB Ramps at Paularino (cumulative deficiency)	CM	Improve SB to 1.5, 1, 0.5
12	SR-55 SB Frontage Road at Baker Street (project impact)	CM	Improve SB to 1.5, 1.5, 1, Restripe EB to 0, 2.5, 0.5
13	SR-55 NB Frontage Road at Baker Street (project impact)	CM	Restripe EB to 1,3,0, Add defacto NBR turn lane
141	Jamboree Road at Main Street (project impact)	Irvine	Improve NB and SB to 2.5,1, Change WB free right to WBR turn lane
145	Jamboree Road at Michelson Drive (project impact)	Irvine	Add 3rd EBL turn lane, 3rd SBL turn lane, and WBT lane
188	Harvard Avenue at Michelson Drive (cumulative deficiency)	Irvine	Add 2nd SBL turn lane
232	Culver Drive at I-405 NB Ramps (project impact)	Irvine	Restripe WB to ~~1+5,0,2+5~~
136	Jamboree Road at Barranca Avenue (project impact)	Irv/Tustin	Convert free NBR to standard right-turn, Add 5th NBT lane
62	Campus Drive at Bristol Street NB (project impact)	NB	Add 3rd SBR turn lane
85	MacArthur Boulevard at Birch Street (project impact)	NB	Improve EB to 2 EBL turn lanes and 2 EBT lanes
543	Bristol Street at Segerstrom Avenue (project impact)	SA	Add 3rd EBT and WBT lanes (Alternative 1), Add 4th NBT and SBT lanes (Alternative 2)
723	Main Street at Dyer Road (Segerstrom Avenue) (project impact)	SA	Add 3rd NBT lane, defacto NBR turn lane
730	Grand Avenue at Warner Avenue (project impact)	SA	Add 3rd WBT lane
1884*	MacArthur Boulevard between Main Street and SR-55 Southbound (project impact)	SA	Improve 6 lane divided arterial segment to 8 lane divided arterial segment
3	Newport Avenue at Edinger Avenue (cumulative deficiency)	Tustin	Convert SBR turn lane to Free Right turn lane
24	Newport Avenue at Walnut Avenue (project impact)	Tustin	Add defacto NBR turn lane and defacto WBR turn lane
93	Tustin Ranch Road at El Camino Real (project impact)	Tustin	Add 4th SBT lane, Restripe EB to 1,0.5,1.5
111	Franklin Avenue at Walnut Avenue (cumulative deficiency)	Tustin	Add 3rd WBT lane
134	Loop Road/Park Avenue at Warner Avenue (project impact)	Tustin	Add 3rd EBT lane
754	Red Hill Avenue at Carnegie Avenue/A Street (project impact)	Tustin	Add 4th NBT lane

* Arterial Segment Impact and Mitigation Strategy



Freeway/Tollway Mainline and Ramp Improvements

Since the City has no jurisdiction to implement the improvements on the Caltrans facilities and the required improvements are largely the result of background regional traffic, coordination between the City of Irvine and Caltrans is necessary to reach consensus on potential improvement measures. Any improvements identified would require a statement of overriding considerations in the Environmental Impact Report. Irvine will coordinate with Caltrans in the development of feasible alternative improvements such as Intelligent Transportation Strategies (ITS) that reduce congestion on freeway mainlines and ramps.

ES.1.6 MPAH and General Plan Amendment

The City of Irvine General Plan Circulation Element identifies certain roadway configurations that are no longer needed as determined in the IBC Vision Plan; therefore a General Plan Amendment subsequent to the approval of the IBC Vision EIR will downgrade arterial roadways as needed. The City of Irvine intends to downgrade the following arterial segments as a General Plan Amendment to the Circulation Element:

- Barranca Parkway between Red Hill Avenue and Jamboree Road (downgrade from 8-lane divided roadway to 7-lane divided roadway)
- Jamboree Road between Barranca Parkway and McGaw Avenue (downgrade from a 10-lane divided roadway to a 8-lane divided roadway)
- Main Street between Red Hill and Harvard (downgrade from 6-lane divided arterial with 2 auxiliary lanes to 6-lane divided roadway)
- MacArthur Boulevard between Fitch and Main Street (downgrade from 8-lane divided roadway to 7-lane divided roadway)
- Red Hill Avenue between Barranca Parkway and Main Street (downgrade from an 8-lane divided roadway to a 6-lane roadway)
- Alton Avenue between Red Hill Avenue and Jamboree Road (downgrade from a 6-lane divided roadway to 4-lane divided roadway)*
- Von Karman Avenue between Barranca Parkway and Michelson (downgrade from 6-lane roadway to 4-lane roadway)*

The arterial segment of Alton Parkway between Red Hill Avenue and Jamboree Road as well as the segment of Von Karman Avenue between Barranca Parkway and Michelson Drive as identified with an asterisk in the list above, are programmed into both the City of Irvine's General Plan and the Orange County Master Plan of Arterial Highways (MPAH). Both roadways are currently 4-lane roadways and expected to remain as 4-lane roadways in the future. Both the City's General Plan and the Orange County MPAH currently have these two segments programmed as 6-lane divided arterials in the buildout condition. The IBC Vision Plan traffic study has determined that 6 lanes are unnecessary for both of these roadway segments under buildout conditions. Thus, the City of Irvine will initiate an MPAH Amendment by entering into a cooperative study with the Orange County Transportation Authority (OCTA) to determine the feasibility of downgrading both Alton Parkway and Von Karman Avenue. Once this study is complete, in order for the City of Irvine to maintain eligibility for Measure M funding, prior to amending the City's General Plan to downgrade both Alton Parkway between Red Hill Avenue and Jamboree Road and Von Karman Avenue between Barranca Parkway and Michelson Drive, the City and OCTA will work to prepare amendments to the County MPAH to be approved by the OCTA Board of Directors. ~~Once this study is complete, both agencies can move forward with amendments to the General Plan and MPAH to downgrade both Alton Parkway between Red Hill Avenue and Jamboree Road as well as Von Karman Avenue between Barranca Parkway and Michelson Drive.~~

Additionally, the City of Irvine intends to remove the following interchange improvements:

- Alton Avenue Overcrossing at the SR-55 freeway with High Occupancy Vehicle (HOV) drop ramps
- Von Karman Avenue at the I-405 freeway HOV drop ramps

These interchange improvements are programmed in the Orange County MPAH as buildout improvements. However, the IBC Vision Plan traffic study has determined that these interchanges are unnecessary under build-out conditions. The City of Irvine will initiate an MPAH Amendment by entering into a cooperative study with OCTA



1.3 Project Description

The IBC Vision Plan Traffic Study analyzes the potential impacts on the circulation system based on the proposed amendment to the City of Irvine General Plan, placing a 15,000 dwelling unit limit (plus a maximum of 2,038 density bonus units pursuant to state law) on the residential development in the IBC area. The analysis presents areas of deficiency in the existing circulation system and future circulation systems and offers recommended mitigations to allow for a return to acceptable levels of service (LOS) or to the without project condition within the study area.

1.4 Transfer of Development Rights

Since 1992, the IBC Planning Area has had provisions in place to allow for Transfers of Development Rights (TDRs) through the creation of a trip budget system in which an allocation of AM, PM and ADT trip budget were assigned to each property in the IBC. Portions of these budgets could be transferred to other properties through a conditional use permit process and accompanying traffic study. In this manner, the overall IBC trip cap would be maintained, but would still allow developers the flexibility to build the types of projects they desire. Although the land use assumptions for the Vision Plan will supersede the 1992 assumptions, the existing TDRs and trip budgets will remain in place. The current IBC trip budget ~~database~~ will not change as a result of the IBC Vision Plan; however, as new land uses are proposed, the database will be updated accordingly and reconciled with the City's traffic model, which assumes buildout of the land use assumptions of the Vision Plan. Pending TDRs are assumed in the traffic analysis and the pending TDR assumptions are summarized in **Appendix J**.

1.5 Land Use Changes

The General Plan Amendment and Zoning Code changes proposed by the City of Irvine for the IBC area are as follows:

- New cap on residential units would allow for 5,985 additional dwelling units (DU) in the IBC beyond which are currently approved. Currently, there are 4,779 existing residential units, 1,814 units under construction, and 2,422 residential units approved, for a total of 9,015 units, representing the present General Plan cap.
- The 5,985 additional dwelling units include 2,035 currently pending projects and 3,950 additional potential units. There are no current applications pending for these potential units, thus the location, density, and design are unknown at this time.
- 5,985 additional units remaining under the 15,000-unit cap will be offset by a corresponding reduction of non-residential square footage.
- These figures are exclusive of additional density bonus units, which are exempt by state law from local intensity limitations. There are currently 232 existing density bonus units, 78 under construction, 130 approved but not yet built and 215 within current pending projects. Moreover, assuming the density bonus potential for each of the 3,950 potential new units is maximized at 35 percent of the base total, an additional 1,383 density bonus units are possible, for a total of 2,038 density bonus units above the 15,000-unit cap.
- Conversion of office, manufacturing, and/or warehouse uses to retail use to accommodate demand from current and planned residential development (Refer to Table 1.1).
- Build-out of remaining non-residential zoning potential.
- Recycling of under-utilized land uses to higher intensity uses.
- This overall total of 17,038 units (15,000 base plus 2,038-density bonus) is the total unit count analyzed in this traffic study.

The IBC land use changes are based on the reallocation of trips within each geographical traffic analysis zone (TAZ), with the TAZ trip cap remaining the same. Thus, the increase in residential uses is a reallocation of trips for the IBC area. **Figure 1.2** displays the IBC study area with each TAZ annotated.



1.6 Transportation Setting

1.6.1 Rail

The City of Irvine and study area are currently served by rail transit at the Irvine Station off Barranca Parkway. The Tustin Metrolink Station, located on Edinger Avenue also provides connections to the IBC area. There are almost sixty Amtrak and Metrolink trains per weekday serving the Irvine station and 35 Metrolink trains serving the Tustin station. ~~There are several Metrolink trains per day serving both stations, and Irvine station is also serviced by Amtrak.~~ There is a current planning effort underway to implement a service expansion program by Metrolink by the year 2010. This expansion will reduce the headways of trains between Fullerton Metrolink station to the north of the study area and Laguna Niguel/Mission Viejo station to the south of the study area. This expansion will improve services at both the Irvine and Tustin Metrolink Stations.

1.6.2 Local Bus

The IBC is currently served by a number of local buses, operated by Orange County Transportation Authority (OCTA). The major routes and locations that serve the IBC are presented in **Figure 1.3**. The *i*Shuttle is another bus that serves the IBC and is discussed in detail in **Section 1.6.5**.

1.6.3 Bicycle and Riding and Hiking Trails

There is an extensive network of bicycle and riding and hiking trails that connect to destinations within the IBC area. Businesses within the IBC are required to provide bicycle racks or the provision of racks at their offices. Within the City of Irvine, there are 44.5 miles of off-street bikeways and 282 miles of on-street bikeways. The City of Irvine's Zoning ordinance requires at least five bicycle parking spaces for retail or office developments over 100,000 square feet. Additionally, community facilities, banks/savings and loans, restaurants, shopping centers over 50,000 square feet, hospitals, medical/dental offices, and churches also require bicycle parking. The Orange County Bicycle Master Plan, the City of Irvine Bicycle Transportation Plan, and the City of Irvine Circulation Element all address bicycle networks in the study area. The City of Irvine's bicycle system is shown in the **Figure 1.4**.

1.6.4 Pedestrian

With the addition of residential units among the existing predominant office uses at the IBC, there is a growing need for pedestrian transportation amenities such as sidewalks, crosswalks, and other important connections throughout the study area. Development fees are expected to contribute to the enhancement of pedestrian facilities in the IBC area as the residential uses increase.

1.6.5 *i* Shuttle

The *I* Irvine Shuttle (The *i*shuttle) is a clean fuel, rubber tire shuttle bus that operates adjacent to and within the study area, primarily transporting commuters and residents throughout the IBC area and offering connections to the Tustin Metrolink Station and John Wayne Airport. The service began operation on June 9, 2008. The shuttle meets the morning and afternoon Metrolink trains and provides 30 minute headway frequent service from 5:30 AM to 9:30 AM and 2:30 PM and 7:30 PM on weekdays. The shuttle network consists of two main routes; A & B. Route A connects the Tustin Metrolink Station to John Wayne Airport via Von Karman Avenue. Route B connects the Tustin Metrolink Station to the IBC via Jamboree Road and Michelson Drive. Metrolink and OCTA Pass holders ride the shuttle free. Other commuters are charged one dollar fares. There is no weekend service for either of these routes. **Figure 1.5** displays the *i*Shuttle routes.



Zoning Code to establish a cap of 15,000 dwelling units (DU) for the IBC area, with a corresponding reduction of non-residential square footage.

To identify the required amount of reduction in non-residential square footage under the buildout of the Vision Plan, the number of trips associated with the increase in residential units was calculated using the IBC database land use trip rates for multi-family residential units. The most conservative (highest) peak hour trip rate for each land use category from the IBC database expected to be reduced was multiplied by the appropriate quantity being reduced for industrial and office land uses. To calculate traffic for various land uses within the IBC, the most conservative peak hour trip rate was utilized, AM peak hour trip rate for industrial land uses and the PM peak hour trip rate for all other land uses. For industrial land uses the AM peak hour trip rate was utilized, for all other land use categories the PM peak hour trip rate was utilized. By reducing the quantities of the non-residential land uses to accommodate the increased number of residential units under the Vision Plan, the Proposed Project is trip neutral. Detailed information for specific reductions in land use quantities is included in the Land Use section of the DEIR.

Since it is assumed that known pending units (with the exception of 776 units at Park Place projected to be built by Post-2030) will be completed by 2015 and the remaining units will be completed Post-2030, this traffic study provides an assessment of the existing conditions without project, existing conditions with project, and six different future scenarios. The total residential units approved under the current General Plan maximum are 9,015 (based on 4,779 existing, 1,814 under construction, and 2,422 approved but not yet constructed). The proposed new maximum would be 15,000 residential units, thereby allowing for an additional 5,985 units (consisting of 2,035 units currently in process and 3,950 potential new units). These figures are exclusive of additional density bonus units, which are exempt by state law from local intensity limitations. There are currently 232 existing density bonus units, 78 under construction, 130 approved but not yet built and 215 within current pending projects. Moreover, assuming the density bonus potential for each of the 3,950 potential new units is maximized at 35 percent of the base total, an additional 1,383 density bonus units are possible, for a total of 2,038 density bonus units above the 15,000 unit cap. This overall total of 17,038 units (15,000 base plus 2,038 density bonus) is the total unit count analyzed in this traffic study. There are no current applications pending for the potential 3,950 units (and 1,383 associated density bonus units), thus the location, density, and design are unknown at this time. The potential residential units were assumed in the traffic study to be located within the same geographical area in which existing zoning potential is identified.

2.3 Traffic Counts

The intersection counts for the IBC Vision Traffic Study were collected from a variety of sources to ensure the most accurate counts were represented in the ITAM model. The peak period counts, as determined by the City are generally between 7:00 AM - 10:00 AM in the morning peak period, and 3:30 PM - 6:30 PM in the evening peak period. For this study, the peak period was vetted as 7:00 AM - 9:00 AM and 4:00 PM - 6:30 PM for counts within the City of Irvine and 7:00 AM - 9:00 AM and 4:00 - 6:00 PM for counts outside the City of Irvine.

2.4 Intersection Analysis

For existing and future conditions, levels of service at intersections were calculated through application of the Intersection Capacity Utilization (ICU) method. ICU is a methodology to quantify the LOS for an intersection. The methodology calculates the ratio of the sum of critical turning movement volumes to saturated flow rates. The ICU output is analogous to the intersection's V/C ratio.

ICU analysis is performed through a stand alone program written for the City of Irvine. The program was applied to existing traffic counts or forecast turning movement volumes generated through ITAM to develop ICU worksheets and summary table for all study intersections for existing and future scenarios. ICU worksheets are included as **Appendix B**. HCM ramp termini intersection worksheets are included in **Appendix I** for Caltrans planning purposes. Developed by Austin Foust Associates (AFA); the assumptions for this analysis are consistent with the countywide Congestion Management Program (CMP) assumptions as follows:

- 1,700 vehicles per hour of green time in through lanes (1,600 for Newport Beach and Costa Mesa)
- 1,700 vehicles per hour of green time in turn lanes (1,600 for Newport Beach and Costa Mesa)
- 5 percent of total intersection capacity is lost due to the clearance interval (Newport Beach and Costa Mesa did not assume a 5% clearance interval)



Table 2.10: Study Area Committed Intersection Improvements

Funding Status of 1992 IBC Intersection Improvements				
Stage I	ID	Location	Improvements	Status
	49	Red Hill & Main	3 rd EBT; 3 rd WBT	Complete
	78	MacArthur & Main	4 th SBT; 3 rd EBT; Free WBR	Complete
	79	MacArthur & I-405 NB Ramp	Free 2 nd NBR; 4 th SBT; 4 th NBT; Free 2 nd WBR	Complete
	80	MacArthur & I-405 SB	2 nd SBL; 4 th SBT; 4 th NBT	Complete
	82	MacArthur & Michelson	4 th SBT; 4 th NBT; NBR; WBT	Complete
	84	MacArthur & Campus	4 th SBT; 3 rd EBT; 3 rd WBT	Complete
	138	Jamboree & Alton	3 rd WBT; 4 th NBT; 4 th SBT	Complete
	141	Jamboree & Main	4 th SBT; 4 th NBT; 3 rd WBT; 3 rd EBT	Complete
	143	Jamboree & I-405 NB Ramp	3 rd NBT & 4 th SBT	Complete
	144	Jamboree & I-405 SB	4 th SBT; 3 rd & 4 th NBT	Complete
	145	Jamboree & Michelson	4 th SBT; 4 th NBT	Complete
	188	Harvard & Michelson	2 nd EBL	Complete
	42	Red Hill & Dyer/Barranca	2 nd WBL; 4 th EBT; 4 th WBT	Fully Funded*
	47	Red Hill & MacArthur	3 rd WBT; 3 rd EBT	Fully Funded
	47	Red Hill & MacArthur	4 th WBT; 4 th EBT	Not Funded
	82	MacArthur & Michelson	2 nd NBL	Not Funded
	84	MacArthur & Campus	EBR	Not Funded
	143	Jamboree & I-405 NB Ramp	4 th NBT	Not Funded
	145	Jamboree & Michelson	EBR	Not Funded
	188	Harvard & Michelson	Free SBR	Not Funded
Stage II	ID	Location	Improvements	Status
	133	Jamboree & Irvine Center Drive	Grade Separation	Complete
	138	Jamboree & Alton	2 nd NBL; 2 nd SBL; 3 rd EBT	Complete
	150	MacArthur & Jamboree	NBR; 2 nd NBL	Complete
	42	Red Hill & Dyer/Barranca	4 th SBT; 4 th NBT; 2 nd EBL	Fully Funded
	47	Red Hill & MacArthur	3 rd SBT; 3 rd NBT; 2 nd NBL	Fully Funded
	47	Red Hill & MacArthur	4 th NBT	Not Funded
	49	Red Hill & Main	3 rd & 4 th SBT; 3 rd NBT; Free NBR	Not Funded
	78	MacArthur & Main	Replace 1 WBT (VLD) with 3 rd WBL (VLD)	Not Funded
	136	Jamboree & Barranca	Grade Separation	Not Funded
	138	Jamboree & Alton	5 th NBT; 5 th SBT	Not Funded
	184	Harvard & Barranca	WBR; 2 nd SBL; 2 nd NBL	Not Funded
	186	Harvard & Main	Free SBR	Not Funded
Stage III	ID	Location	Improvements	Status
	234	Culver & Michelson	2 nd NBL; SBR; WBR	Complete
	47	Red Hill & MacArthur	Replace 1 SBT (VLD) with 3 rd SBL (VLD); Replace 1 EBT (VLD) with 3 rd EBL (VLD)	Not Funded
	97	Von Karman & Barranca	Free NBR; 2 nd WBL; 4 th WBT; 4 th EBT	Not Funded
	136	Jamboree & Barranca	Free EBR	Not Funded
	141	Jamboree & Main	4 th EBT	Not Funded
Tustin Legacy	ID	Location	Improvements	Status
	49	Red Hill & Main	Free SBR	Committed
	102	Von Karman & Michelson	2 nd EBL	Committed
	138	Jamboree & Alton	5 th NBT	Committed
	185	Harvard & Alton	2 nd NBL	Committed
	227	Culver & Warner	2 nd EBL	Committed

Note: The two fully funded improvements at Red Hill & MacArthur and Red Hill & Dyer/Barranca (both funded in part by the 1992 IBC Fees) will be constructed by 2015 and are assumed to be in-place in the 2015 interim year analysis.

Legend:

EBL = Eastbound Left
EBT = Eastbound Through Lane
EBR = Eastbound Right
WBL = Westbound Left
WBT = Westbound Through Lane
WBR = Westbound Right

NBL = Northbound Left
NBT = Northbound Through Lane
NBR = Northbound Right
SBT = Southbound Through Lane
SBR = Southbound Right
VLD = Variable Lane Deployment



Table 3.2: Existing Daily Arterial LOS Summary

ID	Arterial	Segment Limits	PA 36 City of Irvine	Jurisdiction	Existing Conditions		
					Volume	V/C	LOS
672	Irvine Center Drive (Edinger)	Tustin Ranch Road to Jamboree Road		Tus	22,340	0.40	A
674	Irvine Center Drive	Jamboree Road to Harvard Avenue		Tus	13,952	0.25	A
2777	Mitchell Avenue	Newport Avenue to Red Hill Avenue		Tus	7,350	0.59	A
2775	Mitchell Avenue	Red Hill Avenue to Browning Avenue		Tus	4,417	0.35	A
6	Newport Avenue	El Camino Real to I-5		Tus	28,516	0.76	C
7	Newport Avenue	I-5 to Mitchell Avenue		Tus	31,417	0.84	D
48	Newport Avenue	Mitchell Avenue to McFadden Avenue		Tus	29,223	0.78	C
49	Newport Avenue	North of Sycamore Avenue		Tus	9,604	0.38	A
1585	Newport Avenue	Valencia Avenue to Edinger Avenue		Tus	18,205	0.730.32	CA
1351	Nisson Road	Newport Avenue to Red Hill Avenue		Tus	5,593	0.45	A
939	Nisson Road	Red Hill Avenue to Browning Avenue		Tus	3,915	0.31	A
1355	Red Hill Avenue	I-5 NB Ramps to El Camino Real		Tus	43,222	0.77	C
1354	Red Hill Avenue	I-5 SB Ramps to I-5 NB Ramps		Tus	38,996	0.69	B
21	Red Hill Avenue	Nisson Road to I-5 SB		Tus	38,235	0.68	B
1353	Red Hill Avenue	Nisson Road to Mitchell Avenue		Tus	26,681	0.47	A
22	Red Hill Avenue	Mitchell Avenue to Walnut Avenue		Tus	25,830	0.46	A
23	Red Hill Avenue	Walnut Avenue to Sycamore Avenue		Tus	27,502	0.49	A
24	Red Hill Avenue	Sycamore Avenue to Edinger Avenue		Tus	29,957	0.53	A
25	Red Hill Avenue	Edinger Avenue to Valencia Avenue		Tus	25,507	0.45	A
26	Red Hill Avenue	Valencia Avenue to Warner Avenue		Tus	26,723	0.47	A
30	Red Hill Avenue	Warner Avenue to Barranca Parkway/Dyer		Tus	29,570	0.53	A
1363	Sycamore Avenue	SR-55 NB to Newport Avenue		Tus	9,036	0.36	A
1920	Sycamore Avenue	Newport Avenue to Red Hill Avenue		Tus	7,758	0.62	B
85	Tustin Ranch Road	North of I-5		Tus	32,560	0.58	A
86	Tustin Ranch Road	I-5 to Walnut Avenue		Tus	21,087	0.37	A
2173	Valencia Avenue	Newport Avenue to Red Hill Avenue		Tus	3,690	0.30	A
587	Walnut Avenue	East of Newport Avenue		Tus	15,375	0.62	B
589	Walnut Avenue	East of Red Hill Avenue		Tus	15,579	0.42	A
590	Walnut Avenue	West of Tustin Ranch Road		Tus	19,862	0.53	A
1366	Walnut Avenue	Franklin Avenue to Myford Road		Tus	18,249	0.49	A
1478	Warner Avenue	SR-55 to Red Hill Avenue		Tus	13,682	0.24	A

The arterial analysis indicates that the following 12 segments are deficient under the Existing Year 2008 daily conditions:

- 879—Campus Drive from Carlson Avenue to University Drive (Irvine)
- 213—Culver Drive from I-5 SB Off-Ramp to Scottsdale Drive (Irvine)
- 221—Culver Drive from Main Street to San Leandro (Irvine)
- 222—Culver Drive from San Leandro to I-405 NB On-Ramp (Irvine)
- 224—Culver Drive from I-405 SB On-Ramp to Michelson Drive (Irvine)
- 130—Jamboree Road from El Camino Real to I-5 NB On-Ramp (Irvine)
- 958—Jamboree Road from I-5 NB Ramps to I-5 SB Off-Ramp (Irvine)
- 131—Jamboree Road from I-5 SB Off-Ramp to Michelle Drive (Irvine)
- 133—Jamboree Road from Michelle Drive to Walnut Avenue (Irvine)
- 188—University Drive from California Avenue to Mesa Road (Irvine)
- 187—University Drive from Mesa Road to Campus Drive (Irvine)
- 1301: MacArthur Boulevard from Bison Avenue to Ford Road (Newport Beach)

Figure 3.1 and **Figure 3.2** present the daily Existing ADT and LOS for all major arterials within the IBC study area.

3.8 Existing With Project

As required under the California Environmental Quality Act (CEQA), an evaluation of existing conditions with the project scenario overlaid is required. This theoretical scenario provides an early glimpse of potential impacts associated with implementation of the proposed project. The impacts are considered theoretical in that it is impossible for the entire project to be built instantly without requisite circulation system improvements as new projects are built. Although this is not a feasible scenario for the IBC Vision, as the project cannot be implemented immediately, it provides a basis for evaluation of potential project impacts. In the analysis, the delta in the number of trips between the proposed project and Existing No Project forecasts were added to the existing counts to determine the Existing With Project conditions. The Existing With Project is intended to identify project trips and not the trips from other ambient land uses through the buildout of the project. Since it is unreasonable to assume that all the project trips from the full buildout of the IBC Vision will happen at once, the anticipated project impacts should be considered only within the context of a full buildout of the roadway system servicing the IBC and surrounding areas. **Table 3.7** presents the land use quantities by ITAM code for the IBC traffic study area, while **Appendix J** presents land use quantities by type and by IBC TAZ as well as a land use summary by individual project. Land use quantities for 2008 Existing Conditions (With Project) have been developed by the City of Irvine. **Figure 3.7** through **Figure 3.9** demonstrate the total quantities and percentage differences in three main land use categories, Residential Units, Office Mix, and Industrial Mix between Existing No Project and Existing With Project scenarios.

Table 3.7: Existing With Project Land Use Summary

Scenario	Multi-family Residential (DU)	Retail mix (TSF)	Hotel (Room)	Office mix (TSF)	Industrial Mix (TSF)	Mini-Warehouse (TSF)	Extended Stay Hotel (Room)
2008 No Project	5,011	1,341	2,322	26,381	14,701	348	174
2008 With Project	17,038	1,731	2,880	33,716	13,180	164	598
Percent Growth (2008 With Project vs. 2008 No Project)	240%	29%	24%	28%	-10%	-53%	244%

3.9 Existing With Project Daily Arterial Segment Analysis

Under Existing With Project conditions, traffic patterns throughout the city are generally consistent with existing conditions. **Table 3.8** presents the study area arterial roadway segments, including information on ADT, V/C ratio and LOS on each segment. Existing With Project arterial traffic conditions were analyzed based on the ADT and lane configurations. Deficient segments within the City of Irvine were further analyzed for peak hour performance. The peak hour analysis methodology is consistent with existing conditions.



Table 3.8: Existing With Project Daily Arterial LOS

ID	Arterial	Segment Limits	PA 36 City of Irvine	Jurisdiction	Existing Conditions			Existing Conditions with Project		
					Volume	V/C	LOS	Volume	V/C	LOS
665	Edinger Avenue	Red Hill Avenue and Tustin Ranch Road		Tus	22,340	0.40	A	23,358	0.41	A
1202	El Camino Real	Newport Avenue to Red Hill Avenue		Tus	13,735	0.55	A	13,960	0.56	A
938	El Camino Real	Red Hill Avenue to Browning Avenue		Tus	8,973	0.72	C	9,100	0.73	C
1740	El Camino Real	Browning Avenue to Tustin Ranch Road		Tus	8,392	0.34	A	8,540	0.34	A
1205	El Camino Real	Tustin Ranch Road to Jamboree Road		Tus	13,574	0.36	A	13,682	0.36	A
672	Irvine Center Drive (Edinger)	Tustin Ranch Road to Jamboree Road		Tus	22,340	0.40	A	23,463	0.42	A
674	Irvine Center Drive	Jamboree Road to Harvard Avenue		Tus	13,952	0.25	A	15,207	0.27	A
2777	Mitchell Avenue	Newport Avenue to Red Hill Avenue		Tus	7,350	0.59	A	7,425	0.59	A
2775	Mitchell Avenue	Red Hill Avenue to Browning Avenue		Tus	4,417	0.35	A	4,505	0.36	A
6	Newport Avenue	El Camino Real to I-5		Tus	28,516	0.76	C	28,628	0.76	C
7	Newport Avenue	I-5 to Mitchell Avenue		Tus	31,417	0.84	D	31,587	0.84	D
48	Newport Avenue	Mitchell Avenue to McFadden Avenue		Tus	29,223	0.78	C	29,306	0.78	C
49	Newport Avenue	North of Sycamore Avenue		Tus	9,604	0.38	A	9,607	0.38	A
1585	Newport Avenue	Valencia Avenue to Edinger Avenue		Tus	18,205	~~0.32-73~~	~~AC~~	18,633	~~0.3375~~	~~AC~~
1351	Nisson Road	Newport Avenue to Red Hill Avenue		Tus	5,593	0.45	A	5,735	0.46	A
939	Nisson Road	Red Hill Avenue to Browning Avenue		Tus	3,915	0.31	A	3,943	0.32	A
1355	Red Hill Avenue	I-5 NB Ramps to El Camino Real		Tus	43,222	0.77	C	43,573	0.77	C
1354	Red Hill Avenue	I-5 SB Ramps to I-5 NB Ramps		Tus	38,996	0.69	B	39,327	0.70	B
21	Red Hill Avenue	Nisson Road to I-5 SB		Tus	38,235	0.68	B	38,596	0.69	B
1353	Red Hill Avenue	Nisson Road to Mitchell Avenue		Tus	26,681	0.47	A	27,132	0.48	A
22	Red Hill Avenue	Mitchell Avenue to Walnut Avenue		Tus	25,830	0.46	A	26,413	0.47	A
23	Red Hill Avenue	Walnut Avenue to Sycamore Avenue		Tus	27,502	0.49	A	28,010	0.50	A
24	Red Hill Avenue	Sycamore Avenue to Edinger Avenue		Tus	29,957	0.53	A	30,812	0.55	A
25	Red Hill Avenue	Edinger Avenue to Valencia Avenue		Tus	25,507	0.45	A	26,313	0.47	A
26	Red Hill Avenue	Valencia Avenue to Warner Avenue		Tus	26,723	0.47	A	28,728	0.51	A
30	Red Hill Avenue	Warner Avenue to Barranca Parkway/Dyer		Tus	29,570	0.53	A	33,241	0.59	A
1363	Sycamore Avenue	SR-55 NB to Newport Avenue		Tus	9,036	0.36	A	9,036	0.36	A
1920	Sycamore Avenue	Newport Avenue to Red Hill Avenue		Tus	7,758	0.62	B	7,775	0.62	B
85	Tustin Ranch Road	North of I-5		Tus	32,560	0.58	A	32,630	0.58	A
86	Tustin Ranch Road	I-5 to Walnut Avenue		Tus	21,087	0.37	A	21,087	0.37	A
2173	Valencia Avenue	Newport Avenue to Red Hill Avenue		Tus	3,690	0.30	A	4,476	0.36	A
587	Walnut Avenue	East of Newport Avenue		Tus	15,375	0.62	B	15,627	0.63	B
589	Walnut Avenue	East of Red Hill Avenue		Tus	15,579	0.42	A	15,859	0.42	A
590	Walnut Avenue	West of Tustin Ranch Road		Tus	19,862	0.53	A	20,297	0.54	A
1366	Walnut Avenue	Franklin Avenue to Myford Road		Tus	18,249	0.49	A	18,741	0.50	A
1478	Warner Avenue	SR-55 to Red Hill Avenue		Tus	13,682	0.24	A	15,531	0.28	A

The arterial analysis indicates that the following segments are deficient when the proposed project trips are added to the existing traffic volumes:

- 879—Campus Drive from Carlson Avenue to University Drive (Irvine)
- 213—Culver Drive from I-5 SB Off-Ramp to Scottsdale Drive (Irvine)
- 221—Culver Drive from Main Street to San Leandro (Irvine)
- 222—Culver Drive from San Leandro to I-405 NB On-Ramp (Irvine)
- 224—Culver Drive from I-405 SB On-Ramp to Michelson Drive (Irvine)
- 130—Jamboree Road from El Camino Real to I-5 NB On-Ramp (Irvine)
- 958—Jamboree Road from I-5 NB Ramps to I-5 SB Off-Ramp (Irvine)
- 131—Jamboree Road from I-5 SB Off-Ramp to Michelle Drive (Irvine)



Table 4.3: 2015 Cumulative Baseline No Project Daily Arterial LOS

ID	Arterial	Segment Limits	PA 36 City of Irvine	Jurisdiction	Year 2015 Arterial Segment Classifications	2015 Cumulative Baseline No Project		
						Volume	V/C	LOS
1198	Browning Avenue	Walnut Avenue to I-5		Tus	4U	5,000	0.20	A
534	Bryan Avenue	Newport Boulevard to Red Hill Avenue		Tus	4U	16,200	0.65	B
535	Bryan Avenue	Red Hill Avenue to Browning		Tus	4U	17,400	0.70	B
536	Bryan Avenue	Browning Avenue to Tustin Ranch Road		Tus	4D	18,400	0.49	A
537	Bryan Avenue	Tustin Ranch Road to Jamboree Road		Tus	4D	18,400	0.49	A
44	Edinger Avenue	West of Newport Avenue		Tus	6D	40,800	0.72	C
663	Edinger Avenue	Newport Avenue to Red Hill Avenue		Tus	6D	22,200	0.39	A
665	Edinger Avenue	Red Hill Avenue and Tustin Ranch Road		Tus	6D	25,800	0.46	A
1202	El Camino Real	Newport Avenue to Red Hill Avenue		Tus	4U	13,700	0.55	A
938	El Camino Real	Red Hill Avenue to Browning Avenue		Tus	2U	10,800	0.86	D
1740	El Camino Real	Browning Avenue to Tustin Ranch Road		Tus	4U	9,500	0.38	A
1205	El Camino Real	Tustin Ranch Road to Jamboree Road		Tus	4D	15,000	0.40	A
672	Irvine Center Drive (Edinger)	Tustin Ranch Road to Jamboree Road		Tus	6D	23,300	0.41	A
674	Irvine Center Drive	Jamboree Road to Harvard Avenue		Tus	6D	15,400	0.27	A
2777	Mitchell Avenue	Newport Avenue to Red Hill Avenue		Tus	2U	7,400	0.59	A
2775	Mitchell Avenue	Red Hill Avenue to Browning Avenue		Tus	2U	4,400	0.35	A
6	Newport Avenue	El Camino Real to I-5		Tus	6D	34,200	0.61	B
7	Newport Avenue	I-5 to Mitchell Avenue		Tus	6D	37,200	0.66	B
48	Newport Avenue	Mitchell Avenue to McFadden Avenue		Tus	6D	35,600	0.63	B
49	Newport Avenue	North of Sycamore Avenue		Tus	6D	19,500	0.35	A
1585	Newport Avenue	Valencia Avenue to Edinger Avenue		Tus	~~6D~~ 4U	27,600	~~0.49~~ 1.10	~~A~~ F
1351	Nisson Road	Newport Avenue to Red Hill Avenue		Tus	2U	5,600	0.45	A
939	Nisson Road	Red Hill Avenue to Browning Avenue		Tus	2U	4,100	0.33	A
1355	Red Hill Avenue	I-5 NB Ramps to El Camino Real		Tus	6D	44,300	0.79	C
1354	Red Hill Avenue	I-5 SB Ramps to I-5 NB Ramps		Tus	6D	41,000	0.73	C
21	Red Hill Avenue	Nisson Road to I-5 SB		Tus	6D	38,200	0.68	B
1353	Red Hill Avenue	Nisson Road to Mitchell Avenue		Tus	6D	26,700	0.47	A
22	Red Hill Avenue	Mitchell Avenue to Walnut Avenue		Tus	6D	25,800	0.46	A
23	Red Hill Avenue	Walnut Avenue to Sycamore Avenue		Tus	6D	23,900	0.42	A
24	Red Hill Avenue	Sycamore Avenue to Edinger Avenue		Tus	6D	24,600	0.44	A
25	Red Hill Avenue	Edinger Avenue to Valencia Avenue		Tus	6D	25,500	0.45	A
26	Red Hill Avenue	Valencia Avenue to Warner Avenue		Tus	6D	26,700	0.47	A
30	Red Hill Avenue	Warner Avenue to Barranca Parkway/Dyer		Tus	7D	24,900	0.38	A
1363	Sycamore Avenue	SR-55 NB to Newport Avenue		Tus	4U	9,100	0.36	A
1920	Sycamore Avenue	Newport Avenue to Red Hill Avenue		Tus	2U	8,800	0.70	B
85	Tustin Ranch Road	North of I-5		Tus	6D	42,600	0.76	C
86	Tustin Ranch Road	I-5 to Walnut Avenue		Tus	6D	36,000	0.64	B
2173	Valencia Avenue	Newport Avenue to Red Hill Avenue		Tus	4U	10,100	0.40	A
587	Walnut Avenue	East of Newport Avenue		Tus	4U	16,700	0.67	B
589	Walnut Avenue	East of Red Hill Avenue		Tus	4D	16,100	0.43	A
590	Walnut Avenue	West of Tustin Ranch Road		Tus	4D	21,900	0.58	A
1366	Walnut Avenue	Franklin Avenue to Myford Road		Tus	4D	18,500	0.49	A
1478	Warner Avenue	SR-55 to Red Hill Avenue		Tus	6D	27,600	0.49	A

Table 4.3 indicates that ~~twelve~~~~eleven~~ segments are deficient under the 2015 Cumulative Baseline No Project daily conditions, with 10 of the segments in the City of Irvine. As noted above, LOS E indicates a deficient segment for all arterial segments outside Planning Area (PA) 36 within the City of Irvine. It should be noted that daily V/C ratio analysis arterial segments in Costa Mesa, Newport Beach, and Tustin are not evaluated further and any deficiencies



are addressed at the intersections. PA 36 segments are considered deficient at LOS F. Deficient segments under daily Year 2015 Cumulative Baseline No Project conditions include:

- 879—Campus Drive from Carlson Avenue to University Drive (Irvine)
- 213—Culver Drive from I-5 SB Off-Ramp to Scottsdale Drive (Irvine)
- 221—Culver Drive from Main Street to San Leandro (Irvine)
- 222—Culver Drive from San Leandro to I-405 NB On-Ramp (Irvine)
- 224—Culver Drive from I-405 SB On-Ramp to Michelson Drive (Irvine)
- 130—Jamboree Road from El Camino Real to I-5 NB On-Ramp (Irvine)
- 958—Jamboree Road from I-5 NB Ramps to I-5 SB Off-Ramp (Irvine)
- 133—Jamboree Road from Michelle Drive to Walnut Avenue (Irvine)
- 188—University Drive from California Avenue to Mesa Road (Irvine)
- 187—University Drive from Mesa Road to Campus Drive (Irvine)
- 1301—MacArthur Boulevard from Bison Avenue to Ford Road (Newport Beach)*
- ~~1585—Newport Avenue from Valencia Avenue to Edinger Avenue (Tustin)*~~

*Deficient locations under daily conditions—no further analysis required.

Figure 4.1 and **Figure 4.2** graphically depict the ADT traffic volumes and deficient segment LOS, respectively, for the 2015 Cumulative Baseline No Project scenario. Deficient segments in the City of Irvine are evaluated under Peak Hour conditions in the following section. Project related impacts to arterial segments are discussed later in this Chapter.

4.5 2015 Cumulative Baseline No Project Peak Hour Link Analysis

Peak hour directional traffic volumes were directly obtained from peak hour forecast intersection turning movement volumes for intersections upstream and downstream for each deficient arterial segment. **Table 4.4** presents the results of peak hour link analysis, indicating that all City of Irvine arterial segments that are deficient under daily conditions operate at an acceptable LOS in both peak hours, performing at LOS D or better, and hence no mitigation measures are recommended at this time for these facilities.

4.11 2015 Cumulative With Project Daily Arterial Segment Analysis

The 2015 Cumulative With Project traffic patterns generally remain consistent with existing conditions and the 2015 Cumulative Baseline No Project scenario traffic patterns. For some segments, there is a net increase in ADT and for some a decrease as a result of the project. **Table 4.10** indicates the segments that are forecast to be deficient under the 2015 Cumulative With Project daily conditions. As noted above, LOS E indicates a deficient segment for all arterial segments outside Planning Area (PA) 36 within the City of Irvine. PA 36 segments are considered deficient at LOS F. When compared to the 2015 Cumulative Baseline No Project, there are no additional deficient segments. Deficient segments under daily Year 2015 Cumulative With Project conditions include the following:

- 879—Campus Drive from Carlson Avenue to University Drive (Irvine)
- 213—Culver Drive from I-5 SB Off-Ramp to Scottsdale Drive (Irvine)
- 221—Culver Drive from Main Street to San Leandro (Irvine)
- 222—Culver Drive from San Leandro to I-405 NB On-Ramp (Irvine)
- 224—Culver Drive from I-405 SB On-Ramp to Michelson Drive (Irvine)
- 130—Jamboree Road from El Camino Real to I-5 NB On-Ramp (Irvine)
- 958—Jamboree Road from I-5 NB Ramps to I-5 SB Off-Ramp (Irvine)
- 133—Jamboree Road from Michelle Drive to Walnut Avenue (Irvine)
- 188—University Drive from California Avenue to Mesa Road (Irvine)
- 187—University Drive from Mesa Road to Campus Drive (Irvine)
- 1301—MacArthur Boulevard from Bison Avenue to Ford Road (Newport Beach)
- ~~1585—Newport Avenue from Valencia Avenue to Edinger Avenue (Tustin)~~

Figure 4.7 and **Figure 4.8** display the arterial ADT and LOS for the 2015 Cumulative With Project scenario. Deficient segments in the City of Irvine are evaluated under peak hour conditions in the following section. For Costa Mesa, Newport Beach, and Tustin, arterial segments, deficiencies are addressed through intersection improvements. For Santa Ana, deficient segments under daily conditions will need to be improved to operate at an acceptable LOS. Project related impacts to arterial segments are discussed in **Chapter 6**.

4.12 2015 Cumulative With Project Peak Hour Link Analysis

Peak hour directional traffic volumes were directly obtained from peak hour forecast turning movement volumes for intersections upstream and downstream for each deficient arterial segment. **Table 4.11** presents the results of peak hour link analysis, indicating that all arterial segments within the City of Irvine that are deficient under daily conditions operate at an acceptable LOS in both peak hours, performing at LOS D or better, and hence no mitigation measures are recommended at this time for these facilities.



Table 4.10: 2015 Cumulative With Project Daily Arterial LOS

ID	Arterial	Segment Limits	PA 36	Jurisdiction	Year 2015 Arterial Segment Classifications	2015 Cumulative Baseline No Project			2015 Cumulative With Project		
						Volume	V/C	LOS	Volume	V/C	LOS
2795	Dyer Road	Main Street to Halladay Street		SA	6D	27,400	0.49	A	27,800	0.49	A
2799	Dyer Road	Halladay Street to SR-55 SB		SA	6D	31,800	0.56	A	32,400	0.58	A
1326	Dyer Road	SR-55 SB to SR-55 NB		SA	6D	43,600	0.77	C	44,400	0.79	C
734	Dyer Road	SR-55 NB to Pullman Street		SA	6D	30,000	0.53	A	30,600	0.54	A
2764	Grand Avenue	Warner Avenue to Hotel Terrace Drive		SA	6D	22,900	0.41	A	22,900	0.41	A
2806	Grand Avenue	Hotel Terrace Drive to SR-55 NB		SA	6D	21,500	0.38	A	21,500	0.38	A
2800	Halladay Street	Dyer Road to Alton Avenue		SA	2U	5,500	0.46	A	5,600	0.47	A
2822	Halladay Street	Alton Avenue to McGaw Avenue(Columbine)		SA	2U	2,100	0.18	A	2,100	0.18	A
2805	MacArthur Boulevard	Flower Street to Main Street		SA	6D	32,100	0.57	A	32,400	0.58	A
1884	MacArthur Boulevard	Main Street to SR-55 SB		SA	6D	49,900	0.89	D	50,800	0.90	D
2796	Main Street	Segerstrom Avenue to Alton Avenue		SA	6D	21,600	0.38	A	21,900	0.39	A
2826	Main Street	Alton Avenue to McGaw Avenue(Columbine)		SA	6D	24,600	0.44	A	24,900	0.44	A
2809	Main Street	McGaw(Columbine) to MacArthur Boulevard		SA	6D	29,100	0.52	A	29,400	0.52	A
2811	Main Street	MacArthur Boulevard to Sunflower Avenue		SA	6D	30,600	0.54	A	30,800	0.55	A
2823	McGaw Avenue (Alton)	Main Street to Halladay Street		SA	4D	3,100	0.08	A	3,100	0.08	A
2736	Segerstrom Avenue	Bristol Street to Flower Street		SA	4D	12,200	0.33	A	12,400	0.33	A
2771	Segerstrom Avenue	Flower Street to Main Street		SA	4D	19,600	0.52	A	19,800	0.53	A
2763	Warner Avenue	Grand Avenue to SR-55		SA	6D	28,900	0.51	A	29,200	0.52	A
2761	Sunflower Avenue	Bristol Street to Flower Street		SA/CM	6D	40,500	0.72	C	41,100	0.73	C
2759	Sunflower Avenue	Flower Street to Anton Boulevard		SA/CM	6D	18,300	0.33	A	18,900	0.34	A
2757	Sunflower Avenue	Anton Boulevard to Main Street		SA/CM	6D	20,600	0.37	A	21,400	0.38	A
1198	Browning Avenue	Walnut Avenue to I-5		Tus	4U	5,000	0.20	A	5,000	0.20	A
534	Bryan Avenue	Newport Boulevard to Red Hill Avenue		Tus	4U	16,200	0.65	B	16,200	0.65	B
535	Bryan Avenue	Red Hill Avenue to Browning		Tus	4U	17,400	0.70	B	17,400	0.70	B
536	Bryan Avenue	Browning Avenue to Tustin Ranch Road		Tus	4D	18,400	0.49	A	18,500	0.49	A
537	Bryan Avenue	Tustin Ranch Road to Jamboree Road		Tus	4D	18,400	0.49	A	18,400	0.49	A
44	Edinger Avenue	West of Newport Avenue		Tus	6D	40,800	0.72	C	40,900	0.73	C
663	Edinger Avenue	Newport Avenue to Red Hill Avenue		Tus	6D	22,200	0.39	A	22,300	0.40	A
665	Edinger Avenue	Red Hill Avenue and Tustin Ranch Road		Tus	6D	25,800	0.46	A	26,000	0.46	A
1202	El Camino Real	Newport Avenue to Red Hill Avenue		Tus	4U	13,700	0.55	A	13,700	0.55	A
938	El Camino Real	Red Hill Avenue to Browning Avenue		Tus	2U	10,800	0.86	D	10,800	0.86	D
1740	El Camino Real	Browning Avenue to Tustin Ranch Road		Tus	4U	9,500	0.38	A	9,500	0.38	A
1205	El Camino Real	Tustin Ranch Road to Jamboree Road		Tus	4D	15,000	0.40	A	15,100	0.40	A
672	Irvine Center Drive (Edinger)	Tustin Ranch Road to Jamboree Road		Tus	6D	23,300	0.41	A	23,600	0.42	A
674	Irvine Center Drive	Jamboree Road to Harvard Avenue		Tus	6D	15,400	0.27	A	15,700	0.28	A
2777	Mitchell Avenue	Newport Avenue to Red Hill Avenue		Tus	2U	7,400	0.59	A	7,400	0.59	A
2775	Mitchell Avenue	Red Hill Avenue to Browning Avenue		Tus	2U	4,400	0.35	A	4,400	0.35	A
6	Newport Avenue	El Camino Real to I-5		Tus	6D	34,200	0.61	B	34,400	0.61	B
7	Newport Avenue	I-5 to Mitchell Avenue		Tus	6D	37,200	0.66	B	37,300	0.66	B
48	Newport Avenue	Mitchell Avenue to McFadden Avenue		Tus	6D	35,600	0.63	B	35,600	0.63	B
49	Newport Avenue	North of Sycamore Avenue		Tus	6D	19,500	0.35	A	19,400	0.34	A
1585	Newport Avenue	Valencia Avenue to Edinger Avenue		Tus	~~6D~~ 4U	27,600	~~0.49~~ 1.10	~~A~~ F	27,300	~~0.48~~ 1.09	~~A~~ F
1351	Nisson Road	Newport Avenue to Red Hill Avenue		Tus	2U	5,600	0.45	A	5,600	0.45	A
939	Nisson Road	Red Hill Avenue to Browning Avenue		Tus	2U	4,100	0.33	A	4,100	0.33	A

4.13 2015 Cumulative With Project Peak Hour Intersection Analysis

Using the turning movement volumes from each intersection assumed to be built by 2015, ICU analysis was developed for every intersection within the study area. The intersection analysis includes both a reporting of intersection ICU and the corresponding LOS. **Table 4.12** displays the ICU analysis for the 2015 Cumulative With Project conditions sorted by jurisdiction, while **Appendix B** presents detailed ICU worksheets. For shared jurisdictions, the more conservative methodology was utilized. The differences in the ICU values between the 2015 Cumulative Baseline No Project and With Project scenarios vary by intersection. Many of the intersections experience an increase in the ICU under the With Project conditions and many experience a decrease. This is likely due to the redistribution of trips within the IBC study area under the With Project conditions, with a greater amount of residential dwelling units, and the assumption of a corresponding reduction in commercial, office, and industrial square footage to allow for the increased residential uses, consistent with the methodology of the Vision Plan land use. For deficient intersections or intersections that become deficient with the Proposed Project within the City of Irvine where the ICU value increases by 0.02 over the No Project conditions that intersection experiences a significant project impact. For intersections outside the City of Irvine in Costa Mesa, Tustin, and Santa Ana, an increase of 0.01 over the No Project ICU constitutes a significant project impact. For deficient intersections within the City of Newport Beach, an increase of 0.01 of a critical movement constitutes a significant project impact. The project impacts and mitigation strategies are discussed in detail in **Chapter 6**.

Figure 4.12 and **Figure 4.13** graphically present the AM and PM peak hour intersection ICU for deficient intersections. Further discussion of specific impacts, mitigation, and fair-share cost analysis is addressed in **Chapter 6**. Seven intersections are deficient in the 2015 Cumulative With Project scenario, including one location in Irvine, one in Newport Beach, four in Tustin, and one shared location between Tustin and Irvine. Of the seven intersections, only two are significantly impacted by the Project: #93 – Tustin Ranch Road at El Camino Real (ICU increase of 0.01) in Tustin and #62 – Campus Drive at Bristol Street (ICU increase of 0.02 and ICU reduction from LOS D to LOS E) in Newport Beach). The deficient intersections include the following:

AM Peak Hour:

- #93: Tustin Ranch Road at El Camino Real (Tustin)

PM Peak Hour:

- #145: Jamboree Road at Michelson Drive (Irvine)
- #134: Loop Road/Park Avenue at Warner Avenue (Irvine/Tustin)
- #62: Campus Drive at Bristol Street (Newport Beach)
- #36: Red Hill Avenue at El Camino Real (Tustin)
- #111: Franklin Avenue at Walnut Avenue (Tustin)
- #732: SR-55 Northbound Ramps/Del Amo Avenue at Newport Avenue (Tustin)

When compared to the No Project scenario, there is one additional deficiency, intersection #62: Campus Drive at Bristol Street in the City of Newport Beach. All locations operating at a deficient LOS with an increase in the ICU value exceeding the significance threshold are identified as project impacts and discussed in **Chapter 6**.

4.14 2015 Cumulative With Project Peak Hour Freeway Mainline Analysis

Future freeway mainline volumes are based on forecast traffic using the ITAM model. **Table 4.13** presents the freeway mainline segment analysis for 2015 Cumulative With Project conditions and compares mainline segment performance to 2015 Cumulative Baseline No Project conditions. The With Project scenario does not include any freeway mainline capacity improvements, consequently, the capacities are consistent with the No Project scenario. **Appendix C** presents detailed HCS worksheets for mainline analysis.

Table 5.3: Post-2030 Cumulative Baseline No Project Daily Arterial LOS

ID	Arterial	Segment Limits	PA 36 City of Irvine	Jurisdiction	Post-2030 Arterial Segment Classification	Post-2030 Cumulative Baseline No Project		
						Volume	V/C	LOS
674	Irvine Center Drive	Jamboree Road to Harvard Avenue		Tus	6D	18,500	0.33	A
2777	Mitchell Avenue	Newport Avenue to Red Hill Avenue		Tus	2U	8,200	0.66	B
2775	Mitchell Avenue	Red Hill Avenue to Browning Avenue		Tus	2U	5,800	0.46	A
6	Newport Avenue	El Camino Real to I-5		Tus	6D	37,000	0.66	B
7	Newport Avenue	I-5 to Mitchell Avenue		Tus	6D	40,100	0.71	C
48	Newport Avenue	Mitchell Avenue to McFadden Avenue		Tus	6D	39,100	0.69	B
49	Newport Avenue	North of Sycamore Avenue		Tus	6D	22,800	0.40	A
1585	Newport Avenue	Valencia Avenue to Edinger Avenue		Tus	~~6D~~ 4U	34,600	~~0.61~~ 1.38	~~FA~~
1351	Nisson Road	Newport Avenue to Red Hill Avenue		Tus	2U	6,000	0.48	A
939	Nisson Road	Red Hill Avenue to Browning Avenue		Tus	2U	5,200	0.42	A
1355	Red Hill Avenue	I-5 NB Ramps to El Camino Real		Tus	6D	43,200	0.77	C
1354	Red Hill Avenue	I-5 SB Ramps to I-5 NB Ramps		Tus	6D	39,000	0.69	B
21	Red Hill Avenue	Nisson Road to I-5 SB		Tus	6D	38,200	0.68	B
1353	Red Hill Avenue	Nisson Road to Mitchell Avenue		Tus	6D	26,700	0.47	A
22	Red Hill Avenue	Mitchell Avenue to Walnut Avenue		Tus	6D	26,000	0.46	A
23	Red Hill Avenue	Walnut Avenue to Sycamore Avenue		Tus	6D	27,500	0.49	A
24	Red Hill Avenue	Sycamore Avenue to Edinger Avenue		Tus	6D	30,000	0.53	A
25	Red Hill Avenue	Edinger Avenue to Valencia Avenue		Tus	6D	28,300	0.50	A
26	Red Hill Avenue	Valencia Avenue to Warner Avenue		Tus	6D	31,600	0.56	A
30	Red Hill Avenue	Warner Avenue to Barranca Parkway/Dyer		Tus	7D	31,800	0.48	A
1363	Sycamore Avenue	SR-55 NB to Newport Avenue		Tus	4U	7,400	0.30	A
1920	Sycamore Avenue	Newport Avenue to Red Hill Avenue		Tus	4U	8,400	0.34	A
85	Tustin Ranch Road	North of I-5		Tus	6D	38,500	0.68	B
86	Tustin Ranch Road	I-5 to Walnut Avenue		Tus	6D	36,600	0.65	B
2173	Valencia Avenue	Newport Avenue to Red Hill Avenue		Tus	4U	15,900	0.64	B
587	Walnut Avenue	East of Newport Avenue		Tus	4U	20,800	0.83	D
589	Walnut Avenue	East of Red Hill Avenue		Tus	4D	17,400	0.46	A
590	Walnut Avenue	West of Tustin Ranch Road		Tus	4D	22,500	0.60	A
1366	Walnut Avenue	Franklin Avenue to Myford Road		Tus	4D	21,000	0.56	A
1478	Warner Avenue	SR-55 to Red Hill Avenue		Tus	6D	34,300	0.61	B

Table 5.3 indicates that the following segments are deficient under the Post-2030 No Project daily conditions, including two segments in Costa Mesa, 12 in Irvine, one in Newport Beach, one in Santa Ana, and ~~two~~one in Tustin. As noted above, LOS E indicates a deficient segment for all arterial segments outside Planning Area (PA) 36 within the City of Irvine. PA 36 segments are considered deficient at LOS F. Deficient segments under daily Post-2030 Cumulative Baseline No Project conditions include the following:

- 2728—Bristol Street from Anton Boulevard to I-405 Northbound Ramps (Costa Mesa)
- 2751—Bristol Street from I-405 Northbound Ramps to I-405 Southbound Ramps (Costa Mesa)
- 879—Campus Drive from Carlson Avenue to University Drive (Irvine)
- 726—Culver Drive from I-5 NB Ramps to I-5 SB Ramps (Irvine)
- 213—Culver Drive from I-5 SB Off-Ramp to Scottsdale Drive (Irvine)
- 214—Culver Drive from Scottsdale Drive to Walnut Avenue (Irvine)
- 219—Culver Drive from Barranca Parkway to Alton Parkway (Irvine)
- 220—Culver Drive from Alton Parkway to Main Street (Irvine)
- 221—Culver Drive from Main Street to San Leandro (Irvine)
- 222—Culver Drive from San Leandro to I-405 NB On-Ramp (Irvine)
- 224—Culver Drive from I-405 SB On-Ramp to Michelson Drive (Irvine)
- 130—Jamboree Road from El Camino Real to I-5 NB On-Ramp (Irvine)



- 958—Jamboree Road from I-5 NB Ramps to I-5 SB Off-Ramp (Irvine)
- 133—Jamboree Road from Michelle Drive to Walnut Avenue (Irvine)
- 1301—MacArthur Boulevard from Bison Avenue to Ford Road (Newport Beach)
- 1884—MacArthur Boulevard from Main Street to SR-55 Southbound (Santa Ana)
- 44—Edinger Avenue West of Newport Avenue (Tustin)
- ~~1585—Newport Avenue from Valencia Avenue to Edinger Avenue (Tustin)~~

5.5 Post-2030 Cumulative Baseline No Project Peak Hour Link Analysis

Peak hour directional traffic volumes were obtained from forecast peak hour intersection turning movement volumes for intersections upstream and downstream for each deficient arterial segment. **Table 5.4** presents the results of peak hour link analysis, indicating that all arterial segments that are deficient within the City of Irvine under daily conditions operate at an acceptable LOS in both peak hours, performing at LOS D or better, and hence no mitigation measures are recommended at this time for these facilities.

5.11 Post-2030 Cumulative With Project Daily Arterial Segment Analysis

Under the Post-2030 Cumulative With Project scenario, traffic within the City shows some growth related to future development of the study area as a whole. Post-2030 arterial traffic conditions were analyzed based on the forecast volumes and future lane configurations. **Table 5.10** presents the study area roadway segments with the jurisdiction, daily future forecast volume, classification type, V/C ratio and LOS for each segment identified. Deficient segments were further analyzed for peak hour performance within the City of Irvine. Alternative methodologies were used on roadways located in adjacent cities. The Post-2030 Cumulative With Project scenario is compared to the Post-2030 Cumulative Baseline No Project scenarios to identify project related significant impacts.

Table 5.10 indicates that several segments are deficient under the Post-2030 Cumulative With Project daily conditions including two segments located within Costa Mesa, 15 of the segments in Irvine, one segment each in Newport Beach and Santa Ana, and ~~two-one~~ segments in Tustin. Compared to the No Project scenario, there are three additional segments that are deficient under daily conditions within the City of Irvine. As noted above, LOS E indicates a deficient segment for arterial segments outside Planning Area (PA) 36 within the City of Irvine. PA 36 (IBC area) segments are considered deficient at LOS F. Deficient segments under Post-2030 Cumulative With Project conditions include the following:

- 2728—Bristol Street from Anton Boulevard to I-405 Northbound Ramps (Costa Mesa)
- 2751—Bristol Street from I-405 Northbound Ramps to I-405 Southbound Ramps (Costa Mesa)
- 879—Campus Drive from Carlson Avenue to University Drive (Irvine)
- 726—Culver Drive from I-5 NB Ramps to I-5 SB Ramps (Irvine)
- 213—Culver Drive from I-5 SB Off-Ramp to Scottsdale Drive (Irvine)
- 214—Culver Drive from Scottsdale Drive to Walnut Avenue (Irvine)
- 219—Culver Drive from Barranca Parkway to Alton Parkway (Irvine)
- 220—Culver Drive from Alton Parkway to Main Street (Irvine)
- 221—Culver Drive from Main Street to San Leandro (Irvine)
- 222—Culver Drive from San Leandro to I-405 NB On-Ramp (Irvine)
- 224—Culver Drive from I-405 SB On-Ramp to Michelson Drive (Irvine)
- 130—Jamboree Road from El Camino Real to I-5 NB On-Ramp (Irvine)
- 958—Jamboree Road from I-5 NB Ramps to I-5 SB Off-Ramp (Irvine)
- 133—Jamboree Road from Michelle Drive to Walnut Avenue (Irvine)
- 148—Jamboree Road from I-405 On-Ramp to Michelson Drive (Irvine)
- 149—Jamboree Road from Michelson Drive to Dupont Drive (Irvine)
- 151—Jamboree Road from Campus Drive to Birch Street (Irvine)
- 1301—MacArthur Boulevard from Bison Avenue to Ford Road (Newport Beach)
- 1884—MacArthur Boulevard from Main Street to SR-55 Southbound (Santa Ana)
- 44—Edinger Avenue West of Newport Avenue (Tustin)
- ~~1585—Newport Avenue from Valencia Avenue to Edinger Avenue (Tustin)~~

Figure 5.10 and **Figure 5.11** present the arterial ADT and LOS for the Post-2030 Cumulative With Project scenario. Deficient segments in the City of Irvine are evaluated under peak hour conditions to determine significant impacts in the following section. For arterial segments in Costa Mesa, Newport Beach, and Tustin, arterial daily LOS impacts are addressed at the adjacent intersections. Santa Ana identifies significant project impacts based on the arterial daily LOS. Arterial segment #1884 (MacArthur Boulevard from Main Street to SR-55) is deficient in the Post-2030 Cumulative With Project scenario and because there is a greater than 0.01 increase in the daily LOS between No Project and With Project conditions, a project related impact exists at this location. The Project impacts and mitigations are discussed at length in **Chapter 6**.



Table 5.10: Post-2030 Cumulative With Project Daily Arterial LOS

ID	Arterial	Segment Limits	PA 36	Jurisdiction	Post-2030 Arterial Segment Classifications	Post-2030 Cumulative Baseline No Project			Post-2030 Cumulative With Project		
						Volume	V/C	LOS	Volume	V/C	LOS
2811	Main Street	MacArthur Boulevard to Sunflower Avenue		SA	6D	31,700	0.56	A	32,900	0.58	A
2823	McGaw Avenue (Alton)	Main Street to Halladay Street		SA	4D	3,900	0.10	A	3,900	0.10	A
2736	Segerstrom Avenue	Bristol Street to Flower Street		SA	6D	15,600	0.28	A	16,100	0.29	A
2771	Segerstrom Avenue	Flower Street to Main Street		SA	6D	23,600	0.42	A	24,300	0.43	A
2763	Warner Avenue	Grand Avenue to SR-55		SA	6D	34,500	0.61	B	35,600	0.63	B
2761	Sunflower Avenue	Bristol Street to Flower Street		SA/CM	6D	42,000	0.75	C	43,700	0.78	C
2759	Sunflower Avenue	Flower Street to Anton Boulevard		SA/CM	6D	19,600	0.35	A	21,400	0.38	A
2757	Sunflower Avenue	Anton Boulevard to Main Street		SA/CM	6D	21,900	0.39	A	24,400	0.43	A
1198	Browning Avenue	Walnut Avenue to I-5		Tus	4U	6,200	0.25	A	6,400	0.26	A
534	Bryan Avenue	Newport Boulevard to Red Hill Avenue		Tus	4U	18,800	0.75	C	19,000	0.76	C
535	Bryan Avenue	Red Hill Avenue to Browning		Tus	4U	18,600	0.74	C	18,700	0.75	C
536	Bryan Avenue	Browning Avenue to Tustin Ranch Road		Tus	4D	21,100	0.56	A	21,200	0.57	A
537	Bryan Avenue	Tustin Ranch Road to Jamboree Road		Tus	4D	21,800	0.58	A	21,900	0.58	A
44	Edinger Avenue	West of Newport Avenue		Tus	6D	52,300	0.93	E	52,800	0.94	E
663	Edinger Avenue	Newport Avenue to Red Hill Avenue		Tus	6D	25,900	0.46	A	26,300	0.47	A
665	Edinger Avenue	Red Hill Avenue and Tustin Ranch Road		Tus	6D	31,300	0.56	A	31,900	0.57	A
1202	El Camino Real	Newport Avenue to Red Hill Avenue		Tus	4U	14,400	0.58	A	14,700	0.59	A
938	El Camino Real	Red Hill Avenue to Browning Avenue		Tus	4U	9,000	0.36	A	9,000	0.36	A
1740	El Camino Real	Browning Avenue to Tustin Ranch Road		Tus	4U	9,800	0.39	A	9,900	0.40	A
1205	El Camino Real	Tustin Ranch Road to Jamboree Road		Tus	4D	15,900	0.42	A	16,000	0.43	A
672	Irvine Center Drive (Edinger)	Tustin Ranch Road to Jamboree Road		Tus	6D	27,600	0.49	A	28,200	0.50	A
674	Irvine Center Drive	Jamboree Road to Harvard Avenue		Tus	6D	18,500	0.33	A	18,800	0.33	A
2777	Mitchell Avenue	Newport Avenue to Red Hill Avenue		Tus	2U	8,200	0.66	B	8,000	0.64	B
2775	Mitchell Avenue	Red Hill Avenue to Browning Avenue		Tus	2U	5,800	0.46	A	5,700	0.46	A
6	Newport Avenue	El Camino Real to I-5		Tus	6D	37,000	0.66	B	37,500	0.67	B
7	Newport Avenue	I-5 to Mitchell Avenue		Tus	6D	40,100	0.71	C	40,600	0.72	C
48	Newport Avenue	Mitchell Avenue to McFadden Avenue		Tus	6D	39,100	0.69	B	39,900	0.71	C
49	Newport Avenue	North of Sycamore Avenue		Tus	6D	22,800	0.40	A	23,400	0.42	A
1545	Newport Avenue	Valencia Avenue to Edinger Avenue		Tus	6D4U	34,600	0.61+0.38	FA	35,300	0.63+0.63	FB
1351	Nisson Road	Newport Avenue to Red Hill Avenue		Tus	2U	6,000	0.48	A	6,000	0.48	A
939	Nisson Road	Red Hill Avenue to Browning Avenue		Tus	2U	5,200	0.42	A	5,200	0.42	A
1355	Red Hill Avenue	I-5 NB Ramps to El Camino Real		Tus	6D	43,200	0.77	C	43,200	0.77	C
1354	Red Hill Avenue	I-5 SB Ramps to I-5 NB Ramps		Tus	6D	39,000	0.69	B	39,000	0.69	B
21	Red Hill Avenue	Nisson Road to I-5 SB		Tus	6D	38,200	0.68	B	38,200	0.68	B
1353	Red Hill Avenue	Nisson Road to Mitchell Avenue		Tus	6D	26,700	0.47	A	26,700	0.47	A
22	Red Hill Avenue	Mitchell Avenue to Walnut Avenue		Tus	6D	26,000	0.46	A	26,500	0.47	A
23	Red Hill Avenue	Walnut Avenue to Sycamore Avenue		Tus	6D	27,500	0.49	A	27,500	0.49	A
24	Red Hill Avenue	Sycamore Avenue to Edinger Avenue		Tus	6D	30,000	0.53	A	30,000	0.53	A
25	Red Hill Avenue	Edinger Avenue to Valencia Avenue		Tus	6D	28,300	0.50	A	29,000	0.52	A
26	Red Hill Avenue	Valencia Avenue to Warner Avenue		Tus	6D	31,600	0.56	A	33,400	0.59	A
30	Red Hill Avenue	Warner Avenue to Barranca Parkway/Dyer		Tus	7D	31,800	0.48	A	34,400	0.52	A
1363	Sycamore Avenue	SR-55 NB to Newport Avenue		Tus	4U	7,400	0.30	A	7,500	0.30	A
1920	Sycamore Avenue	Newport Avenue to Red Hill Avenue		Tus	4U	8,400	0.34	A	8,500	0.34	A
85	Tustin Ranch Road	North of I-5		Tus	6D	38,500	0.68	B	38,300	0.68	B
86	Tustin Ranch Road	I-5 to Walnut Avenue		Tus	6D	36,600	0.65	B	36,900	0.66	B
2173	Valencia Avenue	Newport Avenue to Red Hill Avenue		Tus	4U	15,900	0.64	B	16,500	0.66	B
587	Walnut Avenue	East of Newport Avenue		Tus	4U	20,800	0.83	D	21,000	0.84	D

Table 6.3: City of Costa Mesa Proposed Intersection Mitigation

ID	Intersection	Jurisdiction	2015 Cumulative With Project						2015 Cumulative With Project After Mitigation				Post-2030 Cumulative With Project				Post-2030 Cumulative With Project After Mitigation				Mitigation Strategy	Fair-share
			AM		PM		AM		PM		AM		PM		AM		PM					
			LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU				
10	SR-55 Frontage Road SB Ramps at Paularno	CM	No Impact						1.02	F	0.67	B	0.88	D	0.64	B	Improve SB to 1.5, 1.0, 0.5				No Share	
12	SR-55 SB Frontage Road at Baker Street	CM	No Impact						1.19	F	0.76	C	0.78	C	0.85	D	Improve SB to 1.5, 1.5, 1, Restripe EB to 0, 2.5, 0.5				8.0%	
13	SR-55 NB Frontage Road at Baker Street	CM	No Impact						1.02	F	0.86	D	0.87	D	0.84	D	Restripe EB to 1, 3, 0, Add defacto NBR				8.7%	

Note: Cumulative deficiencies are not the responsibility of the project

Table 6.4: City of Irvine Proposed Intersection Mitigation

ID	Intersection	Jurisdiction	2015 Cumulative with Project				2015 Cumulative With Project After Mitigation				Post-2030 Cumulative With Project				Post-2030 Cumulative With Project After Mitigation				Mitigation Strategy	Fair-share
			AM		PM		AM		PM		AM		PM		AM		PM			
			ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS		
141	Jamboree Road at Main Street	Irv	0.87	D	0.94	E					0.92	E	1.02	F	0.84	D	0.94	E	Improve NB and SB to 2, 5, 1, Change WB free right to WBR turn lane	100.0%
145	Jamboree Road at Michelson Drive	Irv	0.75	C	1.12	F	0.73	C	0.91	E	0.81	D	1.26	F	0.79	C	0.98	E	Add 3rd EBL, 3rd SBL, and WBT	100.0%
188	Harvard Avenue at Michelson Drive	Irv	0.67	B	0.89	D					0.71	C	0.91	E	0.71	C	0.82	D	Add 2nd SBL	100.0%
232	Culver Drive at I-405 NB Ramps	Irv	0.48	A	0.87	D					0.56	A	0.95	E	~~0.81~~ 0.56	AD	~~0.76~~ 0.3	C	Restripe WB to ~~1+5~~ , 0, ~~2+5~~	100.0%
136	Jamboree Road at Barranca Avenue	Irv/Tus	0.81	D	0.96	E					0.87	D	1.04	F	0.87	D	0.95	E	Convert free NBR standard right-turn, Add 5th NBT	100.0%

- *Intersection #145: Jamboree Road and Michelson Drive*

This intersection has a project related significant impact under the 2015 and Post-2030 Proposed Project scenarios. The forecast ICU in the worst case scenario is 1.26 in the PM peak hour. Since the eastbound and southbound left turn lanes and the northbound through lane are some of the critical movements, intersection mitigation would require adding substantial capacity to these movements. Recommended improvements are the same in both 2015 and Post-2030 and include the addition of a westbound through lane, third eastbound left turn lane, and restriping of the southbound approach to get a third southbound left from the southbound through movement. However, triple eastbound and southbound left turn improvements are contrary to City standards due to safety and operational concerns associated with the vehicles turning within appropriate receiving lanes. In addition, the City believes that the addition of a triple left turn lane would not operationally improve the intersection capacity because the three lanes would likely not load traffic evenly. Many motorists making the eastbound left turn are destined for the I-405 on ramps, and they have one block in which to merge over into the right lanes, while weaving with the westbound free right traffic that does not stop. Similarly the proximity of the destination for the southbound triple left would inhibit the full operational benefits of this movement as motorists would primarily load in the left and middle lanes of a southbound triple left because many are destined to the Maguire Properties (Park Place).

In addition, there are physical constraints associated with the proposed improvements, including Southern California Edison (SCE) 220kV transmission lines along the west side of Jamboree Road and an SCE substation located at the southeast corner of this intersection. These physical constraints limit the improvements to mitigate the project impacts at this location. Additionally, a future pedestrian overcrossing is planned at this intersection which may inhibit the implementation of the additional westbound through lane, which would fall in the footprint of the future bridge support. This pedestrian crossing may also improve signal operations and ICU levels at this intersection. This intersection improvement will be subject to an override due to its infeasibility.

- *Intersection #188: Harvard Avenue and Michelson Drive*

ICU analysis for all future scenarios indicates that the intersection at Harvard Avenue and Michelson Drive is forecast to be deficient under both Post-2030 Cumulative Baseline No Project and With Project scenarios. The recommended improvement involves the addition of a second southbound left turn lane to reduce the ICU in the PM peak hour. This improvement would return the intersection to an acceptable LOS and appears to be physically feasible.

- *Intersection #232: Culver Drive and I-405 Northbound Ramps*

This intersection is deficient under Post-2030 conditions with a project related significant impact. The extremely high volume and high right turn adjustment on the westbound right turn movement has contributed to the ICU deficiency in the PM peak hour and necessitated the recommendation of restriping the westbound approach of this intersection to one left turn lane and two, ~~one~~ right turn lanes, ~~and a shared left right turn lane.~~ Implementation of this improvement results in acceptable operations in both the AM and PM peak hours under the Post-2030 scenario and appears to be physically feasible.

- *Intersection #136: Jamboree Road and Barranca Parkway*

This location is a shared location between the Cities of Irvine and Tustin. ICU analysis indicates that the intersection of Jamboree Road at Barranca Parkway is deficient in the PM peak hour under the Post-2030 scenario. There is an extremely high volume on the northbound through movement and relatively small volume on the northbound right-turn movement. Recommended improvements include the conversion of the existing free northbound right-turn lane to a standard right turn lane and addition of a fifth northbound through lane. Implementation of this improvement results in acceptable operations under both scenarios and the mitigation appears to be physically feasible.

6.4.3 Newport Beach

There are two intersections within the City of Newport Beach that are deficient in the forecast future scenarios. Both intersections have a project related significant impact as outlined by the City of Newport Beach's performance and significant impact criteria. These significant impacts are outlined in **Table 6.5**.



Table 6.10: Freeway Mainline Project Impacts and Fair-share

Location		Direction	Post-2030 Lanes		Post-2030 Cumulative Baseline No Project						Post-2030 Cumulative With Project						Required Mitigation			
					AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour			Trips Difference AM (+200 cars=impact)	Trips Difference PM (+200 cars=impact)	Project Impact V/C	Project Fair-share (V/C)
			Lanes	Peak Hour Capacity	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS				
I-5	Jamboree Road to Tustin Ranch Road	NB	5	10,000	11,649	1.16	F	9,753	0.98	E	11,857	1.19	F	9,660	0.97	E	208	-92	*	1.8%
		SB	5	10,000	8,865	0.89	D	8,879	0.89	D	9,075	0.91	E	9,085	0.91	E	210	207	*	2.3%
	Tustin Ranch Road to Red Hill Avenue	NB	5	10,000	11,459	1.15	F	10,273	1.03	F	11,677	1.17	F	10,190	1.02	F	218	-82	*	1.9%
		SB	5	10,000	9,675	0.97	E	9,409	0.94	E	9,905	0.99	E	9,615	0.96	E	230	207	*	2.3%
	Red Hill Avenue to Newport Avenue	NB	5	10,000	11,629	1.16	F	10,113	1.01	F	11,847	1.18	F	10,010	1.00	E	218	-102	*	1.8%
	Newport Avenue to SR-55	NB	5	10,000	12,389	1.24	F	10,883	1.09	F	12,597	1.26	F	10,820	1.08	F	208	-62	*	1.7%
I-405	Jamboree Road to MacArthur Boulevard	NB	6	12,000	11,306	1.13	F	9,650	0.96	E	11,561	1.16	F	9,790	0.98	E	255	140	*	2.2%
		SB	5	10,000	8,366	0.84	D	9,017	0.90	E	8,560	0.86	D	9,288	0.93	E	194	271	*	2.9%
SR-55	I-405 to MacArthur Boulevard	NB	4	8,000	8,401	1.05	F	8,327	1.04	F	8,688	1.09	F	8,586	1.07	F	287	260	*	3.3%
		SB	4	8,000	8,697	1.09	F	8,528	1.07	F	9,134	1.14	F	8,732	1.09	F	437	204	*	4.8%
	MacArthur Boulevard to Dyer Road	NB	5	10,000	7,551	0.76	D	9,377	0.94	E	7,858	0.79	D	9,666	0.97	E	307	290	*	3.09%
		SB	5	10,000	9,867	0.99	E	7,748	0.77	D	10,284	1.03	F	7,912	0.79	D	417	164	*	4.1%
SR-55	Dyer Road to Ellinger Avenue	NB	6	12,000	6,771	0.56	C	11,387	0.95	E	7,128	0.59	C	11,696	0.97	E	357	310	*	2.75-0%

Improvements beyond the planned system improvements would be required to maintain an acceptable LOS for the State Highway System. Potential improvement measures would include the addition of one, two, or three lanes to freeway mainline segments. However, capacity improvements to the freeway mainline are not feasible improvement options. The rationale is that Caltrans has not identified any further improvements beyond those already assumed in the buildout analysis for I-5, I-405, SR-55, SR-73, and SR-261 and the City has no control over State facilities. Additional capacity improvements are infeasible due to physical, right-of-way and other environmental constraints

For example, the expansion of the identified freeway segments would involve significant right-of-way acquisition which would involve either the acquisition of residences and/or businesses, or this would involve bringing the freeway facilities close to such residences and businesses. It is not a legal prerogative or policy of the City to support further freeway widening when such widening would have negative impacts on adjacent businesses and residences. Bringing State facilities closer to residences and businesses is also not a social or legal prerogative of the City however, the regional transportation agency, OCTA has identified certain improvements to the freeway mainline to be funded by the Renewed Measure M, approved in 2007-08 by the County and participating Cities including the City of Irvine. This analysis does take into consideration improvements identified through this funding source. Finally, the Proposed Project supports recent State legislation to reduce the average vehicle miles travelled as the Project is designed to co-locate urban-style housing and employment opportunities. As a result of these policy prerogatives and identified constraints, the project is not expected to mitigate the freeway mainline segments to an acceptable LOS. As part of the Proposed Project approval and certification of the EIR, the City will develop a Statement of Overriding Considerations for the capacity improvements of freeway mainlines and freeway ramp facilities. Consultation between the City of Irvine and Caltrans is necessary to reach consensus on any potential alternative improvement measures including but not limited to the following strategies:

- Intelligent Transportation System (ITS) strategies
- Improved signage to alleviate weaving issues

- Enhanced on and off-ramp merge and diverge areas utilizing auxiliary lanes
- Operational improvements to ramp meters and signal timing

Although the implementation of these improvements does not necessarily mitigate the project impact as identified by the volume to capacity ratio analysis, the City will work with Caltrans to identify the most appropriate feasible improvements on the freeway mainlines and is prepared to contribute the identified share to such improvements.

6.7.2 Freeway Ramps

As identified in **Chapters 4 and 5**, there are several freeway ramp deficiencies under the 2015 and Post-2030 future scenarios. For the IBC Post-2030 Cumulative With Project scenario, which includes all regional growth, the volume on many freeway ramps increases when compared with Existing Conditions. The volumes are generally consistent with the No Project scenario forecast volumes, with some segments and ramps experiencing an increase in the peak hour volume of over 30 vehicles per hour, triggering a significant impact under the City of Irvine and Caltrans agreed upon project impact criteria. **Table 6.11** identifies the freeway ramps with a project impact under the Post-2030 Cumulative With Project conditions. The ramps with a project impact under the 2015 Cumulative With Project scenario are also identified. In addition, the table presents the IBC Vision fair-shares for the deficient ramps. The City of Irvine will work with Caltrans to identify the appropriate improvements on the freeway ramps and determine the strategy for implementation of those improvements.

Table 6.11: Freeway Ramp Project Impacts and Fair-share

Interchange		Ramp Type	Ramp Capacity		Post-2030 Cumulative Baseline No Project						Post-2030 Cumulative With Project						Mitigation Post-2030 Cumulative			
					AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour			Trips Difference AM	Trips Difference PM	Project Impact V/C	Project Fair-share (V/C)
			Number of Lanes	Ramp Length	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS				
I-405	Gulver Drive	NB Off	1	1,500	1,270	0.85	D	1,250	0.83	D	1,360	0.91	E	1,270	0.85	D	90	20	*	1.86-6%
	Jamboree Road	SB Off	2	500	2,340	1.04	F	2,110	0.94	E	2,730	1.21	F	2,690	1.20	F	390	580	*	21.6%
	MacArthur Boulevard	NB On	1	1,000	440	0.29	A	1,530	1.02	F	490	0.33	B	1,590	1.06	F	50	60	*	3.840-2%
		NB Off	1	500	1,640	1.09	F	890	0.59	C	1,770	1.18	F	920	0.61	C	130	30	*	7.3%
	Bristol Street	SB Loop On	1	1,000	1,090	0.73	D	1,490	0.99	E	1,110	0.74	D	1,610	1.07	F	20	120	*	7.5%
SR-55	Baker Street	SB On	1	1,000	510	0.57	C	1,250	1.39	F	510	0.57	C	1,290	1.43	F	0	40	*	3.1%
	Baker Street	NB Off	1	1,500	1,420	0.95	E	1,300	0.87	D	1,450	0.97	E	1,350	0.90	E	30	50	*	1.13-7%
	MacArthur Boulevard	SB On Loop	1	1,000	170	0.19	A	800	0.89	D	200	0.22	A	870	0.97	E	30	70	*	8.45-0%
	Hyer Road	NB On Direct	1	1,000	330	0.22	A	1,350	0.90	D	390	0.26	A	1,400	0.93	E	60	50	*	3.645-4%
SR-73	Jamboree Road	SB Off	2	500	2,619	1.16	F	2,867	1.27	F	2,727	1.21	F	2,938	1.31	F	109	71	*	4.0%
	Campus Drive	NB On	1	1,000	629	0.42	B	1,983	1.32	F	818	0.55	C	2,111	1.41	F	189	128	*	6.123-1%

There are three locations that have a project impact under the 2015 conditions that improve under the Post-2030 Cumulative With Project conditions. In 2015, the model has distributed greater amounts of traffic to these ramp facilities than in the buildout scenario due to different land use assumptions and buildout improvements throughout the circulation system. The following ramps have a temporary project impact under 2015 conditions:

- I-405 Northbound Off-Ramp to Jamboree Road
- SR-55 Northbound Direct On-Ramp from Victoria Street
- SR-55 Northbound ON-Ramp from MacArthur Boulevard



Table 7.3: Post-2030 Existing General Plan Buildout Daily Arterial LOS

ID	Arterial	Segment Limits	PA 36	Jurisdiction	Post-2030 Arterial Segment Classifications	Post-2030 No Project			Post-2030 With Vision Plan Project			Post-2030 Existing General Plan Buildout		
						Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS
1198	Browning Avenue	Walnut Avenue to I-5		Tus	4U	6,200	0.25	A	6,400	0.26	A	6,400	0.26	A
534	Bryan Avenue	Newport Boulevard to Red Hill Avenue		Tus	4U	18,800	0.75	C	19,000	0.76	C	19,000	0.76	C
535	Bryan Avenue	Red Hill Avenue to Browning		Tus	4U	18,600	0.74	C	18,700	0.75	C	18,700	0.75	C
536	Bryan Avenue	Browning Avenue to Tustin Ranch Road		Tus	4D	21,100	0.56	A	21,200	0.57	A	21,100	0.56	A
537	Bryan Avenue	Tustin Ranch Road to Jamboree Road		Tus	4D	21,800	0.58	A	21,900	0.58	A	21,900	0.58	A
44	Edinger Avenue	West of Newport Avenue		Tus	6D	52,300	0.93	E	52,800	0.94	E	52,900	0.94	E
663	Edinger Avenue	Newport Avenue to Red Hill Avenue		Tus	6D	25,900	0.46	A	26,300	0.47	A	26,400	0.47	A
665	Edinger Avenue	Red Hill Avenue and Tustin Ranch Road		Tus	6D	31,300	0.56	A	31,900	0.57	A	31,700	0.56	A
1202	El Camino Real	Newport Avenue to Red Hill Avenue		Tus	4U	14,400	0.58	A	14,700	0.59	A	14,700	0.59	A
938	El Camino Real	Red Hill Avenue to Browning Avenue		Tus	4U	9,000	0.36	A	9,000	0.36	A	9,000	0.36	A
1740	El Camino Real	Browning Avenue to Tustin Ranch Road		Tus	4U	9,800	0.39	A	9,900	0.40	A	9,900	0.40	A
1205	El Camino Real	Tustin Ranch Road to Jamboree Road		Tus	4D	15,900	0.42	A	16,000	0.43	A	16,000	0.43	A
672	Irvine Center Drive (Edinger)	Tustin Ranch Road to Jamboree Road		Tus	6D	27,600	0.49	A	28,200	0.50	A	28,100	0.50	A
674	Irvine Center Drive	Jamboree Road to Harvard Avenue		Tus	6D	18,500	0.33	A	18,800	0.33	A	18,900	0.34	A
2777	Mitchell Avenue	Newport Avenue to Red Hill Avenue		Tus	2U	8,200	0.66	B	8,000	0.64	B	8,000	0.64	B
2775	Mitchell Avenue	Red Hill Avenue to Browning Avenue		Tus	2U	5,800	0.46	A	5,700	0.46	A	5,700	0.46	A
6	Newport Avenue	El Camino Real to I-5		Tus	6D	37,000	0.66	B	37,500	0.67	B	37,900	0.67	B
7	Newport Avenue	I-5 to Mitchell Avenue		Tus	6D	40,100	0.71	C	40,600	0.72	C	40,800	0.72	C
48	Newport Avenue	Mitchell Avenue to McFadden Avenue		Tus	6D	39,100	0.69	B	39,900	0.71	C	40,100	0.71	C
49	Newport Avenue	North of Sycamore Avenue		Tus	6D	22,800	0.40	A	23,400	0.42	A	23,700	0.42	A
1585	Newport Avenue	Valencia Avenue to Edinger Avenue		Tus	6D4U	34,600	0.61+0.38	FB	35,300	0.63	FB	35,700	0.63	FB
1351	Nisson Road	Newport Avenue to Red Hill Avenue		Tus	2U	6,000	0.48	A	6,000	0.48	A	6,000	0.48	A
939	Nisson Road	Red Hill Avenue to Browning Avenue		Tus	2U	5,200	0.42	A	5,200	0.42	A	5,200	0.42	A
1355	Red Hill Avenue	I-5 NB Ramps to El Camino Real		Tus	6D	43,200	0.77	C	43,200	0.77	C	43,200	0.77	C
1354	Red Hill Avenue	I-5 SB Ramps to I-5 NB Ramps		Tus	6D	39,000	0.69	B	39,000	0.69	B	39,000	0.69	B
21	Red Hill Avenue	Nisson Road to I-5 SB		Tus	6D	38,200	0.68	B	38,200	0.68	B	38,200	0.68	B
1353	Red Hill Avenue	Nisson Road to Mitchell Avenue		Tus	6D	26,700	0.47	A	26,700	0.47	A	26,700	0.47	A
22	Red Hill Avenue	Mitchell Avenue to Walnut Avenue		Tus	6D	26,000	0.46	A	26,500	0.47	A	26,800	0.48	A
23	Red Hill Avenue	Walnut Avenue to Sycamore Avenue		Tus	6D	27,500	0.49	A	27,500	0.49	A	27,500	0.49	A
24	Red Hill Avenue	Sycamore Avenue to Edinger Avenue		Tus	6D	30,000	0.53	A	30,000	0.53	A	30,000	0.53	A
25	Red Hill Avenue	Edinger Avenue to Valencia Avenue		Tus	6D	28,300	0.50	A	29,000	0.52	A	29,600	0.53	A
26	Red Hill Avenue	Valencia Avenue to Warner Avenue		Tus	6D	31,600	0.56	A	33,400	0.59	A	33,600	0.60	A
30	Red Hill Avenue	Warner Avenue to Barranca Parkway/Dyer		Tus	7D	31,800	0.48	A	34,400	0.52	A	34,200	0.52	A
1363	Sycamore Avenue	SR-55 NB to Newport Avenue		Tus	4U	7,400	0.30	A	7,500	0.30	A	7,500	0.30	A
1920	Sycamore Avenue	Newport Avenue to Red Hill Avenue		Tus	4U	8,400	0.34	A	8,500	0.34	A	8,600	0.34	A
85	Tustin Ranch Road	North of I-5		Tus	6D	38,500	0.68	B	38,300	0.68	B	38,500	0.68	B



Table 7.3: Post-2030 Existing General Plan Buildout Daily Arterial LOS

ID	Arterial	Segment Limits	PA 36	Jurisdiction	Post-2030 Arterial Segment Classifications	Post-2030 No Project			Post-2030 With Vision Plan Project			Post-2030 Existing General Plan Buildout		
						Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS
86	Tustin Ranch Road	I-5 to Walnut Avenue		Tus	6D	36,600	0.65	B	36,900	0.66	B	37,400	0.66	B
2173	Valencia Avenue	Newport Avenue to Red Hill Avenue		Tus	4U	15,900	0.64	B	16,500	0.66	B	16,600	0.66	B
587	Walnut Avenue	East of Newport Avenue		Tus	4U	20,800	0.83	D	21,000	0.84	D	21,000	0.84	D
589	Walnut Avenue	East of Red Hill Avenue		Tus	4D	17,400	0.46	A	17,500	0.47	A	17,500	0.47	A
590	Walnut Avenue	West of Tustin Ranch Road		Tus	4D	22,500	0.60	A	22,700	0.61	B	22,700	0.61	B
1366	Walnut Avenue	Franklin Avenue to Myford Road		Tus	4D	21,000	0.56	A	21,200	0.57	A	21,100	0.56	A
1478	Warner Avenue	SR-55 to Red Hill Avenue		Tus	6D	34,300	0.61	B	35,900	0.64	B	35,700	0.63	B

Table 7.3 indicates the following deficient segments for the Post-2030 Existing General Plan Buildout alternative:

- 2728—Bristol Street from Anton Boulevard to I-405 Northbound Ramps (Costa Mesa)
- 2751—Bristol Street from I-405 Northbound Ramps to I-405 Southbound Ramps (Costa Mesa)
- 879—Campus Drive from Carlson Avenue to University Drive (Irvine)
- 726—Culver Drive from I-5 NB Ramps to I-5 SB Ramps (Irvine)
- 213—Culver Drive from I-5 SB Off-Ramp to Scottsdale Drive (Irvine)
- 214—Culver Drive from Scottsdale Drive to Walnut Avenue (Irvine)
- 219—Culver Drive from Barranca Parkway to Alton Parkway (Irvine)
- 220—Culver Drive from Alton Parkway to Main Street (Irvine)
- 221—Culver Drive from Main Street to San Leandro (Irvine)
- 222—Culver Drive from San Leandro to I-405 NB On-Ramp (Irvine)
- 224—Culver Drive from I-405 SB On-Ramp to Michelson Drive (Irvine)
- 130—Jamboree Road from El Camino Real to I-5 NB On-Ramp (Irvine)
- 958—Jamboree Road from I-5 NB Ramps to I-5 SB Off-Ramp (Irvine)
- 133—Jamboree Road from Michelle Drive to Walnut Avenue (Irvine)
- 148—Jamboree Road from I-405 On-Ramp to Michelson Drive (Irvine)
- 149—Jamboree Road from Michelson Drive to Dupont Drive (Irvine)
- 151—Jamboree Road from Campus Drive to Birch Street (Irvine)
- 1301—MacArthur Boulevard from Bison Avenue to Ford Road (Newport Beach)
- 1884—MacArthur Boulevard from Main Street to SR-55 Southbound (Santa Ana)
- 44—Edinger Avenue West of Newport Avenue (Tustin)
- ~~1585—Newport Avenue from Valencia Avenue to Edinger Avenue (Tustin)~~

When compared to the Post-2030 With Vision Plan Project, there are some minor differences in the total ADT for the arterial segments within the study area. However, there are no differences in the total number of deficient segments under daily conditions. Arterial segment number #1884 MacArthur Boulevard from Main Street to SR-55 in the City of Santa Ana is deficient under the Post-2030 Existing General Plan Buildout scenario and would need to be improved if the current General Plan land uses are built out.

7.4 Post-2030 Existing General Plan Buildout Peak Hour Link Analysis

Peak hour directional traffic volumes were obtained from forecast peak hour turning movement volumes for intersections upstream and downstream for each deficient arterial segment. **Table 7.4** presents the results of peak hour link analysis, indicating that all deficient arterial segments that are deficient under daily conditions operate at an acceptable LOS in both peak hours, performing at LOS D or better, and hence no mitigation measures are recommended at this time for these facilities.

7.8 Post-2030 With Project (MPAH Network)

The Post-2030 With Project (MPAH Network) impact analysis evaluates the proposed IBC Vision With Project scenario with the specific unfunded circulation network improvements identified in the 1992 IBC Rezone EIR. This buildout alternative was prepared to identify whether there were differences in resulting impacts when compared to the IBC Vision Plan network (constrained network) that removed specific unfunded improvements identified in the 1992 IBC Rezone EIR and to help determine if these improvements are necessary under buildout conditions or should be removed from the City's General Plan. The intent of the MPAH alternative buildout scenario analysis is two-fold: 1) to provide a reasonable sensitivity analysis that provides Irvine and adjacent jurisdictions with the information necessary to downgrade or upgrade facilities under General Plan buildout conditions using reasonable and accepted methodologies for impact identification and mitigation such as Irvine's Traffic Impact Analysis Guidelines and adjacent jurisdictions' adopted methodologies; and 2) to begin the County MPAH Amendment process for downgrading MPAH arterials which may require preparation of a Cooperative Study with OCTA, Irvine and affected jurisdictions. The following improvements are included in the MPAH Network:

- Barranca Parkway between Red Hill Avenue and Jamboree Road (widen to a 8-lane divided roadway from a 7-lane divided roadway)
- Jamboree Road between Barranca Parkway and McGaw Avenue (widen to a 10-lane divided roadway from an 8-lane divided roadway)
- Main Street between Red Hill and Harvard (widen to a 6-lane divided arterial with 2 auxiliary lanes from a 6-lane divided roadway)
- MacArthur Boulevard between Fitch and Main Street (widen to a 8-lane divided roadway from a 7-lane divided roadway)
- Red Hill Avenue between Barranca Parkway and Main Street (widen to an 8-lane divided roadway from a 6-lane roadway)
- Alton Avenue between Red Hill Avenue and Jamboree Road (widen from a 6-lane divided roadway from a 4-lane divided roadway)
- Von Karman Avenue between Barranca Parkway and Michelson (widen to 6-lane divided roadway from a 4-lane divided roadway)
- Alton Avenue Overcrossing at the SR-55 freeway with High Occupancy Vehicle (HOV) drop ramps
- Von Karman Avenue at the I-405 freeway HOV drop ramps
- Red Hill Avenue between Edinger Avenue and Barranca Parkway (widen to an 8-lane divided roadway from a 6-lane divided roadway between Edinger and Warner and a 7-lane divided roadway between Warner and Barranca Parkway/Dyer Road)*
- Barranca Parkway/Dyer Road between Pullman and Red Hill Avenue (widen to an 8-lane divided roadway from a 6-lane divided roadway)**

*Located within the City of Tustin

**Located within the City of Santa Ana

7.9 Post-2030 With Project (MPAH Network) Land Use and Trip Generation

The land use setting for Post-2030 With Project (MPAH Network) is identical to that for the Post-2030 With Vision Plan Project. The network circulation assumptions have been adjusted to include the unfunded improvements identified in the 1992 IBC Rezone EIR. The following discussion describes the performance of the circulation system with these MPAH improvements in place.

7.10 Post-2030 With Project (MPAH Network) Daily Arterial Segment Analysis

Post-2030 arterial traffic conditions were analyzed based on the projected volumes and future lane configurations with all unfunded improvements identified in the 1992 IBC Rezone EIR applied. **Table 7.8** presents study area roadway segments, including information on jurisdiction, daily traffic count, classification type, V/C ratio and LOS on each segment. Deficient segments were further analyzed for peak hour performance within the City of Irvine.



Alternative methodologies by other cities within the study area called for a different analysis approach. There are some differences in the daily V/C LOS between the Post-2030 constrained network and MPAH Network scenarios.

There are 20 deficient segments under the Post-2030 With Project (MPAH Network) daily conditions, two segments located within Costa Mesa, 16 of the segments in Irvine, one segment in Newport Beach, and ~~one segment~~ no segments in Tustin. As noted above, LOS E indicates a deficient segment for arterial segments outside Planning Area (PA) 36 within the City of Irvine. PA 36 segments are deficient at LOS F. Deficient segments under the Post-2030 With Project (MPAH Network) conditions include the following:

- 2728—Bristol Street from Anton Boulevard to I-405 Northbound Ramps (Costa Mesa)
- 2751—Bristol Street from I-405 Northbound Ramps to I-405 Southbound Ramps (Costa Mesa)
- 770—Alton Parkway from Daimler Street to Red Hill Avenue (Irvine)
- 879—Campus Drive from Carlson Avenue to University Drive (Irvine)
- 726—Culver Drive from I-5 NB Ramps to I-5 SB Ramps (Irvine)
- 213—Culver Drive from I-5 SB Off-Ramp to Scottsdale Drive (Irvine)
- 214—Culver Drive from Scottsdale Drive to Walnut Avenue (Irvine)
- 219—Culver Drive from Barranca Parkway to Alton Parkway (Irvine)
- 220—Culver Drive from Alton Parkway to Main Street (Irvine)
- 221—Culver Drive from Main Street to San Leandro (Irvine)
- 222—Culver Drive from San Leandro to I-405 NB On-Ramp (Irvine)
- 224—Culver Drive from I-405 SB On-Ramp to Michelson Drive (Irvine)
- 130—Jamboree Road from El Camino Real to I-5 NB On-Ramp (Irvine)
- 958—Jamboree Road from I-5 NB Ramps to I-5 SB Off-Ramp (Irvine)
- 133—Jamboree Road from Michelle Drive to Walnut Avenue (Irvine)
- 148—Jamboree Road from I-405 On-Ramp to Michelson Drive (Irvine)
- 149—Jamboree Road from Michelson Drive to Dupont Drive (Irvine)
- 151—Jamboree Road from Campus Drive to Birch Street (Irvine)
- 1301—MacArthur Boulevard from Bison Avenue to Ford Road (Newport Beach)
- ~~○ 1585—Newport Avenue from Valencia Avenue to Edinger Avenue (Tustin)~~

Two locations become acceptable under daily conditions when the MPAH improvements are applied, #1884, MacArthur between Main Street and SR-55 in the City of Santa Ana, and #44 Edinger Avenue West of Newport Boulevard. The location in Santa Ana has a project related significant impact under the Post-2030 With Project (constrained network) scenario. Arterial improvements within the vicinity of these segments, including the Alton Avenue crossing of SR-55 south of this area, contribute to traffic being diverted in the MPAH network and resulting in an improved LOS. Additionally, segment #770, Alton Parkway between Daimler Street and Red Hill Avenue becomes deficient with the MPAH improvements applied. This segment would likely need to be improved to accommodate additional traffic diversion to the Alton Avenue crossing of SR-55.

Figure 7.10 and **Figure 7.11** display the arterial ADT and LOS for the Post-2030 With Project (MPAH Network) scenario. Deficient segments in the City of Irvine are evaluated under peak hour conditions in the following section. Santa Ana identifies significant project impacts based on the arterial daily LOS; however, there are no segments in the City of Santa Ana that are deficient under the Post-2030 With Project (MPAH Network) scenario.

Table 7.8: Post-2030 With Project (MPAH Network) Daily Arterial LOS

ID	Arterial	Segment Limits	PA 36	Jurisdiction	Post-2030 Arterial Segment Classification	Post-2030 No Project			Post-2030 With Vision Plan Project			Post-2030 Arterial Segment Classification (MPAH Network)	Post-2030 Cumulative With Project (MPAH)		
						Volume	V/C	LOS	Volume	V/C	LOS		Volume	V/C	LOS
2725	Anton Boulevard	Bristol Street to Sunflower Avenue		CM	6D	10,100	0.18	A	10,200	0.18	A	6D	10,200	0.18	A
2721	Baker Street	Bear Street to Bristol Street		CM	6D	29,600	0.53	A	30,100	0.54	A	6D	30,500	0.54	A
2729	Baker Street	Bristol Street to SR 55 SB Ramps		CM	6D	36,300	0.65	B	37,000	0.66	B	6D	37,300	0.67	B
1294	Baker Street	SR 55 SB to SR 55 NB		CM	6D	37,800	0.68	B	38,200	0.68	B	6D	38,400	0.69	B



Table 7.8: Post-2030 With Project (MPAH Network) Daily Arterial LOS

ID	Arterial	Segment Limits	PA 36	Jurisdiction	Post-2030 Arterial Segment Classification	Post-2030 No Project			Post-2030 With Vision Plan Project			Post-2030 Arterial Segment Classification (MPAH Network)	Post-2030 Cumulative With Project (MPAH)		
						Volume	V/C	LOS	Volume	V/C	LOS		Volume	V/C	LOS
1740	El Camino Real	Browning Avenue to Tustin Ranch Road		Tus	4U	9,800	0.39	A	9,900	0.40	A	4U	9,700	0.39	A
1205	El Camino Real	Tustin Ranch Road to Jamboree Road		Tus	4D	15,900	0.42	A	16,000	0.43	A	4D	15,800	0.42	A
672	Irvine Center Drive (Edinger)	Tustin Ranch Road to Jamboree Road		Tus	6D	27,600	0.49	A	28,200	0.50	A	6D	27,200	0.48	A
674	Irvine Center Drive	Jamboree Road to Harvard Avenue		Tus	6D	18,500	0.33	A	18,800	0.33	A	6D	18,500	0.33	A
2777	Mitchell Avenue	Newport Avenue to Red Hill Avenue		Tus	2U	8,200	0.66	B	8,000	0.64	B	2U	7,900	0.63	B
2775	Mitchell Avenue	Red Hill Avenue to Browning Avenue		Tus	2U	5,800	0.46	A	5,700	0.46	A	2U	5,800	0.46	A
6	Newport Avenue	El Camino Real to I-5		Tus	6D	37,000	0.66	B	37,500	0.67	B	6D	37,400	0.66	B
7	Newport Avenue	I-5 to Mitchell Avenue		Tus	6D	40,100	0.71	C	40,600	0.72	C	6D	40,400	0.72	C
48	Newport Avenue	Mitchell Avenue to McFadden Avenue		Tus	6D	39,100	0.69	B	39,900	0.71	C	6D	39,600	0.70	B
49	Newport Avenue	North of Sycamore Avenue		Tus	6D	22,800	0.40	A	23,400	0.42	A	6D	23,100	0.41	A
1585	Newport Avenue	Valencia Avenue to Edinger Avenue		Tus	~~6D4U~~	34,600	~~0.61~~ ~~0.38~~	~~FB~~	35,300	~~0.44~~ ~~0.63~~	~~FB~~	~~6D4U~~	34,700	~~0.39~~ ~~0.62~~	~~FB~~
1351	Nisson Road	Newport Avenue to Red Hill Avenue		Tus	2U	6,000	0.48	A	6,000	0.48	A	2U	5,900	0.47	A
939	Nisson Road	Red Hill Avenue to Browning Avenue		Tus	2U	5,200	0.42	A	5,200	0.42	A	2U	5,100	0.41	A
1355	Red Hill Avenue	I-5 NB Ramps to El Camino Real		Tus	6D	43,200	0.77	C	43,200	0.77	C	6D	43,200	0.77	C
1354	Red Hill Avenue	I-5 SB Ramps to I-5 NB Ramps		Tus	6D	39,000	0.69	B	39,000	0.69	B	6D	39,000	0.69	B
21	Red Hill Avenue	Nisson Road to I-5 SB		Tus	6D	38,200	0.68	B	38,200	0.68	B	6D	38,200	0.68	B
1353	Red Hill Avenue	Nisson Road to Mitchell Avenue		Tus	6D	26,700	0.47	A	26,700	0.47	A	6D	26,700	0.47	A
22	Red Hill Avenue	Mitchell Avenue to Walnut Avenue		Tus	6D	26,000	0.46	A	26,500	0.47	A	6D	26,600	0.47	A
23	Red Hill Avenue	Walnut Avenue to Sycamore Avenue		Tus	6D	27,500	0.49	A	27,500	0.49	A	6D	27,500	0.49	A
24	Red Hill Avenue	Sycamore Avenue to Edinger Avenue		Tus	6D	30,000	0.53	A	30,000	0.53	A	6D	30,000	0.53	A
25	Red Hill Avenue	Edinger Avenue to Valencia Avenue		Tus	6D	28,300	0.50	A	29,000	0.52	A	8D	30,800	0.41	A
26	Red Hill Avenue	Valencia Avenue to Warner Avenue		Tus	6D	31,600	0.56	A	33,400	0.59	A	8D	35,900	0.48	A
30	Red Hill Avenue	Warner Avenue to Barranca Parkway/Dyer		Tus	7D	31,800	0.48	A	34,400	0.52	A	8D	36,200	0.48	A
1363	Sycamore Avenue	SR-55 NB to Newport Avenue		Tus	4U	7,400	0.30	A	7,500	0.30	A	4U	7,300	0.29	A
1920	Sycamore Avenue	Newport Avenue to Red Hill Avenue		Tus	4U	8,400	0.34	A	8,500	0.34	A	4U	8,200	0.33	A
85	Tustin Ranch Road	North of I-5		Tus	6D	38,500	0.68	B	38,300	0.68	B	6D	38,300	0.68	B
86	Tustin Ranch Road	I-5 to Walnut Avenue		Tus	6D	36,600	0.65	B	36,900	0.66	B	6D	36,700	0.65	B
2173	Valencia Avenue	Newport Avenue to Red Hill Avenue		Tus	4U	15,900	0.64	B	16,500	0.66	B	4U	15,600	0.62	B
587	Walnut Avenue	East of Newport Avenue		Tus	4U	20,800	0.83	D	21,000	0.84	D	4U	20,400	0.82	D
589	Walnut Avenue	East of Red Hill Avenue		Tus	4D	17,400	0.46	A	17,500	0.47	A	4D	17,300	0.46	A
590	Walnut Avenue	West of Tustin Ranch Road		Tus	4D	22,500	0.60	A	22,700	0.61	B	4D	22,400	0.60	A
1366	Walnut Avenue	Franklin Avenue to Myford Road		Tus	4D	21,000	0.56	A	21,200	0.57	A	4D	20,800	0.55	A
1478	Warner Avenue	SR-55 to Red Hill Avenue		Tus	6D	34,300	0.61	B	35,900	0.64	B	6D	31,100	0.55	A

8.0 Conclusions

The IBC Vision Plan Traffic Study's main objective is to identify traffic impacts associated with the shifts in land use to accommodate additional residential units and supporting uses through the reduction of over two million square feet of office equivalency space within the IBC. The General Plan Amendment and Zoning Code to establish a cap of 15,000 dwelling units within the IBC area (excluding density bonus units) will redistribute trips within the IBC but may potentially contribute to traffic growth throughout the IBC. The intention of the IBC Vision Plan is to optimize land uses within existing IBC vehicle trip allocations.

To assess the impact of the land use changes from the implementation of the General Plan Amendment (GPA) for the IBC Vision Plan, a total of 8 alternatives were analyzed:

- Existing Conditions
 - Current ground counts
 - With Proposed Project
- 2015 Scenarios
 - Cumulative
 - Baseline Without Proposed Project (existing land uses on the ground within the IBC area)
 - With Proposed Project
- Post-2030 Scenarios
 - Cumulative
 - Baseline Without Proposed Project (existing land uses on the ground within the IBC area)
 - With Proposed Project
 - Existing General Plan Buildout Alternative
 - With Proposed Project (MPAH Network) Alternative

The Existing Conditions With Proposed Project assessment is a requirement under the California Environmental Quality Act (CEQA).

8.1 Project Related Traffic Impacts

Roadway System Deficiencies

Individual arterial segments that operate at a deficient LOS under daily conditions within the City of Irvine are candidates for peak hour analysis to determine performance during the AM and PM peak hour. The peak hour analysis conducted for each of the forecast future scenarios revealed no arterial segments operating at a deficient level in either peak hour within the City of Irvine. Hence, no further analysis or mitigation is required. For arterial segments within the Cities of Newport Beach, Costa Mesa, and Tustin, daily arterial segment LOS analysis is valuable for long-range planning purposes but the Cities do not assess segment deficiencies under daily conditions. Deficiencies are assessed at intersections at either end of the arterial segment. Intersection deficiencies for the IBC Vision have been assessed and conclusions discussed in the next section. Hence, there are no deficiencies or project related impacts expected in future forecast scenarios for arterial segments within Newport Beach, Costa Mesa, and Tustin. For the City of Santa Ana, daily arterial volume-to-capacity ratio (V/C) analysis is used to assess deficiencies in the arterial network. An increase of 0.01 or more of the daily V/C ratio constitutes a project impact when compared with the no project conditions.

For arterial segments within the City of Santa Ana, daily arterial LOS analysis showed that the segment of MacArthur Boulevard, from Main Street to SR-55 has a significant project related impact under the Post-2030 future forecast scenario and will require mitigation.

MacArthur Boulevard between Main Street and SR-55 cannot be mitigated to below a level of significance without changing the MPAH road classification from a Major Arterial (six-lanes) to a Principal Arterial (eight-lanes). MacArthur Boulevard between Main Street and SR-55 cannot be mitigated to below a level of significance without upgrading the segment from a Major Arterial (six-lanes) to a Principal Arterial (eight-lanes). The classification would not need to be upgraded in the MPAH, as the MPAH designations represent a minimum standard which



jurisdictions, such as Irvine or Santa Ana, may build upon. Reclassification would provide one additional lane in each direction and potentially would require an amendment to the City of Santa Ana General Plan. This forecast deficiency constitutes a project related significant impact according to the City of Santa Ana's performance criteria. The City of Irvine is responsible for a fair-share for this improvement for the Post-2030 future scenario.

Intersection Deficiencies

Analysis of the intersections was conducted for all intersections within the defined IBC Vision study area, with additional intersections added to the previously analyzed 1992 IBC Vision Plan study area at the request of adjacent jurisdictions. For each jurisdiction, the established and published criteria for evaluating significant impacts have been employed in this study. Project impacts are identified for the study area using the methodology for each respective jurisdiction.

For intersections with a project related significant impact, the Project would be responsible for its fair-share to improve the intersection back to an acceptable LOS (or existing conditions if the intersection is currently deficient). Cumulative deficiencies (where the intersection is deficient under future conditions with no project related impact) are also evaluated but the project is not responsible for a fair-share of the cost of the improvement. This information is presented in Table 8.1.

Table 8.1: Intersection/Arterial Segment Project Impacts/Cumulative Deficiencies

ID	Intersection	Jurisdiction	IBC Vision With Project (2015)		IBC Vision With Project (P-2030)		Fair-share		
			Cumulative Deficiency	Project Impact	Cumulative Deficiency	Project Impact	2015 With Project	Post-2030 With Project	Expected Share (Vision Plan)
10	SR-55 Frontage Road SB Ramps at Paularino	CM			X				No Share
12	SR-55 SB Frontage Road at Baker Street	CM				X		8.0%	8.0%
13	SR-55 NB Frontage Road at Baker Street	CM				X		8.7%	8.7%
62	Campus Drive at Bristol Street NB	NB		X		X	29.8%	30.2%	30.2%
85	MacArthur Boulevard at Birch Street	NB				X		19.6%	19.6%
543	Bristol Street at Segerstrom Avenue	SA				X		12.7%	12.7%
723	Main Street at Dyer Road (Segerstrom Avenue)	SA				X		21.0%	21.0%
730	Grand Avenue at Warner Avenue	SA				X		15.8%	15.8%
3	Newport Avenue at Edinger Avenue	Tus			X				No Share
24	Newport Avenue at Walnut Avenue	Tus				X		6.3%	6.3%
36	Red Hill Avenue at El Camino Real	Tus	X						No Share
93	Tustin Ranch Road at El Camino Real	Tus		X		X	2.1%	0.1%	2.1%
111	Franklin Avenue at Walnut Avenue	Tus	X		X				No Share
134	Loop Road/Park Avenue at Warner Avenue	Tus		X		X	2.5%	11.6%	11.6%
732	SR-55 NB Ramps/Del Amo Avenue at Newport Avenue	Tus	X			X			No Share
754	Red Hill Avenue at Carnegie Avenue/A Street	Tus				X		7.3%	7.3%

Table 8.1: Intersection/Arterial Segment Project Impacts/Cumulative Deficiencies

ID	Intersection	Jurisdiction	IBC Vision With Project (2015)		IBC Vision With Project (P-2030)		Fair-share		
			Cumulative Deficiency	Project Impact	Cumulative Deficiency	Project Impact	2015 With Project	Post-2030 With Project	Expected Share (Vision Plan)
136	Jamboree Road at Barranca Avenue	Irv				X		100.0%	100.0%
141	Jamboree Road at Main Street	Irv				X		100.0%	100.0%
145	Jamboree Road at Michelson Drive	Irv		X		X	100.0%	100.0%	100.0%
188	Harvard Avenue at Michelson Drive	Irv			X			100.0%	100.0%
232	Culver Drive at I-405 NB Ramps	Irv				X		100.0%	100.0%
ID	Arterial Segment	Jurisdiction	IBC Vision With Project (2015)		IBC Vision With Project (P-2030)		Fair-share		
			Cumulative Deficiency	Project Impact	Cumulative Deficiency	Project Impact	2015 With Project	Post-2030 With Project	Expected Share (Vision Plan)
1884	MacArthur between Main Street and SR-55 SB	SA				X		31.1%	31.1%

Mitigation for all impacted intersections were proposed based on consideration of feasibility through visual inspection of aerial photography, previously recommended improvements, and ease of implementation. Although every effort was made to determine feasibility there may be some improvements that require further analysis to adequately assess operational feasibility.

During the Draft Environmental Impact Report (DEIR) review process, it was discovered that there were some minor discrepancies in the TDR assumptions for certain sites. An analysis was conducted to identify if the TDR discrepancy would affect the results of the traffic study. The total increase in AM volumes is approximately 50 trips which is less than 1/4 of 1% of the total overall AM trips, while the PM peak period was unaffected. Although three locations (Red Hill & Warner, Culver & Bryan, and Flower & Segerstrom) were close to becoming deficient if all 50 AM trips were added to each intersection, there is no realistic likelihood of this occurring. In the professional judgement of the City of Irvine's transportation staff and traffic consultant, all 50 of the additional trips would not pass through the above locations. Rather, those trips would likely be distributed evenly throughout the study area. Based on this analysis, no changes to the impact locations, mitigations or conclusions will result.

8.2 Freeway/Tollway Mainline and Ramp Improvements

The significant impact threshold methodology used to identify significant impacts on Caltrans facilities has demonstrated a number of freeway mainline and ramp project related significant impacts. Since the City has no jurisdiction to implement the improvements on the Caltrans facilities and the required improvements are largely the result of background regional traffic, coordination between the City of Irvine and Caltrans is necessary to reach consensus on potential operational improvement measures. Any improvements identified would require a statement of overriding considerations. Irvine is committed to coordinating with Caltrans in the development of alternative feasible improvements such as Intelligent Transportation Strategies (ITS) that reduce congestion and improve operations on freeway mainlines and ramps.

8.3 Alternative Buildout Scenarios

The analysis comparing the buildout of the IBC Vision Plan against the buildout of the Existing General Plan shows that the proposed Vision Plan improves the circulation system in the study area. There are several intersections that operate at an acceptable LOS with the Vision Plan that become deficient when the buildout of the City's Existing General Plan is analyzed. Similar results are revealed when applied to arterial segments. There are, however, some freeway segments and ramps that deteriorate slightly when comparing the buildout of the proposed Vision Plan to



the buildout the Existing General Plan. This is likely the result of otherwise regional trips staying within the study area as jobs and housing become more balanced within the IBC leading to trips being captured within the IBC.

When comparing the impacts that results from the analysis of the IBC Vision Plan network (with specific unfunded 1992 IBC Rezone EIR improvements removed from the network) versus the MPAH network (with specific unfunded 1992 IBC Rezone EIR improvements assumed in the circulation network) there are some ~~interesting~~ differences. Although there are some additional localized improvements as a result of the MPAH buildout, there are also additional deficiencies as a result of greater traffic volumes being directed to already congested locations. There are several intersections that become deficient under the MPAH network scenario as a result of increased arterial segment traffic volumes. When the arterial segments are upgraded, more traffic is forecast to use the wider facilities which may impact the facility intersections. The buildout of the MPAH network is costly and does not contribute substantial benefits to the network. It is recommended that certain elements of the MPAH network be removed from the General Plan and the following facilities downgraded as they are unnecessary improvements based on the expected buildout of the IBC Vision Plan. The ancillary intersection improvements will not be necessary as a result. The freeway facility deficiencies are similar between the constrained Vision Plan network and the MPAH network. There are ~~slight-negligible~~ differences in overall volumes on most freeway segments and ramps and a few locations where the V/C and LOS deteriorates and a few locations where it improves. ~~The difference is negligible.~~ Following the certification of the IBC Vision Plan EIR, the City of Irvine is expected to move forward with a General Plan amendment process to downgrade the facilities discussed in the next section.

8.4 MPAH and General Plan Amendment

The City of Irvine General Plan Circulation Element identifies certain roadway configurations that are no longer needed as determined in the IBC Vision Plan; therefore a General Plan Amendment subsequent to the approval of the IBC Vision EIR will downgrade arterial roadways as needed. The City of Irvine intends to downgrade the following arterial segments as a General Plan Amendment to the Circulation Element:

- Barranca Parkway between Red Hill Avenue and Jamboree Road (downgrade from 8-lane divided roadway to 7-lane divided roadway)
- Jamboree Road between Barranca Parkway and McGaw Avenue (downgrade from a 10-lane divided roadway to a 8-lane divided roadway)
- Main Street between Red Hill and Harvard (downgrade from 6-lane divided arterial with 2 auxiliary lanes to 6-lane divided roadway)
- MacArthur Boulevard between Fitch and Main Street (downgrade from 8-lane divided roadway to 7-lane divided roadway)
- Red Hill Avenue between Barranca Parkway and Main Street (downgrade from an 8-lane divided roadway to a 6-lane roadway)
- Alton Avenue between Red Hill Avenue and Jamboree Road (downgrade from a 6-lane divided roadway to 4-lane divided roadway)*
- Von Karman Avenue between Barranca Parkway and Michelson (downgrade from 6-lane roadway to 4-lane roadway)*

The arterial segment of Alton Parkway between Red Hill Avenue and Jamboree Road as well as the segment of Von Karman Avenue between Barranca Parkway and Michelson Drive as identified with an asterisk in the list above, are programmed into both the City of Irvine's General Plan and the Orange County Master Plan of Arterial Highways (MPAH). Both roadways are currently 4-lane roadways and expected to remain as 4-lane roadways in the future. Both the City's General Plan and the Orange County MPAH currently have these two segments programmed as 6-lane divided arterials in the buildout condition. The IBC Vision Plan traffic study has determined that 6 lanes are unnecessary for both of these roadway segments under buildout conditions. Thus, the City of Irvine will initiate an MPAH Amendment by entering into a cooperative study with the Orange County Transportation Authority (OCTA) to determine the feasibility of downgrading both Alton Parkway and Von Karman Avenue. Once this study is complete, in order for the City of Irvine to maintain eligibility for Measure M funding, prior to amending the City's General Plan to downgrade both Alton Parkway between Red Hill Avenue and Jamboree Road and Von Karman Avenue between Barranca Parkway and Michelson Drive, the City and OCTA will work to prepare amendments to the County MPAH to be approved by the OCTA Board of Directors. Following approval of the MPAH amendment by the OCTA Board, the City can move forward with downgrading the arterial segmentsboth agencies can move



~~forward with amendments to the General Plan and MPAH to downgrade both Alton Parkway between Red Hill Avenue and Jamboree Road as well as Von Karman Avenue between Barranca Parkway and Michelson Drive.~~

Additionally, the City of Irvine intends to remove the following interchange improvements:

- Alton Avenue Overcrossing at the SR-55 freeway with High Occupancy Vehicle (HOV) drop ramps
- Von Karman Avenue at the I-405 freeway HOV drop ramps

These interchange improvements are programmed in the Orange County MPAH as buildout improvements. However, the IBC Vision Plan traffic study has determined that these interchanges are unnecessary under build-out conditions. The City of Irvine will initiate an MPAH Amendment by entering into a cooperative study with OCTA and the affected local agencies to determine the feasibility of removing these interchange improvements from the MPAH.

Figure 1.2: IBC Study Area Traffic Analysis Zones (TAZ)

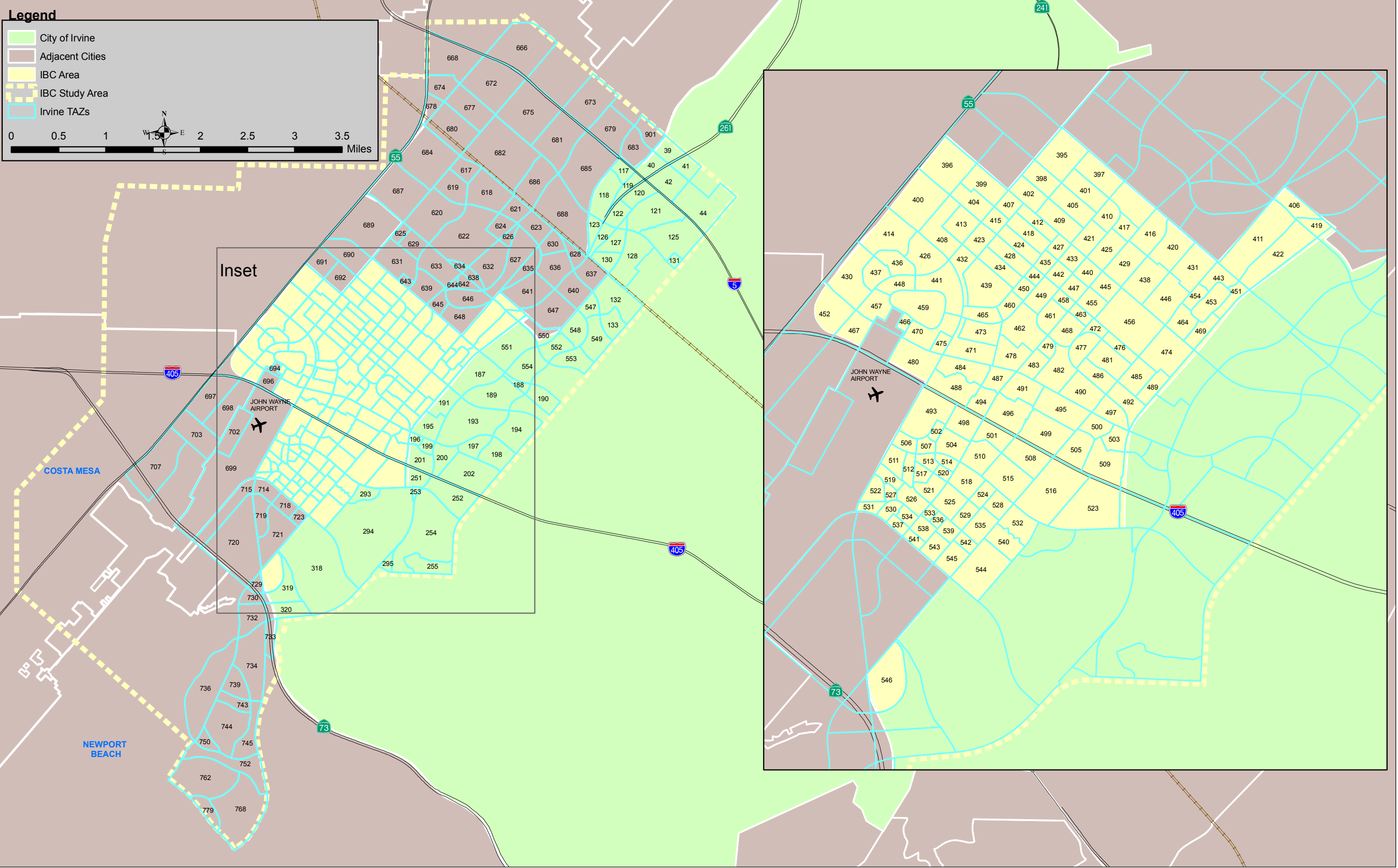


Figure 4.2: 2015 Cumulative Baseline No Project Arterial Daily Deficiencies

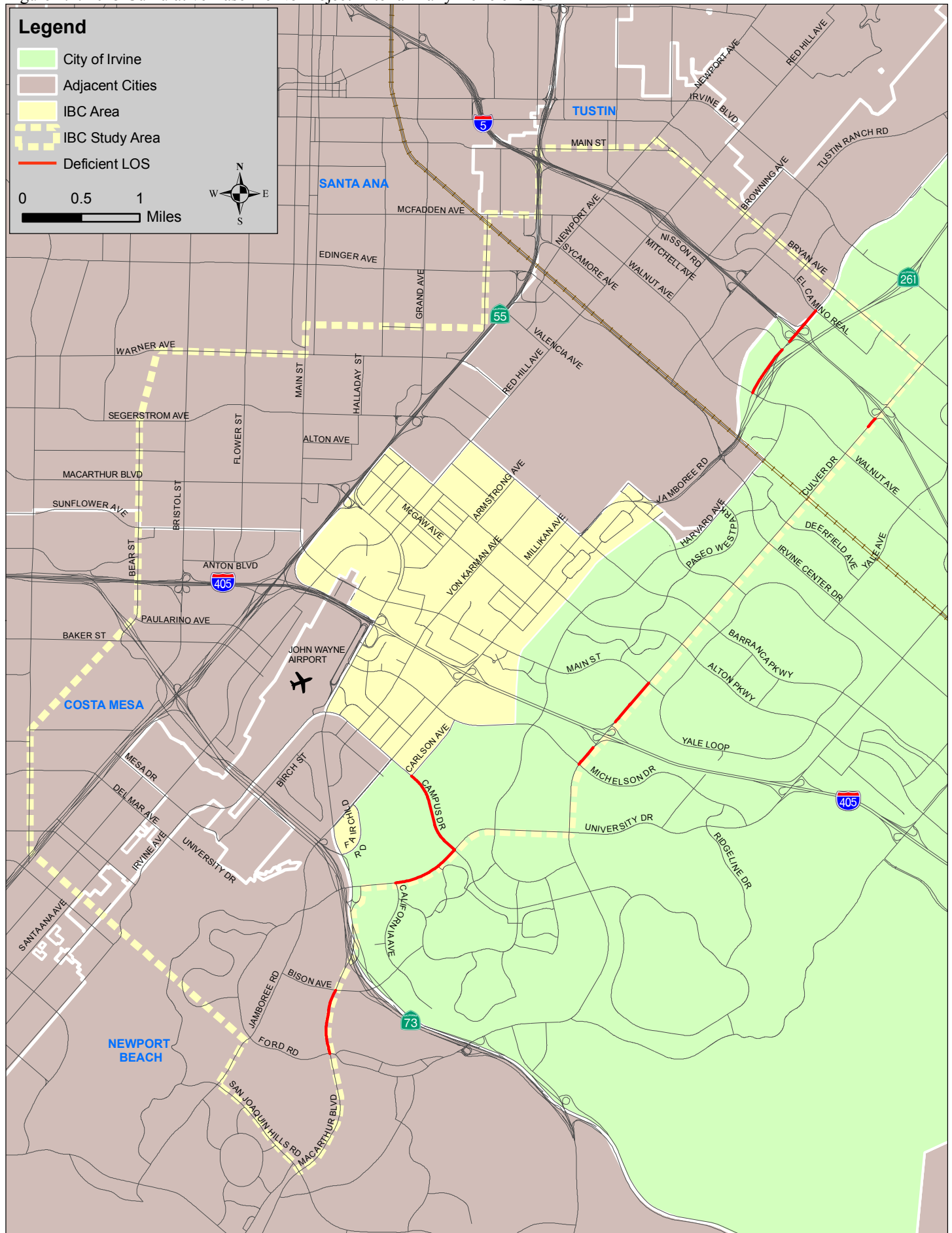


Figure 4.11: 2015 Cumulative With Project Daily Arterial Deficiencies

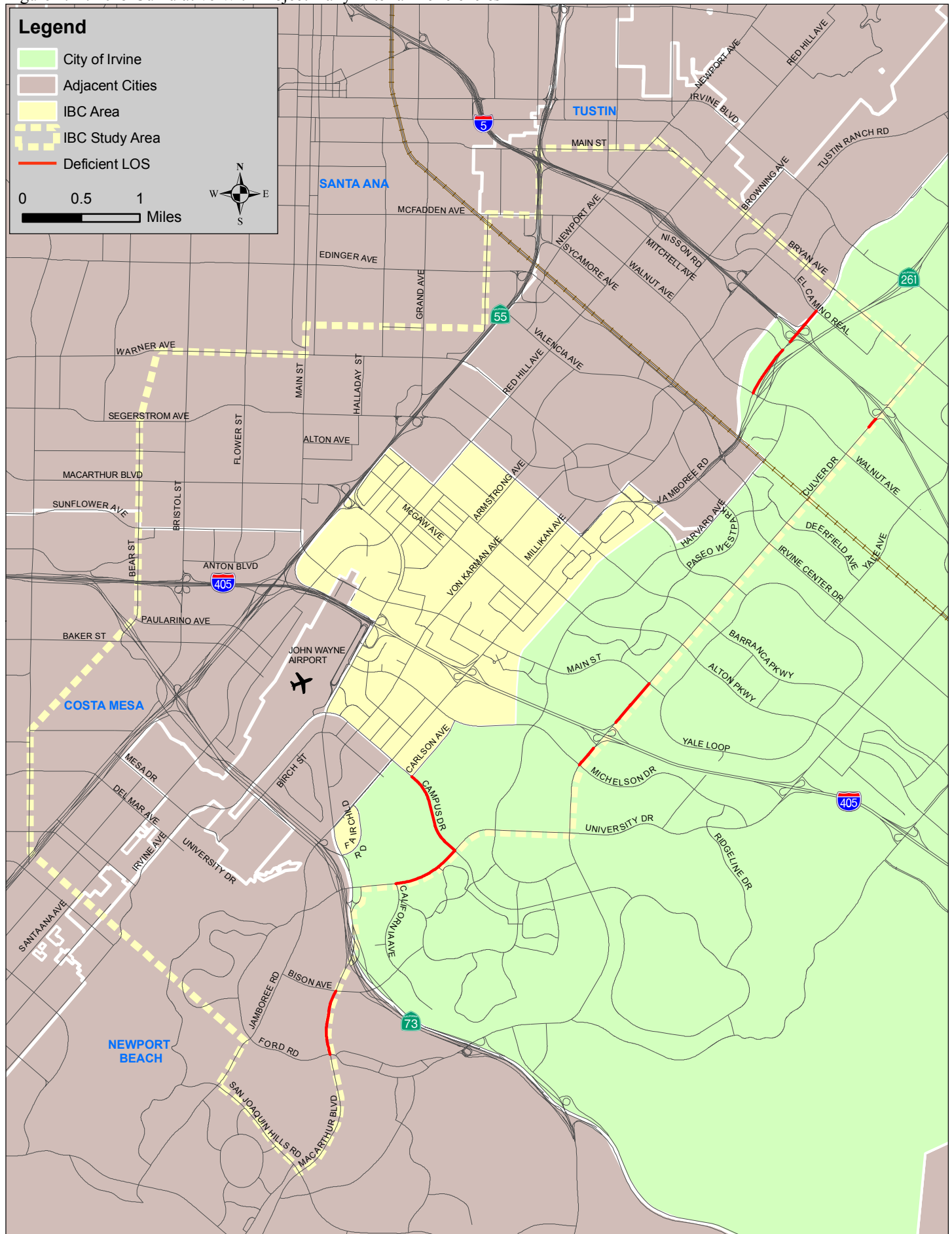


Figure 5.2: Post-2030 Cumulative Baseline No Project Daily Arterial Deficiencies

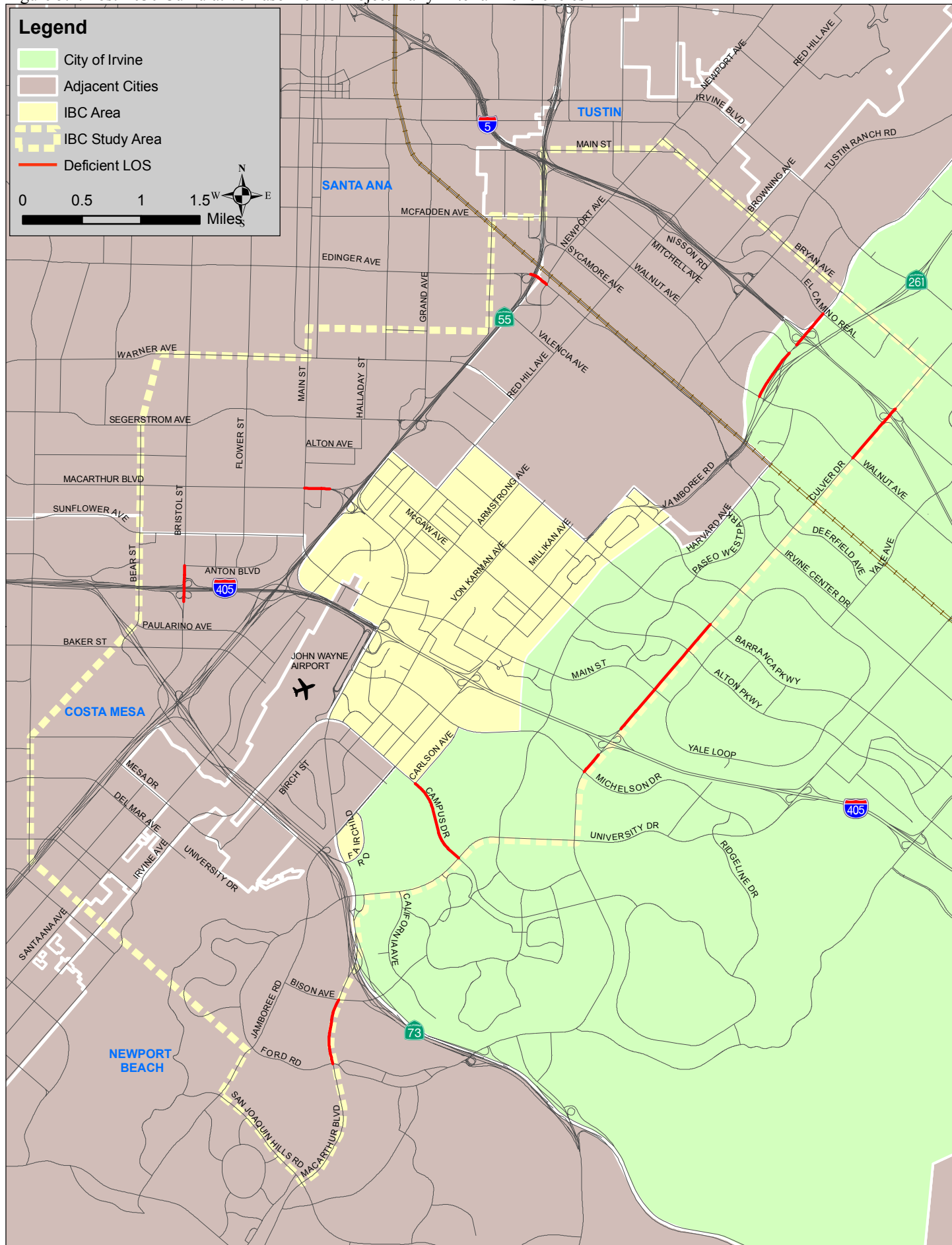
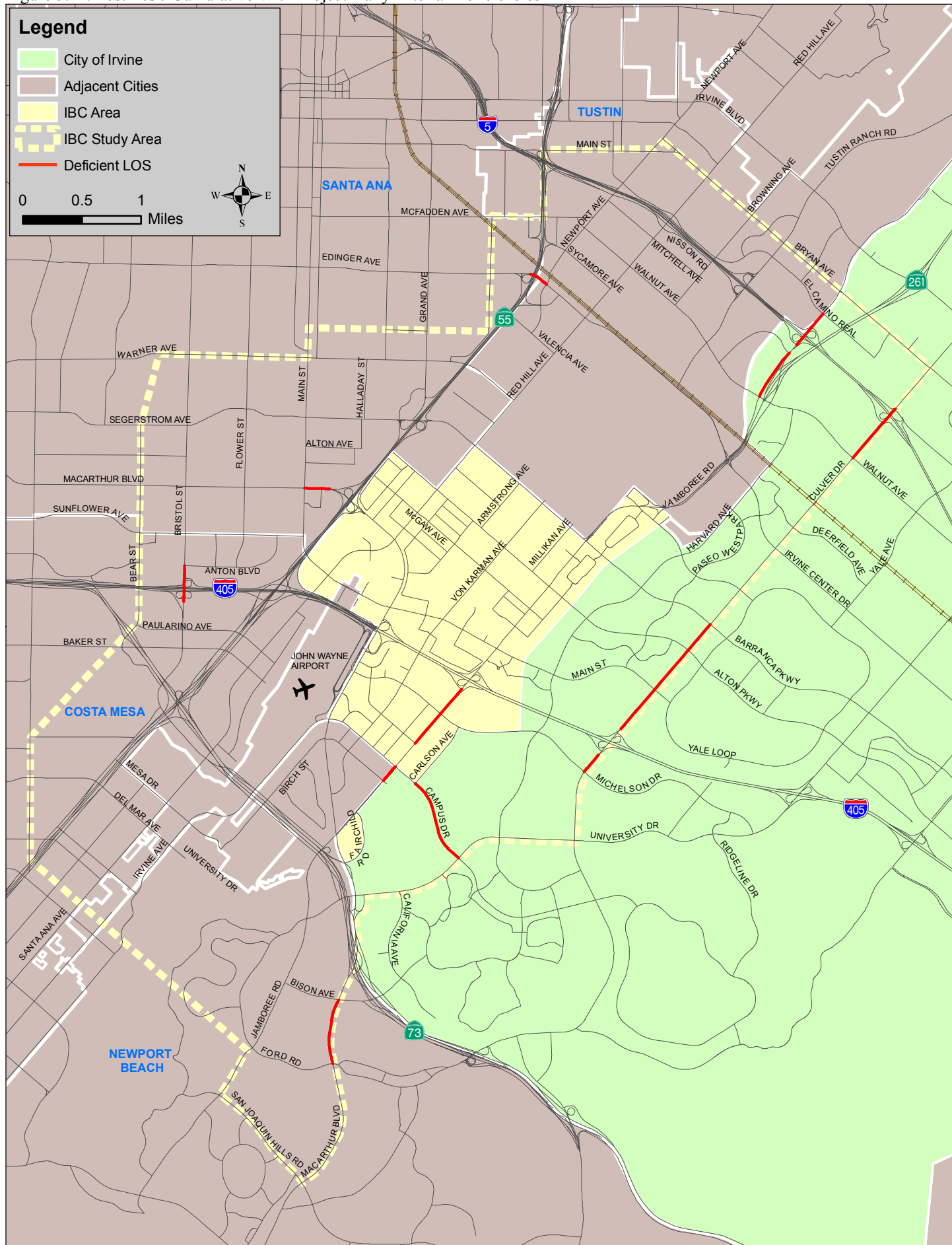


Figure 5.11: Post-2030 Cumulative With Project Daily Arterial Deficiencies



Legend

- Intersection Mitigation Location
- Arterial Mitigation Location
- Major Roadways
- IBC Area
- IBC Study Area
- Railroad
- City of Irvine
- Adjacent Cities

0 0.5 1 Miles

Santa Ana

Tustin

Costa Mesa

Newport Beach

John Wayne Airport

Improvements:

- Add Defacto NBR
- Add defacto WBR turn lane
- Add 4th SBT
- Restripe EB to 1.0.5 1.5
- Convert SBR to Free Right turn lane
- Reconfigure SB to 1.5,2.5,0
- Reconfigure SB to 1,1.5,1.5
- Add 3rd WBT
- Add 4th NBT lane
- Add 3rd EBT
- Convert free NBR standard right-turn
- Add 5th NBT
- Restripe WB to 1,0,2
- Add 2nd SBL
- Add 3rd EBL
- Add 3rd SBL
- Add WBT
- Improve EB to 2 EBL & 2 EBT
- Add 3rd SBR (2015—apply Newport Beach GP buildout improvement of a 5th WBT)
- Upgrade to 8-lane Divided Facility
- Add 3rd NBT
- Add defacto NBR
- Add 3rd WBT
- Improve NB and SB to 2.5 1
- Change WB free right to WBR turn lane
- Improve SB to 1.5, 1.0.5
- Improve SB to 1.5, 1.5, 1
- Restripe EB to 0, 2.5, 0.5
- Restripe EB to 1.3 0
- Add defacto NBR

Note: Cumulative deficiencies also shown. Improvements not subject to Fair-Share

Figure 7.5: Post-2030 Existing General Plan Buildout Daily Arterial Deficiencies

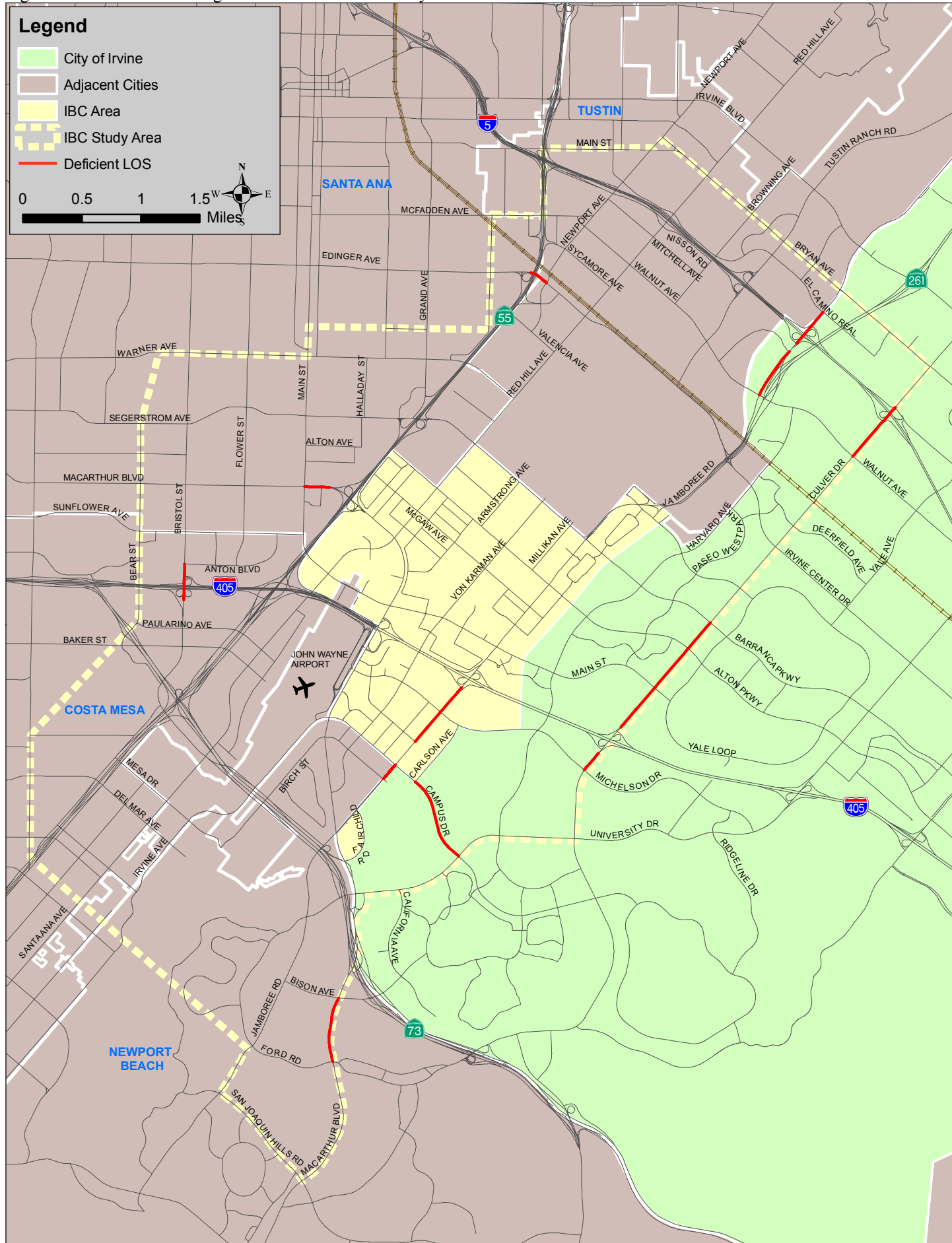
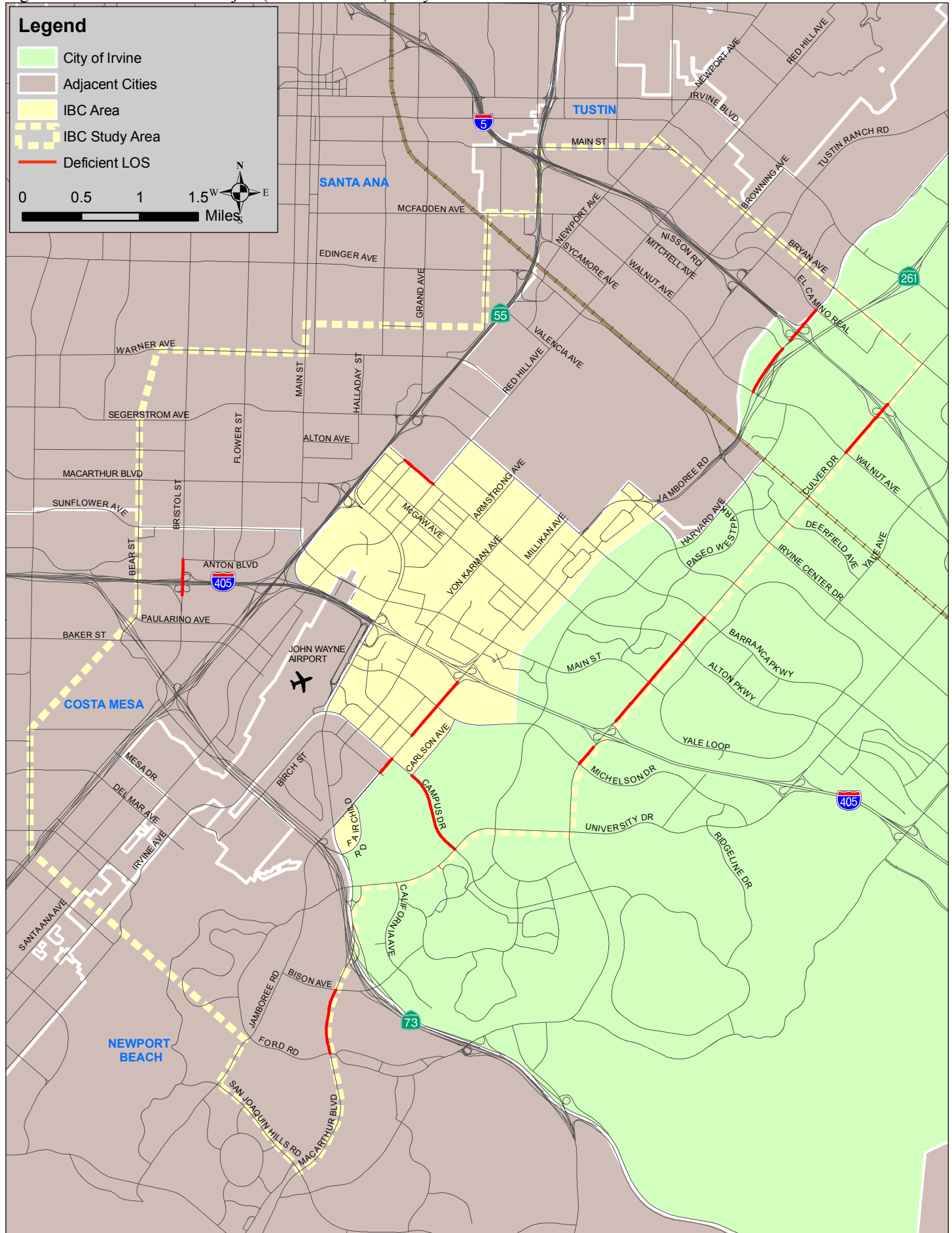


Figure 7.11: Post-2030 With Project (MPAH Network) Daily Arterial Deficiencies





Appendix F-2

ICU Worksheets for Post-2030 Cumulative Baseline With Project Mitigation Strategies

232 . Culver Dr. at I-405 NB Ramps

P2030 Constraint With Project (IRVINE ISEC)						
Restripe WB to 1. 0. 2						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	0	0	0		0	
NBT	3	5100	849	.17	2175	.43*
NBR	f		560		400	
SBL	0	0	0		0	
SBT	3	5100	1340	.26*	1291	.25
SBR	f		930		690	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1	1700	850	.50*	469	.28*
WBT	0	0	0		0	
WBR	2	3400	521	.15	805	.24
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.81		.76



Appendix G Improvement Strategies

IBC Vision Plan Intersection Lane Configurations and Improvement Strategies

[illegible]