REQUEST FOR CITY COUNCIL ACTION

MEETING DATE: SEPTEMBER 12, 2017

TITLE: IRVINE BUSINESS COMPLEX TRANSPORTATION MITIGATION FEE PROGRAM UPDATE

Interim Director of Community Development

City Manager

RECOMMENDED ACTION

1) Receive staff report.
2) Reopen the public hearing, receive public input.
3) Close the public hearing.
4) City Council comments and questions.
5) Adopt — A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF IRVINE, CALIFORNIA, ADOPTING THE UPDATED IRVINE BUSINESS COMPLEX (PA 36) TRANSPORTATION MITIGATION PROGRAM, INCLUDING AN UPDATE TO THE TRAFFIC IMPROVEMENT FEE PROGRAM FOR THE IRVINE BUSINESS COMPLEX, PURSUANT TO SECTION 9-36-14 OF THE ZONING ORDINANCE AND A MINOR MODIFICATION TO MITIGATION MEASURE 13-1 IN THE MITIGATION MONITORING AND REPORTING PROGRAM FOR THE 2010 IBC VISION PLAN ENVIRONMENTAL IMPACT REPORT

EXECUTIVE SUMMARY

The Irvine Business Complex (IBC) Transportation Mitigation Fee Program has been in place since 1992 and ensures development in the IBC pays its fair-share toward mitigation of transportation impacts generated by development. The 2015 IBC Vision Plan Traffic Study Update ("2015 Traffic Study Update") identified specific improvements necessary to mitigate traffic impacts resulting from development of the IBC. To determine the appropriate fee structure necessary to support the 2015 Traffic Study Update, a nexus study ("2015 Nexus Study Update") has been prepared pursuant to state law (AB 1600, State Mitigation Fee Act).

The IBC Transportation Mitigation Fee is applicable to both non-residential and residential development, and is collected upon issuance of building permits. The Fee Program is the City's only opportunity to collect funds from new development to finance required transportation mitigation as a result of said development. These mitigations are assumed to be in place and factored into all development project traffic studies in the IBC. Without this funding source, the required mitigation measures resulting from development will need to be funded from other City resources, ultimately residents and

taxpayers. The City Council considered this item on June 27, 2017, and continued it to allow for Transportation Commission review.

Since the the IBC Transportation Mitigation Fee Program was implemented in 1992, mitigation fees have funded many of the circulation improvements in the IBC. IBC roadway improvements completed since the original 1992 Fee Program are outlined in Attachment 5.

Since 2010, $8 million from this Fee Program has been allocated towards the construction of the pedestrian bridge over Jamboree Road at Michelson Drive. More than $19 million has been allocated towards the implementation of improvements at the intersections of Jamboree Road at Barranca Parkway and Jamboree Road at Main Street. Both of these intersection improvement projects are substantially complete with the final design phase and ready for construction upon completion of the project right-of-way phase.

Development in the IBC has been evaluated with the assumption that the Fee Program is in place and the required improvement projects are completed for the residents, visitors, and commuters that use the IBC. If the identified projects are not completed, the City will need to evaluate appropriate redress for the fees that have already been paid and revisit the negotiated agreements with the cities of Santa Ana, Costa Mesa and Caltrans District 12.

IBC Transportation Mitigation Program administration fees are included in the fee update calculation. Five percent of the program total has been identified for program administration to cover additional consulting fees (for updates to traffic and fee studies), inter-agency coordination, development monitoring and City Attorney services. Ten percent of the improvement costs have been allocated to address Transportation Management System enhancements. This includes trip generation surveys, ride-matching services, van-pooling and funding for the *i*Shuttle, among other services. A contingency cost of fifteen percent has also been included. This is an industry-standard percentage that covers unforeseen planning, alignment or project changes not included in the baseline cost estimates.

The complexity of the IBC projects, many of which require right-of-way acquisition and agreements with external agencies, dictates the timing of design and construction. An adequate fee program, containing sufficient readily available funding, supports flexibility toward implementing traffic mitigation projects, which are dependent upon the unknown timing of future development. These projects are programmed into the City's capital improvement budget with the annual update to the Strategic Business Plan to ensure that improvements are keeping pace with development approvals.

Staff recommends the City Council adopt the updated IBC Transportation Mitigation Fee Program, including the updated IBC Transportation Mitigation Fees.

ANALYSIS

Traffic improvements needed to mitigate transportation impacts from build-out of land uses in the IBC were identified in the certified IBC Vision Plan Environmental Impact Report (EIR) in 2010. Zoning Ordinance Section 9-36-14, which was adopted as a component of the IBC Vision Plan, required that the transportation impacts and mitigation measures be re-evaluated every five years. The first five-year traffic study update was completed in 2015. On November 15, 2015, the City Council amended the timing of the updates from five years to two by a 4-1 vote (Councilmembers Choi, Lalloway, Schott and Shea in favor; Councilmember Krom opposed).

The IBC Nexus Study Update is consistent with the principles and commitments of the IBC Vision Plan and maintains a consistent nexus between future development in the IBC and the transportation system improvements necessary to mitigate the traffic impacts from that development. The objective of this study is to update development fees to financially support the implementation of identified mitigation improvements to the transportation system within and adjacent to the IBC in order to accommodate full buildout of the IBC Vision Plan. The fee will be updated every two years, consistent with the updated traffic study. During interim years, the fee will be updated based on the CCI, as stipulated in Section 9-36-14 of the Zoning Ordinance.

Table 1 (below) summarizes the costs included in the IBC Nexus Study Update. These costs are based on a combination of 1) detailed cost estimates for specific fair-share improvements identified in the 2015 Traffic Study Update (Attachment 1); 2) obligations to fund specific improvements within adjacent jurisdictions determined necessary to mitigate the impacts of the buildout of the IBC; and, 3) a continuing obligation to fund certain improvements identified in a prior fee program for the IBC adopted in 1992. Additionally, the costs include specific tasks required to implement and maintain the fee program consistent with the requirements of the IBC Vision Plan Element of the General Plan and requirements of the Zoning Ordinance. The proposed IBC Transportation Mitigation Fee program update assumes that development fees will fund up to 90 percent of identified improvement costs. Per City practice, it is assumed that the remaining 10 percent of the project costs will be covered by outside funding sources including federal, state and county programs.

Table 1: 2015 Updated IBC Vision Plan Traffic Fee Program Breakdown		
Needs for IBC Vision Plan Traffic Improvements		
Improvement Costs		
Based on 2015 IBC Traffic Study Update		
Irvine (90% of estimate assumed)	*$18,006,327*	
*Caltrans District 12**	*$6,585,299*	
2015 IBC Traffic Study Update Improvements	**$24,591,626**	**$24,591,626**
Remaining Existing General Plan Improvements		
Irvine (90% of estimate assumed)	*$16,577,451*	
Improvements in Santa Ana	*$52,670,912*	
Improvements in Costa Mesa	*$28,970*	
2015 Update - Remaining Existing General Plan Improvements	**$69,227,334**	**$69,227,334**
Subtotal: 2015 Update IBC Vision Plan Improvement Cost		**$93,868,960**
Existing IBC Traffic Funds Available		
*Current IBC Traffic Fund Balance***	*$46,838,863*	
*Capital Improvement Program funds that are currently appropriated for IBC Improvements ****	*($27,354,385)*	
Existing IBC Funds to be applied to the 2015 Fee Program***	**$19,484,478**	**($19,484,478)**
Subtotal: (Effective) 2015 Updated IBC Vision Plan Improvement Cost		**$74,384,482**
Other IBC Vision Plan Traffic Fee Program Costs		
Transportation Management Systems (10% of total fee)	*$7,438,448*	
IBC Program Administration (5% of total fee)	*$3,719,224*	
Contingency (15% of total fee)	*$11,157,672*	
Subtotal: Other Costs to the IBC Fee Program	**$22,315,345**	**$22,315,345**
Development Agreements (subject to fees identified in their agreements)		
Park Place DA	*($2,769,591)*	
Central Park West DA	*($1,233,998)*	
Subtotal: Existing Development Agreements	**($4,003,589)**	**($4,003,589)**
Total IBC Fees Required		**$92,696,238**

Source: HDR 2015 for Development of Improvement Costs; City of Irvine for Fund Balances

* Caltrans D12 agreement with City of Irvine ($7,025,962 minus $440,663 set aside as Caltrans Subfund)

** Includes remaining balance from 1992 IBC Traffic Fee Program Fund Balance, current IBC Vision Plan Traffic Fee Program Fund Balance, and Caltrans subfund

*** CIP allocation for funding of Jamboree Road/Barranca Parkway and Jamboree Road/Main Street improvements, and partial funding for the pedestrian bridge at Jamboree Road and Michelson Drive

Table 2 summarizes a fee comparison between 1992 fees (initial IBC Fee Program), 2009 fees (compounded annual adjustments to the 1992 fee), 2010 fees (developed as part of the IBC Vision Plan), 2016 fees (compounded annual adjustments to the 2010 fee) and proposed fees. If approved, the proposed fees would be effective for FY 2017-18.

Table 2: IBC Fee Comparison

Land Use	Unit	IBC Traffic Fee					Increase from 2016 (factor)
		1992	2009	2010	2016	Proposed***	
Total Residential*	DU	$3,734	$7,175	$1,862	$2,254	$4,697	2.08
Extended Stay	Rooms	$3,016	$5,795	$1,503	$1,820	$3,796	2.09
Hotel	Rooms	$4,883	$9,383	$2,435	$2,947	$6,140	2.08
Retail Mix	Sq. Ft.	$10.70	$20.28	$5.45	$6.60	$13.97	2.12
Office	Sq. Ft.	$10.70	$20.28	$5.45	$6.60	$13.97	2.12
Industrial Mix **	Sq. Ft.	$3.30	$5.85	$1.50	$1.82	$3.79	2.08
Mini Warehouse	Sq. Ft.	$1.85	$3.55	$0.97	$1.17	$2.44	2.09

Source: HDR 2015, City of Irvine
* Includes Density Bonus Units charged fees consistent with Base Units
** Includes manufacturing and warehouse SF
*** Effective FY 2017-2018

As indicated in Table 2 above, the proposed fees would be roughly double the 2010 fee amounts. Even with this increase, the proposed fees would be approximately 35 percent lower than the fees in place in 2009. Factors contributing to the increase since 2010 include:

- Additional mitigation improvements were identified in the 2015 IBC Traffic Study Update that had not been identified as impacts in 2010 including:
  - Von Karman/Tustin Ranch Road at Barranca Parkway and Von Karman Avenue at Alton Parkway
  - Loop Road/Park Avenue at Warner Avenue
  - Jamboree northbound ramps at Warner Avenue
  - Culver Drive at Alton Parkway
- Increases in costs were identified for several improvements previously identified in 2010. These are briefly discussed below:
  - Alton Overcrossing at SR-55: An approximate two-fold increase from the 2010 cost is attributable to the project's updated 2014 final design costs.

  - Widening of Dyer Road between SR-55 NB on-ramp and Red Hill Avenue: More than two-fold increase from the 2010 cost is attributable to an updated cost estimate for ultimate improvements.
  - Widening of Red Hill Avenue between Main Street and MacArthur Boulevard: More than two-fold increase from the 2010 cost is attributable to an updated cost estimate for ultimate improvements.

- Increase of ROW support costs from five percent to 10 percent of construction costs, based on current trends in ROW acquisitions, have significantly increased the costs for improvements that require ROW acquisitions.

- Less remaining development intensity (residential units and non-residential square footage) subject to the fee.

- The fund balance was further reduced by settlement payments to the cities of Newport Beach and Tustin (per 2009 and 2010 agreements, respectively) and earmarked funds for improvements and payment to Caltrans (per 2011 agreement).

COMMISSION/BOARD/COMMITTEE RECOMMENDATION

At its July 18, 2017 meeting, the Transportation Commission reviewed this matter and voted unanimously, with all members present, to continue the item to its August 15, 2017 meeting so that staff could provide information regarding the City's past success with grant funding. On August 15, 2017, the Transportation Commission voted unanimously, with all members present, to recommend the City Council update the IBC fees based on the Construction Cost Index (CCI), which represents a six percent increase over the current IBC fees.

This recommendation would result in a $46.1 million (50 percent) shortfall in funding for the required mitigation improvements. It is important to clarify that the proposed CCI adjustment to the current fees are based on improvement costs established in 2010. This 2010 cost basis would not account for actual changes to improvement costs since that time- such as increased costs for right of way acquisition- which are reflected in the 2015 Nexus Study Update.

The City's success with grant funding awards for transportation related projects is shown in Attachments 3 and 4. The City of Irvine has received over $26 million in Measure M2 grant funding since 2011, with approximately $1.4 million of that amount awarded to IBC Capacity Enhancement Projects. A list of completed IBC Transportation Mitigation Fee Program projects is provided in Attachment 5. A list of all future IBC transportation mitigation projects to be funded by the fee program update is provided in Attachment 6.

The proposed fees are structured to fund 90 percent of the improvement cost, with the potential for the remaining 10 percent of the project cost to be covered by outside

funding sources; including federal, state and county programs. This percentage split has been previously approved by the City Council for prior updates. Based upon previous grant award success citywide, a 10 percent outside funding source assumption is reasonable.

PUBLIC OUTREACH

City staff met with IBC stakeholders on three occasions in May 2017 to present and discuss the proposed fee program update. Stakeholders expressed concerns regarding the overall increase in fees. The Building Industry Association of Orange County submitted a letter to this effect (Attachment 7).

ENVIRONMENTAL REVIEW

The project is within the general scope of the project described by previously certified Final EIR (SCH No. 2007011024). The State California Environmental Quality Act (CEQA) Guidelines, Section 15164, provides that an addendum may be prepared to a previously approved EIR when there are minor changes made to the project that do not trigger the conditions for a supplemental EIR as provided in Section 15162. Staff determined that the changes proposed in this action do not involve new significant environmental effects or increase the severity of previously identified impacts (Section 15162). The Final EIR as amended by the addendum is determined to be adequate to serve as the CEQA compliance document for the project. The addendum is attached for review and consideration (Attachment 8). Adoption of the proposed fee program will ensure a sufficient funding source for construction of the required transportation mitigation improvements, as mandated by CEQA.

ALTERNATIVES CONSIDERED

The City Council could choose not to adopt the updated fees, reduce the fees proposed, or delay adoption of the fee. In each of these possible alternatives, the City becomes responsible for funding the difference between the fees collected and the cost of improvements. This could result in an additional burden on taxpayers to help subsidize the cost of new development in the IBC. For example, approval of a CCI fee adjustment in-lieu of the recommended IBC Transportation Mitigation Fee Update (as recommended by the Transportation Commission) would result in a $46.1 million (50 percent) deficit to the developer funded portion of the fee program.

FINANCIAL IMPACT

As proposed, the IBC Transportation Mitigation Fee program will cover fair-share obligations for improvements located in adjacent jurisdictions and 90 percent of costs for improvements within the City of Irvine. The City will pursue funding from outside funding sources, such as federal, state and county grants, for the remaining 10 percent of costs. Based on a longstanding record of successfully securing outside funding at this level, it is not expected that the City will bear a financial responsibility for construction of

these improvements. Should this not be the case, the City will be responsible to come up with the remaining funds.

As stated in the Alternatives section above, should the new fee program be delayed or not adopted, the City, including residents and taxpayers, both within and outside of the IBC, will be responsible for funding the difference between the fees collected and the cost of the needed improvements. The City will not have the opportunity to collect these fees at a later date after building permits have been issued. As a result, if the recommended increases are not approved, future development and the City's taxpayers will likely bear an even greater cost to implement any remaining mitigation measures.

REPORT PREPARED BY Bill Jacobs, AICP, Principal Planner

ATTACHMENTS

Attachment 1: Irvine Business Complex Vision Plan - 2015 Five-Year Traffic Study Update (Executive Summary)
Attachment 2: Update to the Irvine Business Complex Vision Plan Traffic Fee Nexus Study
Attachment 3: Public Works Administered Grants: Transportation - All Programs
Attachment 4: Public Works Administered Grants: Transportation – Measure M / M2
Attachment 5: Completed IBC Roadway Improvements
Attachment 6: Summary Exhibit
Attachment 7: Letter from Building Industry Association of Orange County, dated May 31, 2017
Attachment 8: Addendum to the Irvine Business Complex Residential and Mixed-Use Vision Plan Draft Environmental Impact Report (SCH NO. 2007011024)
Attachment 9: CC Resolution 17-XX Adopting Updated IBC Transportation Mitigation and Fee program

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ES EXECUTIVE SUMMARY

ES.1.1 Introduction

This 2015 IBC Vision Plan Five-Year Traffic Study Update fulfills requirements of the City of Irvine Zoning Ordinance, which was updated as part of the 2010 IBC Vision Plan approval to require the City to re-evaluate traffic conditions (and traffic impact locations) by way of a five-year traffic study update (amended to every two years in October 2015). This five-year update evaluates potential traffic impact locations and documents how development actually occurred over the past five years to determine how close the Vision Plan assumptions were to forecasting this condition. The update takes a "snapshot" of the development activity today and considers ambient regional growth to compare with the 2010 assumptions. If as a result of actual development the original traffic impacts are altered or changed, the City has the ability to revise the list of traffic mitigations and IBC fees accordingly within the umbrella of the adopted Vision Plan.

This IBC Vision Plan Five-Year Traffic Study Update analyzes the potential impacts on the circulation system based on updated conditions to the 2010 amendment to the City of Irvine General Plan that placed 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. Based on approvals since 2010, the total number of density bonus units assumed for this update is reduced to 1,794 from 2,038. This reduction represents 2,038 assumed theoretical density bonus units in 2010 less 244 theoretical units removed due to reduction in units not associated with any planned project.

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 pre-Vision Plan condition within the study area. The analysis focuses on the identification of updated potential traffic impacts on the current circulation system as it is transformed into a mixed-use community from its previous offerings of office, commercial, and industrial uses within the IBC area. This traffic study provides an assessment of the existing conditions in 2015, existing conditions with the updated Vision Plan assumptions, as well as future Interim Year (2020) and Buildout Year (post-2035) scenarios with and without the updated Vision Plan assumptions. A comparison of the impacted locations versus the impacted locations identified in the 2010 IBC Vision Plan Traffic Study is also performed.

To assess the impact of the land use changes since the implementation of the 2010 Vision Plan, a total of six scenarios were analyzed:

- Existing Conditions (using current traffic counts)
- Existing Conditions with updated assumptions of Vision Plan Buildout
- 2020 Cumulative Baseline (existing land uses on the ground within IBC area; cumulative growth outside the IBC area)
- 2020 Cumulative Baseline plus updated Vision Plan assumptions anticipated to be constructed by 2020
- Post-2035 Cumulative Baseline (existing land uses on the ground within IBC area; cumulative growth outside the IBC area)
- Post-2035 Cumulative Baseline with updated assumptions of Vision Plan Buildout

Table ES-1 shows the land use assumptions for each scenario

Table ES.1.1 – Land Use Assumptions

SCENARIO	MULTI-FAMILY RESIDENTIAL (DU)	RETAIL MIX (TSF)	HOTEL (ROOM)	OFFICE MIX (TSF)	INDUSTRIAL MIX (TSF)	MINI-WAREHOUSE (TSF)	EXTENDED STAY HOTEL (ROOM)
2015 Existing	7,060	1,384	2,322	26,639	13,934	379	474
2015 With Update	16,795	1,690	2,653	34,286	12,339	549	1049
2020 Cumulative Baseline	7,060	1,384	2,322	26,639	13,934	379	474
2020 Cumulative With Update	16,671	1,405	2,535	27,750	13,240	883	1049
Post-2035 Cumulative Baseline	7,060	1,384	2,322	26,639	13,934	379	474
Post-2035 Cumulative Baseline With Update	16,795	1,690	2,653	34,286	12,339	549	1049

ES.1.2 Traffic Impacts & Fair Share

A number of agreements were signed between the City of Irvine and adjacent jurisdictions during the 2010 IBC Vision Plan effort which required the City of Irvine to provide specific dollar amounts of infrastructure funding to each adjacent jurisdiction. These agreements were premised on the understanding that the Vision Plan had no additional responsibilities toward improvements identified, provided the residential unit cap within the IBC is not exceeded. These agreements are included in **Appendix A**.

The residential unit intensity cap has not increased since the 2010 study. This traffic study update is intended only to analyze the change in traffic conditions since the 2010 approval. Except as otherwise specified in those existing agreements with adjacent jurisdictions, the Vision Plan is not responsible for mitigating the improvements identified in this study update within the cities of Tustin, Newport Beach, Santa Ana, or for improvements on Caltrans facilities.

For the sole purpose of providing a reference point for comparison with the 2010 study, a fair-share methodology was used to evaluate what the financial participation of mitigating IBC Vision impacts would be in the absence of the above-mentioned agreements. The following methodology is applied:

- For plan update impacts within the City of Irvine, the IBC Vision Plan is fully responsible.
- For plan update impacts outside the City of Irvine, the IBC Vision Plan would participate on a fair-share basis.

All impacts referenced in this study update represent impacts as defined in the City of Irvine's Traffic Impact Analysis (TIA) Guidelines, adopted August 2004, or for locations outside Irvine, per the performance criteria for each affected agency.

The cost of improvements will be presented in a supplemental nexus report. Under future forecast conditions there are a number of deficient intersections. **Table ES 1.2** demonstrates the deficiencies, impacts, and fair-shares under each future scenario.

Table ES 1.2 – Intersection/Arterial Segment Impacts/Cumulative Deficiencies

ID	INTERSECTION	JURISDICTION	IBC VISION WITH UPDATE (2020)		IBC VISION WITH UPDATE (POST-2035)		FAIR-SHARE		
			CUMULATIVE DEFICIENCY	IMPACT	CUMULATIVE DEFICIENCY	IMPACT	2020 WITH UPDATE*	POST-2035 WITH UPDATE*	EXPECTED SHARE (VISION PLAN)
85	MacArthur Boulevard at Birch Street	Newport Beach				X		5.6%	No Share
723	Main Street at Segerstrom Avenue	Santa Ana				X		40.3%	No Share
728	Halliday East at Alton Parkway	Santa Ana				X		7.2%	No Share
36	Red Hill Avenue at El Camino Real	Tustin		X			10.7%		No Share
445	Tustin Ranch Rd at Warner Ave N	Tustin				X		15.7%	No Share
93	Tustin Ranch Road at Bryan Avenue	Tustin	X		X		0.3%	9.9%	No Share
111	Franklin Avenue at Walnut Avenue	Tustin	X		X		3.9%	3.5%	No Share
749	Park Ave at A Street	Tustin			X			1.5%	No Share
98	Von Karman Avenue at Alton Pkwy	Irvine				X			100.0%
144	Jamboree Road at I-405 SB Ramps	Irvine				X			100.0%
145	Jamboree Road at Michelson Drive	Irvine				X			100.0%
188	Harvard Avenue at Michelson Drive	Irvine				X			100.0%
229	Culver Drive at Alton Parkway	Irvine				X			100.0%
97	Von Karman Ave/Tustin Ranch Rd at Barranca Pkwy	Irvine				X			100.0%
234	Culver Drive at Michelson Drive	Irvine	X						No Share
135	Jamboree NB Ramps/Warner Ave	Irvine			X				100.0%
134	Loop Rd/Park Ave at Warner Ave	Irvine/Tustin	X		X				100.0%
ID	ARTERIAL SEGMENT	JURISDICTION	IBC VISION WITH UPDATE (2020)		IBC VISION WITH UPDATE (POST-2035)		FAIR-SHARE		
			CUMULATIVE DEFICIENCY	IMPACT	CUMULATIVE DEFICIENCY	IMPACT	2020 WITH UPDATE*	POST-2035 WITH UPDATE*	EXPECTED SHARE (VISION PLAN)
1326	Dyer Rd between SR-55 SB and SR-55 NB	Santa Ana		X		X	15.9%	21.3%	No Share

*Fair-share percentage is shown for informational and comparison purposes only

ES.1.3 Improvement Strategies

The IBC Vision Plan Traffic Study Update proposes improvements for all intersections (and one impacted arterial segment) within the study area that are identified as impacts as well as all forecast cumulative deficiencies. Due to the above-mentioned agreements with adjacent cities and Caltrans (other than in the City of Costa Mesa), contribution towards improvements identified at locations where the update has an impact outside the City of Irvine are provided for reference only. Improvement 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 1.3** displays the mitigation strategies for each deficient intersection within the IBC study area.

Table ES.1.3– Improvement Strategies

INTERSECTION ID #	INTERSECTION NAME	JURISDICTION	IMPROVEMENT STRATEGY
2020 Impacts and Cumulative Deficiencies			
234	Culver Drive at Michelson Drive (cumulative deficiency)	Irvine	Improve EB to 2,2,0
134	Loop Road/Park Ave at Warner Avenue (cumulative deficiency)	Irvine/Tustin	Add 3rd EBT and NBR overlap
36	Red Hill Avenue at El Camino Real (update impact)	Tustin	Reconfigure SB to 1.5,2.5,0**
93	Tustin Ranch Road at Bryan Avenue (cumulative deficiency)	Tustin	Add 4th SBT**

INTERSECTION ID #	INTERSECTION NAME	JURISDICTION	IMPROVEMENT STRATEGY
111	Franklin Avenue at Walnut Avenue (cumulative deficiency)	Tustin	Add 3rd WBT**
1326*	Dyer Road between SR-55 SB and SR-55 NB (impact)	Santa Ana	Add 4th EBT**
P-2035 Impacts and Cumulative Deficiencies			
98	Von Karman Avenue at Alton Parkway (impact)	Irvine	Add 3rd NBT
135	Jamboree NB Ramps/Warner Avenue (cumulative deficiency)	Irvine	Restripe EB to 2,2,0
144	Jamboree Road at I-405 SB Ramps (impact)	Irvine	Improve EB to 2.5,0,2.5
145	Jamboree Road at Michelson Drive (impact)	Irvine	Add 3rd EBL, 3rd SBL, and WBT***
188	Harvard Avenue at Michelson Drive (impact)	Irvine	Improve SB to 2,2,0
229	Culver Drive at Alton Parkway (impact)	Irvine	Improve EB to 2,3,0
97	Von Karman Avenue/Tustin Ranch Road at Barranca Parkway (impact)	Irvine	Add 3rd NBT and convert De Facto to Standard NBR
134	Loop Road/Park Ave at Warner Avenue (cumulative deficiency)	Irvine/Tustin	Add 3rd EBT and NBR overlap
85	MacArthur Boulevard at Birch Street (impact)	Newport Beach	Improve EB to 2 EBL and 2 EBT**
723	Main Street at Segerstrom Avenue (impact)	Santa Ana	Add 3rd NBT, De Facto NBR**
728	Halladay East at Alton Parkway (impact)	Santa Ana	Add 2nd EBT and 2nd WBT**
1326*	Dyer Road between SR-55 SB and SR-55 NB (impact)	Santa Ana	Add 4th WBT**
93	Tustin Ranch Road at Bryan Avenue (cumulative deficiency)	Tustin	Add 4th SBT**
111	Franklin Avenue at Walnut Avenue (cumulative deficiency)	Tustin	Add 3rd WBT**
445	Tustin Ranch Road at Warner Avenue North (impact)	Tustin	Improve NB to 0,2.5,1.5**
749	Park Ave at A Street (cumulative deficiency)	Tustin	Add 2nd SBL and 2nd WBL**

* Arterial Segment
** Improvement strategy provided for information and planning purposes only.
*** Alternative improvement strategy is implementation of the Jamboree/Michelson pedestrian bridge across Jamboree.

ES 1.4 Comparison of Impacts to 2010 Traffic Study

Table ES 1.4 shows the net overall result of fewer future impacts compared to the 2010 Vision Plan Study. The number of interim year forecast impacts reduce from 13 to 10. The number of Buildout year forecast impacts reduces from 41 to 22. Additional details are provided in **Chapter 8.**

Table ES 1.4 - Comparison of Number of Impacted Locations between 2010 IBC Traffic Study and 2015 Update

	Interim Year		Buildout Year	
Facility Type	**2010 Study**	**2015 Update**	**2010 Study**	**2015 Update**
Arterial Segments	0	1	1	1
Intersections	4	1	15	10
Freeway Mainline	4	6	14	5
Freeway Ramps	5	2	11	6
Total	13	10	41	22

In the 2010 Traffic Study the Interim year was 2015 and Buildout year was Post-2030 whereas in the current update study, the Interim year is 2020 and the Buildout year is Post-2035.

ES 1.5 Arterial 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. 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 impacts expected in future forecast scenarios for arterial segments within Newport Beach, Costa Mesa, and Tustin.

In 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 an impact when compared with the Baseline conditions. There were no impacted arterial segments in the interim year in the 2010 Traffic Study within the City of Santa Ana while one arterial segment is impacted in the 2015 Update in the Interim year:

- Dyer Road between SR-55 NB ramps and SR-55 SB ramps

In the Buildout year in the 2010 Study one arterial location was impacted:

- MacArthur Boulevard between Main Street and SR-55 SB in the City of Santa Ana

This MacArthur Boulevard widening no longer appears to be needed as forecast volumes drop from 51,000 ADT to 39,000 ADT in the 2015 update. In the Buildout conditions of the 2015 update one arterial location was impacted (also impacted in 2020):

- Dyer Road between SR-55 NB ramps and SR-55 SB ramps

ES 1.6 Intersection Deficiencies and Impacts

Analysis of the intersections was conducted for all intersections within the defined IBC Vision study area. For each jurisdiction, the established and published criteria for evaluating impacts have been employed in this study. Plan update impacts are identified for the study area using the methodology for each respective jurisdiction.

Table ES-1.5 compares the impacted intersections in both traffic studies for the Interim year. In the 2010 study four intersections were impacted whereas in the 2015 Update only one intersection is impacted.

Table ES-1-5 – Intersection Impacts - Interim Year (2010 Study vs. 2015 Update)

ID	LOCATION	JURISDICTION	PERIOD	2010 STUDY ONLY	2010 STUDY & 2015 UPDATE	2015 UPDATE ONLY
145	Jamboree Rd at Michelson Dr	Irvine	PM	x		
234	Culver Drive at Michelson Drive	Irvine	PM			x*
62	Campus Dr at Bristol Street NB	Newport Beach	PM	x		
93	Tustin Ranch Rd at El Camino Real	Tustin	AM	x		
134	Loop Rd/Park Ave at Warner Ave	Irvine/Tustin	PM	x		x*
36	Red Hill Ave at El Camino Real	Tustin	PM			x
* Irvine cumulative deficiency			Sum	4	0	1
			Total Impacts (2010 Study)	4	Total Impacts (2015 Update)	1

Table ES-1.6 shows that while 15 intersections were impacted in Buildout in the 2010 Study only 10 are impacted in the 2015 Update build-out condition. The following three locations were impacted in both studies:

- # 85 - MacArthur Boulevard at Birch Street in Newport Beach
- #145 - Jamboree Road at Michelson Drive in Irvine
- #723 - Main Street at Segerstrom Avenue in Santa Ana

Two of the 2010 Study impacted locations #135 Jamboree Road at Barranca Parkway and #141 Jamboree Road at Main Street have programmed improvements that are expected to be completed by 2020. As noted previously these improvements have been incorporated into analysis which results in a satisfactory level of service and no impacts under all scenarios studied in the 2015 Update.

Table ES-1.6 – Intersection Impacts - Buildout Year (2010 Study vs. 2015 Update)

INT ID	LOCATION	JURISDICTION	PERIOD	2010 STUDY ONLY	2010 STUDY & 2015 UPDATE	2015 UPDATE ONLY
12	SR-55 Frontage Road SB at Baker Street	Costa Mesa	AM	x		
13	SR-55 Frontage Road NB at Baker Street	Costa Mesa	AM	x		
62	Campus Drive at Bristol Street NB	Newport Beach	PM	x		
85	MacArthur Boulevard at Birch Street	Newport Beach	PM(both)		x	
543	Bristol at Segerstrom	Santa Ana	PM	x		
723	Main Street at Segerstrom Avenue	Santa Ana	PM(both)		x	
728	Halladay East at Alton Parkway	Santa Ana	AM&PM			x
730	Grand Avenue at Warner Avenue	Santa Ana	PM	x		
754	Red Hill Avenue at Carnegie Avenue	Tustin/Santa Ana	PM	x		
24	Newport Avenue at Walnut Avenue	Tustin	AM	x		
93	Tustin Ranch Road at El Camino Real	Tustin	AM	x		
445	Tustin Ranch Road at Warner Avenue N	Tustin	PM			x
97	Von Karman Ave/Tustin Ranch Rd at Barranca Pkwy	Irvine/Tustin	PM			x
98	Von Karman Avenue at Alton Parkway	Irvine	PM			x
134	Loop Road/Park Ave at Warner Avenue	Irvine/Tustin	PM	x		x**
135	Jamboree NB Ramps/Warner	Irvine	PM			x**
136	Jamboree Road at Barranca Parkway*	Irvine/Tustin	PM	x		
141	Jamboree Road at Main Street*	Irvine	PM	x		
144	Jamboree Road at I-405 SB Ramps	Irvine	AM			x
145	Jamboree Road at Michelson Drive	Irvine	PM(both)		x	
188	Harvard Avenue at Michelson Drive	Irvine	PM	x **		x
229	Culver Drive at Alton Parkway	Irvine	PM			x
232	Culver Drive at I-405 NB Ramps	Irvine	PM	x		
			Sum	12	3	7
			Total Impacts (2010 Study)	15	Total Impacts (2015 Update)	10

* Improvement currently programmed
** Irvine cumulative deficiency

The completion of the Tustin Ranch Road extension seems to have had an effect on the location of impacted intersections. Compared to the 2010 Study, traffic is drawn away from Red Hill Avenue and Jamboree Road onto Von Karman Avenue/Tustin Ranch Road. A noticeable progression of impacted and deficient intersections can be seen in the PM peak period as traffic heads north from the heart of the IBC using Von Karman Avenue that becomes Tustin Ranch Road and eventually accesses the Jamboree Road Expressway at the Warner Avenue Ramp. The progression of impacted/deficient intersections is:

- Von Karman Avenue at Alton Parkway (Irvine)
- Von Karman Avenue at Barranca Parkway (Irvine)

- Tustin Ranch Road at Warner Avenue North (Tustin)
- Loop Road/Park Avenue at Warner Avenue (Irvine/Tustin-Deficiency only)
- Jamboree Northbound Ramps at Warner Avenue (Irvine-Deficiency only)

ES.1.7 Freeway Mainline and Ramps

Table ES-1.7 compares the Interim Year impacted freeway mainline segments in both traffic studies. In the 2010 study four segments were impacted whereas in the 2015 Update six locations are impacted. Three of these locations all on I-405 between Jamboree Road and SR-55 are common in both studies.

Table ES-1.7 – Freeway Mainline Impacts - Interim Year (2010 Study vs. 2015 Update)

FREEWAY	SEGMENT	DIRECTION	PERIOD	2010 STUDY ONLY	2010 STUDY & 2015 UPDATE	2015 UPDATE ONLY
I-405	Jamboree Road to MacArthur Boulevard	SB	PM	x		
I-405	Jamboree Road to MacArthur Boulevard	NB	AM		x	
I-405	MacArthur Boulevard to SR-55	NB	AM		x	
I-405	MacArthur Boulevard to SR-55	SB	PM		x	
I-5	North of SR-55	NB	AM			x
SR-55	Dyer Road to Edinger Avenue	NB	AM			x
SR-73	Campus Drive to SR-55	NB	AM			x
			Sum	1	3	3
			Total Impacts (2010 study)	4	Total Impacts (2015 Update)	6

Table ES-1.8 compares the Buildout year impacted freeway mainline segments in both traffic studies. In the 2010 study fourteen segments were impacted whereas in the 2015 Update only five locations are impacted. Two of these locations are common in both studies.

Table ES-1.8 – Freeway Mainline Impacts - Buildout Year (2010 Study vs. 2015 Update)

FREEWAY	SEGMENT	DIRECTION	PERIOD	2010 STUDY ONLY	2010 STUDY & 2015 UPDATE	2015 UPDATE ONLY
I-405	Jamboree Road to MacArthur Boulevard	SB	PM	x		
I-5	Jamboree Road to Tustin Ranch Road	NB	AM	x		
I-5	Jamboree Road to Tustin Ranch Road	SB	AM&PM	x		
I-5	Newport Avenue to SR-55	NB	AM	x		
I-5	North of SR-55	SB	AM	x		
I-5	Red Hill Avenue to Newport Avenue	NB	AM	x		
I-5	Tustin Ranch Road to Red Hill Avenue	NB	AM	x		
I-5	Tustin Ranch Road to Red Hill Avenue	SB	AM&PM	x		
SR-55	I-405 to MacArthur Boulevard	NB	AM&PM	x		
SR-55	I-405 to MacArthur Boulevard	SB	AM&PM	x		
SR-55	MacArthur Boulevard to Dyer Road	NB	PM	x		
SR-55	MacArthur Boulevard to Dyer Road	SB	AM	x		
I-405	Jamboree Road to MacArthur Boulevard	NB	AM		x	
SR-55	Dyer Road to Edinger Avenue	NB	PM		x	
I-405	MacArthur Boulevard to SR-55	NB	AM&PM			x
I-405	MacArthur Boulevard to SR-55	SB	AM&PM			x
SR-55	McFadden St/Sycamore Ave to I-5	NB	PM			x
			Sum	12	2	3
			Total Impacts (2010 Study)	14	Total Impacts (2015 Update)	5

Table ES-1.9 compares the Interim year impacted freeway ramps in both traffic studies. In the 2010 study five ramps were impacted whereas in the 2015 Update only two locations are impacted. Both the 2015 Update ramps are on I-405 and were also impacts in the 2010 study.

Table ES-1.9 – Freeway Ramp Impacts - Interim Year (2010 Study vs. 2015 Update)

FREEWAY	LOCATION	RAMP	PERIOD	2010 STUDY ONLY	2010 STUDY & 2015 UPDATE	2015 UPDATE ONLY
I-405	Jamboree Road	NB Off	AM	x		
SR-55	Victoria Street	NB Direct On	AM	x		
SR-73	MacArthur Boulevard	NB On	AM	x		
I-405	Jamboree Road	SB Off	PM		x	
I-405	Bristol Street	SB Loop On	PM		x	
			Sum	3	2	0
			Total Impacts (2010 Study)	5	Total Impacts (2015 Update)	2

Table ES-1.10 compares the Buildout year impacted freeway ramps in both traffic studies. In the 2010 study eleven ramps were impacted whereas in the 2015 Update only six ramps are impacted. Three of the ramps impacted in the 2015 Update ramps are on I-405 and were also impacts in the 2010 study.

Table ES-1.10 – Freeway Ramp Impacts - Buildout Year (2010 Study vs. 2015 Update)

FREEWAY	LOCATION	RAMP	PERIOD	2010 STUDY ONLY	2010 STUDY & 2015 UPDATE	2015 UPDATE ONLY
I-405	Culver Drive	NB Off	AM	X		
I-405	MacArthur Boulevard	NB On	PM	X		
I-405	Jamboree Road	SB Off	AM/PM	X		
SR-55	Baker Street	NB Off	AM/PM	X		
SR-55	Baker Street	SB On	PM	X		
SR-55	MacArthur Boulevard	SB On Loop	PM	X		
SR-73	Campus Drive	NB On	PM	X		
SR-73	Jamboree Road	SB Off	AM/PM	X		
I-405	MacArthur Boulevard	NB Off	AM		X	
I-405	Bristol Street	SB Loop On	PM		X	
SR-55	Dyer Road	NB On Direct	PM		X	
I-405	Jamboree Road	NB Off	AM			X
SR-55	Dyer Road	NB Off	AM			X
SR-73	Campus Drive	SB Off	AM			X
			Sum	8	3	3
			Total Impacts (2010 Study)	11	Total Impacts (2015 Update)	6

ES.1.8 MPAH and General Plan Amendment

The results of this Five-Year Update study indicate that no additional proposed changes are required to the City of Irvine General Plan or Countywide Master Plan of Arterial Highways (MPAH). Since the adoption of the 2010 Vision Plan, the City of Irvine General Plan has been amended with the following downgrades, per the 2010 Vision Plan:

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

The arterial segments of Alton Pkwy between Red Hill Avenue and Jamboree Road and Von Karman Avenue between Barranca Pkwy and Michelson Drive as identified with an asterisk in the list above, were also programmed into the County's Master Plan of Arterial Highways (MPAH) since the 2010 Vision Plan approval.

Although the 2010 Vision Plan Traffic Study stated that it was the City's intention to remove the Von Karman Avenue at the I-405 freeway HOV drop ramps, it was determined that the improvement was of regional significance and therefore remains part of the Post-2035 build-out baseline assumptions.

Consistent with the 2010 Vision Plan, the widening of Red Hill Avenue from four lanes to six lanes between MacArthur Boulevard and Main Street is assumed in the Post-2035 Build-out Baseline since it is the one missing roadway widening in IBC that is needed to fulfill the County's Master Plan of Arterial Highways (MPAH).

2015 Update to:

Irvine Business Complex Vision Plan Traffic Fee Nexus Study

June 07, 2017

Prepared for:

J17-0530 | **Prepared by** HDR **Inc.** in association with iteris **Inc.**

ATTACHMENT 2

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Executive Summary

This five-year update (2015 IBC Traffic Fee Nexus Update) is consistent with the principles of the Irvine Business Complex (IBC) Vision Plan and maintains a consistent nexus between future development in the IBC and the transportation system improvements necessary to support that development. The objective of this study is to update development fees to financially support the implementation of identified improvements to the transportation system within and adjacent to the IBC in order to accommodate full buildout of the Vision Plan.

Pursuant to the requirements of AB 1600, this update ensures that it complies with the nexus determination requirement to:

- Identify the purpose of the fee;
- Identify the use to be funded by the fee;
- Determine the reasonable relationship between:
  - The use of the fee and the type of development paying the fee;
  - The need for the traffic improvements and the types of development on which the fee is imposed; and
  - The amount of the fee and the cost of the public facilities or portion of the public facilities (in this case, traffic improvements) attributable to the development.

The 2015 IBC Traffic Fee Nexus Study complies will all State legislative nexus requirements.

Table ES.1 summarizes the costs included in the 2015 IBC Traffic Fee Nexus Update. These costs are based on a combination of detailed cost estimates for specific fair-share improvements identified in the accompanying 2015 traffic study[1] (2015 IBC Traffic Study Update), obligations to fund specific improvements within adjacent jurisdictions as necessary to mitigate the impacts of the buildout of the IBC Vision Plan, and a continuing obligation to fund certain improvements identified in a prior fee program for the IBC adopted in 1992. Additionally, the costs include specific tasks required to implement and maintain the fee program consistent with the requirements of the IBC Vision Plan General Plan Amendment/Zoning Ordinance.

The proposed fee program assumes that development fees will fund up to 90% of identified improvement costs. It is assumed that the remaining 10% of the project costs will be covered by outside funding sources including federal, state, and county programs.

Table ES.2 summarizes a fee comparison between 1992 (at the onset of the IBC Fee Program), 2009 fees (developed through annual adjustments of the 1992 fee), 2010 fees (developed as part of the Vision Plan), 2016 fees (currently what the City charges developers – this is developed by applying annual adjustments to the 2010 fee) and proposed fees, effective beginning in the next FY 2017-18. Although the fees are significantly higher than the current 2016 fees, they still remain 31%-35% lower than 2009 fees.

[1] *Irvine Business Complex Vision Plan, 2015 Five Year Traffic Study Update, Iteris with HDR, 2016*

Table ES.1: 2015Updated IBC Vision Plan Traffic Fee Program Breakdown

Needs for IBC Vision Plan Traffic Improvements		
Improvement Costs		
Based on 2015 IBC Traffic Study Update		
Irvine (90% of estimate assumed)	*$18,006,327*	
Caltrans District 12	*$6,585,299*	
2015 IBC Traffic Study Update Improvements	$24,591,626	$24,591,626
Remaining Existing General Plan Improvements		
Irvine (90% of estimate assumed)	*$16,577,451*	
Improvements in Santa Ana	*$52,670,912*	
Improvements in Costa Mesa	*$28,970*	
2015 Update - Remaining Existing General Plan Improvements	$69,227,334	$69,227,334
Subtotal: 2015 Update IBC Vision Plan Improvement Cost		$93,868,960
Existing IBC Traffic Funds Available		
*Current IBC Traffic Fund Balance***	*$46,838,863*	
*Capital Improvement Program funds that are currently appropriated for IBC Improvements ****	*($27,354,385)*	
Subtotal: Existing IBC Funds to be applied to the 2015 Fee Program	($19,484,478)	($19,484,478)
Subtotal: (Effective) 2015 Updated IBC Vision Plan Improvement Cost		$74,384,482
Other IBC Vision Plan Traffic Fee Program Costs		
Transportation Management Systems (10% of total fee)	*$7,438,448*	
IBC Program Administration (5% of total fee)	*$3,719,224*	
Contingency (15% of total fee)	*$11,157,672*	
Subtotal: Additional Costs to the IBC Fee Program	$22,315,345	$22,315,345
Development Agreements (subject to fees identified in their agreements)		
Park Place DA	*($2,769,591)*	
Central Park West DA	*($1,233,998)*	
Subtotal: Existing Development Agreements	($4,003,589)	($4,003,589)
Subtotal: Total IBC Fees Required		$92,696,238

Source: HDR 2015 for Development of Improvement Costs; City of Irvine for Fund Balances
* Caltrans D12 agreement with City of Irvine ($7,025,962 minus $440,663 set aside as Caltrans Subfund)
** Includes remaining balance from 1992 IBC Traffic Fee Program Fund Balance, current IBC Vision Plan Traffic Fee Program Fund Balance, and Caltrans subfund
*** CIP allocation for funding of Jamboree Road/Barranca Parkway and Jamboree Road/Main Street improvements, and partial funding for the pedestrian bridge at Jamboree Road and Michelson Drive

Table ES.2: IBC Fee Comparison

Land Use	Unit	IBC Traffic Fee					Increase from 2016 (factor)
		1992	2009	2010	2016	Proposed***	
Total Residential	DU	$3,734	$7,175	$1,862	$2,254	$4,697	2.08
Extended Stay	Rooms	$3,016	$5,795	$1,503	$1,820	$3,796	2.09
Hotel	Rooms	$4,883	$9,383	$2,435	$2,947	$6,140	2.08
Retail Mix	Sq. Ft.	$10.70	$20.28	$5.45	$6.60	$13.97	2.12
Office	Sq. Ft.	$10.70	$20.28	$5.45	$6.60	$13.97	2.12
Industrial Mix **	Sq. Ft.	$3.30	$5.85	$1.50	$1.82	$3.79	2.08
Mini Warehouse	Sq. Ft.	$1.85	$3.55	$0.97	$1.17	$2.44	2.09

Source: HDR 2015, City of Irvine
* Includes Density Bonus Units charged fees consistent with Base Units
** Includes manufacturing and warehouse SF
*** Effective FY 2017-2018

The proposed fee is significantly higher than the 2010 fees and is attributable to the following factors:

- New improvement locations
- Significant increase in improvement costs between 2010 and 2015
- Fewer number of remaining development units (residential and non-residential) subject to fee
- Lesser remaining funds available from the IBC Traffic Fee Fund Balance, due to large payout to Cities of Newport Beach and Tustin (per 2009 and 2010 agreements respectively) and earmarked funds for improvements and payment to Caltrans (per 2011 agreement)

1 Introduction

1.1 Background

The City of Irvine established an Irvine Business Complex (IBC) Nexus Fee Program in 1992 (henceforth to be referred to as the 1992 Fee Program) to support the City's adoption of the more traffic intensive 1990 IBC Rezone General Plan Amendment (GPA) and Zone Code. The intent of the 1992 Fee Program was to support the implementation of specific improvements identified in a subsequent Environmental Impact Report (henceforth to be referred to as the 1992 EIR) prepared in conjunction with the 1992 rezoning actions. This approach is consistent with the City's General Plan Roadway Development Objective B-1 to "Plan, provide and maintain an integrated vehicular circulation system to accommodate projected local and regional needs."

In 2010, the City prepared the IBC Vision Plan (henceforth to be referred to as the Vision Plan), a GPA and Zone Change project to accommodate the ongoing shift in development patterns to improve the jobs-housing balance, and reduce vehicle miles travelled. In recent years, as development patterns within the IBC showed an increased demand for residential uses and a decreased demand for manufacturing and warehouse uses, The Vision Plan project, together with its accompanying EIR (Vision Plan EIR) were approved/certified by the Irvine City Council on July 13, 2010.

As part of the Vision Plan approval, the Zoning Ordinance was updated to require the City to re-evaluate traffic conditions (and traffic impact locations) and its impact on improvement needs, by way of a five-year traffic study update (amended to every two years in October 2015). In 2015, a five-year traffic study[2] (henceforth to be referred to as 2015 IBC Traffic Study Update) was completed to fulfil the requirements of the Zoning Ordinance. Based on the findings of the 2015 IBC Traffic Study Update, a new set of transportation improvements were identified. In this 2015 five-year fee/nexus update (henceforth to be referred to as 2015 IBC Traffic Fee Nexus Update), the fee structure and the nexus associated with the findings of the 2015 IBC Traffic Study Update, is being revised to accommodate the identified set of transportation improvements.

Subsequent to the completion of the Vision Plan, the City of Irvine entered into contractual agreements with the potentially affected jurisdictions/agencies (Caltrans District 12 and cities of Newport Beach, Santa Ana, Costa Mesa, and Tustin). Thus for this 2015 IBC Traffic Fee Nexus Update, only the fee associated with the findings of the 2015 IBC Traffic Study Update, were updated. The associated fair-shares and the nexus remained consistent with the 2010 Vision Plan Traffic Fee Nexus Study[3] (henceforth to be referred as Vision Plan Traffic Fee Nexus Study). This 2015 five-year update takes a "snapshot" of the development activity from the inception of the Vision Plan in 2010 to July 31, 2015, to evaluate the changes in land uses and traffic patterns, and subsequent improvement needs, resulting in the development of a proposed fee to be imposed effective fiscal year (FY) 2017-2018.

In 2010, the Vision Plan established two overlay zoning districts:

- Urban Neighborhood, in which residential mixed use was encouraged; and
- Business Complex, in which the existing allowable mix of non-residential uses was maintained.

The Vision Plan allowed for the buildout of 15,000 residential base dwelling units (DU) within the Urban Neighborhood Overlay Zone District, with a potential maximum of 2,038 additional density bonus units, pursuant to state law. In order to achieve the maximum residential development intensity contemplated under the Vision Plan, the Plan adopted a "flexible zoning" mechanism under which non-residential development intensity could be exchanged for residential development

[2] *Irvine Business Complex Vision Plan, 2015 Five Year Traffic Study Update, Iteris with HDR, 2016*

[3] *Irvine Business Complex Vision Plan Traffic Fee Nexus Study, Parsons Brinckerhoff, 2011*

intensity, thus achieving the maximum 15,000 DU (plus 2,038 DU pursuant to state law), by "offsetting" reduction of non-residential development intensity.

Based on approvals since 2010, the total number of density bonus units pursuant to state law assumed for this five-year update is reduced to 1,794 DU, down from the theoretical assumption of 2,038 DU in 2010. The accompanying 2015 IBC Traffic Study Update provided an assessment of existing, interim-year 2020 and buildout year Post-2035 with and without the updated land use conditions.

1.2 Purpose of the 2015 Update to the Vision Plan Nexus Study

Pursuant to requirements of the California Environmental Quality Act (CEQA), the City Council, as part of their approval of the Vision Plan in 2010, determined to make the City responsible to mitigate, where feasible, the impacts to the transportation system attributable to buildout of the Vision Plan. This 2015 IBC Traffic Fee Nexus Update is consistent with the principles of the Vision Plan Traffic Fee Nexus Study and maintains a consistent nexus between future development in the IBC and the transportation system improvements necessary to support that development. Through equitable developer fees, the objective of this update is to financially support the implementation of identified improvements to the transportation system within and adjacent to the IBC in order to accommodate full buildout of the Vision Plan.

California's Mitigation Fee Act (AB 1600, Cal. Gov. Code §§ 66000-66009) creates the legal framework for local governments to assess new fees toward future development. Such fees require new development to pay its fair-share of the infrastructure cost necessary to serve new residents and businesses. AB 1600 stipulates that a local government must take the following steps to establish a nexus between a proposed fee and project impacts:

- Identify the purpose of the fee;
- Identify the use to be funded by the fee;
- Determine the reasonable relationship between:
  - The use of the fee and the type of development paying the fee;
  - The need for the traffic improvements and the types of development on which the fee is imposed; and
  - The amount of the fee and the cost of the public facilities or portion of the public facilities (in this case, traffic improvements) attributable to the development.

These principles closely emulate two landmark US Supreme Court rulings that provide guidance on the application of impact fees. The first case, Nollan v. California Coastal Commission (1987) 107 S.Ct. 3141, established that local governments are not prohibited from imposing impact fees or dedications as conditions of project approval provided the local government establishes the existence of a "nexus" or link between the exaction and the interest being advanced by that exaction. The Nollan ruling clarifies that once the adverse impacts of development have been quantified, the local government must then document the relationship between the project and the need for the conditions that mitigate those impacts. The ruling further clarifies that an exaction may be imposed on a development even if the development project itself will not benefit provided the exaction is necessitated by the project's impacts on identifiable public resources.

The second case, Dolan v. City of Tigard (1994) 114 S.Ct. 2309, held that in addition to the Nollan standard of an essential nexus, there must be a "rough proportionality" between proposed exactions and the project impacts that the exactions are intended to provide benefit. As part of the Dolan ruling, the US Supreme Court advised that "a term such as "rough proportionality" best encapsulates what we hold to be the requirements of the Fifth Amendment. No precise mathematical calculation is required, but the city (or other local government) must make some sort of individualized determination that the required dedication is related both in nature and extent to the impact of the proposed development."

The combined effect of both rulings resulted in the requirement that public exactions must be carefully documented and supported. This requirement was reiterated by the provisions of the State of California Mitigation Fee Act and subsequent rulings in the California Supreme Court (Ehrlich v. City of Culver City (1996) 12 C4th 854) and the California Court of Appeal (Loyola Marymount University v. Los Angeles Unified School District (1996) 45 Cal.App.4th 1256).

The Vision Plan Traffic Fee Nexus Study satisfied the requirements of the State of California Mitigation Fee Act. Thus this update is not intended to re-analyze the nexus or the purpose, but is to review and revise the fee program based on the needs determined by the 2015 IBC Traffic Study Update.

The 2015 IBC Traffic Study Update analyzed the project study area presented in Figure 1.1. All improvements identified under the interim year 2020 and buildout Post-2035 conditions are located within this defined project study area. Consistent with the methodology used in the 2010 IBC Vision Plan Traffic Study (henceforth referred to as Vision Plan Traffic Study), the 2015 IBC Traffic Study Update identified specific mitigation measure improvements that mitigate unacceptable level of service (LOS) E and F to acceptable LOS of A-D, per the City's Traffic Impact Analysis (TIA) Guidelines (adopted August 2004) and per the performance criteria for each affected agency (Caltrans District 12 and cities of Newport Beach, Costa Mesa, Santa Ana, and Tustin).

For locations within the City of Irvine, 90% of the improvement costs are included in the fee program. For locations not under the City of Irvine's jurisdiction, a fair-share methodology is applied that considers fair-shares of improvement costs. The proportionate fair-shares of improvement costs in the City of Costa Mesa and Santa Ana, associated with remaining improvements from the City of Irvine's Genera Plan, are included in the Fee Program. A 2011 amended agreement with the City of Santa Ana, replacing the 1992 agreement between the two cities, identified specific improvements for which the City of Irvine is either partially or fully responsible for certain improvement and those associated improvement costs were included in this update. In 2009 and 2010, respectively, the City of Newport Beach and the City of Tustin entered into settlement agreements with the City of Irvine, where City of Irvine made a one-time lump-sum payment to each of the cities, as its fair-share contribution towards transportation improvements and absolved itself from any future financial or implementation obligation related to the Vision Plan buildout.

Based on the findings from the 2015 IBC Traffic Study Update and existing agreements between the City of Irvine and the affected jurisdictions and agencies, Figure 1.1 identifies the improvement locations and provides a brief description of each improvement.

Costs of improvements included in the fee program are based on 2016 dollars developed from Construction Cost Index (CCI), and recent relevant projects unit cost estimates for construction materials and labor, and right-of-way cost estimates. This is further discussed in Section 2, IBC Vision Plan – 2015 Update Traffic Fee Program Cost. Section 3, Fee Methodology, walks the reader through a step by step process of developing the proposed fee effective FY 2017-2018. Section 4, Establishing Nexus discusses in details of the nexus between a proposed fee and project impacts, and Section 5, Conclusion summarizes the findings of this update and provides recommendations.

Figure 1.1: IBC Vision Plan – 2015 Update – Location of Improvements

Source: HDR 2015

2 IBC Vision Plan – 2015 Update to Traffic Fee Program Cost

The 2015 IBC Traffic Fee Nexus Update includes costs required to implement physical improvements that achieve the following:

- Mitigate impacts identified through the 2015 IBC Traffic Study Update;
- Satisfy agreements with adjacent jurisdictions that require the construction of specific roadway improvements to diminish the impacts of the Vision Plan development on the roadway system; and
- Upgrade the roadway network to be consistent with the buildout of the City's General Plan Circulation Element.

All costs included as part of the 2015 IBC Traffic Fee Nexus Update comply with the City's policies and estimates based on the most recent aerial photography available, field reviews for determination of feasibility, recent unit costs from local projects, and CCI updates. For all improvements located within the City of Irvine, 90% of total costs are included in this update. It is assumed that the remaining 10% will come from outside funding sources, such as federal, state and county grants.

Consistent with the Vision Plan Traffic Fee Nexus Study, this update includes costs related to the management and implementation of the IBC Vision Plan Traffic Fee Program. These costs include implementing Transportation Management Strategies (TMS) to reduce vehicle volumes and associated impacts, IBC Vision Plan Traffic Fee Program administration and construction contingency costs. Incorporated into the mix are the fund amounts that are currently available in the fee program, which includes specific amounts that are earmarked for projects identified in the City's Capital Improvement Program (CIP) and Development Agreements (DAs) that are not subject to any fee update.

Table 2.1 presents the fees required by the traffic fee program to implement the IBC Vision Plan.

2.1 Agreement with the City of Newport Beach

Following the development of the Vision Plan, the City of Irvine entered a settlement agreement with the City of Newport Beach. Based on this agreement, executed on November 24, 2009, the City of Irvine paid a one-time sum of $3,650,000 to the City of Newport Beach to be used exclusively for the engineering, design, and construction of Jamboree Corridor improvements and other traffic improvements located within the Vision Plan study area. Details of this agreement are presented in Appendix A. At the time of the agreement, the Cities of Irvine and Newport Beach agreed that the amount of $3,650,000 constituted a fair-share obligation for the City of Irvine toward improvements in Newport Beach necessitated by the development of the Vision Plan. The agreement was drawn up on the premise that the City of Irvine will not be financially responsible for any mitigation caused by the buildout of the Vision Plan, provided the residential unit cap of 15,000 DUs (plus 2,038 DUs pursuant to state law) is not exceeded. Therefore no mitigation improvement costs were identified within the City of Newport Beach for inclusion in this fee update.

Table 2.1: 2015Updated IBC Vision Plan Traffic Fee Program Breakdown

Needs for IBC Vision Plan Traffic Improvements		
Improvement Costs		
Based on 2015 IBC Traffic Study Update		
Irvine (90% of estimate assumed)	*$18,006,327*	
Caltrans District 12	*$6,585,299*	
2015 IBC Traffic Study Update Improvements	$24,591,626	$24,591,626
Remaining Existing General Plan Improvements		
Irvine (90% of estimate assumed)	*$16,577,451*	
Improvements in Santa Ana	*$52,670,912*	
Improvements in Costa Mesa	*$28,970*	
2015 Update - Remaining Existing General Plan Improvements	$69,227,334	$69,227,334
Subtotal: 2015 Update IBC Vision Plan Improvement Cost		$93,868,960
Existing IBC Traffic Funds Available		
*Current IBC Traffic Fund Balance***	*$46,838,863*	
*Capital Improvement Program funds that are currently appropriated for IBC Improvements ****	*($27,354,385)*	
Subtotal: Existing IBC Funds to be applied to the 2015 Fee Program	($19,484,478)	($19,484,478)
Subtotal: (Effective) 2015 Updated IBC Vision Plan Improvement Cost		$74,384,482
Other IBC Vision Plan Traffic Fee Program Costs		
Transportation Management Systems (10% of total fee)	*$7,438,448*	
IBC Program Administration (5% of total fee)	*$3,719,224*	
Contingency (15% of total fee)	*$11,157,672*	
Subtotal: Additional Costs to the IBC Fee Program	$22,315,345	$22,315,345
Development Agreements (subject to fees identified in their agreements)		
Park Place DA	*($2,769,591)*	
Central Park West DA	*($1,233,998)*	
Subtotal: Existing Development Agreements	($4,003,589)	($4,003,589)
Subtotal: Total IBC Fees Required		$92,696,238

Source: HDR 2015 for Development of Improvement Costs; City of Irvine for Fund Balances
* Caltrans D12 agreement with City of Irvine ($7,025,962 minus $440,663 set aside as Caltrans Subfund)
** Includes remaining balance from 1992 IBC Traffic Fee Program Fund Balance, current IBC Vision Plan Traffic Fee Program Fund Balance, and Caltrans subfund
*** CIP allocation for funding of Jamboree Road/Barranca Parkway and Jamboree Road/Main Street improvements, and partial funding for the pedestrian bridge at Jamboree Road and Michelson Drive

2.2 Agreement with the City of Tustin

On July 13, 2010, following the development of the Vision Plan and through consultation with the City of Tustin, an agreement was executed between the Cities of Tustin and Irvine. The agreement stipulated that in lieu of City of

Irvine's fair-share of the estimated costs of traffic improvements located within the City of Tustin and identified as mitigation measures required for buildout of the Vision Plan, the City of Irvine would contribute 12% of the construction contract award amount or $4,500,000, whichever was greater, and up to a maximum of $6,500,000, for the Tustin Ranch Road extension roadway improvement between Walnut Avenue and Warner Avenue, including the grade separation and loop at Edinger Avenue. The improvements at Tustin Ranch Road, including the grade separation, were completed at the time of this update, however, the loop at Edinger Avenue is pending completion. Irvine's final contribution towards improvements in Tustin was $4.5 million. Appendix B presents the 2010 Settlement Agreement between the City of Irvine and the City of Tustin. The agreement was drawn up on the premise that the City of Irvine will not be financially responsible for any mitigation caused by the buildout of the Vision Plan, provided the residential unit cap of 15,000 DUs (plus 2,038 DUs pursuant to state law) is not exceeded. Therefore no mitigation improvement costs other than costs for specific improvement locations shared with Irvine, were identified within the City of Tustin for inclusion in this fee update.

2.3 Agreement with City of Santa Ana

A 1992 agreement between the City of Irvine and the City of Santa Ana resulted from the 1992 EIR approval that identified Irvine as the responsible party for the following improvements:

- Full financial responsibility for the costs to widen Dyer Road from a six-lane divided arterial to an eight-lane divided arterial between Red Hill Avenue and the SR-55 northbound on-ramp, including the intersection of Red Hill Avenue at Dyer Road/Barranca Parkway. Consistent with all improvements for which the City of Irvine has sole financial responsibility, 90% of total costs for this improvement is included in the 2015 IBC Traffic Fee Nexus Update.
- 50% of the costs to build the Alton Parkway Overcrossing at SR-55 in the City of Santa Ana.

The need for these improvements, and the allocation of responsibility to fund the improvements, was created in part by the development contemplated in the 1992 IBC Zoning, and as such the improvements were included in the 1992 Fee Program. An amendment to the 1992 agreement was negotiated and signed between the cities on March 21, 2011Following the approval of the IBC Vision Plan. The agreement redefined the Alton Parkway Interchange at SR-55 as Alton Parkway Overcrossing at SR-55, and maintained the financial responsibility of the City of Irvine on the two above mentioned projects, consistent with the 1992 agreement. Appendix C presents detail of the 1992 Settlement Agreement and the subsequent amendment.

Preliminary engineering cost estimates indicate that the Dyer Road widening is expected to cost $25,011,301. This cost includes estimates for Class II bikes lanes through the length of the project extent, consistent with the findings from the Project Report[4]. The total cost of the redefined Alton Parkway Overcrossing at SR-55 is estimated at $60,184,755. This cost includes the following list of additional improvements identified as mitigation in an updated traffic study[5] completed in 2010:

- Intersection #44: Red Hill Avenue at Alton Parkway;
- Signalization of the intersection of Halladay Street at Alton Parkway; and
- Signalization of the intersection of Daimler Street at Alton Parkway

For this update 90% of the cost of Dyer Road widening ($22,510,171) is included in the fee update. Pursuant to the City of Irvine and City of Santa Ana agreement, 50% of the Alton Parkway Overcrossing at SR-55 project ($30,092,378) is included in this update. Other than these two improvements, the only remaining Existing General Plan improvement per the cities' agreement included in this update is Intersection #719: Flower Street at Segerstrom Avenue that identifies a fair-share contribution of 9.6%, consistent with the Vision Plan Traffic Fee Nexus Study. City

[4] *Project Report for the Dyer Road/Barranca Parkway Improvements (State Route-55 to Aston Street), RBF Consulting, 2004*

[5] *Updated Traffic Study for Alton Avenue Overcrossing at State Route 55 Freeway and Arterial Widening in the Cities of Santa Ana and Irvine, KOA, 2010*

of Irvine's fair-share for implementing improvements at the intersection of Flower Street at Segerstrom Avenue is $68,364 (9.6% of $712,124).

Hence, the 2015 IBC Traffic Fee Nexus Update includes a total of $52,670,912 as funds that would be required to implement improvements within the City of Santa Ana.

Appendix D presents detailed layout and cost estimate worksheets for each improvement.

2.4 Agreement with City of Costa Mesa

Based on the existing agreement between the Cities of Irvine and Costa Mesa, executed in 1993 and presented in Appendix E, the fair-share contribution towards one remaining Existing General Plan improvement included in this update is SR-55 Frontage Road SB Ramps at Paularino Avenue that identifies a fair-share contribution of 2.4%, consistent with the Vision Plan Traffic Fee Nexus Study. City of Irvine's fair-share for implementing improvements at this location is $28,970 (2.4% of $1.2 Million).

Appendix D presents a layout and cost estimate worksheet for this location.

2.5 Agreement with Caltrans District 12

Following the development of the Vision Plan and through consultation with Caltrans District 12 (Caltrans), on January 25, 2011, the City of Irvine and Caltrans entered into an agreement that identified feasible strategies that Caltrans would employ as mitigation for traffic impacts caused by the project on Caltrans facilities. Based on the findings from the Vision Plan Traffic Fee Nexus Study, it was determined that the fair-share cost of implementing these improvements would be $7,025,962 and it would constitute the City of Irvine's fair-share obligation as identified in the agreement. Appendix F presents the 2011 Traffic Mitigation Agreement between City of Irvine and Caltrans. Since the completion of the Vision Plan, the City of Irvine has collected and earmarked $440,663 as payment towards Caltrans agreement. Hence, this 2015 IBC Traffic Fee Nexus Update rolls over $6,585,299 ($7,025,962 less $440,663) from the Vision Plan Traffic Fee Nexus Study, as part of the funding need for implementing improvements associated with the buildout of the Vision Plan.

2.6 Transportation Improvements within the City of Irvine

2.6.1 Based on the 2015 IBC Traffic Study Update

The 2015 IBC Traffic Study Update identified the following eight deficient locations for which improvements were identified (refer to Table ES1.2 in the 2015 IBC Traffic Study Update).

- Intersection #97: Von Karman Avenue/Tustin Ranch Road at Barranca Parkway;
- Intersection #98: Von Karman Avenue at Alton Parkway;
- Intersection #134: Loop Road/Park Avenue at Warner Avenue;
- Intersection #135: Jamboree NB Ramps at Warner Avenue;
- Intersection #144: Jamboree Road at I-405 SB Ramps;
- Intersection #145: Jamboree Road at Michelson Drive;
- Intersection #188: Harvard Avenue at Michelson Drive;
- Intersection #229: Culver Drive at Alton Parkway;

For the purpose of the fee update, cost estimates were developed at six of these locations. Cost estimates were not necessary for intersections #144 (Jamboree Road at I-405 SB Ramps) and #145 (Jamboree Road at Michelson Drive).

- Intersection #144 (Jamboree Road at I-405 SB Ramps) improvement costs were not included in the updated fee because this location is a Caltrans facility and is part of the $7 million agreement with Caltrans. The specific improvement identified for #144 in the Vision Plan Traffic Fee Nexus Study called for widening of this off-ramp to add an approach lane resulting in two-left turn lanes and three-right turn lanes for an approach length of 500 feet, with the City's responsibility identified as 21.6% of a $1.5 million project. The 2015 IBC Traffic Study Update recommended a slightly altered improvement that reassigns these approach lanes to provide two-left turn lanes, one-shared left/right turn lane, and two-right turn lanes, all within the previously determined ROW, hence minimally impacting project costs.
- Intersection #145 (Jamboree Road at Michelson Drive) improvement costs were not included in the updated fee as a specific line item cost because $8,237,407 in CIP funding has been allocated from the IBC Traffic Fee Program Fund Balance to cover a portion of the estimated $17.7 million total cost to implement the pedestrian bridge. The pedestrian bridge across the north leg of the southbound Jamboree approach was proposed as part of the Vision Plan EIR because lane addition improvements at the intersection were determined to be operationally infeasible.

In addition, the 2015 IBC Traffic Study Update identified the following three locations for signalization.

- Armstrong Avenue at McGaw Avenue;
- Gillette Avenue at Alton Parkway;
- Teller Avenue at Dupont Drive;

At the time this report was being prepared, signalization efforts at Armstrong Avenue at McGaw Avenue and at Teller Avenue at Dupont Drive were underway and therefore were not included in the updated fee calculations.

Consistent with the Vision Plan Traffic Fee Nexus Study, this update also assumes 90% of the total cost of improvements within the City of Irvine ($20,007,030) or $18,006,327. It is assumed that the remaining 10% may be funded with outside funding sources such as federal, state and/or county grants.

2.6.2 Existing General Plan Improvements

The remaining Existing General Plan improvement not yet built in the IBC is the widening of Red Hill Avenue between Main Street and MacArthur Boulevard from four lanes to six lanes.

Originally identified in the 1992 EIR and 1992 Fee Program as an improvement that widens the arterial from its existing four lanes to an eight-lane facility, the Vision Plan determined that widening of this segment of Red Hill Avenue from four lanes to six lanes provided adequate traffic circulation to accommodate project buildout. The 2015 IBC Traffic Study Update concurs with that finding and this widening improvement to six lanes is consistent with the City's General Plan Circulation Element updated as part of the Vision Plan effort. The 90% of the cost for this improvement is $16,577,451 (or 90% of the total cost of $18,419,390) is included in the fee program.

Appendix D presents detailed concept layouts and cost estimate worksheets for each improvement that is included in the fee update.

2.7 Existing IBC Fund Balance

The current IBC Traffic Fee Program fund balance is the combination of the remaining funds from the 1992 Traffic Fee Program, balance of funds collected through the Vision Plan implementation since 2010, and earmarked funds

($440,663 – refer Section 2.5) allocated for Caltrans improvements per the settlement agreement with Caltrans. At the time of this update (i.e., snapshot date of July 31, 2015), the overall combined IBC Vision Plan Traffic Fee Program funds were $46,838,863.

As discussed in Section 2.6.1, $8,237,407 from this fund is allocated towards the construction of the pedestrian bridge over Jamboree Road at Michelson Drive. In addition, the City's CIP had allocated $4,766,978 towards the implementation of improvements at intersection #136 (Jamboree Road at Barranca Parkway) and intersection #141 (Jamboree Road at Main Street) from the IBC Traffic Fee Program fund. Subsequently, CIP funding for intersections #136 and #141 was augmented with an additional allocation of $14,350,000 ($5,030,000 for intersection #136 and $9,320,000 for intersection #141), bringing the total funding earmarked for these two intersections to $19,116,978. As these two intersection improvements were identified in the Vision Plan Traffic Study and 2010 Traffic Fee Nexus Study, and implementation was underway, these improvements were assumed to be constructed in terms of traffic analysis. Backing out the allocated funds for these committed improvements, the remaining IBC Traffic Fee Program funds available equaled $19,484,478 and this amount is applied towards this fee update. Table 2.2 summarizes the IBC fund balance applied towards this fee update.

Table 2.2: IBC Traffic Fee Funds applied towards 2015 Update*

Funds / Projects	Amount
IBC Vision Plan Traffic Fee Program funds	$46,838,863
Allocated funds for Jamboree/Michelson pedestrian bridge (included in CIP)	($8,237,407)
Allocated fund balance for Jamboree Road at Barranca Parkway, and Jamboree Road at Main Street improvements (included in CIP)	($19,116,978)
TOTAL	$19,484,478

*as of snapshot date of July 31, 2015
Source: City of Irvine

2.8 Other IBC Vision Plan Traffic Fee Program Costs

Consistent with the Vision Plan Traffic Fee Nexus Study, costs associated with Transportation Management Systems (TMS) are included in this update and will be reevaluated as part of the next two-year update. The TMS costs are estimated at 10% of the effective total costs of improvements ($74,384,482) after subtracting the remaining IBC Traffic Fee fund balance, or approximately $7.44 million. As documented in the Vision Plan EIR, Project Design Feature (PDF 13-1) addresses the goals and objectives of the TMS as follows:

- Monitor travel demand at employment sites and provide reports on trip generation to the City;
- Offer employers and property owners assistance with transportation services on a voluntary basis;
- Deliver transportation services to commuters including a) ride-matching, transit/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; and
- Oversee and fund the implementation and expansion of the i-Shuttle.

Program Administration costs are assumed in the fees as 5% of the effective total costs of improvements ($74,384,482) after subtracting the remaining IBC Traffic Fee fund balance, for an amount of approximately $3.72 million to cover the next two years of staff and consultant time for administering annual fee updates, monitoring/updating the IBC database, inter-departmental and inter-agency coordination, reassessment of land use assumptions and reassessment of the Vision Plan and improvement list as required every two years, starting from this update cycle. Administration costs will also be reevaluated with the next two-year update.

Contingency costs (a standard practice in the industry to cover inflation rates and unforeseen costs) over the 20-year period are estimated at 15% of the effective total costs of improvements ($74,384,482) after subtracting the remaining IBC Traffic Fee fund balance, for an amount of approximately $11.16 million.

The summation of theseother IBC Vision Plan Traffic Fee Program costs for this update equals $22,315,345.

2.9 Development Agreement Cost Reduction

Development Agreements (DAs) currently exist between the City and the following five developments located in the IBC:

- Park Place;
- Central Park West;
- Hines;
- Avalon Apartments; and
- Alton Condominiums

The DAs specify the fees that were locked-in at the time of approval of each specific project. Consistent with the Vision Plan Traffic Fee Nexus Study, it is assumed for this update that two of the developers (Park Place and Central Park West) will continue to pay fees identified in their DAs. Therefore their related fees in the amount of approximately $4 million ($2,769,591 for Park Place and $1,233,998 for Central Park West) and the land use intensity associated with these fees were deducted from the calculation of the proposed updated fees. The intensity and related fees for the remaining three DAs (Hines, Avalon Apartments and Alton Condo) were included in the calculation of the updated fee.

3 Fee Methodology

The methodology used for this fee update is consistent with the Vision Plan Traffic Fee Nexus Study and each step for fee calculations is discussed in detail in the following sections.

3.1 Step 1: Identify Traffic Improvements and the IBC Fair-share

The mitigation measure improvements identified in the 2015 IBC Traffic Study Update to be included for the 2015 IBC Traffic Fee Nexus Update, are presented in Table 3.1. The improvements address project-related impacts based on thresholds of significance described in the traffic study. Improvements in Newport Beach and Tustin, with whom the City of Irvine has separate agreements are excluded from Table 3.1. As discussed previously in Section 2.3 and Section 2.4, select improvements in Santa Ana and Costa Mesa are included.

Table 3.1: Updated IBC Vision Plan Improvement List

Int ID	Intersection / Arterial Location	Jurisdiction	Improvement Strategy
97	Von Karman Avenue/Tustin Ranch Road at Barranca Parkway *	Irvine	Add 3rd NBT and convert de facto right-turn to standard NBR
98	Von Karman Avenue at Alton Parkway *	Irvine	Add 3rd NBT
134	Loop Road/Park Avenue at Warner Avenue	Irvine	Add 3rd EBT and NBR overlap
135	Jamboree NB Ramps/Warner Avenue	Irvine	Add 2nd EBL
188	Harvard Avenue at Michelson Drive	Irvine	Widen SB to 2,2,1
229	Culver Drive at Alton Parkway	Irvine	Improve EB to 2,3,0 (de facto right)
	Red Hill Avenue between Main Street and Mac Arthur Boulevard	Irvine	Widen from 4 lanes to 6 lanes.
	Gillette Avenue at Alton Parkway	Irvine	New traffic signal (T-intersection)
	Alton Overcrossing at SR-55	Santa Ana**	SR-55/Alton Parkway Overcrossing Project plus the following improvements: • Intersection #44: Red Hill / Alton (Add 1 NBR, convert de facto SBR to 1 SBR, add 2nd EBL, convert 1 WBR to free WBR) • Signalization and widening of Halladay Street / Alton Parkway • Signalization at Daimler Street / Alton Parkway
	Dyer Road widening between SR-55 NB on ramp and Red Hill Avenue (Phase 2)	Santa Ana**	Dyer Road widening from SR-55 to Red Hill Avenue (consistent with Barranca-Dyer Project Report)
719	Flower Street and Segerstrom Avenue	Santa Ana	Add eastbound de facto lane
10	SR-55 Frontage Road SB Ramps at Paularino	Costa Mesa	Improve Southbound to 1.5 Left, 1.5 Through, 1 Right.

Source: HDR 2015
* Due to close proximity of improvements, for cost development, these two locations were combined and treated as one contiguous corridor on Von Karman Avenue between Alton Parkway and Barranca Parkway/Tustin Ranch Road.
**Agreement with Santa Ana.

3.2 Step 2: Estimate Total Cost to Implement 2015 IBC Improvement List

In order to implement the improvements identified in the 2015 IBC Traffic Study Update, a total cost of $92,696,238 (see Table 2.1) must be programmed into this fee update effort. This cost includes the cost of the improvements, roll over from the Caltrans agreement (see Section 2.5), deduction of the available fund balance from the IBC Traffic Fee Program (see Table 2.2), project soft costs (see Section 2.8) and deduction of fees related to the two existing Development Agreements (see Section 2.9).

Based on the preliminary engineering and cost estimates, the cost of the needed improvements is $93,868,960 and includes the following:

- 90% of costs related to improvements within City of Irvine and Santa Ana (widening of Dyer Road per agreement between City of Santa Ana and Irvine);
- Fair-share obligation to improvements in Santa Ana and Costa Mesa (remaining GP improvements); and
- Roll over of fair-share obligations pursuant to the Caltrans agreement from 2010.

Table 3.2 presents the list of improvement locations, along with project cost for each, City of Irvine's share and cost of improvements included in the 2015 IBC Traffic Fee Nexus Update.

Preliminary engineering layouts and detailed cost estimates were developed for each improvement. All improvement strategies identified to mitigate traffic impacts caused by the buildout of the Vision Plan were vetted through a review process with City of Irvine planning and engineering staff and were determined to be feasible. The following section discusses in detail the methodology for developing cost estimates.

3.2.1 Development of Improvement Costs

For the purpose of developing planning level cost estimates for each of the improvements, unit costs and planning level concept plans were developed. The concept level plans were based off most recent aerial imagery and field reconnaissance.

<u>Unit Cost Development</u>

Unit costs including ROW costs were reviewed and updated based on Caltrans cost data for 2015 and bid data provided by the City between 2013 and 2015. The 2015 unit costs were compared to the 2010 unit costs for reasonability and the following changes were made to the soft cost:

- ROW support costs were increased from 5% to 10% of construction costs
- Minimum Project Development cost was increased from $200,000 to $300,000

Table 3.2: Updated IBC Vision Plan Improvement List and Associated Cost for Fee Calculation

Int ID	Intersection / Arterial Location	Jurisdiction	Cost	Fair Share	Cost included for Fee Calculation
97 *	Von Karman Avenue/Tustin Ranch Road at Barranca Parkway [1]	Irvine	$7,558,713	90%	$6,802,842
98 *	Von Karman Avenue at Alton Parkway [1]	Irvine		90%	
134	Loop Road/Park Avenue at Warner Avenue [1]	Irvine	$5,411,023	90%	$4,869,921
135	Jamboree NB Ramps/Warner Avenue [1]	Irvine	$2,592,998	90%	$2,333,698
188	Harvard Avenue at Michelson Drive [1]	Irvine	$2,752,766	90%	$2,477,489
229	Culver Drive at Alton Parkway [1]	Irvine	$1,204,030	90%	$1,083,627
	Red Hill Avenue between Main Street and Mac Arthur Boulevard [2]	Irvine	$18,419,390	90%	$16,577,451
	Gillette Avenue at Alton Parkway [1]	Irvine	$487,500	90%	$438,750
	Alton Overcrossing at SR-55 [3]	Santa Ana	$60,184,755	50%	$30,092,378
	Dyer Road widening between SR-55 NB on ramp and Red Hill Avenue (Phase 2) [3]	Santa Ana	$25,011,301	90%	$22,510,171
719	Flower Street and Segerstrom Avenue [4]	Santa Ana	$712,124	9.6%	$68,364
10	SR-55 Frontage Road SB Ramps at Paularino [5]	Costa Mesa	$1,207,101	2.4%	$28,970
				Cost of Improvements	$87,283,661
				Caltrans agreement roll over **	$6,585,299
				2015 Update IBC Vision Plan Improvement Cost	$93,868,960

Source: HDR 2015
* Due to close proximity of improvements, for cost development, these two locations were combined and treated as one contiguous corridor on Von Karman Avenue between Alton Parkway and Barranca/Tustin Ranch Road
** Caltrans D12 agreement with City of Irvine ($7,025,962 minus $440,663 set aside as Caltrans Subfund)
[1] Irvine improvements - full financial responsibility to be funded at 90% through IBC Traffic Fee Program funds
[2] Irvine improvements - remaining Irvine General Plan improvement to be funded at 90% through IBC Traffic Fee Program funds
[3] Santa Ana improvements – full or financial responsibility per agreement
[4] Santa Ana improvements - remaining Irvine General Plan improvement for which City of Irvine has a fair share
[5] Costa Mesa improvements - remaining Irvine General Plan improvement for which City of Irvine has a fair share financial responsibility

Concept Development and Cost Estimates

Planning level concepts were developed based on publicly available "off the shelf" current aerial imagery. Utility identification, including sewer and overhead electrical lines, were determined to the extent possible from publicly available aerial photography. Length of turn pockets where needed was determined based on traffic data where appropriate. Consistent with the Vision Plan Traffic Fee Nexus Study, cost estimates included provisions for the following:

- Preliminary Project Development
- ROW Management
- Design Engineering/Administration Cost
- Construction Engineering Costs/Administration

- Construction Contingency

3.3 Step 3: Identify Remaining IBC Traffic Fund Revenues and Soft Costs to Determine Total Fee for 2015 Update

Based on the discussion in Section 2.7 and data presented in Table 2.2, an amount of $19,484,478, (effective IBC Traffic funds available to be applied toward the 2015 Fee Program) was subtracted from the total needs cost of $93,868,960 shown in Table 3.2.

Other IBC Traffic Fee Program costs, estimated at $22,315,345 and discussed in detail in Section 2.8 were added to the difference between improvement cost needs and the existing available IBC Traffic Fee Program Fund balance ($74,348,482). Finally, fees paid and those that will be paid by developers pursuant to their Development Agreements (DAs) in the amount of $4,003,589, were subtracted from the total value. Table 3.3 summarizes the value for each of the items that determine the final amount of $92,696,238 that must be programmed into this fee update effort.

Table 3.3: Summary of IBC Traffic Fee Update Cost Elements

Items	Cost
2015 Update IBC Vision Plan Improvement Cost*	$93,868,960
Existing IBC Traffic Fee Program Funds (amount to be subtracted)	($19,484,478)
(Effective) 2015 Updated IBC Vision Plan Improvement Cost	$74,384,482
Other IBC Traffic Fee Program (Transportation Management Systems, IBC Program Administration, Contingency)	$22,315,345
Development Agreements (amount to be subtracted)	($4,003,589)
Total Amount to be programmed for the 2015 Fee Update	$92,696,238

* includes Caltrans roll over
Source: HDR 2015

3.4 Step 4: Estimate the Remaining Development subject to 2015 Traffic Fee Update

Based on a thorough review of the City of Irvine IBC database records and Development Agreements (DAs), the remaining developable land uses under the Vision Plan buildout condition were quantified to define appropriate land use fees to fund the transportation improvements identified for this update.

Existing land uses as of the July 31, 2015 snapshot and forecast Year 2035 Vision Plan buildout land uses were applied in the determination of the land use specific traffic impact fees. Consistent with the underlying approach behind the development of the Vision Plan, increases in residential density throughout the IBC result in an overall reduction of non-residential uses (i.e., manufacturing, warehouse and mini-warehouse uses). The Vision Plan approved a residential cap of 15,000 base units plus a maximum potential of 2,038 density bonus units pursuant to state legislation. Based on approvals since 2010 and consistent with the 2015 IBC Traffic Study Update, the total number of density bonus units equals 1,794 DU, less than the 2,038 DU maximum, bringing the total number of DUs to 16,794 DUs, instead of 17,038 DUs assumed in 2010. The 2015 Traffic Fee Nexus Update also assumed that all remaining density bonus units will be charged fees consistent with the market-value base units.

In determining the remaining development subject to traffic impact fees, previous DAs and prepaid fees were considered. In 2005, the City of Irvine included an option for developers to prepay fees for projects under consideration to avoid updated fee adjustments that might occur subsequent to the 2005 update. Developers took advantage of this option and fees were paid for DUs and office equivalency square footage (SF). While there may be prepayment for specific projects that did not move forward based on the past fluctuating economic climate, the prepayment remains valid for future development projects for those identified parcels. As a result, these units and office equivalency SF were excluded from this update. In addition, for the following three developments, fees were paid after the "snap-shot" date for this update (July 31, 2015). Hence, the quantities associated with these developments were included for the 2015 update, however, the prepaid fees from these developments will remain valid and these developments will not be subject to new fees developed through this update.

- 16103 Derian Avenue (formerly 17275 Derian Avenue)
- 360 Fusion (formerly Murphy Apartments, 2852 McGaw Avenue, 17321-17351 Murphy Avenue)
- Main and Jamboree Apartments (2699-2719 White Road, 2772 Main Street)

3.4.1 Dwelling Unit Distribution – 2015 Update

This section presents the status of the maximum allowable dwelling units (DUs) within IBC. The land use assumption for the 2015 IBC Traffic Study Update assumes a total of 7,060 DUs (6,676 base DUs plus 384 density bonus DUs) on the ground in 2015, and 16,794 DUs (15,000 base DUs plus 1,794 density bonus DUs) in buildout Year 2035. Table 3.4 presents a status breakdown of the remaining DUs between Year 2035 and Year 2015. At the time of this update, 122 DUs (60 base DUs and 62 density bonus DUs) did not have a status reported, i.e. were not under construction nor approved or pending. The table indicates that for much of the remaining IBC DUs, fees were prepaid, hence only a few developments remain that will be subject to the updated fees developed as part of this update effort.

Table 3.5 presents the breakdown of land use quantities that will be subject to the updated fee, and Appendix G presents details of developments by parcel.

Table 3.4: IBC Dwelling Unit Summary

Base Units	Density Bonus Units	Total	Details
15,000	1,794	16,794	Maximum allowable DUs allowed for IBC Vision Plan Traffic Program
6,676	384	7,060	DUs on the ground in 2015
4,065	*23*	*4,088*	*DUs Existing at time of approval of Vision Plan*
2,611	*361*	*2,972*	*DUs Existing (on the ground) between 2010 and 2015*
Breakdown of Remaining Units between Year 2035 and Year 2015			
Base Units	Density Bonus Units	Total	Details
8,324	1,410	9,734	Remaining DUs between Year 2015 and Year 2035
8,264	1,348	9,612	Total DUs: under construction/approved/pending
2,020	*323*	*2,343*	*Units Under Construction accounted between 2010 and 2015*
836	*228*	*1,064*	*Units Approved – IBC fees paid between 2010 and 2015*
600	*148*	*748*	*Units Approved – IBC fees paid after 07/31/15 snapshot date* *16103 Derian Avenue* *360 Fusion* *Main and Jamboree Apartments*
2,887	*312*	*3,199*	*Units Approved – no IBC fees paid*
8	*0*	*8*	*Units Approved - fees paid prior to 2010*
1,913	*337*	*2,250*	*Units In Process / Pending - no fees paid*
60	62	122	DUs not associated with known projects*

*as of the snapshot date of July 31, 2015
Source: City of Irvine

Table 3.5: Future Land Use Intensity Subject to the Updated Traffic Fee

	Base (DU)	Density Bonus (DU) *	TOTAL (DU)	Extended Stay (Rooms)	Hotel (Rooms)	Retail Mix (Sq. ft.)	Office (Sq. ft.)	Industrial Mix (Sq. ft.)	Mini Ware-House (Sq. ft.)
2010 Baseline (for reference)	4,779	232	5,011	174	2,322	1,341,002	174	14,700,922	348,056
2015 Baseline (on the ground conditions) [1]	6,676	384	7,060	474	2,322	1,384,000	26,639,000	13,934,000	379,000
2035 Buildout Cumulative with Project	15,000	1,794	16,794	1,049	2,653	1,690,000	34,286,000	12,339,000	549,000
Remaining Development (2015 to 2035)	8,324	1,410	9,734	575	331	306,000	7,647,000	-1,595,000	170,000
Central Park West and Park Place Development (not subject to updated fee per their individual DAs)	2,277	128	2,405	0	0	149,250	2,674,820	0	0
ADJUSTED Remaining Development between 2015 and 2035 (quantities reflect subtraction of intensity related to Central Park West and Park Place DAs) [2]	6,047	1,282	7,329	575	331	156,750	4,972,180	-1,595,000	170,000
Other Developments with prepaid fees prior to 07/31/15 snapshot date	*1,987*	*423*	*2,410*	*161*	*0*	*3,224*	*0*	*0*	*0*
REMAINING DEVELOPMENT SUBJECT TO UPDATED TRAFFIC FEE [3]	4,060	859	4,919	414	331	153,526	4,972,180	-1,595,000	170,000
LAND USE BREAKDOWN									
DEVELOPMENT AGREEMENTS									
Central Park West									
Existing (Fees Paid)	*646*	*0*	*646*	*0*	*0*	*0*	*0*	*0*	*0*
Under Construction (Fees Paid)	*16*	*0*	*16*	*0*	*0*	*0*	*0*	*0*	*0*
Approved (Fees not paid)	*613*	*0*	*613*	*0*	*0*	*26,688*	*0*	*0*	*0*
TOTAL	1,275	0	1,275	0	0	26,688	0	0	0
Park Place									
Existing (Fees Paid)	*1,442*	*232*	*1,674*	*0*	*190*	*0*	*0*	*0*	*0*
Under Construction (Fees Paid)	*861*	*128*	*989*	*0*	*0*	*0*	*0*	*0*	*0*
Approved (Fees not paid)	*787*	*0*	*787*	*0*	*0*	*122,562*	*2,674,820*	*0*	*0*
TOTAL	3,090	360	3,450	0	190	122,562	2,674,820	0	0

Table 3.5: Future Land Use Intensity Subject to the Updated Traffic Fee

	Base (DU)	Density Bonus (DU) *	TOTAL (DU)	Extended Stay (Rooms)	Hotel (Rooms)	Retail Mix (Sq. ft.)	Office (Sq. ft.)	Industrial Mix (Sq. ft.)	Mini Ware-House (Sq. ft.)
OTHER DEVELOPMENTS (INCLUDES HINES, AVALON BAY, ALTON CONDOS DAs)									
Approved (Fees Paid prior to 2010)	*8*		*8*						
Existing (Fees Paid)	*523*	*129*	*652*	*290*	*0*	*0*	*415,696*	*40,753*	*257,525*
Under Construction (Fees Paid)	*1,143*	*195*	*1,338*	*161*	*0*	*3,224*	*0*	*0*	*0*
Approved (Fees Paid)	*836*	*228*	*1,064*	*0*	*0*	*0*	*0*	*0*	*0*
Demolished/Pending Demo(Fees not paid)	*0*	*0*	*0*	*0*	*0*	*0*	*41,609*	*248,246*	*0*
In Process / Pending (Fees not Paid)	*1,913*	*337*	*2,250*	*0*	*0*	*0*	*0*	*0*	*0*
Approved (Fees Paid after 07/31/15) [4]	*600*	*148*	*748*	*0*	*0*	*0*	*0*	*0*	*0*
Approved (Fees not paid)	*1,487*	*312*	*1,799*	*0*	*0*	*15,500*	*785,000*	*0*	*0*
TOTAL	6,510	1,349	7,859	451	0	18,724	1,242,305	288,999	257,525

Source: City of Irvine
* Density Bonus Units will be charged fees consistent with the market value
[1] Quantities includes land use that was on the ground prior to 2015
[2] Backing out quantities for CPW and Park West (only "Under Construction" and "Approved")
[3] Obtained by subtracting quantities that are either "Under Construction" or "Approved" for which fees are already paid
[4] Developments that paid fees after the July 01, 2015 deadline. Hence the fees and associated LU intensity will be included in the fee calc, but these developments will not be subject to new 2017 fees

The remaining quantities of land use subject to the updated fees were determined based on the following procedures, with an example provided in Table 3.6 relating to the residential base units:

- 1: Calculate difference in land use quantities between Year 2015 and Year 2035.
- 2: Calculate land use quantities for Central Park West and Park Place DAs (see Section 2.9 for discussion) to be subtracted from the first procedure above.
- 3: Calculate quantities of land use from other developments where the developer has prepaid IBC fees within the "snap shot" period for this update, for subtraction from the second procedure above. For the three developments where fees were paid after the "snap shot" deadline, the quantities were included for the calculation, but these developments will not be subject to new fees.
    - Any quantities designated as "existing" in Table 3.5 and Table 3.6 were not subtracted because they were included in the quantities that represent Year 2015 on the ground conditions.

Table 3.6: Example Procedures to Determine Land Use Subject to Updated Fee

Procedure	Land Use Description	Quantities	Calculation
1.	Residential Land Use considered for 2015 Baseline	6,676 DU	
	Residential Land Use considered for 2035 Buildout	15,000 DU	15,000 – 6,676 = 8,324 DU
2.	Development Agreements (note: "existing" quantities were not subtracted because these are already included in the 2015 on the ground conditions (Baseline) Central Park West: 1,275 *Existing: 646 (not included in this calculation)* *Under Construction: 16* *Approved: 613* Park Place: 3,090 *Existing: 1,442 (not included in this calculation)* *Under Construction: 861* *Approved: 787*	(16+613) + (861+787) = 2,277 DU	8,324 – 2,277 = 6,047 DU
3.	Other Developments (note: "existing" quantities were not subtractedbecause these are already included in the 2015 on the ground conditions (Baseline); developments that paid fees after the 07/31/15 snapshot date were not subtracted) *Approved (fees paid prior to 2010): 8* *Existing: 523 (not included in the calculation)* *Under Construction (Fees Paid): 1,143* *Approved (Fees Paid): 836* *Demolished/Pending Demo(Fees not paid): 0* *In Process / Pending (Fees not Paid): 1,913* *Approved (Fees Paid after 07/31/15): 600* *Approved (Fees not paid): 1,487*	8+1,143+836 = 1,987 DU	6,047 – 1,987 = 4,060 DU

Source: City of Irvine, HDR

3.5 Step 5: Estimate of Total Development Intensity Value (DIV)

Since 1992, the IBC study area has had provisions in place to allow for Transfers of Development Rights (TDRs) through the creation of a Development Intensity Value (DIV) budget system in which an allocation of AM, PM and ADT DIVs are assigned to each property in the IBC. These DIVs must be transferred in blocks (AM, PM and ADT) to other properties through a conditional use permit process and accompanying traffic study. The total DIVs associated with the remaining development required for full buildout of the Vision Plan was calculated by applying the IBC trip generation rates to the land use quantities.

Table 3.7 presents the established DIV rates applied in this update and is consistent with those used for the Vision Plan Traffic Fee Nexus Study. Based on the remaining development subject to the updated traffic fee determined in Section 3.4, Step 4, multiplied by the IBC DIV rates, the total DIVs equate to 10,263 (refer to Table 3.8). Consistent with the methodology used for the Vision Plan Traffic Fee Nexus Study and previous IBC fee reports, the PM peak hour DIV rates were applied for all land uses because for a majority of the land uses, the PM peak hour rate is the maximum DIV rate. The PM peak hour rates represent the maximum DIV rate for all IBC land use categories with the exception of industrial and mini-warehouse uses; however for those uses, the DIV rates are significantly less in comparison to the other land uses.

Table 3.7: IBC Land Use DIV Rates

Trip Rate	Residential (per DU)	Extended Stay (per Room)	Hotel (per Room)	Retail Mix (per sq. ft.)	Office (per sq. ft.)	Industrial Mix (per sq. ft.)	Mini Warehouse (per sq. ft.)
PM Peak Hour	0.52	0.42	0.68	0.00696	0.00138	0.00042	0.00027

Source: City of Irvine, ITE, Table 4, IBC Vision Plan Traffic Fee Nexus Study, January 2011

The Vision Plan utilizes a flexible zoning concept, meaning that to account for the planned increase in residential units under the Vision Plan, quantities of planned land uses from other categories such as manufacturing and their associated development intensity would be reduced. This is the reason for the negative quantities (see row "Remaining Development (2015 to 2035)) identified in Table 3.5 and Table 3.8. If the quantities of land uses that were assumed to be developed under the IBC Vision Plan do not develop as planned, the PM peak hour trips associated with those land uses will be available for use for other types of development.

The Vision Plan is an overlay zone that allows for flexibility in land use development. Once the development intensity available in the IBC (identified in Chapter 9-36 of the Zoning Ordinance) is exhausted, no additional development can take place without a General Plan Amendment that intensifies the IBC planning area. The City of Irvine continues to monitor the development patterns in the IBC annually to evaluate how the Vision Plan is taking shape, to ensure that there is sufficient development intensity for the maximum assumed residential and mixed-use development. Subsequent to this update, the reassessment of the IBC Vision Plan Traffic Study will be conducted every two years, with the next update commencing in Fall 2017.

3.6 Step 6: Normalization of Retail and Office Land Uses

In accordance with established precedent in the City and consistent with the mixed-use vision, to encourage additional commercial and retail development in the IBC, the office and retail mix land uses have been normalized in the calculation of remaining developments subject to fee. Because the retail mix land use PM peak hour trip rate is significantly higher (over 5 times higher – 0.00696 for retail mix; 0.00138 for office) than the office land use, the fees for retail mix development are normalized, creating a fee structure in which retail mix and office square footage cost is equivalent. Table 3.8 identifies the normalization of DIVs and land use for office and commercial land uses.

3.7 Step 7: Estimate Cost per DIV

The cost associated per DIV to implement the Vision Plan improvements was calculated by dividing the total program cost by the total number of normalized DIVs that must participate in the funding program. Table 3.9 estimates that the cost per DIV will be $9,032.09. Table 3.10 presents the maximum development fees for each land use category through application of the cost per DIV to the normalized DIVs associated with each category.

Table 3.8: IBC Total DIVs

Land Use	Unit	Remaining Development Subject to Updated Fee	DIVs (rounded)	Remaining Development Subject to Updated Fee (normalized quantities)	Normalized DIVs (rounded)
Residential *	DU	4,919	2,558	4,919	2,558
Extended Stay	Rooms	414	174	414	174
Hotel	Rooms	331	225	331	225
Retail Mix	Sq. Ft.	153,526	1,069	2,562,853	3,965
Office	Sq. Ft.	4,972,180	6,862	2,562,853	3,965
Industrial Mix **	Sq. Ft.	-1,595,000	-670	-1,595,000	-670
Mini-Warehouse	Sq. Ft.	170,000	46	170,000	46
TOTAL DIVs			10,263		10,263

Source: HDR
* includes Base and Density Bonus Units, since Density Bonus Units will be charged as market (Base) units
** includes manufacturing and warehouse sq. ft.

Table 3.9: Cost Estimate per DIV

Total Traffic Fee Program Cost	$92,696,238
Total number of DIVs generated	10,263
Cost per DIV	$9,032.08

Source: HDR

Table 3.10: Traffic Fee Estimates for each Land Use Category

Land Use	Unit	Remaining Development Subject to Updated Fee (normalized quantities) *	Cost per DIV (rounded)	Normalized DIVs (rounded)	Development Fees (Maximum)
Residential	DU	4,919	$9032.08	2,558	$23,104,061
Extended Stay	Rooms	414	$9032.08	174	$1,571,582
Hotel	Rooms	331	$9032.08	225	$2,032,218
Retail Mix	Sq. Ft.	2,562,853	$9032.08	3,965	$35,812,197
Office	Sq. Ft.	2,562,853	$9032.08	3,965	$35,812,197
Industrial Mix ***	Sq. Ft.	-1,595,000	$9032.08	-670	-$6,051,494
Mini Warehouse	Sq. Ft.	170,000	$9032.08	46	$415,476
			TOTAL	10,263	$92,696,238

Source: HDR
* Obtained from Table 3.8
** includes Base and Density Bonus Units, since Density Bonus Units will be charged as market (Base) units
*** includes manufacturing and warehouse sq. ft.

3.8 Step 8: Estimate Cost per Development Unit

To establish the cost per development unit, the maximum fees associated with each land use determined in Section 3.7, Step 7 are divided by the quantity associated with each land use category. Table 3.11 represents the fee per measurable unit for each land use category.

Table 3.11: Traffic Fee Summary

Land Use	Unit	Remaining Development Subject to Updated Fee	Remaining Development Subject to Updated Fee (normalized quantities)	Development Fees (Maximum)	Updated Fee ***
Residential	DU	4,919	4,919	$23,104,061	$4,697
Extended Stay	Room	414	414	$1,571,582	$3,796
Hotel	Room	331	331	$2,032,218	$6,140
Retail Mix	Sq. Ft.	153,526	2,562,853	$35,812,197	$13.97
Office	Sq. Ft.	4,972,180	2,562,853	$35,812,197	$13.97
Industrial Mix **	Sq. Ft.	-1,595,000	-1,595,000	-$6,051,494	$3.79
Mini-Warehouse	Sq. Ft.	170,000	170,000	$415,476	$2.44
				$92,696,238	

Source: HDR 2015
* Includes Density Bonus Units that will be charged fees at the same rate as Base Units
** Includes manufacturing and warehouse SF
*** Effective FY 2017-2018

Table 3.12 presents a fee comparison between the 1992 fees (at the onset of the IBC Traffic Fee Program), 2009 fees (developed through annual adjustments of the 1992 fee), 2010 fees (developed as part of the Vision Plan), 2016 fees (currently what the City charges developers – this is developed by applying annual adjustments to the 2010 fee) and proposed updated fees.

Table 3.12: IBC Fee Comparison

Land Use	Unit	IBC Traffic Fee					Increase from 2016 (factor)
		1992	2009	2010	2016	Proposed***	
Total Residential	DU	$3,734	$7,175	$1,862	$2,254	$4,697	2.08
Extended Stay	Rooms	$3,016	$5,795	$1,503	$1,820	$3,796	2.09
Hotel	Rooms	$4,883	$9,383	$2,435	$2,947	$6,140	2.08
Retail Mix	Sq. Ft.	$10.70	$20.28	$5.45	$6.60	$13.97	2.12
Office	Sq. Ft.	$10.70	$20.28	$5.45	$6.60	$13.97	2.12
Industrial Mix **	Sq. Ft.	$3.30	$5.85	$1.50	$1.82	$3.79	2.08
Mini Warehouse	Sq. Ft.	$1.85	$3.55	$0.97	$1.17	$2.44	2.09

Source: HDR 2015, City of Irvine
* Includes Density Bonus Units charged fees consistent with Base Units
** Includes manufacturing and warehouse SF
*** Effective FY 2017-2018

As can be seen in Table 3.12, the proposed fee is significantly higher than the 2010 and 2016 fees. There are a few reasons behind this increase: (a) new improvements and increases to cost of improvements, (b) fewer developments remaining that are subject to updated fees, and (3) lower remaining funds in the IBC Traffic Fee Program.

Significant Increase in Improvement Costs between 2010 and 2016

- Unit costs have increased moderately between 2010 and 2016 (when the cost estimates were developed), contributing to increase of project cost.
- Increase of right of way (ROW) support costs from 5% to 10% of construction costs, based on current trends in ROW acquisitions, have significantly increased the costs for improvements that require ROW acquisitions.
- New improvements were identified in the 2015 IBC Traffic Study Update that had not been identified in the Vision Plan Traffic Study including:
    - Von Karman/Tustin Ranch Road at Barranca Parkway and Von Karman Avenue at Alton Parkway: Although identified as two separate deficient intersections, based on the geometrics of improvements, the proximity of these adjacent intersections and the efficiency of traffic flow between them, the cost estimate considered this improvement as a corridor improvements that considered widening of Von Karman Avenue between Barranca Parkway and Alton Parkway.
    - Loop Road/Park Avenue at Warner Avenue
    - Jamboree northbound ramps at Warner Avenue
    - Culver Drive at Alton Parkway

- Increases in costs were identified for a few improvements previously identified in the 2010 IBC Traffic Fee Nexus Study. These are briefly discussed below:
    - Alton Overcrossing at SR-55: The Vision Plan Traffic Fee Nexus Study included an estimate of $17.5 million (50% of a total $35 million cost) as the City of Irvine's fair-share contribution pursuant to the agreement with Santa Ana. However, for this update, the total cost has increased to $60 million, resulting in City of Irvine's fair-share contribution of $30 million (50% of the total $60 million cost). This approximate two-fold increase in cost is attributable to the project's current definition which includes additional improvements that must be included as part of the City of Santa Ana's Alton Overcrossing at SR-55 Capital Improvement Program (CIP) project based on an updated traffic study[6] conducted by the City of Santa Ana in 2010. The cost estimate for this Overcrossing project (without the additional improvement costs) was updated in 2014 and was estimated at $55.5 million. As part of the 2015 IBC Traffic Fee Nexus Update, the cost estimate at this location was developed considering the $55.5 million estimated cost plus the cost of the additional improvements resulting from Santa Ana's 2010 traffic study including improvements at intersection #44: Red Hill Avenue at Alton Parkway; signalization and widening of Halladay Street at Alton Parkway; and signalization at Daimler Street at Alton Parkway).
    - Widening of Dyer Road between SR-55 NB on-ramp and Red Hill Avenue: The cost included in the Vision Plan Traffic Fee Nexus Study was $9 million (90% of a total estimated $10 million) based on the Barranca Parkway/Dyer Road Project Report[7] prepared in 2004. With this update, the cost for this improvement increased significantly to $22.5 million (90% of a total cost of $25 million). The Project Report was revisited to ensure that the cost estimates reflected the continuation of the Class II bike lanes on either side of Dyer Road/Barranca Parkway between Red Hill Avenue and the SR-55 NB on-ramp. The necessary widening of Barranca Parkway/Dyer Road will result in partial takes of three properties located (1) west of the railroad tracks and south of Dyer Road; (2) west of Pullman Street and south of Dyer Road; and (3) west of Pullman Street and north of Dyer Road. The partial takes of these properties and the cost for Class II bike lanes add significant costs to the project.
    - Widening of Red Hill Avenue between Main Street and MacArthur Boulevard: For this update, the cost estimate for this improvement (90% of cost) is significantly higher ($18.4 million in 2016, vs. $8.7 million in 2010) due to higher ROW costs, and is attributable to the inclusion of the bike lanes on either side of Red Hill Avenue.

Fewer number of Remaining Development Units and Square Footage Subject to Fee

- As the Vision Plan gets implemented, the number of developable units remaining decreases, resulting in fewer quantities of land use subject to updated fees.
- Since 2005, developers have been taking advantage of the option of prepayment of fees for projects under consideration (see discussion in Section 3.4), thereby further reducing the developable units (residential and non-residential) subject to fee. A comparison with the Vision Plan Traffic Fee Nexus Study shows that the total number of DIVs in 2010 were 17% higher than in 2015, or in other words, the quantity of remaining

[6] *Updated Traffic Study for Alton Avenue Overcrossing at State Route 55 Freeway and Arterial Widening in the Cities of Santa Ana and Irvine, KOA Corporation, 2010*

[7] *Project Report for the Dyer Road/Barranca Parkway Improvements (State Route 55 to Aston Street), RBF Consulting, 2004*

developable units and square footage in 2010 was greater than in 2015. The combination of developable units subject to fee and the higher cost of improvements contribute towards higher fees.

Lesser Remaining Available IBC Traffic Fund Balance

- The Vision Plan Traffic Fee Nexus Study recommended removal of several improvements originally identified in 1992 because they were deemed unnecessary. This resulted in a significant reduction of fees as can be seen in Table 3.12 (2009 vs. 2010). Hence between 2010 and 2015, the rate at which fees were imposed was lower than the pre-2010 years.
- Subsequent to the adoption of the Vision Plan, large sums of payouts were made to the Cities of Newport Beach ($3.65 million) and Tustin ($4.5 million), per the agreements between the Cities and City of Irvine (see Section 2.1 and Section 2.2).
- In addition, a sizeable amount of IBC Traffic Fee funds ($27.4 million – see Table 2.2) are allocated to implement CIP projects identified in the Vision Plan Traffic Study (improvements at the intersections of Jamboree Road at Main Street, Jamboree Road at Barranca Parkway, and the pedestrian bridge at the intersection of Jamboree Road at Michelson Drive). Lower collection rates and a higher allocation of funds to the CIP projects have led to a significantly smaller amount ($19.5 million) of remaining available Vision Plan Traffic Fee Program funds rolled over in this update as compared to 2010. Although the updated fee is higher than 2010, it still remains about 31%-35% lower than what was being charged in 2009.

4 Establishing Nexus

Section 1, Introduction discussed the requirement for a fair-share nexus between the mitigation requirements of the EIR and the traffic fees associated with the necessary mitigation improvements. The introduction further indicated a requirement to substantiate this nexus based on the adopted State legislation to ensure that fees collected are associated with development impacts and the physical improvements. The following statements fulfill the nexus requirements.

4.1 Identify the Purpose of the Impact Fee

The purpose of the 2015 IBC Traffic Fee Nexus Update is to:

- Clearly identify a fee rate to mitigate project related impacts within the IBC study area to an acceptable level of service.
- Mitigate the traffic impacts of new development within the IBC Vision Plan area under the expected buildout commensurate with the EIR Traffic Impact Mitigation Measures under CEQA and other agreements through which a fair-share of improvement costs have been contractually identified in an arms length negotiation.

The 2015 IBC Traffic Study Update evaluated the circulation system of the IBC study area under With and Without Project conditions. The study accounted for approved and pending projects within the IBC study area and forecast regional growth in both interim-year 2020 and Post-2035 buildout conditions. The Without Project conditions for each scenario assumed existing 2015 on-the ground development. The With Project conditions for each scenario included expected development within the IBC area, including the addition of residential DUs through the conversion of non-residential office equivalency square footage as identified in the traffic study.

Utilizing the intersection capacity utilization (ICU) analysis that measures peak hour intersection capacity and performance to assess impacts, the 2015 IBC Traffic Study Update identified project impacts at locations within and outside the City of Irvine, based on the City's TIA guidelines (2004) and those set by each of the affected jurisdiction/agencies (Caltrans and the cities of Newport Beach, Tustin, Santa Ana, Costa Mesa). For details on project- related thresholds, refer to the 2015 IBC Traffic Study Update[8]. As the traffic impacts are the responsibility of the project under CEQA, it is the responsibility of the project to mitigate the project impacts or contribute its fair-share towards each improvement. Thus, the Vision Plan is responsible for mitigating all the project traffic impacts to an acceptable level of service or to existing conditions performance levels. All future development under the Vision Plan will contribute to future circulation system impacts identified in the traffic study and will pay for the necessary improvements to deliver an acceptable level of service.

4.2 Identify the Use of the Impact Fee

The use of the proposed fee is the following:

- To fund the Vision Plan circulation improvements within the City of Irvine.
- To fund improvements to the State Highway System that will contribute to enhanced operations.
- To compensate adjacent jurisdictions for traffic impacts as a result of implementation of the Vision Plan.

The traffic fee will be used to mitigate traffic impacts from the buildout of the Vision Plan both within Irvine and in neighboring jurisdictions/agencies. The fee will be used to pay for improvements that accommodate residential

[8] *Irvine Business Complex Vision Plan – 2015 Five-Year Traffic Study Update, Iteris, HDR, 2016*

intensity increases within the IBC. Without the improvements, the project impacts would not be mitigated as necessary.

4.3 Determine Reasonableness Relationships

As discussed in Section 1.2, Purpose of the 2015 Update to the Vision Plan Nexus Study, California's Mitigation Fee Act creates the legal framework for local governments to assess new fees toward future development to pay its fair-share of the infrastructure cost necessary to serve new residents and businesses. AB 1600 stipulates that a local government must establish a "nexus" or reasonable relationship between a proposed fee and the impacts attributable to the developments paying the fee:

4.3.1 Reasonableness Between Use of Fee and the Type of Development on which the Fee is imposed

- IBC fees will be applied directly to the funding needs for each identified improvement within the City of Irvine and towards any pending financial obligation determined through existing agreements with adjacent jurisdictions regarding Vision Plan traffic impacts.
- IBC fees are collected from new development within the IBC that directly increases traffic on IBC study area roadways and impacts the circulation system component identified in the 2015 IBC Traffic Study Update.
- The 2015 IBC Traffic Study Update identifies the additional traffic volumes generated by new IBC development.
- Project-related fair-shares developed as part of the 2015 IBC Traffic Fee Nexus Update document the proportional responsibility of the project to traffic impact funding requirements.

The fees will be used to construct the improvements that will enable the circulation system to function at acceptable levels of service in Irvine and in adjacent jurisdictions.

4.3.2 Reasonableness Between Need for the Improvements and the Type of Development on which Fee is imposed

- As the IBC continues to develop, increasing traffic will necessitate improvements throughout the study area to maintain efficient circulation.
- Without implementation of project-related improvements, the circulation system will continue to deteriorate as new development compounds traffic operations deficiencies on the roadway network.

The fee collected is based on the forecasted number of trips the proposed development will generate at buildout. The need for the improvements is based on the analysis presented in the 2015 IBC Traffic Study Update. The fee is associated directly with new development within the IBC and the number of total peak hour trips that the new development is expected to generate. As the Vision Plan area develops, fees will be collected and improvements constructed to keep pace with new development, providing a circulation system throughout the IBC that operates at an acceptable level of service.

4.3.3 Reasonableness Between Amount of the Fee and Cost of Public Good (IBC Transportation Needs) attributable to the Type of Development

- Development fees have been defined based on funding of the City of Irvine's fair-share responsibility of the Vision Plan improvements outside the City within the Vision Plan study area, and 90% of the City of Irvine's responsibility for improvements within the City of Irvine. It is assumed that outside funding sources, including federal, state and county grants, can supplement the remaining 10% of development fees to implement improvements within the City of Irvine.

- The fee is supported by all new development at a rate that reflects the relative traffic impact of that development.
- The amount of the fee is directly related to the level of development associated with each new IBC project. The calculation of the impact fee is based upon the recognition that differing types of developments generate differing amounts of trips. The fee is based on the forecasted number of peak trips generated by the proposed development projects.

The total fee includes a program administration fee. This administration fee is required to ensure that the program functions properly and the traffic improvements are implemented appropriately.

To further demonstrate reasonableness of the fees, the updated IBC Transportation fees were compared with another major activity center in Orange County, the Platinum Triangle in Anaheim, California. Table 4.1 compares traffic fees imposed on developments within the Platinum Triangle with those proposed for IBC, in this update.

Table 4.1: Traffic Fee Comparison between Platinum Triangle and IBC

Land Use	Unit	Anaheim Citywide Fee *	Platinum Triangle Supplemental Fee *	Platinum Triangle Total Fee	IBC Updated Traffic Fee **
Residential	DU	$2,029	$3,702	$5,731	$4,697
Extended Stay	Room				$3,796
Hotel	Room	$1,474		$1,474	$6,140
Retail Mix	Sq. Ft.	$5.50	$50.00	$55.50	$13.97
Office	Sq. Ft.	$3.67	$12.00	$15.67	$13.97
Industrial Mix **	Sq. Ft.	$1.42	$3.00	$4.42	$3.79
Mini-Warehouse	Sq. Ft.				$2.44

Source: HDR 2015, City of Anaheim
* City of Anaheim Fee Schedule (http://www.anaheim.net/DocumentCenter/View/202)
** Effective FY 2017-2018

5 Conclusion

This 2015 IBC Traffic Fee Nexus Update has been prepared to reiterate the "nexus" for the development fees needed to fund necessary improvements to the circulation system. The updated traffic fee rates will be effective in the upcoming FY 2017-18. As noted in the Vision Plan EIR, there are overriding considerations for jurisdictional circulation system improvements outside the City of Irvine. As these improvements are not under the City of Irvine's jurisdiction, the City cannot guarantee that these improvements are implemented. However, it is the responsibility to contribute fair-share to the improvements through traffic impact fees in order to fund the improvements within these adjacent jurisdictions. During the development of the IBC Vision Plan, the City reached agreements with Newport Beach, Tustin and Caltrans, and amended an existing agreement with Santa Ana regarding its financial responsibilities to mitigate traffic impacts in each jurisdiction due to the buildout of the Vision Plan.

Since 2010, through the agreements with the Cities of Newport Beach and Tustin, the City of Irvine paid Tustin and Newport Beach a combined amount of $8.15 million as its fair-share, and thereby, has been absolved from any future fair-share contribution provided the City does not exceed its maximum cap on residential units of 15,000 base dwelling units (plus 1,794 density bonus dwelling units pursuant to state law.) For Caltrans, the City of Irvine is obligated to provide, through IBC fee collection, a total amount of $7,025,962, when the agency proceeds with the implementation of improvements at its impacted facilities. Currently the IBC fund has earmarked $440,663 towards that payment. Based on the amended agreement with Santa Ana, the City of Irvine is obligated to contribute $52,670,912 towards three improvements in Santa Ana (widening of Dyer Road, Alton Parkway Overcrossing at SR-55, and Flower Street at Segerstrom Avenue).The agreement with Costa Mesa was not revised and the City of Irvine, through the proposed fee, will collect an amount of $28,970 to contribute towards the improvement at SR-55 Frontage Road SB Ramps at Paularino Avenue.

Based on this update, the proposed fees are significantly higher than the current 2016 fees due to several factors which include additional improvement locations, significant increases in improvement costs between 2010 and 2015, fewer number of remaining developments that will share the cost of the improvements and a lesser amount of remaining available IBC funds that can be applied towards the improvements. However, even with the increased fees, they remain about 30%-35% lower than the 2009 IBC traffic fees, in-place prior to the adoption of the Vision Plan in 2010.

Appendix A: 2009 Settlement Agreement between City of Irvine and City of Newport Beach

SETTLEMENT AGREEMENT AND MUTUAL RELEASE OF CLAIMS

This Settlement Agreement and Mutual Release of Claims ("Agreement and Release") is made and entered into as of November 24, 2009 (the "Effective Date") by and between the CITY OF NEWPORT BEACH ("Newport Beach"), a California municipal corporation, and the CITY OF IRVINE ("Irvine"), a California municipal corporation. Newport Beach and Irvine are sometimes referred to in this Agreement and Release individually as a "Party" and collectively as the "Parties."

Recitals

A. Newport Beach is a petitioner and plaintiff in the below-described legal actions commenced and pending against Irvine, which are sometimes referred to collectively as the "Actions."

1. On April 26, 2007, Newport Beach and the City of Tustin ("Tustin") filed an action in the Orange County Superior Court entitled *City of Newport Beach and City of Tustin v. City of Irvine, et al. (Starpointe Ventures and West Millennium Homes)*, bearing Case No. 07CC01264. This action challenges Irvine's approval of the 82-unit Martin Street condominium project, situated within the Irvine Business Complex ("IBC"), and Irvine's certification of an environmental impact report in connection with the project approval. The trial court entered judgment in favor of Newport Beach and Tustin and against Irvine, and subsequently awarded attorneys' fees in favor of Newport Beach and Tustin and against Irvine. Irvine has appealed the judgment and the award of attorneys' fees (Court of Appeal Case Nos. G040749 and G041113).

2. On April 26, 2007, Newport Beach and Tustin filed an action in the Orange County Superior Court entitled *City of Newport Beach and City of Tustin v. City of Irvine, et al. (Starpointe Ventures, Avalonbay Communities, Inc. and Alton Associates)*, bearing Case No. 07CC01265. This action challenges Irvine's approval of the 170-unit 2851 Alton condominium project, situated within the IBC, and Irvine's certification of an environmental impact report in connection with the project approval. The trial court entered judgment in favor of Newport Beach and Tustin and against Irvine, and subsequently awarded attorneys' fees in favor of Newport Beach and Tustin and against Irvine. Irvine has appealed the judgment and the award of attorneys' fees (Court of Appeal Case Nos. G040757 and G041107). Real party in interest Alton Associates has also appealed the judgment (Court of Appeal Case No. G040759) ("Alton Associates Appeal").

3. On December 12, 2008, Newport Beach and Tustin filed an action in the Orange County Superior Court entitled *City of Newport Beach and City of Tustin v. City of Irvine, et al. (Starpointe Ventures and Hines)*, bearing Case No. 30-2008-00228855-CU-WM-CXC. This action challenges Irvine's approval of a multi-phase project consisting of up to 785,000 square feet of office space and 15,500 square feet of retail/restaurant space, situated within the IBC, and Irvine's certification of an environmental impact report in connection with the project approval. This action is still pending in the Superior Court and no final disposition has occurred.

4. On April 29, 2009, Newport Beach and Tustin filed an action in the Orange County Superior Court entitled *City of Newport Beach and City of Tustin v. City of Irvine, et al.*, bearing Case No. 30-2009-00264696-CU-WM-CXC. This action challenges Irvine's approval of a Zoning Code Technical Update, including a new Accessory Retail Business designation as a permitted use within the IBC, and Irvine's determination that the approval was exempt from review under the California Environmental Quality Act ("CEQA"), codified as Public Resources Code section 21000 *et seq*. This action is still pending in the Superior Court and no final disposition has occurred.

B. The Parties mutually desire to enter into this Agreement and Release to achieve a full and complete resolution of all claims arising from or relating to the disputes between them concerning the Actions and the subject matters raised and implicated by the Actions.

NOW, THEREFORE, in consideration of the facts recited above, and the covenants, conditions and promises set forth below, the Parties agree as follows:

Agreement and Release

1. **Recitals Incorporated.** The Foregoing Recitals are incorporated herein and made a part of this Agreement and Release.

2. **Dismissal of Trial Court Actions.** Within ten (10) business days of the Effective Date of this Agreement and Release, Newport Beach shall personally deliver to Irvine's counsel properly completed and executed Requests for Dismissal with prejudice of the entire action as to Newport Beach only for the Actions entitled *City of Newport Beach and City of Tustin v. City of Irvine, et al. (Starpointe Ventures and Hines)*, bearing Case No. 30-2008-00228855-CU-WM-CXC, and *City of Newport Beach and City of Tustin v. City of Irvine, et al.*, bearing Case No. 30-2009-00264696-CU-WM-CXC, as further described in paragraphs A.3 and A.4 above.

3. **Dismissal of Court of Appeal Actions.**

A. Irvine Appeals. Within five (5) business days of the Effective Date of this Agreement and Release, Newport Beach and Irvine shall file a Stipulated Request for Dismissal of the appeals as to Newport Beach only for the Actions entitled *City of Newport Beach and City of Tustin v. City of Irvine, et al. (Starpointe Ventures and West Millennium Homes)* and *City of Newport Beach and City of Tustin v. City of Irvine, et al. (Starpointe Ventures, Avalonbay Communities, Inc. and Alton Associates)*, as further described in paragraphs A.1 and A.2 above. Each Stipulated Request for Dismissal shall provide that upon remand of such portion of the Action to the Superior Court following issuance of a remittitur, Newport Beach and Irvine will file a stipulation for the vacation of the judgments and orders that are the subject of the appeal and for the dismissal with prejudice of the entire action as to Newport Beach only. Such stipulation shall also include an agreement that Newport Beach and Irvine shall each bear its own attorneys' fees and costs, and that for purposes of Newport Beach's attorneys' fees and costs, such amount would be fifty percent (50%) of the total amount of fees and costs, whether or not awarded, incurred by Newport Beach and Tustin jointly up to the date of the entry of dismissal.

B. Alton Associates Appeal. If Alton Associates agrees, within five (5) business days of the Effective Date of this Agreement and Release, or as soon thereafter as reasonably practicable, Newport Beach, Alton Associates and Irvine shall file a Stipulated Request for Dismissal of the appeal as to Newport Beach only for the Alton Associates Appeal. The Stipulated Request for Dismissal shall provide that upon remand of such portion of the Alton Associates Appeal to the Superior Court following issuance of a remittitur, Newport Beach, Alton Associates and Irvine will file a stipulation for the vacation of the judgment and orders that are the subject of the Alton Associates Appeal and for the dismissal with prejudice of the entire action as to Newport Beach only. Alton Associates must agree to bear its own attorneys' fees and costs in the action and the appeal. This Agreement and Release is conditioned upon the agreement of Alton Associates to take the action reflected in this paragraph. If Alton Associates does not agree to take this action, this Agreement and Release is void and without force or effect.

C. Forbearance. In addition to the obligations set forth above in this paragraph, Newport Beach shall not take or cause to be taken any actions to enforce or facilitate the enforcement of the judgments and orders issued in any of the Actions.

4. **Agreement Not To Bring Further Challenges; Agreement to Cooperate.** The Parties, and each of them, shall not initiate, join, participate in, provide funding to or assist any third party in the initiation or participation in, any legal or administrative action or proceeding challenging any of the following:

A. The approval of land use and development entitlements (including but not limited to tentative and final subdivision maps, conditional use permits, lot line adjustments, and grading and building plans and permits) for any development project in the other Party's city, so long as the project substantially conforms to the other Party's applicable General Plan, inclusive of any current formally submitted proposed amendments to Newport Beach's General Plan and the currently forecast development in Irvine's draft IBC Vision Plan. While not restricting Irvine's discretion to adopt a final IBC Vision Plan, the agreement by Newport Beach to not challenge the IBC Vision Plan as set out on this paragraph 4 is conditioned upon Irvine's adoption of the IBC Vision Plan alternative that provides for no greater than 15,000 residential dwelling units, excluding those units allowed as a matter of state law mandates (e.g., density bonus requirements), within the IBC.

B. The final approval of Irvine's IBC Vision Plan (including but not limited to the substance, merits, nature, scope, methodology, assumptions, analyses or conclusions) so long as such final plan substantially conforms to Irvine's draft IBC Vision Plan. In this regard, the Parties acknowledge and agree that the draft IBC Vision Plan may be modified as necessary to reflect the land use changes generally described in Exhibit A to that certain Settlement Agreement and Mutual Release between Allergan, Inc. and Irvine and the City Council of the City of Irvine, dated on or about August 18, 2009 ("Allergan Settlement Agreement"), a copy of which is appended as Exhibit "1" to this Agreement and Release and is hereby incorporated by this reference, and further acknowledge and agree that such land use changes are generally consistent with Irvine's draft IBC Vision Plan. While not restricting Irvine's discretion to adopt a final IBC Vision Plan, the agreement by Newport Beach to not challenge the IBC Vision Plan

as set out on this paragraph 4 is conditioned upon Irvine's modification of the IBC Vision Plan in a manner consistent with the Allegan Settlement Agreement.

C. The final approval of any current formally submitted proposed amendments to Newport Beach's General Plan and further including a technical modification of the Newport Beach General Plan for development in the Airport Business District to allow for the park in the Conexant project to be bounded on two sides by a public road.

D. Adjustments to the IBC Transportation Development Fee Program, provided that such adjustments are not in conflict or inconsistent with the provisions of or any obligations under this Agreement and Release.

E. Approval or implementation of any transit and/or transportation improvements supporting development activities in the IBC substantially conforming to the IBC Vision Plan.

F. Any determination under CEQA with respect to any of the foregoing.

The Parties, and each of them, further agree to cooperate in timely seeking and providing comments, both verbal and in writing, to each other on any proposed changes in their respective planning documents prior to any such change being presented to the respective decision-making body.

5. **Payment of Traffic/Transportation Impact Mitigation Fees.** Within twenty (20) business days of the Effective Date of this Agreement and Release, Irvine shall pay Newport Beach, and Newport Beach agrees to accept and expend, the sum of Three Million Six Hundred Fifty Thousand Dollars ($3,650,000.00) to be used exclusively for the engineering, design and appropriately-timed construction of traffic and transportation improvements situated within the City of Newport Beach portion of the Traffic Study Area that was utilized in the previously circulated Draft Environmental Impact Report for the IBC Vision Plan ("Traffic Study Area"), such expenditures to be as deemed appropriate by Newport Beach in its sole discretion to improve traffic conditions in the Traffic Study Area as necessitated by development in the IBC. A map depicting and describing the Traffic Study Area is appended as Exhibit "2" to this Agreement and Release and is hereby incorporated by this reference. The Parties acknowledge and agree that Irvine's contribution of the sum set forth above shall and does constitute Irvine's fair share obligation toward traffic and transportation improvements within the City of Newport Beach arising from or related to development in the IBC contemplated by and in substantial conformance to the IBC Vision Plan so long as Irvine adopts the alternative that provides for no greater than 15,000 residential dwelling units, excluding those units allowed as a matter of state law mandates (e.g., density bonus requirements), within the IBC. The Parties further acknowledge and agree that Irvine's contribution of the sum set forth above shall and does fully discharge Irvine's obligation to pay a fair share toward all traffic and transportation improvements situated within the City of Newport Beach necessitated by any past project approvals and future project approvals contemplated by and in substantial conformance to the IBC Vision Plan so long as Irvine adopts the alternative that provides for no greater than 15,000 residential dwelling units, excluding those units allowed as a matter of state law mandates (e.g.,

density bonus requirements) within the IBC, and so long the IBC Vision Plan is modified to be consistent with the Allergan Settlement Agreement.

6. **Irvine Support of Newport Beach Park.** Irvine will support the efforts of Newport Beach to obtain and improve a park site on property currently owned by the University of California, Irvine as more specifically described in Exhibit "3" appended hereto and hereby incorporated by this reference. Newport Beach acknowledges and agrees that absent a further agreement to the contrary, Irvine shall have no financial or programmatic responsibility for any such park. Newport Beach, in its sole discretion and upon such terms and conditions as it deems appropriate or necessary, may hereafter consider entering into a joint use agreement with Irvine for any such park. Newport Beach does not and shall not have any obligation to enter into a joint use agreement with Irvine for any such park.

7. **Release of Claims.**

A. Each Party, including its mayors, councilmembers, officers, employees, agents, assigns and attorneys, hereby releases and forever discharges the other Party, including its mayors, councilmembers, officers, employees, agents, assigns and attorneys, from any and all claims, demands, causes of action, obligations, damages, injuries, attorneys' fees, costs, and liabilities of any nature whatsoever, whether or not now known, suspected or claimed, which the Party ever had, now has or may claim to have against the other Party (whether directly or indirectly), by reason of any act or omission concerning any matter, event, incident, encounter, cause, or thing relating to or arising out of the events that underlie and are the subject of the Actions, and any claims asserted or which could be or could have been asserted in the Actions.

B. Each Party acknowledges that it may later discover facts different from or in addition to those it now knows or believes to be true with respect to the claims, demands, causes of action, obligations, damages, and liabilities of any nature whatsoever that are the subject of the releases set forth in this Agreement and Release. The Parties expressly agree to assume the risk of the possible discovery of additional or different facts, and agree that this Agreement and Release shall be and remain effective in all respects regardless of such additional or different facts.

C. The releases set forth above are general releases of all claims, demands, causes of action, obligations, damages, and liabilities of any nature whatsoever that are described in those releases and are intended to encompass all known and unknown, foreseen and unforeseen claims which Newport Beach and Irvine may have against each other relating to or arising out of the events that underlie and are the subject of the Actions, except for any claims that may arise from the terms of this Agreement and Release.

D. By releasing and forever discharging claims both known and unknown as hereinabove provided, the Parties, and each of them, expressly waive and relinquish all rights and benefits they may have under section 1542 of the Civil Code of the State of California, which reads as follows:

> "[General Release -- Claims Extinguished.] A general release does not extend to claims which the creditor does not know or suspect to

exist in his favor at the time of executing the release, which if known by him must have materially affected his settlement with the debtor."

E. It is agreed and understood that these releases do not affect the rights or actions available to the City of Tustin, if there are any, to pursue its pending actions or future actions. It is further agreed and understood that Agreement and Release is not intended, nor is it to be construed, to expand the rights of Tustin with regard to the collection of attorneys' fees and costs that have previously been awarded in the Actions in favor of Tustin and any further attorneys' fees and costs incurred but not yet awarded.

8. **Responsibility for Attorneys' Fees, Costs and Litigation Expenses.** Newport Beach and Irvine each shall be wholly responsible for the payment of their respective attorneys' fees, cost and litigation expenses incurred in the Actions.

9. **No Other Pending Actions.** The Parties each warrant and represent that they have not filed any complaints or claims (other than the Actions referenced above) against each other with any local, state or federal agency or court, and that they will not do so at any time hereafter with respect to the event that underlie and are the subject of the Actions, the claims that were asserted or that could be or could have been asserted in the Actions, or any claims arising out of the Actions.

10. **No Assignment of Claims.** The Parties each warrant and represent that they have made no assignment, and will make no assignment, of any claim, cause of action, right of action or any right of any kind whatsoever, embodied in any of the claims and allegations referred to herein, and that no other person or entity of any kind had or has any interest in any of the demands, obligations, actions, causes of action, debts liabilities, rights, contracts, damages, attorneys' fees, costs, expenses, losses or claims referred to herein. Each Party hereby agrees to indemnify, defend and hold harmless the other Party as against any claim based on or arising out of any assignment, transfer or sale in violation of the foregoing warranty.

11. **Non-Admission of Liability.** The Parties acknowledge and agree that this Agreement and Release is a settlement of disputed claims. Neither the fact that the Parties have settled nor the terms of this Agreement and Release shall be construed in any manner as an admission of any liability by Irvine or any affiliated person or entity, all of whom consistently have taken the position that they have no liability whatsoever to Newport Beach.

12. **Successors and Assigns.** This Agreement and Release, and all of the terms and provisions hereof, shall be binding upon and shall inure to the benefit of the Parties and their respective successors, assigns and legal representatives.

13. **Knowing and Voluntary.** The Parties each specifically represent that prior to signing this Agreement and Release, they have been provided a reasonable period of time within which to consider whether to accept this Agreement and Release. The Parties each represent that they have each carefully read and fully understand all of the provisions of this Agreement, and that they are voluntarily, knowingly, and without coercion entering into this Agreement and Release based upon their own judgment.

14. **Assistance of Counsel.** The Parties each specifically represent that they have consulted to their satisfaction with and received independent advice from their respective counsel prior to executing this Agreement and Release concerning the terms and conditions of this Agreement and Release.

15. **Enforcement Costs.** Should any legal action be required to enforce the terms of this Agreement and Release, the prevailing Party shall be entitled to reasonable attorneys' fees and costs in addition to any other relief to which that Party may be entitled.

16. **Severability.** Should any portion, word, clause, phrase, sentence or paragraph of this Agreement and Release be declared void or unenforceable, such portion shall be considered independent and severable from the remainder, the validity of which shall remain unaffected.

17. **Construction.** The Parties acknowledge that this Agreement and Release was jointly prepared by them, by and through their respective legal counsel, and any uncertainty or ambiguity existing herein shall not be interpreted against any of the Parties, but otherwise shall be interpreted according to the application of the rules on interpretation of contracts.

18. **Waiver.** Failure to insist on compliance with any term, covenant or condition contained in this Agreement and Release shall not be deemed a waiver of that term, covenant or condition, nor shall any waiver or relinquishment of any right or power contained in this Agreement and Release at any one time or more times be deemed a waiver or relinquishment of any right or power at any other time or times.

19. **Governing Law and Venue.** This Agreement and Release is made and entered into in the State of California, and shall in all respects be interpreted, enforced and governed under the laws of said State without giving effect to conflicts of laws principles. Venue for any action to enforce this Agreement and Release shall be in the Orange County Superior Court, notwithstanding the provisions of Code of Civil Procedure section 394.

20. **Notices.** All notices and other communications provided or permitted hereunder shall be made personal delivery or pre-paid first class mail, as follows:

If to Newport Beach:

City of Newport Beach
Attention: City Manager
3300 Newport Boulevard
Post Office Box 1768
Newport Beach, CA 92658-8915

with a copy to:

City of Newport Beach
Office of the City Attorney
3300 Newport Boulevard
Post Office Box 1768
Newport Beach, CA 92658-8915

If to Irvine: City of Irvine
Attention: City Manager
One Civic Center Plaza
Post Office Box 19575
Irvine, CA 92623-9575

With a copy to: Rutan & Tucker, LLP
Attention: City Attorney, City of Irvine
611 Anton Boulevard, Suite 1400
Costa Mesa, CA 92626

All such notices and communications shall be deemed to have been given when delivered, if personally delivered; and two business days after being deposited in the United States mail, postage prepaid.

21. **Entire Agreement.** This Agreement and Release constitutes the entire agreement between the Parties who have executed it and supersedes any and all other agreements, understandings, negotiations, or discussions, either oral or in writing, express or implied, between the Parties to this Agreement and Release. The Parties to this Agreement and Release each acknowledge that no representations, inducements, promises, agreements or warranties, oral or otherwise, have been made by them, or anyone acting on their behalf, which are not embodied in this Agreement and Release, that they have not executed this Agreement and Release in reliance on any such representation, inducement, promise, agreement or warranty, and that no representation, inducement, promise, agreement or warranty not contained in this Agreement and Release including, but not limited to, any purported supplements, modifications, waivers or terminations of this Agreement and Release shall be valid or binding, unless executed in writing by all of the Parties to this Agreement and Release.

22. **Further Assurances; Mutual Cooperation.** The Parties shall perform such further acts, including execution of documents, as are necessary to effectuate the intent of this Agreement and Release. The Parties shall cooperate to ensure that the steps necessary to implement this Agreement and Release are carried out.

23. **No Third Party Beneficiaries.** The Parties recognize and agree that the real parties in interest in the Actions will receive benefits incidental to this Agreement and Release, including but not limited to the vacation of Superior Court orders concerning the issuance of land use entitlement approvals and the award of attorneys' fees. The Parties intend and agree that no third parties, including such real parties in interest, shall have any rights to enforce any provision of or any obligation created by this Agreement and Release.

24. **Representation of Authority to Execute.** Each of the persons executing this Agreement and Release represents and warrants that he or she is duly and fully authorized and empowered to execute this Agreement and Release on behalf of and to bind the Party so indicated below.

IN WITNESS WHEREOF, the undersigned have executed this Settlement Agreement and Mutual Release of Claims on the dates set forth below.

CITY OF NEWPORT BEACH

By: _____

Edward D. Selich, Mayor

Dated: November 24, 2009

Attest: _____

Leilani I. Brown, City Clerk

CITY OF IRVINE

By: _____

Sukhee Kang, Mayor

Dated: November 24, 2009

Attest: _____

Sharie Apodaca, City Clerk

APPROVED AS TO FORM:

By: _____

David R. Hunt
City Attorney, City of Newport Beach

By: _____

Philip D. Kohn
City Attorney, City of Irvine

Appendix B: 2010 Settlement Agreement between City of Irvine and City of Tustin

SETTLEMENT AGREEMENT AND MUTUAL RELEASE OF CLAIMS

This Settlement Agreement and Mutual Release of Claims ("Agreement and Release") is made and entered into as of July 13, 2010 (the "Effective Date") by and between the CITY OF TUSTIN ("Newport Beach"), a California municipal corporation, and the CITY OF IRVINE ("Irvine"), a California municipal corporation. Tustin and Irvine are sometimes referred to in this Agreement and Release individually as a "Party" and collectively as the "Parties."

Recitals

A. Tustin is a petitioner and plaintiff in the below-described legal actions commenced and pending against Irvine, which are sometimes referred to collectively as the "Actions."

1. On April 26, 2007, Tustin and the City of Newport Beach "Newport Beach") filed an action in the Orange County Superior Court entitled *City of Newport Beach and City of Tustin v. City of Irvine, et al. (Starpointe Ventures and West Millennium Homes)*, bearing Case No. 07CC01264. This action challenges Irvine's approval of the 82-unit Martin Street condominium project, situated within the Irvine Business Complex ("IBC"), and Irvine's certification of an environmental impact report in connection with the project approval. The trial court entered judgment in favor of Tustin and Newport Beach and against Irvine, and subsequently awarded attorneys' fees in favor of Tustin and Newport Beach and against Irvine. Irvine has appealed the judgment and the award of attorneys' fees (Court of Appeal Case Nos. G040749 and G041113).

2. On April 26, 2007, Tustin and Newport Beach filed an action in the Orange County Superior Court entitled *City of Newport Beach and City of Tustin v. City of Irvine, et al. (Starpointe Ventures, Avalonbay Communities, Inc. and Alton Associates)*, bearing Case No. 07CC01265. This action challenges Irvine's approval of the 170-unit 2851 Alton condominium project, situated within the IBC, and Irvine's certification of an environmental impact report in connection with the project approval. The trial court entered judgment in favor of Tustin and Newport Beach and against Irvine, and subsequently awarded attorneys' fees in favor of Tustin and Newport Beach and against Irvine. Irvine has appealed the judgment and the award of attorneys' fees (Court of Appeal Case Nos. G040757 and G041107). Real party in interest Alton Associates has also appealed the judgment (Court of Appeal Case No. G040759) ("Alton Associates Appeal").

3. On December 12, 2008, Tustin and Newport Beach filed an action in the Orange County Superior Court entitled *City of Newport Beach and City of Tustin v. City of Irvine, et al. (Starpointe Ventures and Hines)*, bearing Case No. 30-2008-00228855-CU-WM-CXC. This action challenges Irvine's approval of a multi-phase project consisting of up to 785,000 square feet of office space and 15,500 square feet of retail/restaurant space, situated within the IBC, and Irvine's certification of an environmental impact report in connection with the project approval. This action is still pending in the Superior Court and no final disposition has occurred.

4. On April 29, 2009, Tustin and Newport Beach filed an action in the Orange County Superior Court entitled *City of Newport Beach and City of Tustin v. City of Irvine, et al.*, bearing Case No. 30-2009-00264696-CU-WM-CXC. This action challenges Irvine's approval of a Zoning Code Technical Update, including a new Accessory Retail Business designation as a permitted use within the IBC, and Irvine's determination that the approval was exempt from review under the California Environmental Quality Act ("CEQA"), codified as Public Resources Code section 21000 *et seq*. This action is still pending in the Superior Court and no final disposition has occurred.

B. The Parties mutually desire to enter into this Agreement and Release to achieve a full and complete resolution of all claims arising from or relating to the disputes between them concerning the Actions and the subject matters raised and implicated by the Actions.

NOW, THEREFORE, in consideration of the facts recited above, and the covenants, conditions and promises set forth below, the Parties agree as follows:

Agreement and Release

1. **Reeitals Iueorporated.** The Foregoing Recitals are incorporated herein and made a part of this Agreement and Release.

2. **Dismissal of Trial Court Aetious.** Within ten (10) business days of the Effective Date of this Agreement and Release, Tustin shall personally deliver to Irvine's counsel properly completed and executed Requests for Dismissal with prejudice of the entire action as to Tustin only for the Actions entitled *City of Newport Beach and City of Tustin v. City of Irvine, et al. (Starpointe Ventures and Hines)*, bearing Case No. 30-2008-00228855-CU-WM-CXC, and *City of Newport Beach and City of Tustin v. City of Irvine, et al.*, bearing Case No. 30-2009-00264696-CU-WM-CXC, as further described in paragraphs A.3 and A.4 above. The Parties acknowledge that Newport Beach previously filed Requests for Dismissal of the subject actions as to Newport Beach only, which dismissals were entered, and that the dismissals as to Tustin will result in dismissal of the subject actions in their entirety.

3. **Dismissal of Court of Appeal Aetious.**

A. Irvine Appeals. Within five (5) business days of the Effective Date of this Agreement and Release, Tustin and Irvine shall file a Stipulated Request for Dismissal of the appeals as to Tustin only for the Actions entitled *City of Newport Beach and City of Tustin v. City of Irvine, et al. (Starpointe Ventures and West Millennium Homes)* and *City of Newport Beach and City of Tustin v. City of Irvine, et al. (Starpointe Ventures, Avalonbay Communities, Inc. and Alton Associates)*, as further described in paragraphs A.1 and A.2 above. Each Stipulated Request for Dismissal shall provide that upon remand of such portion of the Action to the Superior Court following issuance of a remittitur, Tustin and Irvine will file a stipulation for the vacation of the judgments and orders that are the subject of the appeal and for the dismissal with prejudice of the entire action as to Tustin only. Such stipulation shall also include an agreement that Tustin and Irvine shall each bear its own attorneys' fees and costs. The Parties acknowledge that Newport Beach and Irvine previously filed such a Stipulated Request for Dismissal of the appeals as to Newport Beach only and upon remittitur filed a stipulation for the

vacation of the judgments and orders that were the subject of the appeal and for the dismissal with prejudice of the entire action as to Newport Beach, which dismissals were entered, and that the dismissals as to Tustin contemplated by this paragraph 3.A will result in dismissal of the subject actions in their entirety.

B. Alton Associates Appeal. If Alton Associates agrees, within five (5) business days of the Effective Date of this Agreement and Release, or as soon thereafter as reasonably practicable, Tustin, Alton Associates and Irvine shall file a Stipulated Request for Dismissal of the appeal as to Tustin only for the Alton Associates Appeal. The Stipulated Request for Dismissal shall provide that upon remand of such portion of the Alton Associates Appeal to the Superior Court following issuance of a remittitur, Tustin, Alton Associates and Irvine will file a stipulation for the vacation of the judgment and orders that are the subject of the Alton Associates Appeal and for the dismissal with prejudice of the entire action as to Tustin only. Alton Associates must agree to bear its own attorneys' fees and costs in the action and the appeal. This Agreement and Release is conditioned upon the agreement of Alton Associates to take the action reflected in this paragraph. If Alton Associates does not agree to take this action, this Agreement and Release is void and without force or effect. The Parties acknowledge that Newport Beach, Alton Associates and Irvine previously filed such a Stipulated Request for Dismissal of the appeal as to Newport Beach only and upon remittitur filed a stipulation for the vacation of the judgment and orders that were the subject of the appeal and for the dismissal with prejudice of the entire action as to Newport Beach, which dismissal were entered, and that the dismissal as to Tustin contemplated by this paragraph 3.B will result in dismissal of the subject action in its entirety.

C. Forbearance. In addition to the obligations set forth above in this paragraph, Tustin shall not take or cause to be taken any actions to enforce or facilitate the enforcement of the judgments and orders issued in any of the Actions.

4. **Agreement Not To Bring Further Challenges; Agreement to Cooperate.** The Parties, and each of them, shall not initiate, join, participate in, provide funding to or assist any third party in the initiation or participation in, any legal or administrative action or proceeding challenging any of the following:

A. The approval of land use and development entitlements (including but not limited to tentative and final subdivision maps, conditional use permits, lot line adjustments, and grading and building plans, permits, community facilities district and/or assessment district proceedings, including any necessary subsequent environmental documentation for any and all implementation actions) for any development project in the other Party's city, so long as the project substantially conforms to the Average Daily Trip (ADTs) development maximum thresholds in each other Party's current respective General Plan, zoning documents and other applicable planning documents, inclusive of the MCAS Tustin Specific Plan (approved on or about February 3, 2003), any previously adopted amendments and any current formally submitted proposed amendments to Tustin's General Plan, or is exempt from environmental review under state law, and the currently forecast development in Irvine's draft IBC Vision Plan, and inclusive of ADTs for maximum development identified in the applicable planning documents. While not restricting Irvine's discretion to adopt a final IBC Vision Plan, the agreement by Tustin to not challenge the IBC Vision Plan as set out on this paragraph 4 is

conditioned upon Irvine's adoption of the IBC Vision Plan alternative as provided in Section 4.B below.

B. The final approval of Irvine's IBC Vision Plan (including but not limited to the substance, merits, nature, scope, methodology, assumptions, analyses or conclusions) so long as such final plan substantially conforms to Irvine's draft IBC Vision Plan. In this regard, the Parties acknowledge and agree that the draft IBC Vision Plan may be modified as necessary to reflect the land use changes generally described in Exhibit A to that certain Settlement Agreement and Mutual Release between Allergan, Inc. and Irvine and the City Council of the City of Irvine, dated on or about August 18, 2009 ("Allergan Settlement Agreement"), a copy of which is appended as Exhibit "1" to this Agreement and Release and is hereby incorporated by this reference, and further acknowledge and agree that such land use changes are generally consistent with Irvine's draft IBC Vision Plan. While not restricting Irvine's discretion to adopt a final IBC Vision Plan, the agreement by Tustin to not challenge the IBC Vision Plan as set out on this paragraph 4 is conditioned upon Irvine's modification of the IBC Vision Plan in a manner consistent with the Allegan Settlement Agreement.

C. The certified Final Environmental Information Statement/Environmental Impact Report for the Tustin Legacy project, including without limitation the incorporated Supplemental Environmental Information Statement/Environmental Impact report for the Tustin Ranch Road project and the Addendum for Zone Change (Specific Plan Amendment) 05-022 and the Master Developer Disposition and Development Agreement and Development Plan (approved on or about June 5, 2007), together with a possible Addendum to the Final EIS/EIR for the Tustin Legacy project for modification or deletion of transportation/circulation projects and mitigation measures (collectively, "the Final EIS/EIR for Tustin Legacy") in order to implement the terms of this Agreement.

D. Adjustments to the IBC Transportation Development Fee Program or the Tustin Legacy Backbone Infrastructure Program, provided that such adjustments are not in conflict or inconsistent with the provisions of or any obligations under this Agreement and Release.

E. Approval or implementation of any transit and/or transportation improvements supporting development activities in the IBC substantially conforming to the IBC Vision Plan or for the Tustin Legacy project.

F. Any determination under CEQA with respect to any of the foregoing.

The Parties, and each of them, further agree to cooperate in timely seeking and providing comments, both verbal and in writing, to each other on any proposed changes in their respective planning documents prior to any such change being presented to the respective decision-making body.

5. **Prior Agreement Regarding Red Hill Avenue Improvements.** On or about November 16, 1992, Tustin and Irvine entered into that certain Agreement Regarding Implementation, Timing and Funding of Transportation/Circulation Mitigation for the Irvine Business Complex Project ("1992 Agreement"). Tustin and Irvine agree that Irvine hereafter

shall not have, and shall be relieved of and discharged from, any responsibilities or obligations to perform under or pursuant to the 1992 Agreement, and that all of the terms and provisions of the 1992 Agreement shall be and are terminated in their entirety and of no further force or effect. The parties acknowledge and agree that the construction of the Red Hill Avenue Improvements as provided in the 1992 Agreement are unnecessary and not required by the IBC Vision Plan as a mitigation measure.

6. **Prior Agreement Regarding Tustin Legaey Mitigation Measures.** On or about February 22, 2001, Tustin and Irvine entered into that certain Agreement Between the City of Irvine and the City of Tustin Regarding the Implementation, Timing and Funding of Transportation/Circulation Mitigation for the MCAS Tustin Project ("2001 Agreement"). Tustin hereafter shall not have, and shall be relieved of and discharged from, any responsibilities or obligations to perform under or pursuant to the 2001 Agreement, and that all of the terms and provisions of the 2001 Agreement shall be and are terminated in their entirety and of no further force or effect, and no additional mitigation requirements are required within the City of Irvine under the Tustin adopted Final EIS/EIR for the Tustin Legacy project. In 2005, Tustin, Irvine and Lennar Homes of California, Inc. entered into a Joint Community Facilities Agreement as it related to the use by Tustin of net bond proceeds generated by Irvine Community Facilities District 2005-02 (Columbus Grove) for certain of the mitigation measures required in the 2001 Agreement ("2005 Agreement"). Tustin and Irvine agree that Irvine shall be entitled to accept and use the remaining estimated balance of $1.9 million in the Tustin Account (as defined in the 2005 Agreement) in such manner and for such purposes authorized under CFD 2005-02, as Irvine determines in its sole and absolute discretion.

7. **Payment for Tnstin Raneh Road Improvements.** In lieu of Irvine's fair share of the estimated costs of those traffic and transportation improvements located within Tustin identified as mitigation measures in and arising from the IBC Vision Plan, Irvine shall contribute 12% of the construction contract award amount or $4.5 million, whichever is greater, up to a maximum of $6.5 million, for the Tustin Ranch Road Extension roadway improvements from Walnut Avenue to Warner Avenue, including the grade separation and loop at Edinger Avenue. Irvine shall pay this sum to Tustin within twenty (20) business days of the date Tustin awards a construction contract for all segments of the project. In the event that Tustin has not awarded such a construction contract by July 1, 2015, Tustin may use Irvine's contribution to jointly fund such interim improvements for Tustin Ranch Road from Walnut Avenue to Warner Avenue as are mutually agreeable and beneficial to both cities. Irvine's contribution obligation will expire, and Tustin shall reimburse Irvine any contribution made, in the event that Tustin Ranch Road between Walnut Avenue and Warner Avenue is not fully constructed and open to traffic by July 1, 2025. The Parties acknowledge and agree that Irvine's agreement to contribute funds as set forth above shall and does constitute Irvine's fair share obligation toward traffic and transportation improvements within the City of Tustin arising from or related to development in the IBC contemplated by and in substantial conformance to the IBC Vision Plan. Further, Tustin and Irvine agree to cooperatively advocate any applications for regional, state, or federal funding for the Tustin Ranch Road Extension roadway improvements.

8. **Release of Claims.**

A. Each Party, including its mayors, councilmembers, officers, employees, agents, assigns and attorneys, hereby releases and forever discharges the other Party, including its mayors, councilmembers, officers, employees, agents, assigns and attorneys, from any and all claims, demands, causes of action, obligations, damages, injuries, attorneys' fees, costs, and liabilities of any nature whatsoever, whether or not now known, suspected or claimed, which the Party ever had, now has or may claim to have against the other Party (whether directly or indirectly), by reason of any act or omission concerning any matter, event, incident, encounter, cause, or thing relating to or arising out of the events that underlie and are the subject of the Actions, and any claims asserted or which could be or could have been asserted in the Actions.

B. Each Party acknowledges that it may later discover facts different from or in addition to those it now knows or believes to be true with respect to the claims, demands, causes of action, obligations, damages, and liabilities of any nature whatsoever that are the subject of the releases set forth in this Agreement and Release. The Parties expressly agree to assume the risk of the possible discovery of additional or different facts, and agree that this Agreement and Release shall be and remain effective in all respects regardless of such additional or different facts.

C. The releases set forth above are general releases of all claims, demands, causes of action, obligations, damages, and liabilities of any nature whatsoever that are described in those releases and are intended to encompass all known and unknown, foreseen and unforeseen claims that Tustin and Irvine may have against each other relating to or arising out of the events that underlie and are the subject of the Actions, except for any claims that may arise from the terms of this Agreement and Release.

D. By releasing and forever discharging claims both known and unknown as hereinabove provided, the Parties, and each of them, expressly waive and relinquish all rights and benefits they may have under section 1542 of the Civil Code of the State of California, which reads as follows:

> "[General Release -- Claims Extinguished.] A general release does not extend to claims which the creditor does not know or suspect to exist in his favor at the time of executing the release, which if known by him must have materially affected his settlement with the debtor."

9. **Responsibility for Attorneys' Fees, Costs and Litigation Expenses.** Tustin and Irvine each shall be wholly responsible for the payment of their respective attorneys' fees, cost and litigation expenses incurred in the Actions.

10. **No Other Pending Actions.** The Parties each warrant and represent that they have not filed any complaints or claims (other than the Actions referenced above) against each other with any local, state or federal agency or court, and that they will not do so at any time hereafter with respect to the event that underlie and are the subject of the Actions, the claims that

were asserted or that could be or could have been asserted in the Actions, or any claims arising out of the Actions.

11. **No Assignment of Claims.** The Parties each warrant and represent that they have made no assignment, and will make no assignment, of any claim, cause of action, right of action or any right of any kind whatsoever, embodied in any of the claims and allegations referred to herein, and that no other person or entity of any kind had or has any interest in any of the demands, obligations, actions, causes of action, debts liabilities, rights, contracts, damages, attorneys' fees, costs, expenses, losses or claims referred to herein. Each Party hereby agrees to indemnify, defend and hold harmless the other Party as against any claim based on or arising out of any assignment, transfer or sale in violation of the foregoing warranty.

12. **Non-Admission of Liability.** The Parties acknowledge and agree that this Agreement and Release is a settlement of disputed claims. Neither the fact that the Parties have settled nor the terms of this Agreement and Release shall be construed in any manner as an admission of any liability by Irvine or any affiliated person or entity, all of whom consistently have taken the position that they have no liability whatsoever to Newport Beach.

13. **Successors and Assigns.** This Agreement and Release, and all of the terms and provisions hereof, shall be binding upon and shall inure to the benefit of the Parties and their respective successors, assigns and legal representatives.

14. **Knowing and Voluntary.** The Parties each specifically represent that prior to signing this Agreement and Release, they have been provided a reasonable period of time within which to consider whether to accept this Agreement and Release. The Parties each represent that they have each carefully read and fully understand all of the provisions of this Agreement, and that they are voluntarily, knowingly, and without coercion entering into this Agreement and Release based upon their own judgment.

15. **Assistance of Counsel.** The Parties each specifically represent that they have consulted to their satisfaction with and received independent advicc from their respective counsel prior to executing this Agreement and Release concerning the terms and conditions of this Agreement and Release.

16. **Euforcemcnt Costs.** Should any legal action be required to enforce the terms of this Agreement and Release, the prevailing Party shall be entitled to reasonable attorneys' fees and costs in addition to any other relief to which that Party may be entitled.

17. **Severability.** Should any portion, word, clause, phrase, sentence or paragraph of this Agreement and Release be declared void or unenforceable, such portion shall be considered independent and severable from the remainder, the validity of which shall remain unaffected.

18. **Coustructiou.** The Parties acknowledge that this Agreement and Release was jointly prepared by them, by and through their respective legal counsel, and any uncertainty or ambiguity existing herein shall not be interpreted against any of the Parties, but otherwise shall be interpreted according to the application of the rules on interpretation of contracts.

19. **Waiver.** Failure to insist on compliance with any term, covenant or condition contained in this Agreement and Release shall not be deemed a waiver of that term, covenant or condition, nor shall any waiver or relinquishment of any right or power contained in this Agreement and Release at any one time or more times be deemed a waiver or relinquishment of any right or power at any other time or times.

20. **Governing Law and Venne.** This Agreement and Release is made and entered into in the State of California, and shall in all respects be interpreted, enforced and governed under the laws of said State without giving effect to conflicts of laws principles. Venue for any action to enforce this Agreement and Release shall be in the Orange County Superior Court, notwithstanding the provisions of Code of Civil Procedure section 394.

21. **Notiees.** All notices and other communications provided or permitted hereunder shall be made personal delivery or pre-paid first class mail, as follows:

If to Tustin:
City of Tustin
Attention: City Manager
300 Centennial Way
Tustin, CA 92780

with a copy to:
Woodruff, Spradlin & Smart
Attention: City Attorney, City of Tustin
555 Anton Boulevard, Suite 1200
Costa Mesa, CA 92626

If to Irvine:
City of Irvine
Attention: City Manager
One Civic Center Plaza
Post Office Box 19575
Irvine, CA 92623-9575

With a copy to:
Rutan & Tucker, LLP
Attention: City Attorney, City of Irvine
611 Anton Boulevard, Suite 1400
Costa Mesa, CA 92626

All such notices and communications shall be deemed to have been given when delivered, if personally delivered; and two business days after being deposited in the United States mail, postage prepaid.

22. **Entire Agreement.** This Agreement and Release constitutes the entire agreement between the Parties who have executed it and supersedes any and all other agreements, understandings, negotiations, or discussions, either oral or in writing, express or implied, between the Parties to this Agreement and Release. The Parties to this Agreement and Release each acknowledge that no representations, inducements, promises, agreements or warranties, oral or otherwise, have been made by them, or anyone acting on their behalf, which are not embodied in this Agreement and Release, that they have not executed this Agreement and Release in

reliance on any such representation, inducement, promise, agreement or warranty, and that no representation, inducement, promise, agreement or warranty not contained in this Agreement and Release including, but not limited to, any purported supplements, modifications, waivers or terminations of this Agreement and Release shall be valid or binding, unless executed in writing by all of the Parties to this Agreement and Release.

23. **Further Assuranees; Mutual Cooperation.** The Parties shall perform such further acts, including execution of documents, as are necessary to effectuate the intent of this Agreement and Release. The Parties shall cooperate to ensure that the steps necessary to implement this Agreement and Release are carried out.

24. **No Third Party Benefieiaries.** The Parties recognize and agree that the real parties in interest in the Actions will receive benefits incidental to this Agreement and Release, including but not lirnited to the vacation of Superior Court orders concerning the issuance of land use entitlement approvals and the award of attorneys' fees. The Parties intend and agree that no third parties, including such real parties in interest, shall have any rights to enforce any provision of or any obligation created by this Agreement and Release.

25. **Representation of Authority to Exeeute.** Each of the persons executing this Agreement and Release represents and warrants that he or she is duly and fully authorized and empowered to execute this Agreement and Release on behalf of and to bind the Party so indicated below.

IN WITNESS WHEREOF, the undersigned have executed this Settlement Agreement and Mutual Release of Claims on the dates set forth below.

CITY OF TUSTIN

By: _____

Jerry Amante, Mayor

Dated: July 12, 2010

Attest: _____

Pamela Stoker, City Clerk

APPROVED AS TO FORM:

By: _____

Douglas C. Holland
City Attorney, City of Tustin

CITY OF IRVINE

By: _____

Sukhee Kang, Mayor

Dated: July ___, 2010

Attest: _____

Sharie Apodaca, City Clerk

By: _____

Philip D. Kohn
City Attorney, City of Irvine

reliance on any such representation, inducement, promise, agreement or warranty, and that no representation, inducement, promise, agreement or warranty not contained in this Agreement and Release including, but not limited to, any purported supplements, modifications, waivers or terminations of this Agreement and Release shall be valid or binding, unless executed in writing by all of the Parties to this Agreement and Release.

23. **Further Assurances; Mutual Cooperation.** The Parties shall perform such further acts, including execution of documents, as are necessary to effectuate the intent of this Agreement and Release. The Parties shall cooperate to ensure that the steps necessary to implement this Agreement and Release are carried out.

24. **No Third Party Benefieiaries.** The Parties recognize and agree that the real parties in interest in the Actions will receive benefits incidental to this Agreement and Release, including but not limited to the vacation of Superior Court orders concerning the issuance of land use entitlement approvals and the award of attorneys' fees. The Parties intend and agree that no third parties, including such real parties in interest, shall have any rights to enforce any provision of or any obligation created by this Agreement and Release.

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CITY OF TUSTIN

By:_____

Jerry Amante, Mayor

Dated: July ___, 2010

Attest:_____

Pamela Stoker, City Clerk

APPROVED AS TO FORM:

By:_____

Douglas C. Holland
City Attorney, City of Tustin

CITY OF IRVINE

By:_____

Sukhee Kang, Mayor

Dated: July 12, 2010

Attest:_____

Sharie Apodaca, City Clerk

By:_____

Philip D. Kohn
City Attorney, City of Irvine

Appendix C: 1992 Agreement and Subsequent Amendment between City of Irvine and City of Santa Ana

AMENDMENT TO AND RESTATEMENT OF THE 1992 AGREEMENT BETWEEN THE CITIES OF SANTA ANA AND IRVINE

THIS AGREEMENT ("Agreement") entered into and shall be effective on this 21st day of MARCH, 2011 by and between the City of Santa Ana, hereinafter referred to as "Santa Ana," and the City of Irvine, hereinafter referred to as "Irvine." Santa Ana and Irvine are collectively referred to as the "Parties." This AGREEMENT replaces and supersedes in its entirety that certain agreement dated November 24, 1992 by and between the Parties titled "Implementation of Roadway and Interchange Mitigation Program for EIR 88-ZC-0087" ("1992 Agreement."). A true and correct copy of the 1992 Agreement is attached hereto as Exhibit "A."

RECITALS

A. WHEREAS, on July 13, 2010 Irvine certified an Environmental Impact Report for certain General Plan Amendments and Zone Changes that are collectively known as the "IBC Vision Plan." That same evening, Irvine approved the General Plan Amendment for the IBC Vision Plan, and conducted a first reading for the Zone Change for the IBC Vision Plan. On July 27, 2010, Irvine conducted a second reading for the Zone Change for the IBC Vision Plan. The IBC Vision Plan is hereinafter referred to as the "Project." The Project 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 Project is bordered by the cities of Newport Beach, Santa Ana, Costa Mesa and Tustin. The Project includes and/or contemplates (*i*) an increase in total units in the Irvine Business Complex ("IBC") from 9,401 units to 15,000 units, and (ii) a reduction of 2,715,062 square feet of nonresidential development (measured in office equivalency). In addition, a total of 1,191 density bonus units could be allowed (and are therefore assumed as part of the Project) in accordance with state law, resulting in a total of 16,191 units; and

B. WHEREAS, a Traffic Impact Study (TIS) has been prepared for the Project that identifies Project-related impacts and corresponding pro-rata funding fair-shares for the following intersections and roadway segment in Santa Ana:

- Bristol Street at Segerstrom Intersection – 12.7%
- Main Street at Dyer Road Intersection – 21%
- Grand Avenue at Warner Avenue Intersection – 15.8%
- MacArthur Boulevard widening from Main Street to SR55 – 31.1%

Each intersection and roadway segment listed above shall hereinafter be referred to as "Project Impact" and collectively be referred to as "Project Impacts," and the corresponding pro-rata funding fair-shares shall hereinafter be referred to as "Improvement Fair Share Contributions"; and

C. WHEREAS, Santa Ana currently has no fee program designed to collect fees for the mitigation of any of the Project Impacts; and

D. WHEREAS, the Project involves the same land area – the IBC – that was the subject of certain Irvine General Plan Amendment and Irvine Zoning Code Amendments project, together with a mitigation fee program and an Environmental Impact Report ("IBC EIR"), for which approvals and certifications were completed by 1992 (collectively, the "1992 Entitlements"); and

E. WHEREAS, in connection with the 1992 Entitlements, the Parties entered into the 1992 Agreement, which outlines the Parties' roles and responsibilities in implementing certain transportation improvements identified in the 1992 Entitlements; and

F. WHEREAS, the 1992 Agreement may be amended upon the mutual consent of both Parties; and

G. WHEREAS, this Agreement is intended to, and does, restate in full and supersede the 1992 Agreement.

NOW THEREFORE, for good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, the parties hereby amend and restate in full the 1992 Agreement in full as follows:

1 Limit on new development in the IBC The parties hereto agree that Irvine will not issue building permits for development in the IBC which would cause the total development in the IBC (existing development plus development occurring after the date of this Agreement) to exceed 51,000,000 square feet of office equivalency development (as defined in the Irvine Zoning Code) until after the following street improvements, located in the City of Santa Ana, have been completed:

(a) The widening of Dyer Road to eight (8) lanes from a point commencing just east of the SR-55 freeway northbound direct connector on-ramp to and including the Redhill - Dyer/Barranca Avenue intersection, as provided in the IBC EIR mitigation measures, hereinafter referred to as the "Roadway Improvement".

(b) An Alton Avenue overcrossing of the SR-55 Freeway, hereinafter referred to as the "Overcrossing Improvement".

If, notwithstanding Irvine's agreement to limit the issuance of building permits as set forth hereinabove, the total development in the IBC exceeds 51,000,000 square feet prior to the completion of the Roadway Improvement and Overcrossing Improvement;

A. Irvine shall pay to Santa Ana Irvine's share of the Total Costs (as defined in Section 2 herein below) of the Overcrossing Improvement, to the extent such Total Cost remain unpaid. Any amounts received by Santa Ana pursuant to this paragraph shall be expended by Santa Ana in accordance with Section 3 herein below. As of the date of this agreement, Irvine has issued building permits in the IBC for 41,671,636 square feet of office equivalency development.

B. Irvine shall deposit the Total Costs (as defined in Section 2 herein below)

of the Roadway Improvement, to the extent such Total Costs remain outstanding, in an interest bearing account in a financial institution acceptable to both Irvine and Santa Ana. Irvine shall not withdraw any of the principal of such amount except in connection with the design and construction of the Roadway Improvement, including but not limited to alignment studies, necessary environmental documentation, land acquisition costs, costs of design and construction, and administrative staff costs related to the Roadway Improvements.

2. Responsibilities of the Parties

A. "Total Costs" defined. The term "Total Costs" means all costs incurred in the design and construction of an improvement (i.e., the Roadway Improvement or the Overcrossing Improvement), including, but not limited to, costs of preparation of environmental documentation, costs of land acquisition (including any costs incurred in any eminent domain action), costs of design and construction, and Santa Ana's administrative staff costs, so long as such administrative staff costs related to Roadway Improvement do not exceed 5% of the Total Costs (excluding administrative staff costs) of the improvement ("Improvement Work").

B. To assist in minimizing Total Costs of Roadway Improvement, Santa Ana shall consider and process for approval a reduction of otherwise required landscape setbacks during the right of way acquisition phase of the project if, absent such reduction, the taking of buildings would be necessary to construct the Roadway Improvement. Irvine will mitigate parking losses incurred by any parcels affected by partial acquisitions by the addition of onsite parking spaces through reconfiguration of the site, or by acquisition and development of adjacent real estate for parking. All parking mitigation plans will be subject to the approval of Santa Ana.

C. "Lead Agency" defined. As used herein, the term "Lead Agency" means the city (Irvine or Santa Ana) which is responsible for undertaking the

Improvement Work, either through its own employees or through independent contractors, except as otherwise provided herein below.

D. Funding responsibilities. Irvine shall be responsible for 100% the Total Cost of the Roadway Improvement, less any portion the Total Costs of the Roadway Improvement for which any entity other than Santa Ana assumes responsibility. Irvine will support City of Santa Ana's effort in obtaining local, state and federal grants for the Overcrossing Improvement. Irvine and Santa Ana shall each be responsible for 50% of the Total Costs of the Overcrossing Improvement; provided, however, that if any entity(ies) and/or grant funds other than Irvine or Santa Ana contribute(s) to the Total Costs of the Overcrossing Improvement ("Third Party Contribution(s)"), Irvine's and Santa Ana's contribution shall each be reduced in an amount equal to 50% of said Third Party Contribution(s). Nothing herein shall be construed to restrict the ability of Irvine and/or Santa Ana to obtain funds to meet their funding responsibilities hereunder through the imposition of development fees or such other revenue measures (collectively "Development Fees") as may be deemed appropriate by Irvine and/or Santa Ana, and said Development Fees shall not be deemed to be Third Party Contributions.

Irvine shall have no responsibility to contribute in any way to the mitigation of the Project Impacts (as defined in Recital B above), whether through the payment of the Improvement Fair Share Contribution (as defined in Recital B above) or otherwise. Responsibility for mitigation of the Project Impacts shall belong to Santa Ana or such other entities (other than Irvine) as may assume responsibility to mitigate the Project Impacts.

E. Lead Agency Responsibilities. Except as otherwise provided in Section 3 of this Agreement,
Irvine shall be the Lead Agency for the Roadway Improvement, provided, however, that to the extent that Irvine is unable to acquire land necessary for the Roadway Improvement due to Irvine's inability to apply its powers

of eminent domain to properties located within Santa Ana, Santa Ana shall assume Lead Agency responsibilities with respect to such land acquisition. All design plans and environmental documentation for the Roadway Improvement that is prepared by or on behalf of Irvine as Lead Agency shall be subject to approval by Santa Ana, which approval shall not be unreasonably withheld or delayed; provided, however, that Santa Ana may require all design plans to conform to Santa Ana design standards in effect at the time such plans are submitted.
Santa Ana shall be the Lead Agency with regard to the Overcrossing Improvement. All alignment and design plans and environmental documentation for the Overcrossing Improvement that are prepared by or on behalf of Santa as Lead Agency shall be subject to approval by Irvine, which approval shall not be unreasonably withheld or delayed.

Santa Ana shall indemnify, defend and hold Irvine, its City Council members, officers, officials, employees, agents and representatives harmless from and against any and all actions, claims, demands, judgments, attorneys fees, costs, damage to persons or property, penalties, obligations, expenses or liabilities that may be asserted or claimed by any person or entity arising out of the negligent acts or omissions of Santa Ana in connection with the design, construction or maintenance of the Roadway Improvement or Overcrossing Improvement.

Irvine shall indemnify, defend and hold Santa Ana, its City Council members, officers, officials, employees, agents and representatives harmless from and against any and all actions, claims, demands, judgments, attorneys fees, costs, damage to persons or property, penalties, obligations, expenses or liabilities that may be asserted or claimed by any person or entity arising out of the negligent acts or omissions of Irvine in connection with the design, construction or maintenance of the Roadway Improvement or Overcrossing Improvement; provided, however, that upon completion of the Roadway Improvement, and upon satisfactory completion of inspection by appropriate personnel

for the City of Santa Ana, Irvine shall dedicate or convey the Roadway Improvement in its entirety to Santa Ana (to the extent necessary), and shall thereafter have no further liability or responsibility to Santa Ana in connection with the Improvement Work on the Roadway Improvement. However, Irvine shall cooperate with Santa Ana in the prosecution of any required construction defect claims in regard to the Roadway Improvements.

F. Payment of costs. Irvine shall reimburse Santa Ana for any portion of the Total Costs of the Roadway Improvement incurred by Santa Ana if Santa Ana acts as Lead Agency, subject to the restrictions and limitations contained in this Agreement, as follows:

> Santa Ana shall invoice Irvine not more than once monthly for costs incurred since the previous invoice. Each invoice shall be accompanied by a detailed statement of the nature of the costs incurred. Each proper invoice shall be paid by Irvine within thirty (30) days of receipt. The parties agree to meet and confer in good faith to resolve any dispute over any invoice or the need and necessity of any costs incurred. With regard to any action in eminent domain undertaken by Santa Ana in the implementation of this Agreement, Santa Ana may require commercially reasonable advance payments from Irvine at such times as Santa Ana determines to be appropriate to discharge its responsibilities in such action. The provisions of this paragraph may be modified by the mutual agreement of the City Managers of Irvine and Santa Ana.

G. Monitoring of Building Permits. Irvine shall monitor the extent of development authorized by the issuance of building permits in the IBC and submit annual reports to Santa Ana. The Annual Report shall indicate the gross square feet of development authorized by building permits issued for development in the IBC.

H. Cooperation. The Parties shall cooperate in the implementation of this Agreement. In particular, Irvine will: (*i*) retain the Overcrossing Improvement and the Roadway Improvement in the County's Master Plan of Arterial Highways (MPAH), (*ii*) support Santa Ana in any application for grant funding for the Overcrossing Improvement, and (*iii*) support Santa Ana in requesting that Orange County Transportation Authority (OCTA) include the Overcrossing Improvement as part of the SR55 freeway widening project. Similarly, Santa Ana will: (*i*) support Irvine in any application for grant funding for the Roadway Improvement.

3. Payment by Irvine to Santa Ana of Irvine's share:

A. Overcrossing Improvement. If Santa Ana does not have available funds necessary to enable it to perform its funding obligation for the Overcrossing Improvement at such time as Irvine is prepared to provide funds for the completion of the Overcrossing Improvements, the City Managers of Irvine and Santa Ana shall defer the construction of the Overcrossing Improvement to a mutually agreeable date, provided, however, in the event that parties can not mutually agree upon a deferred date, Irvine may choose to pay Santa Ana the amount of its obligations for the completion of the Overcrossing Improvement in order to be relieved and would in that event, notwithstanding any other provision of this Agreement, be permitted to issue building permits for development in excess of 51,000,000 square feet in the IBC,

B. Amount of payments. The payment due to Santa Ana from Irvine pursuant to this section shall be the estimated Total Cost of the Overcrossing Improvement as agreed between Irvine and Santa Ana, to the extent of the work that remains to be done, at the time payment is made.

C. Use of funds by Santa Ana. Any funds received by Santa Ana from Irvine pursuant to this section for the Overcrossing Improvement shall be maintained in a separate fund by Santa Ana, which fund shall be used solely for the completion of the Overcrossing Improvement.

4. Amendment of Santa Ana General Plan. Santa Ana shall process a General Plan Amendment, as necessary to accommodate the Roadway Improvement (the "GPA"). The Parties acknowledge that as part of the GPA, Santa Ana may alter its current designations for Dyer Road outside the area of the Roadway Improvement. Irvine shall not object to any portion of the GPA that is consistent with this Paragraph 4. Until Santa Ana amends its General Plan to accommodate the Roadway Improvement, or certifies to Irvine that the Santa Ana General Plan accommodates the Roadway Improvement, Irvine shall have no obligation to fund the Roadway Improvement.

5. Covenant Not to Sue. Each Party, and its respective agents, officers, employees, representatives and assigns hereby agrees and covenants that this Agreement forever satisfies any past, present, or future claims which the Party, and its agents, officers, employees, representatives or assigns had, has or may have against the other Party or its agents, officers, employees, representatives, and assigns arising out of the IBC Vision Plan, the 1992 Entitlements and the 1992 Agreement. Each Party hereto covenants not to file any future legal actions of whatever kind or nature against the other Party regarding any claim in connection with the IBC Vision Plan, the 1992 Entitlements and the 1992 Agreement, whether such claim is known or unknown, suspected or unsuspected, fixed or contingent.

6. Waiver of Civil Code Section 1542. With regard to matters arising from or related to IBC Vision Plan, the 1992 Entitlements and/or the 1992 Agreement, each of the Parties hereto expressly waives any and all rights that they may have under Civil Code section 1542 ("Section 1542") or any Federal or State statutory right, rules or principles of common law or equity or those of any other jurisdiction, government or political subdivision thereof, similar to Section 1542 ("Similar Provision"). Thus, no Party hereto may invoke the benefit of Section 1542 or any Similar Provision in order to prosecute or assert in any manner any claim released hereunder that arises from or relates to the IBC Vision Plan, the 1992 Entitlements and/or the 1992 Agreement. Section 1542 provides that: "a general

release does not extend to claims which the creditor does not know or suspect to exist in his favor at the time of executing the release, which if known by him must have materially effected his settlement with the debtor. "

Santa Ana Initials: BR

Irvine initials: SK

7. Integration. This Agreement represents the entire understanding of the Parties hereto. No prior or contemporaneous oral or written understanding shall be of any force or effect with respect to those matters covered in this Agreement. This Agreement may not be altered, amended, or modified except by mutual consent of the Parties hereto through a written instrument.

8. California Law. This Agreement shall be construed and interpreted both as to its validity and as to the performance of the Parties in accordance with the laws of the State of California.

9. Execution and Counterparts. This Agreement may be executed and delivered in any number of counterparts or copies ("Counterpart") by the Parties hereto.

10. Authority to Execute. Each person executing this Agreement on behalf of a Party·hereto warrant that he or she is duly authorized to execute this Agreement on behalf of said Party and that by so executing this Agreement, each Party formally binds itself to the provisions of this Agreement. Each person executing this Agreement further acknowledges that he or she has obtained all necessary and legally required approvals for entry into this Agreement from legislative or governing boards and that such legislative or governing board has adopted a resolution, motion, ordinance or other action pursuant to State law and its own bylaws or ordinances for approval of this Agreement.

11. Notices. Every notice, demand, request, annual report, or other document or instrument delivered pursuant to this Agreement shall be in writing and shall either be personally delivered, sent by Federal Express or other reputable over-night courier, sent by facsimile transmission with the original subsequently

delivered by any other means authorized herein, or sent by certified United States mail, postage prepaid, return receipt requested, to the address set forth below for the applicable Party, or such other address as Parties may designate from time to time:

To the City: City of Irvine
City Hall
One Civic Center Plaza
P.O. Box 19575
Irvine, CA 92713
Attn: City Manager
cc: Director of Community Development
Director of Public Works
Telephone: (714) 724-6000
Fax: (714) 724-6075

To the City: City of Santa Ana
20 Civic Center Plaza
P.O. Box 1988
Santa Ana, CA 92702
Attn: City Manager
cc: Executive Director of Planning and Building
Executive Director of Public Works
Telephone: (714) 647-6900
Fax: (714) 647-6951

12. Severability. The invalidity in whole or in part of any provision of this Agreement shall not void or affect the validity of any other provision of this Agreement.

13. Amendment and Restatement: This Agreement amends and restates, and thereby supersedes in full, the 1992 Agreement.

IN WITNESS WHEREOF, the Parties hereto have executed this Amendment To and Restatement Of the 1992 Agreement as set forth below.

"Irvine"
CITY OF IRVINE

By: _____
Sukhee Kang, Mayor

APPROVED AS TO FORM:

By: _____
Philip D. Kohn
City Attorney

ATTEST:

By: _____
Shari Apodaca
City Clerk of the City of Irvine

"Santa Ana"
CITY OF SANTA ANA

By: _____
David N. Ream, City Manager

APPROVED AS TO FORM:

By: _____
City Attorney

ATTEST:

By: _____
Clerk of the Council, City of Santa Ana

A 2 . 5

REL: 11/20/92

AGREEMENT

This Agreement for IMPLEMENTING ROADWAY AND INTERCHANGE MITIGATION PROGRAM ("Agreement") is made and entered into as of this 24th day of November, 1992 (the "Effective Date"), by and between the City of Irvine, a California charter city ("Irvine") and the City of Santa Ana, a California municipal corporation ("Santa Ana") (collectively referred to as the "Parties").

RECITALS

A. Irvine has certified Environmental Impact Report 88-ER-0087 (the "IBC EIR"), as adequate and complete and adopted General Plan Amendment No. 7234-GA, and Zoning Amendment 88-ZC-0135 (collectively the "IBC Rezoning") to amend the land use designation and zoning in that portion of the City known as the Irvine Business Complex (the "IBC"), more specifically defined as that area depicted on Exhibit "A," attached hereto and incorporated herein by this reference.

B. The IBC EIR analyzes the IBC Rezoning and concludes that the mitigation measures contained therein will adequately accommodate the traffic impacts which are anticipated to be generated by the IBC Rezoning.

C. Certain mitigation measures discussed in the IBC EIR and adopted as part of the IBC Rezoning are Roadway and Interchange Improvements which are to be constructed within the municipal boundaries of Santa Ana.

EXHIBIT A

2750

NOW, THEREFORE, in consideration of the mutual promises and covenants contained herein, the Parties hereto agree as follows:

1. Limit on new development in the IBC.

The parties hereto agree and stipulate that, as of the date of this Agreement, Irvine has approximately 39,846,000 square feet of development within the IBC. Except as otherwise provided in this Agreement, Irvine agrees that it will not issue building permits for development in the IBC which would cause the total development in the IBC (presently existing development plus development occurring after the date of this Agreement) to exceed 51,000,000 square feet until after the following street improvements, located in the City of Santa Ana, have been completed:

(a) The widening of Dyer Road to eight (8) lanes from a point commencing just east of the SR-55 freeway northbonnd direct connector on-ramp to and including the Redhill-Dyer/Barranca Avenue intersection, as provided in the IBC EIR mitigation measures (numbers 1.a. and 2.p.) (the "Roadway Improvements").

(b) An Alton Avenue overcrossing of the SR-55 freeway with high occupancy vehicle northbound and southbound drop ramps, as provided in the IBC EIR mitigation measures (numbers 1.d and 3.b.) (the "Interchange Improvements").

Irvine further agrees that in the event that, notwithstanding Irvine's agreement to limit the issuance of building permits as abovesaid, the total development in the IBC does exceed 51,000,000 square feet prior to the completion of the Roadway Improvements and

the Interchange Improvements:

(a) Irvine shall be liable to Santa Ana for Irvine's share of the Total Costs (as defined in Section 2 hereinbelow) of the Interchange Improvements, to the extent such Total Costs remain outstanding, and shall pay such amount to Santa Ana. Any amonnts received by Santa Ana pursuant to this paragraph for the Interchange Improvements shall be expended by Santa Ana in accordance with Section 3 hereinbelow.

(b) Irvine shall deposit the Total Costs (as defined in Section 2 hereinbelow) of the Roadway Improvements, to the extent such Total Costs remain outstanding, in an interest bearing account in a financial institution acceptable to both Irvine and Santa Ana. Irvine shall not withdraw any of the principal of such amount except in connection with the design and construction of the Roadway Improvements, including but not limited to alignment studies and any environmental documentation which may be necessary in addition to the IBC EIR, costs of land acquisition (including any costs incurred in any eminent domain action), costs of design and construction, and administrative staff costs related to the Roadway Improvements. Any and all interest earned on the amounts deposited in such account shall be paid to Santa Ana.

Notwithstanding anything to the contrary in the IBC EIR or in the environmental findings approved by Irvine in its approval of

the IBC Rezoning, the parties hereto agree that the completion of the Roadway Improvements and the Interchange Improvements in accordance with this Agreement (and subject to the exceptions set forth in this Agreement) are appropriate and necessary mitigation measures for the IBC Rezoning under the California Environmental Quality Act.

2. Responsibilities of the Parties.

a. "Total Costs" defined. As used with reference to the Roadway Improvements and/or the Interchange Improvements, the term "Total Costs" means all costs incurred in the completion of those improvements, including, but not limited to, costs of preparation of alignment studies and any environmental documentation which may be necessary in addition to the IBC EIR, costs of land acquisition (including any costs incurred in any eminent domain action), costs of design and construction, and administrative staff costs.

b. "Lead Agency" defined. As used herein, the term "Lead Agency" means the city (Irvine or Santa Ana) which is responsible for undertaking the work necessary to complete the Roadway Improvements and/or the Interchange Improvements, including, but not limited to, preparation of alignment studies and any environmental documentation which may be necessary in addition to the IBC EIR, land acquisition, and design and construction, either through its own employees or through independent contractors, except as otherwise provided hereinbelow.

c. Funding responsibilities. Irvine shall be

responsible for 100% of the Total Costs of the Roadway improvements, exclusive of any portion thereof as to which any governmental entity other than Santa Ana may assume responsibility. Irvine and Santa Ana shall each be responsible for 50% of the Total Costs of the Interchange Improvements, exclusive of any portion thereof as to which any governmental entity other than Irvine or Santa Ana may assume responsibility. Nothing herein shall be construed to restrict the ability of either city to obtain funds to meet its funding responsibilities hereunder through the imposition of development fees or such other revenue measures as may be deemed appropriate by that city.

d. Lead Agency responsibilities. Except as otherwise provided in paragraph b of Section 3 of this Agreement, Irvine shall be the Lead Agency for the Roadway Improvements, provided, however, that to the extent that Irvine is unable to acquire land necessary for the Roadway Improvements due to Irvine's inability to exercise powers of eminent domain in the jurisdiction of the City of Santa Ana, Santa Ana shall assume Lead Agency responsibilities with respect to such land acquisition. Santa Ana shall be the Lead Agency with regard to the Interchange Improvements. All alignment and design plans and environmental documentation prepared by or on behalf of Irvine as Lead Agency shall be subject to approval by Santa Ana, which approval shall not be unreasonably withheld or delayed; provided, however, that Santa Ana may require all design plans to conform to Santa Ana design standards in effect at the time such plans are submitted.

Santa Ana shall indemnify, defend and hold Irvine, its councilmembers, officers, officials, employees, agents and representatives harmless from and against any and all actions, claims, demands, judgments, attorneys fees, costs, damage to persons or property, penalties, obligations, expenses or liabilities that may be asserted or claimed by any person or entity arising out of the negligent acts or omissions of Santa Ana in connection with the design, construction or maintenance of the Roadway Improvements or Intersection Improvements.

Irvine shall indemnify, defend and hold Santa Ana, its councilmembers, officers, officials, employees, agents and representatives harmless from and against any and all actions, claims, demands, judgments, attorneys fees, costs, damage to persons or property, penalties, obligations, expenses or liabilities that may be asserted or claimed by any person or entity arising out of the negligent acts or omissions of Irvine in connection with the design, construction or maintenance of the Roadway Improvements or Intersection Improvements.

e. Payment of costs. For any portion of Total Costs incurred by Santa Ana as Lead Agency, Irvine shall pay to Santa Ana Irvine's funding obligation for such costs, as determined pursuant to paragraph a of this section, as follows: Santa Ana shall invoice Irvine not more than once monthly for costs incurred since the previous invoice. Each invoice shall be accompanied by a detailed statement of the nature of the costs incurred. Each proper invoice shall be paid by Irvine within thirty (30) days of

receipt. The parties agree to meet in good faith to resolve any dispute over any invoice or the need and necessity of any costs incurred. With regard to any action in eminent domain action undertaken by Santa Ana in the implementation of this Agreement, Santa Ana may require payments from Irvine at such times as Santa Ana determines to be appropriate to discharge its responsibilities in such action. The provisions of this paragraph may be modified and/or elaborated by the mutual agreement of the City Managers of Irvine and Santa Ana.

f. Monitoring of building permits. Irvine shall monitor the extent of development authorized by the issuance of building permits in the IBC and submit quarterly reports to Santa Ana commencing on or about the first week of January, 1993 (the "Quarterly Report"). The Quarterly Report shall indicate the gross square feet of development authorized by building permits issued for development in the IBC.

g. Cooperation. The parties hereto agree to cooperate in the implementation of this Agreement. In particular, but without limitation, Santa Ana and Irvine shall exercise good faith in cooperating with the California Department of Transportation ("Caltrans") in negotiating and entering into all necessary cooperative agreements for the funding, design, and construction of the Interchange Improvements.

3. Payment by Irvine to Santa Ana of Irvine's share.

a. The Interchange Improvements. In the event that (1) Santa Ana does not have available funds necessary to

enable it to perform its funding obligation for the Interchange Improvements at such time as Irvine is prepared to provide funds for the completion of its funding obligations for the Interchange Improvements, or (2) Caltrans has not taken any and all actions required by it to permit the construction of the Interchange Improvements at such time as Irvine is prepared to provide funds for the completion of its funding obligations for the Interchange Improvements, the City Managers of Irvine and Santa Ana shall defer the construction of the Interchange Improvements to a mutually agreeable date; provided, however, that in the event the parties cannot mutually agree upon a deferred date, Irvine shall pay to Santa Ana the amount of its funding obligation for the Interchange Improvements, and Irvine shall thereupon be relieved of any further responsibility for the completion of the Interchange Improvements pursuant to Section 1 of this Agreement, and the completion of the Interchange Improvements shall no longer be condition precedent to the issuance of building permits for development in excess of 51,000,000 square feet in the IBC.

b. Amount of payments. The amount of the payment due to Santa Ana from Irvine pursuant to this Section shall be the estimated Total Cost of the Interchange Improvements, to the extent of the work that remains to be done, at the time payment is made.

c. Use of funds by Santa Ana. Any funds received by Santa Ana from Irvine pursuant to this Section for the Interchange Improvements shall be used for the completion of the Interchange Improvements.

4. Amendment of Santa Ana General Plan.

Within two years of the execution of this Agreement, Santa Ana shall, if necessary, take action to amend its General Plan to accommodate the Interchange Improvements contemplated by this Agreement. In the event of any litigation challenging the amendment of Santa Ana's general plan to accommodate the Interchange Improvements, the abovesaid time period shall be extended for such time as may be necessary to resolve such litigation. Irvine shall not object to that portion of the Santa Ana General Plan amendment relating to the Interchange Improvements. In the event that, after the expiration of the abovesaid time period, Santa Ana has not amended its General Plan to accommodate the Interchange Improvements at such time as Irvine is prepared to provide funds for the completion of its funding obligations for the Interchange Improvements, then the completion of the Interchange Improvements shall no longer be a condition precedent to the issuance of building permits for development in excess of 51,000,000 square feet in the IBC. Unless and until Santa Ana amends its General Plan to accommodate the Interchange Improvements, or certifies to Irvine that the Santa Ana General Plan accommodates the Interchange Improvements, Irvine shall have no obligation to fund the Interchange Improvements.

Within two years of the execution of this Agreement, Santa Ana shall take an action to amend its General Plan to accommodate the Roadway Improvement contemplated by this Agreement. In the event of any litigation challenging the amendment of Santa

Ana's general plan to accommodate the Roadway Improvement, the abovesaid time period shall be extended for such time as may be necessary to resolve such litigation. Irvine shall not object to that portion of the Santa Ana General Plan amendment relating to the Roadway Improvements or to any Santa Ana General Plan designation of any portion of Dyer Road outside of the area of the Roadway Improvements adopted to effectuate this Agreement. In the event that, after the expiration of the abovesaid time period, Santa Ana has not amended its General Plan to accommodate the Roadway Improvements at such time as Irvine is prepared to acquire land for the Roadway Improvements, then Irvine shall no longer have any obligation under this Agreement to construct or fund the Roadway Improvements.

5. Participation in Five-City Study.

Irvine shall not request Santa Ana's participation in the Five-City study referenced in IBC EIR Condition No. 8 and IBC Mitigation Monitoring and Reporting Checklist Mitigation Measure No. 7A.

6. Payment for Main Street Widening.

Irvine shall not request that Santa Ana contribute any funds whatsoever for the widening of Main Street to six (6) lanes between Sunflower Avenue and San Diego Creek.

7. Covenant Not to Sue.

Each Party, and its respective agents, officers, employees, representatives and assigns hereby agrees and covenants that this Agreement forever satisfies any past, present, or future

claims which the Party, and its agents, officers, employees, representatives or assigns had, has or may have against the other Party or its agents, officers, employees, representatives, and assigns arising out of the IBC Rezoning and/or the preparation and certification of the IBC EIR. As a result, each Party hereto covenants not to file any future legal actions of whatever kind or nature against the other Party regarding any claim in connection with the IBC Rezoning or the IBC EIR whether such claim is known or unknown, suspected or unsuspected, fixed or contingent.

8. Waiver of Civil Code Section 1542.

Each of the Parties hereto expressly waives any and all rights under Section 1542 of the California Civil Code or any Federal or State statutory right, rules or principles of common law or equity or those of any other jurisdiction, government or political subdivision thereof, similar to Civil Code Section 1542 (hereinafter referred to "Similar Provision"). Thus, no Party hereto may invoke the benefit of Section 1542 or any Similar Provision in order to prosecute or assert in any manner any claim released hereunder. Section 1542 provides that:

> "a general release does not extend to claims which the creditor does not know or suspect to exist in his favor at the time of executing the release, which if known by him must have materially effected his settlement with the debtor."

9. Integration.

This Agreement represents the entire understanding of the Parties hereto. No prior or contemporaneous oral or written

understanding shall be of any force or effect with respect to those matters covered in this Agreement. This Agreement may not be altered, amended, or modified except by mutual consent of the Parties hereto through a written instrument.

10. Attorneys Fees.

In the event that any Party hereto should bring any action, suit or other proceeding to remedy, prevent, or obtain relief from a breach of this Agreement or arising out of a breach of this Agreement, or contesting the validity of this Agreement or attempting to rescind, negate, modify, or reform this Agreement, or any of the terms or provisions of this Agreement, the prevailing Party shall recover from such Party those reasonable attorneys fees and costs, including expert fees, incurred in each and every such action, suit, or other proceeding, including any and all appeals or petitions therefrom.

11. California Law.

This Agreement shall be construed and interpreted both as to validity and performance of the Parties in accordance with the laws of the State of California.

12. Execution and Counterparts.

This Agreement may be executed and delivered in any number of counterparts or copies ("Counterpart") by the Parties hereto.

13. Authority to Execute.

The persons executing this Agreement on behalf of the Parties hereto warrant that they are duly authorized to execute

this Agreement on behalf of said Parties and that by so executing this Agreement, the Parties hereto are formally bound to the provisions of this Agreement. Each person further acknowledges that he or she has obtained all necessary and legally required approvals for entry into this Agreement from legislative or governing boards and that it has adopted a resolution, motion, ordinance or other action pursuant to State law and its own bylaws or ordinances for approval of this Agreement.

14. Notices.

Every notice, demand, request, or other document or instrument delivered pursuant to this Agreement shall be in writing and shall either be personally delivered, sent by Federal Express or other reputable over-night courier, sent by facsimile transmission with the original subsequently delivered by any other means authorized herein, or sent by certified United States mail, postage prepaid, return receipt requested, to the address set forth below for the applicable Party, or such other address as Parties may designate from time to time:

To the City: City of Irvine
City Hall
One Civic Center Plaza
P.O. Box 19575
Irvine, CA 92713
Attn: City Manager
cc: Director of Community Development
Telephone: (714) 724-6000
Fax: (714) 724-6075

To the City: City of Santa Ana
20 Civic Center Plaza
P.O. Box 1988
Santa Ana, CA 92702
Attn: City Manager
cc: Executive Director of Planning and Building
Telephone: (714) 647-6900
Fax: (714) 647-6951

15. Severability clause.

The invalidity in whole or in part of any provision of this Agreement shall not void or affect the validity of any other provision of this Agreement.

IN WITNESS WHEREOF, the Parties have executed this Agreement on the date appearing next to their signatures.

Dated: 12/22/92

ATTEST:

Janice C. Guy
Clerk of the Council

APPROVED AS TO FORM:

Edward J. Cooper
City Attorney

CITY OF SANTA ANA

by Daniel H. Young
Mayor

Dated: 11-24-92

ATTEST:

Clerk of the Council

APPROVED AS TO FORM:

City Attorney

CITY OF IRVINE

by Sally Anne Sheridan
Mayor

Approved as to content

City Manager

Appendix D: Detail Layout and Cost Estimate Worksheets for Improvements

City of Irvine

City of Irvine List of Improvements and Associated Costs

Jurisdiction	Int ID	Intersection / Arterial Location	Improvement Strategy	Cost				Fair Share %	Total Cost to IBC Fee
				Construction Subtotal	ROW Subtotal	Contingency Cost*	Total		
Irvine	97	Von Karman Avenue/Tustin Ranch Road at Barranca Parkway	Add 3rd NBT and convert de facto right-turn to standard NBR	$2,918,631	$2,880,767	$1,759,316	$7,558,713	90%	$6,802,842
Irvine	98	Von Karman Avenue at Alton Parkway	Add 3rd NBT						
Irvine	134	Loop Road/Park Avenue at Warner Avenue	Add 3rd EBT and NBR overlap	$3,169,280	$340,175	$1,901,568	$5,411,023	90%	$4,869,921
Irvine	135	Jamboree NB Ramps/Warner Avenue	Add 2nd EBL	$1,389,515	$208,725	$994,757	$2,592,998	90%	$2,333,698
Irvine	188	Harvard Avenue at Michelson Drive	Widen SB to 2,2,1	$1,628,028	$10,725	$1,114,014	$2,752,766	90%	$2,477,489
Irvine	229	Culver Drive at Alton Parkway	Improve EB to 2,3,0 (de facto right)	$587,290	$23,095	$593,646	$1,204,030	90%	$1,083,627
Irvine		Red Hill Avenue between Main Street and Mac Arthur Boulevard	Widen from 4 lanes to 6 lanes.	$7,088,805	$7,077,301	$4,253,284	$18,419,390	90%	$16,577,451
Irvine		Gillette Avenue at Alton Parkway	New traffic signal (T-intersection)	$350,000	$0	$137,500	$487,500	90%	$438,750
								TOTAL	$34,583,778

*Contingency cost includes:

- Preliminary Project Development Cost (10% Construction Cost, minimum $300,000)
- Design Engineering/Administration Cost (15% Construction Cost)
- Construction Engineering Cost/Administration (15% Construction Cost)
- Contingency (20% Construction Cost)

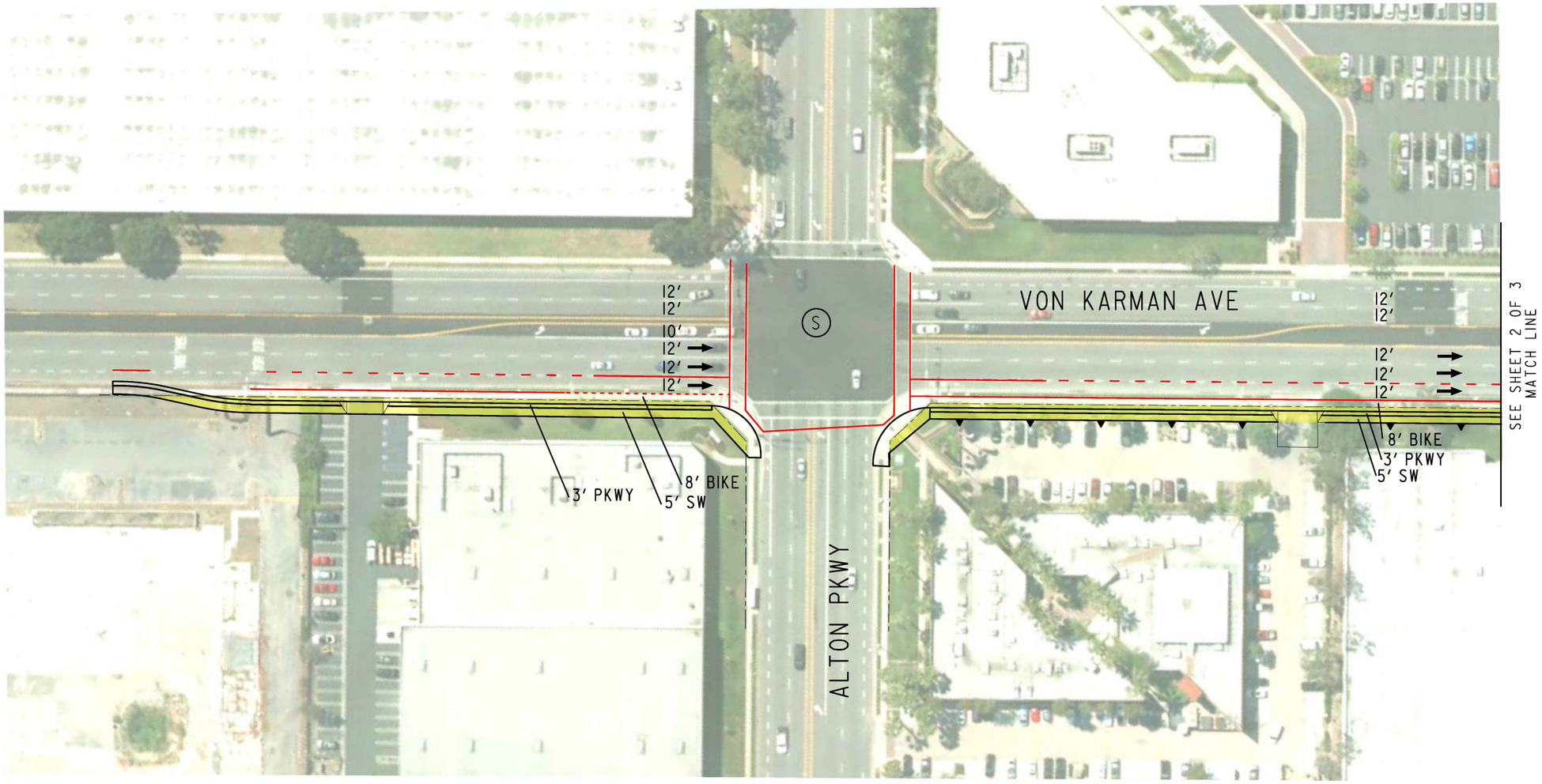
97 - Von Karman Avenue/Tustin Ranch Road at Barranca Parkway
and
98 - Von Karman Avenue at Alton Parkway

Irvine IBC - Nexus Study

Cost Estimate

Intersections #97 and #98
Von Karman Ave & Barranca Pkwy and Von Karman Ave & Alton Pkwy
Mitigations: Add 3rd NBT lane, Convert defacto right-turn to standard NBR

ITEM #	DESCRIPTION OF WORK	UNIT PRICE	UNIT	QUANTITY	COST	NOTES
	ROADWAY					
1	Clear & Grub	$12,200.00	AC	**0.85**	**$10,370**	
2	Earthwork	$46.00	CY	**1900**	**$87,400**	
3	Remove Curb & Gutter	$24.00	LF	**3085**	**$74,040**	
4	Remove Median Curb	$30.00	LF		**$0**	
5	Remove PCC Sidewalk	$5.00	SF	**16305**	**$81,525**	
6	Remove Pavement	$5.00	SF	**9600**	**$48,000**	
7	Remove Channel	$40.00	LF		**$0**	
8	Remove/Replace Chain Link Fence	$35.00	LF		**$0**	
9	Reconstruct Metal Beam Guard Rail	$40.00	LF		**$0**	
10	Remove & Replace Tree	$1,500.00	EA	**46**	**$69,000**	
11	Modify Driveway	$6,100.00	EA	**11**	**$67,100**	
12	Construct PCC Pavement	$14.00	SF		**$0**	
13	Construct AC Pavement	$8.00	SF	**34949**	**$279,592**	
14	Construct AC Overlay	$3.60	SF		**$0**	
15	Construct Slurry Seal	$0.40	SF		**$0**	
16	Construct AC Dike	$15.00	LF		**$0**	
17	Construct Curb & Gutter	$30.00	LF	**3042**	**$91,260**	
18	Construct Concrete Barrier	$80.00	LF		**$0**	
19	Construct Median Curb	$31.00	LF	**25**	**$775**	
20	Construct Median Concrete	$15.00	SF		**$0**	
21	Construct Median/Parkway Landscaping	$13.00	SF	**6719**	**$87,347**	
22	Construct PCC Sidewalk	$9.05	SF	**14590**	**$132,040**	
23	Construct Wheelchair Ramp	$6,000.00	EA	**12**	**$72,000**	
24	Construct Retaining Wall	$75.00	SF	**6360**	**$477,000**	Average Height = 3'
25	Remove Retaining Wall	$35.00	SF		**$0**	Caltrans has $35 per SF. $74 too high.
26	Relocate Monument Wall	$20,000.00	EA		**$0**	
27	Parkway Drain	$1,000.00	EA	**9**	**$9,000**	
28	Sawcut	$4.00	LF	**3032**	**$12,128**	
	ROADWAY SUBTOTAL				**$1,598,577**	
	TRAFFIC					
29	Remove Striping	$3.00	LF	**3100**	**$9,300**	Caltrans Cost $3 per LF. $13 too high.
30	Relocate Street Light	$6,200.00	EA	**12**	**$74,400**	
31	Modify Traffic Signal	$325,000.00	EA	**1**	**$325,000**	Alton Pkwy, Barranca Pkwy signals
32	New Traffic Signal	$425,000.00	EA		**$0**	
33	Install Striping	$5.00	LF	**4930**	**$24,650**	
34	Relocate Freeway Sign (2 post)	$700.00	EA		**$0**	
35	Loop Detector	$2000.00	EA	**8**	**$16,000**	
36	Relocate Sign (1 post)	$220.00	EA	**30**	**$6,600**	
37	Overhead Sign (2 posts)	$240,000.00	EA		**$0**	
38	Relocate Bus Bench	$1,458.00	EA	**1**	**$1,458**	
39	Install Ramp Metering System	$80,000.00	EA		**$0**	
40	Install Delineator	$36.60	EA		**$0**	
41	Apply ATMS	$113,165.00	LS		**$0**	
	TRAFFIC SUBTOTAL				**$457,408**	
	UTILITIES AND DRAINAGE					
42	Relocate Call Box	$2,051.00	EA		**$0**	
43	Relocate Power Pole	$25,000.00	EA		**$0**	
44	Relocate Catch Basin	$9,760.00	EA	**2**	**$19,520**	
45	Relocate Fire Hydrant	$5,000.00	EA		**$0**	
46	Relocate Utility Boxes	$1000.00	EA	**50**	**$50,000**	
47	Relocate Main Water Valve	$12,200.00	EA		**$0**	
48	Relocate Utility Vault	$10,000.00	EA	**6**	**$60,000**	
49	Adjust Manhole to Grade	$1,500.00	EA		**$0**	
50	Adjust Water Meter	$1000.00	EA		**$0**	
51	Adjust Water Valve	$1000.00	EA	**2**	**$2,000**	
52	Adjust Minor Above Ground Utilities	$1000.00	EA		**$0**	
53	Construct Striping & Marking	$2.00	LF		**$0**	
54	Construct Storm Drain Main	$122.00	LF		**$0**	
55	Construct RCB	$549.00	CY		**$0**	
56	Construct Channel (Earthen)	$12.20	LF		**$0**	
57	Relocate FDC	$15000.00	EA	**5**	**$75,000**	
58	Construct Concrete V-Ditch	$19.00	LF		**$0**	
59	Construct Bridge Widening	$500.00	SF		**$0**	
	UTILITIES AND DRAINAGE SUBTOTAL				**$206,520**	
	GENERAL					
60	Mobilization	10.00%	LS	**1**	**$226,250**	
61	Traffic Control	8%	LS	**1**	**$181,000**	
62	Utility Relocations	5%	LS	**1**	**$113,125**	
63	SWPPP Plan and Implementation	6%	LS	**1**	**$135,750**	
	CONSTRUCTION SUBTOTAL				**$2,918,631**	
	RIGHT-OF-WAY					
64	Right-Of-Way	$70.00	SF	**34721**	**$2,430,470**	Increase for 2016
65	Parking Impacts	$20,000.00	EA	**5**	**$100,000**	
66	Temporary Construction Easements	$6.50	SF	**15000**	**$97,500**	
67	Right-of-Way Management	10%	LS	**1**	**$252,797**	
	RIGHT-OF-WAY SUBTOTAL				**$2,880,767**	
TOTAL CONSTRUCTION & RIGHT-OF-WAY COST:					**$5,799,398**	
Preliminary Project Development (10% Construction Cost, min $300,000)					**$300,000**	
Design Engineering/Administration Cost (15% Construction Cost)					**$437,795**	
Construction Engineering Costs/Administration (15% Construction Cost)					**$437,795**	
Contingency (20% Construction Cost)					**$583,726**	
TOTAL PROJECT COSTS					**$7,558,713**	



IRVINE INTERSECTIONS 97 & 98

VON KARMAN AVE AT BARRANCA PKWY

VON KARMAN AVE AT ALTON PKWY

SHEET 1 OF 3

LEGEND

- (S) SIGNALIZED INTERSECTION
- → DIRECTION OF TRAVEL
- PROPOSED ROW
- XX' PROPOSED LANE WIDTH
- PROPOSED RETAINING WALL

MITIGATIONS - IRVINE INTERSECTION 98

(VON KARMAN AVE & ALTON PKWY)

1. ADD 3RD NORTHBOUND THROUGH LANE

MITIGATIONS - IRVINE INTERSECTION 97

(VON KARMAN AVE AT BARRANCA PKWY)

1. ADD 3RD NORTHBOUND THROUGH LANE
2. CONVERT DEFACTO RIGHT-TURN TO STANDARD NBR

SEPTEMBER 14, 2016

CITY OF IRVINE 1971

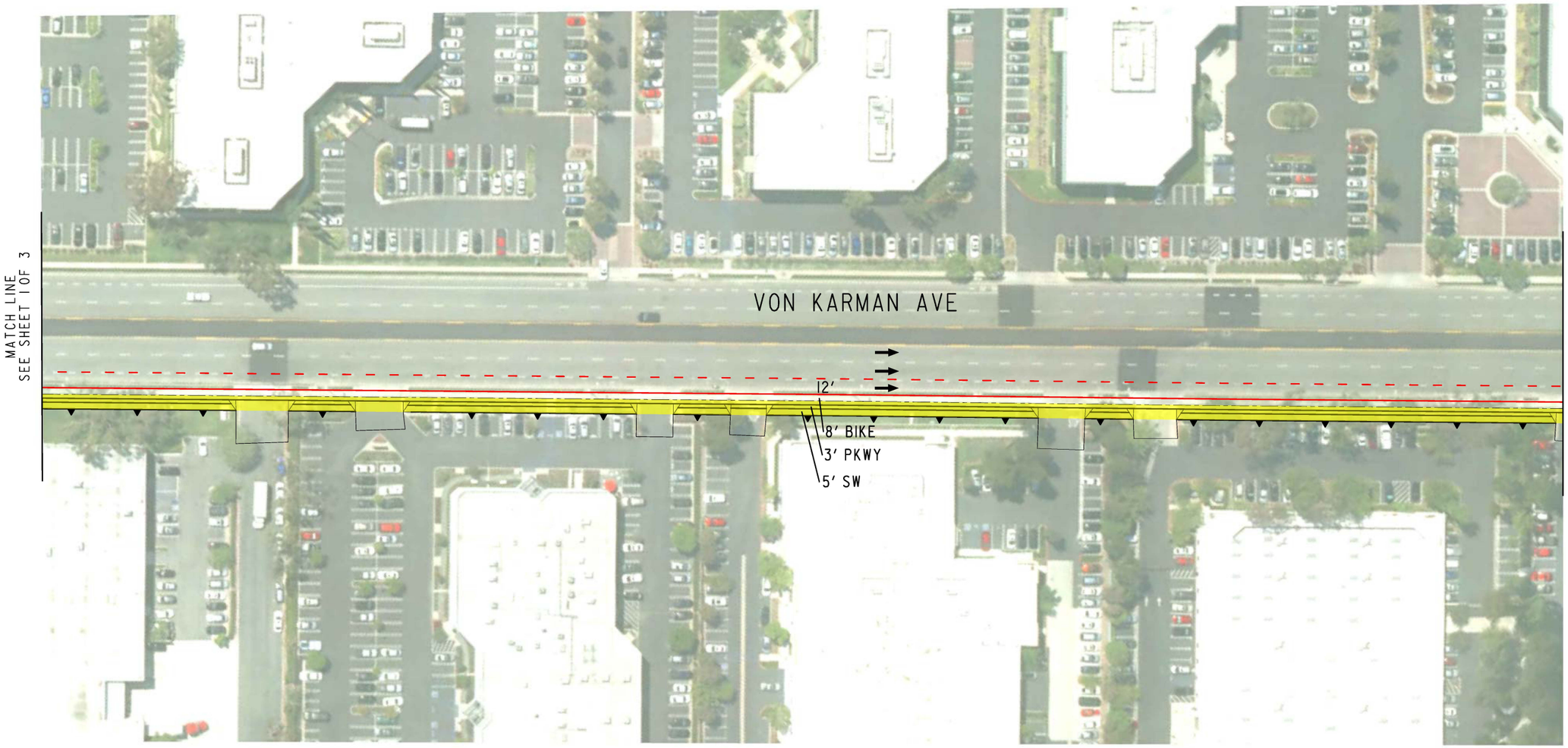
PLAN PREPARED BY: HDR

2015 IBC NEXUS STUDY
ROADWAY IMPROVEMENTS

CITY OF IRVINE
COMMUNITY DEVELOPMENT

PATH =
DWG =
VIEW =

SHEET REVISED: 8/15/07



LEGEND

- (S) SIGNALIZED INTERSECTION
- → DIRECTION OF travel
- PROPOSED ROW
- XX' PROPOSED LANE WIDTH
- PROPOSED RETAINING WALL

MITIGATIONS - IRVINE INTERSECTION 98
(VON KARMAN AVE & ALTON PKWY)

1. ADD 3RD NORTHBOUND THROUGH LANE

MITIGATIONS - IRVINE INTERSECTION 97
(VON KARMAN AVE AT BARRANCA PKWY)

1. ADD 3RD NORTHBOUND THROUGH LANE
2. CONVERT DEFACTO RIGHT-TURN TO STANDARD NBR

IRVINE INTERSECTIONS 97 & 98
VON KARMAN AVE AT BARRANCA PKWY
VON KARMAN AVE AT ALTON PKWY
SHEET 2 OF 3

SEPTEMBER 14, 2016

PLAN PREPARED BY:

2015 IBC NEXUS STUDY
ROADWAY IMPROVEMENTS

CITY OF IRVINE
COMMUNITY DEVELOPMENT

VIEW = DWG = PATH =

SHEET REVISED: 8/15/07

LEGEND

- (S) SIGNALIZED INTERSECTION
- → DIRECTION OF TRAVEL
- PROPOSED ROW
- XX' PROPOSED LANE WIDTH
- PROPOSED RETAINING WALL

MITIGATIONS - IRVINE INTERSECTION 98
(VON KARMAN AVE & ALTON PKWY)

(1) ADD 3RD NORTHBOUND THROUGH LANE

MITIGATIONS - IRVINE INTERSECTION 97
(VON KARMAN AVE AT BARRANCA PKWY)

(1) ADD 3RD NORTHBOUND THROUGH LANE

(2) CONVERT DEFACTO RIGHT-TURN TO STANDARD NBR

IRVINE INTERSECTIONS 97 & 98
VON KARMAN AVE AT BARRANCA PKWY
VON KARMAN AVE AT ALTON PKWY
SHEET 3 OF 3

DECEMBER, 2016

PLAN PREPARED BY:

2015 IBC NEXUS STUDY
ROADWAY IMPROVEMENTS

CITY OF IRVINE
COMMUNITY DEVELOPMENT

PATH =
DWG =
VIEW =

SHEET REVISED: 8/15/07

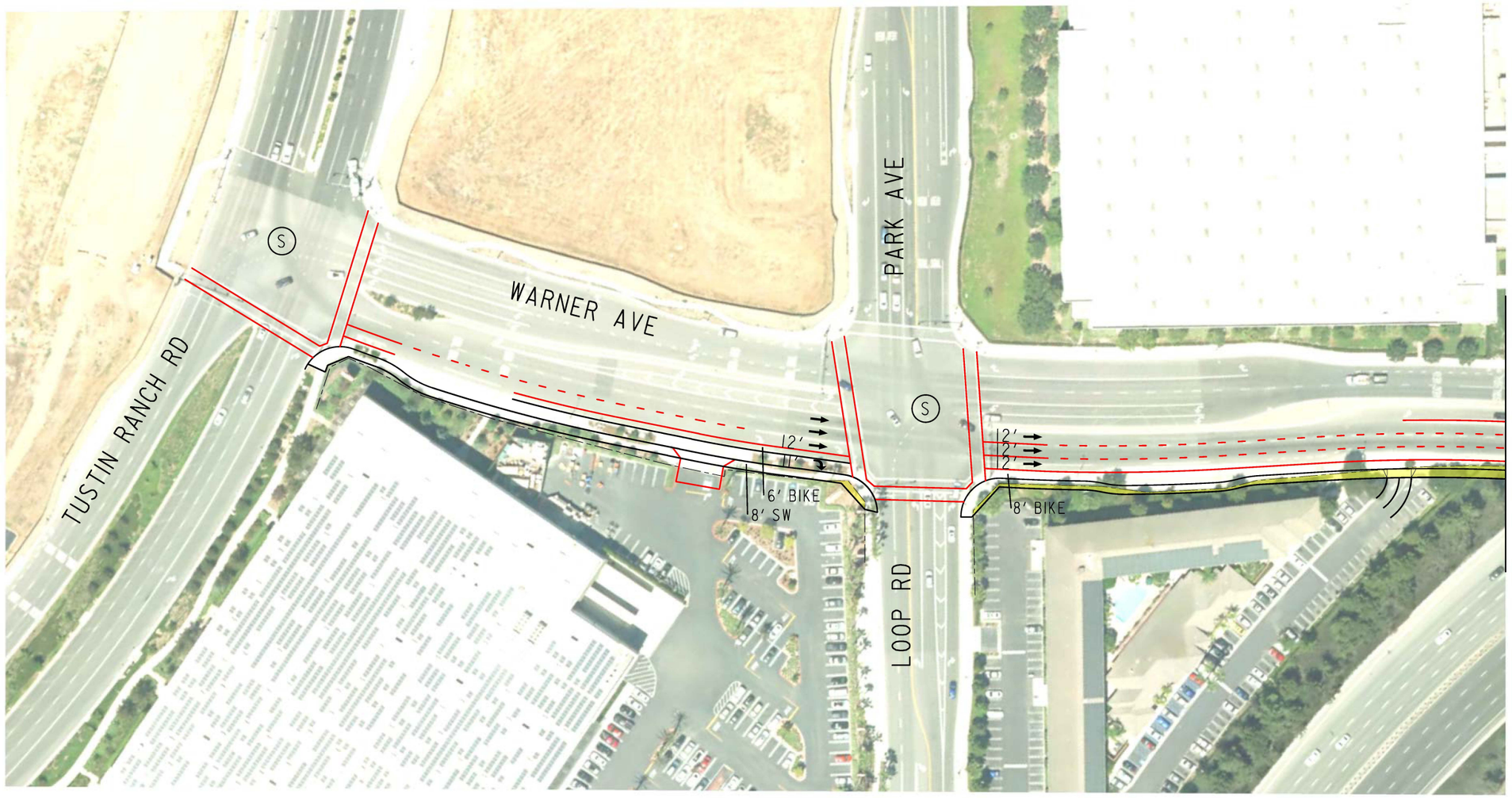
134 - Loop Road/Park Avenue at Warner Avenue

Irvine IBC - Nexus Study

Cost Estimate

Intersection 134
Loop Rd/Park Ave & Warner Ave

ITEM #	DESCRIPTION OF WORK	UNIT PRICE (2012 STUDY)	UNIT PRICE (HDR REVISION)	UNIT	QUANTITY	COST	NOTES
	ROADWAY						
1	Clear & Grub	$12,200.00	$12,200.00	AC	0.34	**$4,201**	
2	Earthwork	$46.00	$46.00	CY	3500	**$161,000**	
3	Remove Curb & Gutter	$36.00	$24.00	LF	1500	**$36,000**	Caltrans has $24 per LF. $36 too high
4	Remove Median Curb	$37.00	$30.00	LF	0	**$0**	Caltrans has $30 per LF. $37 too high
5	Remove PCC Sidewalk	$5.00	$5.00	SF	12800	**$64,000**	
6	Remove Pavement	$5.00	$5.00	SF	3700	**$18,500**	PCC bus stop pad
7	Remove Channel	$40.00	$40.00	LF	0	**$0**	
8	Remove/Replace Chain Link Fence	$31.00	$35.00	LF	0	**$0**	
9	Reconstruct Metal Beam Guard Rail	$86.00	$40.00	LF	0	**$0**	Caltrans has $30 per LF. $86 too high
10	Remove & Replace Tree	$1,500.00	$1,500.00	EA	10	**$15,000**	
11	Modify Driveway	$6,100.00	$6,100.00	EA	2	**$12,200**	
12	Construct PCC Pavement	$7.50	$14.00	SF	3700	**$51,800**	2 bus pads
13	Construct AC Pavement	$6.00	$8.00	SF	15000	**$120,000**	
14	Construct AC Overlay	$2.50	$3.60	SF	0	**$0**	
15	Construct Slurry Seal	$0.40	$0.40	SF	0	**$0**	
16	Construct AC Dike	$4.00	$15.00	LF	0	**$0**	
17	Construct Curb & Gutter	$19.00	$30.00	LF	1500	**$45,000**	$30 per recent Irvine bids
18	Construct Concrete Barrier	$295.00	$80.00	LF	0	**$0**	Caltrans has $80 per LF.
19	Construct Median Curb	$31.00	$31.00	LF	0	**$0**	
20	Construct Median Concrete	$7.90	$15.00	SF	0	**$0**	
21	Construct Median/Parkway Landscaping	$13.00	$13.00	SF	10000	**$130,000**	Includes new irrigation, Excludes Ex irrigation util box relocation
22	Construct PCC Sidewalk	$9.05	$9.05	SF	12800	**$115,840**	
23	Construct Wheelchair Ramp	$5,200.00	$6,000.00	EA	8	**$48,000**	6 curb returns and 1 ADA ramp mod
24	Construct Retaining Wall	$114.00	$75.00	SF	855	**$64,125**	285' x 3'
25	Remove Retaining Wall	$74.00	$35.00	SF	0	**$0**	
26	Relocate Monument Wall	$20,000.00	$20,000.00	EA	1	**$20,000**	
27	Tie-Back Wall (Includes Structural Ex, R&R PCC Slope paving)	-	$300.00	SF	3000	**$900,000**	
28	Sawcut	$1.25	$4.00	LF	1500	**$6,000**	
	ROADWAY SUBTOTAL					**$1,811,666**	
	TRAFFIC						
29	Remove Striping	$13.00	$3.00	LF	3350	**$10,050**	Caltrans Cost $3 per LF. $13 too high.
30	Remove Pavement Markings	-	$150.00	EA	11	**$1,650**	
31	Relocate Street Light	$5,700.00	$6,200.00	EA	7	**$43,400**	
32	Modify Traffic Signal	$300,000.00	$325,000.00	EA	1.25	**$406,250**	
33	New Traffic Signal	-	$425,000.00	EA	0	**$0**	
34	Install Striping	-	$5.00	LF	5600	**$28,000**	
35	Install Pavement Markings	-	$350.00	EA	11	**$3,850**	
36	Relocate Freeway Sign (2 post)	$700.00	$700.00	EA	0	**$0**	
37	Loop Detector	$2,000.00	$2,000.00	EA	10	**$20,000**	
38	Remove Roadside Sign	-	$150.00	EA	0	**$0**	
39	Relocate Sign (1 post)	$220.00	$220.00	EA	28	**$6,160**	
40	Overhead Sign (2 posts)	$240,000.00	$240,000.00	EA	0	**$0**	
41	Relocate Bus Bench	$1,458.00	$1,458.00	EA	0	**$0**	
42	Install Ramp Metering System	$80,000.00	$80,000.00	EA	0	**$0**	
43	Install Delineator	$36.60	$36.60	EA	0	**$0**	
44	Apply ATMS	$113,165.00	$113,165.00	LS	0	**$0**	
	TRAFFIC SUBTOTAL					**$519,360**	
	UTILITIES AND DRAINAGE						
45	Relocate Call Box	$2,051.00	$2,051.00	EA	0	**$0**	
46	Relocate Power Pole	$25,000.00	$25,000.00	EA	0	**$0**	
47	Relocate Catch Basin	$9,760.00	$9,760.00	EA	3	**$29,280**	
48	Relocate Fire Hydrant	$5,000.00	$5,000.00	EA	4	**$20,000**	
49	Relocate Utility Boxes	$895.00	$1,000.00	EA	48	**$48,000**	
50	Relocate Main Water Valve	$12,200.00	$12,200.00	EA	0	**$0**	
51	Relocate Utility Vault	$10,000.00	$10,000.00	EA	2	**$20,000**	
52	Adjust Manhole to Grade	$1,500.00	$1,500.00	EA	3	**$4,500**	
53	Adjust Water Meter	$610.00	$1,000.00	EA	2	**$2,000**	
54	Adjust Water Valve	$610.00	$1,000.00	EA	2	**$2,000**	
55	Adjust Minor Above Ground Utilities	$610.00	$1,000.00	EA	0	**$0**	
56	Construct Striping & Marking	$2.00	$2.00	LF	0	**$0**	
57	Construct Storm Drain Main	$122.00	$122.00	LF	0	**$0**	
58	Construct RCB	$549.00	$549.00	CY	0	**$0**	
59	Construct Channel (Earthen)	$12.20	$12.20	LF	0	**$0**	
60	Construct Concrete V-Ditch	$19.00	$19.00	LF	0	**$0**	
61	Construct Bridge Widening	$500.00	$500.00	SF	0	**$0**	
	UTILITIES AND DRAINAGE SUBTOTAL					**$125,780**	
	GENERAL						
62	Mobilization	10.00%	$12,578	LS	1	**$245,681**	
63	Traffic Control	8% ($2,000 Min)	8%	LS	1	**$196,544**	
64	Utility Relocation	-	5%	LS	1	**$122,840.31**	
65	SWPPP Plan and Implementation	6%	6%	LS	1	**$147,408**	
	CONSTRUCTION SUBTOTAL					**$3,169,280**	
	RIGHT-OF-WAY						
66	Right-Of-Way	$65.00	$70.00	SF	3800	**$266,000**	Increase for 2016
67	Parking Impacts	$20,000.00	$20,000.00	EA	2	**$40,000**	
68	Temporary Construction Easements	$6.50	$6.50	SF	500	**$3,250**	
69	Right-of-Way Management	5%	10%	LS		**$30,925**	
	RIGHT-OF-WAY SUBTOTAL					**$340,175**	
TOTAL CONSTRUCTION & RIGHT-OF-WAY COST:						**$3,509,455**	
Preliminary Project Development (10% Construction Cost, min $200,000)						**$316,928**	
Design Engineering/Administration Cost (15% Construction Cost)						**$475,392**	
Construction Engineering Costs/Administration (15% Construction Cost)						**$475,392**	
Contingency (20% Construction Cost)						**$633,856**	
TOTAL PROJECT COSTS						**$5,411,023**	



LEGEND

- (S) SIGNALIZED INTERSECTION
- → DIRECTION OF TRAVEL
- PROPOSED ROW
- XX' PROPOSED LANE WIDTH

MITIGATIONS - TUSTIN/IRVINE INTERSECTION 134

(1) ADD 3RD EBT AND NBR OVERLAP

TUSTIN/IRVINE INTERSECTION 134
WARNER AVE AT PARK AVE/LOOP RD
SHEET 1 OF 2

DECEMBER, 2016

CITY OF IRVINE 1971

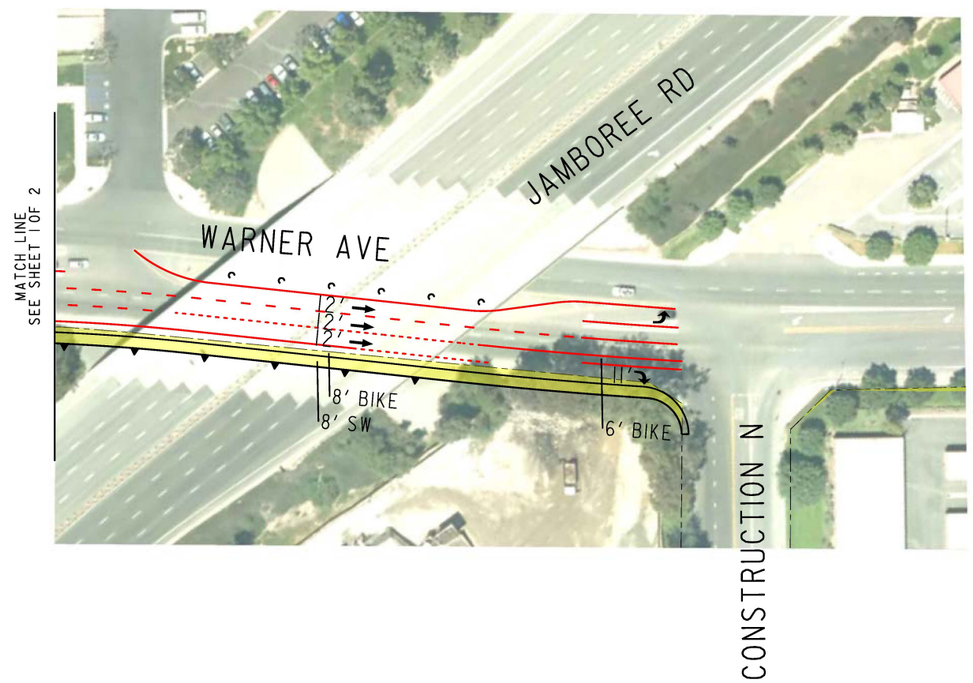
PLAN PREPARED BY: HDR

2015 IBC NEXUS STUDY
ROADWAY IMPROVEMENTS

CITY OF IRVINE
COMMUNITY DEVELOPMENT

VIEW = DWG = PATH =

SHEET REVISED: 8/15/07



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TUSTIN/IRVINE INTERSECTION 134
WARNER AVE AT PARK AVE/LOOP RD
SHEET 2 OF 2

LEGEND

- (S) SIGNALIZED INTERSECTION
- → DIRECTION OF TRAVEL
- PROPOSED ROW
- XX' PROPOSED LANE WIDTH
- PROPOSED RETAINING WALL

MITIGATIONS - TUSTIN/IRVINE INTERSECTION 134

(1) ADD 3RD EBT AND NBR OVERLAP

DECEMBER, 2016

CITY OF IRVINE 1971

PLAN PREPARED BY: HDR

2015 IBC NEXUS STUDY
ROADWAY IMPROVEMENTS

CITY OF IRVINE
COMMUNITY DEVELOPMENT

VIEW = DWG = PATH =

SHEET REVISED: 8/15/07

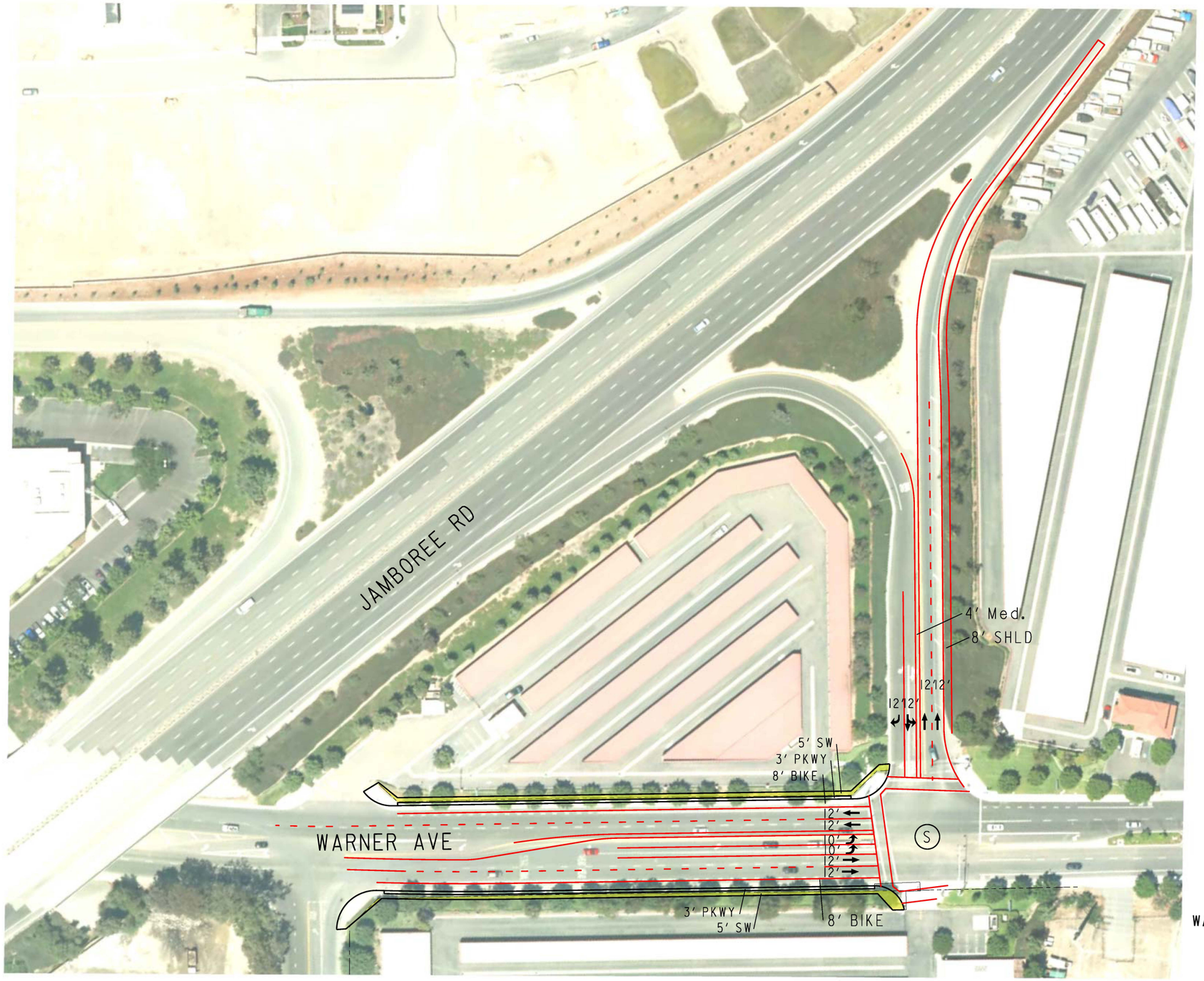
135 - Jamboree NB Ramps/Warner Avenue

Irvine IBC - Nexus Study

Cost Estimate

Intersection #135(a)
Warner Ave & Jamboree Rd
Mitigations: Add 2nd EBL

ITEM #	DESCRIPTION OF WORK	UNIT PRICE	UNIT	QUANTITY	COST	NOTES
	ROADWAY					
1	Clear & Grub	$12,200.00	AC	0.18	**$2,199**	
2	Earthwork	$46.00	CY	2800	**$128,800**	
3	Remove Curb & Gutter	$24.00	LF	1700	**$40,800**	
4	Remove Median Curb	$30.00	LF	0	**$0**	
5	Remove PCC Sidewalk	$5.00	SF	5500	**$27,500**	
6	Remove Pavement	$5.00	SF	9600	**$48,000**	
7	Remove Channel	$40.00	LF	0	**$0**	
8	Remove/Replace Chain Link Fence	$35.00	LF	0	**$0**	
9	Reconstruct Metal Beam Guard Rail	$40.00	LF	0	**$0**	
10	Remove & Replace Tree	$1,500.00	EA	30	**$45,000**	
11	Modify Driveway	$6,100.00	EA	1	**$6,100**	
12	Construct PCC Pavement	$14.00	SF	0	**$0**	
13	Construct AC Pavement	$8.00	SF	14500	**$116,000**	
14	Construct AC Overlay	$3.60	SF	0	**$0**	
15	Construct Slurry Seal	$0.40	SF	0	**$0**	
16	Construct AC Dike	$15.00	LF	0	**$0**	
17	Construct Curb & Gutter	$30.00	LF	1700	**$51,000**	
18	Construct Concrete Barrier	$80.00	LF	0	**$0**	
19	Construct Median Curb	$31.00	LF	0	**$0**	
20	Construct Median Concrete	$15.00	SF	0	**$0**	
21	Construct Median/Parkway Landscaping	$13.00	SF	6500	**$84,500**	Includes new irrigation, Excludes Ex irrigation util box relocation
22	Construct PCC Sidewalk	$9.05	SF	5500	**$49,775**	
23	Construct Wheelchair Ramp	$6,000.00	EA	4	**$24,000**	
24	Construct Retaining Wall	$75.00	SF	0	**$0**	assume 4'(6'H) x 300 LF wall at toe.
25	Remove Retaining Wall	$35.00	SF	0	**$0**	
26	Relocate Monument Wall	$20,000.00	EA	0	**$0**	
27	Sawcut	$4.00	LF	1750	**$7,000**	
	ROADWAY SUBTOTAL				**$630,674**	
	TRAFFIC					
28	Remove Striping	$3.00	LF	4000	**$12,000**	
29	Remove Pavement Markings	$150.00	EA	11	**$1,650**	
30	Relocate Street Light	$6,200.00	EA	2	**$12,400**	Along On-Ramp - Protect Street Lights along Warner (except on Sig Poles)
31	Modify Traffic Signal	$325,000.00	EA	1	**$325,000**	two corners modified
32	New Traffic Signal	$425,000.00	EA	0	**$0**	
33	Install Striping	$5.00	LF	6500	**$32,500**	
34	Install Pavement Markings	$350.00	EA	14	**$4,900**	
35	Relocate Freeway Sign (2 post)	$700.00	EA	1	**$700**	
36	Loop Detector	$2,000.00	EA	0	**$0**	video detection
37	Remove Roadside Sign	$150.00	EA	0	**$0**	
38	Relocate Sign (1 post)	$220.00	EA	7	**$1,540**	
39	Overhead Sign (2 posts)	$240,000.00	EA	0	**$0**	
40	Relocate Bus Bench	$1,458.00	EA	0	**$0**	
41	Install Ramp Metering System	$80,000.00	EA	0	**$0**	
42	Install Delineator	$36.60	EA	0	**$0**	
43	Apply ATMS	$113,165.00	LS	0	**$0**	
	TRAFFIC SUBTOTAL				**$390,690**	
	UTILITIES AND DRAINAGE					
44	Relocate Call Box	$2,051.00	EA	0	**$0**	
45	Relocate Power Pole	$25,000.00	EA	0	**$0**	
46	Relocate Catch Basin	$9,760.00	EA	3	**$29,280**	
47	Relocate Fire Hydrant	$5,000.00	EA	2	**$10,000**	
48	Relocate Utility Boxes	$1,000.00	EA	2	**$2,000**	
49	Relocate Main Water Valve	$12,200.00	EA	0	**$0**	
50	Relocate Utility Vault	$10,000.00	EA	0	**$0**	
51	Adjust Manhole to Grade	$1,500.00	EA	1	**$1,500**	
52	Adjust Water Meter	$1,000.00	EA	2	**$2,000**	
53	Adjust Water Valve	$1,000.00	EA	10	**$10,000**	
54	Adjust Minor Above Ground Utilities	$1,000.00	EA	1	**$1,000**	Area Drain
55	Construct Striping & Marking	$2.00	LF	0	**$0**	
56	Construct Storm Drain Main	$122.00	LF	0	**$0**	
57	Construct RCB	$549.00	CY	0	**$0**	
58	Construct Channel (Earthen)	$12.20	LF	0	**$0**	
59	Construct Concrete V-Ditch	$19.00	LF	0	**$0**	
60	Construct Bridge Widening	$500.00	SF	0	**$0**	
	UTILITIES AND DRAINAGE SUBTOTAL				**$55,780**	
	GENERAL					
61	Mobilization	$5,578	LS	1	**$107,714**	
62	Traffic Control	8%	LS	1	**$86,171**	
63	Utility Relocations	5%	LS	1	**$53,857**	
64	SWPPP Plan and Implementation	6%	LS	1	**$64,629**	
	CONSTRUCTION SUBTOTAL				**$1,389,515**	
	RIGHT-OF-WAY					
65	Right-Of-Way	$70.00	SF	2200	**$154,000**	
66	Parking Impacts	$20,000.00	EA	0	**$0**	
67	Temporary Construction Easements	$6.50	SF	5500	**$35,750**	
68	Right-of-Way Management	10%	LS	0	**$18,975**	
	RIGHT-OF-WAY SUBTOTAL				**$208,725**	
TOTAL CONSTRUCTION & RIGHT-OF-WAY COST:					**$1,598,240**	
Preliminary Project Development (10% Construction Cost, min $300,000)					**$300,000**	
Design Engineering/Administration Cost (15% Construction Cost)					**$208,427**	
Construction Engineering Costs/Administration (15% Construction Cost)					**$208,427**	
Contingency (20% Construction Cost)					**$277,903**	
TOTAL PROJECT COSTS					**$2,592,998**	



LEGEND

- (S) SIGNALIZED INTERSECTION
- → DIRECTION OF TRAVEL
- PROPOSED ROW
- XX' PROPOSED LANE WIDTH

IRVINE INTERSECTION 135(a)

WARNER AVE AT JAMBOREE RD RAMPS

SHEET 1 OF 1

DECEMBER, 2016

MITIGATIONS - IRVINE INTERSECTION 135(a)

(1) ADD SECOND EB LEFT-TURN LANE

CITY OF IRVINE 1971

PLAN PREPARED BY: HDR

2015 IBC NEXUS STUDY
ROADWAY IMPROVEMENTS

CITY OF IRVINE
COMMUNITY DEVELOPMENT

SHEET REVISED: 8/15/07

VIEW = DWG = PATH =

Irvine IBC - Nexus Study

Cost Estimate

Intersection 135(b)
Jamboree Rd & Warner Ave
Mitigations: Construct roundabout

ITEM #	DESCRIPTION OF WORK	UNIT PRICE	UNIT	QUANTITY	COST	NOTES
	ROADWAY					
1	Clear & Grub	$12,200.00	AC	0.16	**$2,007**	
2	Earthwork	$46.00	CY	1333	**$61,318**	
3	Remove Curb & Gutter	$24.00	LF	400	**$9,600**	
4	Remove Median Curb	$30.00	LF	380	**$11,400**	
5	Remove PCC Sidewalk	$5.00	SF	2400	**$12,000**	
6	Remove Pavement	$5.00	SF	32000	**$160,000**	
7	Remove Channel	$40.00	LF	0	**$0**	
8	Remove/Replace Chain Link Fence	$35.00	LF	0	**$0**	
9	Reconstruct Metal Beam Guard Rail	$40.00	LF	0	**$0**	
10	Remove & Replace Tree	$1,500.00	EA	25	**$37,500**	
11	Modify Driveway	$6,100.00	EA		**$0**	
12	Construct PCC Pavement	$14.00	SF	0	**$0**	
13	Construct AC Pavement	$8.00	SF	39900	**$319,200**	
14	Construct AC Overlay	$3.60	SF	0	**$0**	
15	Construct Slurry Seal	$0.40	SF	0	**$0**	
16	Construct AC Dike	$15.00	LF	0	**$0**	
17	Construct Curb & Gutter	$30.00	LF	450	**$13,500**	
18	Construct Concrete Barrier	$80.00	LF	0	**$0**	
19	Construct Median Curb	$31.00	LF	1050	**$32,550**	
20	Construct Median Concrete	$15.00	SF	220	**$3,300**	
21	Construct Median/Parkway Landscaping	$13.00	SF	5090	**$66,170**	
22	Construct PCC Sidewalk	$9.05	SF	2200	**$19,910**	
23	Construct Wheelchair Ramp	$6,000.00	EA	8	**$48,000**	
24	Construct Retaining Wall	$75.00	SF	0	**$0**	
25	Remove Retaining Wall	$35.00	SF	0	**$0**	
26	Relocate Monument Wall	$20,000.00	EA	0	**$0**	
27	Sawcut	$4.00	LF	200	**$800**	
	ROADWAY SUBTOTAL				**$797,255**	
	TRAFFIC					
28	Remove Striping	$3.00	LF	2500	**$7,500**	
29	Remove Pavement Markings	$150.00	EA	5	**$750**	
30	Relocate Street Light	$6,200.00	EA	5	**$31,000**	
31	Modify Traffic Signal	$325,000.00	EA	0	**$0**	
32	New Traffic Signal	$425,000.00	EA	0	**$0**	
33	Install Striping	$5.00	LF	2200	**$11,000**	
34	Install Pavement Markings	$350.00	EA	10	**$3,500**	
35	Relocate Freeway Sign (2 post)	$700.00	EA	0	**$0**	
36	Loop Detector	$2,000.00	EA	0	**$0**	
37	Remove Roadside Sign	$150.00	EA	5	**$750**	
38	Relocate Sign (1 post)	$220.00	EA	5	**$1,100**	
39	Install New Sign (1 post)	$280.00	EA	30	**$8,400**	
40	Overhead Sign (2 posts)	$240,000.00	EA	0	**$0**	
41	Remove Traffic Signal	$80,000.00	EA	1	**$80,000**	
42	Relocate Bus Bench	$1,458.00	EA	0	**$0**	
43	Install Ramp Metering System	$80,000.00	EA	0	**$0**	
44	Install Delineator	$36.60	EA	0	**$0**	
45	Apply ATMS	$113,165.00	LS	0	**$0**	
	TRAFFIC SUBTOTAL				**$144,000**	
	UTILITIES AND DRAINAGE					
46	Relocate Call Box	$2,051.00	EA		**$0**	
47	Relocate Power Pole	$25,000.00	EA		**$0**	
48	Relocate Catch Basin	$9,760.00	EA	3	**$29,280**	
49	Relocate Fire Hydrant	$5,000.00	EA		**$0**	
50	Relocate Utility Boxes	$1,000.00	EA	10	**$10,000**	
51	Relocate Main Water Valve	$12,200.00	EA		**$0**	
52	Relocate Utility Vault	$10,000.00	EA	2	**$20,000**	
53	Adjust Manhole to Grade	$1,500.00	EA	5	**$7,500**	
54	Adjust Water Meter	$1,000.00	EA	2	**$2,000**	
55	Adjust Water Valve	$1,000.00	EA	1	**$1,000**	
56	Adjust Minor Above Ground Utilities	$1,000.00	EA	2	**$2,000**	
57	Construct Striping & Marking	$2.00	LF		**$0**	
58	Construct Storm Drain Main	$122.00	LF		**$0**	
59	Construct RCB	$549.00	CY		**$0**	
60	Construct Channel (Earthen)	$12.20	LF		**$0**	
61	Construct Concrete V-Ditch	$19.00	LF		**$0**	
62	Construct Bridge Widening	$500.00	SF		**$0**	
	UTILITIES AND DRAINAGE SUBTOTAL				**$71,780**	
	GENERAL					
63	Mobilization	$7,178	LS	1	**$101,303**	
64	Traffic Control	8%	LS	1	**$81,043**	
65	Utility Relocations	5%	LS	1	**$50,651.73**	
66	SWPPP Plan and Implementation	6%	LS	1	**$60,782**	
	CONSTRUCTION SUBTOTAL				**$1,306,815**	
	RIGHT-OF-WAY					
67	Right-Of-Way	$70.00	SF	19100	**$1,337,000**	
68	Building Modifications	-	LS	1	**$300,000**	
69	Parking Impacts	$20,000.00	EA	5	**$100,000**	
70	Temporary Construction Easements	$6.50	SF	1000	**$6,500**	
71	Right-of-Way Management	10%	LS	1	**$144,350**	
	RIGHT-OF-WAY SUBTOTAL				**$1,887,850**	
TOTAL CONSTRUCTION & RIGHT-OF-WAY COST:					**$3,194,665**	
Preliminary Project Development (10% Construction Cost, min $300,000)					**$300,000**	
Design Engineering/Administration Cost (15% Construction Cost)					**$196,022**	
Construction Engineering Costs/Administration (15% Construction Cost)					**$196,022**	
Contingency (20% Construction Cost)					**$261,363**	
TOTAL PROJECT COSTS					**$4,148,072**	

Note: This was an alternative improvement considered, but costs were not included in fees

N

LEGEND

(S) SIGNALIZED INTERSECTION

→ DIRECTION OF TRAVEL

PROPOSED ROW

XX' PROPOSED LANE WIDTH

MITIGATIONS - IRVINE INTERSECTION 135(b)

(1) ROUNDABOUT AT WARNER & JAMBOREE RD

IRVINE INTERSECTION 135(b)
WARNER AVE AT JAMBOREE RD RAMPS
SHEET 1 OF 1

DECEMBER, 2016

CITY OF IRVINE 1971

PLAN PREPARED BY: HDR

2015 IBC NEXUS STUDY
ROADWAY IMPROVEMENTS

CITY OF IRVINE
COMMUNITY DEVELOPMENT

VIEW = DWG = PATH =

SHEET REVISED: 8/15/07

188 - Harvard Avenue at Michelson Drive

Irvine IBC - Nexus Study

Cost Estimate

Intersection #188
Harvard Ave & Michelson Street
Mitigations: Widen SB TO 2,2,1 configuration

ITEM #	DESCRIPTION OF WORK	UNIT PRICE	UNIT	QUANTITY	COST	NOTES
	ROADWAY					
1	Clear & Grub	$12,200.00	AC	1.452	**$17,714**	
2	Earthwork	$46.00	CY	4000	**$184,000**	
3	Remove Curb & Gutter	$24.00	LF	650	**$15,600**	
4	Remove Median Curb	$30.00	LF	0	**$0**	
5	Remove PCC Sidewalk	$5.00	SF	3200	**$16,000**	
6	Remove Pavement	$5.00	SF	0	**$0**	
7	Remove Channel	$40.00	LF		**$0**	
8	Remove/Replace Chain Link Fence	$35.00	LF		**$0**	
9	Reconstruct Metal Beam Guard Rail	$40.00	LF		**$0**	
10	Remove & Replace Tree	$1,500.00	EA	4	**$6,000**	
11	Modify Driveway	$6,100.00	EA		**$0**	
12	Construct PCC Pavement	$14.00	SF		**$0**	
13	Construct AC Pavement	$8.00	SF	8000	**$64,000**	
14	Construct AC Overlay	$3.60	SF	0	**$0**	
15	Construct Slurry Seal	$0.40	SF	0	**$0**	
16	Construct AC Dike	$15.00	LF	0	**$0**	
17	Construct Curb & Gutter	$30.00	LF	650	**$19,500**	
18	Construct Concrete Barrier	$80.00	LF		**$0**	
19	Construct Median Curb	$31.00	LF	0	**$0**	
20	Construct Median Concrete	$15.00	SF	0	**$0**	
21	Construct Median/Parkway Landscaping	$13.00	SF	25000	**$325,000**	Includes new irrigation, Excludes Ex irrigation util box relocation
22	Construct PCC Sidewalk	$9.05	SF	3250	**$29,413**	
23	Construct Wheelchair Ramp	$6,000.00	EA	1	**$6,000**	
24	Construct Retaining Wall	$75.00	SF	1800	**$135,000**	assume 4'(6'H) x 300 LF wall at toe.
25	Remove Retaining Wall	$35.00	SF		**$0**	
26	Relocate Monument Wall	$20,000.00	EA		**$0**	
27	Sawcut	$4.00	LF	650	**$2,600**	
	ROADWAY SUBTOTAL				**$820,827**	
	TRAFFIC					
28	Remove Striping	$3.00	LF	3000	**$9,000**	
29	Remove Pavement Markings	$150.00	EA	8	**$1,200**	
30	Relocate Street Light	$6,200.00	EA	2	**$12,400**	
31	Modify Traffic Signal	$325,000.00	EA	1	**$325,000**	
32	New Traffic Signal	$425,000.00	EA	0	**$0**	
33	Install Striping	$5.00	LF	3500	**$17,500**	
34	Install Pavement Markings	$350.00	EA	10	**$3,500**	
35	Relocate Freeway Sign (2 post)	$700.00	EA		**$0**	
36	Loop Detector	$2,000.00	EA	15	**$30,000**	
37	Remove Roadside Sign	$150.00	EA	5	**$750**	
38	Relocate Sign (1 post)	$220.00	EA	5	**$1,100**	
39	Overhead Sign (2 posts)	$240,000.00	EA		**$0**	
40	Relocate Bus Bench	$1,458.00	EA	0	**$0**	
41	Install Ramp Metering System	$80,000.00	EA		**$0**	
42	Install Delineator	$36.60	EA	0	**$0**	
43	Apply ATMS	$113,165.00	LS	0	**$0**	
	TRAFFIC SUBTOTAL				**$400,450**	
	UTILITIES AND DRAINAGE					
44	Relocate Call Box	$2,051.00	EA		**$0**	
45	Relocate Power Pole	$25,000.00	EA		**$0**	
46	Relocate Catch Basin	$9,760.00	EA	1	**$9,760**	
47	Relocate Fire Hydrant	$5,000.00	EA		**$0**	
48	Relocate Utility Boxes	$1,000.00	EA		**$0**	
49	Relocate Main Water Valve	$12,200.00	EA		**$0**	
50	Relocate Utility Vault	$10,000.00	EA	3	**$30,000**	1 small & 1 Huge; assume 3
51	Adjust Manhole to Grade	$1,500.00	EA		**$0**	
52	Adjust Water Meter	$1,000.00	EA		**$0**	
53	Adjust Water Valve	$1,000.00	EA		**$0**	
54	Adjust Minor Above Ground Utilities	$1,000.00	EA	1	**$1,000**	Area Drain
55	Construct Striping & Marking	$2.00	LF		**$0**	
56	Construct Storm Drain Main	$122.00	LF		**$0**	
57	Construct RCB	$549.00	CY		**$0**	
58	Construct Channel (Earthen)	$12.20	LF		**$0**	
59	Construct Concrete V-Ditch	$19.00	LF		**$0**	
60	Construct Bridge Widening	$500.00	SF		**$0**	
	UTILITIES AND DRAINAGE SUBTOTAL				**$40,760**	
	GENERAL					
61	Mobilization	10%	LS	1	**$126,204**	
62	Traffic Control	8%	LS	1	**$100,963**	
63	Utility Relocation	5%	LS	1	**$63,102**	
64	SWPPP Plan and Implementation	6%	LS	1	**$75,722**	
	CONSTRUCTION SUBTOTAL				**$1,628,028**	
	RIGHT-OF-WAY					
65	Right-Of-Way	$70.00	SF	0	**$0**	
66	Parking Impacts	$20,000.00	EA	0	**$0**	
67	Temporary Construction Easements	$6.50	SF	1500	**$9,750**	
68	Right-of-Way Management	10%	LS	1	**$975**	
	RIGHT-OF-WAY SUBTOTAL				**$10,725**	
TOTAL CONSTRUCTION & RIGHT-OF-WAY COST:					**$1,638,753**	
Preliminary Project Development (10% Construction Cost, min $300,000)					**$300,000**	
Design Engineering/Administration Cost (15% Construction Cost)					**$244,204**	
Construction Engineering Costs/Administration (15% Construction Cost)					**$244,204**	
Contingency (20% Construction Cost)					**$325,606**	
TOTAL PROJECT COSTS					**$2,752,766**	

LEGEND

- (S) SIGNALIZED INTERSECTION
- → DIRECTION OF TRAVEL
- PROPOSED ROW
- XX' PROPOSED LANE WIDTH

MITIGATIONS - IRVINE INTERSECTION 188

(1) WIDEN SB TO 2, 2, 1 CONFIGURATION

IRVINE INTERSECTION 188
HARVARD DR & MICHELSON DR
SHEET 1 OF 1

DECEMBER, 2016

CITY OF IRVINE 1971

PLAN PREPARED BY: HDR

2015 IBC NEXUS STUDY
ROADWAY IMPROVEMENTS

CITY OF IRVINE
COMMUNITY DEVELOPMENT

PATH =
DWG =
VIEW =

SHEET REVISED: 8/15/07

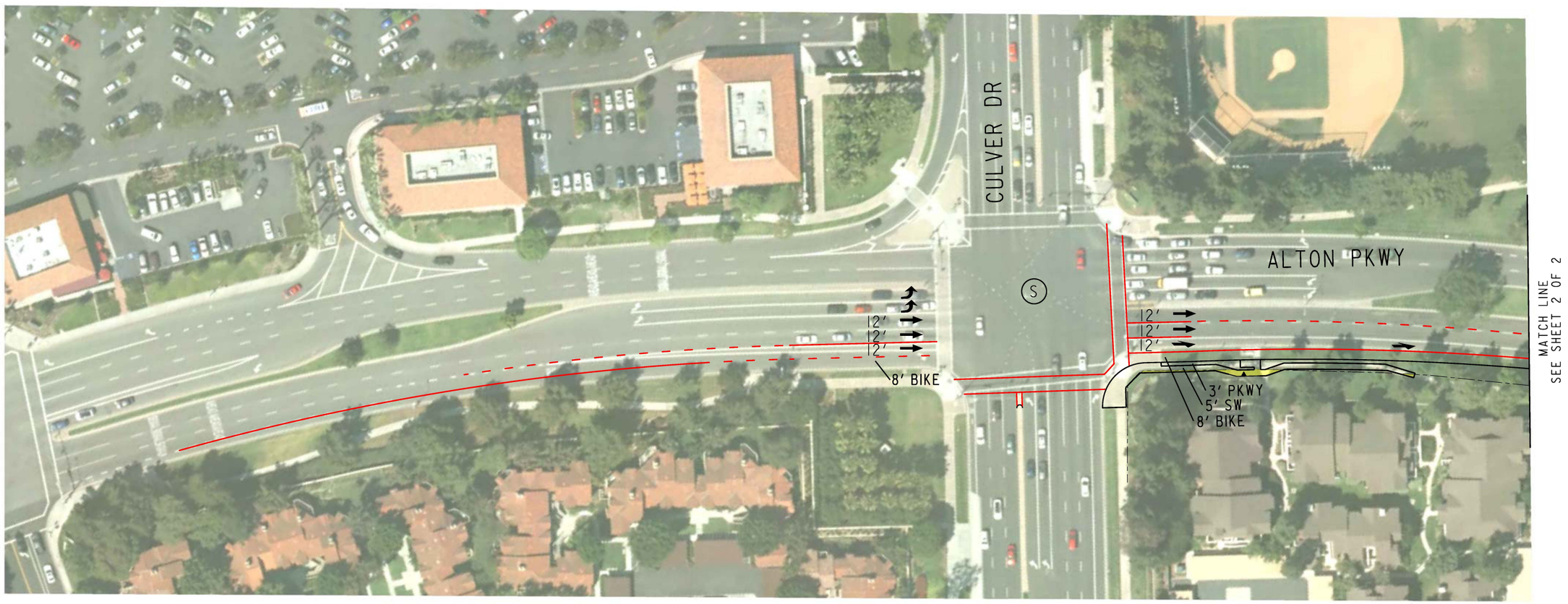
229 - Culver Drive at Alton Parkway

Irvine IBC - Nexus Study

Cost Estimate

Intersection #229
Culver Drive & Alton Parkway
Mitigations: Widen EB to 2, 3, defacto RT

ITEM #	DESCRIPTION OF WORK	UNIT PRICE	UNIT	QUANTITY	COST	NOTES
	ROADWAY					
1	Clear & Grub	$12,200.00	AC	0.18	$2,196	
2	Earthwork	$46.00	CY	1612	$74,152	
3	Remove Curb & Gutter	$24.00	LF	800	$19,200	
4	Remove Median Curb	$30.00	LF	29	$870	
5	Remove PCC Sidewalk	$5.00	SF	3639	$18,195	
6	Remove Pavement	$5.00	SF	1542	$7,710	
7	Remove Channel	$40.00	LF		$0	
8	Remove/Replace Chain Link Fence	$35.00	LF		$0	
9	Reconstruct Metal Beam Guard Rail	$40.00	LF		$0	
10	Remove & Replace Tree	$1,500.00	EA	15	$22,500	
11	Modify Driveway	$6,100.00	EA		$0	
12	Construct PCC Pavement	$14.00	SF		$0	
13	Construct AC Pavement	$8.00	SF	7490	$59,920	
14	Construct AC Overlay	$3.60	SF		$0	
15	Construct Slurry Seal	$0.40	SF		$0	
16	Construct AC Dike	$15.00	LF		$0	
17	Construct Curb & Gutter	$30.00	LF	751	$22,530	
18	Construct Concrete Barrier	$80.00	LF		$0	
19	Construct Median Curb	$31.00	LF	7	$217	
20	Construct Median Concrete	$15.00	SF	5	$75	
21	Construct Median/Parkway Landscaping	$13.00	SF	1949	$25,337	
22	Construct PCC Sidewalk	$9.05	SF	3437	$31,105	
23	Construct ADA Compliant Curb Ramp	$6,000.00	EA	1	$6,000	
24	Construct Retaining Wall	$75.00	SF	100	$7,500	
25	Remove Retaining Wall	$35.00	SF		$0	
26	Relocate Monument Wall	$20,000.00	EA		$0	
27	Sawcut	$4.00	LF	783	$3,132	
	ROADWAY SUBTOTAL				$300,639	
	TRAFFIC					
28	Remove Striping	$3.00	LF	2824	$8,472	
29	Remove Pavement Markings	$150.00	EA	5	$750	
30	Relocate Street Light	$6,200.00	EA		$0	
31	Modify Traffic Signal	$325,000.00	EA	0.25	$81,250	
32	New Traffic Signal	$425,000.00	EA		$0	
33	Install Striping	$5.00	LF	3021	$15,105	
34	Install Pavement Markings	$350.00	EA	8	$2,800	
35	Relocate Freeway Sign (2 post)	$700.00	EA		$0	
36	Loop Detector	$2000.00	EA	8	$16,000	
37	Remove Roadside Sign	$150.00	EA	1	$150	
38	Relocate Sign (1 post)	$220.00	EA	4	$880	
39	Overhead Sign (2 posts)	$240,000.00	EA		$0	
40	Relocate Bus Bench	$1,458.00	EA	1	$1,458	
41	Install Ramp Metering System	$80,000.00	EA		$0	
42	Install Delineator	$36.60	EA		$0	
43	Apply ATMS	$113,165.00	LS		$0	
	TRAFFIC SUBTOTAL				$126,865	
	UTILITIES AND DRAINAGE					
44	Relocate Call Box	$2,051.00	EA		$0	
45	Relocate Power Pole	$25,000.00	EA		$0	
46	Relocate Catch Basin	$9,760.00	EA	1	$9,760	
47	Relocate Fire Hydrant	$5,000.00	EA		$0	
48	Relocate Utility Boxes	$1000.00	EA	18	$18,000	
49	Relocate Main Water Valve	$12,200.00	EA		$0	
50	Relocate Utility Vault	$10,000.00	EA		$0	
51	Adjust Manhole to Grade	$1,500.00	EA		$0	
52	Adjust Water Meter	$1000.00	EA		$0	
53	Adjust Water Valve	$1000.00	EA		$0	
54	Adjust Minor Above Ground Utilities	$1000.00	EA		$0	
55	Construct Storm Drain Main	$122.00	LF		$0	
56	Construct RCB	$549.00	CY		$0	
57	Construct Channel (Earthen)	$12.20	LF		$0	
58	Construct Concrete V-Ditch	$19.00	LF		$0	
59	Construct Bridge Widening	$500.00	SF		$0	
	UTILITIES AND DRAINAGE SUBTOTAL				$27,760	
	GENERAL					
60	Mobilization	$3,776	LS	1	$45,526	
61	Traffic Control	8%	LS	1	$36,421	
62	Utility Relocation	5%	LS	1	$22,763	
63	SWPPP Plan and Implementation	6%	LS	1	$27,316	
	CONSTRUCTION SUBTOTAL				$587,290	
	RIGHT-OF-WAY					
64	Right-Of-Way	$70.00	SF	286	$20,020	
65	Parking Impacts	$20,000.00	EA		$0	
66	Temporary Construction Easements	$6.50	SF	150	$975	
67	Right-of-Way Management	10%	LS	1	$2,100	
	RIGHT-OF-WAY SUBTOTAL				$23,095	
TOTAL CONSTRUCTION & RIGHT-OF-WAY COST:					$610,385	
Preliminary Project Development (10% Construction Cost, min $300,000)					$300,000	
Design Engineering/Administration Cost (15% Construction Cost)					$88,094	
Construction Engineering Costs/Administration (15% Construction Cost)					$88,094	
Contingency (20% Construction Cost)					$117,458	
TOTAL PROJECT COSTS					$1,204,030	



LEGEND

- (S) SIGNALIZED INTERSECTION
- → DIRECTION OF TRAVEL
- PROPOSED ROW
- XX' PROPOSED LANE WIDTH
- PROPOSED RETAINING WALL

MITIGATIONS - IRVINE INTERSECTION 229

(1) WIDEN EB TO 2, 3, DEFACTO RT

IRVINE INTERSECTION 229
CULVER DR & ALTON PKWY
SHEET 1 OF 2

DECEMBER, 2016

CITY OF IRVINE 1971

PLAN PREPARED BY: HDR

2015 IBC NEXUS STUDY
ROADWAY IMPROVEMENTS

CITY OF IRVINE
COMMUNITY DEVELOPMENT

SHEET REVISED: 8/15/07

VIEW = DWG = PATH =

IRVINE INTERSECTION 229
CULVER DR & ALTON PKWY
SHEET 2 OF 2

LEGEND

(S) SIGNALIZED INTERSECTION

→ DIRECTION OF TRAVEL

XX' PROPOSED LANE WIDTH

MITIGATIONS - IRVINE INTERSECTION 229

(1) WIDEN EB TO 2, 3, DEFACTO RT

DECEMBER, 2016

CITY OF IRVINE 1971

PLAN PREPARED BY: HDR

2015 IBC NEXUS STUDY
ROADWAY IMPROVEMENTS

CITY OF IRVINE
COMMUNITY DEVELOPMENT

VIEW = DWG = PATH =

SHEET REVISED: 8/15/07

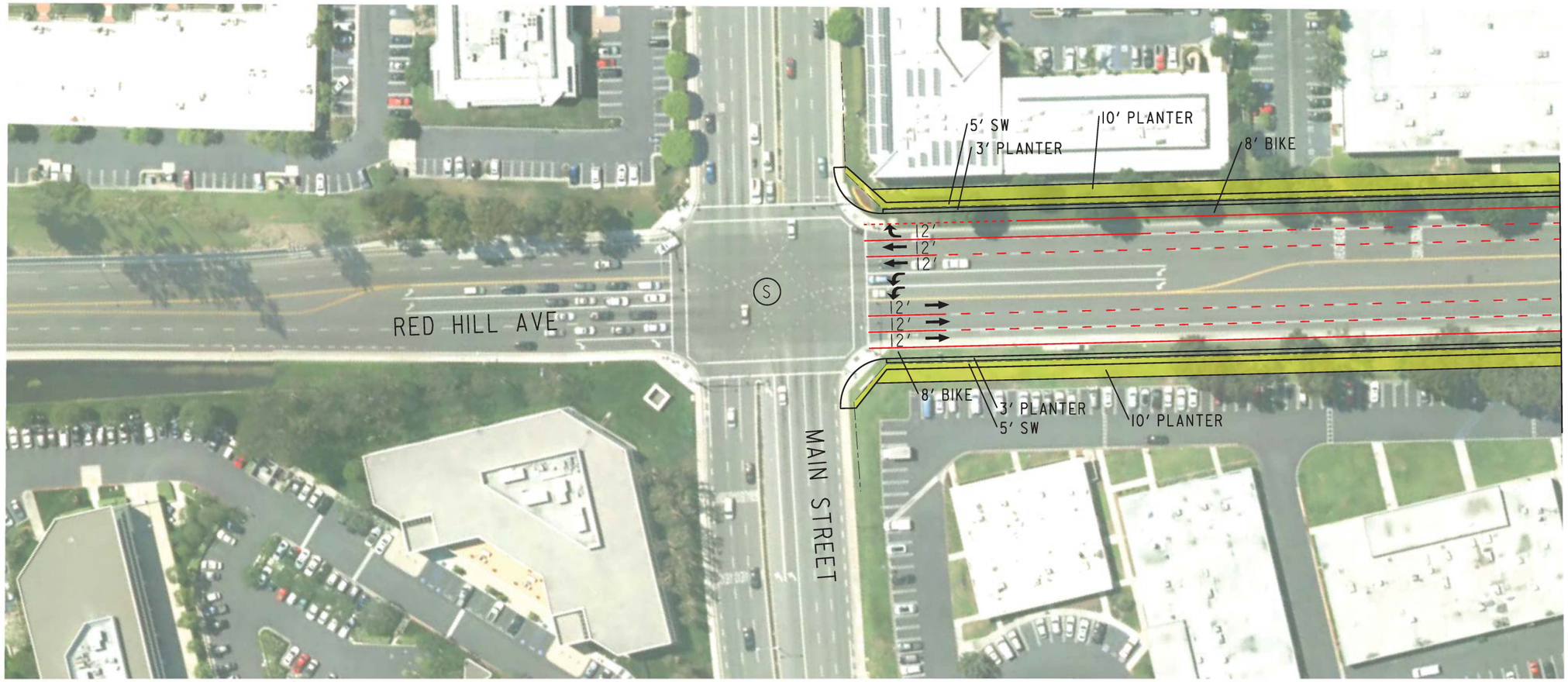
Red Hill Avenue between Main Street and MacArthur Boulevard

Irvine IBC - Nexus Study

Cost Estimate

Arterial
Red Hill Ave From Main St to MacArthur Blvd
Mitigations: Widen Red Hill from 4 lanes to 6 lanes between Main St and MacArthur Blvd

ITEM #	DESCRIPTION OF WORK	UNIT PRICE	UNIT	QUANTITY	COST	NOTES
	ROADWAY					
1	Clear & Grub	$12,200.00	AC	3.56	**$43,467**	
2	Earthwork	$46.00	CY	6798	**$312,705**	
3	Remove Curb & Gutter	$24.00	LF	4850	**$116,400**	
4	Remove Median Curb	$30.00	LF	35	**$1,050**	
5	Remove PCC Sidewalk	$5.00	SF	19416	**$97,080**	
6	Remove Pavement	$5.00	SF	7275	**$36,375**	
7	Remove Channel	$40.00	LF		**$0**	
8	Remove/Replace Chain Link Fence	$35.00	LF		**$0**	
9	Reconstruct Metal Beam Guard Rail	$40.00	LF		**$0**	
10	Remove & Replace Tree	$1,500.00	EA	45	**$67,500**	
11	Modify Driveway	$6,100.00	EA	6	**$36,600**	
12	Construct PCC Pavement	$14.00	SF		**$0**	
13	Construct AC Pavement	$8.00	SF	88600	**$708,800**	
14	Construct AC Overlay	$3.60	SF		**$0**	
15	Construct Slurry Seal	$0.40	SF		**$0**	
16	Construct AC Dike	$15.00	LF		**$0**	
17	Construct Curb & Gutter	$30.00	LF	4850	**$145,500**	
18	Construct Concrete Barrier	$80.00	LF		**$0**	
19	Construct Median Curb	$31.00	LF	30	**$930**	
20	Construct Median Concrete	$15.00	SF	262	**$3,930**	
21	Construct Median/Parkway Landscaping	$13.00	SF	88000	**$1,144,000**	Includes new irrigation, Excludes Ex irrigation util box relocation
22	Construct PCC Sidewalk	$9.05	SF	48500	**$438,925**	
23	Construct Wheelchair Ramp	$6,000.00	EA	9	**$54,000**	
24	Construct Retaining Wall	$75.00	SF	9700	**$727,500**	Average height 2' wall along entire length
25	Remove Retaining Wall	$35.00	SF		**$0**	
26	Relocate Monument Sign	$5,000.00	EA	3	**$15,000**	
27	Sawcut	$4.00	LF	4850	**$19,400**	
	ROADWAY SUBTOTAL				**$3,969,162**	
	TRAFFIC					
28	Remove Striping	$3.00	LF	25000	**$75,000**	
29	Remove Pavement Markings	$150.00	EA	28	**$4,200**	
30	Relocate Street Light	$6,200.00	EA	10	**$62,000**	
31	Modify Traffic Signal	$325,000.00	EA	2	**$650,000**	Sky Park N, Main St
32	New Traffic Signal	$425,000.00	EA		**$0**	
33	Install Striping	$5.00	LF	30300	**$151,500**	
34	Install Pavement Markings	$350.00	EA	32	**$11,200**	
35	Relocate Freeway Sign (2 post)	$700.00	EA		**$0**	
36	Loop Detector	$2,000.00	EA	6	**$12,000**	video detection
37	Remove Roadside Sign	$150.00	EA		**$0**	
38	Relocate Sign (1 post)	$220.00	EA	35	**$7,700**	
39	Overhead Sign (2 posts)	$240,000.00	EA		**$0**	
40	Relocate Bus Bench	$1,458.00	EA	2	**$2,916**	
41	Install Ramp Metering System	$80,000.00	EA		**$0**	
42	Install Delineator	$36.60	EA		**$0**	
43	Apply ATMS	$113,165.00	LS		**$0**	
	TRAFFIC SUBTOTAL				**$976,516**	
	UTILITIES AND DRAINAGE					
44	Relocate Call Box	$2,051.00	EA		**$0**	
45	Relocate Power Pole	$25,000.00	EA	14	**$350,000**	
46	Relocate High Voltage Power Pole	$100,000.00	EA	1	**$100,000**	At Mitchell S
47	Relocate Catch Basin	$9,760.00	EA	2	**$19,520**	
48	Relocate Fire Hydrant	$5,000.00	EA	5	**$25,000**	
49	Relocate Utility Boxes	$1,000.00	EA	32	**$32,000**	
50	Relocate Main Water Valve	$12,200.00	EA		**$0**	
51	Relocate Utility Vault	$10,000.00	EA	2	**$20,000**	
52	Adjust Manhole to Grade	$1,500.00	EA		**$0**	
53	Adjust Water Meter	$1,000.00	EA	3	**$3,000**	
54	Adjust Water Valve	$1,000.00	EA		**$0**	
55	Adjust Minor Above Ground Utilities	$1,000.00	EA		**$0**	
56	Construct Striping & Marking	$2.00	LF		**$0**	
57	Construct Storm Drain Main	$122.00	LF		**$0**	
58	Construct RCB	$549.00	CY		**$0**	
59	Construct Channel (Earthen)	$12.20	LF		**$0**	
60	Construct Concrete V-Ditch	$19.00	LF		**$0**	
61	Construct Bridge Widening	$500.00	SF		**$0**	
	UTILITIES AND DRAINAGE SUBTOTAL				**$549,520**	
	GENERAL					
62	Mobilization	$54,952	LS	1	**$549,520**	
63	Traffic Control	8%	LS	1	**$439,616**	
64	Utility Relocation	5%	LS	1	**$274,760**	
65	SWPPP Plan and Implementation	6%	LS	1	**$329,712**	
	CONSTRUCTION SUBTOTAL				**$7,088,805**	
	RIGHT-OF-WAY					
66	Right-Of-Way	$70.00	SF	90313	**$6,321,910**	
67	Parking Impacts	$20,000.00	EA	3	**$60,000**	
68	Temporary Construction Easements	$6.50	SF	8000	**$52,000**	
69	Right-of-Way Management	10%	LS		**$643,391**	
	RIGHT-OF-WAY SUBTOTAL				**$7,077,301**	
TOTAL CONSTRUCTION & RIGHT-OF-WAY COST:					**$14,166,106**	
Preliminary Project Development (10% Construction Cost, min $300,000)					**$708,881**	
Design Engineering/Administration Cost (15% Construction Cost)					**$1,063,321**	
Construction Engineering Costs/Administration (15% Construction Cost)					**$1,063,321**	
Contingency (20% Construction Cost)					**$1,417,761**	
TOTAL PROJECT COSTS					**$18,419,390**	



MATCH LINE
SEE SHEET 2 OF 4

IRVINE INTERSECTION
RED HILL AVE FROM MAIN ST TO MACARTHUR BLVD
SHEET 1 OF 4

LEGEND

- (S) SIGNALIZED INTERSECTION
- → DIRECTION OF TRAVEL
- PROPOSED ROW
- XX' PROPOSED LANE WIDTH

MITIGATIONS - IRVINE INTERSECTION

(1) WIDEN RED HILL AVE FROM 4-LANES TO 6-LANES BETWEEN MAIN STREET AND MACARTHUR BLVD

DECEMBER, 2016

CITY OF IRVINE 1971

PLAN PREPARED BY: HDR

2015 IBC NEXUS STUDY
ROADWAY IMPROVEMENTS

CITY OF IRVINE
COMMUNITY DEVELOPMENT

PATH =
DWG =
VIEW =

SHEET REVISED: 8/15/07

LEGEND

- (S) SIGNALIZED INTERSECTION
- → DIRECTION OF TRAVEL
- PROPOSED ROW
- XX' PROPOSED LANE WIDTH

MITIGATIONS - IRVINE INTERSECTION

(1) WIDEN RED HILL AVE FROM 4-LANES TO 6-LANES BETWEEN MAIN STREET AND MACARTHUR BLVD

IRVINE INTERSECTION
RED HILL AVE FROM MAIN ST TO MACARTHUR BLVD
SHEET 2 OF 4

DECEMBER, 2016

CITY OF IRVINE 1971

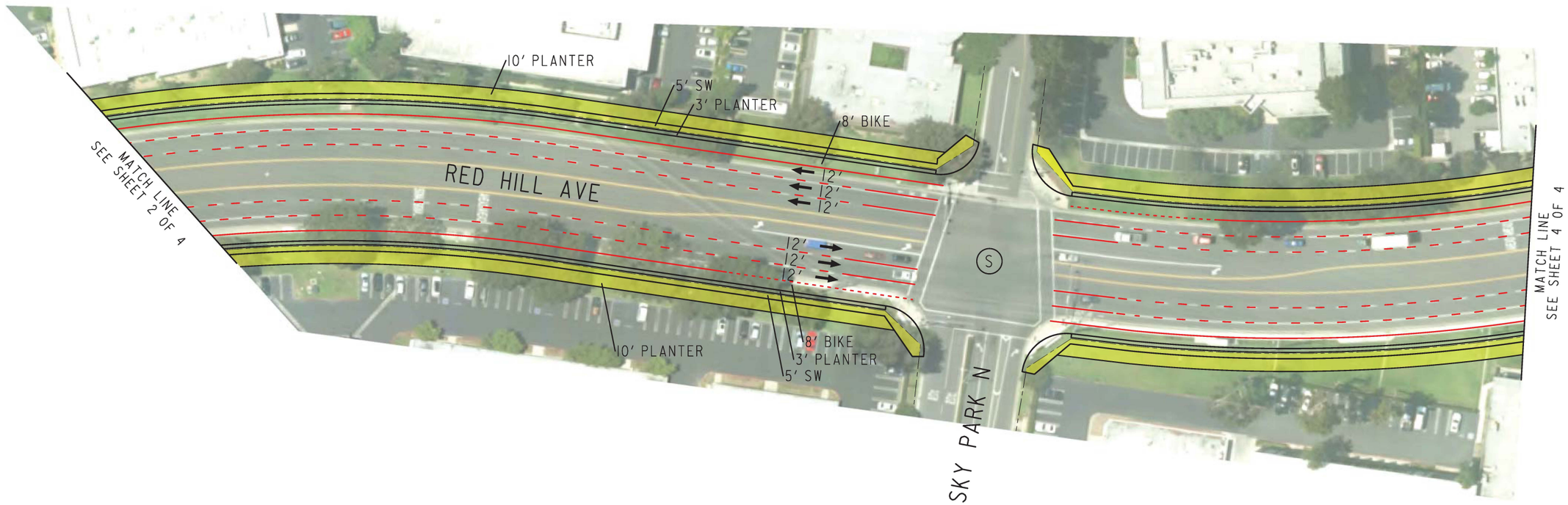
PLAN PREPARED BY: HDR

2015 IBC NEXUS STUDY
ROADWAY IMPROVEMENTS

CITY OF IRVINE
COMMUNITY DEVELOPMENT

VIEW = DWG = PATH =

SHEET REVISED: 8/15/07



LEGEND

- (S) SIGNALIZED INTERSECTION
- → DIRECTION OF TRAVEL
- PROPOSED ROW
- XX' PROPOSED LANE WIDTH

MITIGATIONS - IRVINE INTERSECTION

(1) WIDEN RED HILL AVE FROM 4-LANES TO 6-LANES BETWEEN MAIN STREET AND MACARTHUR BLVD

IRVINE INTERSECTION
RED HILL AVE FROM MAIN ST TO MACARTHUR BLVD
SHEET 3 OF 4

DECEMBER, 2016

CITY OF IRVINE 1971

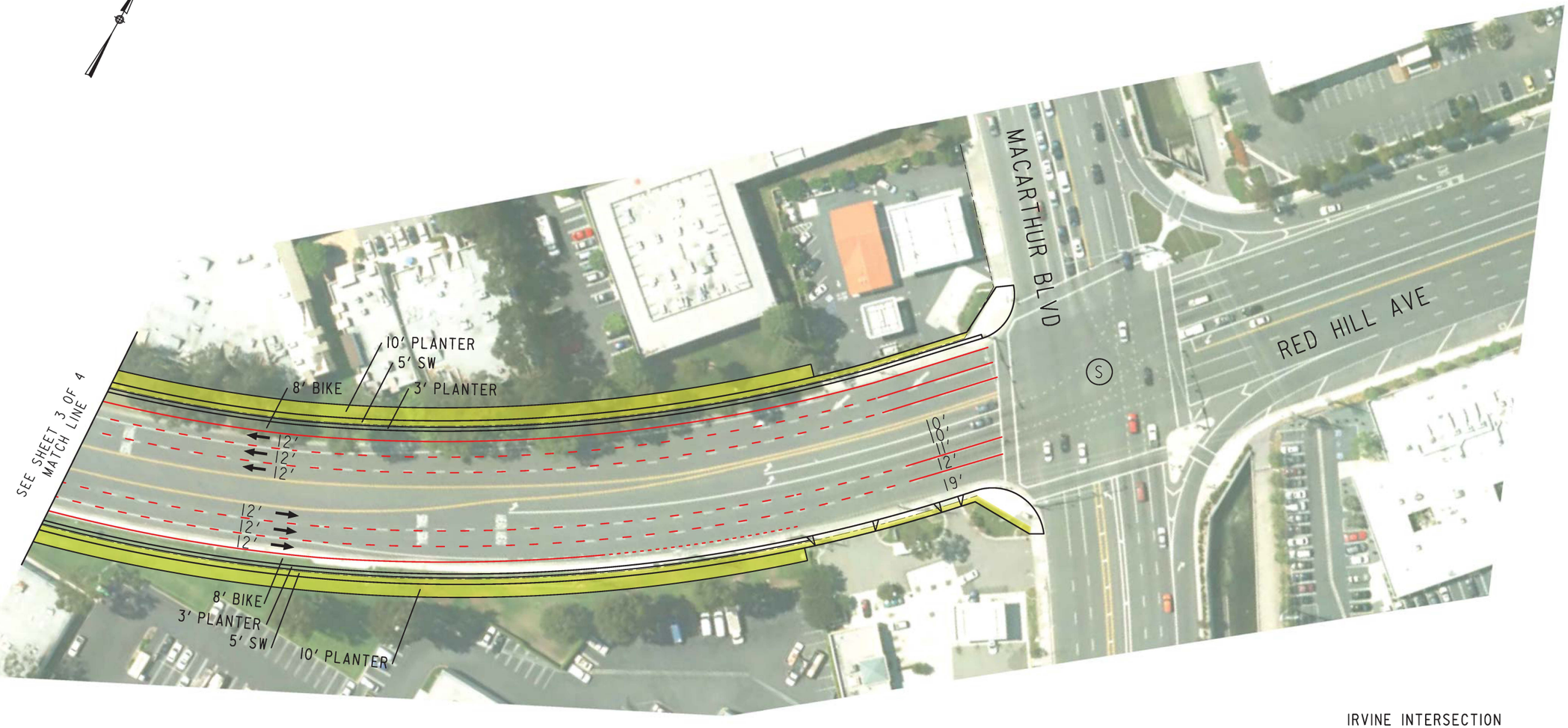
PLAN PREPARED BY: HDR

2015 IBC NEXUS STUDY
ROADWAY IMPROVEMENTS

CITY OF IRVINE
COMMUNITY DEVELOPMENT

PATH =
DWG =
VIEW =

SHEET REVISED: 8/15/07



IRVINE INTERSECTION
RED HILL AVE FROM MAIN ST TO MACARTHUR BLVD
SHEET 4 OF 4

LEGEND

- (S) SIGNALIZED INTERSECTION
- → DIRECTION OF TRAVEL
- PROPOSED ROW
- XX' PROPOSED LANE WIDTH

MITIGATIONS - IRVINE INTERSECTION

(1) WIDEN RED HILL AVE FROM 4-LANES TO 6-LANES BETWEEN MAIN STREET AND MACARTHUR BLVD

DECEMBER, 2016

CITY OF IRVINE 1971

PLAN PREPARED BY: HDR

2015 IBC NEXUS STUDY
ROADWAY IMPROVEMENTS

CITY OF IRVINE
COMMUNITY DEVELOPMENT

PATH =
DWG =
VIEW =

SHEET REVISED: 8/15/07

Gillete Avenue and Alton Parkway

Irvine IBC - Nexus Study

Cost Estimate

Gillette & Alton
Mitigations: New Traffic Signal (3-leg intersection)

ITEM #	DESCRIPTION OF WORK	UNIT PRICE	UNIT	QUANTITY	COST	NOTES
	ROADWAY					
1	Clear & Grub	$12,200.00	AC		**$0**	
2	Earthwork	$46.00	CY		**$0**	
3	Remove Curb & Gutter	$24.00	LF		**$0**	
4	Remove Median Curb	$30.00	LF		**$0**	
5	Remove PCC Sidewalk	$5.00	SF		**$0**	
6	Remove Pavement	$5.00	SF		**$0**	
7	Remove Channel	$40.00	LF		**$0**	
8	Remove/Replace Chain Link Fence	$35.00	LF		**$0**	
9	Remove and Replace Pedestal and Wrought Iron Fence	$75.00	LF		**$0**	
10	Remove and Replace Vinyl Fence	$40.00	LF		**$0**	
11	Reconstruct Metal Beam Guard Rail	$40.00	LF		**$0**	
12	Remove & Replace Tree	$1,500.00	EA		**$0**	
13	Modify Driveway	$6,100.00	EA		**$0**	
14	Construct PCC Pavement	$14.00	SF		**$0**	
15	Construct AC Pavement	$8.00	SF		**$0**	
16	Construct AC Overlay	$3.60	SF		**$0**	
17	Construct Slurry Seal	$0.40	SF		**$0**	
18	Construct AC Dike	$15.00	LF		**$0**	
19	Construct Curb & Gutter	$30.00	LF		**$0**	
20	Construct Concrete Barrier	$80.00	LF		**$0**	
21	Construct Median Curb	$31.00	LF		**$0**	
22	Construct Median Concrete	$15.00	SF		**$0**	
23	Construct Median/Parkway Landscaping	$13.00	SF		**$0**	
24	Construct PCC Sidewalk	$9.05	SF		**$0**	
25	Construct Wheelchair Ramp	$6,000.00	EA		**$0**	
26	Construct Retaining Wall	$75.00	SF		**$0**	
27	Remove Retaining Wall	$35.00	SF		**$0**	
28	Relocate Monument Wall	$20,000.00	EA		**$0**	
29	Sawcut	$4.00	LF		**$0**	
	ROADWAY SUBTOTAL				**$0**	
	TRAFFIC					
30	Remove Striping	$3.00	LF		**$0**	
31	Remove Pavement Markings	$150.00	EA		**$0**	
32	Relocate Street Light	$6,200.00	EA		**$0**	
33	Modify Traffic Signal	$325,000.00	EA		**$0**	
34	New Traffic Signal	$265,000.00	EA	1	**$350,000**	Small, 3-leg intersection
35	Install Striping	$5.00	LF		**$0**	
36	Install Pavement Markings	$350.00	EA		**$0**	
37	Relocate Freeway Sign (2 post)	$700.00	EA		**$0**	
38	Loop Detector	$2,000.00	EA		**$0**	
39	Remove Roadside Sign	$150.00	EA		**$0**	
40	Relocate Sign (1 post)	$220.00	EA		**$0**	
41	Overhead Sign (2 posts)	$240,000.00	EA		**$0**	
42	Relocate Bus Bench	$1,458.00	EA		**$0**	
43	Relocate Automatic Gate	$10,000.00	EA		**$0**	
44	Install Ramp Metering System	$80,000.00	EA		**$0**	
45	Install Delineator	$36.60	EA		**$0**	
46	Apply ATMS	$113,165.00	LS		**$0**	
	TRAFFIC SUBTOTAL				**$350,000**	
	UTILITIES AND DRAINAGE					
47	Relocate Call Box	$2,051.00	EA		**$0**	
48	Relocate Power Pole	$25,000.00	EA		**$0**	
49	Relocate Catch Basin	$9,760.00	EA		**$0**	
50	Relocate Fire Hydrant	$5,000.00	EA		**$0**	
51	Relocate Utility Boxes	$1,000.00	EA		**$0**	
52	Relocate Main Water Valve	$12,200.00	EA		**$0**	
53	Relocate Utility Vault	$10,000.00	EA		**$0**	
54	Adjust Manhole to Grade	$1,500.00	EA		**$0**	
55	Adjust Water Meter	$1,000.00	EA		**$0**	
56	Adjust Water Valve	$1,000.00	EA		**$0**	
57	Adjust Minor Above Ground Utilities	$1,000.00	EA		**$0**	
58	Construct Striping & Marking	$2.00	LF		**$0**	
59	Construct Storm Drain Main	$122.00	LF		**$0**	
60	Construct RCB	$549.00	CY		**$0**	
61	Construct Channel (Earthen)	$12.20	LF		**$0**	
62	Construct Concrete V-Ditch	$19.00	LF		**$0**	
63	Construct Bridge Widening	$500.00	SF		**$0**	
	UTILITIES AND DRAINAGE SUBTOTAL				**$0**	
	GENERAL					
64	Mobilization	$0	LS	0	**$0**	Included in unit cost
65	Traffic Control	8%	LS	0	**$0**	Included in unit cost
66	Utility Relocations	5%	LS	0	**$0**	None
67	SWPPP Plan and Implementation	6%	LS	0	**$0**	None
	CONSTRUCTION SUBTOTAL				**$350,000**	
	RIGHT-OF-WAY					
68	Right-Of-Way	$70.00	SF		**$0**	
69	Parking Impacts	$20,000.00	EA		**$0**	
70	Temporary Construction Easements	$6.50	SF		**$0**	
71	Right-of-Way Management	10%	LS		**$0**	
	RIGHT-OF-WAY SUBTOTAL				**$0**	
TOTAL CONSTRUCTION & RIGHT-OF-WAY COST:					**$350,000**	
Preliminary Project Development (10% Construction Cost)					**$0**	Not needed for traffic signal
Design Engineering/Administration Cost					**$15,000**	$15k for traffic signal
Construction Engineering Costs/Administration (15% Construction Cost)					**$52,500**	
Contingency (20% Construction Cost)					**$70,000**	
TOTAL PROJECT COSTS					**$487,500**	

City of Santa Ana

City of Santa Ana List of Improvements and Associated Costs

Jurisdiction	Int ID	Intersection / Arterial Location	Improvement Strategy	Cost				Fair Share %	Total Cost to IBC Fee
				Construction Subtotal	ROW Subtotal	Contingency Cost*	Total		
Santa Ana		Alton Overcrossing at SR-55	SR-55/Alton Parkway Overcrossing Project plus the following improvements: • Intersection #44: Red Hill / Alton (Add 1 NBR, convert de facto SBR to 1 SBR, add 2nd EBL, convert 1 WBR to free WBR) • Signalization and widening of Halladay Street / Alton Parkway • Signalization at Daimler Street / Alton Parkway TOTAL	$1,607,512	$493,488	$1,103,756	$55,500,000 $3,204,755 $800,000 $680,000 $60,184,755	50%	$30,092,378
Santa Ana		Dyer Road widening between SR-55 NB on ramp and e/o RR tracks (Phase 2)	Dyer Road widening from SR-55 to Red Hill Avenue (consistent with Barranca-Dyer Project Report)	$6,728,087	$14,246,363	$4,036,852	$25,011,301	90%	$22,510,171
Santa Ana	719	Flower Street and Segerstrom Avenue	Add eastbound de facto lane	$238,813	$53,900	$419,407	$712,124	9.6%	$68,364
								TOTAL	$52,670,912

*Contingency cost includes:

- Preliminary Project Development Cost (10% Construction Cost, minimum $300,000)
- Design Engineering/Administration Cost (15% Construction Cost)
- Construction Engineering Cost/Administration (15% Construction Cost)
- Contingency (20% Construction Cost)

Alton Overcrossing at SR-55

Irvine IBC - Nexus Study

Cost Estimate

Alton Parkway Overcrossing at SR-55 Improvements
Mitigations:
- SR-55/Alton Overcrossing Improvements per KOA Study, 2010 (includes widening of Halladay/Alton intersection of adding 1 EBT and WBT
- Intersection #44: Red Hill Avenue / Alton Parkway (add 1 NBR, 1 SBR, 2nd EBL, and 2nd WBL)
- Signalization at Daimler Street at Alton Parkway, Halladay Street at Alton Parkway

ITEM #	DESCRIPTION OF WORK	UNIT PRICE	UNIT	QUANTITY	COST	NOTES
	ROADWAY					
1	Clear & Grub	$12,200.00	AC	0.29	**$3,585**	
2	Earthwork	$46.00	CY	1333	**$61,333**	
3	Remove Curb & Gutter	$24.00	LF	1150	**$27,600**	
4	Remove Median Curb	$30.00	LF	0	**$0**	
5	Remove PCC Sidewalk	$5.00	SF	8040	**$40,200**	
6	Remove Pavement	$5.00	SF	1150	**$5,750**	
7	Remove Channel	$40.00	LF	0	**$0**	
8	Remove/Replace Chain Link Fence	$35.00	LF	0	**$0**	
9	Reconstruct Metal Beam Guard Rail	$40.00	LF	0	**$0**	
10	Remove & Replace Tree	$1,500.00	EA	8	**$12,000**	
11	Modify Driveway	$6,100.00	EA	2	**$12,200**	
12	Construct PCC Pavement	$14.00	SF	700	**$9,800**	Bus turnout
13	Construct AC Pavement	$8.00	SF	11500	**$92,000**	
14	Construct AC Overlay	$3.60	SF	0	**$0**	
15	Construct Slurry Seal	$0.40	SF	0	**$0**	
16	Construct AC Dike	$15.00	LF	0	**$0**	
17	Construct Curb & Gutter	$30.00	LF	1100	**$33,000**	
18	Construct Concrete Barrier	$80.00	LF	0	**$0**	
19	Construct Median Curb	$31.00	LF	0	**$0**	
20	Construct Median Concrete	$15.00	SF	0	**$0**	
21	Construct Median/Parkway Landscaping	$13.00	SF	3500	**$45,500**	Includes new irrigation, Excludes Ex irrigation util box relocation
22	Construct PCC Sidewalk	$9.05	SF	6500	**$58,825**	
23	Construct Wheelchair Ramp	$6,000.00	EA	4	**$24,000**	
24	Construct Retaining Wall	$75.00	SF	1320	**$99,000**	assume 4'(6'H) x 220 LF wall
25	Remove Retaining Wall	$35.00	SF	0	**$0**	
26	Relocate Monument Wall	$20,000.00	EA	0	**$0**	
27	Sawcut	$4.00	LF	1150	**$4,600**	
	ROADWAY SUBTOTAL				**$529,393**	
	TRAFFIC					
28	Remove Striping	$3.00	LF	4550	**$13,650**	
29	Remove Pavement Markings	$150.00	EA	8	**$1,200**	
30	Relocate Street Light	$6,200.00	EA	2	**$12,400**	
31	Modify Traffic Signal	$325,000.00	EA	0	**$0**	
32	New Traffic Signal	$425,000.00	EA	1	**$425,000**	Replace all new poles and controler
33	Install Striping	$5.00	LF	5750	**$28,750**	
34	Install Pavement Markings	$350.00	EA	22	**$7,700**	
35	Relocate Freeway Sign (2 post)	$700.00	EA	0	**$0**	
36	Loop Detector	$2,000.00	EA	0	**$0**	
37	Remove Roadside Sign	$150.00	EA	0	**$0**	
38	Relocate Sign (1 post)	$220.00	EA	6	**$1,320**	
39	Overhead Sign (2 posts)	$240,000.00	EA	0	**$0**	
40	Relocate Bus Bench	$1,458.00	EA	0	**$0**	
41	Install Ramp Metering System	$80,000.00	EA	0	**$0**	
42	Install Delineator	$36.60	EA	0	**$0**	
43	Apply ATMS	$113,165.00	LS	0	**$0**	
	TRAFFIC SUBTOTAL				**$490,020**	
	UTILITIES AND DRAINAGE					
44	Relocate Call Box	$2,051.00	EA	0	**$0**	
45	Relocate Power Pole	$25,000.00	EA	6	**$150,000**	2 complex pole with comm., assume 6 poles
46	Relocate Catch Basin	$9,760.00	EA	2	**$19,520**	
47	Relocate Fire Hydrant	$5,000.00	EA	2	**$10,000**	
48	Relocate Utility Boxes	$1,000.00	EA	21	**$21,000**	
49	Relocate Main Water Valve	$12,200.00	EA	1	**$12,200**	Along Redhill, NW of intersection
50	Relocate Utility Vault	$10,000.00	EA	1	**$10,000**	
51	Adjust Manhole to Grade	$1,500.00	EA	0	**$0**	
52	Adjust Water Meter	$1,000.00	EA	2	**$2,000**	
53	Adjust Water Valve	$1,000.00	EA	2	**$2,000**	
54	Adjust Minor Above Ground Utilities	$1,000.00	EA	0	**$0**	
55	Construct Striping & Marking	$2.00	LF	0	**$0**	
56	Construct Storm Drain Main	$122.00	LF	0	**$0**	
57	Construct RCB	$549.00	CY	0	**$0**	
58	Construct Channel (Earthen)	$12.20	LF	0	**$0**	
59	Construct Concrete V-Ditch	$19.00	LF	0	**$0**	
60	Construct Bridge Widening	$500.00	SF	0	**$0**	
	UTILITIES AND DRAINAGE SUBTOTAL				**$226,720**	
	GENERAL					
61	Mobilization	$22,672	LS	1	**$124,613**	
62	Traffic Control	8%	LS	1	**$99,691**	
63	Utility Relocation	5%	LS	1	**$62,307**	
64	SWPPP Plan and Implementation	6%	LS	1	**$74,768**	
	CONSTRUCTION SUBTOTAL				**$1,607,512**	
	RIGHT-OF-WAY					
65	Right-Of-Way	$70.00	SF	5875	**$411,250**	
66	Parking Impacts	$20,000.00	EA	0	**$0**	
67	Temporary Construction Easements	$6.50	SF	5750	**$37,375**	
68	Right-of-Way Management	10%	LS	1	**$44,863**	
	RIGHT-OF-WAY SUBTOTAL				**$493,488**	
TOTAL CONSTRUCTION & RIGHT-OF-WAY COST:					**$2,100,999**	
Preliminary Project Development (10% Construction Cost, min $300,000)					**$300,000**	
Design Engineering/Administration Cost (15% Construction Cost)					**$241,127**	
Construction Engineering Costs/Administration (15% Construction Cost)					**$241,127**	
Contingency (20% Construction Cost)					**$321,502**	
TOTAL PROJECT COSTS (Red Hill & Alton)					**$3,204,755**	
Traffic Signal at Alton & Daimler					**$680,000**	Includes all soft costs
Traffic Signal at Alton & Halladay					**$800,000**	Includes all soft costs
Alton/55 Overcrossing Project (cost includes widening of Halladay/Alton intersection; all cost in 2016 $)					**$55,500,000**	
TOTAL ALTON/55 PROJECT COSTS					**$60,184,755**	

HUITT~ZOLLARS

HUITT-ZOLLARS
PS&E COST ESTIMATE - 100% PS&E ROADWAY
ALTON PARKWAY OVERCROSSING
ITEM AND QUANTITY LIST

March 31, 2014
EA 12-005501
Project ID# 12-0000-0003

COMBINED ESTIMATE

Item	Item Code	P/F/S	Item Description	Unit	Actual Quantity	Rounded Quantity	Unit Price	Amount
1	020215		TEMPORARY CRASH CUSHION (TYPE ADIEM)	EA	2.00	2	$30,175	$60,400
2	070012		PROGRESS SCHEDULE (CRITICAL PATH METHOD)	LS	1.00	1	$17,000	$17,000
3	070018		TIME-RELATED OVERHEAD	WDAY	325.00	325	$3,400	$1,105,000
4	074016		CONSTRUCTION SITE MANAGEMENT	LS	1.00	1	$81,600	$81,600
5	074019		PREPARE STORM WATER POLLUTION PREVENTION PLAN	LS	1.00	1	$11,050	$11,100
6	074029		TEMPORARY SILT FENCE	LF	3664.00	3,664	$4	$14,900
7	074033		TEMPORARY CONSTRUCTION ENTRANCE	EA	4.00	4	$5,100	$20,400
8	074038		TEMPORARY DRAINAGE INLET PROTECTION	EA	6.00	6	$357	$2,100
9	074041		STREET SWEEPING	LS	1.00	1	$85,000	$85,000
10	074042		TEMPORARY CONCRETE WASHOUT (PORTABLE)	LS	1.00	1	$3,400	$3,400
11	074056		RAIN EVENT ACTION PLAN	EA	35.30	36	$850	$30,600
12	074057		STORM WATER ANNUAL REPORT	EA	1.00	1	$3,400	$3,400
13	074058		STORM WATER SAMPLING AND ANALYSIS DAY	DAY	15.50	16	$1,950	$31,200
14	120090	S	CONSTRUCTION AREA SIGNS	LS	1.00	1	$42,500	$42,500
15	120100	S	TRAFFIC CONTROL SYSTEM	LS	1.00	1	$221,000	$221,000
16	128650	S	PORTABLE CHANGEABLE MESSAGE SIGN	LS	1.00	1	$127,500	$127,500
17	120149		TEMPORARY PAVEMENT MARKING (PAINT)	SF	66.00	66	$4	$300
18	120159		TEMPORARY TRAFFIC STRIPE (PAINT)	LF	30326.26	30,327	$1	$25,800
19	120300		TEMPORARY PAVEMENT MARKER	EA	3634.57	3,635	$9	$32,400
20	129000		TEMPORARY RAILING (TYPE K)	LF	3940.00	3,940	$26	$100,500
21	129100		TEMPORARY CRASH CUSHION MODULE	EA	56.00	56	$595	$33,300
22	129150		TEMPORARY TRAFFIC SCREEN	LF	3940.00	3,940	$7	$28,500
23	141101		REMOVE YELLOW PAINTED TRAFFIC STRIPE (HAZARDOUS WASTE)	LF	32244.10	32,245	$1	$46,600
24	141103		REMOVE YELLOW THERMOPLASTIC TRAFFIC STRIPE (HAZARDOUS WASTE)	LF	1917.85	1,918	$3	$5,200
25	150608		REMOVE CHAIN LINK FENCE	LF	180.00	180	$10	$1,800
26	150662		REMOVE METAL BEAM GUARD RAILING	LF	1287.50	1,288	$14	$18,000
27	150717		REMOVE TRAFFIC STRIPE AND PAVEMENT MARKING	SQFT	99.00	99	$3	$300
28	150722		REMOVE PAVEMENT MARKER	EA	5552.40	5,553	$2	$12,300
29	150771		REMOVE ASPHALT CONCRETE DIKE	LF	559.65	560	$4	$2,500
30	150860		REMOVE BASE AND SURFACING	CY	2522.30	2,523	$34	$85,800
31	152387		RELOCATE ROADSIDE SIGN-TWO POST	EA	2.00	2	$1,615	$3,200
32	153221		REMOVE CONCRETE BARRIER	LF	176.07	177	$36	$6,300
33	160101	P	CLEARING AND GRUBBING	LS	1.00	1	$102,000	$102,000
34	170101	P	DEVELOP WATER SUPPLY	LS	1.00	1	$170,000	$170,000
35	190101		ROADWAY EXCAVATION	CY	1532.01	1,533	$43	$65,200
36	190107		ROADWAY EXCAVATION (TYPE Y-1) (AERIALLY DEPOSITED LEAD)	CY	1532.01	1,533	$31	$46,900
37	190110		LEAD COMPLIANCE PLAN	LS	1.00	1	$8,500	$8,500

HUITT~ZOLLARS

HUITT-ZOLLARS
PS&E COST ESTIMATE - 100% PS&E ROADWAY
ALTON PARKWAY OVERCROSSING
ITEM AND QUANTITY LIST

March 31, 2014
EA 12-005501
Project ID# 12-0000-0003

COMBINED ESTIMATE

Item	Item Code	P/F/S	Item Description	Unit	Actual Quantity	Rounded Quantity	Unit Price	Amount
38	192003	F	STRUCTURE EXCAVATION (BRIDGE)	CY	478.00	478	$179	$85,300
39	192020		STRUCTURE EXCAVATION (TYPE D)	CY	382.00	382	$187	$71,400
40	193003	F	STRUCTURE BACKFILL (BRIDGE)	CY	1053.00	1,053	$128	$134,300
41	203031		EROSION CONTROL (HYDROSEED)	SF	65694.00	65,694	$1	$55,800
42	204099	S	PLANT ESTABLISHMENT WORK	LS	1.00	1	$17,000	$17,000
43	250201		CLASS 2 AGGREGATE SUBBASE	CY	1364.95	1,365	$44	$60,300
44	390132		HOT MIX ASPHALT (TYPE A)	TON	2860.82	2,861	$213	$608,000
45	390137		RUBBERIZED ASPHALT CONCRETE (TYPE G)	TON	133.36	134	$272	$36,400
46	394046		PLACE ASPHALT CONCRETE DIKE (TYPE D)	LF	559.65	560	$83	$46,600
47	490780		FURNISH PILING (CLASS 200)	LF	7594.00	7,594	$39	$296,900
48	490781		DRIVE PILE (CLASS 200)	EA	138.00	138	$3,400	$469,200
49	500001		PRESTRESSING STEEL	LS	1.00	1	$425,000	$425,000
50	510051	F	STRUCTURAL CONCRETE, BRIDGE FOOTING	CY	374.00	374	$782	$292,500
51	510053	F	STRUCTURAL CONCRETE, BRIDGE	CY	2892.00	2,892	$1,258	$3,638,100
52	510086		STRUCTURAL CONCRETE, APPROACH SLAB (TYPE N)	CY	200.00	200	$952	$190,400
53	519100		JOINT SEAL (MR = 2")	LF	180.00	180	$145	$26,000
54	520102	F/S	BAR REINFORCING STEEL (BRIDGE)	LB	703608.00	703,608	$2	$1,196,100
55	560203		FURNISH SIGN STRUCTURE (BRIDGE MOUNTED WITH WALKWAY)	LB	3735.00	3,735	$12	$44,400
56	560204		INSTALL SIGN STRUCTURE (BRIDGE MOUNTED WITH WALKWAY)	LB	3735.00	3,735	$9	$31,700
57	566011		ROADSIDE SIGN - ONE POST	EA	31.00	31	$553	$17,100
58	800360		CHAIN LINK FENCE (TYPE CL-6)	LF	81.98	82	$37	$3,100
59	802501		4' CHAIN LINK GATE (TYPE CL-6)	EA	1.00	1	$1,870	$1,900
60	820134		OBJECT MARKER (TYPE P)	EA	12.00	12	$136	$1,600
61	832003		METAL BEAM GUARD RAILING (WOOD POST)	LF	1422.29	1,423	$85	$121,000
62	833032	F/S	CHAIN LINK RAILING (TYPE 7)	LF	663.00	663	$105	$69,900
63	833088		TUBULAR HANDRAILING	LF	120.00	120	$122	$14,700
64	833142	F	CONCRETE BARRIER (TYPE 26 MOD)	LF	783.00	783	$221	$173,000
65	839585		ALTERNATIVE FLARED TERMINAL SYSTEM	EA	1.00	1	$4,420	$4,400
66	839705		CONCRETE BARRIER (TYPE 60E)	LF	315.76	316	$306	$96,700
67	840501	S	THERMOPLASTIC TRAFFIC STRIPE	LF	5112.23	5,113	$1	$6,100
68	840515	S	THERMOPLASTIC PAVEMENT MARKING	SF	132.00	132	$6	$800
69	840656	S	PAINT TRAFFIC STRIPE (2-COAT)	LF	40286.47	40,287	$0	$9,600
70	850101	S	PAVEMENT MARKER (NON-REFLECTIVE)	EA	3882.24	3,883	$3	$13,200
71	850111	S	PAVEMENT MARKER (RETROREFLECTIVE)	EA	2090.55	2,091	$7	$14,200
72	860090		MAINTAINING EXISTING TRAFFIC MANAGEMENT SYSTEM ELEMENTS DURING CONSTRUCTION	LS	1.00	1	$34,000	$34,000
73	860460		LIGHTING AND SIGN ILLUMIATION	LS	1.00	1	$64,600	$64,600

HUITT~ZOLLARS

HUITT-ZOLLARS
PS&E COST ESTIMATE - 100% PS&E ROADWAY
ALTON PARKWAY OVERCROSSING
ITEM AND QUANTITY LIST

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EA 12-005501
Project ID# 12-0000-0003

COMBINED ESTIMATE

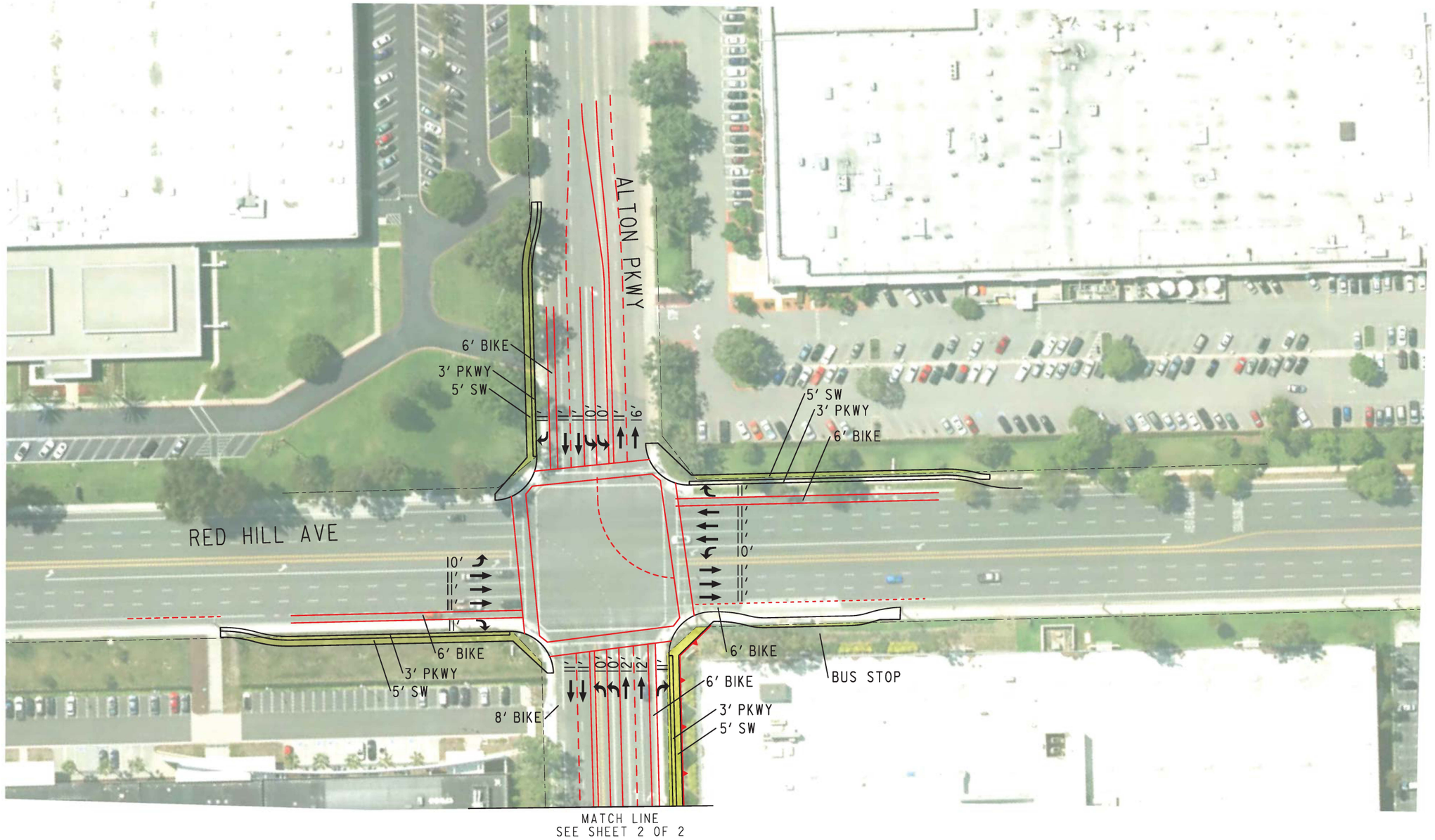
Item	Item Code	P/F/S	Item Description	Unit	Actual Quantity	Rounded Quantity	Unit Price	Amount
74	860930		TRAFFIC MONITORING STATION	LS	1.00	1	$56,100	$56,100
75	861100		RAMP METER SYSTEM	LS	1.00	1	$15,300	$15,300
76	999990		MOBILIZATION	LS	1.00	1	10%	$1,226,000
			SUBTOTAL					**$12,321,200**

SUPPLEMENTAL WORK AND CITY FURNISHED MATERIAL

Item	Item Code	P/F/S	Item Description	Unit	Actual Quantity	Rounded Quantity	Unit Price	Amount
77	066062		COZEEP CONTRACT	LS	1	1	$102,000.00	$102,000
78	066063		TRAFFIC MANAGEMENT PLAN & PUBLIC INFORMATION	LS	1	1	$51,000.00	$51,000
79	066070		MAINTAINING TRAFFIC	LS	1	1	$59,500.00	$59,500
80	066595		WATER POLLUTION CONTROL MAINTENANCE SHARING	LS	1	1	$17,000.00	$17,000
81	066596		ADDITIONAL WATER POLLUTION CONTROL	LS	1	1	$13,600.00	$13,600
82	066597		STORM WATER SAMPLING AND ANALYSIS	LS	1	1	$8,500.00	$8,500
83	066600		DISPOSAL OF YELLOW PAINTED TRAFFIC STRIPE	LS	1	1	$17,000.00	$17,000
84	066610		PARTNERING	LS	1	1	$34,000.00	$34,000
85	066666		COMPENSATION ADJUSTMENT FOR PRICE INDEX FLUCTUATIONS OF PAVING ASPHALT	LS	1	1	$51,000.00	$51,000
86			LOCAL ASSISTANCE (CITIES)	LS	1	1	$34,000.00	$34,000
			SUBTOTAL					**$387,600**

NET SUBTOTAL	$12,700,000
CONTINGENCIES (10%)	$1,300,000
TOTAL (Caltrans)	**$14,000,000**
Total (Street from separate file)	**$10,400,000**
Hazardous Material Removal	**$8,000,000**
Right of Way	**$22,500,000**
Design Cost (Update PS&E and Revalidation)	**$600,000**
GRAND TOTAL	**$55,500,000**

Concept plans for Alton Overcrossing at SR-55 was not developed as part of the IBC Fee Study. The concept remains the same as was developed as part of "Updated Traffic Study for Alton Avenue Overcrossing at State Route 55 Freeway and Arterial Widening in the Cities of Santa Ana and Irvine, May 2010"



LEGEND

- (S) SIGNALIZED INTERSECTION
- → DIRECTION OF TRAVEL
- PROPOSED ROW
- XX' PROPOSED LANE WIDTH
- PROPOSED RETAINING WALL

MITIGATIONS - IRVINE INTERSECTION 44

1. ADD 1 NBR
2. ADD 1 SBR
3. ADD 2ND EBL
4. ADD 2ND WBT

IRVINE INTERSECTION 44
RED HILL AVE & ALTON PKWY
SHEET 1 OF 2

DECEMBER, 2016

CITY OF IRVINE 1971

PLAN PREPARED BY: HDR

2015 IBC NEXUS STUDY
ROADWAY IMPROVEMENTS

CITY OF IRVINE
COMMUNITY DEVELOPMENT

SHEET REVISED: 8/15/07

PATH =
DWG =
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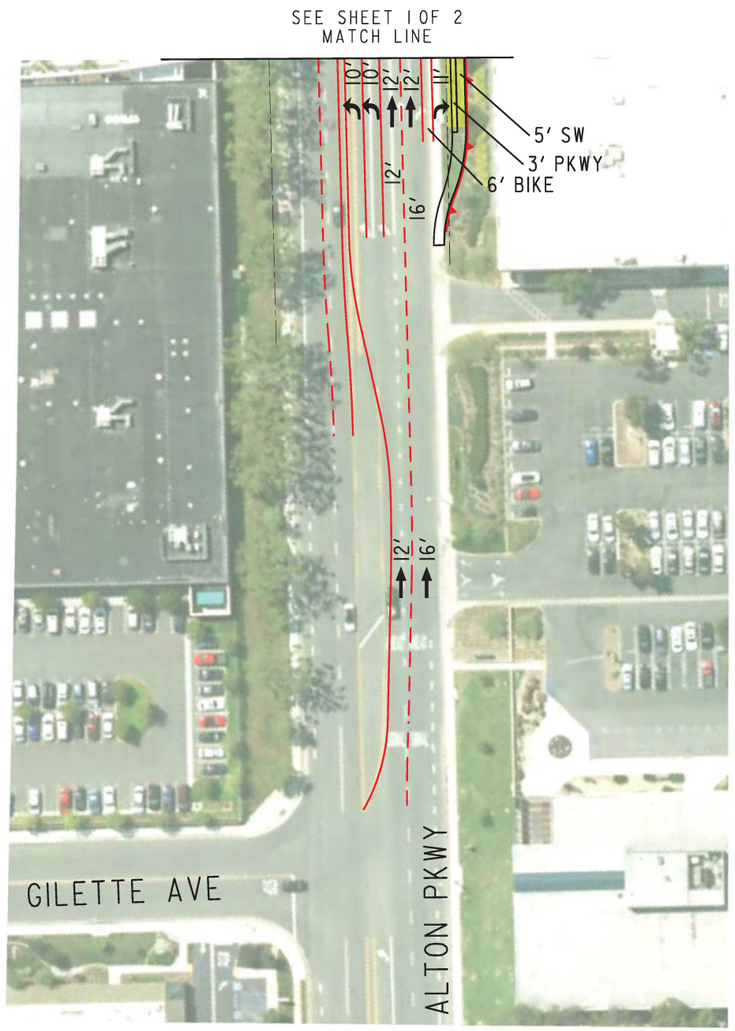

LEGEND

- (S) SIGNALIZED INTERSECTION
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MITIGATIONS - IRVINE INTERSECTION 44

1. ADD 1 NBR
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4. ADD 2ND WBT

IRVINE INTERSECTION 44
RED HILL AVE & ALTON PKWY
SHEET 2 OF 2

SEPTEMBER 14, 2016

CITY OF IRVINE 1971

PLAN PREPARED BY: HDR

2015 IBC NEXUS STUDY
ROADWAY IMPROVEMENTS

CITY OF IRVINE
COMMUNITY DEVELOPMENT

VIEW = DWG = PATH =

SHEET REVISED: 8/15/07

Dyer Road widening between SR-55 NB on-ramp and Red Hill Avenue (Phase 2)

Irvine IBC - Nexus Study

Cost Estimate

Intersection
Dyer Rd & SR-55
Mitigations: Dyer Rd widening from SR-55 to Red Hill

ITEM #	DESCRIPTION OF WORK	UNIT PRICE	UNIT	QUANTITY	COST	NOTES
	ROADWAY					
1	Clear & Grub	$12,200.00	AC	3.52	**$42,940**	Original area + 2-6' bike lanes
2	Earthwork	$46.00	CY	6500	**$299,000**	116,500 sf x 1.5' deep/27 = 6,500 CY
3	Remove Curb & Gutter	$24.00	LF	4830	**$115,920**	
4	Remove Median Curb	$30.00	LF	0	**$0**	
5	Remove PCC Sidewalk	$5.00	SF	36975	**$184,875**	
6	Remove Pavement	$5.00	SF	5750	**$28,750**	1' sawcut (AC) and 750 SF (PCC)
7	Remove Channel	$40.00	LF	0	**$0**	
8	Remove/Replace Chain Link Fence	$35.00	LF	0	**$0**	
9	Reconstruct Metal Beam Guard Rail	$40.00	LF	0	**$0**	
10	Remove & Replace Tree	$1,500.00	EA	64	**$96,000**	
11	Modify Driveway	$6,100.00	EA	15	**$91,500**	
12	Construct PCC Pavement	$14.00	SF	750	**$10,500**	Bus Stop Pad
13	Construct AC Pavement	$8.00	SF	70000	**$560,000**	
14	Construct AC Overlay	$3.60	SF	0	**$0**	
15	Construct Slurry Seal	$0.40	SF	0	**$0**	
16	Construct AC Dike	$15.00	LF	270	**$4,050**	
17	Construct Curb & Gutter	$30.00	LF	4815	**$144,450**	
18	Construct Concrete Barrier	$80.00	LF	0	**$0**	
19	Construct Median Curb	$31.00	LF	0	**$0**	
20	Construct Median Concrete	$15.00	SF	0	**$0**	
21	Construct Median/Parkway Landscaping	$13.00	SF	22500	**$292,500**	Includes new irrigation, Excludes Ex irrigation util box relocation
22	Construct PCC Sidewalk	$9.05	SF	46400	**$419,920**	
23	Construct Wheelchair Ramp	$6,000.00	EA	9	**$54,000**	
24	Construct Retaining Wall	$75.00	SF	1200	**$90,000**	assume 3'(4'H) x 300 LF wall at toe.
25	Remove Retaining Wall	$35.00	SF	0	**$0**	
26	Relocate Monument Wall	$20,000.00	EA	0	**$0**	
27	Sawcut	$4.00	LF	5000	**$20,000**	
	ROADWAY SUBTOTAL				**$2,454,405**	
	TRAFFIC					
28	Remove Striping	$3.00	LF	844	**$2,532**	
29	Remove Pavement Markings	$150.00	EA	12	**$1,800**	
30	Relocate Street Light	$6,200.00	EA	19	**$117,800**	includes 5 new on so side east of tracks
31	Modify Traffic Signal	$325,000.00	EA	2	**$650,000**	1 full and 2 partials
32	New Traffic Signal	$425,000.00	EA	0	**$0**	
33	Install Striping	$5.00	LF	9200	**$46,000**	
34	Install Pavement Markings	$350.00	EA	25	**$8,750**	
35	Relocate Freeway Sign (2 post)	$700.00	EA	0	**$0**	
36	Loop Detector	$2,000.00	EA	21	**$42,000**	video detection at Barranca/Redhill
37	Remove Roadside Sign	$150.00	EA	1	**$150**	
38	Relocate Sign (1 post)	$220.00	EA	58	**$12,760**	
39	Overhead Sign (2 posts)	$240,000.00	EA	0	**$0**	
40	Relocate Commercial Sign	$3,000.00	EA	4	**$12,000**	
41	Relocate Bus Bench	$1,458.00	EA	3	**$4,374**	1 stop counted as 2 because of canopy
42	Install Ramp Metering System	$80,000.00	EA	0	**$0**	
43	Install Delineator	$36.60	EA	0	**$0**	
44	Apply ATMS	$113,165.00	LS	0	**$0**	
45	Railroad Signal, panels and coordination		LS	1	**$1,500,000**	
	TRAFFIC SUBTOTAL				**$2,398,166**	
	UTILITIES AND DRAINAGE					
46	Relocate Call Box	$2,051.00	EA	0	**$0**	
47	Relocate Power Pole	$25,000.00	EA	2	**$50,000**	
48	Relocate Catch Basin	$9,760.00	EA	5	**$48,800**	1 large CB counted as 2
49	Relocate Fire Hydrant	$5,000.00	EA	8	**$40,000**	
50	Relocate Utility Boxes	$1,000.00	EA	64	**$64,000**	
51	Relocate Main Water Valve	$12,200.00	EA	6	**$73,200**	
52	Relocate Utility Vault	$10,000.00	EA	4	**$40,000**	
53	Adjust Manhole to Grade	$1,500.00	EA	8	**$12,000**	
54	Adjust Water Meter	$1,000.00	EA	10	**$10,000**	
55	Adjust Water Valve	$1,000.00	EA	9	**$9,000**	
56	Adjust Minor Above Ground Utilities	$1,000.00	EA	15	**$15,000**	
57	Construct Striping & Marking	$2.00	LF	0	**$0**	
58	Construct Storm Drain Main	$122.00	LF	0	**$0**	
59	Parkway Drain	$1,000.00	$EA	1	**$1,000**	
60	Construct RCB	$549.00	CY	0	**$0**	
61	Construct Channel (Earthen)	$12.20	LF	0	**$0**	
62	Construct Concrete V-Ditch	$19.00	LF	0	**$0**	
63	Construct Bridge Widening	$500.00	SF	0	**$0**	
	UTILITIES AND DRAINAGE SUBTOTAL				**$363,000**	
	GENERAL					
63	Mobilization	$36,300	LS	1	**$521,557**	
64	Utility Relocation	5%	LS	1	**$260,779**	
65	Traffic Control	8%	LS	1	**$417,246**	
66	SWPPP Plan and Implementation	6%	LS	1	**$312,934**	
	CONSTRUCTION SUBTOTAL				**$6,728,087**	
	RIGHT-OF-WAY					
67	Right-Of-Way	$70.00	SF	135112	**$9,457,859**	
68	Building Demolition	$1,000,000.00	EA	3	**$3,000,000**	1 per full take
69	Parking Impacts	$20,000.00	EA	18	**$360,000**	
70	Temporary Construction Easements	$6.50	SF	20520	**$133,380**	
71	Right-of-Way Management	10%	LS	1	**$1,295,124**	
	RIGHT-OF-WAY SUBTOTAL				**$14,246,363**	
TOTAL CONSTRUCTION & RIGHT-OF-WAY COST:					**$20,974,449**	
Preliminary Project Development (10% Construction Cost, min $300,000)					**$672,809**	
Design Engineering/Administration Cost (15% Construction Cost)					**$1,009,213**	
Construction Engineering Costs/Administration (15% Construction Cost)					**$1,009,213**	
Contingency (20% Construction Cost)					**$1,345,617**	
TOTAL PROJECT COSTS					**$25,011,301**	

LEGEND

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MITIGATIONS - SANTA ANA INTERSECTION

(1) DYER RD WIDENING - RED HILL TO SR-55

(CONSISTENT WITH PROJECT REPORT DATED MAY 2004)

SANTA ANA INTERSECTION
SR-55 & DYER RD
SHEET 1 OF 3

DECEMBER, 2016

CITY OF IRVINE 1971

PLAN PREPARED BY: HDR

2015 IBC NEXUS STUDY
ROADWAY IMPROVEMENTS

CITY OF IRVINE
COMMUNITY DEVELOPMENT

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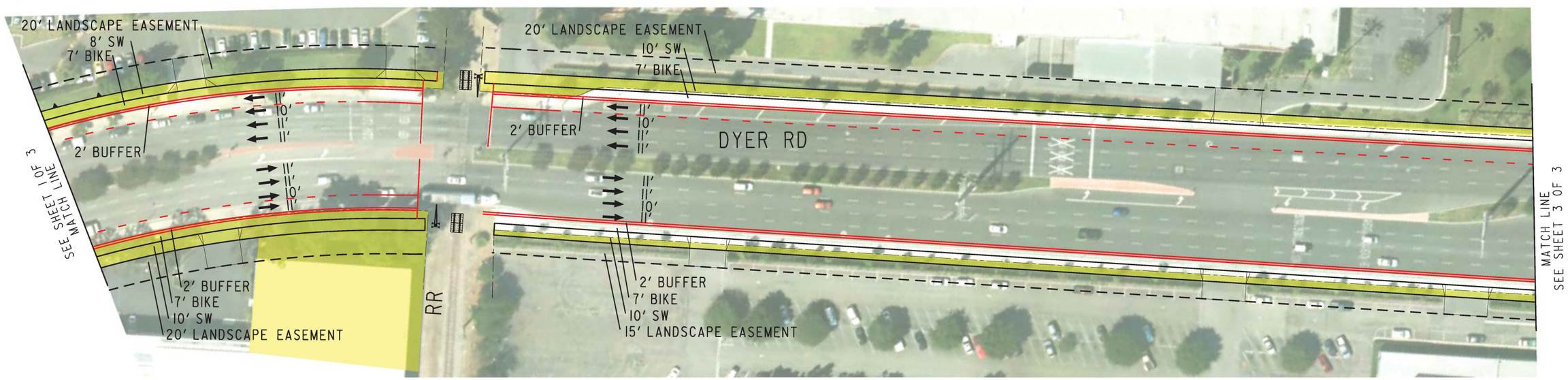
SHEET REVISED: 8/15/07



SANTA ANA INTERSECTION
SR-55 & DYER RD
SHEET 2 OF 3

LEGEND

- (S) SIGNALIZED INTERSECTION
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MITIGATIONS - SANTA ANA INTERSECTION

(1) DYER RD WIDENING - RED HILL TO SR-55
(CONSISTENT WITH PROJECT REPORT DATED MAY 2004)

DECEMBER, 2016

CITY OF IRVINE 1971

PLAN PREPARED BY: HDR

2015 IBC NEXUS STUDY
ROADWAY IMPROVEMENTS

CITY OF IRVINE
COMMUNITY DEVELOPMENT

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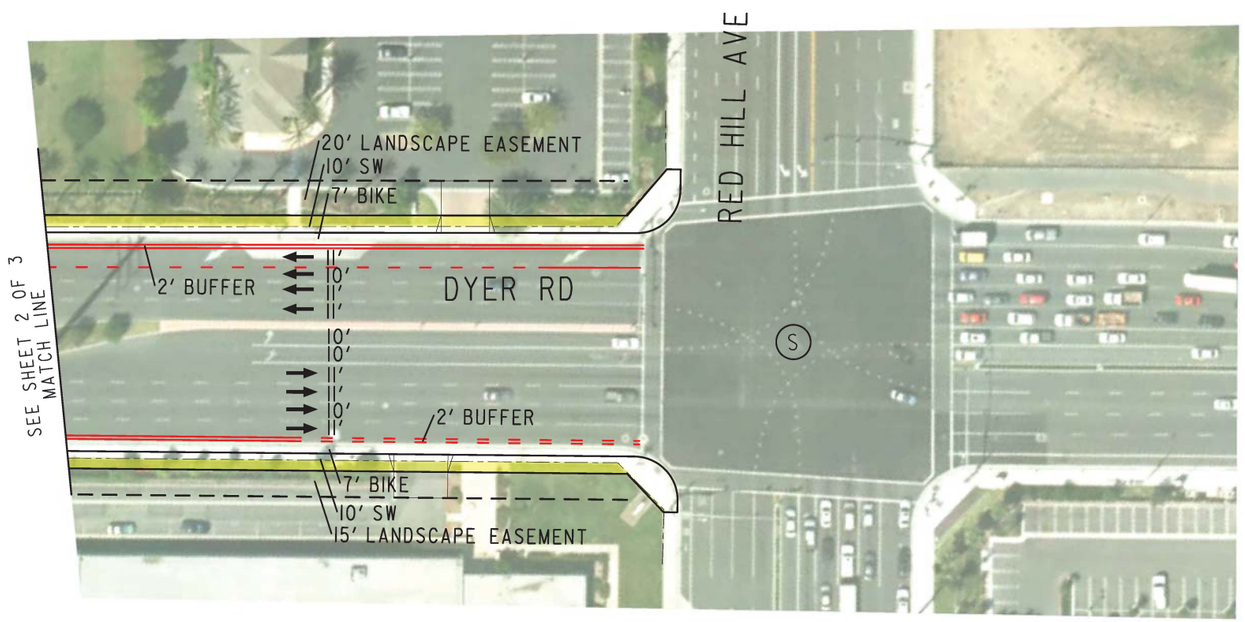

SANTA ANA INTERSECTION
SR-55 & DYER RD
SHEET 3 OF 3

LEGEND

- (S) SIGNALIZED INTERSECTION
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MITIGATIONS - SANTA ANA INTERSECTION

(I) DYER RD WIDENING - RED HILL TO SR-55
(CONSISTENT WITH PROJECT REPORT DATED MAY 2004)

DECEMBER, 2016

CITY OF IRVINE 1971

PLAN PREPARED BY: HDR

2015 IBC NEXUS STUDY
ROADWAY IMPROVEMENTS

CITY OF IRVINE
COMMUNITY DEVELOPMENT

VIEW = DWG = PATH =

SHEET REVISED: 8/15/07

Flower Street and Segerstrom Avenue

Note: Concepts were not developed for the 2015 IBC Fee Update at this location since it is consistent with 2010 IBC Fee Study

Irvine IBC - Nexus Study

Cost Estimate

Intersection 719
Flower St & Segerstrom Ave
Mitigations: Add EB Defacto Lane

ITEM #	DESCRIPTION OF WORK	UNIT PRICE	UNIT	QUANTITY	COST	NOTES
	ROADWAY					
1	Clear & Grub	$12,200.00	AC	0.10	**$1,220**	
2	Earthwork	$46.00	CY	66	**$3,036**	
3	Remove Curb & Gutter	$24.00	LF	0	**$0**	
4	Remove Median Curb	$30.00	LF	280	**$8,400**	
5	Remove PCC Sidewalk	$5.00	SF	1890	**$9,450**	
6	Remove Pavement	$5.00	SF	560	**$2,800**	
7	Remove Channel	$40.00	LF	0	**$0**	
8	Remove/Replace Chain Link Fence	$35.00	LF	0	**$0**	
9	Remove and Replace Pedestal and Wrought Iron Fence	$75.00	LF	0	**$0**	
10	Remove and Replace Vinyl Fence	$40.00	LF	0	**$0**	
11	Reconstruct Metal Beam Guard Rail	$40.00	LF	0	**$0**	
12	Remove & Replace Tree	$1,500.00	EA	4	**$6,000**	
13	Modify Driveway	$6,100.00	EA	0	**$0**	
14	Construct PCC Pavement	$14.00	SF	1120	**$15,680**	
15	Construct AC Pavement	$8.00	SF	1780	**$14,240**	
16	Construct AC Overlay	$3.60	SF	0	**$0**	
17	Construct Slurry Seal	$0.40	SF	0	**$0**	
18	Construct AC Dike	$15.00	LF	0	**$0**	
19	Construct Curb & Gutter	$30.00	LF	270	**$8,100**	
20	Construct Concrete Barrier	$80.00	LF	0	**$0**	
21	Construct Median Curb	$31.00	LF	0	**$0**	
22	Construct Median Concrete	$15.00	SF	0	**$0**	
23	Construct Median/Parkway Landscaping	$13.00	SF	0	**$0**	
24	Construct PCC Sidewalk	$9.05	SF	2090	**$18,915**	
25	Construct Wheelchair Ramp	$6,000.00	EA	1	**$6,000**	
26	Construct Retaining Wall	$75.00	SF	0	**$0**	
27	Remove Retaining Wall	$35.00	SF	0	**$0**	
28	Relocate Monument Wall	$20,000.00	EA	0	**$0**	
29	Sawcut	$4.00	LF	290	**$1,160**	
	ROADWAY SUBTOTAL				**$95,001**	
	TRAFFIC					
30	Remove Striping	$3.00	LF	0	**$0**	
31	Remove Pavement Markings	$150.00	EA	0	**$0**	
32	Relocate Street Light	$6,200.00	EA	1	**$6,200**	
33	Modify Traffic Signal	$325,000.00	EA	0.25	**$81,250**	
34	New Traffic Signal	$425,000.00	EA	0	**$0**	
35	Install Striping	$5.00	LF	0	**$0**	
36	Install Pavement Markings	$350.00	EA	0	**$0**	
37	Relocate Freeway Sign (2 post)	$700.00	EA	0	**$0**	
38	Loop Detector	$2,000.00	EA	0	**$0**	
39	Remove Roadside Sign	$150.00	EA	0	**$0**	
40	Relocate Sign (1 post)	$220.00	EA	1	**$220**	
41	Overhead Sign (2 posts)	$240,000.00	EA	0	**$0**	
42	Relocate Bus Bench	$1,458.00	EA	1	**$1,458**	
43	Relocate Automatic Gate	$10,000.00	EA	0	**$0**	
44	Install Ramp Metering System	$80,000.00	EA	0	**$0**	
45	Install Delineator	$36.60	EA	0	**$0**	
46	Apply ATMS	$113,165.00	LS	0	**$0**	
	TRAFFIC SUBTOTAL				**$89,128**	
	UTILITIES AND DRAINAGE					
47	Relocate Call Box	$2,051.00	EA	0	**$0**	
48	Relocate Power Pole	$25,000.00	EA	0	**$0**	
49	Relocate Catch Basin	$9,760.00	EA	0	**$0**	
50	Relocate Fire Hydrant	$5,000.00	EA	0	**$0**	
51	Relocate Utility Boxes	$1,000.00	EA	1	**$1,000**	
52	Relocate Main Water Valve	$12,200.00	EA	0	**$0**	
53	Relocate Utility Vault	$10,000.00	EA	0	**$0**	
54	Adjust Manhole to Grade	$1,500.00	EA	0	**$0**	
55	Adjust Water Meter	$1,000.00	EA	0	**$0**	
56	Adjust Water Valve	$1,000.00	EA	0	**$0**	
57	Adjust Minor Above Ground Utilities	$1,000.00	EA	0	**$0**	
58	Construct Striping & Marking	$2.00	LF	0	**$0**	
59	Construct Storm Drain Main	$122.00	LF	0	**$0**	
60	Construct RCB	$549.00	CY	0	**$0**	
61	Construct Channel (Earthen)	$12.20	LF	0	**$0**	
62	Construct Concrete V-Ditch	$19.00	LF	0	**$0**	
63	Construct Bridge Widening	$500.00	SF	0	**$0**	
	UTILITIES AND DRAINAGE SUBTOTAL				**$1,000**	
	GENERAL					
64	Mobilization	10%	LS	1	**$18,513**	
65	Traffic Control	8%	LS	1	**$14,810**	
66	Utility Relocations	5%	LS	1	**$9,256**	
67	SWPPP Plan and Implementation	6%	LS	1	**$11,108**	
	CONSTRUCTION SUBTOTAL				**$238,816**	
	RIGHT-OF-WAY					
68	Right-Of-Way	$70.00	SF	700	**$49,000**	
69	Parking Impacts	$20,000.00	EA	0	**$0**	
70	Temporary Construction Easements	$6.50	SF	0	**$0**	
71	Right-of-Way Management	10%	LS	0	**$4,900**	
	RIGHT-OF-WAY SUBTOTAL				**$53,900**	
TOTAL CONSTRUCTION & RIGHT-OF-WAY COST:					**$292,716**	
Preliminary Project Development (10% Construction Cost, min $300,000)					**$300,000**	
Design Engineering/Administration Cost (15% Construction Cost)					**$35,822**	
Construction Engineering Costs/Administration (15% Construction Cost)					**$35,822**	
Contingency (20% Construction Cost)					**$47,763**	
TOTAL PROJECT COSTS					**$712,124**	

LEGEND

- CENTERLINE
- RIGHT OF WAY TAKE
- RIGHT OF WAY
- RETAINING WALL

MITIGATION:
+ ADD EB DE FACTO RIGHT TURN LANE

SANTA ANA - INTERSECTION 719
FLOWER STREET AND SEGERSTROM AVENUE

Source: Irvine Business Complex, Vision Plan Traffic Fee Nexus Study, 2010

City of Costa Mesa

City of Costa Mesa List of Improvements and Associated Costs

Jurisdiction	Int ID	Intersection / Arterial Location	Improvement Strategy					Fair Share %	Total Cost to IBC Fee
				Construction Subtotal	ROW Subtotal	Contingency Cost*	Total		
Costa Mesa	10	SR-55 Frontage Road SB Ramps at Paularino	Improve Southbound to 1.5 Left, 1.5 Through, 1 Right.	$585,227	$29,260	$592,613	$1,207,101	2.4%	$28,970
								TOTAL	$28,970

*Contingency cost includes:

- Preliminary Project Development Cost (10% Construction Cost, minimum $300,000)
- Design Engineering/Administration Cost (15% Construction Cost)
- Construction Engineering Cost/Administration (15% Construction Cost)
- Contingency (20% Construction Cost)

10 - SR-55 Frontage Road SB Ramps at Paularino

Note: Concepts were not developed for the 2015 IBC Fee Update at this location since it is consistent with 2010 IBC Fee Study

Irvine IBC - Nexus Study

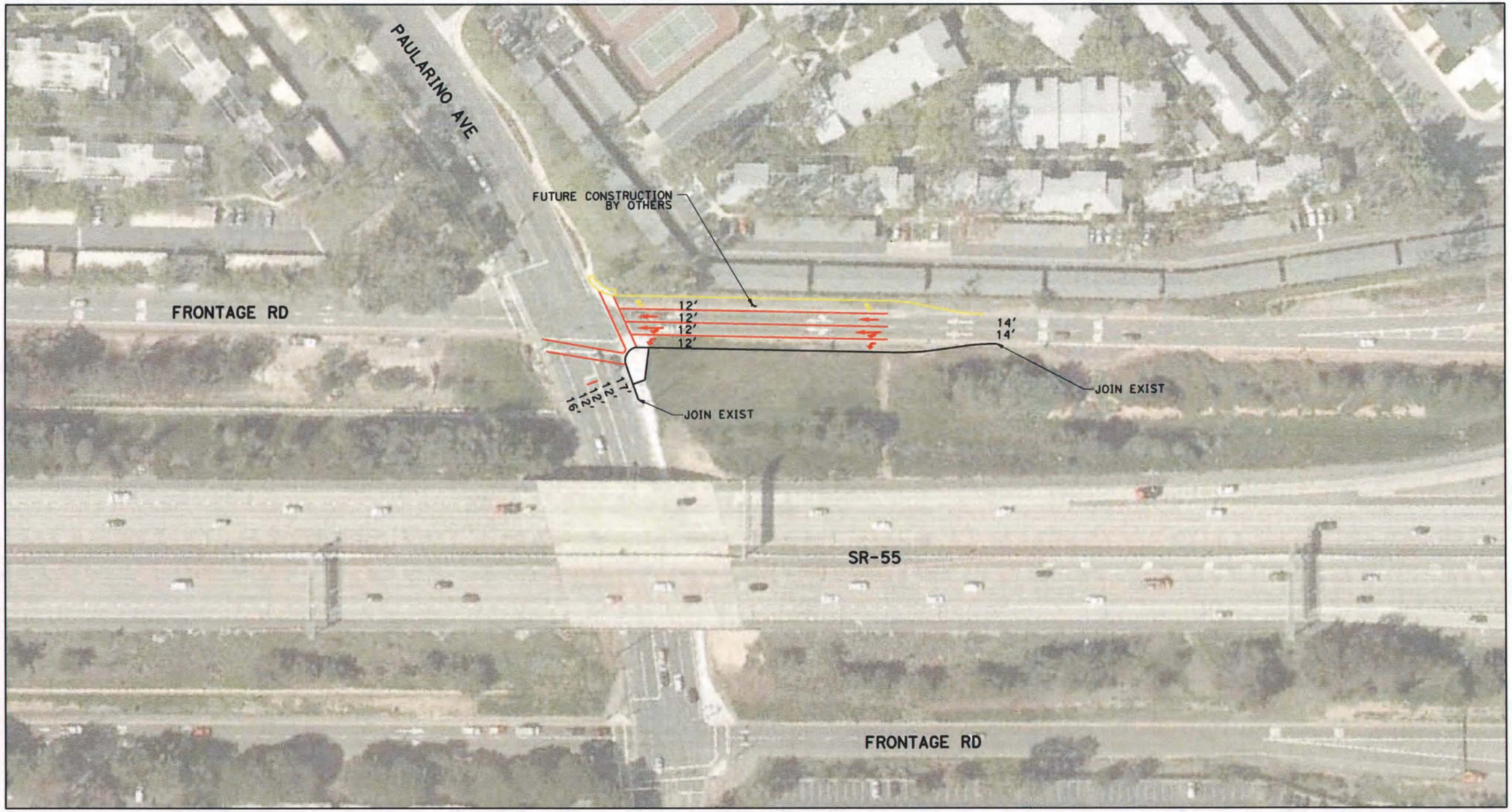
Cost Estimate

Intersection 10
SR-55 Frontage Roads & Palarino
Mitigations: Improve SB to 1.5L, 1.5T, 1R

ITEM #	DESCRIPTION OF WORK	UNIT PRICE	UNIT	QUANTITY	COST	NOTES
	ROADWAY					
1	Clear & Grub	$12,200.00	AC	0.10	**$1,220**	
2	Earthwork	$46.00	CY	620	**$28,520**	
3	Remove Curb & Gutter	$24.00	LF	730	**$17,520**	
4	Remove Median Curb	$30.00	LF	0	**$0**	
5	Remove PCC Sidewalk	$5.00	SF	330	**$1,650**	
6	Remove Pavement	$5.00	SF	1370	**$6,850**	
7	Remove Channel	$40.00	LF	6	**$240**	
8	Remove/Replace Chain Link Fence	$35.00	LF	160	**$5,600**	
9	Remove and Replace Pedestal and Wrought Iron Fence	$75.00	LF	0	**$0**	
10	Remove and Replace Vinyl Fence	$40.00	LF	0	**$0**	
11	Reconstruct Metal Beam Guard Rail	$40.00	LF	0	**$0**	
12	Remove & Replace Tree	$1,500.00	EA	0	**$0**	
13	Modify Driveway	$6,100.00	EA	0	**$0**	
14	Construct PCC Pavement	$14.00	SF	0	**$0**	
15	Construct AC Pavement	$8.00	SF	5580	**$44,640**	
16	Construct AC Overlay	$3.60	SF	0	**$0**	
17	Construct Slurry Seal	$0.40	SF	0	**$0**	
18	Construct AC Dike	$15.00	LF	0	**$0**	
19	Construct Curb & Gutter	$30.00	LF	690	**$20,700**	
20	Construct Concrete Barrier	$80.00	LF	0	**$0**	
21	Construct Median Curb	$31.00	LF	0	**$0**	
22	Construct Median Concrete	$15.00	SF	0	**$0**	
23	Construct Median/Parkway Landscaping	$13.00	SF	0	**$0**	
24	Construct PCC Sidewalk	$9.05	SF	630	**$5,702**	
25	Construct Wheelchair Ramp	$6,000.00	EA	2	**$12,000**	
26	Construct Retaining Wall	$75.00	SF	0	**$0**	
27	Remove Retaining Wall	$35.00	SF	0	**$0**	
28	Relocate Monument Wall	$20,000.00	EA	0	**$0**	
29	Sawcut	$4.00	LF	710	**$2,840**	
	ROADWAY SUBTOTAL				**$147,482**	
	TRAFFIC					
30	Remove Striping	$3.00	LF	0	**$0**	
31	Remove Pavement Markings	$150.00	EA	0	**$0**	
32	Relocate Street Light	$6,200.00	EA	0	**$0**	
33	Modify Traffic Signal	$325,000.00	EA	0.75	**$243,750**	
34	New Traffic Signal	$425,000.00	EA	0	**$0**	
35	Install Striping	$5.00	LF	3080	**$15,400**	
36	Install Pavement Markings	$350.00	EA	0	**$0**	
37	Relocate Freeway Sign (2 post)	$700.00	EA	1	**$700**	
38	Loop Detector	$2,000.00	EA	0	**$0**	
39	Remove Roadside Sign	$150.00	EA	0	**$0**	
40	Relocate Sign (1 post)	$220.00	EA	2	**$440**	
41	Overhead Sign (2 posts)	$240,000.00	EA	0	**$0**	
42	Relocate Bus Bench	$1,458.00	EA	0	**$0**	
43	Relocate Automatic Gate	$10,000.00	EA	0	**$0**	
44	Install Ramp Metering System	$80,000.00	EA	0	**$0**	
45	Install Delineator	$36.60	EA	0	**$0**	
46	Apply ATMS	$113,165.00	LS	0	**$0**	
	TRAFFIC SUBTOTAL				**$260,290**	
	UTILITIES AND DRAINAGE					
47	Relocate Call Box	$2,051.00	EA	0	**$0**	
48	Relocate Power Pole	$25,000.00	EA	1	**$25,000**	
49	Relocate Catch Basin	$9,760.00	EA	1	**$9,760**	
50	Relocate Fire Hydrant	$5,000.00	EA	0	**$0**	
51	Relocate Utility Boxes	$1,000.00	EA	1	**$1,000**	
52	Relocate Main Water Valve	$12,200.00	EA	0	**$0**	
53	Relocate Utility Vault	$10,000.00	EA	1	**$10,000**	
54	Adjust Manhole to Grade	$1,500.00	EA	0	**$0**	
55	Adjust Water Meter	$1,000.00	EA	0	**$0**	
56	Adjust Water Valve	$1,000.00	EA	0	**$0**	
57	Adjust Minor Above Ground Utilities	$1,000.00	EA	0	**$0**	
58	Construct Striping & Marking	$2.00	LF	0	**$0**	
59	Construct Storm Drain Main	$122.00	LF	0	**$0**	
60	Construct RCB	$549.00	CY	0	**$0**	
61	Construct Channel (Earthen)	$12.20	LF	0	**$0**	
62	Construct Concrete V-Ditch	$19.00	LF	7	**$133**	
63	Construct Bridge Widening	$500.00	SF	0	**$0**	
	UTILITIES AND DRAINAGE SUBTOTAL				**$45,893**	
	GENERAL					
64	Mobilization	10%	LS	1	**$45,366**	
65	Traffic Control	8%	LS	1	**$36,293**	
66	Utility Relocations	5%	LS	1	**$22,683**	
67	SWPPP Plan and Implementation	6%	LS	1	**$27,220**	
	CONSTRUCTION SUBTOTAL				**$585,227**	
	RIGHT-OF-WAY					
68	Right-Of-Way	$70.00	SF	380	**$26,600**	
69	Parking Impacts	$20,000.00	EA	0	**$0**	
70	Temporary Construction Easements	$6.50	SF	0	**$0**	
71	Right-of-Way Management	10%	LS	1	**$2,660**	
	RIGHT-OF-WAY SUBTOTAL				**$29,260**	
TOTAL CONSTRUCTION & RIGHT-OF-WAY COST:					**$614,487**	
Preliminary Project Development (10% Construction Cost, min $300,000)					**$300,000**	
Design Engineering/Administration Cost (15% Construction Cost)					**$87,784**	
Construction Engineering Costs/Administration (15% Construction Cost)					**$87,784**	
Contingency (20% Construction Cost)					**$117,045**	
TOTAL PROJECT COSTS					**$1,207,101**	

LEGEND

- CENTERLINE
- RIGHT OF WAY TAKE
- RIGHT OF WAY
- RETAINING WALL



MITIGATIONS:
+ ADD SB LEFT TURN LANE
+ RESTRIPE LEFT SB THROUGH LANE TO SHARED THROUGH-LEFT

COSTA MESA - INTERSECTION 10
SR-55 SB FRONTAGE ROAD AND PAULARINO AVENUE

Source: Irvine Business Complex, Vision Plan Traffic Fee Nexus Study, 2010

Appendix E: 1993 Agreement between City of Irvine and City of Costa Mesa

OFFICIAL COPY
CITY CLERKS OFFICE
CITY OF IRVINE

AGREEMENT

This Agreement for IMPLEMENTING THE IBC ROADWAY MITIGATION AND MONITORING PROGRAM ("Agreement") is made and entered into as of this 4th day of January, 1993 (the "Effective Date"), by and between the City of Irvine, a California charter city ("Irvine") and the City of Costa Mesa, a California municipal corporation ("Costa Mesa") (collectively referred to as the "Parties").

R E C I T A L S

A. Irvine has certified Environmental Impact Report 88-ER-0087 (the "IBC EIR"), as adequate and complete and adopted General Plan Amendment No. 7234-GA, and Zoning Amendment 88-ZC-0135 (collectively the "IBC Rezoning") to amend the land use designation and zoning in that portion of the City known as the Irvine Business Complex (the "IBC"), more specifically defined as that area depicted on Exhibit "A," attached hereto and incorporated herein by this referenced.

B. The IBC EIR analyzes the IBC Rezoning and concludes that the traffic mitigation measures contained therein (the "IBC Traffic Mitigation Measures") will adequately accommodate the traffic impacts which are anticipated to be generated by the IBC Rezoning.

C. The Parties hereto wish to monitor the traffic generated as a result of the IBC Rezoning to allow them to make timely decisions on the funding and implementation of the IBC Traffic Mitigation Measures.

C O V E N A N T S:

NOW, THEREFORE, in consideration of the mutual promises and covenants contained herein, the Parties hereto agree as follows:

1. Mitigation Monitoring Program.

Irvine shall monitor the implementation of the IBC Traffic Mitigation Measures in the manner provided for in the mitigation monitoring program adopted by Irvine pursuant to City Council Resolution No. 92-162 (the "Mitigation Monitoring Program").

2. Implementation of the Development Deferral Program.

Irvine shall implement the development deferral program contained within in Appendix "B" of the IBC EIR (the "DDP") in either situation provided below:

(a) Irvine shall implement the DDP if the Mitigation Monitoring Program discloses that traffic generated by the IBC Rezoning has caused any arterial within Costa Mesa to exceed that arterial's applicable level of service ("LOS"). For the purpose of this Agreement an arterial's applicable LOS shall be that minimum LOS adopted for that arterial in the Circulation Element of the Costa Mesa General Plan as of the Effective Date. The DDP will remain in effect until such time as Irvine has devised and funded a mitigation measure which will reduce the IBC generated traffic on the arterial to the arterial's applicable LOS; or

(b) Irvine shall implement the DDP if, within three years prior to the scheduled

implementation of any IBC Traffic Mitigation Measure within Costa Mesa, Irvine determines that it will not have sufficient funds to actually construct that mitigation measure. The DDP will remain in effect until Irvine determines that it can fund the previously approved mitigation measure, or it devises a substitute mitigation measure acceptable to Costa Mesa and determines that the substitute mitigation measure can be funded.

3. Additional Mitigation.

In the event that the Mitigation Monitoring Program discloses that traffic generated as a result of the IBC Rezoning is having significant impact within Costa Mesa in excess of the traffic impacts discussed in the IBC EIR, Irvine and Costa Mesa shall meet and confer on the appropriate method to mitigate that significant impact (the "Supplemental Mitigation Measure(s)"). Irvine shall contribute its proportionate fair share of the cost of implementing the Supplemental Mitigation Measure(s). Irvine's proportionate fair share of the cost of the Supplemental Mitigation Measure(s) shall be based upon that percentage of IBC generated traffic which is actually attributable to the need for implementation of the Supplemental Mitigation Measure(s).

4. Analysis of Traffic Study Assumptions.

The City of Irvine will, at its own cost, hire a consultant to independently:

a. Conduct a traffic analysis of IBC EIR traffic assumptions after the completion of construction following issuance of building permits for 46 million gross square feet (approximately 40 million gross square feet existing today).

b. More specifically, all EIR traffic assumptions affecting the City of Costa Mesa will be analyzed which may include factors such as trip rates, TDM rates, and occupancy.

5. Covenant Not to Sue.

Each Party, and its respective agents, officers, employees, representatives, and assigns hereby agrees and covenants that this Agreement forever satisfies any past, present, or future claims which the Party, and its agents, officers, employees, representatives or assigns had, has or may have against the other Party or its agents, officers, employees, representatives, and assigns arising out of the IBC Rezoning and/or the preparation and certification of the IBC EIR. As a result, each Party hereto covenants not to file any future legal actions of whatever kind or nature against the other party regarding any claim in connection with the IBC Rezoning or the IBC EIR whether such claim is known or unknown, suspected or unsuspected, fixed or contingent.

6. Waiver of Civil Code Section 1542.

Each of the Parties hereto expressly waives any and all rights under Section 1542 of the California Civil Code or any Federal or State statutory right, rules or principles of common law

or equity or those of any other jurisdiction, government or political subdivision thereof, similar to Civil Code Section 1542 (hereinafter referred to "Similar Provision"). Thus, no Party hereto may invoke the benefit of Section 1542 or any Similar Provision in order to prosecute or assert in any manner any claim released hereunder. Section 1542 provides that:

> "a general release does not extend to claims which the creditor does not know or suspect to exist in his favor at the time of executing the release, which if known by him must have materially effected his settlement with the debtor."

7. Integration.

This Agreement represents the entire understanding of the Parties hereto. No prior or contemporaneous oral or written understanding shall be of any force or effect with respect to those matters covered in this Agreement. Except as set forth in Sections 2(e) and 3(a) above, this Agreement may not be altered, amended, or modified except by mutual consent of the Parties hereto through a written instrument.

8. Attorneys Fees.

In the event that any Party hereto should bring any action, suit or other proceeding to remedy, prevent, or obtain relief from a breach of this Agreement or arising out of a breach of this Agreement, or contesting the validity of this Agreement or attempting to rescind, negate, modify, or reform this Agreement or any of the terms or provisions of this Agreement, the prevailing Party shall recover from such Party those reasonable attorneys fees and costs, including expert fees, incurred in each and every such

action, suit, or other proceeding, including any and all appeals or petitions therefrom.

9. California Law.

This Agreement shall be construed and interpreted both as to validity and performance of the Parties in accordance with the laws of the State of California.

10. Execution and Counterparts.

This agreement may be executed and delivered in any number of counterparts or copies ("Counterpart") by the Parties hereto.

11. Authority to Execute.

The persons executing this Agreement on behalf of the Parties hereto warrant that they are duly authorized to execute this Agreement on behalf of said Parties and that by so executing this Agreement, the Parties hereto are formally bound to the provisions of this Agreement. Each person further acknowledges that he or she has obtained all necessary and legally required approvals for entry into this Agreement from legislative or governing boards and that it has adopted a resolution, motion, ordinance or other action pursuant to State law and its own bylaws or ordinances for approval of this Agreement.

12. Notices.

Every notice, demand, request, or other document or instrument delivered pursuant to this Agreement shall be in writing and shall either be personally delivered, sent by Federal Express or other reputable over-night courier, sent by facsimile transmission with the original subsequently delivered by any other

means authorized herein, or sent by certified United States mail, postage prepaid, return receipt requested, to the address set forth below for the applicable Party, or such other address as Parties may designate from time to time:

To Irvine: City of Irvine
City Hall
One Civic Center Plaza
P.O. Box 19575
Irvine, CA 92713
Attn: City Manager
cc: Director of Community Development
Telephone: (714) 724-6000
Fax: (714) 724-6075

To Costa Mesa: City of Costa Mesa
77 Fair Drive
P.O. Box 1200
Costa Mesa, CA 92626
Attn: City Manager
cc: Executive Director of Planning and Building
Telephone: (714) 754-5327
Fax: (714)

13. Severability clause.

The invalidity in whole or in part of any provision of this Agreement shall not void or affect the validity of any other provision of this Agreement.

IN WITNESS WHEREOF, the Parties have executed this Agreement by their signature as appearing below.

CITY OF COSTA MESA

by _____
Mayor

ATTEST:

Eileen P. Phinney
Clerk of the Council

APPROVED AS TO FORM:

Thomas Kathe 12-18-92

City Attorney

CITY OF IRVINE

ATTEST:

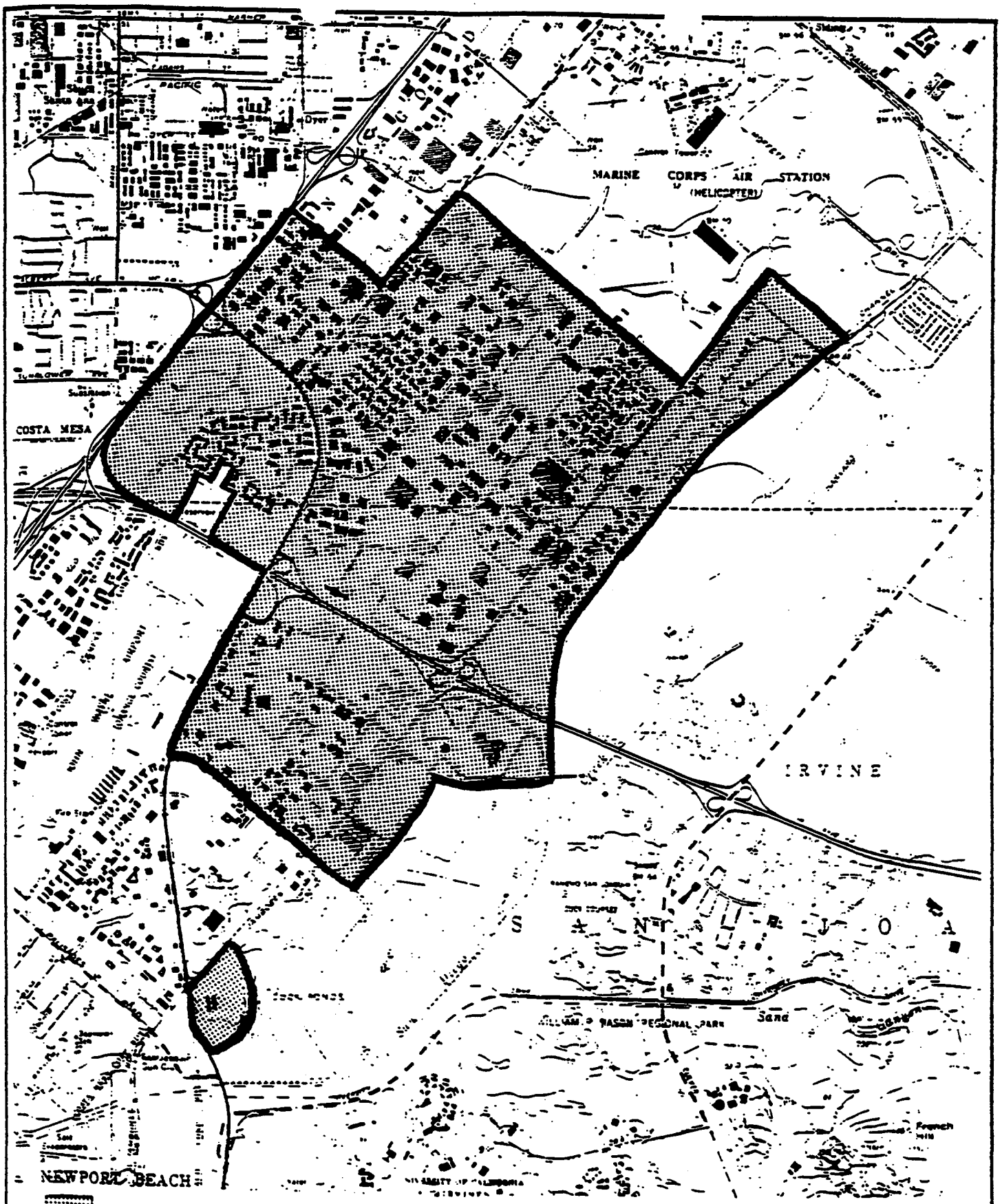
by Sally Anne Sherman

Mayor

Clerk of the Council

APPROVED AS TO FORM:

City Attorney



Source: U.S.G.S. Topographic Map
Tustin Quadrangle, Revised 1981

0 3000'

ATTACHMENT A

IRVINE BUSINESS COMPLEX
Site Vicinity Map

Robert Bein, William Frost & Associates

Appendix F: 2010 Settlement Agreement between City of Irvine and Caltrans District 12

TMA No. D-12-2010-01

TRAFFIC MITIGATION AGREEMENT

THIS AGREEMENT entered into and shall be effective on this 25th day of January, 2011 by and between the State of California, acting by and through its Department of Transportation, hereinafter referred to as "Department," and the City of Irvine, hereinafter referred to as "Agency." The Department and Agency are collectively referred to as the "Parties."

RECITALS

A. WHEREAS, on July 13, 2010 Agency certified the Final Environmental Impact Report (FEIR) for certain General Plan Amendments and Zone Change that are collectively known as the Irvine Business Complex (IBC) Vision Plan. That same evening, the Agency approved the General Plan Amendment for the IBC Vision Plan, and conducted the first reading for the Zone Change for the IBC Vision Plan. On July 27, 2010, the Agency conducted the second reading for the Zone Change for the IBC Vision Plan. The IBC Vision Plan is hereinafter referred to as the "Proposed Land Use Project." The Proposed Land Use Project 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 Proposed Land Use Project is bordered by the cities of Newport Beach, Santa Ana, Costa Mesa and Tustin. The Proposed Land Use Project allow for and/or contemplates (i) an increase in total units in the IBC from 9,401 units to 15,000 units, and (ii) a reduction of 2,715,062 square feet of nonresidential development (measured in office equivalency). In addition, a total of 2,038 density bonus units could be allowed (and are therefore assumed as part of the project) in accordance with state law, for a total of 17,038 units; and

B. WHEREAS, Mitigation Measure 13-4 of the FEIR ("MM 13-4") requires that an agreement between Parties be executed to address fair-share funding responsibilities for certain improvements within the jurisdiction and control of Department that will ultimately offset impacts to the State Highway System (SHS) as a result of the Proposed Land Use Project; and

C. WHEREAS, as set forth in the letters dated October 21, 2009 (Exhibit A) and November 12, 2009 (Exhibit B), each attached hereto and incorporated herein by reference, the Parties agree on the methodology used to (i) identify impacts to the SHS as a result of the Proposed Land Use Project and (ii) establish Agency's pro-rata share of funding responsibilities to offset and mitigate for impacts to the SHS as a result of the Proposed Land Use Project; and

D. WHEREAS, a Traffic Impact Study (TIS) identifies various impacts to the SHS as a result of the Proposed Land Use Project. The SHS facilities that the TIS identifies as being impacted by the Proposed Land Use Project are listed below. Each listed facility shall be referred to as an "Individual SHS Project". Each Individual SHS Project displays Agency's corresponding pro-rata funding percentage of the mitigation responsibility, based on the methodology described in Exhibit A and Exhibit B:

- Northbound Interstate (I)-5 mainline: Jamboree to Newport (1.8% fair-share)
- Northbound I-5 mainline: Newport to State Route (SR)-55 (1.7% fair-share)
- Southbound I-5 mainline: Jamboree to Tustin Ranch (2.3% fair-share)
- Southbound I-5 mainline: Tustin Ranch to Red Hill (2.3% fair-share)
- Southbound I-5 connector: SR-55 to southbound I-5 (2.3% fair-share)
- Northbound I-405 mainline: Jamboree to MacArthur (2.2% fair-share)
- Northbound I-405 off-ramp: Culver (1.8% fair-share)
- Northbound I-405 off-ramp: MacArthur (7.3% fair-share)
- Northbound I-405 on-ramp: MacArthur (3.8% fair-share)
- Southbound 1-405 mainline: Jamboree to MacArthur (2.9% fair-share)
- Southbound 1-405 off-ramp: Jamboree (21.6% fair-share)
- Southbound I-405 on-ramp loop: Bristol (7.5% fair-share)
- Southbound I-405 connector: I-405 to southbound SR-55 (3.3% fair-share)
- Northbound SR-55 mainline: 1-405 to MacArthur (3.3% fair-share)
- Northbound SR-55 mainline: MacArthur to Dyer (3.0% fair-share)
- Northbound SR-55 mainline: Dyer to Edinger (2.7% fair-share)
- Northbound SR-55 off-ramp: Baker (1.1% fair-share)
- Northbound SR-55 direct on-ramp: Dyer (3.6% fair-share)
- Southbound SR-55 mainline: I-405 to MacArthur (4.8% fair-share)
- Southbound SR-55 mainline: MacArthur to Dyer (4.1% fair-share)
- Southbound SR-55 on-ramp: Baker (3.1% fair-share)
- Southbound SR-55 loop on-ramp: MacArthur (8.0% fair-share)
- Northbound SR-73 on-ramp: Campus (6.1% fair-share)
- Southbound SR-73 off-ramp: Jamboree (4.0% fair-share); and

E. WHEREAS, the Parties have agreed upon a feasible improvement at each Individual SHS Project location that provides adequate mitigation of the associated Proposed Land Use Project impacts; and

F. WHEREAS, the Parties have agreed that Agency's total funding commitment to offset the Proposed Land use Project impacts on SHS facilities will not exceed the amount of $7,025,962 (Total Fair-Share Contribution), as more partieularly set forth in Exhibit C attaehed hereto; and

G. WHEREAS, Agency intends to adopt a fee program imposed on future development within the IBC ("IBC Transportation Fee Program" or "Program") that, among other things, will collect the Total Fair Share Contribution; and

H. WHEREAS, the Total Fair Share Contribution constitutes a percentage of the total amount forecasted to be collected through the IBC Transportation Fee Program; and

I. WHEREAS, Agency will segregate, and devote solely to the payment of the Total Fair Share Contribution in accordance with this Agreement, a percentage of the incoming Program funds equivalent to the ratio of the Total Fair Share Contribution to the remainder of the Program funds ($7,025,962 / Total Fee Program Amount at Time of Segregation) of every dollar collected through the IBC Transportation Fee Program (the "Segregated Amount"). This ratio will be adjusted as funds are expended from either the Segregated Amount and/or the remainder of the Program funds; and

J. WHEREAS, the Parties have agreed that Agency will not contribute any funding towards improvement of the Individual SHS Project identified as Northbound 1-405 off-ramp at Culver because the Agency will mitigate this location as an intersection impact identified in the FEIR and TIS; and

K. WHEREAS, Agency now desires to fulfill the requirements of MM 13-4.

NOW THEREFORE, for good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, the Parties hereby agree as follows:

AGREEMENT

1. Parties agree that Agency's total fair share contributions toward Individual SHS Projects shall not exceed the Total Fair-Share Contribution amount. For so long as Agency's cumulative contributions toward the Individual SHS Projects remains below Agency's Total Fair-Share Contribution amount, Agency shall be required to pay its fair share contribution, up to the then existing total of the Segregated Amount, to each Individual SHS Project.

2. Subject to the conditions and limitations on the amount and timing of funding set forth in this Agreement, the Parties agree to execute a separate Contribution Cooperative Agreement authorizing the transfer of funds for each and every Individual SHS Project at least 180 days prior to scheduled date of commencement of construction. So long as the Contribution Cooperative Agreement(s) is(are) fully consistent with the terms of this Agreement, Agency authorizes the City Manager to execute Contribution Cooperative Agreement(s) on behalf of Agency.

3. Parties agree to inelude the following general conditions when developing each Contribution Cooperative Agreement: (i) provide Agency with 60 ealendar days to pay invoiee, once it has been received, (ii) each invoice from Department will bill in the form of a lump sum, (iii) if, at the time the Contribution Cooperative Agreement is being prepared, the Segregated Amount held by Agency is less than the anticipated fair share eontribution for an Individual SHS Project, the Contribution Cooperative Agreement will consider alternative billing arrangements such that Agency may remit to Department additional Segregated Amounts within a reasonable time as additional fees under the IBC Transportation Fee Program are paid to the Agency, and (iv) if, following Agency's payment of a fair share contribution toward an Individual SHS Project, Department's plans for eonstruction of said Individual SHS Project are terminated or delayed for a period exceeding one year, Department shall refund Agency's fair share contribution toward said individual SHS Project; provided however, that said refund shall be without prejudice to Department's ability to re-invoice Agency for a fair share eontribution to said Individual SHS Project if and when construetion plans for said project are re-activated.

4. If Agency's fair share contribution to an Individual SHS Project would cause Agency's cumulative contributions under this Agreement to exceed the Total Fair Share Contribution amount, then Agency shall only be responsible to pay such amount as would result in the cumulative contributions under this Agreement equaling the Total Fair Share Contribution amount.

5. If, by December 31, 2040, the Department fails to utilize any portion of Agency's Total Fair-Share Contribution, those remaining funds shall be released from the commitments of this Agreement.

6. Agency's Total Fair-Share Contribution shall fully satisfy Agency's obligation to participate in the mitigation of traffic impacts per MM 13-4 of the FEIR. Agency will not be required to fund any additional improvements that may arise from the Proposed Land Use Project.

7. Department shall use the Total Fair-Share Contribution, and each and every portion thereof, for the purpose of mitigating impacts to the SHS as a result of the Proposed Land Use Project. Department may allocate a portion of funds towards improvements that have not yet been identified, but would provide equal or greater mitigation value than one or more of the Individual SHS Project(s), identified in Exhibit C of this Agreement, to offset the Proposed Land Use Project impacts.

8. Department shall advertise, award and administer (AAA) the eonstruction contract for eaeh and every projeet that utilizes Total Fair-Share Contribution funds.

9. Department shall not use Total Fair-Share Contribution funds for projeets off the SHS, unless a eooperative agreement ("Cooperative Agreement") is first developed and exeeuted by the Parties that (i) elearly demonstrates a nexus, (ii) transfers AAA responsibilities, (iii) addresses maintenanee responsibilities, and (iv) provides all

necessary and standard language including indemnification, document retention, wage requirements, and other associated commitments.

10. This Agreement shall expire upon the earliest of the following occurrences: (i) when Department has expended the entire Total Fair-Share Contribution; (ii) when all nnspent Total Fair-Share Contribution funds are returned to Agency; or (iii) on December 31, 2040.

11. All notices, transmittals of doeumentation and other writings required or permitted to be delivered or transmitted to either of the Parties under this Agreement shall be personally served or deposited in a United States mail depository, first class postage prepaid, and addressed as follows:

If to the Agency:	City of Irvine One Civic Center Plaza P.O. Box 19575 Irvine, CA 92623 Attention: City Manager
If to the Department:	California Department of Transportation District 12 3347 Michelson Drive, Suite 100 Irvine, CA 92612 Attention: Deputy District Director, Transportation Planning and Local Assistance

All such notices and communications shall be deemed to have been duly given when delivered by hand, if personally delivered. Except where service is by registered or certified mail, return reeeipt requested, service of any instrument or writing shall be deemed completed forty-eight (48) hours after deposit in the United States mail depository.

12. Nothing expressed or mentioned in this Agreement is intended or shall be construed to give any person, other than the Parties hereto and their respective authorized successors and assigns, any legal or equitable right, remedy or claim under or in respect to this Agreement or any of the provisions contained herein. This Agreement and each and every eondition and provision hereof are intended to be for the sole and exclusive benefit of the Agency and the Department, and their respective authorized successors and assigns, and for the benefit of no other person or entity.

13. This Agreement shall be governed by and construed in accordance with the laws of the State of California, and any dispute arising from or related to the interpretation or performance of this agreement shall be commenced in the Superior Court of the State of California, County of Orange.

14. No failure on the part of either Party hereto to insist upon or demand the strict performance by the other Party of any covenant, term, condition or promise of this Agreement, or to exercise any right or remedy as a result of any breach of the Agreement, shall constitute a continuing waiver of any such breach or of any such covenant, term, condition, promise, right or remedy. No waiver of any breach shall in any way affect, alter or modify this Agreement, but each and every covenant, term, condition and promise of this Agreement shall continue in full force and effect. No single or partial exercise of any right, remedy, power or privilege under this Agreement shall preclude any other or further exercise thereof or the exercise of any other right, remedy, power or privilege under this Agreement.

15. Nothing in this Agreement shall be construed to make the Parties joint ventures or partners, or to create any relationship of principal and agent, and the Parties specifically disavow any such relationship between one another.

16. This Agreement has been negotiated at arms' length between persons sophisticated and knowledgeable in the matters addressed herein, and both Parties have had the opportunity to consult with legal counsel of such party's choosing regarding this Agreement. Accordingly, any rule of law (including California Civil Code § 1654) or legal decision that would require interpretation of this Agreement against the drafter hereof is not applicable and is waived.

17. This Agreement is intended by the Parties as a final expression of their agreement and is intended to be a complete and exclusive statement of the agreement and understanding of the Parties hereto in respect to the subject matter contained herein. There are no restrictions, promises, warranties or undertakings relating to the subject matter of this Agreement, other than those set forth or referred to in this Agreement.

18. Each officer of the Department and the Agency affixing his or her signature below thereby warrants and represents that he or she has the full legal authority to bind his or her respective party to all of the terms, conditions and provisions of this Agreement; that his or her respective party has the full legal right, power, capacity and authority to enter into this Agreement and perform all the obligations herein; and that no other approvals or consents are necessary in connection therewith.

19. Neither this Agreement nor any provision hereof may be changed, waived, discharged or terminated, except upon the duly authorized execution of a subsequent agreement in writing executed by all of the Parties.

20. Neither Agency nor any officer or employee thereof is responsible for any injury, damage, or liability occurring hy reason of anything done or omitted to be done by Department and/or its agents under or in counection with any work, authority, or jurisdiction conferred upon Department under this Agreement. Department and/or its agents shall fully defend, indemnify and save harmless Agency and all of its officers and employees from all claims, suits, or actions or every name, kind and description brought forth under, but not limited to, tortious, eontraetual, inverse eondemnation, or

other theories or assertions of liability occurring by reason of anything done or omitted to be done by Department and/or its agents under this Agreement.

21. Neither Department nor any officer or employee thereof is responsible for any injury, damage, or liability occurring by reason of anything done or omitted to be done by Agency and/or its agents under or in connection with any work, authority, or jurisdiction conferred upon Agency under this Agreement. Agency and/or its agents shall defend, indemnify and save harmless Department and all of its officers and employees from all claims, suits, or actions or every name, kind and description brought forth under, but not limited to, tortious, contractual, inverse condemnation, or other theories or assertions of liability occurring by reason of anything done or omitted to be done by Agency and/or its agents under this Agreement.

IN WITNESS WHEREOF, the Parties hereto have executed this Agreement as set forth below.

CALIFORNIA DEPARTMENT OF TRANSPORTATION

By:_____
Cindy Quon
Director, District 12

CITY OF IRVINE

By:_____
Sukhee Kang
Mayor

APPROVED AS TO FORM AND PROCEDURE:

By:_____
Deputy Attorney,
Department of Transportation

ATTEST:

By:_____
City Clerk

APPROVED AS TO FINANCIAL TERMS AND POLICIES:

By:_____
Headquarters Accounting Administrator,

APPROVED AS TO FORM:

By:_____
City Attorney

Exhibit A

(October 21, 2009 letter)

Public Works Department

City of Irvine, [illegible] Center Plaza, P.O. Box 19575, Irvine, California [illegible] (949) 724-6000

October 21, 2009

Ryan Chamberlain
Caltrans District 12
3337 Michelson Drive Suite 380
Irvine, CA 92612-8894

Dear Mr. Chamberlain:

This letter is to follow up on our recent follow up discussions regarding the proposed methodology used for analyzing the traffic impacts of the proposed project in the IBC Vision Plan ("Project") on the Caltrans facilities in the project study area. Based on our discussion and follow up phone call, the city is proposing to use the following two-tiered approach, revised traffic analysis methodology and the indicated fair share formula instead of previously indicated methodology documented in our October 15, 2009 letter:

1. Evaluate freeway mainline segments and ramps based on peak hour V/C ratios. If the V/C ratio indicates LOS F for a given freeway mainline segment or ramp, then the Highway Capacity Manual (HCM) methodology indicated below as the second step of this two tiered approach is not needed for that freeway mainline segment or ramp.

2. Apply the HCM methodology to determine the LOS. This second step will only be taken for a freeway mainline segment if the V/C ratio analysis indicates that the mainline segment operates at LOS D/E cusp (0.89) and if the Project contributes greater than 200 vehicle trips per hour (based on the comparison of no-project and with-project V/C ratios) to a freeway mainline segment. This second step will only be taken for a ramp if the V/C ratio analysis indicates that the ramp operates at LOS D/E cusp (0.89) and the Project contributes greater than 30 vehicle trips per hour to a ramp.

<u>Traffic Analysis Methodology</u>

Level of Service (LOS) Targets:

Freeway Mainline Segments: A significant impact occurs when:

a. The segment LOS is better than D/E cusp (<0.89) without the project and the project adds additional trips that degrades the segment beyond the LOS D/E

cusp and the project contributes more than 200 vehicles per hour once beyond the D/E cusp, or

b. The segment is at LOS D/E cusp or worse (>=0.89) before project and the project contributes greater than 200 vehicle trips per hour.

Off-Ramps and On-Ramps: A significant impact occurs when:

a. The ramp LOS is better than D/E cusp (<0.89) without the project and the project adds additional trips that degrades the segment beyond the LOS D/E cusp and the project contributes more than 30 vehicles per hour once beyond the D/E cusp, or

b. The ramp is at LOS D/E cusp or worse (>=0.89) without the project and the project contributes greater than 30 vehicle trips per hour.

Ramp Intersections:

- Both the Intersection Capacity Utilization (ICU) analysis methodology and the HCM intersection analysis methodology will be applied to determine intersection levels of service. The performance criteria at the ramp intersections will be based on the performance criteria of the City in which the intersection is located. A significant impact occurs when a given ramp intersection is at an unacceptable LOS (based on either the ICU or HCM analysis results) and the project contribution exceeds impact threshold applied by the City in which the intersection is located, based on the comparison of no-project and with-project ICU values.

Equitable Share Responsibility

Consistent with recently approved traffic studies for General Plan Amendment and Zone Changes relating to Planning Areas 1, 5B, 6, 8, 9, 18, 33, 34, 39 and 40, and Orange County Great Park, the City will conduct the equitable share responsibility toward feasible improvements for freeway segments and ramps based on the following formula:

$$\text{Equitable Share Responsibility} = \frac{\text{Future with Project} - \text{Future No Project}}{\text{Future with Project}}$$

The additional trips added that bring any segment to the D/E cusp would not need to be considered when calculating fair share responsibility toward feasible improvements. Only those additional trips added once beyond the D/E cusp would be used for the equitable share calculations.

Upon the completion of our traffic analysis, we will work closely with your staff to identify feasible improvements for the impacted facilities. We appreciate your time in

working closely with us on the proposed methodologies. Please feel free to contact me at (949) 724-7526 if you have any questions regarding this letter.

Sincerely,

Shohreh Dupuis
Manager of Transit and Transportation

cc: Christopher Herre, Caltrans District 12
James Pinheiro, Caltrans District 12
Jose Hernandez, Caltrans District 12
Charlie Larwood, OCTA

Exhibit B

(November 12, 2009 letter)

DEPARTMENT OF TRANSPORTATION
District 12
3337 Michelson Drive, Suite 380
Irvine, CA 92612-8894
Tel: (949) 724-2267
Fax: (949) 724-2592

Flex your power!
Be energy efficient!

November 12, 2009

Shohrch Dupuis
City of Irvine
Public Works Department
One Civic Center Plaza
Irvine, California 92623

File: IGR/CEQA
SCH #: 2007011024
Log #: 1817Q
I-405, I-5, SR-55,
SR-73, SR-261

Snbject: Irvine Busiuess Complex Vision Plan and Mixed Use Overlay Zoning Code

Dear Ms. Dupuis:

Thank you for providing us with the updated information on the two-tier approach and significance threshold for the Traffic Impact Study and the methodology for fair share calculation for the subject project.

The Dcpartment of Transportation (Department), District I2 is offering the following comments:

1. The Department agrees with the two tier traffic analysis approach provided the following assumptions are correct.

   A. Freeway mainline segments and ramps will be evaluated using ICU methodology to calculate peak hour V/C ratios. If the V/C indicates LOS F for a given freeway mainline segment or ramp, HCM methodology would not need to be applied to that freeway mainline segment or ramp.

   B. HCM analysis would be performed when:
      a. A mainline segment operates at LOS D/E cusp (0.89) or worse, but better than LOS E/F cusp (1.00), and the project contributcs greater than 200 vehicles per hour (based on thc comparison of no-project and with projcct V/C ratios) to that mainline segment; or
      b. A ramp operates at LOS D/E cusp (0.89) or worse, but better than LOS E/F cusp (1.00), and thc project contributes greatcr than 30 vehicles per hour (based on the comparison of no-project and with project V/C ratios) to that ramp.

<u>On LOS Targcts:</u>

2. The Departments agrees with that freeway mainline segments, ramps, and ramp intersections thresholds outlined in your October 21, 2009 letter. Should a significant impact occur to any State-owned facilities, measures to reduce impacts should be included in the CEQA analysis. We encourage the City to meet with our Local Developmcnt/Intergovernmental branch to discuss potential mitigation measure that could be used for this project.

On Equitable Share Responsibility

3. The Department concurs that the formula provided in your letter dated October 21, 2009 should be used to calculate fair share contributions for this project. The additional trips added that bring any segment to the D/E cusp would not need to be considered when calculating fair share responsibility toward feasible improvements. Only those additional trips added once beyond the D/E cusp would be used for the equitable share calculations.

Thank you again for the information provided and we look forward to continuing working with the City to finalize the traffic analysis, potential fair share calculation and feasible improvements identification. If you have any questions or need to contact us, please do not hesitate to call me at (949) 724-2899.

Sincerely,

RYAN CHAMBERLAIN
Deputy District Director, Planning

cc: James Pinheiro, Deputy District Director – Maintenance/Operations
Chris Herre, Branch Chief, Local Development/Intergovernmental Review

Exhibit C

(Improvement Funds)

Potential Projects to Mitigate IBC Vision Plan's Traffic Impacts to State Facilities

Impacts					Potential Mitigation Projects						
Route	Direction	Facility Type	Location	P2030 Project Fair Share	Description	Location	Agency	Notes	Cost Estimate	City Fairshare	City Comment
I-5	NB	Mainline	Jamboree to Newport	1.8%	Add 1 GP lane between Jamboree and Newport Blvd	Jamboree to Newport Blvd		Project would mitigate impacts at Jamboree to Tustin Ranch, Tustin Ranch to Redhill, and Redhill to Newport. Percentage represents the average of 1.8%, 1.9% and 1.8% for those 3 segments respectively (M2 project)	$20,400,000	$374,000	
			Newport to SR-55	1.7%	Widen connector to two lanes; An additionel GP lane on SR-55 to 17th St.	NB I-5 to NB SR-55 connector	OCTA SR-55 feasibility study		$7,200,000	$122,400	
	SB	Mainline	Jamboree to Tustin Ranch	2.3%	Add a second aux lane	Tustin Ranch - Jamboree		Caltrans PSR, also including widening SB I-5 off-ramp at Jamboree	$2,924,000	$67,252	
			Tustin Ranch to Red Hill	2.3%	Add 1GP lane between Tustin and Jamboree	Tustin Ranch - Jamboree		M2 project	$6,720,000	$154,560	
		Fwy Connector		2.3%	Fwy-to-Fwy connector ramp metering	SB SR-55 to SB I-5 connector			$850,000	$19,550	
I-405	NB	Mainline	Jamboree to MacArthur	2.2%	Add a second aux lane	Jamboree to MacArthur			$9,000,000	$198,000	
		Off-ramp	Culver off-ramp	1.8%	Add aux lane from Jeffrey to Culver, provide 2 lane exit and an additional right-turn lane at intersection				$15,900,000	$0	No City fair-share contribution towards aux lane project from Jeffrey to Culver. However, City is committed to implementing intersection improvements at a cost of $359,000.
			MacArthur off-ramp	7.3%	Add a second exit ramp	MacArthur off-ramp			$1,250,000	$91,250	
		On-ramp	MacArthur on-ramp	3.8%	Widen ramps to 4 lanes at entrance that merge to 3 lane at ramp meter	MacArthur on-ramp			$2,250,000	$85,500	
	SB	Mainline	Jamboree to MacArthur	2.9%	Add 2nd aux lane from MacArthur to Jamboree	Jamobree to MacArthur			$9,000,000	$261,000	
		Off-ramp	Jamboree off-ramp	21.8%	Widen intersection to provide 2 left turn and 3 right turn lanes with 500 ft storage	Jamboree off-ramp			$1,500,000	$324,000	
		On-ramp	Bristol Loop on-ramp	7.5%	Extend left lane to ramp mater and upgrade ramp metering signal hardware	Bristol loop on-ramp			$2,100,000	$157,500	
		Fwy Connector		3.3%	Fwy-to-Fwy connector ramp metering	SB I-405 to NB SR-55 conncetor			$850,000	$28,050	
SR-55	NB	Mainline	I-405 to MacArthur	3.3%	Add one GP lane and one Aux lane	I-405 to MacArthur		M2 project	$23,863,636	$787,500	
			MacArthur to Dyer	3.0%	Add one GP lane and one Aux lane	MacArthur to Dyer		M2 project	$21,477,273	$644,318	
			Dyer to Edinger	2.7%	Add one GP lane and one Aux lane	Dyer loop on-ramp to Edinger		M2 project	$38,181,818	$1,030,909	
		Off-ramp	Baker St off-ramp	1.1%	Add a right turn lane at intersection	Baker St. Off-ramp			$500,000	$5,500	
		On-ramp	Dyer Rd Direct on-ramp	3.6%	Increase storage capacity at on-ramps	Dyer Rd Direct On-ramp			$1,300,000	$46,800	
	SB	Mainline	I-405 to MacArthur	4.8%	Add ons GP lane and one Aux lane	MacArthur to I-405		M2 project	$23,863,636	$1,145,455	
			MacArthur to Dyer	4.1%	Add one GP lane and one Aux lane	MacArthur to Dyer		M2 project	$21,477,273	$880,568	
		On-ramp	Baker St. on-ramp	3.1%	Increase storage capacity at on-ramps between merging point and ramp meter	Baker St. On-ramp			$1,000,000	$31,000	
			MacArthur loop on-ramp	8.0%	Widen on-ramps	MacArthur to I-405	Santa Ana / Daltrans	Santa Ana is finalizing a PR with Caltrans Design Branch	$4,225,000	$338,000	
SR-73	NB	On-ramp	Campus Dr. on-ramp	6.1%	Widen on-ramp to 3 lanes and upgrade ramp metering signal and hardware	Campus Dr. on-ramp			$1,850,000	$112,850	
	SB	Off-ramp	Jamboree off-ramp	4.0%	Add a 3rd lane from past gore point to join with left lane pocket at Jamboree	Jamboreo off-ramp			$3,000,000	$120,000	
									$220,602,636	$7,025,952	3.18%

Total Fair Share Contribution towards freeway facilility improvements $7,025,962

Appendix G: Details of Developments considered for 2015 Update

IBC TRAFFIC IMPROVEMENT FEE ANALYSIS

July 31, 2010 to July 31, 2015

IBC Projects Paid With Cash Receipts (CR)

ID	Project Name	IBC Project #	Address	Street	Status Code	Dev Status	IBC Fee Status	IBC Fee Status Date	Quantities							Land Use	Residential Base Units	Density Bonus DU	Total Project DU	Notes
									DU	Ext-Stay (Rms)	Hotel (Rms)	Retail (SF)	Office (SF)	Ind-Mix (SF)	M.Ware (SF)					
CR-1	Edward Life Sciences	2	1	Edwards	1	Existing	Cash Receipts	10/22/2012					81,165			Industrial to Office Conversion				Reconciliation of project from Industrial to Office uses. Cash receipt for Case #00541392-PPA Paid in two instalments
CR-2	Edward Life Sciences	2	1	Edwards	1	Existing	Cash Receipts	10/22/2012					957	483		Conversion into Office and Industrial				Reconciliation of project from Industrial to Office uses. Cash receipt for Case #00541392-PPA
CR-3	Edward Life Sciences	2	1	Edwards	1	Existing	Cash Receipts	6/27/2014					97,664	15,688		Office and Industrial				#00593571-CNEW for new 4-story building
									0	0	0	0	179,786	16,171	0					

IBC Projects With Pre-Paid IBC Transportation Fees

ID	Project Name	IBC Project #	Address	Street	Status Code	Dev Status	IBC Fee Status	IBC Fee Status Date	Quantities							Land Use	Residential Base Units	Density Bonus DU	Total Project DU	Notes
									DU	Ext-Stay (Rms)	Hotel (Rms)	Retail (SF)	Office (SF)	Ind-Mix (SF)	M.Ware (SF)					
Pre-1	Element Hotel (Ext. Stay Hotel)	49	17662	Armstrong	1	Exisitng	Pre-Paid	6/27/2012		122						Ext. Stay Hotel			0	#00547885-PIBC
Pre-2	Kelvin Apartments	364	2852	Kelvin	1	Exisitng	Pre-Paid	6/27/2012	194							Residential	156	38	194	#00547263-PIBC; Approval: February 2011
Pre-3	Equity I	17	2501	Alton	2	Under Const.	Pre-Paid	6/5/2014	190							Residential	190		190	00578892-RNA; Paid at Planning Counter
Pre-4	Equity II	529	16931	Millikan	2	Under Const.	Pre-Paid	6/5/2014	154							Residential	154		154	00578892-RNA; Paid at Planning Counter
Pre-5	Homewood Suites (Ext.-Stay Hotel)	608	17370	Red Hill	2	Under Const.	Pre-Paid	6/30/2014		161		3,224				Reail and Ext. Stay Hotel			0	#00609316-PIBC - Vacant Parcel
Pre-6	2801 Kelvin	361	2801	Kelvin	2	Under Const.	Pre-Paid	12/12/2014	381							Residential	305	76	381	#00645304-PIBC; Approval: June 2013
Pre-7	Metropolis	107	2500	Main	2	Under Const.	Pre-Paid	12/12/2014	457							Residential	368	89	457	#00609447-PIBC; Approval: February 2013
Pre-8	Elements (Phase 1)	56 & 97	2601	Campus	3	Approved	Pre-Paid	12/12/2014	700							Residential	560	140	700	#00609448-PIBC; Approval: December 2014
								TOTAL	2,076	283	0	3,224	0	0	0		1,733	343	2,076	

IBC Transportation Fees Paid via Permits Issued

ID	Project Name	IBC Project #	Address	Street	Status Code	Development Status	IBC Fee Status	IBC Fee Status Date	Quantities							Land Use	Residential Base Units	Density Bonus DU	Total Project DU	Notes
									DU	Ext-Stay (Rms)	Hotel (Rms)	Retail (SF)	Office (SF)	Ind-Mix (SF)	M.Ware (SF)					
Permit-1	N/A	16	2481	Alton	1	Existing	Paid	7/12/2010							224	Industrial to Warehouse			0	224 SF Enclosure Addition; #00504865-SBP
Permit-2	Gillette Building	572	17062	Murphy	1	Existing	Paid	10/8/2010					1,763			Office			0	Intensification of 1,763 SF from industrial to office; #00510330-SBPT
Permit-3	Von Karman Center	664	16782	Von Karman	1	Existing	Paid	12/16/2010					943			Office			0	#00514777-SBPT
Permit-4	Edwards Life Sciences	2	1212	Alton Pkwy	1	Existing	Paid	3/8/2011							540	Industrial to Warehouse			0	#00519702-SBP
Permit-5	Irvine Family Spa	64	2332	Barranca	1	Existing	Paid	3/30/2011					10,903			Office			0	Conversion of industrial to office (10,903 SF); #00521226-SBPT
Permit-6	Edwards Life Sciences	2	1452	Alton	1	Existing	Paid	6/9/2011					140			Office			0	Addition of 140 SF for facade/lobby/toliet remodel on north bldg elevation for 1452 Alton; #00524653-SBP

1. Demolition Credits are based on a specific fee rate assumed back in July, 2005. Actual credit based on future issuance date of demolition permit may be less.

ID	Project Name	IBC Project	Address	Street	Status Code	Dev Status	IBC Fee Status	IBC Fee Status Date	Quantities							Land Use	Residential Base Units	Density Bonus DU	Total Project DU	Notes
Permit-7	Equus & Innova Corporate Ctr	674	17352	Von Karman	1	Existing	Paid	7/11/2011					22,636			Industrial to Office			0	Plans consist of: (1) add 253 SF entry element to 1st floor (office - 2 conference rooms); (2) add 7,577 SF to 2nd floor (office); (3) convert 14,806 SF of industrial (manuf/WH) to office use on 2nd floor mezzanine. Overall bldg SF increases from 91,534 SF to 99,364 SF. IBC fees due = $ 85,619.75; #00527059-SBP
Permit-8	Edwards Life Sciences	2	1	Edwards	1	Existing	Paid	9/20/2011							1,545	Industrial to Warehouse			0	1,545 SF addition of industrial space; #00531427-SBP
Permit-9	MacArthur Medical Campus	609	1400	Reynolds	1	Existing	Paid	10/4/2011					3,000			Industrial to Office			0	Converting a total of 3,751 SF of existing med off use into lt manuf uses w/in the bldg in order to expand 3,000 square feet (call center office); #00532276-SBPT
Permit-10	N/A	447	2900	McCabe	1	Existing	Paid	11/18/2011					2,017			Industrial to Office			0	2,017 SF conversion of warehouse to office- 2,017 SF x $3.95/SF = $7,967.15 due; #00535026-SBPT
Permit-11	E-Bogu Martial Arts School	72	1581	Browning	1	Existing	Paid	1/17/2012					897	775		Industrial to Office			0	Converting 897 SF of ind to off use & adding 775 SF ind. IBC fees due = $4,705.65; #00536633-SBP
Permit-12	N/A	618	1672	Reynolds	1	Existing	Paid	3/14/2012					1,420			Industrial to Office			0	Convert 1,239 SF of existing ind to office use, add 181 SF of new office SF for an improved entrance/lobby area. IBC fee due = $5,684.35; #00540939-SBP
Permit-13	N/A	456	1400	McGaw	1	Existing	Paid	4/10/2012					1,148			Industrial to Office			0	Convert 175 SF of WH to off & 798 SF of existing WH to manuf use at 1400 McGaw. Existing LU: 2,670 SF off & 10,830 SF WH & 126 SF ZP. Proposed: 2,845 SF off, 798 SF manuf, 9,857 SF WH & 9 SF ZP. IBC fees due = $691.25; #00542555-SBPT
Permit-14	N/A	455	1392	McGaw	1	Existing	Paid	4/25/2012							715	Industrial to Warehouse			0	#00543308-SBPT
Permit-15	Edwards Life Sciences	2	1402	Alton	1	Existing	Paid	7/19/2012					350			Office			0	Add 350 SF office on 2nd fl by extending slab near west stairway at 1402 Alton; #00549377-SBP
Permit-16	N/A	677	17462	Von Karman	1	Existing	Paid	11/13/2012							9,840	Industrial to Warehouse			0	Construction of 9,840 warehouse mezzanine. Increases Industrial from 80,754SF to 90,594SF and reduces ZP from 19,694SF to 16,287SF. ;#00558205-SBPT
Permit-17	N/A	385	1822	Langley	1	Existing	Paid	2/5/2013					3,273			Industrial to Office			0	Building previously destroyed by fire, and rebuilt as follows: 1st floor: 2,708 SF office, 8,781 SF manuf., 1,831 SF ware; 2nd floor: 950 SF office, 3,931 SF ware. Total building is 18,201 SF. #00562535-SBP
Permit-18	N/A	525	16871	Millikan	1	Existing	Paid	2/8/2013					600			Industrial to Office			0	#00564394-SBPT
Permit-19	3M Dental Products	478	2111	McGaw	1	Existing	Paid	3/20/2013							6,752	Industrial to Warehouse			0	Approved assuming concurrent request for 6,752 SF warehouse mezzanine addition would be built. Mezzanine permit was never pulled.; #00567314-SBP
Permit-20	N/A	445	2569	McCabe	1	Existing	Paid	4/2/2013					207			Office			0	Added 207 SF office to a new total of 23,687 SF;#00568649-SBP
Permit-21	Edwards Life Sciences	2	1402	Alton	1	Existing	Paid	7/10/2013					5,881			Industrial to Office			0	Conversion of 5,881 SF of manufacturing space to office space at 1402 Alton; #00576671-SBPT
Permit-22	Glidewell Implant R&D Facility	245	2181	Dupont	1	Existing	Paid	9/12/2013					2,950			Industrial to Office			0	Approved addition of 2,950 SF office on 2nd floor mezzanine.; #00582419-SBP
Permit-23	My Montesorri Childcare	20	16601	Armstrong	1	Existing	Paid	10/21/2013					24,457			Industrial to Childcare (Office)			0	My 1st Montessori Preschool; CUP approved conversion of existing 35,337 SF off/ind bldg to 24,457 SF childcare facility (office trip generator); #00586597-SBP
Permit-24	N/A	198	17992	Cowan	1	Existing	Paid	12/27/2013							800	Industrial to Warehouse			0	Per 00588730-CASF, 800 SF warehouse mezzanine addition; #00594393-SBP

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ID	Project Name	IBC Project	Address	Street	Status Code	Dev Status	IBC Fee Status	IBC Fee Status Date	Quantities							Land Use	Residential Base Units	Density Bonus DU	Total Project DU	Notes
Permit-25	N/A	700	18651	Von Karman	1	Existing	Paid	12/30/2013					367			Office			0	New 367 SF office within the building; #00588479-CTIS
Permit-26	Hilton Garden Inn Hotel	565	2381	Morse	1	Existing	Paid	2/13/2014		168						Ext. Stay Hotel			0	The demolition of the entire 30,000 SF office building was issued in Feb 2014. The SF FEE CREDIT for this building equated to $171,600 or 30,000 SF; #00597988-SBPF
Permit-27	N/A	65	2400	Barranca	1	Existing	Paid	2/14/2014					20,508			Industrial to Office			0	OFFICE TI WITH A OCCUPANCY. NEW INTERIOR ELEVATOR WITH ROOF PENETRATION. Tenant: Emerson Process Manangement; #00597152-SBPT; 00590188-CTIS
Permit-28	N/A	220	17392	Daimler	1	Existing	Paid	5/9/2014					2,979			Industrial to Office			0	Convert 2,979 SF of Industrial to Office;#00604424-SBPT
Permit-29	Spellbound	297	17192	Gillette	1	Existing	Paid	5/28/2014					1,170			Industrial to Office			0	Per #00602164-CTI, an office TI to increase Office to 3,168 SF and Industrial to 11,645 SF; #00606287-SBPT
Permit-30	Edwards Life Sciences	2	1431	McGaw	1	Existing	Paid	6/2/2014					22,050		5,570	Office and Warehouse			0	Replacement 27,620 SF BRC bldg approved for 22,050 SF Off & 5,570 SF WH (ventilated animal penning area), demolition of bldg processed separately; #00603745-SBP
Permit-31		700	18651	Von Karman	1	Existing	Paid	7/7/2014						23,807		Industrial to Manufacturing			0	#00593637-CASF: 23,807 SF manf. mezzanine addition; AND conversion of 20,641 SF warehouse to manuf.; #00609631-SBP
Permit-32	Display It	21	16680	Armstrong	1	Existing	Paid	8/15/2014					2,469			Industrial to Office			0	Permit coverts 2,469 SF of Industrial use to Office use, thereby increasing office from 8,484 SF to 10,953 SF. The remaining square footage is 73,903 SF of Industrial use; #00613451-SBP
Permit-33	Douglas Plaza - Tower 17	703	18881	Von Karman	1	Existing	Paid	10/20/2014					123			Office			0	Accessory Deli will be enlarged from 783 SF to 906SF; #00619268-SBP
Permit-34	Edwards Life Sciences	2	1411	McGaw	1	Existing	Paid	12/19/2014					97,664		15,688	Office and Warehouse			0	Per 00593571-CNEW, E2 Building, 1411 McGaw (attached to 1441 McGaw) is comprised of 97,664 SF office and 15,688 SF warehouse; #00593571-CNEW
Permit-35	Irvine Concourse	413	1970	Main	1	Existing	Paid	2/26/2015							200	Warehouse			0	Generator Enclosure in Parking Garage 200 SF; #00628249-SBP
Permit-36	Alton Self Storage	14	2215	Alton Pkwy	1	Existing	Paid	3/19/2015							215,651	Warehouse			0	This project consists of the build-out of a mini-warehouse from an existing shell industrial building. An existing SF Credit of $3,344.13 has been applied to reduce the Gross IBC Fee; #00630971-SBP
Permit-37	Pro Source	461	1672	McGaw	1	Existing	Paid	3/26/2015					179			Industrial to Office			0	Per #00625128-CTTI modify to 3,286 SF Office and 8,270 Warehouse; #00631016-SBPT
Permit-38	McKinlry	45	17611	Armstrong	1	Existing	Paid	4/13/2015					4,426			Industrial to Office			0	The building had 5,214 square feet of office and 16,098 square feet of manufacturing. The applicant submitted 00619379-CASF to provide 9,460 square feet of office and 13,418 square feet of warehouse. A total of $24,650.18 in IBC fees is due; #00632886-SBP
Permit-39	N/A	276	17752	Fitch	1	Existing	Paid	5/20/2015					1,390			Industrial to Office			0	Per #00631430-CTIS, convert portion of existing warehouse to office use and demolish 138 SF of warehouse. Office to be 5,471 SF with 15,854 SF Warehouse; #00637341-SBPT
							39	TOTAL	0	168	0	0	235,910	24,582	257,525		0	0	0	

Discretionary IBC Projects Approved between July 31, 2010 and July 31, 2015 (IBC Fee Estimates based on July 1, 2016 IBC Fee Amounts)

ID	Project Name	IBC Project #	Address	Street	Status Code	Development Status	IBC Fee Status	IBC Fee Status Date	Quantities							Land Use	Residential Base Units	Density Bonus DU	Total Project DU	Notes
									DU	Ext-Stay (Rms)	Hotel (Rms)	Retail (SF)	Office (SF)	Ind-Mix (SF)	M.Ware (SF)					

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ID	Project Name	IBC Project	Address	Street	Status Code	Dev Status	IBC Fee Status	IBC Fee Status Date	Quantities							Land Use	Residential Base Units	Density Bonus DU	Total Project DU	Notes
Disc-1	Milani Apartments (formerly Martin St Apts.)	702	18831	Von Karman	6	Approved	Not Paid	N/A	287							Residential	229	58	287	Approval: November 2014
Disc-2a	Irvine Gateway (formerly Irvine Lofts/Kilroy)	671	17150	Von Karman	3	Approved	Paid	12/14/2015	363							Residential	276	87	363	Approval: December 2011
Disc-2b	Irvine Gateway (formerly Irvine Lofts/Kilroy)	671	17150	Von Karman	6	Approved	Not Paid	N/A	71							Residential	71		71	Approval: December 2011
Disc-3	Elements (formerly ITC/Greenlaw/Campus Verde)	56 & 97	2601	Campus	6	Approved	Not Paid	12/12/2014	900							Residential	720	180	900	Approval: December 2014; Demo SF Credits from IBC Projects #98 and #658 Remaining 700 units are Paid for and are shown as ID - Pre-8
Disc-4	16103 Derian (formerly 17275 Derian)	235	16103	Derian	5	Approved	Paid	3/17/2016	80							Residential	66	14	80	Approval: February 2015 LU will be included for fee calc, but the dev will not be subject to new fees
Disc-5	360 Fusion (formerly Murphy Apts)	582	2852	McGaw	5	Approved	Paid	2/22/2016	280							Residential	224	56	280	Approval: October 2014 LU will be included for fee calc, but the dev will not be subject to new fees
Disc-6	Main and Jamboree Apartments	431	2700	Main	5	Approved	Paid	11/3/2016	388							Residential	310	78	388	Approval: December 2014 LU will be included for fee calc, but the dev will not be subject to new fees
Disc-7	Pistoia Apartments	238	17422	Derian	6	Approved	Not Paid	N/A	371							Residential	297	74	371	Approval: July 2015
Disc-8	2152-2182 Alton	1	2152-2182	Alton	4	In Process / Pending	Not Paid	N/A	357							Residential	286	71	357	Approval: May 2016
Disc-9	17822 Gillette	307	17822	Gillette	4	In Process / Pending	Not Paid	N/A	137							Residential	137	0	137	Approval: Feb 2016
								TOTAL	3,234	0	0	0	0	0	0		2,616	618	3,234	

Pending Project - Fees Unpaid

ID	Project Name	IBC Project #	Address	Street	Status Code	Development Status	IBC Fee Status	IBC Fee Status Date	Quantities							Land Use	Residential Base Units	Density Bonus DU	Total Project DU	Notes
									DU	Ext-Stay (Rms)	Hotel (Rms)	Retail (SF)	Office (SF)	Ind-Mix (SF)	M.Ware (SF)					
Pend-1	Campus and Von Karman Apartments	N/A	2171-2361 Campus and 2192, 2222, 2302 Martin		4	In Process / Pending	Not Paid	N/A	876							Residential	701	175	876	
Pend-2	2055 Main		2055	Main	4	In Process / Pending	Not Paid	N/A	179							Residential	143	36	179	
Pend-3	2525 Main		2525	Main	4	In Process / Pending	Not Paid	N/A	272							Residential	217	55	272	
Pend-4	2660 Barranca/16542 Millikan		2660 Barranca/16542 Millikan		4	In Process / Pending	Not Paid	N/A	180							Residential	180		180	
Pend-5	17811 Gillette		17811	Gillette	4	In Process / Pending	Not Paid	N/A	75							Residential	75		75	
Pend-6	17861 Cartwright		17861	Cartwright	4	In Process / Pending	Not Paid	N/A	54							Residential	54		54	
								TOTAL	1,636	0	0	0	0	0	0		1,370	266	1,636	

Pre Application - Fees Unpaid

ID	Project Name	IBC Project #	Address	Street	Status Code	Development Status	IBC Fee Status	IBC Fee Status Date	Quantities							Land Use	Residential Base Units	Density Bonus DU	Total Project DU	Notes
									DU	Ext-Stay (Rms)	Hotel (Rms)	Retail (SF)	Office (SF)	Ind-Mix (SF)	M.Ware (SF)					
Pre-ap1	2602 McGaw		2602	McGaw	4	In Process / Pending	Not Paid	N/A	120							Residential	120		120	

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ID	Project Name	IBC Project	Address	Street	Status Code	Dev Status	IBC Fee Status	IBC Fee Status Date	Quantities							Land Use	Residential Base Units	Density Bonus DU	Total Project DU	Notes
								TOTAL	120	0	0	0	0	0	0		120	0	120	

Development Agreements for IBC Developments (Central Park West and Park Place are not included in the fee calculation and are not subject to 2015 Fees)

ID	Project Name	IBC Project #	Address	Street	Status Code	Development Status	IBC Fee Status	IBC Fee Status Date	Quantities							Land Use	Residential Base Units	Density Bonus DU	Total Project DU	Notes
									DU	Ext-Stay (Rms)	Hotel (Rms)	Retail (SF)	Office (SF)	Ind-Mix (SF)	M.Ware (SF)					
DA-1-1	Central Park West (CPW) - Existing	338	401	Rockefeller	1	Built/Existing	Paid		646							Residential	646		646	
DA-1-2	Central Park West (CPW) - Permits Issued	338	401	Rockefeller	2	Under Const.	Paid		16							Residential	16		16	
DA-1-3	Central Park West (CPW) - Approved Res. Units	338			6	Approved	Unpaid - Demo Credit Remaining		613							Residential	613		613	
DA-1-4	Central Park West (CPW) - Retail	338			6	Approved	Unpaid - Demo Credit Remaining		0			26,688				Residential / Retail			0	
								TOTAL	1,275	0	0	26,688	0	0	0		1,275	0	1,275	
DA-2-1	18582 Teller (HCG)	501	2722	Michelson	7	Demolished	Unpaid - Demo Credit Remaining		0				15,781			Office			0	
DA-2-2	18582 Teller (HCG)	501			7	Demolished	Unpaid - Demo Credit Remaining		0					104,519		Industrial			0	
DA-2-3	2722 Michelson (HCG)	501			7	Pending Demo	Unpaid - Demo Credit Remaining		0				25,828			Office			0	
DA-2-4	2722 Michelson (HCG)	501			7	Pending Demo	Unpaid - Demo Credit Remaining		0					143,727		Industrial			0	
DA-2-5	Hines CA Green (HCG)	501			6	Approved	Not Paid		0				785,000			Office			0	Option to pay lower prevailing fee, based on DA
DA-2-6	Hines CA Green (HCG)	501			6	Approved	Not Paid		0			15,500				Retail			0	Option to pay lower prevailing fee, based on DA
								TOTAL	0	0	0	15,500	826,609	248,246	0				0	
DA-3-1	Park Place (Res. Site 1 - Future)	503	3333	Michelson	6	Approved	Not Paid		267							Residential	267		267	Only 267 residential units to be paid. 360 Affordable units at Villa
DA-3-2	Park Place (Res. Site 1 - Vireo Apts.)	503			6	Approved	Not Paid		520							Residential	520		520	
DA-3-3	Park Place (Res. Site 1 (TIC Apts.)	503			2	Under Const.	Paid		989							Residential	861	128	989	Per Bill Jacobs: Remainder of 360 DB units approved for Park Place is 128 units within 989 Unit TIC project
DA-3-4	Park Place (BOSA) Res. Site 1 (Density Bonus)	503			1	Existing	Paid		232							Residential		232	232	Per Bill Jacobs: Corrected Park Place Project names- Site 1 is Bosa- 232 DB Units
DA-3-5	Park Place (Villa Sienna)	503	20	Palatine	1	Existing	Paid		1226							Residential	1226		1,226	
DA-3-6	Park Place (Villa Sienna Affordable)	503	20	Palatine	1	Existing	Paid		216							Residential	216		216	
DA-3-7	Park Place (Hotel)	503			1	Existing	Paid				190					Hotel			0	
DA-3-8	Park Place (Office)	503			6	Approved	Not Paid						2,629,820			Office			0	
DA-3-9	Park Place (Retail)	503			6	Approved	Not Paid					122,562				Retail			0	
DA-3-10	Park Place (Health Club)	503			6	Approved	Not Paid						45,000			Office			0	
								TOTAL	3,450	0	190	122,562	2,674,820	0	0		3,090	360	3,450	
DA-4-1	Avalon Apartments I	18	2777	Alton	1	Existing	Paid		279							Residential	224	55	279	
DA-4-2	Avalon Apartments I	18	2777	Alton	3	Approved	Paid		1							Residential		1	1	

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ID	Project Name	IBC Project	Address	Street	Status Code	Dev Status	IBC Fee Status	IBC Fee Status Date	Quantities							Land Use	Residential Base Units	Density Bonus DU	Total Project DU	Notes
DA-4-3	Avalon Apartments II	334	16901	Jamboree	1	Existing	Paid		179							Residential	143	36	179	
DA-4-4	Avalon Apartments III	530	16952	Millikan	2	Under Const.	Paid		156							Residential	126	30	156	
								TOTAL	615	0	0	0	0	0	0		493	122	615	
DA-5	2851 Alton Condos	19	2851	Alton	6	Approved	Not Paid		170			0				Residential	170		170	
		Status Codes																		
		1	Existing by July 31, 2015 (Fees Paid)																	
		2	Under Construction (Fees Paid)																	
		3	Approved (Fees Paid)																	
		4	In Process (Fees not paid)																	
		5	Approved (Fees Paid after 07/31/15 deadline)																	
		6	Approved (Fees not Paid)																	
		7	Demolished / Pending Demolition (Fees not paid, pending demolition credit)																	

1. Demolition Credits are based on a specific fee rate assumed back in July, 2005. Actual credit based on future issuance date of demolition permit may be less.

Public Works Administered Grants

Transportation - All Programs (Excluding Measure M / M2)

	Awarded Applications			
Grant Program Name	**Grants Awarded**	**Amount Awarded**	**Total Project Costs Identified**	**Percentage Funded by Grant**
Active Transportation Program	1	$ 500,000	$ 500,000	100%
Bicycle Corridor Improvement Program	3	$ 1,980,920	$ 2,916,000	68%
Bicycle Transportation Account	4	$ 479,769	$ 533,077	90%
Bridge Preventive Maintenance Program	1	$ 817,132	$ 923,000	89%
Federal Safe Routes to School	1	$ 500,000	$ 500,000	100%
Highway Safety Improvement Program	4	$ 2,702,400	$ 3,665,937	74%
Local Government Match Program	2	$ 135,500	$ 226,000	60%
State-Legislated Safe Routes to School	1	$ 118,800	$ 132,000	90%
State-Local Partnership Program	2	$ 1,575,756	$ 3,148,512	50%
Transportation Enhancement Activities Program	1	$ 354,719	$ 479,350	74%
	20	**$ 9,164,996**	**$ 13,023,876**	**70%**

	Awarded Applications			
Project Category	**Grants Awarded**	**Amount Awarded**	**Total Project Costs Identified**	**Percentage Funded by Grant**
Mobility Improvements	14	$ 4,969,708	$ 6,287,427	79%
Street Improvements	6	$ 4,195,288	$ 6,736,449	62%
	20	**$ 9,164,996**	**$ 13,023,876**	**70%**

Mobility Improvements: Focuses on improvements for active transportation (e.g. sidewalks, trails, lighting, bicycle amenities).

Street Improvements: Includes street widening, intersection improvements, traffic signal management.

Data from Transportation Planning & Project Development division beginning FY 2008-2009 to Present

ATTACHMENT 3

Public Works Administered Grants
Transportation - Measure M / M2

	Combined Transportation Funding Program Name	Total		IBC Specific	
		Grants Awarded	Amount Awarded[1]	Grants Awarded	Amount Awarded[1]
Measure M (1991 - 2011)	Arterial Highway Financing Program	2	$ 654,295	1	$ 478,500
	Arterial Highway Rehabilitation Program	35	$ 12,991,123	7	$ 2,041,271
	Bicycle and Pedestrian Facilities Program	4	$ 425,000	0	$ -
	Commuter Rail Fund	1	$ 150,000	0	$ -
	Growth Management Area Program	45	$ 6,621,152	15	$ 2,344,428
	Intersection Improvement Program	7	$ 6,684,765	4	$ 4,365,991
	Local / State Transportation Partnership	5	$ 5,663,066	2	$ 2,603,000
	Master Plan of Arterial Highway Program	8	$ 16,052,076	8	$ 16,052,076
	Regional Interchange Program	4	$ 14,197,975	0	$ -
	Regional Surface Transportation Program	3	$ 16,841,168	2	$ 10,524,133
	Regional Surface Transportation Program / STP	2	$ 18,360,248	0	$ -
	Signal Improvement Project	43	$ 6,696,314	15	$ 2,075,921
	Smart Street Program	1	$ 119,903	0	$ -
	Transportation Demand Management	15	$ 1,832,743	8	$ 859,122
	Measure M Subtotal	**175**	**$107,289,828**	**62**	**$ 41,344,442**

	Comprehensive Transportation Funding Program Name	Grants Awarded	Amount Awarded[1]	Grants Awarded	Amount Awarded[1]
Measure M2 (2011 - 2041)	Arterial Capacity Enhancements (ACE)	5	$ 9,016,356	1	$ 801,000
	Community Based Transit / Circulators (CBTC)	2	$ 5,418,242	1	$ 2,712,258
	Freeway Arterial / Streets Transitions (FAST)	1	$ 105,000	1	$ 105,000
	Intersection Capacity Enhancements (ICE)	6	$ 3,516,310	3	$ 636,881
	Safe Transit Stops (STS)	1	$ 30,000	0	$ -
	Traffic Signal Synchronization Program (TSSP)	8	$ 8,459,461	4	$ 5,007,807
	Measure M2 Subtotal	**23**	**$ 26,545,369**	**10**	**$ 9,262,946**

Measure M + M2 Total	**198**	**$133,835,197**	**72**	**$ 50,607,388**

Measure M2 IBC Capacity Enhancement Projects	Grants Awarded	Amount Awarded[1]	Project Cost Estimate[2]	Grant Funded Estimate
Jamboree Rd / Barranca Pkwy Intersection Improvement	2 (ICE)	$ 501,993	$ 6,569,566	8%
Jamboree Rd / Main St Intersection Improvement	1 (ICE)	$ 136,411	$ 10,684,110	1%
Jamboree Rd Widening[3]	1 (ACE)	$ 801,000	$ 20,481,030	4%
IBC Capacity Enhancement Projects	**4**	**$ 1,439,404**	**$ 37,734,706**	**4%**

[1] *Amount Awarded per OCFundtracker database (payments received and/or programmed allocations).*
[2] *Project Cost Estimate reflected as total budget in ONESolution.*
[3] *Not an IBC Vision Plan Improvement project.*

ATTACHMENT 4

Rev. 2017.08.22 DC

Completed IBC Roadway Improvements

	1992 IBC Nexus Fee Program Improvement Location
Arterials	Jamboree Road - Barranca Parkway to Michelson Drive
	MacArthur Boulevard - Main Street to Douglas
	Main Street - Sunflower Avenue to San Diego Creek Bridge
	Michelson Drive & San Diego Creek Bridge
Intersections	Culver Drive & Michelson Drive
	Harvard Avenue & Michelson Drive*
	Jamboree Road & Alton Parkway
	Jamboree Road & I-405 Northbound Ramp
	Jamboree Road & I-405 Southbound Ramp
	Jamboree Road & Main Street*
	Jamboree Road & Michelson Drive*
	Jamboree Road & Irvine Center Drive / Edinger Avenue
	MacArthur Boulevard & Campus Drive
	MacArthur Boulevard & I-405 Northbound Ramp
	MacArthur Boulevard & I-405 Southbound Ramp
	MacArthur Boulevard & Jamboree Road
	MacArthur Boulevard & Main Street
	MacArthur Boulevard & Michelson Drive
	Redhill Avenue & Dyer Road / Barranca Parkway
	Redhill Avenue & MacArthur Boulevard
	Redhill Avenue & Main Street

* 2010 and 2015 IBC Vision Plan Traffic Studies identify additional improvements at these locations.

ATTACHMENT 5

SUMMARY EXHIBIT

Table 2: 2010 IBC Vision Plan Improvement List (Irvine Projects)

Intersection / Arterial Location	Status	Est. Project Completion Date[1]	Project Cost Estimate[2]	IBC Fee Program Match (90%)	City Match (10%)	Outside Funding Sources[3]
Jamboree Road at Barranca Parkway	Design	2020	$ 6,569,566	$ 5,912,609	$ 656,957	$ 501,993
Jamboree Road at Main Sreet	Design	2019	$ 10,684,110	$ 9,615,699	$ 1,068,411	$ 136,411
Jamboree Road at Michelson Drive (Pedestrian Bridge)	Prelim Design	2019	$ 20,000,000	$ 18,000,000	$ 2,000,000	$ 4,248,766
Harvard Avenue at Michelson Drive	Buildout					
Culver Drive at I-405 NB Ramps[4]	Project Removed					

[1] *Completion dates are subject to right-of-way acquisition timing, as applicable.*
[2] *Project Cost Estimate reflected as total budget in ONESolution.*
[3] *Funding sources include: Community Facilities District 2004-1 Improvements - Central Park and grants.*
[4] *No longer needed based on findings in the 2015 Update to: IBC Vision Plan Traffic Fee Nexus Study.*

Table 3.2: 2015 Updated IBC Vision Plan Traffic Mitigation Improvements

Agency	Fair Share	New Project	Intersection / Arterial Location	Cost	Cost included for Fee Calculation
Irvine	90%	Yes	Culver Drive at Alton Parkway	$ 1,204,030	$ 1,083,627
			Gillette Avenue at Alton Parkway	$ 487,500	$ 438,750
			Jamboree Road NB Ramps / Warner Avenue	$ 2,592,998	$ 2,333,698
			Loop Road / Park Avenue at Warner Avenue	$ 5,411,023	$ 4,869,921
			Von Karman Avenue / Tustin Ranch Road at Barranca Parkway	$ 7,558,713	$ 6,802,842
			Von Karman Avenue at Alton Parkway		
		No	Harvard Avenue at Michelson Drive	$ 2,752,766	$ 2,477,489
			Red Hill Avenue between Main Street and MacArthur Boulevard	$ 18,419,390	$ 16,577,451
Santa Ana	50%	No	Alton Parkway Overcrossing at SR-55*	$ 60,184,755	$ 30,092,378
	90%		Dyer Road widening between SR-55 NB On-Ramp and Red Hill Avenue	$ 25,011,301	$ 22,510,171
	9.6%		Flower Street and Segerstrom Avenue	$ 712,124	$ 68,364
Costa Mesa	2.4%	No	SR-55 Frontage Road SB Ramps at Paularino Avenue	$ 1,207,101	$ 28,970
				Cost of Improvements (total for fee calculation)	*$ 87,283,661*
				Caltrans Agreement Roll Over	$ 6,585,299
				2015 Update IBC Vision Plan Improvement Cost	**$ 93,868,960**

** Based on 2014 final design cost.*

ATTACHMENT 6

Building Industry Association of Southern California, Inc.
ORANGE COUNTY CHAPTER

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MERITAGE HOMES

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STARKEY COMMUNICATIONS

EXECUTIVE OFFICER
STEVE LA MOTTE

May 31, 2017

The Honorable Don Wagner
Mayor, City of Irvine
One Civic Center Plaza
Irvine, CA 92606

Re: Irvine Business Complex Traffic Nexus Fee Study Update

Dear Mayor Wagner and City Council Members:

On behalf of our membership, **I would like to state our concerns with the proposed Traffic Nexus Fee Study Update.**

The Building Industry Association of Southern California, Orange County Chapter (BIA/OC) is a non-profit trade association of over 1,100 member companies employing over 100,000 people affiliated with the home building industry. Our mission is to champion housing as the foundation of vibrant and sustainable communities.

Orange County is ranked 2nd only to the bay area for the highest housing prices. This is largely due to 1) lack of adequate housing stock, 2) a jobs to housing imbalance, and 3) lack of available land coupled with excessive regulation on the housing industry.

As the City considers the proposed Traffic Fee Update for the remaining development in the Irvine Business Complex (IBC), we ask the Council to consider the thousands of dollars in fees currently associated with each dwelling unit. At a time when the region is faced with rising home prices, every effort to reduce the ultimate cost to build in Orange County should be considered.

With this in mind, the BIA/OC is concerned by the proposed 108% increase to the traffic impact fee, and ask that options such as gradually implementing the fee update be proposed.

While we understand that traffic is an important issue the City must

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evaluate as the IBC implementation moves forward, increasing the cost on those doing business in the IBC by such a large percentage at one time may affect the affordability of new development projects.

Thank you for your thoughtful consideration.

Respectfully,

Steven C. LaMotte
Chapter Executive Officer

ADDENDUM TO THE IRVINE BUSINESS COMPLEX RESIDENTIAL AND MIXED-USE VISION PLAN DRAFT ENVIRONMENTAL IMPACT REPORT (SCH NO. 2007011024)

FOR THE 2015-17 IBC TRAFFIC IMPROVEMENT FEE PROGRAM UPDATE IRVINE, CA

September 12, 2017

City of Irvine Community Development Department
One Civic Center Plaza
Irvine, CA 92623
Contact: Bill Jacobs, Principal Planner
(949) 724-6521

ATTACHMENT 8

Addendum to the IBC Vision Plan and Mixed Use Overlay Zoning Ordinance Final Environmental Impact Report (SCH No. 2007011024) Planning Area 36

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A. Irvine Business Complex Vision Plan 2015 Traffic Study Update (Executive Summary), prepared by Iteris and HDR, January 13, 2016

B. 2015 Traffic Study Update to Irvine Business Complex Vision Plan Traffic Fee Nexus Study, prepared by HDR and Iteris, June 7, 2017

C. Mitigation Monitoring and Reporting Plan from 2010 IBC Vision Plan EIR

CITY OF IRVINE
ADDENDUM TO THE IBC EIR VISION PLAN

1.0 INTRODUCTION

1.1 Purpose and Relevant Background for This Addendum

This Addendum serves as the environmental document enabling the City of Irvine to approve the proposed 2015-17 Irvine Business Complex (IBC) Traffic Improvement Fee Program Update and make minor changes to Mitigation Measure 13-1 to allow the City to update its traffic study in accordance with the procedures and standards set forth in Section 9-36-14(K) of the Irvine Zoning Ordinance (the "Project"). As discussed more fully below, the City has determined, via a 2015 Traffic Study Update, that the Project does not present either new significant impacts or substantial increases in the severity of previously identified environmental impacts than previously studied under the IBC's Program EIR completed in 2010. Accordingly, this Addendum satisfies the City's environmental review obligations under the California Environmental Quality Act (CEQA). (*See* CEQA Guidelines, § 15164.)

By way of background, the City previously approved a Program EIR for the IBC in 2010 ("IBC EIR"). That document, including the "IBC Vision Plan and Mixed Use Zoning Ordinance" ("IBC Vision Plan"), evaluated the environmental impacts of (1) increasing the total number of potential residential entitlement in the IBC (Planning Area 36) from 9,015 residential dwelling units to 15,000 units, representing an increase of 5,985 additional units, while (2) implementing corresponding decreases in potential non-residential entitlement. Notably, this reallocation did not result in an increase in the overall intensity limitations set forth in the Irvine Zoning Ordinance. In fact, at the time that the IBC EIR was certified in 2010, 2,035 of the 5,985 units identified as additional units were designated as pending units associated with development applications filed for seven pending projects, and the remaining 3,950 units were identified as potential units without any pending applications. In addition to residential entitlement, the IBC EIR evaluated the addition of up to 1,598 new density bonus units that are allowable in accordance with state law on top of the 440 existing and approved density bonus units in the IBC. If all density bonus units are used, the total residential intensity in the IBC could total 17,038 units upon buildout.

The certified IBC EIR also identified a series of transportation improvements and contemplated a corresponding fee program to mitigate the impacts of the IBC Vision Plan pursuant to the Mitigation Fee Act, named the IBC Traffic Improvement Fee Program. The City adopted the IBC Traffic Improvement Fee Program in 2011.

As required by the City's Zoning Ordinance, the City conducted an updated traffic study in 2015 (the "2015 Traffic Study Update") to ensure the implementation of the IBC Traffic Improvement Fee Program remained in accordance with the IBC Vision Plan. This 2015 Traffic Study Update identified changes in traffic conditions, and assumed a reduction in the theoretical number of potential density bonus units based on unallocated units because the number of unallocated units decreased from the original 2010 land use assumptions.

The 2015 Traffic Study Update concluded that the changes in traffic conditions would not cause new or more severe adverse environmental impacts or require major revisions to the project studied in the IBC EIR. The 2015 Traffic Study Update reached this conclusion by

considering new information, in the form of a "snapshot" of the current development activity in the IBC, as well as ambient regional growth to compare with the 2010 assumptions. While traffic conditions, including the number and location of impacts, have changed since 2010, none of these changes are significant. Accordingly, an addendum is the appropriate level of environmental review to update the IBC Traffic Improvement Fee Program.

For example, the 2015 Traffic Study Update noted that the residential unit intensity cap had not increased since the 2010 study, and while some intersections were identified as deficient, an updated fee program would mitigate those deficiencies. Notably, though, the 2015 Traffic Study Update concluded that there is actually a net overall ***decrease*** in traffic impacts compared to the 2010 study.

As discussed below, there are no new significant impacts resulting from the implementation of the Project, nor are there any substantial increases in the severity of any previously identified environmental impacts. Any Project impacts would be either the same or lessened from the anticipated levels associated with the 2010 IBC Vision Plan, which were evaluated in the IBC EIR. Except where indicated otherwise in this Addendum, the Project impacts were evaluated in the IBC EIR and all feasible mitigation measures and alternatives identified in that EIR would be incorporated into the resolution approving the Project.

1.2 Legal Basis for Addendum

CEQA requires the City to "prepare an addendum to a previously certified EIR if some changes or additions are necessary but none of the conditions described in Section 15162 calling for the preparation of a subsequent EIR have occurred." (CEQA Guidelines, § 15164.) Accordingly, the City must prepare an addendum unless it "determines, on the basis of substantial evidence in the light of the whole record, one or more of the following:"

(1) Substantial changes are proposed in the project which would require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;

(2) Substantial changes occur with respect to the circumstances under which the project is undertaken which would require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or

(3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the negative declaration was adopted, shows any of the following:

(A) The project would have one or more significant effects not discussed in the previous EIR or negative declaration;

(B) Significant effects previously examined would be substantially more severe than shown in the previous EIR;

(C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or

(D) Mitigation measures or alternatives which are considerably different from those evaluated in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

(CEQA Guidelines, § 15162.) As discussed in this Addendum, none of the conditions requiring the preparation of a subsequent EIR are met. (*See ibid.*) Accordingly, an addendum is the legally appropriate level of environmental review for the approving the Project.

1.3 Previous Environmental Documentation

The IBC EIR consists of a Program EIR for the IBC Vision Plan General Plan Amendment and Mixed Use Overlay Zoning Ordinance, and a Project EIR for a number of residential development proposals in process at the time; thereby allowing for the eventual build out of the IBC. (CEQA Guidelines, §§ 15168, 15161.) That General Plan Amendment evaluated and approved the following:

- Adoption of the IBC Residential Mixed Use Vision Plan as a new element of the General Plan;
- Amendment of the Land Use Element to reference the new IBC Element;
- Amendment of Land Use Element Table A-1 to increase the residential unit cap to 15,000 units and reduce non-residential intensity accordingly;
- Amendment of Land Use Element Table A-1 to replace the previous 52 unit/acre density cap with a 30 unit/acre density minimum;
- Amendment of Circulation Element Figure B-1 to reflect the downgrade of Jamboree Road from a 10-lane facility to an eight-lane facility between Barranca Parkway and McGaw Avenue; downgrade Red Hill to six lanes between Barranca Parkway and Main Street; downgrade Barranca Parkway to seven lanes (four westbound, three eastbound) between Red Hill and Jamboree Road; downgrade Main Street to a six-lane divided arterial between Red Hill and Harvard Avenue; downgrade MacArthur Blvd. to a seven-lane divided highway between Red Hill and Main Street and to a six-lane divided highway between Fitch and Red Hill Avenue;
- Amendment of Circulation Element Figure B-4 to reference new IBC trails;
- Amendment of Parks and Recreation Element Table K-1 to add additional description of IBC neighborhood parks; and
- Amendments to Zoning Ordinance Chapter 9-36, *Irvine Business Complex*, and Chapter 5-8, *Irvine Business Complex Residential/Mixed Use Overlay Zone*, to update and clarify existing development standards related to monitoring of development intensity and land use compatibility.

Relevant to this Project, the IBC EIR also included the following improvements to mitigate the traffic impacts of implementing the IBC Vision Plan:

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 de facto 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 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.

Most of the environmental impacts identified in the IBC EIR were determined to be less than significant or were reduced to a level considered less than significant through either the adoption of mitigation measures or the incorporation of project revisions that would avoid or substantially lessen impacts. However, impacts to Air Quality, Noise, Land Use, and Traffic were identified as significant and unavoidable in the IBC EIR. For those environmental topic areas, the City adopted a Statement of Overriding Considerations. This Addendum addresses the changed circumstances between then and now, concluding that these changed circumstances do not require a subsequent EIR. (*See* Section 5.0, *Environmental Assessment*, *infra*.)

This Addendum also makes minor changes to Mitigation Measure 13-1. As approved in 2010, Mitigation Measure 13-1 required an initial traffic study for the traffic improvements at

the fifteen intersections listed above. This Addendum updates Mitigation Measure 13-1 to allow for subsequent traffic studies in accordance with Section 9-36-14(K) of the Irvine Zoning Ordinance. The City has a legitimate reason to modify Mitigation Measure 13-1 — as drafted, the mitigation measure does not contemplate and potentially constrains the scope of updated traffic studies that are required by the Zoning Ordinance. While Mitigation Measure 13-1 was effective for the initial traffic study, it's lack of flexibility could render it less effective for subsequent traffic studies. The Addendum concludes that the changes to Mitigation Measure 13-1 do not require a subsequent EIR. (*See* Section 5.0, *Environmental Assessment*, *infra*.)

1.4 Evaluation of Environmental Impacts

The City concluded that a subsequent EIR was not required for this Project by analyzing the Environmental Checklist Form factors the CEQA Guidelines identify for determining when a subsequent EIR is required. (*See* CEQA Guidelines, § 15063(d)(3).) Since the delta between the original environmental review the City conducted in 2010 and the Updated Traffic Study in 2015 shows no new significant impacts posed by this Project, no subsequent EIR is required, and this Addendum is appropriate. The Environmental Checklist Form is used to review the potential environmental impacts of the Project for each of the following environment topic areas:

- Aesthetics
- Agriculture and Forest Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation and Traffic

- Utilities and Service Systems

1.5 Summary of Findings

Based on the City's analysis of the factors identified in CEQA's Environmental Checklist Form and the following supporting environmental impact assessment, the City concludes that there is substantial evidence in the record to show that this Project (including the changes to Mitigation Measure 13-1), would not result in any new significant impacts that were not previously addressed in the IBC EIR. Accordingly, the changes posed by the Project are appropriately analyzed via this Addendum.

To reach this conclusion, the City reviewed the following technical reports specific to the Project:

- Irvine Business Complex Vision Plan 2015 Traffic Study Update, prepared by Iteris and HDR, January 13, 2016 (referred to herein as the "2015 Traffic Study Update")

- 2015 Update to Irvine Business Complex Vision Plan Traffic Fee Nexus Study, prepared by HDR and Iteris, June 7, 2017 (referred to herein as the "2015 IBC Traffic Fee Nexus Study Update")

2.0 PROJECT DESCRIPTION

2.1 Project Location

The Irvine Business Complex (IBC), also referred to within the City of Irvine as "Planning Area 36," is an urbanized, developing mixed-use area encompassing approximately 2,600 acres located within the City of Irvine. The 2015 Traffic Study Update" study area is consistent with the study area analyzed in 2010, and consists of the current boundaries of the IBC and its surroundings in the City of Irvine, as well as the Cities of Newport Beach, Tustin, Santa Ana, Costa Mesa, and unincorporated Orange County. Additionally, the entirety of the "Airport area" of Newport Beach is incorporated into the study area. To determine appropriate study area limits, a peak hour difference plot was developed between the Baseline and With Update model runs and the extent to which plan update related trips were originating and terminating formed the study area boundaries. The study area boundaries extend south of Ford Road within the City of Newport Beach to encompass the intersections at Jamboree Road and San Joaquin Hills Road and MacArthur Boulevard and San Joaquin Hills Road. These intersections, along with those along Bryan Avenue between Newport Avenue in the City of Tustin and Culver Drive in the City of Irvine were added to the IBC study area at the request of the Cities adjacent to the IBC. Figure 1.1 displays the study area with studied intersections highlighted. The study area is served by five freeways, SR-73, SR-55, I-405, I-5, and SR-261.

2.2 Project Objectives

The following objectives have been established for the IBC Vision Plan and will aid decision makers in their review of the proposed Project and associated environmental impacts. Implementation of the updated Traffic Improvement Fee Program will ensure ongoing compliance with these objectives.

- Provide for the ongoing 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.

- Provide additional housing opportunities near existing employment centers, consistent with the City's General Plan Land Use and Housing Elements.

- 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.

- 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.

- 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.

- Provide neighborhood-level amenities to serve the level of mixed-use development envisioned by the City's General Plan and IBC Vision Plan.

- Incorporate sustainable provisions into implementation of the IBC Vision Plan.

- Identify and pursue opportunities for open space areas that serve the recreational needs of IBC residents and employees.

- Contribute to the development of mixed-use cores by incorporating residential uses into an existing core of nearby community facilities, retail and services businesses, and restaurants to enhance the area's overall urban character pursuant to the goals of the City's IBC Vision Plan.

- Minimize the impact to the environment by promoting a sustainable infill development, consistent with the objectives of Senate Bill (SB) 375.

2.3 Project Background

The City of Irvine established an Irvine Business Complex (IBC) Nexus Fee Program in 1992 (henceforth to be referred to as the "1992 Fee Program") to support the City's adoption of the more traffic intensive 1990 IBC Rezone General Plan Amendment (GPA) and Zone Code. The intent of the 1992 Fee Program was to support the implementation of specific improvements identified in a subsequent Environmental Impact Report (henceforth to be referred to as the 1992 EIR) prepared in conjunction with the 1992 rezoning actions. This approach is consistent with the City's General Plan Roadway Development Objective B-1 to "[p]lan, provide and maintain an integrated vehicular circulation system to accommodate projected local and regional needs."

As discussed in Section 1 of this Addendum, the City adopted the IBC Vision Plan in 2010 to accommodate the ongoing shift in development patterns to improve the jobs-housing balance, and reduce vehicle miles travelled. In recent years, as development patterns within the IBC showed an increased demand for residential uses and a decreased demand for manufacturing and warehouse uses, The Vision Plan project, together with its accompanying EIR (i.e, the IBC EIR) were approved/certified by the Irvine City Council on July 13, 2010.

As part of the Vision Plan approval, the Zoning Ordinance was updated to require the City to re-evaluate traffic conditions (and traffic impact locations) and its impact on improvement needs, by way of a five-year traffic study update (amended to every two years, starting in October 2015). In 2015, a five-year traffic study update (the "2015 Traffic Study Update") was completed to fulfil the requirements of the Zoning Ordinance. Based on the findings of the 2015 Traffic Study Update, a new set of transportation improvements were identified. In this 2015 five-year fee/nexus update (henceforth to be referred to as the "2015 IBC Traffic Fee Nexus Study Update"), the fee structure and the nexus associated with the findings of the 2015 Traffic Study Update, is being revised to accommodate the identified set of transportation improvements.

Subsequent to the completion of the Vision Plan, the City of Irvine entered into contractual agreements with the potentially affected jurisdictions/agencies (Caltrans District 12 and cities of Newport Beach, Santa Ana, Costa Mesa, and Tustin). Thus for this 2015 IBC Traffic Fee Nexus Study Update, only the fee associated with the findings of the 2015 Traffic Study Update, were updated. The associated fair-shares and the nexus remained consistent with the 2010 Vision Plan Traffic Fee Nexus Study (henceforth to be referred as "Vision Plan Traffic Fee Nexus Study"). This 2015 five-year update takes a "snapshot" of the development activity from the inception of the Vision Plan in 2010 to July 31, 2015, to evaluate the changes in land uses and traffic patterns, and subsequent improvement needs, resulting in the development of a proposed fee to be imposed effective fiscal year (FY) 2017-2018.

In 2010, the Vision Plan established two overlay zoning districts:

- Urban Neighborhood, in which residential mixed use was encouraged; and
- Business Complex, in which the existing allowable mix of non-residential uses was maintained.

The Vision Plan allowed for the buildout of 15,000 residential base dwelling units (DU) within the Urban Neighborhood Overlay Zone District, with a potential maximum of 2,038 additional density bonus units, pursuant to state law. In order to achieve the maximum residential development intensity contemplated under the Vision Plan, the Plan adopted a "flexible zoning" mechanism under which non-residential development intensity could be exchanged for residential development intensity, thus achieving the maximum 15,000 DU (plus 2,038 DU pursuant to state law), by "offsetting" reduction of nonresidential development intensity. Based on approvals since 2010, the total number of density bonus units pursuant to state law assumed for this five-year update is reduced to 1,794 DU, down from the theoretical assumption of 2,038 DU in 2010. The accompanying 2015 Traffic Study Update provided an assessment of existing, interim-year 2020 and buildout yearPost-2035 with and without the updated land use conditions.

2.4 Project Description and Purpose

Pursuant to requirements of the California Environmental Quality Act (CEQA), the City Council, as part of their approval of the Vision Plan in 2010, determined to make the City responsible to mitigate, where feasible, the impacts to the transportation system attributable to buildout of the Vision Plan. This 2015 IBC Traffic Fee Nexus Study Update is consistent with the principles of the Vision Plan Traffic Fee Nexus Study and maintains a consistent nexus between future development in the IBC and the transportation system improvements necessary to support that development. Through equitable developer fees, the objective of this update is to financially support the implementation of identified improvements to the transportation system within and adjacent to the IBC in order to accommodate full buildout of the Vision Plan.

California's Mitigation Fee Act (AB 1600, Cal. Gov. Code §§ 66000-66009) creates the legal framework for local governments to assess new fees toward future development. Such fees require new development to pay its fair-share of the infrastructure cost necessary to serve new residents and businesses. AB 1600 stipulates that a local government must take the following steps to establish a nexus between a proposed fee and project impacts:

- Identify the purpose of the fee;
- Identify the use to be funded by the fee;
- Determine the reasonable relationship between:
  - The use of the fee and the type of development paying the fee;
  - The need for the traffic improvements and the types of development on which the fee is imposed; and
  - The amount of the fee and the cost of the public facilities or portion of the public facilities (in this case, traffic improvements) attributable to the development.

These principles closely emulate two landmark US Supreme Court rulings that provide guidance on the application of impact fees. The first case, Nollan v. California Coastal Commission (1987) 107 S.Ct. 3141, established that local governments are not prohibited from imposing impact fees or dedications as conditions of project approval provided the local government establishes the existence of a "nexus" or link between the exaction and the interest being advanced by that exaction. The Nollan ruling clarifies that once the adverse impacts of development have been quantified, the local government must then document the relationship between the project and the need for the conditions that mitigate those impacts. The ruling further clarifies that an exaction may be imposed on a development even if the development project itself will not benefit provided the exaction is necessitated by the project's impacts on identifiable public resources. The second case, Dolan v. City of Tigard (1994) 114 S.Ct. 2309, held that in addition to the Nollan standard of an essential nexus, there must be a "rough proportionality" between proposed exactions and the project impacts that the exactions are intended to provide benefit. As part of the Dolan ruling, the US Supreme Court advised that “a term such as “rough proportionality” best encapsulates what we hold to be the requirements of the Fifth Amendment. No precise mathematical calculation is required, but the city (or other local government) must make some sort of individualized determination that the required dedication is related both in nature and extent to the impact of the proposed development."

The combined effect of both rulings resulted in the requirement that public exactions must be carefully documented and supported. This requirement was reiterated by the provisions of the State of California Mitigation Fee Act and subsequent rulings in the California Supreme Court (Ehrlich v. City of Culver City (1996) 12 C4th 854) and the California Court of Appeal (Loyola Marymount University v. Los Angeles Unified School District (1996) 45 Cal.App.4th 1256). The Vision Plan Traffic Fee Nexus Study satisfied the requirements of the State of California Mitigation Fee Act. Thus this update is not intended to re-analyze the nexus or the purpose, but is to review and revise the fee program based on the needs determined by the 2015 Traffic Study Update.

The 2015 Traffic Study Update analyzed the project study area presented in Figure 2. All improvements identified under the interim year 2020 and buildout Post-2035 conditions are located within this defined project study area. Consistent with the methodology used in the 2010 IBC Vision Plan Traffic Study (henceforth referred to as 2010 IBC EIR Traffic Study), the 2015 Traffic Study Update identified specific mitigation measure improvements that mitigate unacceptable level of service (LOS) E and F to acceptable LOS of A-D, per the City’s Traffic Impact Analysis (TIA) Guidelines (adopted August 2004) and per the performance criteria for each affected agency (Caltrans District 12 and cities of Newport Beach, Costa Mesa, Santa Ana, and Tustin). For locations within the City of Irvine, 90% of the improvement costs are included in the fee program. For locations not under the City of

Irvine's jurisdiction, a fair-share methodology is applied that considers fair-shares of improvement costs. The proportionate fair-shares of improvement costs in the City of Costa Mesa and Santa Ana, associated with remaining improvements from the City of Irvine's Genera Plan, are included in the Fee Program. A 2011 amended agreement with the City of Santa Ana, replacing the 1992 agreement between the two cities, identified specific improvements for which the City of Irvine is either partially or fully responsible for certain improvement and those associated improvement costs were included in this update. In 2009 and 2010, respectively, the City of Newport Beach and the City of Tustin entered into settlement agreements with the City of Irvine, where City of Irvine made a one-time lump-sum payment to each of the cities, as its fair-share contribution towards transportation improvements and absolved itself from any future financial or implementation obligation related to the Vision Plan buildout.

Exhibit 1: IBC Location Map

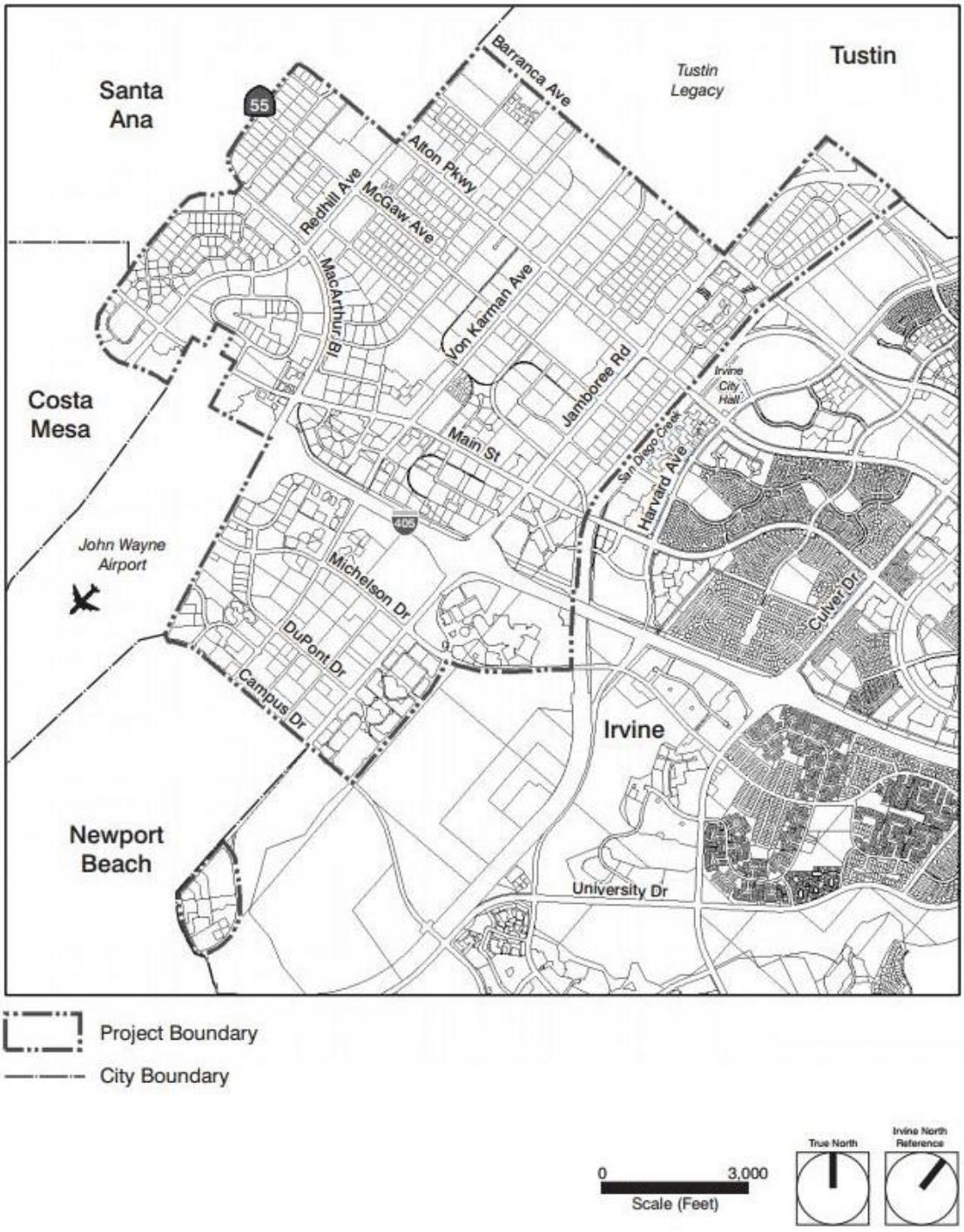
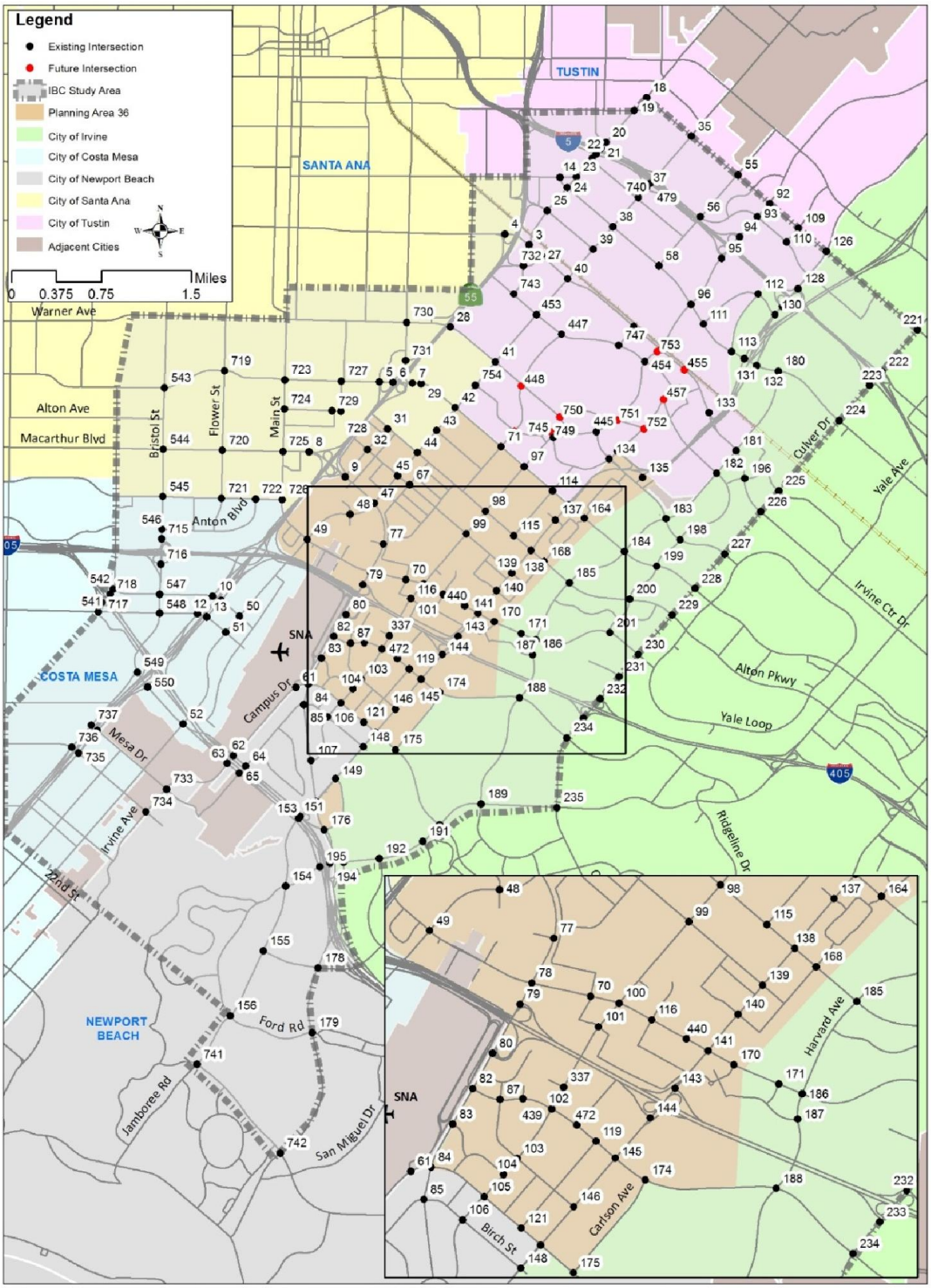


Exhibit 2: IBC Traffic Study Boundary



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3.0 ENVIRONMENTAL SETTING

The following sections describe the setting for the Irvine Business Complex (IBC).

3.1 Aesthetics

The majority of the IBC is located in the Central Flatlands landform zone of the City of Irvine, while a portion of the IBC extends south of I-405 within the San Joaquin Hills landform zone. San Diego Creek, Peters Canyon Wash, and the Barranca Channel traverse the IBC. There are no significant landforms within the IBC or the surrounding area. Nighttime lighting in the IBC comes from various sources, such as streetlights, security lighting in parking lots and along walkways, electronic signs, vehicle headlights, and light emitted from the exteriors and interiors of buildings. Nighttime glare is generally limited to headlights reflecting off glass surfaces. During the day, sunlight reflects off glass surfaces associated with buildings and vehicles, creating glare.

The IBC is largely urbanized and does not contain any large areas of open space or significant visual resources. However, the San Joaquin Freshwater Marsh, which is located just southeast of the IBC, is considered a significant visual resource. Vegetation throughout the IBC consists of landscaped areas and mature ornamental trees. The City's General Plan does not identify any significant visual resources, preservation areas, or scenic vistas in the IBC. According to the California Department of Transportation's (Caltrans) California Scenic Highway Mapping System, the IBC is not located near an Officially Designated State Scenic Highway.

3.2 Agriculture and Forest Resources

The IBC is largely urbanized and does not contain any agricultural zoned land uses or operations. A mix of residential, industrial, and mixed-use development comprises the majority of the IBC. As a result, the IBC does not include any Prime Farmland, Unique Farmland, Farmland of Statewide Importance, forest land, timberland, or parcels under a Williamson Act contract.

3.3 Air Quality

South Coast Air Basin

The IBC is located in the South Coast Air Basin (Air Basin), which includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. The Air Basin is located in a coastal plain, with connecting broad valleys and low hills. The Air Basin is bound by the Pacific Ocean to the southwest, with high mountains forming the remainder of its perimeter. The broader Air Basin region occurs in the semi-permanent high-pressure zone of the eastern Pacific, which results in a mild climate tempered by cool sea breezes. This usually mild weather pattern is interrupted infrequently by periods of extremely hot weather, winter storms, and Santa Ana winds.

Criteria Air Pollutants

Air pollutants emitted into the ambient air by stationary and mobile sources are regulated by federal and state law. Air pollutants are known as "criteria air pollutants" and are categorized into primary and secondary pollutants. Primary air pollutants are those that are emitted directly from sources. Carbon monoxide (CO), volatile organic compounds (VOC), nitrogen oxides (NO_x), sulfur dioxide (SO_2), coarse inhalable particulate matter (PM_{10}), fine inhalable

particulate matter ($PM_{2.5}$), and lead are primary air pollutants. Of these, CO, SO_2, NO_x, PM_{10}, $PM_{2.5}$, and lead are criteria pollutants. VOC and NO_x are criteria pollutant precursors and proceed to form secondary criteria pollutants through chemical and photochemical reactions in the atmosphere. Ozone (O_3) and nitrogen dioxide (NO_2) are principal secondary pollutants.

Air Quality Management Plan

The South Coast Air Quality Management District (SCAQMD), the California Air Resources Board (ARB), SCAG, and the U.S. Environmental Protection Agency (EPA) are responsible for preparing the Air Quality Management Plan (AQMP) for the Air Basin. The current 2012 AQMP was adopted December 7, 2012. The purpose of the 2012 AQMP is to establish a comprehensive and integrated program that will lead the Air Basin into compliance with the federal 24-hour $PM_{2.5}$ air quality standard, and to provide an update of the Air Basin's projections in meeting the federal 8-hour O_3 standards. The AQMP is submitted to the EPA as the State Implementation Plan (SIP) once it is approved by the SCAQMD Governing Board and the ARB. Specifically, the AQMP serves as the official SIP submittal for the federal 2006 24-hour $PM_{2.5}$ standard, for which EPA established a due date of December 14, 2012. In addition, the AQMP updated specific elements of the previously approved 8-hour O_3 SIP: (1) an updated emissions inventory, and (2) new control measures and commitments for emissions reductions to help fulfill the Section 182(e)(5) portion of the 8-hour O_3 SIP.

The 2012 AQMP proposes $PM_{2.5}$ measures to be implemented by the 2014 attainment date, episodic control measures to achieve air quality improvements (would only apply during high $PM_{2.5}$ days), Section 182(e)(5) implementation measures (to maintain progress towards meeting the 2023 8-hour O_3 national standard), and transportation control measures. Most of the control measures focus on incentives, outreach, and education.

There are multiple VOC and NO_x reductions in the 2012 AQMP that attempt to reduce O_3 formation, including further VOC reductions from architectural coatings, miscellaneous coatings, adhesives, solvents, lubricants, mold release products, and consumer products. The 2012 AQMP also contains proposed mobile source implementation measures for the deployment of zero- and near-zero emission on-road heavy-duty vehicles, locomotives, and cargo handling equipment. There are measures for the deployment of cleaner commercial harbor craft, cleaner ocean-going marine vessels, cleaner off-road equipment, and cleaner aircraft engines. The 2012 AQMP also relies upon SCAG's Regional Transportation Strategy, which is included in its adopted 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and 2011 Federal Transportation Improvement Program.

Existing Ambient Air Quality

Existing ambient air quality levels and historical trends and projections in the vicinity of the IBC and the City of Irvine have been documented by the SCAQMD. The IBC is located between Source Receptor Area (SRA) 17-Inland Orange County (Central Orange County) and SRA 18-Coastal (North Orange County Coastal). For the IBC EIR, both the Costa Mesa Monitoring Station and the Anaheim Monitoring Station were used for data collection. The collected data shows that the broader IBC area occasionally exceeded the state and federal one-hour and eight-hour O_3 standards. The data also indicates that the area regularly exceeded the state PM_{10} and federal $PM_{2.5}$ standards. At these particular monitoring stations, the federal PM_{10} standard was only exceeded once during the five years between

2004 and 2008. The CO, SO_2, or NO_2 standards were not exceeded at any point during the same five-year period.

3.4 Biological Resources

The IBC is largely urbanized and does not contain any large areas of open space. The IBC contains several small, concrete-lined flood control channels that lack vegetative cover. A dominant feature of the area is San Diego Creek, which runs along the eastern edge of the IBC.

Plant Communities

Because of previous development, the IBC contains little remaining native vegetation. Existing vegetation primarily consists of non-native, ornamental landscaped areas with mature ornamental trees. Most of the remaining undeveloped parcels in the IBC contain little or no vegetation, due to recent grading, site preparation, or weed abatement activities. While some undeveloped and undisturbed parcels contain vegetation, these communities are generally characterized as ruderal, with only a small portion of undeveloped parcels fostering annual grassland.

In total, eight vegetation communities were mapped in the IBC: urban, ornamental plantings/parks, ornamental landscaping/annual grassland, ruderal, annual grassland, graded, concrete flood control channels, and earthen flood control channels. Despite the eight mapped vegetation communities, ornamental landscaping is the dominant plant community found within the IBC. These ornamental landscaped areas generally consist of a combination of turf, shrubbery, lawn, perennials, and narrow bands of urban forest.

Wildlife Communities

Wildlife found in the IBC is typical of developed urbanized areas containing predominantly ornamental plant communities. Bird species observed in the developed portions of the IBC are those commonly found in urbanized areas, such as the black phoebe (*Sayornis nigricans*), mourning dove (*Zenaida macroura*), common raven (*Corvus corax*), northern mockingbird (*Mimus polyglottos*), European starling (*Sturnus vulgaris*), house sparrow (*Passer domesticus*), and lesser goldfinch (*Carduelis psaltria*). Because of its urbanized setting, the IBC does not function as a wildlife movement corridor. The majority of the IBC does not contain wetlands or waters of the U.S. or state that would be under the jurisdiction of the U.S. Army Corps of Engineers (USACE), Californian Department of Fish and Wildlife (CDFW), or Santa Ana Regional Water Quality Control Board (RWQCB). However, San Diego Creek and San Joaquin Marsh, which adjoin the IBC, contain jurisdictional waters and wetlands.

The IBC is located in the Orange County's Central and Coastal Natural Community Conservation Planning/Habitat Conservation Plan (NCCP/HCP), with a small area in the southern portion of the IBC proposed as a NCCP reserve area. This area consists of the upland area located between the San Joaquin Freshwater Marsh, the San Diego Creek, MacArthur Boulevard, and Fairchild Road, and is owned and managed by the University of California, Irvine (UCI). While the IBC does not contain any sensitive or regulated habitats, several habitats considered sensitive by the CDFW and the NCCP/HCP adjoin the area. These would include wetland and riparian habitats in the San Joaquin Reserve and Sanctuary areas, as well as within San Diego Creek. Small pockets of coastal sage scrub adjoin the IBC and are known to support nesting territories of the coastal California gnatcatcher.

3.5 Cultural Resources

Historical Resources

In 1876, James Irvine bought out his partners in Flint, Bixby & Co. and became the sole owner of the Irvine Ranch. Just as with the previous ownership, Irvine continued to run Irvine Ranch as a ranching operation for many years. When James Irvine Jr. took over control of the Irvine Ranch, the younger Irvine transitioned the ranch from raising cattle to raising crops. He drilled wells and developed the Irvine Ranch water system, including Irvine Lake, to support the farming operations. In 1887, the San Bernardino and San Diego Railroad, a subsidiary of the Santa Fe Railroad, laid a rail line across the ranch. Buildings to process and pack the ranch's agriculture products were subsequently constructed next to the tracks.

Irvine Ranch was predominately agricultural, containing only sparsely placed farmhouses and associated outbuildings through the 1950s. The Interstate 405 (I-405) was constructed in the mid-1960s, followed closely by increased development. For the remainder of the 20th century, urbanization continued, with commercial development dominating the IBC area, and with residential projects incrementally developed. With the dawning of the 21st century, redevelopment began taking place.

No significant historical resources, as defined by local, state, or federal law, are known to occur within the IBC.

Archeological Resources

Beginning approximately 3,000 years before present (BP), the IBC was in the territory of the Tongva/Gabrielino people. The Tongva/Gabrielino territory encompassed more than 2,500 square miles, stretching from Topanga Canyon in the northwest, Mount Wilson in the north, San Bernardino in the east, Aliso Creek in the southeast, and the Southern Channel Islands. At European contact, the tribe consisted of more than 5,000 people living in various settlements throughout the area. The size of villages varied, with some villages being quite large, housing up to 150 people.

Three known prehistoric archaeological sites occur within the boundaries of the IBC. These sites had cooking features, abundant food refuse, both ground and chipped stone tools, waste from tool creation, ceremonial and ornamental objects, and burials. Archaeological evidence demonstrates that the largest components of the sites date between 5,000 and 1,000 years BP. A portion of one site was preserved from future development with burials intact and preserved. Aside from these sites, the remainder of the IBC does not appear to contain any sensitivity for prehistoric resources.

Paleontological Resources

Surface soils of the IBC consist of recent alluvial sediments deposited by streams and other water sources. Lying at variable depths below the surface, but generally more than six and less than 30 feet deep, is a complex of sand, silt, and clay containing Late Pleistocene (50,000 to 10,000 years old) fossils. Underlying the Pleistocene strata are sands aging from Middle to Early Pleistocene (1.8 million to 50,000 years old) of the San Pedro Formation, containing fossils.

Fossils associated with the IBC include herbivores, carnivores, rabbits, rodents, birds, reptiles, and amphibians. The herbivores include mammoth, mastodon, giant ground sloth,

bison, camel, llama, horse, tapir, peccary, deer, pronghorn, and dwarf pronghorn. The carnivores include bear, saber-toothed cat, jaguar, bobcat, dire wolf, coyote, gray fox, raccoon, weasel, badger, skunk, and sea otter. Known birds include turkey vulture and duck. The smaller animals include many types of rabbits, rats, mice, gophers, wood rats, moles, shrews, lizards, snakes, and salamanders. The known fossils are all from the Pleistocene Epoch and represent the last Ice Age (50,000 to 10,000 years ago).

3.6 Geology and Soils

The majority of the IBC is located at the southern end of the broad Coastal Plain of Orange County, mostly in the Tustin Plain, while a portion of the IBC extends south of I-405 is within the easternmost margin of Newport Mesa. The Tustin Plain is part of the coastal section of the Peninsular Range Province, a 900-mile, predominantly coastal range characterized by elongated northwest-trending mountain ridges separated by sediment-floored valleys. The Tustin Plain separates the Santa Ana Mountains to the north and east from the San Joaquin Hills to the south. The northwest-trending Santa Ana Mountains have uplifted on their eastern side along the Whittier-Elsinore Fault Zone, producing a tilted, irregular, and complex highland that slopes westward toward the sea.

Sediments eroded from the Santa Ana Mountains and the San Joaquin Hills have been deposited by streams emanating from these highlands (Peters Canyon Wash, San Diego Creek, etc.) and the lower reach of the Santa Ana River, producing the broad, complex, alluvial fan of the Tustin Plain. This alluvial fan consists of relatively flat-lying, unconsolidated to semi-consolidated sediments that are approximately 30 to over 1,200 feet thick beneath the IBC, generally thickening to the northwest. These deposits include strata of the upper member of the Pliocene Fernando Formation (approximately two to three million years old) and Pleistocene (10,000 to two million years old) alluvium. The near-surface, unconsolidated Holocene sediments beneath the IBC are between 10 and 20 feet thick and predominately consist of young alluvial fan deposits. Soil development in the IBC includes well-drained soils of the Alo, Balcom, and Myford Series, which are characteristic of upland and marine terrace deposits, and poorly drained soils of the Chino and Omni Series and Thapto-Histic Fluvaquents, which are characteristic of alluvial fan, floodplain, and coastal basin deposits.

Earthquakes are common to the greater Southern California region, including the IBC and City of Irvine. Earthquake Fault Zones have been identified along known active faults in California in accordance with the Alquist-Priolo Earthquake Fault Zoning Act. Known active and potentially active faults that could produce substantial ground shaking in the IBC include the San Joaquin Hills, Newport-Inglewood (Offshore), Newport-Inglewood (LA Basin), and Whittier-Elsinore Faults. However, no known active surface faults are mapped or traverse the IBC, and the area is not in an Alquist-Priolo Earthquake Fault Zone.

Neither erosion nor subsidence is considered a potential significant geologic hazard in the IBC. However, previous geotechnical investigations have identified the IBC as being susceptible to both expansive and corrosive soils.

Groundwater

Groundwater was encountered at a depth of about 10 to 14 feet below the existing ground surface. A review of the California Department of Mines and Geology's Seismic Hazard Zone Report 012 indicates that historical high groundwater level for the project area is as shallow as 10 feet below the existing ground surface.

Faulting and Seismicity

Based on a review of referenced publications and seismic data, no faults are known to traverse through or immediately adjacent to the project site, and the site does not lie within an "Earthquake Fault Zone" as defined by the State of California in the Alquist-Priolo Earthquake Fault Zoning Act.

Liquefaction

The site is located within an area mapped as requiting a site-specific liquefaction hazards evaluation. The majority of soils encountered in core penetration tests and nearby borings consist of cohesive, non-liquefiable clays. However, thin layers of silty sands were also encountered. Based on the Preliminary Geotechnical Investigation, it is estimated that the potential total liquefaction-induced settlement will be between 1 and 1.5 inches at the site with a differential settlement of 0.5 to 0.75 inch.

3.7 Greenhouse Gas Emissions

Climate Change and Greenhouse Gas Emissions

Climate change is the variation of Earth's climate over time, whether a result of natural variability or human activity. The climate system is interactive, consisting of five major components: the atmosphere, the hydrosphere (ocean, rivers, and lakes), the cryosphere (sea ice, ice sheets, and glaciers), the land surface, and the biosphere (flora and fauna). The atmosphere is the most unstable and rapidly changing part of the system. It is made up of 78.1 percent nitrogen (N_2), 20.9 percent oxygen (O_2), and 0.93 percent argon (Ar). These gases have only limited interaction with the incoming solar radiation and do not interact with infrared (long-wave) radiation emitted by the Earth. However, there are a number of trace gases, such as carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and O_3, that absorb and emit infrared radiation, and thus, have an effect on climate. These are defined as greenhouse gases (GHG), and while they comprise less than 0.1 percent of the total volume mixing ratio in dry air, they play an essential role in influencing climate.

Non-CO_2 GHG are those listed in the Kyoto Protocol (CH_4, N_2O, hydrofluorocarbons [HFC], perfluorocarbons [PFC], and sulfur hexafluoride [SF_6]), as well as those listed under the Montreal Protocol and its amendments (chlorofluorocarbons [CFC], hydrochlorofluorocarbons [HCFC], and halons). Water vapor (H_2O) is the strongest GHG, but is also the most variable in its phases (vapor, cloud droplets, ice crystals). However, H_2O is not considered a pollutant in the atmosphere.

IBC Emissions Inventory

An existing GHG emissions inventory of the IBC was conducted for the IBC EIR. This inventory was based on the existing land uses in 2010. Lifecycle emissions were not included in this analysis because comprehensive information was not available for all of the future development in the IBC, and thus, lifecycle GHG emissions would have be speculative. The inventory concluded that the primary source of GHG emissions within the IBC is transportation sources, especially those associated with commuter and commercial vehicles. Non-transportation emissions from structures and associated direct sources of emissions represent a much smaller proportion of IBC's GHG emissions inventory. It is important to note that these emission sources can be controlled, both through physical or regulatory mechanisms.

3.8 Hazards and Hazardous Materials

The IBC is largely urbanized and developed with residential, commercial, industrial, and mixed uses. As part of the mixed-use development model, the IBC Vision Plan and Mixed Use Overlay Zoning Ordinance allows for several different land uses of varying types and intensities to occur close to one another. Searches of various regulatory databases were conducted to understand potential environmental hazards in the IBC and devise measures that would avoid significant impacts to residential uses and other sensitive receptors as a result of these potential environmental hazards.

CalARP Program

In the IBC, the Orange County Fire Authority (OCFA) administers the CalARP Program, which includes the federal Accidental Release Prevention Program (Title 40, CFR Part 68) with certain state-specific additions pursuant to Article 2, Chapter 6.95 of the Health and Safety Code. The purpose of the CalARP Program is to prevent accidental releases of regulated hazardous substances by rigorously evaluating business operations that use and exceed the threshold quantity of a regulated substance. The owner or operator of a stationary source is required to develop and submit a risk management plan (RMP) to prevent accidental releases to the public and the environment. A 2009 review of OCFA records showed that five businesses in the IBC were regulated under CalARP, with RMPs submitted to the OCFA. However, inclusion on the CalARP list does not necessarily insinuate an increased risk level to the surrounding environment.

SCAQMD Title V Permit

In accordance with Title V of the 1990 Clean Air Act Amendments and subsequent EPA requirements, SCAQMD regulates business operations within its jurisdiction that release pollutants into the air through the issuance of permits. A recent review of the SCAQMD Facility Information Detail (FIND) database showed that there are approximately 511 regulated operations in the IBC. Of these regulated facilities within the IBC, eight are identified as “Title V” facilities. Again, inclusion on the SCAQMD Title V list does not necessarily insinuate an increased risk level to the surrounding environment. Title V applies only to major sources, defined by the EPA as facilities emitting or potentially emitting any criteria pollutant or hazardous air pollutant at levels equal to or greater than the major source thresholds.

Regulatory Database Search

Based on an Environmental Data Resources (EDR) database report, which is a compilation of various regulatory databases maintained by governmental agencies, the IBC is the location of numerous sites that have experienced historical releases of hazardous substances into the environment and/or are undergoing environmental investigation or remediation. The database search identified the following types of sites in the general vicinity of the IBC. Listing within the EDR database does not imply that all sites are contaminated or require remediation. Some of the listed sites may have already been granted site closure by a regulatory agency. Additionally, the identified lists are not mutually exclusive. A given site may appear on one or more lists.

- One U.S. Department of Defense site was listed. The Tustin Marine Corps Air Station is located adjacent to and north of the IBC. This site has undergone investigation and remediation activities, including ongoing monitoring for a groundwater contaminant plume.

- 10 sites were listed by the EPA Toxic Chemical Release Inventory System. These sites are identified because of operational releases of toxic substances to the air, water, and land in reportable quantities specified in the Superfund Amendments and Reauthorization Act Title III, Section 313.

- 112 sites were listed on the Cortese list, which is maintained by the State Water Resources Control Board (SWRCB), Integrated Waste Management Board, and the Department of Toxic Substances Control. These sites are listed because of a release of hazardous substances.

- 173 sites were listed on the California Regional Water Quality Control Board (RWQCB) Leaking Underground Storage Tank (LUST) list.

- 41 sites were listed on the California RWQCB Spills Leaks Investigation and Cleanup (SLIC) list.

- 39 sites were listed on the Orange County Industrial Site Cleanups list maintained by the Orange County Health Care Agency.

- 12 sites were listed on the Department of Toxic Substances Control Envirostor database. These sites are listed because of agency involvement with respect to investigation and/or remediation of hazardous substance contamination.

3.9 Hydrology and Water Quality

Surface Water and Drainage

The IBC is located within the San Diego Creek watershed, which is part of the larger Santa Ana River basin. The majority of the local drainage systems in the IBC (approximately 75 percent) discharge to one of three regional facilities within the area: Lane Channel (designated F08 by the Orange County Flood Control District), Armstrong Channel (F08S01), and Barranca Channel (F09), all of which ultimately discharge into San Diego Creek. Armstrong Channel is tributary to Lane Channel at MacArthur Boulevard, which then confluences with San Diego Creek near I-405, south of Jamboree Road. Barranca Channel also connects with San Diego Creek, albeit upstream of Lane Channel's confluence point at Main Street, south of Jamboree Road. A small portion (less than 25 percent) of the IBC drains to San Diego Creek via separate storm drain systems.

Groundwater

The IBC is located within the Irvine Groundwater Management Zone of the lower Santa Ana River basin. As defined in the Santa Ana RWQCB's 1995 (updated 2003) Water Quality Control Plan (Basin Plan), the Irvine Groundwater Management Zone is generally bounded by Newport Bay and the San Joaquin Hills to the south/southwest, the Santa Ana Mountains to the east, and the Orange County Groundwater Management Zone to the north. The IBC is located over the Irvine Subbasin of the Orange County Main Groundwater Basin. The Orange County Water District (OCWD) manages the level of water in this groundwater basin, including the Irvine Subbasin, and this basin provides more than half of the water used within the District. OCWD has an ongoing program for testing water quality, with water in the groundwater basin having been determined to be of sufficient quality and potable when pumped directly from the ground. Approximately 95 percent of the IBC is developed with impervious surfaces, leaving very few permeable surfaces available for groundwater recharge.

Groundwater quality in the Irvine Subbasin has been affected by high concentrations of nitrate, total dissolved soils (TDS), selenium, and contamination from organic compounds. High nitrate and TDS concentrations are likely the result of historic agricultural operations and associated irrigation activities, and thus, primarily impact shallow portions of the regional aquifer. In response to elevated TDS levels, groundwater extraction and treatment projects (also known as desalters) are in operation or planned in the cities of Tustin and Irvine. The desalters are also designed to address other pollutants, including nitrate, selenium, and organic solvents.

Flood Hazards

Based on the most recent Federal Emergency Management Agency (FEMA) Federal Insurance Rate Maps (FIRMs), the majority of the IBC is located within Zone X, which is defined as areas outside the 0.2-percent annual chance floodplain (500-year floodplain). Lane Channel, Armstrong Channel, and Barranca Channel are all located within Zone A, which is identified as areas within the one-percent annual chance floodplain (100-year floodplain). Additionally, portions of the IBC are located within the dam inundation zone for Land Use and Planning

Irvine Business Complex

The IBC is a business and industrial area encompassing approximately 2,800 acres in the southwestern portion of the City of Irvine. The IBC is generally bounded by the former Tustin Marine Corps Air Station (MCAS) to the north (known now as Tustin Legacy), San Diego Creek to the east, John Wayne Airport (JWA) and Campus Drive to the south, and State Route 55 (SR-55) to the west. The 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 also consists of a 40-acre detached parcel that is approximately 0.5 mile south of the primary IBC boundary. This parcel is bounded by Jamboree Road, Fairchild Road, Macarthur Boulevard, and the San Joaquin Marsh. This parcel is adjacent to the City of Newport Beach.

Existing On-site Land Uses

The prominent land use in the IBC is office, along with substantial amounts of industrial, manufacturing, and warehouse uses and several acres of medium- and high-density housing, currently totaling approximately 6,858 existing residential dwelling units. In addition to these existing dwelling units, the IBC EIR and its associated General Plan and Zoning Ordinance amendments allow for 8,142 additional dwelling units for a total of 15,000 base units. Through state density bonus law provisions, qualifying IBC residential projects may increase the number of allowed units such that a maximum total of 17,038 dwelling units would result.

The City's General Plan designates land use within the IBC as Urban and Industrial, providing for office, industrial, and commercial uses mixed with medium- and high-density housing. Other specific uses include medical offices, light and heavy manufacturing, research and development, retail, restaurants, commercial schools, childcare centers, churches, and hotels. The IBC contains a range of industrial and service industries, including specialty pharmaceutical, healthcare and medical products, clothing manufacturers, and other commercial and financial institutions. Because of its proximity to

JWA and centralized location in Orange County, the IBC includes a growing number of other service industries that cater to business and pleasure travelers, including hotels and restaurants.

Existing Surrounding Land Uses

North of the IBC is the location of the former MCAS Tustin, which is currently being redeveloped as Tustin Legacy. The Tustin Legacy redevelopment plan provides for a wide-range of land uses similar in concept to that of the IBC Vision Plan. Some of the residential and commercial portions of the Tustin Legacy redevelopment plan have already been constructed, including a 1,000,000-square-foot regional commercial shopping center at the northwest corner of Jamboree Road and Barranca Parkway, known as The District at Tustin Legacy.

East of the IBC and south of I-405 is the San Joaquin Marsh, a permanently preserved natural area. Southeast of the IBC and adjacent to the marsh is a property owned and operated by UCI. According to the UCI 2007 Long Range Development Plan (LRDP), this 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 multi-family residential dwelling units by the year 2036.

Southwest of the IBC is JWA, which provides commercial airline service to the greater Orange County area and is surrounded by numerous hotels and restaurants in the cities of Newport Beach and Irvine that currently serve travelers. There is no distinctive boundary that separates the IBC and the City of Newport Beach, as similar mixed-use developments overlap one other in this area, forming a rather cohesive urban form across the boundary.

San Diego Creek, which traverses the southeastern boundary of the IBC, provides an important connection to a comprehensive system of parks, recreational and public facilities, and open space areas within and around the City of Irvine. The San Joaquin Wildlife Sanctuary, which bounds the IBC, offers 10 miles of trails for pedestrians, bicyclists, and equestrian users.

3.10 Mineral Resources

Primarily because of ever-increasing development activity over the years, the greater Orange County area has experienced a noticeable reduction in mineral resources extraction operations throughout the decades. While valuable aggregate resources still remain in areas such as the Santa Ana River, Trabuco Canyon, and San Juan Creek, no valuable or important mineral resources or mining operations currently exist in either the IBC or the City of Irvine. Neither the City's nor the County's General Plan identify the IBC as containing any valuable or important mineral resources or zoned for mineral extraction operations.

3.11 Noise

Existing Noise Environment

The IBC is impacted by many different sources of noise. Mobile sources of noise, primarily commuter and commercial vehicles traveling on local roadways, are the most common and significant noise source in the IBC. Major roadways in the IBC are Alton Parkway, Barranca Parkway, Campus Drive, DuPont Drive, Jamboree Road, MacArthur Boulevard, Main Street, McGaw Avenue, Michelson Drive, Red Hill Avenue, Von Karman Avenue, and the I-405.

Other mobile sources of noise include air traffic generated by JWA, which contributes substantially to the overall ambient noise environment. Secondary noise sources include stationary source such as rooftop HVAC systems.

Roadway Noise

Roadway noise generated from vehicles includes noise associated with engine vibrations, exhaust systems, and the interaction between tires and road. Major arterial roadways in the IBC accommodate large volumes of traffic and are responsible for a significant contribution to the ambient noise environment. Smaller local and collector streets also contribute to the overall ambient noise environment, although to a lesser extent. For the IBC EIR, noise modeling was conducted using the FHWA Highway Traffic Noise Prediction Model (FHWA RD-77-108) based on average daily traffic (ADT) volumes. Noise levels on roadways throughout the IBC, measured at 50 feet from the roadway centerline, ranged from 60.3 A-weighted decibels (dBA) on University Drive east of Irvine Avenue to 80.1 dBA on Jamboree Road between Edinger Road and Warner Avenue.

Aircraft Noise

Aircraft noise generated from air traffic at JWA includes noise associated with takeoffs, flyovers/overflights, approaches, and landings. Each of these activities can expose receptors surrounding the airport to excessive noise levels. Section 21096 of the California Public Resources Code requires that when preparing an EIR for any project within an airport influence area, as defined by an Airport Land Use Compatibility Plan (ALUCP), the lead agency shall use the California Airport Land Use Planning Handbook as a technical resource with respect to airport noise and safety compatibility issues. The basis for compatibility zone delineation for airports is the Community Noise Equivalent Level (CNEL) contours created with the Federal Aviation Administration (FAA) Integrated Noise Model for private and public airports. As outlined in the IBC EIR, 65 dBA CNEL and 60 dBA CNEL contours fall within the western portion of the IBC.

Stationary Sources of Noise

Stationary sources of noise include commercial and industrial equipment and activities associated with the various land uses within and adjacent to the IBC. Whereas mobile noise sources affect many receptors along an entire length of roadway or flight path, stationary noise sources only affect their immediate area. Major stationary sources in the IBC are industrial and warehousing operations. On-site mechanical equipment such as generators and HVAC, along with warehousing and industrial truck traffic, result in noise on local roadways and in the vicinity of industrial operations.

3.12 Population and Housing

According to the most recently available information provided by the City of Irvine, there are approximately 6,858 existing residential units within areas zoned as 5.1 IBC Multi-Use, 5.0 IBC Mixed Use, or 5.3 IBC Residential. Numerous other moderate- and large-scale residential projects are currently either already approved or under review and awaiting approval. Based on the City's recent adoption of 2010 U.S. Census-based population standards, there is an average of 1.46 residents per dwelling unit in high-density residential projects in the City of Irvine. Using this metric, the approximate current population in the IBC is 10,013 residents. By comparison, the 2010 U.S. Census Bureau's 2009-2013 5-Year American Community Survey total population figure for Census Tract 755.15 (inclusive of

the general IBC area) is 14,650 people, including 9,489 people (2010 estimate) in renter-occupied dwellings.

The City's zoning ordinance allows for a total of 15,000 base residential units in the IBC (including density bonus units for affordable housing). Based on the City's recent adoption of 2010 Census-based population standard of 1.46 residents per dwelling unit in high-density residential projects, this equates to roughly 24,875 residents in the IBC upon buildout.

3.13 Public Services

Fire Protection Services

The OCFA currently provides fire protection services to the City of Irvine, including the IBC. In addition to traditional fire protection and emergency medical services, OCFA provides urban search and rescue, fire prevention, hazardous materials coordination, and wildland management services. OCFA facilities serving the IBC include Fire Station #28 (17862 Gillette Avenue), Station #6 (3180 Barranca Parkway), Station #4 (2 Californian Avenue), and Station #36 (301 East Yale Loop).

Police Protection Services

The Irvine Police Department (IPD) presently provides police protection services to the City of Irvine, including the IBC. From their headquarters located at 1 Civic Center Plaza, the IPD provides all services normally associated with public safety, including patrols, investigations, crime analysis, crime prevention, and emergency management/disaster preparedness. The department also has emergency access to helicopter services and mutual aid assistance from surrounding agencies.

Schools

The IBC is located within the enrollment boundaries of the Irvine Unified School District (IUSD), Tustin Unified School District (TUSD), and Santa Ana Unified School District (SAUSD).

The IUSD schools closest to the IBC are Culverdale and Westpark Elementary Schools, South Lake Middle School, and University High School. According to the IBC EIR, in 2009 all four IUSD schools were under capacity. However, a recent review of the 2012-2013 enrollments published by the California Department of Education found that all but South Lake Middle School were over the maximum capacities provided in the IBC EIR.

Parks

Other than a few small pocket parks and several private recreational facilities found within individual residential developments, the IBC does not currently contain any neighborhood or community parks. Instead, the IBC's park and recreational needs are predominately met by the nearby areas, which include several larger public park and recreational facilities, including the San Joaquin Marsh, San Diego Creek Trail, William R. Mason Regional Park (18712 University Drive), Colonel Bill Barber Marine Corps Memorial Park (4 Civic Center Plaza), San Marco Park (1 San Marco), and San Carlo Park (1 San Carlo).

Other Public Facilities

The IBC is served by the University Park Library (4512 Sandburg Way), Heritage Park Regional Library (14361 Yale Avenue), and the Kate Wheeler Library (13109 Old Myford

Road). The three branches total an estimated 43,347 square feet and contain 332,536 volumes. Two senior centers, Lakeview Senior Center (20 Lake Road) and Ranch Senior Center (3 Ethel Coplen Way), provide seniors in the IBC with social and recreational opportunities.

3.14 Recreation

The San Joaquin Marsh is within walking distance of the southernmost portion of the IBC. The San Joaquin Marsh consists of two separately managed areas: the San Joaquin Freshwater Marsh Reserve to the south; and the San Joaquin Wildlife Sanctuary to the north. The Wildlife Sanctuary encompasses 300 acres of coastal freshwater wetlands and 10 miles of trails for pedestrian, bicycle, and equestrian users.

The San Diego Creek Trial, 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. In addition to the San Joaquin Wildlife Sanctuary, the San Diego Creek Trail connects to the Mountains to the Sea Trail, which unites recreational users in the IBC to historic Irvine Ranch, northern foothills, the Upper Newport Bay, and the Pacific Ocean.

William R. Mason Regional Park (18712 University Drive) is located approximately two miles from the IBC. The regional park encompasses 345 acres of open spaces, grassy knolls, a lake, and natural areas. Colonel Bill Barber Marine Corps Memorial Park (4 Civic Center Plaza), which is located adjacent to the IBC, serves the area as a community park and connects to the San Diego Creek Trail. Within the IBC, there are also several private recreational facilities found within individual residential developments. These facilities are predominantly gated or indoor facilities serving the residents of the individual residential developments, as described as private neighborhood parks under Section 5-5-1004 of the Irvine Municipal Code, also known as the Subdivision Ordinance.

3.15 Transportation and Traffic

The IBC's study area consists of the current boundaries of the IBC and its surroundings in the City, as well as portions of the cities of Newport Beach (including the entirety of the "airport area" of Newport Beach), Tustin, Santa Ana, Costa Mesa, and unincorporated Orange County. The study area is served by five freeways: SR-73, SR-55, SR-261, I-405, and I-5.

Public and Alternative Transportation

The IBC is currently served by rail transit at the Irvine Metrolink Station located on Barranca Parkway and the Tustin Metrolink Station located on Edinger Avenue.

The IBC is presently served by a number of local bus routes operated by the Orange County Transportation Authority (OCTA) along major thoroughfares and locations within the IBC. The Irvine Shuttle (The iShuttle) 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 and offering connections to the Irvine and Tustin Metrolink Stations and JWA.

There is an extensive network of recreational and commuter trails that connect to destinations within the IBC. Land uses within the IBC that are required to provide bicycle

parking include, but are not limited to shopping centers (greater than 50,000 square feet of gross floor area), restaurants, and office developments (greater than 100,000 square feet of gross floor area). Within the City, there are 44.5 miles of off-street Class I bikeways and 282 miles of on-street Class II bikeways. The Orange County Bicycle Master Plan, the City of Irvine Bicycle Transportation Plan, and the Irvine General Plan Circulation Element all address bicycle networks in the study area.

With the addition of residential units among the existing predominant office uses in the IBC, there is a growing need for pedestrian transportation amenities such as sidewalks, crosswalks, and other important connections throughout the study area. Development impact fees are expected to contribute to the enhancement of pedestrian facilities in the IBC as residential uses increase.

Existing Conditions

To analyze the potential local and regional traffic impacts that could result from buildout of the IBC, the City's traffic model, Irvine Transportation Analysis Model (ITAM) 8.4, was applied during the IBC EIR evaluation process to forecast future traffic conditions for the study area. There are 275 different arterial segments, 224 intersections, 30 northbound and southbound freeway mainline segments, and 98 freeway ramps within the study area that were evaluated as part of the IBC EIR's traffic analysis.

Under existing conditions, traffic within the City and adjacent jurisdictions is generally heaviest in the north-south direction, with Jamboree Road and Culver Drive being the City's highest utilized north-south corridors. In addition, other heavily traveled north-south arterials include MacArthur Boulevard, University Drive, Main Street in the City of Santa Ana, Edinger Avenue in the City of Tustin, MacArthur Boulevard in the City of Newport Beach, and Bristol Street in the City of Costa Mesa. The following were some of the most heavily traveled arterial segments within the study area:

Jamboree Road

Irvine

- El Camino Real to I-5 NB On-Ramp (61,500 vehicles per day [vpd])
- I-5 NB Ramps to I-5 SB Off-Ramp (65,000 vpd)
- Warner Avenue to Edinger Avenue (78,500 vpd)
- Edinger Avenue to Walnut Avenue (71,900 vpd)
- Warner Avenue to Barranca Parkway (69,500 vpd)
- Michelson Drive to I-405 southbound off-ramp (69,500 vpd)

City of Newport Beach

- MacArthur Boulevard from Bison to Ford (75,900 vpd)

Bristol Street

Costa Mesa

- Anton Boulevard to I-405 NB Ramps (62,500 vpd)
- I-405 NB Ramps to I-405 SB Ramps (63,000 vpd)

Existing arterial traffic conditions were evaluated based on the existing counts and lane configurations. Level of Service (LOS) E or F indicates a deficient segment for all arterial segments outside of the IBC within the City of Irvine. IBC segments are considered deficient at LOS F. The IBC arterial analysis conducted indicated that 12 roadway segments are deficient under the Existing Year 2008 daily conditions, 11 of which are in Irvine.

The City's Traffic Impact Analysis (TIA) Guidelines mandate a peak hour link analysis on all links that exceed the permissible daily LOS threshold applicable to the segment. The City's acceptable threshold is LOS D, unless the arterial segment is located within the IBC, where LOS E is acceptable. All arterial segments that are deficient under daily conditions operate at an acceptable LOS in both peak hours, performing at LOS C or better, and there are no segments within the City that fail under peak hour existing conditions.

The City limits the size and intensity of land uses within the IBC in order to limit the potential negative impacts of traffic generated by each use. Each property in the IBC has an assigned Development Intensity Value (DIV) budget with a maximum allocation of AM peak-hour, PM peak-hour, and average daily DIVs. The IBC has provisions in place to allow for Transfers of Development Rights (TDRs) to allow unused portions of the allocated DIV budget for one property to be transferred to other properties through a process specified in the Zoning Ordinance, which requires among other things the preparation of a traffic study.

3.16 Utilities and Service Systems

Water Services

The Irvine Ranch Water District (IRWD) provides domestic water services to the IBC. IRWD is a multi-service agency that provides potable and recycled water supply and wastewater collection, treatment, and disposal services to a service area encompassing 84,610 acres and a service population of approximately 266,000. IRWD, which serves all of the City of Irvine, is a member agency of the OCWD, and is the largest constituent agency of the Municipal Water District of Orange County (MWDOC). IRWD's decision-making process is guided by two planning documents: the Water Resources Master Plan (WRMP), a comprehensive document compiling data and analyses that IRWD considers necessary for its planning needs; and the Urban Water Management Plan (UWMP), a document required by statute.

Sewer Services

The IRWD provides wastewater collection service in the City. The IBC is located in the Orange County Sanitation District (OCSD), tributary zone No. 7 (SD-7). With the exception of the former MCAS Tustin Marine Corps Air Station and a residential area east of the MCAS, the IBC comprises the entirety of SD-7. Wastewater generated in the IBC currently flows to OCSD, and not to IRWD treatment facilities. The IBC wastewater collection system includes over 40 miles of sewer lines, ranging between eight to 66 inches in diameter. There are two IRWD pump stations operational in the IBC: the Michelson Pump Station and the Main Pump Station.

Solid Waste Services

Orange County Integrated Waste Management Department (IWMD) is the agency that regulates and operates the local Orange County landfills, including the Frank R. Bowerman Landfill (11002 Bee Canyon Access Road). Waste Management of Orange County serves as the private waste hauler for residential uses in the City. Bowerman Landfill encompasses

725 acres in the City, including 341 permitted acres for disposal, and is permitted to accept a maximum 11,500 tons of waste per day. The Bowerman Landfill's current closure date is 2053, although it is currently understood that the IWMD is pursuing the required permits for expansion of the facility.

4.0 ENVIRONMENTAL CHECKLIST FORM

1. **Project Title:** 2015-17 IBC Traffic Improvement Fee Program Update

2. **Lead Agency Name and Address:** City of Irvine
One Civic Center Plaza
P.O. Box 19575
Irvine, CA 92623-9575

3. **Project Sponsor's Name and Address:** City of Irvine
One Civic Center Plaza
P.O. Box 19575
Irvine, CA 92623-9575

4. **City Contact Person and Phone Number:** Bill Jacobs, Principal Planner
City of Irvine
Community Development Department
One Civic Center Plaza
Irvine, CA 92623
949-724-6521

5. **Project Location(s):** The approximately 2,800-acre Irvine Business Complex (IBC) comprises Planning Area 36 in the City of Irvine, in south/central Orange County, as shown in Exhibit 1. 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, as shown on Figure 3 2, Local Vicinity. The San Diego Freeway (I-405) traverses the southern portion of the IBC, and the Santa Ana Freeway (1-5) 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 (see Exhibit 1).

6. **General Plan Designation:** Urban and Industrial

7. **Zoning Designation:** 5.0 IBC Mixed-Use, 5.1 IBC Multi-Use, 5.2 IBC Industrial, 5.3 IBC Residential

8. **Description of Project:** This 2015 IBC Vision Plan Five-Year Traffic Study Update fulfills requirements of the City of Irvine Zoning Ordinance, which was updated as part of the 2010 IBC Vision Plan approval to require the City to re-evaluate traffic conditions (and traffic impact locations) by way of a five-year traffic study update (amended to every two years in October 2015). This five-year update evaluates potential traffic impact locations and documents how development actually occurred over the past five years to determine how close the Vision Plan assumptions were to forecasting this condition. The update takes a "snapshot" of the development activity today and considers ambient regional growth to compare with the 2010 assumptions. If as a result of actual development the original traffic impacts are altered or changed, the City has the ability to revise the list of traffic mitigations and IBC fees accordingly within the umbrella of the adopted Vision Plan.

   This IBC Vision Plan Five-Year Traffic Study Update analyzes the potential impacts on the circulation system based on updated conditions to the 2010 amendment to

the City of Irvine General Plan that placed 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. Based on approvals since 2010, the total number of density bonus units assumed for this update is reduced to 1,794 from 2,038. This reduction represents 2,038 assumed theoretical density bonus units in 2010 less 244 theoretical units removed due to reduction in units not associated with any planned project.

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 pre-Vision Plan condition within the study area. The analysis focuses on the identification of updated potential traffic impacts on the current circulation system as it is transformed into a mixed-use community from its previous offerings of office, commercial, and industrial uses within the IBC area. This traffic study provides an assessment of the existing conditions in 2015, existing conditions with the updated Vision Plan assumptions, as well as future Interim Year (2020) and Buildout Year (post-2035) scenarios with and without the updated Vision Plan assumptions. A comparison of the impacted locations versus the impacted locations identified in the 2010 IBC Vision Plan Traffic Study is also performed.

9. **Surrounding Land Uses and Setting:** 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 (see Figure 3-3), 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 approximately 7,000 residential units.

10. **Other Public Agencies whose Approval is Required:**

None

	ISSUES:	Substantial Change in Project Requiring Major EIR Revisions	Substantial Change in Circum-stances Requiring Major EIR Revisions	New Information - Not Previously Known			Less Than Significant Impact	No Change From Previous Analysis
				Results in New Significant Impacts	Results in More Severe Impacts	New Mitigation Measures Available to Reduce Significant Impacts		
1	**AESTHETICS** Would the project:							
a)	Have a substantial adverse effect on a scenic vista?							●
b)	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?							●
c)	Substantially degrade the existing visual character or quality of the site and its surroundings?							●
d)	Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?							●

2	**AGRICULTURE AND FOREST RESOURCES** In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:							
a)	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?							●
b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?							●
c)	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?							●
d)	Result in the loss of forest land or conversion of forest land to non-forest use?							●

	ISSUES:	Substantial Change in Project Requiring Major EIR Revisions	Substantial Change in Circum-stances Requiring Major EIR Revisions	New Information - Not Previously Known			Less Than Significant Impact	No Change From Previous Analysis
				Results in New Significant Impacts	Results in More Severe Impacts	New Mitigation Measures Available to Reduce Significant Impacts		
e)	Result in the loss of forest land or conversion of forest land to non-forest use?							●

3	**AIR QUALITY** Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:							
a)	Conflict with or obstruct implementation of the applicable air quality plan?							●
b)	Violate any air quality standard or contribute substantially to an existing or projected air quality violation?							●
c)	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?							●
d)	Expose sensitive receptors to substantial pollutant concentrations?							●
e)	Create objectionable odor affecting a substantial number of people?							●

4	**BIOLOGICAL RESOURCES** Would the project:							
a)	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, 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?							●
b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U. S. Fish and Wildlife Service?							●

	ISSUES:	Substantial Change in Project Requiring Major EIR Revisions	Substantial Change in Circum-stances Requiring Major EIR Revisions	New Information - Not Previously Known			Less Than Significant Impact	No Change From Previous Analysis
				Results in New Significant Impacts	Results in More Severe Impacts	New Mitigation Measures Available to Reduce Significant Impacts		
c)	Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but no limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?							●
d)	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?							●
e)	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinances?							●
f)	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?							●

5	**CULTURAL RESOURCES** Would the project:							
a)	Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?							●
b)	Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?							●
c)	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?							●
d)	Disturb any human remains, including those interred outside of formal cemeteries?							●

6	**GEOLOGY AND SOILS** Would the project:	
a)	Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	

	ISSUES:	Substantial Change in Project Requiring Major EIR Revisions	Substantial Change in Circum-stances Requiring Major EIR Revisions	New Information - Not Previously Known			Less Than Significant Impact	No Change From Previous Analysis
				Results in New Significant Impacts	Results in More Severe Impacts	New Mitigation Measures Available to Reduce Significant Impacts		
	i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?							●
	ii) Strong seismic ground shaking?							●
	iii) Seismic-related ground failure, including liquefaction?							●
	iv) Landslides?							●
b)	Result in substantial soil erosion or the loss of topsoil?							●
c)	Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?							●
d)	Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?							●
e)	Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?							●

7	**GREENHOUSE GAS EMISSIONS** Would the project:							
a)	Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?							●
b)	Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?							●

	ISSUES:	Substantial Change in Project Requiring Major EIR Revisions	Substantial Change in Circum-stances Requiring Major EIR Revisions	New Information - Not Previously Known			Less Than Significant Impact	No Change From Previous Analysis
				Results in New Significant Impacts	Results in More Severe Impacts	New Mitigation Measures Available to Reduce Significant Impacts		
8	**HAZARDS AND HAZARDOUS MATERIALS** Would the project:							
a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?							●
b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?							●
c)	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?							●
d)	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?							●
e)	For a project located within an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?							●
f)	For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?							●
g)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?							●
h)	Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?							●

	ISSUES:	Substantial Change in Project Requiring Major EIR Revisions	Substantial Change in Circum-stances Requiring Major EIR Revisions	New Information - Not Previously Known			Less Than Significant Impact	No Change From Previous Analysis
				Results in New Significant Impacts	Results in More Severe Impacts	New Mitigation Measures Available to Reduce Significant Impacts		
9	**HYDROLOGY AND WATER QUALITY** Would the project:							
a)	Violate any water quality standards or waste discharge requirements?							●
b)	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?							●
c)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?							●
d)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner in which would result in flooding on- or off-site?							●
e)	Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?							●
f)	Otherwise substantially degrade water quality?							●
g)	Place housing within a 100-year flood hazard area as mapped on federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?							●
h)	Place within a 100-year flood hazard area structures which would impede or redirect flood flows?							●
i)	Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?							●

	ISSUES:	Substantial Change in Project Requiring Major EIR Revisions	Substantial Change in Circum-stances Requiring Major EIR Revisions	New Information - Not Previously Known			Less Than Significant Impact	No Change From Previous Analysis
				Results in New Significant Impacts	Results in More Severe Impacts	New Mitigation Measures Available to Reduce Significant Impacts		
j)	Inundation by seiche, tsunami, or mudflow?							●

10	**LAND USE AND PLANNING** Would the project:							
a)	Physically divide an established community?							●
b)	Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?							●
c)	Conflict with any applicable habitat conservation plan or natural community conservation plan?							●

11	**MINERAL RESOURCES** Would the project:							
a)	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?							●
b)	Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?							●

12	**NOISE** Would the project result in:							
a)	Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?							●
b)	Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?							●

	ISSUES:	Substantial Change in Project Requiring Major EIR Revisions	Substantial Change in Circum-stances Requiring Major EIR Revisions	New Information - Not Previously Known			Less Than Significant Impact	No Change From Previous Analysis
				Results in New Significant Impacts	Results in More Severe Impacts	New Mitigation Measures Available to Reduce Significant Impacts		
c)	A substantially permanent increase in ambient noise levels in the project vicinity above levels existing without the project?							●
d)	A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?							●
e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?							●
f)	For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?							●

13	**POPULATION AND HOUSING** Would the project:							
a)	Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?							●
b)	Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?							●
c)	Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?							●

14	**PUBLIC SERVICES** Would the project:							
a)	Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:							
	i) Fire protection?							●
	ii) Police protection?							●
	iii) Schools?							●
	iv) Parks?							●
	v) Other public facilities?							●

15	**RECREATION** Would the project:							
a)	Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?							●
b)	Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?							●

16	**TRANSPORTATION** Would the project:							
a)	Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?						●	

b)	Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?						●	
c)	Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?							●
d)	Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?							●
e)	Result in inadequate emergency access?							●
f)	Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?							●

17	**UTILITIES AND SERVICE SYSTEMS** Would the project:							
a)	Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?							●
b)	Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?							●
c)	Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?							●
d)	Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?							●
e)	Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?							●
f)	Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?							●

g)	Comply with federal, state, and local statutes and regulations related to solid waste?							●

18	MANDATORY FINDINGS OF SIGNIFICANCE							
a)	Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?							●
b)	Does the project have impacts that are individually limited, but cumulatively considerable ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?							●
c)	Does the project have environmental effects which would cause substantial adverse effects on human beings, either directly or indirectly?							●

5.0 ENVIRONMENTAL ASSESSMENT

This section provides information and analysis that explains the answers presented in the Environmental Checklist Form found above. Each environmental assessment area includes the following, where applicable:

- Summary of the IBC EIR findings
- Discussion of the proposed project
- Level of significance of the project after mitigation
- Applicable mitigation measures

Applicable Programs, Policies, and Procedures (PPPs), Project Design Features (PDFs), and Mitigation Measures (MMs) found within the IBC EIR are listed within each corresponding environmental assessment area that follows. Refer to Appendix C, which includes both the IBC EIR Executive Summary and Mitigation Monitoring and Reporting Program (MMRP), for a full and complete description of each PPP, PDF, and MM certified within the IBC EIR.

5.1 Aesthetics

Summary of the IBC EIR Findings

The IBC EIR identified that development in accordance with the IBC Vision Plan would result in either less than significant or no impacts related to aesthetics.

Discussion of the Proposed Project

Would the project:

a) Have a substantial adverse effect on a scenic vista?

No Change from Previous Analysis: The project area is located within a relatively flat, urbanized area lacking any significant scenic vistas. The nearest scenic resources to the project site are the San Joaquin Freshwater Marsh, which is located just outside the IBC's southeastern boundary, and the bluffs at the Upper Newport Bay, which are located several miles to the southwest. The proposed project would not affect the view shed of either of these scenic resources. Therefore, similar to the findings of the IBC EIR, no impacts associated with scenic vistas would occur.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Change from Previous Analysis: The nearest Officially Designated State Scenic Highway to the project site is a segment of SR-91, located over 10 miles to the north. Therefore, similar to the findings of the IBC EIR, no impacts associated with scenic highways would occur. The project area contains no protected tree species. The project area consists only of ornamental landscape. Additionally, there are no historic buildings or rock outcroppings located in the project area. Therefore, project implementation would not damage scenic

resources including but not limited to trees, rock outcroppings, or historic buildings within a state scenic highway.

c) Substantially degrade the existing visual character or quality of the site and its surroundings?

No Change from Previous Analysis: The existing visual character of the project area is defined by the urban and industrial uses. The surrounding area does not exhibit distinct architectural character and there is no uniformity of architectural styles. No unique or scenic visual resources exist on the project site or in its surroundings.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

No Change from Previous Analysis: There are two primary sources of light: light emanating from building interiors that pass through windows and light from exterior sources (e.g., street lighting, parking lot lighting, building illumination, security lighting, and landscape lighting). The project would not create generate new light.

Level of Significance of the Project After Mitigation

Less than Significant Impact: No new or substantially greater aesthetic impacts to the IBC, as modified with the proposed project, would occur. No new mitigation measures are required.

Applicable IBC EIR PPPs, PDFs, and/or MMs

No PPPs, PDFs, or MMs of the IBC EIR would be applicable to the project.

5.2 Agriculture and Forest Resources

Summary of the IBC EIR Findings

The IBC EIR identified that development in accordance with the IBC Vision Plan would result in either less than significant or no impacts related to agriculture and forest resources.

Discussion of the Proposed Project

Would the project:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

and

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

and

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

and

d) Result in the loss of forest land or conversion of forest land to non-forest use?

and

e) Result in the loss of forest land or conversion of forest land to non-forest use?

No Change from Previous Analysis [a), b), c), d), and e)]: There is no designated Farmland, land zoned for agricultural use, land under Williamson Act contracts, forest land or timberland, or land zoned for forestry use in the IBC. Therefore, similar to the findings of the IBC EIR, no impacts associated with agriculture and forestry resources would occur.

Level of Significance of the Project After Mitigation

No Impact: No new or substantially greater agriculture and forest resources impacts to the IBC, as modified with the proposed project, would occur. No new mitigation measures are required.

Applicable IBC EIR PPPs, PDFs, and/or MMs

No PPPs, PDFs, or MMs of the IBC EIR would be applicable to the project.

5.3 Air Quality

Summary of the IBC EIR Findings

The IBC EIR identified that development in accordance with the IBC Vision Plan would result in either less than significant or no impacts related to:

- Operational activities exposing off-site sensitive receptors to substantial concentrations of NO_2, CO, PM_{10}, and $PM_{2.5}$.
- Creating objectionable odors.

However, the IBC EIR identified that the IBC Vision Plan could result in significant and unavoidable impacts related to:

- The IBC's regional population, housing and employment growth projections not being accounted for in the SCAQMD's 2007 AQMP.
- Construction emissions exceeding the SCAQMD's regional significance thresholds for VOC, NO_x, CO, PM_{10}, and $PM_{2.5}$, which would significantly contribute to the nonattainment of designations of the Air Basin for O_3 and particulate matter (PM_{10} and $PM_{2.5}$).

- Operational emissions exceeding the SCAQMD's regional significance threshold and significantly contributing to the nonattainment designations of the Air Basin for O_3 and particulate matter (PM_{10} and $PM_{2.5}$).

- Construction activities exposing sensitive receptors to substantial concentrations of NO_x, PM_{10}, and $PM_{2.5}$.

- Placing residential uses within ARB's recommended buffer distances from I-405 or existing distribution centers, chrome platers, dry cleaners, or gas stations.

Discussion of the Proposed Project

The following analysis is based in part on the August 2015 Air Quality and Greenhouse Gas Analysis Report prepared by LSA Associates, Inc. and the September 2015 Health Risk Assessment (HRA) Report prepared by FirstCarbon Solutions. Both reports are included as appendices to this Addendum.

Would the project:

a) Conflict with or obstruct implementation of the applicable air quality plan?

No Change from Previous Analysis: The IBC EIR found that regional growth projections in the IBC were not accounted for in the SCAQMD's 2007 AQMP. However, since certification of the IBC EIR, the SCAQMD has prepared and adopted an updated 2012 AQMP that accounts for existing population and projected planned growth within the IBC.

According to the 1993 SCAQMD Handbook, there are two key indicators of consistency with the AQMP:

1. Indicator: Whether the project will not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP.

   Project applicability: Applicable and assessed below.

2. Indicator: A project would conflict with the AQMP if it will exceed the assumptions in the AQMP in 2010 or increments based on the year of project buildout and phase.

   Project applicability: The Handbook indicates that key assumptions to use in this analysis are population number and location and a regional housing needs assessment. The parcel-based land use and growth assumptions and inputs used in the Regional Transportation Model run by SCAG that generated the mobile inventory used by the SCAQMD for AQMP are not available. Therefore, this indicator is not applicable.

Considering the recommended criteria in the 1993 SCAQMD Handbook, this analysis uses the following criteria to address this potential impact:

- Step 1: Project's contribution to air quality violations (SCAQMD's first indictor)

- Step 2: Assumptions in AQMP (SCAQMD's second indictor)
- Step 3: Compliance with applicable emission control measures in the AQMPs

Step 1: Project's Contribution to Air Quality Violations

According to the SCAQMD, the project is consistent with the AQMP if the project would not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP.

As addressed in Impact 6.3.b) below, the project would not violate any air quality standard or contribute substantially to an existing or projected air quality violation.

If a project's emissions exceed the SCAQMD regional thresholds for NO_x, VOC, PM_{10}, or $PM_{2.5}$, it follows that the emissions could cumulatively contribute to an exceedance of a pollutant for which the basin is in nonattainment (O_3, NO_2, PM_{10}, $PM_{2.5}$) at a monitoring station in the Air Basin. An exceedance of a nonattainment pollutant at a monitoring station would not be consistent with the goals of the AQMP, which are to achieve attainment of pollutants.

As discussed in Impact 6.3.c) below, the project would not exceed the regional significance thresholds.

Step 2: Assumptions in AQMP

According to Chapter 12 of the SCAQMD Handbook, the purpose of the consistency finding is to determine whether a project is inconsistent with the assumptions and objectives of the regional air quality plans and, thus, whether it would interfere with the region's ability to comply with federal and state air quality standards. If a project is inconsistent, local governments need to consider project modifications or inclusion of mitigation to eliminate the inconsistency. Consistency with the AQMP implies that a project is consistent with the goals, objectives, and assumptions in the respective plan to achieve the national and state air quality standards. To assess the environmental impacts of new or renovated developments accurately, environmental pollution and population growth are projected for future scenarios.

The development of emission burdens used in air quality management plans to demonstrate compliance with ambient air quality standards is based, in part, on land use patterns contained within local general plans. Thus, it is reasonable to conclude that if a project is consistent with the applicable general plan land use designation, and if the general plan was adopted prior to the applicable AQMP, then the growth generated by a project would be consistent with the growth assumed within the AQMP.

The Irvine General Plan has designated the project area as Urban and Industrial, which supports higher density residential development. Since the project's intended actions are consistent with the current City's General Plan, implementation of the project would not require any amendments to the General Plan designations for the project site. Therefore, the project would be within the City's General Plan designation and is consistent with the adopted AQMP according to this criterion.

Step 3: Control Measures

This step involves assessing the project's compliance with the control measures in the AQMPs.

2003 AQMP. The 2003 AQMP contains a number of land use and transportation control measures, including the SCAQMD's Stationary and Mobile Source Control Measures, State Control Measures proposed by ARB, and Transportation Control Measures provided by SCAG. ARB's strategy for reducing mobile source emissions include the following approaches: new engine standards; reduce emissions from in-use fleet, require clean fuels, support alternative fuels and reduce petroleum dependency, work with EPA to reduce emissions from national and state sources, and pursue long-term advanced technology measures. Transportation control measures provided by SCAG include those contained in their RTP/SCS, the most current version of which is the 2012-2035 RTP/SCS. The RTP/SCS contains control measures to reduce emissions from on-road sources by incorporating strategies such as high occupancy vehicle interventions, transit, and information-based technology interventions. The project is assumed to indirectly comply with these control measures.

2007 AQMP. The focus of the 2007 AQMP is to demonstrate attainment of the federal $PM_{2.5}$ ambient air quality standard by 2015 and the federal 8-hour ozone standard by 2024, while making expeditious progress toward attainment of state standards. This is to be accomplished by building upon improvements from the previous plans and incorporating all feasible control measures while balancing costs and socioeconomic impacts. The 2007 AQMP indicates that $PM_{2.5}$ is formed mainly by secondary reactions or sources. Therefore, instead of reducing fugitive dust, the strategy for reducing $PM_{2.5}$ focuses on reducing precursor emissions of SO_x, directly emitted $PM_{2.5}$, NO_x, and VOC.

The Final 2007 AQMP control measures consist of four components. The first component is SCAQMD's Stationary and Mobile Source Control Measures. The Final 2007 AQMP includes 30 short-term and mid-term stationary and seven mobile source control measures for SCAQMD implementation. A complete listing of the measures is in the 2007 AQMP and includes measures such as VOC reductions from gasoline transfer and dispensing facilities, further NO_x reductions from space heaters, localized control program for PM emission hot spots, urban heat island, energy efficiency and conservation, etc. Some of the measures have/will become new rules and some have/will be amendments to existing rules. When the pending rules pass, all new development project would be required to follow any applicable rules.

The second component is ARB's Proposed State Strategy, which includes short- and mid-term control measures aimed at reducing emissions from sources that are primarily under state jurisdiction, including on-road and off-road mobile sources, and consumer products. These measures are required in order to achieve the remaining emission reductions necessary for $PM_{2.5}$ attainment. ARB's strategy includes measures such as improvements to California's Smog Check Program, expanded passenger vehicle retirement, cleaner in-use heavy-duty trucks, reductions from port-related sources, cleaner off-road equipment, evaporative and exhaust strategies, pesticide strategies, etc. When these measures are implemented by the ARB, the project would be required to follow them.

The third component is SCAQMD Staff's Proposed Policy Options to Supplement ARB's Control Strategy. SCAQMD staff believes that a combination of regulatory actions and public funding is the most effective means of achieving emission reductions. As such, the 2007 Final AQMP proposes three policy options for the decision makers to consider in achieving additional reductions. The first option is to incorporate the SCAQMD proposed additional

control measures as a menu of selections, further reducing emissions from sources primarily under state and national jurisdiction. The second option is to have the State fulfill its NO_x emission reduction obligations under the 2003 AQMP by 2010 for its short-term defined control measures plus additional reductions needed to meet the NO_x emission target between 2010 and 2014. The third option is based on the same rate of progress under the aforementioned first option, but it relies heavily on public funding assistance to achieve the needed NO_x reductions via accelerated fleet turnover to post-2010 on-road emission standards or the cleanest off-road engine standards in effect today or after 2010. This strategy does not apply to the project.

The fourth component consists of Regional Transportation Strategy and Control Measures provided by SCAG. Transportation plans within the Basin are required by statute to conform to air quality plans in the region, as established by the 1990 Federal Clean Air Act and reinforced by other Acts. The region must demonstrate that its transportation plans and programs conform to the mandate to meet the federal ambient air quality standards in a timely manner. The Regional Transportation Plan, prepared by the SCAG, is developed every four years with a 20-year planning horizon to meet the long-term transportation planning requirements for emission reductions from on-road mobile sources within the basin. The biennial Regional Transportation Improvement Program requires that the short-term implementation requirements of the Transportation Conformity Rule be met by SCAG. The first two years of the program are fiscally constrained and demonstrate timely implementation of a special category of transportation projects called Transportation Control Measures. In general, Transportation Control Measures are those projects that provide emission reductions from on-road mobile sources, based on changes in the patterns and modes by which the regional transportation system is used. Strategies are grouped into three categories: high occupancy vehicle strategy, transit and systems management, and information-based technology (traveling during a less congested time of day). SCAG approved the transportation measures in their RTC/SCS, which have been included in the region's air quality plans. The Transportation Control Measures will be implemented and will subsequently reduce emissions in the Basin.

2012 AQMP. The 2012 AQMP was adopted December 7, 2012. The purpose of the 2012 AQMP for the Basin is to set forth a comprehensive and integrated program that will lead the Basin into compliance with the federal 24-hour $PM_{2.5}$ air quality standard, and to provide an update of the Basin's projections in meeting the federal 8-hour O_3 standards. Similar to the prior AQMPs, the project would comply with all applicable rules and regulations enacted as part of the AQMP. In addition, as discussed in the Regulatory section, the AQMP relies upon the SCAG Regional Transportation Strategy, which is in its adopted 2012-2035 RTP/SCS and in the 2011 Federal Transportation Improvement Program. Included in the RTP/SCS are regional transportation strategy and transportation control measures that include the following: active transportation (non-motorized transportation – biking and walking), transportation demand management, transportation system management, transit, passenger and high-speed rail, goods movement, aviation and airport ground access, highways, arterials, and operations and maintenance.

Geographical areas in the state that exceed the federal air quality standards are called nonattainment areas. The project area is in nonattainment for O_3, PM_{10}, $PM_{2.5}$, and NO_2. State Implementation Plans (SIPs) show how each area will attain the federal standards. To do this, the SIPs identify the amount of pollutant emissions that must be reduced in each area to meet the standard and the emission controls needed to reduce the necessary emissions. On September 27, 2007, ARB adopted its State Strategy for the 2007 SIP. In 2009, the SIP was revised to account for emissions reductions from regulations adopted in

2007 and 2008 and clarifies ARB's legal commitment. A 2011 Progress Report found that the Basin is currently 94 percent of the way towards achieving the 2014 emissions levels identified in its $PM_{2.5}$ SIP. The SIP takes into account ARB rules and regulations. The project would be required to comply with all applicable rules and regulations.

Summary

Analysis Step 1: The project would not contribute to air quality violations because its construction emissions do not exceed the SCAQMD localized significance thresholds. In addition, project construction and operational emissions do not exceed the SCAQMD's regional significance thresholds. Therefore, the project is consistent with this criterion.

Analysis Step 2: The project would be consistent with the Irvine General Plan land use designation and is consistent with the adopted AQMP. Therefore, the project is consistent with this criterion.

Analysis Step 3: Similar to all other new development projects, the project would be required to comply with all applicable SCAQMD and SCAG rules and regulations. Therefore, the project is consistent with this criterion.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

No Change from Previous Analysis: The IBC EIR found that construction emissions associated with buildout of the IBC would generate short-term emissions that exceed the SCAQMD's regional significance thresholds for VOC, NO_x, CO, PM_{10}, and $PM_{2.5}$. IBC 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. However, the IBC EIR determined that buildout of the IBC would have the potential for air quality standard violation from construction activities, and concluded that this impact was significant and unavoidable. The proposed project would not create any new air quality impact beyond impacts previously analyzed and mitigated.

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

No Change from Previous Analysis: Regarding this impact, for the project to result in a less than significant effect, the following criteria must be true:

1. Regional analysis: emissions of nonattainment pollutants must be below the regional significance thresholds. This is an approach recommended by the SCAQMD in its comment letters.
2. Summary of projections: the project must be consistent with current air quality attainment plans including control measures and regulations. This is an approach consistent with Section 15130(b) of the CEQA Guidelines.
3. Cumulative health impacts: the project must result in less than significant cumulative health effects from the nonattainment pollutants. This approach correlates the significance of the regional analysis with health effects, consistent with the court

decision, *Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184, 1219-20.

Step 1: Regional Analysis

If an area is in nonattainment for a criteria pollutant, then the background concentration of that pollutant has historically exceeded the ambient air quality standard. It follows that if a project exceeds the regional threshold for that nonattainment pollutant, then it would result in a cumulatively considerable net increase of that pollutant and result in a significant cumulative impact.

The Air Basin is in nonattainment for PM_{10}, $PM_{2.5}$, NO_2, and O_3. Therefore, if the project exceeds the regional thresholds for PM_{10}, or $PM_{2.5}$, then it contributes to a cumulatively considerable impact for those pollutants. If the project exceeds the regional threshold for NO_x or VOC, then it follows that the project would contribute to a cumulatively considerable impact for O_3. If the project exceeds the NO_x threshold, it could contribute cumulatively to NO_2 concentrations.

Regional emissions include those generated from all on-site and off-site activities. Regional significance thresholds have been established by the SCAQMD because emissions from projects in the Air Basin can potentially contribute to the existing emission burden and possibly affect the attainment and maintenance of ambient air quality standards. Projects within the Air Basin region with regional emissions in excess of any of the thresholds are considered to have a significant regional air quality impact. The proposed project would not create any new air quality impact beyond impacts previously analyzed and mitigated.

Step 2: Plan Approach

Section 15130(b) of the CEQA Guidelines states the following:

> The following elements are necessary to an adequate discussion of significant cumulative impacts: 1) Either: (A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency, or (B) A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact.

In accordance with CEQA Guidelines Section 15130(b), this analysis of cumulative impacts is based on a summary of projections analysis. This analysis considers the current CEQA Guidelines, which includes the recent amendments approved by the Natural Resources Agency and effective on March 18, 2010. This analysis is based on the 2003 and 2007 AQMPs. The Basin is in nonattainment for O_3, PM_{10} and $PM_{2.5}$, and NO_2, which means that concentrations of those pollutants currently exceed the ambient air quality standards for those pollutants. When concentrations of O_3, PM_{10}, $PM_{2.5}$, and NO_2 exceed the ambient air quality standard, those sensitive to air pollution (such as the elderly, children, and the sick) could experience health effects such as decrease of pulmonary function and localized lung edema in humans and animals, increased mortality risk, and risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans.

Under the current CEQA Guidelines, cumulative impacts may be analyzed using other plans that evaluate relevant cumulative effects. The AQMPs describe and evaluate the future

projected emissions sources in the Basin and set forth a strategy to meet both state and federal Clean Air Act planning requirements and federal ambient air quality standards. Thus, the AQMPs are relevant plans for CEQA cumulative impacts analysis. The 2003 AQMP updates the attainment demonstration for the federal standards for O_3 and PM_{10}; replaces the 1997 attainment demonstration for the federal CO standard and provides a basis for a maintenance plan for CO for the future; and updates the maintenance plan for the federal NO_2 standard that the Basin has met since 1992. The 2007 AQMP focuses on O_3 and $PM_{2.5}$, and also incorporates significant new scientific data, emission inventories, ambient measurements, control strategies, and air quality modeling.

The geographic scope for cumulative criteria pollution from air quality impacts is the Basin, because that is the area in which the air pollutants generated by the sources within the basin circulate and are often trapped. The SCAQMD is required to prepare and maintain an AQMP and a SIP to document the strategies and measures to be undertaken to reach attainment of ambient air quality standards. While the SCAQMD does not have direct authority over land use decisions, it is recognized that changes in land use and circulation planning are necessary to maintain clean air. The SCAQMD evaluated the entire Basin when it developed the AQMP.

In accordance with CEQA Guidelines Section 15064(h)(3), a lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project complies with the requirements in a previously approved plan or mitigation program. As discussed in Impact 6.3a), the project complies with the control measures in the 2003 and the 2007 AQMP and all applicable SCAQMD rules and regulations. The project would not exceed the SCAQMD's CEQA significance thresholds; the analysis contained in Impact 6.3a) demonstrates that the project is consistent with the most recent AQMP and SIP without mitigation.

Step 3: Cumulative Health Impacts

The Air Basin is in nonattainment for O_3, NO_2, PM_{10}, and $PM_{2.5}$, which means that the background levels of those pollutants are at times higher than the ambient air quality standards. The air quality standards were set to protect public health, including the health of sensitive individuals (such as the elderly, children, and the sick). Thus, when the concentration of those pollutants exceeds the standard, it is likely that some sensitive individuals in the population would experience health effects. However, the health effects are a factor of the dose-response curve; concentration of the pollutant in the air (dose), the length of time exposed, and the response of the individual are all factors involved in the severity and nature of health impacts. If a significant health impact results from project emissions, it does not necessarily mean that 100 percent of the population would experience health effects.

The regional analysis of construction and operational emissions indicates that the project would not exceed the SCAQMD regional significance thresholds, and the project would not result in cumulative health impacts.

d) Expose sensitive receptors to substantial pollutant concentrations?

No Change from Previous Analysis: The IBC EIR found that construction activities could expose sensitive receptors to substantial pollutant concentrations of NO_x, PM_{10}, and $PM_{2.5}$. With regard to long-term operations of the IBC, development of new residential uses and associated outdoor public recreational areas within 500 feet of I-405 could expose sensitive

receptors to diesel particulates and other pollutants. Development of residential uses within specified distances of certain types of industrial uses (e.g., truck bays of existing distribution center; existing chrome plating facility, dry cleaning facilities, gas-dispensing facilities) could expose sensitive receptors to toxic air contaminants (TACs). The proposed project would not create any new air quality impact beyond impacts previously analyzed and mitigated.

Sensitive Receptors

Those individuals who are sensitive to air pollution include children, the elderly, and persons with pre-existing respiratory or cardiovascular illness. For purposes of CEQA, the SCAQMD considers a sensitive receptor to be a location where a sensitive individual could remain for 24 hours, such as residences, hospitals, or convalescent facilities. Commercial and industrial facilities are not included in the definition because employees do not typically remain on-site for 24 hours. However, when assessing the impact of pollutants with 1-hour or 8-hour standards (such as NO_2 and CO), commercial and/or industrial facilities would be considered sensitive receptors for those purposes.

The closest sensitive receptor to the project site is an apartment complex located adjacent to the project site's eastern boundary. Additionally, once operational, the project's residents would also represent sensitive receptors within the context of being impacted by surrounding sources of air emissions.

Localized Significance Threshold Analysis

The localized construction analysis uses thresholds that represent the maximum emissions for a project that would not cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard. The thresholds are developed on the basis of the ambient concentrations of that pollutant for each SRA and on the location of the sensitive receptors. If the project results in emissions under those thresholds, it follows that the project would not cause or contribute to an exceedance of the standard. The standards are set to protect the health of sensitive individuals. If the standards are not exceeded at the sensitive receptor locations, it follows that the receptors would not be exposed to substantial pollutant concentrations.

As discussed in Impact 6.3b), the localized construction and operational analysis demonstrated that the project would not exceed the LSTs for NO_x, CO, PM_{10}, or $PM_{2.5}$. Therefore, construction and operation of the project would not expose sensitive receptors to substantial pollutant concentrations of NO_x, CO, PM_{10}, or $PM_{2.5}$.

CO Hot Spot Assessment

As also addressed in Impact 6.3b), a CO hot spot analysis is the appropriate tool to determine if project emissions of CO during operation would exceed ambient air quality standards. The main source of air pollutant emissions during operation are from off-site motor vehicles traveling on the roads surrounding the project. The CO hot spot analysis demonstrated that emissions of CO during operation would not result in an exceedance of the most stringent ambient air quality standards for CO. The standards are set to protect the health of sensitive individuals. If the standards are not exceeded, then the sensitive individuals would not be significantly impacted. Therefore, according to this criterion, air pollutant emissions during operation would result in a less than significant impact.

Criteria Pollutant Analysis

The main source of air pollutant emissions during operation are from off-site motor vehicles traveling on the roads surrounding the project. As shown in Impact b), the project would not

exceed the SCAQMD's local significance thresholds for construction or operational emissions. Therefore, according to this criterion, air pollutant emissions during operation would result in a significant and unavoidable impact.

Toxic Air Pollutants – On-site Workers

A variety of state and national programs protect workers from safety hazards, including high air pollutant concentrations (California OSHA and CDC 2012).

On-site workers are not required to be addressed through this health risk assessment process. A document published by the California Air Pollution Control Officers Association (CAPCOA 2009), Health Risk Assessments for Proposed Land Use Projects, indicates that on-site receptors are included in risk assessments if they are persons not employed by the project. Persons not employed by the project would not remain on-site for any significant period. Therefore, a health risk assessment for on-site workers is not required or recommended.

Toxic Air Pollutants –Construction

The construction equipment would emit DPM, which the ARB has identified as a carcinogen. However, the DPM emissions during construction are short-term in nature. Guidance published by the California Air Pollution Control Officers Association, Health Risk Assessments for Proposed Land Use Projects, does not include guidance for health risks from construction projects addressed in CEQA; risks near construction projects are expected to be included later when the toxic emissions from construction activities are better understood. Therefore, exposure to DPM during construction is anticipated to be less than significant health impact.

Toxic Air Pollutants –Operation

The SCAQMD requires all facilities that utilize stationary equipment that emit air emissions or TACs to obtain an air permit, and the details of each air permit are provided at the above website. Air permits are required for chrome plating operations, facilities that use Hexavalent Chromium, dry cleaning facilities, gas stations, and from any industrial facility that releases TACs. If a facility is also a truck distribution center, then the SCAQMD also requires that the facility provide information on how many trucks per day operate at the facility and how many of those trucks have operational TRUs.

The project is an area-wide program not subject to the screening distances provided in Sections 5-8-4(f) and (g) of the Zoning Ordinance and therefore a quantitative HRA is not required for the proposed project.

e) Create objectionable odor affecting a substantial number of people?

No Change from Previous Analysis: The IBC EIR found that new land uses within the IBC would not create objectionable odors. However, new residential uses could be close to existing odor generators. The project does not involve changes in land use that would generate new odors.

<u>Level of Significance of the Project After Mitigation</u>

No Change from Previous Analysis: No new or substantially greater air quality impacts to the IBC as modified with the pending project would occur. No new mitigation measures are required.

Applicable IBC EIR PPPs, PDFs and/or MMs

No PPPs, PDFs, or MMs of the IBC EIR would be applicable to the project.

plans.

5.4 Biological Resources

Summary of the IBC EIR Findings

The IBC EIR identified that development in accordance with the IBC Vision Plan would result in either less than significant or no impacts related to biological resources.

Discussion of the Proposed Project

Would the project:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, 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?

and

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U. S. Fish and Wildlife Service?

and

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but no limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

and

d) 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?

and

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinances?

and

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Change from Previous Analysis [a), b), c), d), e), and f)]: The project area consists of previously developed land in an urbanized setting and contains no native habitat. The project area is landscaped with several non-native species of trees, ornamental shrubs, and sod grass. The area of the IBC affected by the project does not contain any wetlands, riparian habitat, jurisdictional drainage features, or sensitive natural communities identified in local or regional plans, policies, or regulations, or that are otherwise regulated by CDFW or USFWS. No federally or state-listed endangered or threatened plant or animal species or any other special status species are known to occur within the project area. Therefore, similar to the findings of the IBC EIR, impacts associated with biological resources would result in a less than significant impact.

Level of Significance of the Project After Mitigation

Less than Significant Impact: No new or substantially greater biological resources impacts to the IBC as modified with the pending project would occur. No mitigation measures are required.

Applicable IBC EIR PPPs, PDFs, and/or MMs

No PPPs, PDFs, or MMs of the IBC EIR would be applicable to the project.

5.5 Cultural Resources

Summary of the IBC EIR Findings

The IBC EIR identified that development in accordance with the IBC Vision Plan would result in either less than significant or no impacts related to cultural resources.

Discussion of the Proposed Project

Would the project:

a) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?

and

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?

and

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

and

d) Disturb any human remains, including those interred outside of formal cemeteries?

No Change from Previous Analysis [a), b), c), and d)]: The IBC is located in a predominantly urbanized setting. Both surface and shallow subsurface soils have been previously

disturbed, and thus, there is low potential to encounter significant prehistorical or historical resources within the modern ground surface. According to Figure E-1 of the Cultural Resources Element of the Irvine General Plan, there are no recorded or known archaeological or historic sites on the project site or in the surrounding area.

There is little chance that human remains would be encountered during grading activities. Records indicate that no human remains have ever been found on or near the project site, and that the chance that human remains could be encountered during grading activities is extremely low because of prior disturbance of the project site. Thus, a plan to mitigate for potential impacts to human remains during construction is not required. Therefore, similar to the findings of the IBC EIR, impacts associated with cultural resources would result in a less than significant impact.

Level of Significance of the Project After Mitigation

Less than Significant Impact: No new or substantially greater cultural resources impacts to the IBC, as modified with the pending project, would occur. No new mitigation measures are required.

Applicable IBC EIR PPPs, PDFs, and/or MMs

No PPPs, PDFs, or MMs of the IBC EIR would be applicable to the project.

5.6 Geology and Soils

Summary of the IBC EIR Findings

The IBC EIR identified that development in accordance with the IBC Vision Plan would result in either less than significant or no impacts related to geology and soils.

Discussion of the Proposed Project

Would the project:

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i. Rupture a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area, or based on other substantial evidence of a known fault?

No Change from Previous Analysis: The project area would be subject to strong ground shaking resulting from earthquakes on nearby active faults. However, there are no known active or potentially active faults or fault traces crossing the project site. Thus, the project site is not located within a currently designated Alquist-Priolo Earthquake Fault Zone. Therefore, similar to the findings of the IBC EIR, no impacts associated with fault rupture would occur.

ii. Strong seismic ground shaking?

No Change from Previous Analysis: Ground shaking generated by fault movement would be considered a potentially significant impact that may affect the project area. The project does

not propose any changes to soil or geology conditions. Therefore, similar to the findings of the IBC EIR, impacts associated with strong seismic ground shaking would be less than significant.

iii. Seismic-related ground failure, including liquefaction?

No Change from Previous Analysis: As determined by the California Geological Survey, the project area is susceptible to liquefaction. The project does not propose any changes to soil or geology conditions. Therefore, similar to the findings of the IBC EIR, impacts associated with seismic ground failure, including liquefaction would be less than significant.

iv. Landslides?

No Change from Previous Analysis: As determined by the California Geological Survey, the project area is not susceptible to landslide. Additionally, because of the lack of slopes on or around the project site, no landslides are anticipated to occur. Therefore, similar to the findings of the IBC EIR, no impacts associated with landslides would occur.

b) Result in substantial soil erosion or the loss of topsoil?

No Change from Previous Analysis: The project does not propose any changes to soil or geology conditions. Therefore, similar to the findings of the IBC EIR, impacts associated with soil erosion or topsoil loss would be less than significant.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

No Change from Previous Analysis: The project does not propose any changes to soil or geology conditions. Therefore, similar to the findings of the IBC EIR, impacts associated with unstable geologic soils would be less than significant.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

No Change from Previous Analysis: The project does not propose any changes to soil or geology conditions. Therefore, similar to the findings of the IBC EIR, impacts associated with expansive soils would be less than significant.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

No Change from Previous Analysis: The project does not propose any changes to soil or geology conditions affecting water or wastewater. Therefore, similar to the findings of the IBC EIR, no impacts associated with septic tanks or alternative wastewater disposal systems would occur.

Level of Significance of the Project After Mitigation

Less than Significant Impact: No new or substantially greater geology and soils impacts to the IBC, as modified with the proposed project, would occur. No new mitigation measures are required.

Applicable IBC EIR PPPs, PDFs, and/or MMs

No PPPs, PDFs, or MMs of the IBC EIR would be applicable to the project.

5.7 Greenhouse Gas Emissions

Summary of the IBC EIR Findings

The IBC EIR identified that development in accordance with the IBC Vision Plan would result in either less than significant or no impacts related to GHG emissions.

Discussion of the Proposed Project

Would the project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Threshold Development

A variety of agencies have developed GHG emission thresholds and/or have made recommendations for how to identify a threshold. However, the thresholds for projects in the jurisdiction of the SCAQMD remain in flux. The CAPCOA explored a variety of threshold approaches, but did not recommend one approach (CAPCOA, 2008). The ARB recommended approaches for setting interim significance thresholds (ARB 2008), in which a draft industrial project threshold suggests that non-transportation-related emissions under 7,000 $MTCO_2e$ per year would be less than significant; however, the ARB has not approved those thresholds and has not published anything since then. The Bay Area Air Quality Management District and the San Joaquin Valley Air Pollution Control District have both developed GHG thresholds. However, those thresholds are not applicable to the project since the project is under the jurisdiction of the SCAQMD. The SCAQMD is in the process of developing thresholds, as discussed below.

On December 5, 2008, the SCAQMD Governing Board adopted an interim GHG significance threshold for stationary sources, rules, and plans where the SCAQMD is lead agency (SCAQMD permit threshold). The SCAQMD permit threshold consists of five tiers, as follows:

- Tier 1 consists of evaluating whether or not a project qualifies for any applicable exemption under CEQA.
- Tier 2 consists of determining whether the project is consistent with a greenhouse gas reduction plan. If a project is consistent with a qualifying local greenhouse gas reduction plan, it does not have significant greenhouse gas emissions.

- Tier 3 is a screening threshold level to determine significance using a 90 percent emission capture rate approach and is 10,000 $MTCO_2e$ per year (with construction emissions amortized over 30 years and added to operational emissions).

- Tier 4 was not approved in the interim greenhouse gas threshold.

- Tier 5 would allow the project proponent to purchase off-site mitigation to reduce greenhouse gas emissions to less than the screening level (in Tier 3).

The SCAQMD is in the process of preparing recommended significance thresholds for GHGs for local lead agency consideration (SCAQMD draft local agency threshold); however, the SCAQMD Board has not approved the thresholds as of the date of this analysis. The current draft thresholds consist of the following tiered approach:

- Tier 1 consists of evaluating whether or not the project qualifies for any applicable exemption under CEQA.

- Tier 2 consists of determining whether the project is consistent with a greenhouse gas reduction plan. If a project is consistent with a qualifying local greenhouse gas reduction plan, it does not have significant greenhouse gas emissions.

- Tier 3 consists of screening values, which the lead agency can choose, but must be consistent with all projects within its jurisdiction. A project's construction emissions are averaged over 30 years and are added to a project's operational emissions. If a project's emissions are under one of the following screening thresholds, then the project is less than significant:

  - All land use types: 3,000 $MTCO_2e$ per year
  - Based on land use type: residential: 3,500 $MTCO_2e$ per year; commercial: 1,400 $MTCO_2e$ per year; industrial: 10,000 $MTCO_2e$; or mixed use: 3,000 $MTCO_2e$ per year

- Tier 4 has the following options:
  - Option 1: Reduce emissions from business as usual by a certain percentage; this percentage is currently undefined
  - Option 2: Early implementation of applicable AB 32 Scoping Plan measures
  - Option 3, 2020 target for service populations (SP), which includes residents and employees: 4.8 $MTCO_2e$/SP/year for projects and 6.6 $MTCO_2e$/SP/year for plans;
  - Option 3, 2035 target: 3.0 $MTCO_2e$/SP/year for projects and 4.1 $MTCO_2e$/SP/year for plans

- Tier 5 involves mitigation offsets to achieve target significance threshold.

The SCAQMD discusses its draft thresholds in the following excerpt (SCAQMD 2008):

> The overarching policy objective with regard to establishing a GHG [greenhouse gas] significance threshold for the purposes of analyzing GHG impacts pursuant to CEQA is to establish a performance standard or target GHG reduction objective that will ultimate contribute to reducing GHG emissions to stabilize climate change. Full implementation of the Governor's Executive Order S-3-05 would reduce GHG emissions 80 percent below 1990 levels or 90 percent below current levels by 2050. It

is anticipated that achieving the Executive Order's objective would contribute to worldwide efforts to cap GHG concentrations at 450 ppm, thus, stabilizing global climate.

As described below, staff's recommended interim GHG significance threshold proposal uses a tiered approach to determining significance. Tier 3, which is expected to be the primary tier by which the AQMD will determine significance for projects where it is the lead agency, uses the Executive Order S-3-05 goal as the basis for deriving the screening level. Specifically, the Tier 3 screening level for stationary sources is based on an emission capture rate of 90 percent for all new or modified projects. A 90 percent emission capture rate means that 90 percent of total emissions from all new or modified stationary source projects would be subject to some type of CEQA analysis, including a negative declaration, a mitigated negative declaration, or an environmental impact.

Therefore, the policy objective of staff's recommended interim GHG significance threshold proposal for project's where the SCAQMD is the lead agency is to achieve an emission capture rate of 90 percent of all new or modified stationary source projects. A GHG significance threshold based on a 90 percent emission capture rate may be more appropriate to address the long-term adverse impacts associated with global climate change. Further, a 90 percent emission capture rate sets the emission threshold low enough to capture a substantial fraction of future stationary source projects that will be constructed to accommodate future statewide population and economic growth, while setting the emission threshold high enough to exclude small projects that will in aggregate contribute a relatively small fraction of the cumulative statewide GHG emissions. This assertion is based on the fact that staff estimates that these GHG emissions would account for less than one percent of future 2050 statewide GHG emissions target (85 $MMTCO_2e$/yr). In addition, these small projects would be subject to future applicable GHG control regulations that would further reduce their overall future contribution to the statewide GHG inventory.

In summary, the SCAQMD's draft threshold uses the Executive Order S-3-05 goal as the basis for the Tier 3 screening level. Achieving the Executive Order's objective would contribute to worldwide efforts to cap CO_2 concentrations at 450 ppm, thus stabilizing global climate.

Thresholds of Significance for this Project

To determine whether the proposed project would have a significant impact with respect to the generation of GHG emissions, this analysis utilizes the SCAQMD's draft local agency tiered threshold. The threshold is as follows:

- Tier 1: The project is not exempt under CEQA; go to Tier 2.
- Tier 2: There is no greenhouse gas reduction plan applicable to the project; go to Tier 3.
- Tier 3: project greenhouse gas emissions compared with the threshold: 3,500 $MTCO_2e$ per year (see analysis below)

Section 15064.4(b) of the CEQA Guideline amendments for greenhouse gas emissions state that a lead agency may take into account the following three considerations in assessing the significance of impacts from GHG emissions.

- Consideration #1: The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting.

- Consideration #2: Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.

- Consideration #3: The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such regulations or requirements must be adopted by the relevant public agency through a public review process and must include specific requirements that reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.

Greenhouse Gas Inventory

The project does not change land use and GHG assumptions from the 2010 IBC EIR, therefore no new inventory was prepared,

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

No Change from Previous Analysis [a) and b)]: The IBC EIR found that the IBC project would not result in a significant impact on GHG emissions. All new development projects within the IBC would be reviewed for conformance with applicable IBC PPPs and PDFs and additional measures in Section 9-36-20, *Environmental Standards*, of the Zoning Ordinance related to GHG reduction. New development would be required to demonstrate compliance with applicable GHG emissions reduction measures in conformance with the IBC EIR and Section 9-36-20 of the Zoning Ordinance. Therefore, similar to the findings of the IBC EIR, impacts associated with GHG emissions would be less than significant.

Level of Significance of the Project After Mitigation

Less than Significant Impact: No new or substantially greater global climate change impacts to the IBC, as modified with the proposed project, would occur. No new mitigation measures are required.

Applicable IBC EIR PPPs, PDFs, and/or MMs

No PPPs, PDFs, or MMs of the IBC EIR would be applicable to the project.

5.8 Hazards and Hazardous Materials

Summary of the IBC EIR Findings

The IBC EIR identified that development in accordance with the IBC Vision Plan would result in either less than significant or no impacts related to hazards and hazardous materials.

Discussion of the Proposed Project

Would the project:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

No Change from Previous Analysis: The IBC EIR found that the IBC project would not result in a significant impact related to hazards and hazardous materials. All new development projects within the IBC would be reviewed for conformance with applicable IBC PPPs and PDFs and additional measures in Section 9-36-20, *Environmental Standards*, of the Zoning Ordinance. New development would be required to demonstrate compliance with applicable hazards and hazardous materials- related measures in conformance with the IBC EIR and Section 9-36-20 of the Zoning Ordinance. Therefore, similar to the findings of the IBC EIR, impacts associated with GHG emissions would be less than significant.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

No Change from Previous Analysis: Any transport, use, or disposal of hazardous materials would comply with all applicable federal, state, and local requirements. Both construction and operation of the project would comply with the policies and programs set forth by all applicable federal, state, and local agencies, including the EPA, DTSC, Cal/OSHA, Caltrans, RCRA, OCHCA, and the OCFA. Adherence with the applicable provisions of these agencies would ensure that any interaction with hazardous materials occurs in the safest possible manner, reducing the opportunity for the accidental release of hazardous materials into the environment. As required by the U.S. Occupational Safety and Health Administration (OSHA), all hazardous materials stored on development sites will be accompanied by a Material Safety Data Sheet, which, in the case of accidental release, will inform personnel as to the necessary remediation procedures.

Residential development applicants would also be required to provide a Notification Letter and Safety Plan in accordance with the City of Irvine Good Neighbor Program. This letter is sent to businesses in proximity to new residential developments to inform them of the presence of the pending sensitive land use. The letter then requires those businesses to notify residents of any accident at the businesses that may involve the release of hazardous substances. The Good Neighbor Program would also require the project Applicant to prepare a safety plan that includes staff training, emergency tools, first aid provisions, supervision of children or other individuals in an emergency, and a shelter-in-place program for when evacuation is not appropriate or practicable. Therefore, similar to the findings of the IBC EIR, impacts associated with upset or accident conditions involving the release of hazardous materials would be less than significant.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

No Change from Previous Analysis: The proposed project does not change land use assumptions or intensity allocations from current conditions.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

No Change from Previous Analysis: The proposed project does not change land use assumptions or intensity allocations from current conditions. Affected sites within the project area have were identified in the IBC EIR and updated with each new affected development project.

e) For a project located within an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

No Change from Previous Analysis: The project site is located within the Orange County Airport Land Use Commission's (ALUC) Airport Environs Land Use Plan (AELUP) height restriction zone identified in the IBC EIR. Building height limits within this restricted zone are determined in accordance with Part 77 (Objects Affecting Navigable Airspace) of the FAA regulations. Prior to project approval, the height of the residential building would be determined to ensure that the structure does not exceed height limitations as defined in Part 77.25 of the FAA regulations. The project does not propose changes to current building height allowances. Therefore, similar to the findings of the IBC EIR, impacts associated with public airport hazards would be less than significant.

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

No Change from Previous Analysis: The IBC is is not within the vicinity of a private airstrip. Therefore, similar to the findings of the IBC EIR, no impacts associated with private airstrip safety hazards would occur.

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

No Change from Previous Analysis: Proposed improvements as part of the project facilitate emergency access, response and evacuation. *Therefore, similar to the findings of the IBC EIR, impacts associated with an emergency response plan or emergency evacuation plan would be less than significant.*

h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

No Change from Previous Analysis:, Because of the project location in an urbanized setting and OCFA standards for new development, the project would not expose people or structures to hazardous wildfire conditions. Therefore, similar to the findings of the IBC EIR, no impacts associated with wildland fires would occur.

<u>Level of Significance of the Project After Mitigation</u>

Less than Significant Impact: No new or substantially greater hazardous and hazardous materials impacts to the IBC, as modified with the proposed project, would occur. No new mitigation measures are required.

Applicable IBC EIR PPPs, PDFs, and/or MMs

No PPPs, PDFs, or MMs of the IBC EIR would be applicable to the project.

5.9 Hydrology and Water Quality

Summary of the IBC EIR Findings

The IBC EIR identified that development in accordance with the IBC Vision Plan would result in either less than significant or no impacts related to hydrology and water quality.

Discussion of the Proposed Project

Would the project:

a) Violate any water quality standards or waste discharge requirements?

and

f) Otherwise substantially degrade water quality?

No Change from Previous Analysis [a) and f)]:

The project does not change current hydrologic patterns or water quality conditions. Compliance with existing federal, date and local regulations would be required for construction of new roadway improvements at time of design and construction. Therefore, similar to the findings of the IBC EIR, impacts associated with water quality standards would be less than significant.

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

No Change from Previous Analysis: The project area does not serve as a groundwater recharge area. Because of the large amount of existing impervious areas in the IBC, no appreciable groundwater infiltration occurs under the current condition. The IBC EIR found that there is adequate potable water available to serve the project area. Therefore, similar to the findings of the IBC EIR, no impacts associated with water groundwater supplies or recharge would occur.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?

and

d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner in which would result in flooding on- or off-site?

and

e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

No Change from Previous Analysis [c), d), and e)]: The project area is largely covered with impervious surfaces in the form of buildings and paved asphalt parking lots. The storm drain system in the project area currently has sufficient capacity to accommodate stormwater runoff from the project site and surrounding area.. Because the project area is currently developed and connected to a storm drain system (as opposed to a natural stream), and no increases in peak flow rates would be expected, erosion and subsequent siltation of downstream waters is not a concern. Therefore, similar to the findings of the IBC EIR, impacts associated with drainage patterns, on- or off-site erosion or siltation, drainage volumes and velocities, and downstream flooding would be less than significant.

g) Place housing within a 100-year flood hazard area as mapped on federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

and

h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?

and

i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

No Change from Previous Analysis [g), h), and i)]: According to a review of FIRMs published by FEMA, the affected portions of the project area are located outside of a 100-year flood hazard area. However, portions of the IBC, are located within the dam inundation zone for Prado Dam, which encompasses a large portion of Orange County. Nonetheless, given the distance of this dam from the project area, as well as the extreme remoteness of a dam failure, the risk of inundation and flooding would be low. Therefore, similar to the findings of the IBC EIR, impacts associated with flooding would be less than significant.

j) Inundation by seiche, tsunami, or mudflow?

*No Change from Previous Analysis: T*he project area is not located along the coastline, or adjacent to an enclosed body of water, or near an exposed hillside. Therefore, similar to the findings of the IBC EIR, no impacts associated with seiche, tsunami, or mudflow would occur.

<u>Level of Significance of the Project After Mitigation</u>

Less than Significant Impact: No new or substantially greater hydrology and water quality impacts to the IBC, would occur. No new mitigation measures are required.

Applicable IBC EIR PPPs, PDFs, and/or MMs

No PPPs, PDFs, or MMs of the IBC EIR would be applicable to the project.

5.10 Land Use and Planning

Summary of the IBC EIR Findings

The IBC EIR identified that development in accordance with the IBC Vision Plan would result in either less than significant or no impacts related to land use and planning.

Discussion of the Proposed Project

Would the project:

a) Physically divide an established community?

No Change from Previous Analysis: The project site is located in a largely urbanized area and is generally bound by roadways, office, and industrial uses. There are no existing established communities on or adjacent the project site and the site does not provide connectivity between any established communities. Additionally, all planned improvements constructed and installed as part of the project would not extend off-site and potentially divide any established community in the general vicinity of the project site. Therefore, similar to the findings of the IBC EIR, impacts associated with division of an established community would be less than significant.

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

No Change from Previous Analysis: The project conforms to the IBC Vision Plan, which has been developed to facilitate the continued evolution of the IBC from solely office, industrial, and commercial uses into a fully mixed-use business and residential community. The IBC Vision Plan, adopted as Element N of the City's General Plan, represents policy direction to create a neighborhood framework for the IBC, while the overlay zone and related code amendments created development standards for new residential and mixed-use development to ensure proper integration of these uses into the planned neighborhood framework. More specifically, the project conforms to Chapter 9-36 of the Zoning Ordinance, which allows for a maximum of 15,000 residential base units within the IBC plus up to 2,038 density bonus units as an incentive for projects that provide affordable housing. Therefore, similar to the findings of the IBC EIR, impacts associated with land use plans, policies, and regulations would be less than significant.

c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

No Change from Previous Analysis: The IBC EIR found that there would be no impacts to either habitat conservation or natural community plans. While the IBC is located in the Orange County's Central and Coastal NCCP/HCP, as addressed in Section 6.4, *Biological Resources*, above, the project would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species. Thus, although located within the boundary of the NCCP/HCP, the project

would not affect any plant or wildlife species, or habitat, protected under the plan. Therefore, similar to the findings of the IBC EIR, no impacts associated with habitat conservation or natural community plans would occur.

Level of Significance of the Project After Mitigation

Less than Significant Impact: No new or substantially greater land use and planning impacts to the IBC, as modified with the proposed project, would occur. No new mitigation measures are required.

Applicable IBC EIR PPPs, PDFs, and/or MMs

No PPPs, PDFs, or MMs of the IBC EIR would be applicable to the project.

5.11 Mineral Resources

Summary of the IBC EIR Findings

The IBC EIR identified that development in accordance with the IBC Vision Plan would result in either less than significant or no impacts related to mineral resources.

Discussion of the Proposed Project

Would the project:

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

and

b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

No Change from Previous Analysis [a) and b)]: There are no known mineral resources or mineral resource recovery sites on or adjacent to the project site. Therefore, similar to the findings of the IBC EIR, no impacts associated with mineral resources or mineral recovery sites would occur.

Level of Significance of the Project After Mitigation

No Change from Previous Analysis: No new or substantially greater impacts on mineral resources would result from the IBC, as modified with the proposed project, would occur. No mitigation measures are required.

Applicable IBC EIR PPPs, PDFs, and/or MMs

No PPPs, PDFs, or MMs of the IBC EIR would be applicable to the project.

5.12 Noise

Summary of the IBC EIR Findings

The IBC EIR identified that development in accordance with the IBC Vision Plan would result in either less than significant or no impacts related to:

- Stationary-source noise generated by land uses within the IBC would comply with Municipal Code standards and would not substantially elevate the ambient noise environment.

- Noise-sensitive habitable rooms in structures within the 60 dBA CNEL noise contour of JWA would be exposed to substantial levels of airport-related noise. PDF-4 prohibits residential and active recreational areas in the 65 dBA CNEL of John Wayne Airport, and requires preparation of an acoustical analysis identifying required building acoustical improvements for any project within the airport 65 dBA CNEL.

However, the IBC EIR identified that the IBC project could result in significant and unavoidable impacts related to:

- Construction activities could result in temporary noise increases in the IBC and the surrounding area. IBC PPP 9-1, Control of Construction Hours, and PDF 9-2, specifying measures to separate noise sources and sensitive receptors during construction, were identified.

- Construction vibration could be perceptible at adjacent sensitive receptors. IBC PDF 9-1 requires noise vibration analysis and vibration reduction measures for individual projects that involve vibration-intensive construction activities. Also refer to PPP 9-1 and PDF 9-2.

- Project-related vehicle trips would substantially increase ambient noise at sensitive receptors on a segment of McGaw Avenue, and cumulatively on segments of Valencia Avenue, Warner Avenue, McGaw Avenue, and Birch Street.

- Sensitive receptors could be exposed to noise levels that exceed 65 dBA CNEL from transportation or stationary sources. PPP 9-2 requires a final acoustical report demonstrating that development would be adequately sound attenuated with all mitigation measures and conditions incorporated. PDF-3 requires occupancy disclosure notices for units with patios and/or balconies that do not meet the 65 dBA CNEL.

Discussion of the Proposed Project

Would the project:

a) Expose people to, or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

No Change from Previous Analysis: The IBC EIR identified temporary noise increases from construction activities and impacts from traffic noise as potentially significant impacts. The

project does not change land use assumptions from the IBC EIR so impacts remain unchanged.

b) Expose people to, or generate excessive groundborne vibration or groundborne noise levels?

No Change from Previous Analysis: The IBC EIR identified the perception of construction-related groundborne vibration at nearby sensitive receptors as a significant impact. The project does not change land use assumptions from the IBC EIR so impacts remain unchanged.

c) Substantially and permanently increase ambient noise levels in the project vicinity above levels existing without the project?

No Change from Previous Analysis: The FHWA Highway Traffic Noise Prediction Model (FHWA RD-77-108) was used in the IBC EIR to evaluate highway traffic-related noise conditions along roadway segments in the project area. Standard vehicle mix for Orange County roadways was used for traffic on these roadway segments. The modeled traffic noise levels represent the worst-case scenario, which assumes no shielding is provided between the traffic and the location where the noise contours are drawn. The traffic noise model results show that development-related traffic would have mostly small (2.0 dBA or less) noise level increases along roadway segments in the project vicinity for the future opening (2017) and cumulative (2035) year scenarios. The project does not change land use assumptions from the IBC EIR so impacts remain unchanged.

d) Substantially, temporarily, or periodically increase ambient noise levels in the project vicinity above levels existing without the project?

No Change from Previous Analysis: The IBC EIR identified temporary noise increases from construction activities as a significant impact. Construction activities associated with the proposed project would elevate daytime noise levels in the vicinity of noise-sensitive receptors within the project area. The project does not change land use assumptions from the IBC EIR so impacts remain unchanged.

e) If located within an airport land use plan, or where such a plan has not been adopted within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

No Change from Previous Analysis: The IBC EIR evaluated the impact of new development within the AELUP area overseen by the John Wayne Airport Authority, and includes development standards to reduce potential impacts from aircraft noise to a less than significant level. The project does not change land use assumptions from the IBC EIR so impacts remain unchanged.

f) If located within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

No Change from Previous Analysis: The project area is not within the vicinity of a private airstrip. Therefore, similar to the findings of the IBC EIR, no impacts associated with private airstrip noise would occur.

Level of Significance of the Project After Mitigation

No Change from Previous Analysis: No new or substantially greater noise impacts to the IBC, as modified with the proposed project, would occur. In addition, as the proposed project would provide air conditioning as a standard feature, traffic noise impacts would be reduce to less than significant and no additional mitigation measures are required.

Applicable IBC EIR PPPs, PDFs, and/or MMs

No PPPs, PDFs, or MMs of the IBC EIR would be applicable to the project.

5.13 Population and Housing

Summary of the IBC EIR Findings

The IBC EIR identified that development in accordance with the IBC Vision Plan would result in either less than significant or no impacts related to population and housing.

Discussion of the Proposed Project

Would the project:

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

The project does not change land use assumptions from the IBC EIR so impacts remain unchanged.

b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

and

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

No Change from Previous Analysis [b) and c)]: The IBC EIR identified no existing housing to be demolished as part of implementation of the Vision Plan. The project does not change land use assumptions from the IBC EIR so impacts remain unchanged.

Level of Significance of the Project After Mitigation

Less than Significant Impact: No new or substantially greater population and housing impacts to the IBC, as modified with the proposed project, would occur. No new mitigation measures are required.

Applicable IBC EIR PPPs, PDFs, and/or MMs

No PPPs, PDFs, or MMs of the IBC EIR would be applicable to the project.

5.14 Public Services

Summary of the IBC EIR Findings

The IBC EIR identified that development in accordance with the IBC Vision Plan would result in either less than significant or no impacts related to public services.

Discussion of the Proposed Project

Would the project:

a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:

i) Fire protection?

No Change from Previous Analysis: The IBC EIR identified existing Orange County Fire Authority (OCFA) requirements that would mitigate impacts of implementation of the IBC Vision Plan to a less than significant level. The project does not change land use assumptions from the IBC EIR so impacts remain unchanged.

ii) Police protection?

No Change from Previous Analysis: The IBC EIR identified existing City policies and code requirements that would mitigate impacts of implementation of the IBC Vision Plan to a less than significant level. The project does not change land use assumptions from the IBC EIR so impacts remain unchanged.

iii) Schools?

No Change from Previous Analysis: The IBC EIR identified student generation for new residential development within the Irvine, Santa Ana, and Tustin Unified School Districts. Each district identified no significant impacts from implementation of the IBC Vision Plan. The project does not change land use assumptions from the IBC EIR so impacts remain unchanged.

The project does not change land use assumptions from the IBC EIR so impacts remain unchanged.

iv) Parks?

No Change from Previous Analysis: The IBC EIR identified existing City policies and code requirements that would mitigate impacts of implementation of the IBC Vision Plan to a less than significant level. The project does not change land use assumptions from the IBC EIR so impacts remain unchanged.

v) Library Services?

No Change from Previous Analysis: The IBC EIR identified existing library service policies in the General Plan that would mitigate impacts of implementation of the IBC Vision Plan to a less than significant level. The project does not change land use assumptions from the IBC EIR so impacts remain unchanged.

Level of Significance of the Project After Mitigation

Less than Significant Impact: No new or substantially greater public services impacts to the IBC, as modified with the proposed project, would occur. No mitigation measures are required.

Applicable IBC EIR PPPs, PDFs, and/or MMs

No PPPs, PDFs, or MMs of the IBC EIR would be applicable to the project.

5.15 Recreation

Summary of the IBC EIR Findings

The IBC EIR identified that development in accordance with the IBC Vision Plan would result in either less than significant or no impacts related to recreation.

Discussion of the Proposed Project

Would the project:

a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

and

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

No Change from Previous Analysis [a) and b)]: No Change from Previous Analysis: The project does not change land use assumptions nor demand for recreational services from the IBC EIR so impacts remain unchanged.

Level of Significance of the Project After Mitigation

Less than Significant Impact: No new or substantially greater recreation impacts to the IBC, as modified with the proposed project, would occur. No mitigation measures are required.

Applicable IBC EIR PPPs, PDFs, and/or MMs

No PPPs, PDFs, or MMs of the IBC EIR would be applicable to the project.

5.16 Transportation and Traffic

Summary of the IBC EIR Findings

The IBC EIR identified that development in accordance with the IBC Vision Plan would result in either less than significant or no impacts related to:

- Change in air traffic patterns
- Hazardous design feature or incompatible uses
- Policies, plans, and programs for alternative transportation
- Adequacy of emergency access and parking capacity

However, the IBC EIR identified that the IBC project could result in significant and unavoidable impacts related to:

- Additional traffic volumes would be generated and would impact levels of service (LOS) for the existing local and regional roadway system.

Discussion of the Proposed Project

Would the project:

a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

Less than Significant Impact [a) and b)]: The project does not create a net increase in IBC circulation impacts when compared to the traffic analysis in the IBC EIR.

Overview

This 2015 Traffic Study Update analyzes the potential impacts on the circulation system based on updated conditions to the 2010 amendment to the City of Irvine General Plan that placed 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. Based on approvals since 2010, the total number of density bonus units assumed for this update is reduced to 1,794 from 2,038. This reduction represents 2,038 assumed theoretical density bonus units in 2010 less 244 theoretical units removed due to reduction in units not associated with any planned project.

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 pre-Vision Plan condition within the study area. The analysis focuses on the identification of updated potential traffic impacts on the current circulation system as it is transformed into a mixed-use community from its previous offerings of office, commercial, and industrial uses within the IBC area. This traffic study provides an assessment of the existing conditions in 2015, existing conditions with the updated Vision Plan assumptions, as well as future Interim Year (2020) and Buildout Year (post-2035) scenarios with and without the updated Vision Plan assumptions. A comparison of the impacted locations versus the impacted locations identified in the 2010 IBC Vision Plan Traffic Study is also performed.

To assess the impact of the land use changes since the implementation of the 2010 Vision Plan, a total of six scenarios were analyzed:

- Existing Conditions (using current traffic counts)
- Existing Conditions with updated assumptions of Vision Plan Buildout
- 2020 Cumulative Baseline (existing land uses on the ground within IBC area; cumulative growth outside the IBC area)
- 2020 Cumulative Baseline plus updated Vision Plan assumptions anticipated to be constructed by 2020
- Post-2035 Cumulative Baseline (existing land uses on the ground within IBC area; cumulative growth outside the IBC area)
- Post-2035 Cumulative Baseline with updated assumptions of Vision Plan Buildout

Table 1 shows the land use assumptions for each scenario

Table 1 – Land Use Assumptions

SCENARIO	MULTI-FAMILY RESIDENTIAL (DU)	RETAIL MIX (TSF)	HOTEL (ROOM)	OFFICE MIX (TSF)	INDUSTRIAL MIX (TSF)	MINI-WAREHOUSE (TSF)	EXTENDED STAY HOTEL (ROOM)
2015 Existing	7,060	1,384	2,322	26,639	13,934	379	474
2015 With Update	16,795	1,690	2,653	34,286	12,339	549	1049
2020 Cumulative Baseline	7,060	1,384	2,322	26,639	13,934	379	474
2020 Cumulative With Update	16,671	1,405	2,535	27,750	13,240	883	1049
Post-2035 Cumulative Baseline	7,060	1,384	2,322	26,639	13,934	379	474
Post-2035 Cumulative Baseline With Update	16,795	1,690	2,653	34,286	12,339	549	1049

Traffic Impacts & Fair Share

A number of agreements were signed between the City of Irvine and adjacent jurisdictions during the 2010 IBC Vision Plan effort which required the City of Irvine to provide specific dollar amounts of infrastructure funding to each adjacent jurisdiction. These agreements were premised on the understanding that the Vision Plan had no additional responsibilities toward improvements identified, provided the residential unit cap within the IBC is not exceeded.

The residential unit intensity cap has not increased since the 2010 IBC EIR Traffic Study. This 2015 Traffic Study Update is intended only to analyze the change in traffic conditions since the 2010 approval. Except as otherwise specified in those existing agreements with adjacent jurisdictions, the Vision Plan is not responsible for mitigating the improvements identified in this study update within the cities of Tustin, Newport Beach, Santa Ana, or for improvements on Caltrans facilities.

For the sole purpose of providing a reference point for comparison with the 2010 IBC EIR Traffic Study, a fair-share methodology was used to evaluate what the financial participation of mitigating IBC Vision impacts would be in the absence of the above-mentioned agreements. The following methodology is applied:

- For plan update impacts within the City of Irvine, the IBC Vision Plan is fully responsible.

- For plan update impacts outside the City of Irvine, the IBC Vision Plan would participate on a fair-share basis.

All impacts referenced in this study update represent impacts as defined in the City of Irvine's Traffic Impact Analysis (TIA) Guidelines, adopted August 2004, or for locations outside Irvine, per the performance criteria for each affected agency.

The cost of improvements will be presented in a supplemental nexus report. Under future forecast conditions there are a number of deficient intersections. **Table 2** demonstrates the deficiencies, impacts, and fair-shares under each future scenario.

Table 2 – Intersection/Arterial Segment Impacts/Cumulative Deficiencies

ID	INTERSECTION	JURISDICTION	IBC VISION WITH UPDATE (2020)		IBC VISION WITH UPDATE (POST-2035)		FAIR-SHARE		
			CUMULATIVE DEFICIENCY	IMPACT	CUMULATIVE DEFICIENCY	IMPACT	2020 WITH UPDATE*	POST-2035 WITH UPDATE*	EXPECTED SHARE (VISION PLAN)
85	MacArthur Boulevard at Birch Street	Newport Beach				X		5.6%	No Share
723	Main Street at Segerstrom Avenue	Santa Ana				X		40.3%	No Share
728	Halliday East at Alton Parkway	Santa Ana				X		7.2%	No Share
36	Red Hill Avenue at El Camino Real	Tustin		X			10.7%		No Share
445	Tustin Ranch Rd at Warner Ave N	Tustin				X		15.7%	No Share
93	Tustin Ranch Road at Bryan Avenue	Tustin	X		X		0.3%	9.9%	No Share
111	Franklin Avenue at Walnut Avenue	Tustin	X		X		3.9%	3.5%	No Share
749	Park Ave at A Street	Tustin			X			1.5%	No Share
98	Von Karman Avenue at Alton Pkwy	Irvine				X			100.0%
144	Jamboree Road at I-405 SB Ramps	Irvine				X			100.0%
145	Jamboree Road at Michelson Drive	Irvine				X			100.0%
188	Harvard Avenue at Michelson Drive	Irvine				X			100.0%
229	Culver Drive at Alton Parkway	Irvine				X			100.0%

ID	INTERSECTION	JURISDICTION	IBC VISION WITH UPDATE (2020)		IBC VISION WITH UPDATE (POST-2035)		FAIR-SHARE		
			CUMULATIVE DEFICIENCY	IMPACT	CUMULATIVE DEFICIENCY	IMPACT	2020 WITH UPDATE*	POST-2035 WITH UPDATE*	EXPECTED SHARE (VISION PLAN)
97	Von Karman Ave/Tustin Ranch Rd at Barranca Pkwy	Irvine				X			100.0%
234	Culver Drive at Michelson Drive	Irvine	X						No Share
135	Jamboree NB Ramps/Warner Ave	Irvine			X				100.0%
134	Loop Rd/Park Ave at Warner Ave	Irvine/Tustin	X		X				100.0%
1326	Dyer Rd between SR-55 SB and SR-55 NB	Santa Ana		X		X	15.9%	21.3%	No Share

*Fair-share percentage is shown for informational and comparison purposes only

Improvement Strategies

The 2015 Traffic Study Update proposes improvements for all intersections (and one impacted arterial segment) within the study area that are identified as impacts as well as all forecast cumulative deficiencies. Due to the above-mentioned agreements with adjacent cities and Caltrans (other than in the City of Costa Mesa), contribution towards improvements identified at locations where the update has an impact outside the City of Irvine are provided for reference only. Improvement strategies have utilized other studies in adjacent jurisdictions and have been vetted through site analyses to propose improvements that are feasible and reasonable. **Table 3** displays the mitigation strategies for each deficient intersection within the IBC study area.

Table 3– Improvement Strategies

INTER-SECTION ID #	INTERSECTION NAME	JURISDICTION	IMPROVEMENT STRATEGY
2020 Impacts and Cumulative Deficiencies			
234	Culver Drive at Michelson Drive (cumulative deficiency)	Irvine	Improve EB to 2,2,0
134	Loop Road/Park Ave at Warner Avenue (cumulative deficiency)	Irvine/Tustin	Add 3rd EBT and NBR overlap
36	Red Hill Avenue at El Camino Real (update impact)	Tustin	Reconfigure SB to 1.5,2.5,0**
93	Tustin Ranch Road at Bryan Avenue (cumulative deficiency)	Tustin	Add 4th SBT**
111	Franklin Avenue at Walnut Avenue (cumulative deficiency)	Tustin	Add 3rd WBT**
1326*	Dyer Road between SR-55 SB and SR-55 NB (impact)	Santa Ana	Add 4th EBT**
P-2035 Impacts and Cumulative Deficiencies			
98	Von Karman Avenue at Alton Parkway (impact)	Irvine	Add 3rd NBT
135	Jamboree NB Ramps/Warner Avenue (cumulative deficiency)	Irvine	Restripe EB to 2,2,0
144	Jamboree Road at I-405 SB Ramps (impact)	Irvine	Improve EB to 2.5,0,2.5
145	Jamboree Road at Michelson Drive (impact)	Irvine	Add 3rd EBL, 3rd SBL, and WBT***
188	Harvard Avenue at Michelson Drive (impact)	Irvine	Improve SB to 2,2,0
229	Culver Drive at Alton Parkway (impact)	Irvine	Improve EB to 2,3,0
97	Von Karman Avenue/Tustin Ranch Road at Barranca Parkway (impact)	Irvine	Add 3rd NBT and convert De Facto to Standard NBR
134	Loop Road/Park Ave at Warner Avenue (cumulative deficiency)	Irvine/Tustin	Add 3rd EBT and NBR overlap
85	MacArthur Boulevard at Birch Street (impact)	Newport Beach	Improve EB to 2 EBL and 2 EBT**

INTER-SECTION ID #	INTERSECTION NAME	JURISDICTION	IMPROVEMENT STRATEGY
723	Main Street at Segerstrom Avenue (impact)	Santa Ana	Add 3rd NBT, De Facto NBR**
728	Halladay East at Alton Parkway (impact)	Santa Ana	Add 2nd EBT and 2nd WBT**
1326*	Dyer Road between SR-55 SB and SR-55 NB (impact)	Santa Ana	Add 4th WBT**
93	Tustin Ranch Road at Bryan Avenue (cumulative deficiency)	Tustin	Add 4th SBT**
111	Franklin Avenue at Walnut Avenue (cumulative deficiency)	Tustin	Add 3rd WBT**
445	Tustin Ranch Road at Warner Avenue North (impact)	Tustin	Improve NB to 0,2.5,1.5**
749	Park Ave at A Street (cumulative deficiency)	Tustin	Add 2nd SBL and 2nd WBL**

* Arterial Segment

** Improvement strategy provided for information and planning purposes only.

*** Alternative improvement strategy is implementation of the Jamboree/Michelson pedestrian bridge across Jamboree.

Comparison of Impacts to 2010 Traffic Study

Table 4 shows the net overall result of fewer future impacts compared to the 2010 IBC EIR Traffic Study. The number of interim year forecast impacts reduce from 13 to 10. The number of Buildout year forecast impacts reduces from 41 to 22. Additional details are provided in **Chapter 8.**

Table 4 - Comparison of Number of Impacted Locations between 2010 IBC Traffic Study and 2015 Traffic Study Update

	Interim Year		Buildout Year	
Facility Type	**2010 Study**	**2015 Update**	**2010 Study**	**2015 Update**
Arterial Segments	0	1	1	1
Intersections	4	1	15	10
Freeway Mainline	4	6	14	5
Freeway Ramps	5	2	11	6
Total	13	10	41	22

In the 2010 IBC EIR Traffic Study the Interim year was 2015 and Buildout year was Post-2030 whereas in the current update study, the Interim year is 2020 and the Buildout year is Post-2035.

Arterial 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. 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 impacts expected in future forecast scenarios for arterial segments within Newport Beach, Costa Mesa, and Tustin.

In 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 an impact when compared with the Baseline conditions. There were no impacted arterial segments in the interim year in the 2010 IBC EIR Traffic Study within the City of Santa Ana while one arterial segment is impacted in the 2015 Traffic Study Update in the Interim year:

- Dyer Road between SR-55 NB ramps and SR-55 SB ramps

In the Buildout year in the 2010 IBC EIR Study one arterial location was impacted:

- MacArthur Boulevard between Main Street and SR-55 SB in the City of Santa Ana

This MacArthur Boulevard widening no longer appears to be needed as forecast volumes drop from 51,000 ADT to 39,000 ADT in the 2015 Traffic Study Update. In the Buildout conditions of the 2015 Traffic Study Update one arterial location was impacted (also impacted in 2020):

- Dyer Road between SR-55 NB ramps and SR-55 SB ramps

Intersection Deficiencies and Impacts

Analysis of the intersections was conducted for all intersections within the defined IBC Vision Plan study area. For each jurisdiction, the established and published criteria for evaluating impacts have been employed in this study. Plan update impacts are identified for the study area using the methodology for each respective jurisdiction. **Table 5** compares the impacted intersections in both traffic studies for the Interim year. In the 2010 IBC EIR Traffic Study, four intersections were impacted whereas in the 2015 Traffic Study Update only one intersection is impacted.

Table 5 – Intersection Impacts - Interim Year (2010 IBC EIR Study vs. 2015 Traffic Study Update)

ID	LOCATION	JURISDICTION	PERIOD	2010 STUDY ONLY	2010 STUDY & 2015 UPDATE	2015 UPDATE ONLY
145	Jamboree Rd at Michelson Dr	Irvine	PM	x		
234	Culver Drive at Michelson Drive	Irvine	PM			x*
62	Campus Dr at Bristol Street NB	Newport Beach	PM	x		
93	Tustin Ranch Rd at El Camino Real	Tustin	AM	x		
134	Loop Rd/Park Ave at Warner Ave	Irvine/Tustin	PM	x		x*
36	Red Hill Ave at El Camino Real	Tustin	PM			x
* Irvine cumulative deficiency			Sum	4	0	1
			Total Impacts (2010 Study)	4	Total Impacts (2015 Update)	1

Table 6 shows that while 15 intersections were impacted in Buildout in the 2010 IBC EIR Study only 10 are impacted in the 2015 Traffic Study Update build-out condition. The following three locations were impacted in both studies:

- # 85 - MacArthur Boulevard at Birch Street in Newport Beach
- #145 - Jamboree Road at Michelson Drive in Irvine
- #723 - Main Street at Segerstrom Avenue in Santa Ana

Two of the 2010 IBC EIR Study impacted locations #135 Jamboree Road at Barranca Parkway and #141 Jamboree Road at Main Street have programmed improvements that are expected to be completed by 2020. As noted previously these improvements have been incorporated into analysis which results in a satisfactory level of service and no impacts under all scenarios studied in the 2015 Traffic Study Update.

Table 6 – Intersection Impacts - Buildout Year (2010 IBC EIR Study vs. 2015 Traffic Study Update)

INT ID	LOCATION	JURISDICTION	PERIOD	2010 STUDY ONLY	2010 STUDY 2015 UPDATE	2015 UPDATE ONLY
12	SR-55 Frontage Road SB at Baker Street	Costa Mesa	AM	x		
13	SR-55 Frontage Road NB at Baker Street	Costa Mesa	AM	x		
62	Campus Drive at Bristol Street NB	Newport Beach	PM	x		
85	MacArthur Boulevard at Birch Street	Newport Beach	PM(both)		x	
543	Bristol at Segerstrom	Santa Ana	PM	x		
723	Main Street at Segerstrom Avenue	Santa Ana	PM(both)		x	
728	Halladay East at Alton Parkway	Santa Ana	AM&PM			x
730	Grand Avenue at Warner Avenue	Santa Ana	PM	x		
754	Red Hill Avenue at Carnegie Avenue	Tustin/Santa Ana	PM	x		
24	Newport Avenue at Walnut Avenue	Tustin	AM	x		
93	Tustin Ranch Road at El Camino Real	Tustin	AM	x		
445	Tustin Ranch Road at Warner Avenue N	Tustin	PM			x
97	Von Karman/Tustin Ranch at Barranca	Irvine/Tustin	PM			x
98	Von Karman Avenue at Alton Parkway	Irvine	PM			x
134	Loop Road/Park Ave at Warner Avenue	Irvine/Tustin	PM	x		x**
135	Jamboree NB Ramps/Warner	Irvine	PM			x**
136	Jamboree Road at Barranca Parkway*	Irvine/Tustin	PM	x		
141	Jamboree Road at Main Street*	Irvine	PM	x		
144	Jamboree Road at I-405 SB Ramps	Irvine	AM			x
145	Jamboree Road at Michelson Drive	Irvine	PM(both)		x	
188	Harvard Avenue at Michelson Drive	Irvine	PM	x **		X
229	Culver Drive at Alton Parkway	Irvine	PM			x
232	Culver Drive at I-405 NB Ramps	Irvine	PM	x		
			Sum	12	3	7
			Total Impacts (2010 Study)	15	Total Impacts (2015 Update)	10

* Improvement currently programmed
** Irvine cumulative deficiency

The completion of the Tustin Ranch Road extension seems to have had an effect on the location of impacted intersections. Compared to the 2010 Study, traffic is drawn away from Red Hill Avenue and Jamboree Road onto Von Karman Avenue/Tustin Ranch Road. A noticeable progression of impacted and deficient intersections can be seen in the PM peak period as traffic heads north from the heart of the IBC using Von Karman Avenue that becomes Tustin Ranch Road and eventually accesses the Jamboree Road Expressway at the Warner Avenue Ramp. The progression of impacted/deficient intersections is:

- Von Karman Avenue at Alton Parkway (Irvine)
- Von Karman Avenue at Barranca Parkway (Irvine)
- Tustin Ranch Road at Warner Avenue North (Tustin)
- Loop Road/Park Avenue at Warner Avenue (Irvine/Tustin-Deficiency only)
- Jamboree Northbound Ramps at Warner Avenue (Irvine-Deficiency only)

Freeway Mainline and Ramps

Table 7 compares the Interim Year impacted freeway mainline segments in both traffic studies. In the 2010 IBC EIR Study four segments were impacted whereas in the 2015 Traffic Study Update six locations are impacted. Three of these locations all on I-405 between Jamboree Road and SR-55 are common in both studies.

Table 7 – Freeway Mainline Impacts - Interim Year (2010 IBC EIR Study vs. 2015 Traffic Study Update)

FREEWAY	SEGMENT	DIRECTION	PERIOD	2010 STUDY ONLY	2010 STUDY & 2015 UPDATE	2015 UPDATE ONLY
I-405	Jamboree Road to MacArthur Boulevard	SB	PM	x		
I-405	Jamboree Road to MacArthur Boulevard	NB	AM		x	
I-405	MacArthur Boulevard to SR-55	NB	AM		x	
I-405	MacArthur Boulevard to SR-55	SB	PM		x	
I-5	North of SR-55	NB	AM			x
SR-55	Dyer Road to Edinger Avenue	NB	AM			x
SR-73	Campus Drive to SR-55	NB	AM			x
			Sum	1	3	3
			Total Impacts (2010 study)	4	Total Impacts (2015 Update)	6

Table 8 compares the Buildout year impacted freeway mainline segments in both traffic studies. In the 2010 IBC EIR Study fourteen segments were impacted whereas in the 2015 Traffic Study Update only five locations are impacted. Two of these locations are common in both studies.

Table 8 – Freeway Mainline Impacts - Buildout Year (2010 IBC EIR Study vs. 2015 Traffic Study Update)

FREEWAY	SEGMENT	DIRECTION	PERIOD	2010 STUDY ONLY	2010 STUDY & 2015 UPDATE	2015 UPDATE ONLY
I-405	Jamboree Road to MacArthur Boulevard	SB	PM	x		
I-5	Jamboree Road to Tustin Ranch Road	NB	AM	x		
I-5	Jamboree Road to Tustin Ranch Road	SB	AM&PM	x		
I-5	Newport Avenue to SR-55	NB	AM	x		
I-5	North of SR-55	SB	AM	x		
I-5	Red Hill Avenue to Newport Avenue	NB	AM	x		
I-5	Tustin Ranch Road to Red Hill Avenue	NB	AM	x		
I-5	Tustin Ranch Road to Red Hill Avenue	SB	AM&PM	x		
SR-55	I-405 to MacArthur Boulevard	NB	AM&PM	x		
SR-55	I-405 to MacArthur Boulevard	SB	AM&PM	x		
SR-55	MacArthur Boulevard to Dyer Road	NB	PM	x		
SR-55	MacArthur Boulevard to Dyer Road	SB	AM	x		
I-405	Jamboree Road to MacArthur Boulevard	NB	AM		X	

FREEWAY	SEGMENT	DIRECTION	PERIOD	2010 STUDY ONLY	2010 STUDY & 2015 UPDATE	2015 UPDATE ONLY
SR-55	Dyer Road to Edinger Avenue	NB	PM		X	
I-405	MacArthur Boulevard to SR-55	NB	AM&PM			x
I-405	MacArthur Boulevard to SR-55	SB	AM&PM			x
SR-55	McFadden St/Sycamore Ave to I-5	NB	PM			x
			Sum	12	2	3
			Total Impacts (2010 Study)	14	Total Impacts (2015 Update)	5

Table.9 compares the Interim year impacted freeway ramps in both traffic studies. In the 2010 IBC EIR Study five ramps were impacted whereas in the 2015 Traffic Study Update only two locations are impacted. Both the 2015 Traffic Study Update ramps are on I-405 and were also impacts in the 2010 study.

Table 9 – Freeway Ramp Impacts - Interim Year (2010 IBC EIR Study vs. 2015 Traffic Study Update)

FREEWAY	LOCATION	RAMP	PERIOD	2010 STUDY ONLY	2010 STUDY & 2015 UPDATE	2015 UPDATE ONLY
I-405	Jamboree Road	NB Off	AM	x		
SR-55	Victoria Street	NB Direct On	AM	x		
SR-73	MacArthur Boulevard	NB On	AM	x		
I-405	Jamboree Road	SB Off	PM		x	
I-405	Bristol Street	SB Loop On	PM		x	
			Sum	3	2	0
			Total Impacts (2010 Study)	5	Total Impacts (2015 Update)	2

Table 10 compares the Buildout year impacted freeway ramps in both traffic studies. In the 2010 IBC EIR Study eleven ramps were impacted whereas in the 2015 Traffic Study Update only six ramps are impacted. Three of the ramps impacted in the 2015 Traffic Study Update ramps are on I-405 and were also impacts in the 2010 study.

Table 10 – Freeway Ramp Impacts - Buildout Year (2010 IBC EIR Study vs. 2015 Traffic Study Update)

FREEWAY	LOCATION	RAMP	PERIOD	2010 STUDY ONLY	2010 STUDY & 2015 UPDATE	2015 UPDATE ONLY
I-405	Culver Drive	NB Off	AM	X		
I-405	MacArthur Boulevard	NB On	PM	X		
I-405	Jamboree Road	SB Off	AM/PM	X		
SR-55	Baker Street	NB Off	AM/PM	X		
SR-55	Baker Street	SB On	PM	X		
SR-55	MacArthur Boulevard	SB On Loop	PM	X		
SR-73	Campus Drive	NB On	PM	X		
SR-73	Jamboree Road	SB Off	AM/PM	X		
I-405	MacArthur Boulevard	NB Off	AM		X	
I-405	Bristol Street	SB Loop On	PM		X	
SR-55	Dyer Road	NB On Direct	PM		X	
I-405	Jamboree Road	NB Off	AM			X
SR-55	Dyer Road	NB Off	AM			X
SR-73	Campus Drive	SB Off	AM			X
			Sum	8	3	3
			Total Impacts (2010 Study)	11	Total Impacts (2015 Update)	6

MPAH and General Plan Amendment

The results of this Five-Year Update study indicate that no additional proposed changes are required to the City of Irvine General Plan or Countywide Master Plan of Arterial Highways (MPAH). Since the adoption of the 2010 Vision Plan, the City of Irvine General Plan has been amended with the following downgrades, per the 2010 Vision Plan:

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

The arterial segments of Alton Pkwy between Red Hill Avenue and Jamboree Road and Von Karman Avenue between Barranca Pkwy and Michelson Drive as identified with an asterisk in the list above, were also programmed into the County's Master Plan of Arterial Highways (MPAH) since the 2010 Vision Plan approval.

Although the 2010 Vision Plan Traffic Study stated that it was the City's intention to remove the Von Karman Avenue at the I-405 freeway HOV drop ramps, it was determined that the improvement was of regional significance and therefore remains part of the Post-2035 build-out baseline assumptions.

Consistent with the 2010 Vision Plan, the widening of Red Hill Avenue from four lanes to six lanes between MacArthur Boulevard and Main Street is assumed in the Post-2035 Build-out Baseline since it is the one missing roadway widening in IBC that is needed to fulfill the County's Master Plan of Arterial Highways (MPAH).

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

No Change from Previous Analysis: The IBC EIR identified no impacts to air traffic patterns. The proposed project contains no features that would change this conclusion.

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less than significant: Project design features for new development were evaluated in the IBC EIR based on the City's Transportation Design Procedures (TDPs). As a result, no impacts to vehicle access were identified using the following design guidelines:

- TDP-1 (Turn-Lane Pocket Lengths)
- TDP-3 (Left-Turn In/Out Access)
- TDP-4 (Right-Turn Lanes at Uncontrolled Driveways)
- TDP-10 (Distance Between Driveways and Intersections)
- TDP-11 (Corner Clearance)
- TDP-14 (Driveway Lengths)
- TDP-15 (Gate Stacking)

Improvements identified by the Project are required to utilize these design guidelines, therefore, impacts from the Project would be less than significant.

e) Result in inadequate emergency access?

No Change from Previous Analysis: The IBC EIR requires all new development to comply with applicable IBC PPPs pertaining to fire, police, and medical emergency services and access. This includes compliance with: (1) all applicable OCFA codes, ordinances, and standard conditions regarding fire prevention and suppression measures, including fire access, access gates (PPP 11-1); (2) an executed Secured Fire Protection Agreement with the OCFA (City of Irvine Standard Condition) (PPP 11-2); (3) fire protection access easements approved by the OCFA and irrevocably dedicated in perpetuity to the City (City of Irvine Standard Condition) (PPP11-3); and (4) a "Click2Enter" radio frequency access system installed at vehicle and pedestrian access points controlled by privacy gates within the Project area (PPP 11-4). Thus, with implementation of these IBC PPPs, adequate emergency access would be provided on the development sites. Therefore, similar to the findings of the IBC EIR, no impacts associated with emergency access would occur.

f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

No Change from Previous Analysis: The IBC EIR found that implementation of the IBC project would comply with adopted policies, plans, and programs for alternative transportation. Therefore, similar to the findings of the IBC EIR, no impacts associated with alternative transportation would occur.

Level of Significance of the Project After Mitigation

No Change from Previous Analysis: No new or substantially greater transportation and traffic impacts to the IBC- as evaluated in the IBC EIR and as modified with the proposed Project- would occur. No new mitigation measures are required.

Applicable IBC EIR PPPs, PDFs, and/or MMs

Changes to Mitigation Measure 13-1: As noted in Section 1, this Addendum makes minor changes to Mitigation Measure 13-1. As approved in 2010, Mitigation Measure 13-1 required an initial traffic study for the traffic improvements at the fifteen intersections listed above in Section 1.3. As drafted, the mitigation measure does not contemplate and potentially constrains the scope of updated traffic studies that are required by Section 9-36-14(K) of the Irvine Zoning Ordinance. While Mitigation Measure 13-1 was effective for the initial traffic study, it's lack of flexibility could render it less effective for subsequent traffic studies. This Addendum updates Mitigation Measure 13-1 to allow for subsequent traffic studies in accordance with the Irvine Zoning Ordinance. The changes to Mitigation Measure 13-1 are set forth below with new language underlined. No other PPPs, PDFs, or MMs of the IBC EIR would be applicable to the Project.

Revised Mitigation Measure 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 initially 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 original AB 1600 nexus study adopted in 2011:

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: 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, one right turn lane, and a shared left-right turn lane.

- 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. The City shall coordinate with Newport Beach and JWA to determine the timing and funding availability for this improvement.

- Intersection #85: MacArthur Boulevard and Birch Street
    - Improve the eastbound approach to two eastbound left-turn lanes and two southbound 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.

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.

Following adoption of the initial 2011 AB 1600 nexus study, the City shall periodically undertake an updated comprehensive AB 1600 nexus study for the IBC to evaluate the implementation of the original and subsequently adopted AB 1600 nexus studies and update mitigation as needed. Subsequent AB 1600 nexus studies for the IBC shall be performed in accordance with Section 9-36-14(K) of the Irvine Zoning Ordinance, as amended from time to time.

5.17 Utilities and Service Systems

Summary of the IBC EIR Findings

The IBC EIR identified that development in accordance with the IBC Vision Plan would result in either less than significant or no impacts related to utilities and service systems.

Discussion of the Proposed Project

Would the project:

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

No Change from Previous Analysis: The Project does not change land use assumptions or utility needs from the IBC EIR so impacts remain unchanged.

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

and

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

and

e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Water Treatment Facilities and Supply

No Change from Previous Analysis: The Project does not change land use assumptions or utility needs from the IBC EIR so impacts remain unchanged.

Wastewater Treatment Facilities and Capacity

No Change from Previous Analysis: The Project does not change land use assumptions or utility needs from the IBC EIR so impacts remain unchanged.

c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

No Change from Previous Analysis: The Project does not change land use assumptions or utility needs from the IBC EIR so impacts remain unchanged.

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

and

g) Comply with federal, state, and local statutes and regulations related to solid waste?

No Change from Previous Analysis: The Project does not change land use assumptions or landfill facility needs from the IBC EIR so impacts remain unchanged.

<u>Level of Significance of the Project After Mitigation</u>

No Change from Previous Analysis: No new or substantially greater transportation and traffic impacts to the IBC- as evaluated in the IBC EIR and as modified with the proposed Project- would occur. No new mitigation measures are required.

<u>Applicable IBC EIR PPPs, PDFs, and/or MMs</u>

No PPPs, PDFs, or MMs of the IBC EIR would be applicable to the Project.

6.0 DETERMINATION

The Project here, being the proposed 2015-17 IBC Traffic Improvement Fee Program Update and modifications to Mitigation Measure 13-1, modifies the prior IBC Traffic Improvement Fee Program analyzed in the IBC EIR. The 2015 Traffic Study Update, however, illustrates that while one mitigation measure must be modified to reflect current traffic conditions and ensure updated fee studies comply with the Irvine Zoning Ordinance, there are no new or more severe adverse environmental impacts or revisions requiring a subsequent EIR. In fact, the 2015 Traffic Study Update indicates that the change in traffic conditions will not cause new or more severe adverse environmental impacts or require major revisions to the project. This Addendum is thus the appropriate level of environmental review for this Project under CEQA. (CEQA Guidelines, § 15164(a).)

The 2015 Traffic Study Update analyzed the relevant change in traffic conditions by taking a "snapshot" of the current development activity today (as compared to the 2010 Vision Plan land use assumptions evaluated in the IBC EIR) and considering ambient regional growth to compare with the 2010 assumptions. In this way, the 2015 Traffic Study Update looks at new information because a number of real-world factors have changed between the original 2010 Vision Plan Study and Year 2015 Conditions that influence the traffic conditions and the number and location of impacts.

The updated study notes that the residential unit intensity cap has not increased since the 2010 study, and that there is a net overall result of fewer impacts compared to the 2010 Vision Plan Traffic Study. The impacts for the interim year forecast drop from 13 to 10, and for the buildout year forecast from 41 to 22. In addition, four intersections were impacted in the 2010 Traffic Study, whereas in the 2015 Traffic Study Update, only one intersection is impacted, and the number of intersections impacted in buildout fell from 15 to 10. The Project addresses deficient intersection through updated mitigation fees.

Additionally, the number of impacted freeway and other ramps dropped from 5 to 2, and 11 to 6, respectively, since 2010. Lastly, while there are some additional traffic impacts since 2010, there is no substantial evidence in the record that these increases will result in a more severe impact requiring major revisions necessitating a subsequent or supplemental EIR. For instance, four segments of the freeway mainline were impacted in the 2010 Traffic Study, whereas six locations are impacted under the 2015 Traffic Study Update. But during the buildout year, that number drops from 14 impacted segments in the 2010 Traffic Study to 5 locations impacted in the 2015 Traffic Study Update. The fact that the 2015 Traffic Study Update's results indicate that no additional proposed changes are required to the City's General Plan further supports the use of an addendum for the Project.

Based on the information and analysis contained in the addendum, and pursuant to Section 15162 of the California Code of Regulations, the City has determined that:

1. There are no substantial changes proposed in the Project that would require major revisions of the previous EIR because of the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects.

2. Substantial changes have not occurred with respect to the circumstances under which the Project is undertaken which would require major revisions of the previous EIR because of the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects.

3. There is no new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete, showing any of the following:

   A. The Project would have one or more significant effects not discussed in the previous EIR;

   B. Significant effects previously examined would be substantially more severe than shown in the previous EIR;

   C. Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the Project, but the Project proponents decline to adopt the mitigation measure or alternative; and

   D. Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the Project proponents decline to adopt the mitigation measure or alternative.

Bill Jacobs Principal Planner	September 12, 2017
Name, Title	Date
	City of Irvine
Signature	For

7.0 REFERENCES

1. Irvine Business Complex Vision Plan 2015 Traffic Study Update, prepared by Iteris and HDR, January 13, 2016

2. 2015 Traffic Study Update to Irvine Business Complex Vision Plan Traffic Fee Nexus Study, prepared by HDR and Iteris, June 7, 2017

3. Irvine Business Complex Vision Plan and Mixed Use Overlay Zoning Ordinance Environmental Impact Report, Final EIR Executive Summary, July 2010

8.0 ORGANIZATIONS AND PERSONS CONSULTED

City of Irvine:

- Bill Jacobs, Principal Planner
- Kerwin Lau, Project Development Administrator
- Sun Sun Murillo, Supervising Transportation Analyst
- Lisa Thai, Senior Transportation Analyst

Appendix A

Irvine Business Complex Vision Plan 2015 Traffic Study Update (Executive Summary),
prepared by Iteris and HDR,
January 13, 2016

ES EXECUTIVE SUMMARY

ES.1.1 Introduction

This 2015 IBC Vision Plan Five-Year Traffic Study Update fulfills requirements of the City of Irvine Zoning Ordinance, which was updated as part of the 2010 IBC Vision Plan approval to require the City to re-evaluate traffic conditions (and traffic impact locations) by way of a five-year traffic study update (amended to every two years in October 2015). This five-year update evaluates potential traffic impact locations and documents how development actually occurred over the past five years to determine how close the Vision Plan assumptions were to forecasting this condition. The update takes a "snapshot" of the development activity today and considers ambient regional growth to compare with the 2010 assumptions. If as a result of actual development the original traffic impacts are altered or changed, the City has the ability to revise the list of traffic mitigations and IBC fees accordingly within the umbrella of the adopted Vision Plan.

This IBC Vision Plan Five-Year Traffic Study Update analyzes the potential impacts on the circulation system based on updated conditions to the 2010 amendment to the City of Irvine General Plan that placed 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. Based on approvals since 2010, the total number of density bonus units assumed for this update is reduced to 1,794 from 2,038. This reduction represents 2,038 assumed theoretical density bonus units in 2010 less 244 theoretical units removed due to reduction in units not associated with any planned project.

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 pre-Vision Plan condition within the study area. The analysis focuses on the identification of updated potential traffic impacts on the current circulation system as it is transformed into a mixed-use community from its previous offerings of office, commercial, and industrial uses within the IBC area. This traffic study provides an assessment of the existing conditions in 2015, existing conditions with the updated Vision Plan assumptions, as well as future Interim Year (2020) and Buildout Year (post-2035) scenarios with and without the updated Vision Plan assumptions. A comparison of the impacted locations versus the impacted locations identified in the 2010 IBC Vision Plan Traffic Study is also performed.

To assess the impact of the land use changes since the implementation of the 2010 Vision Plan, a total of six scenarios were analyzed:

- Existing Conditions (using current traffic counts)
- Existing Conditions with updated assumptions of Vision Plan Buildout
- 2020 Cumulative Baseline (existing land uses on the ground within IBC area; cumulative growth outside the IBC area)
- 2020 Cumulative Baseline plus updated Vision Plan assumptions anticipated to be constructed by 2020
- Post-2035 Cumulative Baseline (existing land uses on the ground within IBC area; cumulative growth outside the IBC area)
- Post-2035 Cumulative Baseline with updated assumptions of Vision Plan Buildout

Table ES-1 shows the land use assumptions for each scenario

Table ES.1.1 – Land Use Assumptions

SCENARIO	MULTI-FAMILY RESIDENTIAL (DU)	RETAIL MIX (TSF)	HOTEL (ROOM)	OFFICE MIX (TSF)	INDUSTRIAL MIX (TSF)	MINI-WAREHOUSE (TSF)	EXTENDED STAY HOTEL (ROOM)
2015 Existing	7,060	1,384	2,322	26,639	13,934	379	474
2015 With Update	16,795	1,690	2,653	34,286	12,339	549	1049
2020 Cumulative Baseline	7,060	1,384	2,322	26,639	13,934	379	474
2020 Cumulative With Update	16,671	1,405	2,535	27,750	13,240	883	1049
Post-2035 Cumulative Baseline	7,060	1,384	2,322	26,639	13,934	379	474
Post-2035 Cumulative Baseline With Update	16,795	1,690	2,653	34,286	12,339	549	1049

ES.1.2 Traffic Impacts & Fair Share

A number of agreements were signed between the City of Irvine and adjacent jurisdictions during the 2010 IBC Vision Plan effort which required the City of Irvine to provide specific dollar amounts of infrastructure funding to each adjacent jurisdiction. These agreements were premised on the understanding that the Vision Plan had no additional responsibilities toward improvements identified, provided the residential unit cap within the IBC is not exceeded. These agreements are included in **Appendix A**.

The residential unit intensity cap has not increased since the 2010 study. This traffic study update is intended only to analyze the change in traffic conditions since the 2010 approval. Except as otherwise specified in those existing agreements with adjacent jurisdictions, the Vision Plan is not responsible for mitigating the improvements identified in this study update within the cities of Tustin, Newport Beach, Santa Ana, or for improvements on Caltrans facilities.

For the sole purpose of providing a reference point for comparison with the 2010 study, a fair-share methodology was used to evaluate what the financial participation of mitigating IBC Vision impacts would be in the absence of the above-mentioned agreements. The following methodology is applied:

- For plan update impacts within the City of Irvine, the IBC Vision Plan is fully responsible.
- For plan update impacts outside the City of Irvine, the IBC Vision Plan would participate on a fair-share basis.

All impacts referenced in this study update represent impacts as defined in the City of Irvine's Traffic Impact Analysis (TIA) Guidelines, adopted August 2004, or for locations outside Irvine, per the performance criteria for each affected agency.

The cost of improvements will be presented in a supplemental nexus report. Under future forecast conditions there are a number of deficient intersections. **Table ES 1.2** demonstrates the deficiencies, impacts, and fair-shares under each future scenario.

Table ES 1.2 – Intersection/Arterial Segment Impacts/Cumulative Deficiencies

ID	INTERSECTION	JURISDICTION	IBC VISION WITH UPDATE (2020)		IBC VISION WITH UPDATE (POST-2035)		FAIR-SHARE		
			CUMULATIVE DEFICIENCY	IMPACT	CUMULATIVE DEFICIENCY	IMPACT	2020 WITH UPDATE*	POST-2035 WITH UPDATE*	EXPECTED SHARE (VISION PLAN)
85	MacArthur Boulevard at Birch Street	Newport Beach				X		5.6%	No Share
723	Main Street at Segerstrom Avenue	Santa Ana				X		40.3%	No Share
728	Halliday East at Alton Parkway	Santa Ana				X		7.2%	No Share
36	Red Hill Avenue at El Camino Real	Tustin		X			10.7%		No Share
445	Tustin Ranch Rd at Warner Ave N	Tustin				X		15.7%	No Share
93	Tustin Ranch Road at Bryan Avenue	Tustin	X		X		0.3%	9.9%	No Share
111	Franklin Avenue at Walnut Avenue	Tustin	X		X		3.9%	3.5%	No Share
749	Park Ave at A Street	Tustin			X			1.5%	No Share
98	Von Karman Avenue at Alton Pkwy	Irvine				X			100.0%
144	Jamboree Road at I-405 SB Ramps	Irvine				X			100.0%
145	Jamboree Road at Michelson Drive	Irvine				X			100.0%
188	Harvard Avenue at Michelson Drive	Irvine				X			100.0%
229	Culver Drive at Alton Parkway	Irvine				X			100.0%
97	Von Karman Ave/Tustin Ranch Rd at Barranca Pkwy	Irvine				X			100.0%
234	Culver Drive at Michelson Drive	Irvine	X						No Share
135	Jamboree NB Ramps/Warner Ave	Irvine			X				100.0%
134	Loop Rd/Park Ave at Warner Ave	Irvine/Tustin	X		X				100.0%
ID	ARTERIAL SEGMENT	JURISDICTION	IBC VISION WITH UPDATE (2020)		IBC VISION WITH UPDATE (POST-2035)		FAIR-SHARE		
			CUMULATIVE DEFICIENCY	IMPACT	CUMULATIVE DEFICIENCY	IMPACT	2020 WITH UPDATE*	POST-2035 WITH UPDATE*	EXPECTED SHARE (VISION PLAN)
1326	Dyer Rd between SR-55 SB and SR-55 NB	Santa Ana		X		X	15.9%	21.3%	No Share

*Fair-share percentage is shown for informational and comparison purposes only

ES.1.3 Improvement Strategies

The IBC Vision Plan Traffic Study Update proposes improvements for all intersections (and one impacted arterial segment) within the study area that are identified as impacts as well as all forecast cumulative deficiencies. Due to the above-mentioned agreements with adjacent cities and Caltrans (other than in the City of Costa Mesa), contribution towards improvements identified at locations where the update has an impact outside the City of Irvine are provided for reference only. Improvement 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 1.3** displays the mitigation strategies for each deficient intersection within the IBC study area.

Table ES.1.3– Improvement Strategies

INTERSECTION ID #	INTERSECTION NAME	JURISDICTION	IMPROVEMENT STRATEGY
2020 Impacts and Cumulative Deficiencies			
234	Culver Drive at Michelson Drive (cumulative deficiency)	Irvine	Improve EB to 2,2,0
134	Loop Road/Park Ave at Warner Avenue (cumulative deficiency)	Irvine/Tustin	Add 3rd EBT and NBR overlap
36	Red Hill Avenue at El Camino Real (update impact)	Tustin	Reconfigure SB to 1.5,2.5,0**
93	Tustin Ranch Road at Bryan Avenue (cumulative deficiency)	Tustin	Add 4th SBT**

INTERSECTION ID #	INTERSECTION NAME	JURISDICTION	IMPROVEMENT STRATEGY
111	Franklin Avenue at Walnut Avenue (cumulative deficiency)	Tustin	Add 3rd WBT**
1326*	Dyer Road between SR-55 SB and SR-55 NB (impact)	Santa Ana	Add 4th EBT**
P-2035 Impacts and Cumulative Deficiencies			
98	Von Karman Avenue at Alton Parkway (impact)	Irvine	Add 3rd NBT
135	Jamboree NB Ramps/Warner Avenue (cumulative deficiency)	Irvine	Restripe EB to 2,2,0
144	Jamboree Road at I-405 SB Ramps (impact)	Irvine	Improve EB to 2.5,0,2.5
145	Jamboree Road at Michelson Drive (impact)	Irvine	Add 3rd EBL, 3rd SBL, and WBT***
188	Harvard Avenue at Michelson Drive (impact)	Irvine	Improve SB to 2,2,0
229	Culver Drive at Alton Parkway (impact)	Irvine	Improve EB to 2,3,0
97	Von Karman Avenue/Tustin Ranch Road at Barranca Parkway (impact)	Irvine	Add 3rd NBT and convert De Facto to Standard NBR
134	Loop Road/Park Ave at Warner Avenue (cumulative deficiency)	Irvine/Tustin	Add 3rd EBT and NBR overlap
85	MacArthur Boulevard at Birch Street (impact)	Newport Beach	Improve EB to 2 EBL and 2 EBT**
723	Main Street at Segerstrom Avenue (impact)	Santa Ana	Add 3rd NBT, De Facto NBR**
728	Halladay East at Alton Parkway (impact)	Santa Ana	Add 2nd EBT and 2nd WBT**
1326*	Dyer Road between SR-55 SB and SR-55 NB (impact)	Santa Ana	Add 4th WBT**
93	Tustin Ranch Road at Bryan Avenue (cumulative deficiency)	Tustin	Add 4th SBT**
111	Franklin Avenue at Walnut Avenue (cumulative deficiency)	Tustin	Add 3rd WBT**
445	Tustin Ranch Road at Warner Avenue North (impact)	Tustin	Improve NB to 0,2.5,1.5**
749	Park Ave at A Street (cumulative deficiency)	Tustin	Add 2nd SBL and 2nd WBL**

* Arterial Segment
** Improvement strategy provided for information and planning purposes only.
*** Alternative improvement strategy is implementation of the Jamboree/Michelson pedestrian bridge across Jamboree.

ES 1.4 Comparison of Impacts to 2010 Traffic Study

Table ES 1.4 shows the net overall result of fewer future impacts compared to the 2010 Vision Plan Study. The number of interim year forecast impacts reduce from 13 to 10. The number of Buildout year forecast impacts reduces from 41 to 22. Additional details are provided in **Chapter 8.**

Table ES 1.4 - Comparison of Number of Impacted Locations between 2010 IBC Traffic Study and 2015 Update

	Interim Year		Buildout Year	
Facility Type	**2010 Study**	**2015 Update**	**2010 Study**	**2015 Update**
Arterial Segments	0	1	1	1
Intersections	4	1	15	10
Freeway Mainline	4	6	14	5
Freeway Ramps	5	2	11	6
Total	13	10	41	22

In the 2010 Traffic Study the Interim year was 2015 and Buildout year was Post-2030 whereas in the current update study, the Interim year is 2020 and the Buildout year is Post-2035.

ES 1.5 Arterial 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. 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 impacts expected in future forecast scenarios for arterial segments within Newport Beach, Costa Mesa, and Tustin.

In 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 an impact when compared with the Baseline conditions. There were no impacted arterial segments in the interim year in the 2010 Traffic Study within the City of Santa Ana while one arterial segment is impacted in the 2015 Update in the Interim year:

- Dyer Road between SR-55 NB ramps and SR-55 SB ramps

In the Buildout year in the 2010 Study one arterial location was impacted:

- MacArthur Boulevard between Main Street and SR-55 SB in the City of Santa Ana

This MacArthur Boulevard widening no longer appears to be needed as forecast volumes drop from 51,000 ADT to 39,000 ADT in the 2015 update. In the Buildout conditions of the 2015 update one arterial location was impacted (also impacted in 2020):

- Dyer Road between SR-55 NB ramps and SR-55 SB ramps

ES 1.6 Intersection Deficiencies and Impacts

Analysis of the intersections was conducted for all intersections within the defined IBC Vision study area. For each jurisdiction, the established and published criteria for evaluating impacts have been employed in this study. Plan update impacts are identified for the study area using the methodology for each respective jurisdiction.

Table ES-1.5 compares the impacted intersections in both traffic studies for the Interim year. In the 2010 study four intersections were impacted whereas in the 2015 Update only one intersection is impacted.

Table ES-1-5 – Intersection Impacts - Interim Year (2010 Study vs. 2015 Update)

ID	LOCATION	JURISDICTION	PERIOD	2010 STUDY ONLY	2010 STUDY & 2015 UPDATE	2015 UPDATE ONLY
145	Jamboree Rd at Michelson Dr	Irvine	PM	x		
234	Culver Drive at Michelson Drive	Irvine	PM			x*
62	Campus Dr at Bristol Street NB	Newport Beach	PM	x		
93	Tustin Ranch Rd at El Camino Real	Tustin	AM	x		
134	Loop Rd/Park Ave at Warner Ave	Irvine/Tustin	PM	x		x*
36	Red Hill Ave at El Camino Real	Tustin	PM			x
* Irvine cumulative deficiency			Sum	4	0	1
			Total Impacts (2010 Study)	4	Total Impacts (2015 Update)	1

Table ES-1.6 shows that while 15 intersections were impacted in Buildout in the 2010 Study only 10 are impacted in the 2015 Update build-out condition. The following three locations were impacted in both studies:

- # 85 - MacArthur Boulevard at Birch Street in Newport Beach
- #145 - Jamboree Road at Michelson Drive in Irvine
- #723 - Main Street at Segerstrom Avenue in Santa Ana

Two of the 2010 Study impacted locations #135 Jamboree Road at Barranca Parkway and #141 Jamboree Road at Main Street have programmed improvements that are expected to be completed by 2020. As noted previously these improvements have been incorporated into analysis which results in a satisfactory level of service and no impacts under all scenarios studied in the 2015 Update.

Table ES-1.6 – Intersection Impacts - Buildout Year (2010 Study vs. 2015 Update)

INT ID	LOCATION	JURISDICTION	PERIOD	2010 STUDY ONLY	2010 STUDY & 2015 UPDATE	2015 UPDATE ONLY
12	SR-55 Frontage Road SB at Baker Street	Costa Mesa	AM	x		
13	SR-55 Frontage Road NB at Baker Street	Costa Mesa	AM	x		
62	Campus Drive at Bristol Street NB	Newport Beach	PM	x		
85	MacArthur Boulevard at Birch Street	Newport Beach	PM(both)		x	
543	Bristol at Segerstrom	Santa Ana	PM	x		
723	Main Street at Segerstrom Avenue	Santa Ana	PM(both)		x	
728	Halladay East at Alton Parkway	Santa Ana	AM&PM			x
730	Grand Avenue at Warner Avenue	Santa Ana	PM	x		
754	Red Hill Avenue at Carnegie Avenue	Tustin/Santa Ana	PM	x		
24	Newport Avenue at Walnut Avenue	Tustin	AM	x		
93	Tustin Ranch Road at El Camino Real	Tustin	AM	x		
445	Tustin Ranch Road at Warner Avenue N	Tustin	PM			x
97	Von Karman Ave/Tustin Ranch Rd at Barranca Pkwy	Irvine/Tustin	PM			x
98	Von Karman Avenue at Alton Parkway	Irvine	PM			x
134	Loop Road/Park Ave at Warner Avenue	Irvine/Tustin	PM	x		x**
135	Jamboree NB Ramps/Warner	Irvine	PM			x**
136	Jamboree Road at Barranca Parkway*	Irvine/Tustin	PM	x		
141	Jamboree Road at Main Street*	Irvine	PM	x		
144	Jamboree Road at I-405 SB Ramps	Irvine	AM			x
145	Jamboree Road at Michelson Drive	Irvine	PM(both)		x	
188	Harvard Avenue at Michelson Drive	Irvine	PM	x **		x
229	Culver Drive at Alton Parkway	Irvine	PM			x
232	Culver Drive at I-405 NB Ramps	Irvine	PM	x		
			Sum	12	3	7
			Total Impacts (2010 Study)	15	Total Impacts (2015 Update)	10

* Improvement currently programmed
** Irvine cumulative deficiency

The completion of the Tustin Ranch Road extension seems to have had an effect on the location of impacted intersections. Compared to the 2010 Study, traffic is drawn away from Red Hill Avenue and Jamboree Road onto Von Karman Avenue/Tustin Ranch Road. A noticeable progression of impacted and deficient intersections can be seen in the PM peak period as traffic heads north from the heart of the IBC using Von Karman Avenue that becomes Tustin Ranch Road and eventually accesses the Jamboree Road Expressway at the Warner Avenue Ramp. The progression of impacted/deficient intersections is:

- Von Karman Avenue at Alton Parkway (Irvine)
- Von Karman Avenue at Barranca Parkway (Irvine)

- Tustin Ranch Road at Warner Avenue North (Tustin)
- Loop Road/Park Avenue at Warner Avenue (Irvine/Tustin-Deficiency only)
- Jamboree Northbound Ramps at Warner Avenue (Irvine-Deficiency only)

ES.1.7 Freeway Mainline and Ramps

Table ES-1.7 compares the Interim Year impacted freeway mainline segments in both traffic studies. In the 2010 study four segments were impacted whereas in the 2015 Update six locations are impacted. Three of these locations all on I-405 between Jamboree Road and SR-55 are common in both studies.

Table ES-1.7 – Freeway Mainline Impacts - Interim Year (2010 Study vs. 2015 Update)

FREEWAY	SEGMENT	DIRECTION	PERIOD	2010 STUDY ONLY	2010 STUDY & 2015 UPDATE	2015 UPDATE ONLY
I-405	Jamboree Road to MacArthur Boulevard	SB	PM	x		
I-405	Jamboree Road to MacArthur Boulevard	NB	AM		x	
I-405	MacArthur Boulevard to SR-55	NB	AM		x	
I-405	MacArthur Boulevard to SR-55	SB	PM		x	
I-5	North of SR-55	NB	AM			x
SR-55	Dyer Road to Edinger Avenue	NB	AM			x
SR-73	Campus Drive to SR-55	NB	AM			x
			Sum	1	3	3
			Total Impacts (2010 study)	4	Total Impacts (2015 Update)	6

Table ES-1.8 compares the Buildout year impacted freeway mainline segments in both traffic studies. In the 2010 study fourteen segments were impacted whereas in the 2015 Update only five locations are impacted. Two of these locations are common in both studies.

Table ES-1.8 – Freeway Mainline Impacts - Buildout Year (2010 Study vs. 2015 Update)

FREEWAY	SEGMENT	DIRECTION	PERIOD	2010 STUDY ONLY	2010 STUDY & 2015 UPDATE	2015 UPDATE ONLY
I-405	Jamboree Road to MacArthur Boulevard	SB	PM	x		
I-5	Jamboree Road to Tustin Ranch Road	NB	AM	x		
I-5	Jamboree Road to Tustin Ranch Road	SB	AM&PM	x		
I-5	Newport Avenue to SR-55	NB	AM	x		
I-5	North of SR-55	SB	AM	x		
I-5	Red Hill Avenue to Newport Avenue	NB	AM	x		
I-5	Tustin Ranch Road to Red Hill Avenue	NB	AM	x		
I-5	Tustin Ranch Road to Red Hill Avenue	SB	AM&PM	x		
SR-55	I-405 to MacArthur Boulevard	NB	AM&PM	x		
SR-55	I-405 to MacArthur Boulevard	SB	AM&PM	x		
SR-55	MacArthur Boulevard to Dyer Road	NB	PM	x		
SR-55	MacArthur Boulevard to Dyer Road	SB	AM	x		
I-405	Jamboree Road to MacArthur Boulevard	NB	AM		x	
SR-55	Dyer Road to Edinger Avenue	NB	PM		x	
I-405	MacArthur Boulevard to SR-55	NB	AM&PM			x
I-405	MacArthur Boulevard to SR-55	SB	AM&PM			x
SR-55	McFadden St/Sycamore Ave to I-5	NB	PM			x
			Sum	12	2	3
			Total Impacts (2010 Study)	14	Total Impacts (2015 Update)	5

Table ES-1.9 compares the Interim year impacted freeway ramps in both traffic studies. In the 2010 study five ramps were impacted whereas in the 2015 Update only two locations are impacted. Both the 2015 Update ramps are on I-405 and were also impacts in the 2010 study.

Table ES-1.9 – Freeway Ramp Impacts - Interim Year (2010 Study vs. 2015 Update)

FREEWAY	LOCATION	RAMP	PERIOD	2010 STUDY ONLY	2010 STUDY & 2015 UPDATE	2015 UPDATE ONLY
I-405	Jamboree Road	NB Off	AM	x		
SR-55	Victoria Street	NB Direct On	AM	x		
SR-73	MacArthur Boulevard	NB On	AM	x		
I-405	Jamboree Road	SB Off	PM		x	
I-405	Bristol Street	SB Loop On	PM		x	
			Sum	3	2	0
			Total Impacts (2010 Study)	5	Total Impacts (2015 Update)	2

Table ES-1.10 compares the Buildout year impacted freeway ramps in both traffic studies. In the 2010 study eleven ramps were impacted whereas in the 2015 Update only six ramps are impacted. Three of the ramps impacted in the 2015 Update ramps are on I-405 and were also impacts in the 2010 study.

Table ES-1.10 – Freeway Ramp Impacts - Buildout Year (2010 Study vs. 2015 Update)

FREEWAY	LOCATION	RAMP	PERIOD	2010 STUDY ONLY	2010 STUDY & 2015 UPDATE	2015 UPDATE ONLY
I-405	Culver Drive	NB Off	AM	X		
I-405	MacArthur Boulevard	NB On	PM	X		
I-405	Jamboree Road	SB Off	AM/PM	X		
SR-55	Baker Street	NB Off	AM/PM	X		
SR-55	Baker Street	SB On	PM	X		
SR-55	MacArthur Boulevard	SB On Loop	PM	X		
SR-73	Campus Drive	NB On	PM	X		
SR-73	Jamboree Road	SB Off	AM/PM	X		
I-405	MacArthur Boulevard	NB Off	AM		X	
I-405	Bristol Street	SB Loop On	PM		X	
SR-55	Dyer Road	NB On Direct	PM		X	
I-405	Jamboree Road	NB Off	AM			X
SR-55	Dyer Road	NB Off	AM			X
SR-73	Campus Drive	SB Off	AM			X
			Sum	8	3	3
			Total Impacts (2010 Study)	11	Total Impacts (2015 Update)	6

ES.1.8 MPAH and General Plan Amendment

The results of this Five-Year Update study indicate that no additional proposed changes are required to the City of Irvine General Plan or Countywide Master Plan of Arterial Highways (MPAH). Since the adoption of the 2010 Vision Plan, the City of Irvine General Plan has been amended with the following downgrades, per the 2010 Vision Plan:

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

The arterial segments of Alton Pkwy between Red Hill Avenue and Jamboree Road and Von Karman Avenue between Barranca Pkwy and Michelson Drive as identified with an asterisk in the list above, were also programmed into the County's Master Plan of Arterial Highways (MPAH) since the 2010 Vision Plan approval.

Although the 2010 Vision Plan Traffic Study stated that it was the City's intention to remove the Von Karman Avenue at the I-405 freeway HOV drop ramps, it was determined that the improvement was of regional significance and therefore remains part of the Post-2035 build-out baseline assumptions.

Consistent with the 2010 Vision Plan, the widening of Red Hill Avenue from four lanes to six lanes between MacArthur Boulevard and Main Street is assumed in the Post-2035 Build-out Baseline since it is the one missing roadway widening in IBC that is needed to fulfill the County's Master Plan of Arterial Highways (MPAH).

Appendix B

2015 Update to Irvine Business Complex Vision Plan
Traffic Fee Nexus Study,
prepared by HDR and Iteris,
June 7, 2017

2015 Update to:

Irvine Business Complex Vision Plan Traffic Fee Nexus Study

June 07, 2017

Prepared for:

J17-0530 | **Prepared by** HDR **Inc.** in association with iteris **Inc.**

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Executive Summary

This five-year update (2015 IBC Traffic Fee Nexus Update) is consistent with the principles of the Irvine Business Complex (IBC) Vision Plan and maintains a consistent nexus between future development in the IBC and the transportation system improvements necessary to support that development. The objective of this study is to update development fees to financially support the implementation of identified improvements to the transportation system within and adjacent to the IBC in order to accommodate full buildout of the Vision Plan.

Pursuant to the requirements of AB 1600, this update ensures that it complies with the nexus determination requirement to:

- Identify the purpose of the fee;
- Identify the use to be funded by the fee;
- Determine the reasonable relationship between:
  - The use of the fee and the type of development paying the fee;
  - The need for the traffic improvements and the types of development on which the fee is imposed; and
  - The amount of the fee and the cost of the public facilities or portion of the public facilities (in this case, traffic improvements) attributable to the development.

The 2015 IBC Traffic Fee Nexus Study complies will all State legislative nexus requirements.

Table ES.1 summarizes the costs included in the 2015 IBC Traffic Fee Nexus Update. These costs are based on a combination of detailed cost estimates for specific fair-share improvements identified in the accompanying 2015 traffic study[1] (2015 IBC Traffic Study Update), obligations to fund specific improvements within adjacent jurisdictions as necessary to mitigate the impacts of the buildout of the IBC Vision Plan, and a continuing obligation to fund certain improvements identified in a prior fee program for the IBC adopted in 1992. Additionally, the costs include specific tasks required to implement and maintain the fee program consistent with the requirements of the IBC Vision Plan General Plan Amendment/Zoning Ordinance.

The proposed fee program assumes that development fees will fund up to 90% of identified improvement costs. It is assumed that the remaining 10% of the project costs will be covered by outside funding sources including federal, state, and county programs.

Table ES.2 summarizes a fee comparison between 1992 (at the onset of the IBC Fee Program), 2009 fees (developed through annual adjustments of the 1992 fee), 2010 fees (developed as part of the Vision Plan), 2016 fees (currently what the City charges developers – this is developed by applying annual adjustments to the 2010 fee) and proposed fees, effective beginning in the next FY 2017-18. Although the fees are significantly higher than the current 2016 fees, they still remain 31%-35% lower than 2009 fees.

[1] *Irvine Business Complex Vision Plan, 2015 Five Year Traffic Study Update, Iteris with HDR, 2016*

Table ES.1: 2015Updated IBC Vision Plan Traffic Fee Program Breakdown

Needs for IBC Vision Plan Traffic Improvements		
Improvement Costs		
Based on 2015 IBC Traffic Study Update		
Irvine (90% of estimate assumed)	*$18,006,327*	
Caltrans District 12	*$6,585,299*	
2015 IBC Traffic Study Update Improvements	$24,591,626	$24,591,626
Remaining Existing General Plan Improvements		
Irvine (90% of estimate assumed)	*$16,577,451*	
Improvements in Santa Ana	*$52,670,912*	
Improvements in Costa Mesa	*$28,970*	
2015 Update - Remaining Existing General Plan Improvements	$69,227,334	$69,227,334
Subtotal: 2015 Update IBC Vision Plan Improvement Cost		$93,868,960
Existing IBC Traffic Funds Available		
*Current IBC Traffic Fund Balance***	*$46,838,863*	
*Capital Improvement Program funds that are currently appropriated for IBC Improvements ****	*($27,354,385)*	
Subtotal: Existing IBC Funds to be applied to the 2015 Fee Program	($19,484,478)	($19,484,478)
Subtotal: (Effective) 2015 Updated IBC Vision Plan Improvement Cost		$74,384,482
Other IBC Vision Plan Traffic Fee Program Costs		
Transportation Management Systems (10% of total fee)	*$7,438,448*	
IBC Program Administration (5% of total fee)	*$3,719,224*	
Contingency (15% of total fee)	*$11,157,672*	
Subtotal: Additional Costs to the IBC Fee Program	$22,315,345	$22,315,345
Development Agreements (subject to fees identified in their agreements)		
Park Place DA	*($2,769,591)*	
Central Park West DA	*($1,233,998)*	
Subtotal: Existing Development Agreements	($4,003,589)	($4,003,589)
Subtotal: Total IBC Fees Required		$92,696,238

Source: HDR 2015 for Development of Improvement Costs; City of Irvine for Fund Balances
* Caltrans D12 agreement with City of Irvine ($7,025,962 minus $440,663 set aside as Caltrans Subfund)
** Includes remaining balance from 1992 IBC Traffic Fee Program Fund Balance, current IBC Vision Plan Traffic Fee Program Fund Balance, and Caltrans subfund
*** CIP allocation for funding of Jamboree Road/Barranca Parkway and Jamboree Road/Main Street improvements, and partial funding for the pedestrian bridge at Jamboree Road and Michelson Drive

Table ES.2: IBC Fee Comparison

Land Use	Unit	IBC Traffic Fee					Increase from 2016 (factor)
		1992	2009	2010	2016	Proposed***	
Total Residential	DU	$3,734	$7,175	$1,862	$2,254	$4,697	2.08
Extended Stay	Rooms	$3,016	$5,795	$1,503	$1,820	$3,796	2.09
Hotel	Rooms	$4,883	$9,383	$2,435	$2,947	$6,140	2.08
Retail Mix	Sq. Ft.	$10.70	$20.28	$5.45	$6.60	$13.97	2.12
Office	Sq. Ft.	$10.70	$20.28	$5.45	$6.60	$13.97	2.12
Industrial Mix **	Sq. Ft.	$3.30	$5.85	$1.50	$1.82	$3.79	2.08
Mini Warehouse	Sq. Ft.	$1.85	$3.55	$0.97	$1.17	$2.44	2.09

Source: HDR 2015, City of Irvine
* Includes Density Bonus Units charged fees consistent with Base Units
** Includes manufacturing and warehouse SF
*** Effective FY 2017-2018

The proposed fee is significantly higher than the 2010 fees and is attributable to the following factors:

- New improvement locations
- Significant increase in improvement costs between 2010 and 2015
- Fewer number of remaining development units (residential and non-residential) subject to fee
- Lesser remaining funds available from the IBC Traffic Fee Fund Balance, due to large payout to Cities of Newport Beach and Tustin (per 2009 and 2010 agreements respectively) and earmarked funds for improvements and payment to Caltrans (per 2011 agreement)

1 Introduction

1.1 Background

The City of Irvine established an Irvine Business Complex (IBC) Nexus Fee Program in 1992 (henceforth to be referred to as the 1992 Fee Program) to support the City's adoption of the more traffic intensive 1990 IBC Rezone General Plan Amendment (GPA) and Zone Code. The intent of the 1992 Fee Program was to support the implementation of specific improvements identified in a subsequent Environmental Impact Report (henceforth to be referred to as the 1992 EIR) prepared in conjunction with the 1992 rezoning actions. This approach is consistent with the City's General Plan Roadway Development Objective B-1 to "Plan, provide and maintain an integrated vehicular circulation system to accommodate projected local and regional needs."

In 2010, the City prepared the IBC Vision Plan (henceforth to be referred to as the Vision Plan), a GPA and Zone Change project to accommodate the ongoing shift in development patterns to improve the jobs-housing balance, and reduce vehicle miles travelled. In recent years, as development patterns within the IBC showed an increased demand for residential uses and a decreased demand for manufacturing and warehouse uses, The Vision Plan project, together with its accompanying EIR (Vision Plan EIR) were approved/certified by the Irvine City Council on July 13, 2010.

As part of the Vision Plan approval, the Zoning Ordinance was updated to require the City to re-evaluate traffic conditions (and traffic impact locations) and its impact on improvement needs, by way of a five-year traffic study update (amended to every two years in October 2015). In 2015, a five-year traffic study[2] (henceforth to be referred to as 2015 IBC Traffic Study Update) was completed to fulfil the requirements of the Zoning Ordinance. Based on the findings of the 2015 IBC Traffic Study Update, a new set of transportation improvements were identified. In this 2015 five-year fee/nexus update (henceforth to be referred to as 2015 IBC Traffic Fee Nexus Update), the fee structure and the nexus associated with the findings of the 2015 IBC Traffic Study Update, is being revised to accommodate the identified set of transportation improvements.

Subsequent to the completion of the Vision Plan, the City of Irvine entered into contractual agreements with the potentially affected jurisdictions/agencies (Caltrans District 12 and cities of Newport Beach, Santa Ana, Costa Mesa, and Tustin). Thus for this 2015 IBC Traffic Fee Nexus Update, only the fee associated with the findings of the 2015 IBC Traffic Study Update, were updated. The associated fair-shares and the nexus remained consistent with the 2010 Vision Plan Traffic Fee Nexus Study[3] (henceforth to be referred as Vision Plan Traffic Fee Nexus Study). This 2015 five-year update takes a "snapshot" of the development activity from the inception of the Vision Plan in 2010 to July 31, 2015, to evaluate the changes in land uses and traffic patterns, and subsequent improvement needs, resulting in the development of a proposed fee to be imposed effective fiscal year (FY) 2017-2018.

In 2010, the Vision Plan established two overlay zoning districts:

- Urban Neighborhood, in which residential mixed use was encouraged; and
- Business Complex, in which the existing allowable mix of non-residential uses was maintained.

The Vision Plan allowed for the buildout of 15,000 residential base dwelling units (DU) within the Urban Neighborhood Overlay Zone District, with a potential maximum of 2,038 additional density bonus units, pursuant to state law. In order to achieve the maximum residential development intensity contemplated under the Vision Plan, the Plan adopted a "flexible zoning" mechanism under which non-residential development intensity could be exchanged for residential development

[2] *Irvine Business Complex Vision Plan, 2015 Five Year Traffic Study Update, Iteris with HDR, 2016*

[3] *Irvine Business Complex Vision Plan Traffic Fee Nexus Study, Parsons Brinckerhoff, 2011*

intensity, thus achieving the maximum 15,000 DU (plus 2,038 DU pursuant to state law), by "offsetting" reduction of non-residential development intensity.

Based on approvals since 2010, the total number of density bonus units pursuant to state law assumed for this five-year update is reduced to 1,794 DU, down from the theoretical assumption of 2,038 DU in 2010. The accompanying 2015 IBC Traffic Study Update provided an assessment of existing, interim-year 2020 and buildout year Post-2035 with and without the updated land use conditions.

1.2 Purpose of the 2015 Update to the Vision Plan Nexus Study

Pursuant to requirements of the California Environmental Quality Act (CEQA), the City Council, as part of their approval of the Vision Plan in 2010, determined to make the City responsible to mitigate, where feasible, the impacts to the transportation system attributable to buildout of the Vision Plan. This 2015 IBC Traffic Fee Nexus Update is consistent with the principles of the Vision Plan Traffic Fee Nexus Study and maintains a consistent nexus between future development in the IBC and the transportation system improvements necessary to support that development. Through equitable developer fees, the objective of this update is to financially support the implementation of identified improvements to the transportation system within and adjacent to the IBC in order to accommodate full buildout of the Vision Plan.

California's Mitigation Fee Act (AB 1600, Cal. Gov. Code §§ 66000-66009) creates the legal framework for local governments to assess new fees toward future development. Such fees require new development to pay its fair-share of the infrastructure cost necessary to serve new residents and businesses. AB 1600 stipulates that a local government must take the following steps to establish a nexus between a proposed fee and project impacts:

- Identify the purpose of the fee;
- Identify the use to be funded by the fee;
- Determine the reasonable relationship between:
  - The use of the fee and the type of development paying the fee;
  - The need for the traffic improvements and the types of development on which the fee is imposed; and
  - The amount of the fee and the cost of the public facilities or portion of the public facilities (in this case, traffic improvements) attributable to the development.

These principles closely emulate two landmark US Supreme Court rulings that provide guidance on the application of impact fees. The first case, Nollan v. California Coastal Commission (1987) 107 S.Ct. 3141, established that local governments are not prohibited from imposing impact fees or dedications as conditions of project approval provided the local government establishes the existence of a "nexus" or link between the exaction and the interest being advanced by that exaction. The Nollan ruling clarifies that once the adverse impacts of development have been quantified, the local government must then document the relationship between the project and the need for the conditions that mitigate those impacts. The ruling further clarifies that an exaction may be imposed on a development even if the development project itself will not benefit provided the exaction is necessitated by the project's impacts on identifiable public resources.

The second case, Dolan v. City of Tigard (1994) 114 S.Ct. 2309, held that in addition to the Nollan standard of an essential nexus, there must be a "rough proportionality" between proposed exactions and the project impacts that the exactions are intended to provide benefit. As part of the Dolan ruling, the US Supreme Court advised that "a term such as "rough proportionality" best encapsulates what we hold to be the requirements of the Fifth Amendment. No precise mathematical calculation is required, but the city (or other local government) must make some sort of individualized determination that the required dedication is related both in nature and extent to the impact of the proposed development."

The combined effect of both rulings resulted in the requirement that public exactions must be carefully documented and supported. This requirement was reiterated by the provisions of the State of California Mitigation Fee Act and subsequent rulings in the California Supreme Court (Ehrlich v. City of Culver City (1996) 12 C4th 854) and the California Court of Appeal (Loyola Marymount University v. Los Angeles Unified School District (1996) 45 Cal.App.4th 1256).

The Vision Plan Traffic Fee Nexus Study satisfied the requirements of the State of California Mitigation Fee Act. Thus this update is not intended to re-analyze the nexus or the purpose, but is to review and revise the fee program based on the needs determined by the 2015 IBC Traffic Study Update.

The 2015 IBC Traffic Study Update analyzed the project study area presented in Figure 1.1. All improvements identified under the interim year 2020 and buildout Post-2035 conditions are located within this defined project study area. Consistent with the methodology used in the 2010 IBC Vision Plan Traffic Study (henceforth referred to as Vision Plan Traffic Study), the 2015 IBC Traffic Study Update identified specific mitigation measure improvements that mitigate unacceptable level of service (LOS) E and F to acceptable LOS of A-D, per the City's Traffic Impact Analysis (TIA) Guidelines (adopted August 2004) and per the performance criteria for each affected agency (Caltrans District 12 and cities of Newport Beach, Costa Mesa, Santa Ana, and Tustin).

For locations within the City of Irvine, 90% of the improvement costs are included in the fee program. For locations not under the City of Irvine's jurisdiction, a fair-share methodology is applied that considers fair-shares of improvement costs. The proportionate fair-shares of improvement costs in the City of Costa Mesa and Santa Ana, associated with remaining improvements from the City of Irvine's Genera Plan, are included in the Fee Program. A 2011 amended agreement with the City of Santa Ana, replacing the 1992 agreement between the two cities, identified specific improvements for which the City of Irvine is either partially or fully responsible for certain improvement and those associated improvement costs were included in this update. In 2009 and 2010, respectively, the City of Newport Beach and the City of Tustin entered into settlement agreements with the City of Irvine, where City of Irvine made a one-time lump-sum payment to each of the cities, as its fair-share contribution towards transportation improvements and absolved itself from any future financial or implementation obligation related to the Vision Plan buildout.

Based on the findings from the 2015 IBC Traffic Study Update and existing agreements between the City of Irvine and the affected jurisdictions and agencies, Figure 1.1 identifies the improvement locations and provides a brief description of each improvement.

Costs of improvements included in the fee program are based on 2016 dollars developed from Construction Cost Index (CCI), and recent relevant projects unit cost estimates for construction materials and labor, and right-of-way cost estimates. This is further discussed in Section 2, IBC Vision Plan – 2015 Update Traffic Fee Program Cost. Section 3, Fee Methodology, walks the reader through a step by step process of developing the proposed fee effective FY 2017-2018. Section 4, Establishing Nexus discusses in details of the nexus between a proposed fee and project impacts, and Section 5, Conclusion summarizes the findings of this update and provides recommendations.

Figure 1.1: IBC Vision Plan – 2015 Update – Location of Improvements

Source: HDR 2015

2 IBC Vision Plan – 2015 Update to Traffic Fee Program Cost

The 2015 IBC Traffic Fee Nexus Update includes costs required to implement physical improvements that achieve the following:

- Mitigate impacts identified through the 2015 IBC Traffic Study Update;
- Satisfy agreements with adjacent jurisdictions that require the construction of specific roadway improvements to diminish the impacts of the Vision Plan development on the roadway system; and
- Upgrade the roadway network to be consistent with the buildout of the City's General Plan Circulation Element.

All costs included as part of the 2015 IBC Traffic Fee Nexus Update comply with the City's policies and estimates based on the most recent aerial photography available, field reviews for determination of feasibility, recent unit costs from local projects, and CCI updates. For all improvements located within the City of Irvine, 90% of total costs are included in this update. It is assumed that the remaining 10% will come from outside funding sources, such as federal, state and county grants.

Consistent with the Vision Plan Traffic Fee Nexus Study, this update includes costs related to the management and implementation of the IBC Vision Plan Traffic Fee Program. These costs include implementing Transportation Management Strategies (TMS) to reduce vehicle volumes and associated impacts, IBC Vision Plan Traffic Fee Program administration and construction contingency costs. Incorporated into the mix are the fund amounts that are currently available in the fee program, which includes specific amounts that are earmarked for projects identified in the City's Capital Improvement Program (CIP) and Development Agreements (DAs) that are not subject to any fee update.

Table 2.1 presents the fees required by the traffic fee program to implement the IBC Vision Plan.

2.1 Agreement with the City of Newport Beach

Following the development of the Vision Plan, the City of Irvine entered a settlement agreement with the City of Newport Beach. Based on this agreement, executed on November 24, 2009, the City of Irvine paid a one-time sum of $3,650,000 to the City of Newport Beach to be used exclusively for the engineering, design, and construction of Jamboree Corridor improvements and other traffic improvements located within the Vision Plan study area. Details of this agreement are presented in Appendix A. At the time of the agreement, the Cities of Irvine and Newport Beach agreed that the amount of $3,650,000 constituted a fair-share obligation for the City of Irvine toward improvements in Newport Beach necessitated by the development of the Vision Plan. The agreement was drawn up on the premise that the City of Irvine will not be financially responsible for any mitigation caused by the buildout of the Vision Plan, provided the residential unit cap of 15,000 DUs (plus 2,038 DUs pursuant to state law) is not exceeded. Therefore no mitigation improvement costs were identified within the City of Newport Beach for inclusion in this fee update.

Table 2.1: 2015Updated IBC Vision Plan Traffic Fee Program Breakdown

Needs for IBC Vision Plan Traffic Improvements		
Improvement Costs		
Based on 2015 IBC Traffic Study Update		
Irvine (90% of estimate assumed)	*$18,006,327*	
Caltrans District 12	*$6,585,299*	
2015 IBC Traffic Study Update Improvements	$24,591,626	$24,591,626
Remaining Existing General Plan Improvements		
Irvine (90% of estimate assumed)	*$16,577,451*	
Improvements in Santa Ana	*$52,670,912*	
Improvements in Costa Mesa	*$28,970*	
2015 Update - Remaining Existing General Plan Improvements	$69,227,334	$69,227,334
Subtotal: 2015 Update IBC Vision Plan Improvement Cost		$93,868,960
Existing IBC Traffic Funds Available		
*Current IBC Traffic Fund Balance***	*$46,838,863*	
*Capital Improvement Program funds that are currently appropriated for IBC Improvements ****	*($27,354,385)*	
Subtotal: Existing IBC Funds to be applied to the 2015 Fee Program	($19,484,478)	($19,484,478)
Subtotal: (Effective) 2015 Updated IBC Vision Plan Improvement Cost		$74,384,482
Other IBC Vision Plan Traffic Fee Program Costs		
Transportation Management Systems (10% of total fee)	*$7,438,448*	
IBC Program Administration (5% of total fee)	*$3,719,224*	
Contingency (15% of total fee)	*$11,157,672*	
Subtotal: Additional Costs to the IBC Fee Program	$22,315,345	$22,315,345
Development Agreements (subject to fees identified in their agreements)		
Park Place DA	*($2,769,591)*	
Central Park West DA	*($1,233,998)*	
Subtotal: Existing Development Agreements	($4,003,589)	($4,003,589)
Subtotal: Total IBC Fees Required		$92,696,238

Source: HDR 2015 for Development of Improvement Costs; City of Irvine for Fund Balances
* Caltrans D12 agreement with City of Irvine ($7,025,962 minus $440,663 set aside as Caltrans Subfund)
** Includes remaining balance from 1992 IBC Traffic Fee Program Fund Balance, current IBC Vision Plan Traffic Fee Program Fund Balance, and Caltrans subfund
*** CIP allocation for funding of Jamboree Road/Barranca Parkway and Jamboree Road/Main Street improvements, and partial funding for the pedestrian bridge at Jamboree Road and Michelson Drive

2.2 Agreement with the City of Tustin

On July 13, 2010, following the development of the Vision Plan and through consultation with the City of Tustin, an agreement was executed between the Cities of Tustin and Irvine. The agreement stipulated that in lieu of City of

Irvine's fair-share of the estimated costs of traffic improvements located within the City of Tustin and identified as mitigation measures required for buildout of the Vision Plan, the City of Irvine would contribute 12% of the construction contract award amount or $4,500,000, whichever was greater, and up to a maximum of $6,500,000, for the Tustin Ranch Road extension roadway improvement between Walnut Avenue and Warner Avenue, including the grade separation and loop at Edinger Avenue. The improvements at Tustin Ranch Road, including the grade separation, were completed at the time of this update, however, the loop at Edinger Avenue is pending completion. Irvine's final contribution towards improvements in Tustin was $4.5 million. Appendix B presents the 2010 Settlement Agreement between the City of Irvine and the City of Tustin. The agreement was drawn up on the premise that the City of Irvine will not be financially responsible for any mitigation caused by the buildout of the Vision Plan, provided the residential unit cap of 15,000 DUs (plus 2,038 DUs pursuant to state law) is not exceeded. Therefore no mitigation improvement costs other than costs for specific improvement locations shared with Irvine, were identified within the City of Tustin for inclusion in this fee update.

2.3 Agreement with City of Santa Ana

A 1992 agreement between the City of Irvine and the City of Santa Ana resulted from the 1992 EIR approval that identified Irvine as the responsible party for the following improvements:

- Full financial responsibility for the costs to widen Dyer Road from a six-lane divided arterial to an eight-lane divided arterial between Red Hill Avenue and the SR-55 northbound on-ramp, including the intersection of Red Hill Avenue at Dyer Road/Barranca Parkway. Consistent with all improvements for which the City of Irvine has sole financial responsibility, 90% of total costs for this improvement is included in the 2015 IBC Traffic Fee Nexus Update.
- 50% of the costs to build the Alton Parkway Overcrossing at SR-55 in the City of Santa Ana.

The need for these improvements, and the allocation of responsibility to fund the improvements, was created in part by the development contemplated in the 1992 IBC Zoning, and as such the improvements were included in the 1992 Fee Program. An amendment to the 1992 agreement was negotiated and signed between the cities on March 21, 2011Following the approval of the IBC Vision Plan. The agreement redefined the Alton Parkway Interchange at SR-55 as Alton Parkway Overcrossing at SR-55, and maintained the financial responsibility of the City of Irvine on the two above mentioned projects, consistent with the 1992 agreement. Appendix C presents detail of the 1992 Settlement Agreement and the subsequent amendment.

Preliminary engineering cost estimates indicate that the Dyer Road widening is expected to cost $25,011,301. This cost includes estimates for Class II bikes lanes through the length of the project extent, consistent with the findings from the Project Report[4]. The total cost of the redefined Alton Parkway Overcrossing at SR-55 is estimated at $60,184,755. This cost includes the following list of additional improvements identified as mitigation in an updated traffic study[5] completed in 2010:

- Intersection #44: Red Hill Avenue at Alton Parkway;
- Signalization of the intersection of Halladay Street at Alton Parkway; and
- Signalization of the intersection of Daimler Street at Alton Parkway

For this update 90% of the cost of Dyer Road widening ($22,510,171) is included in the fee update. Pursuant to the City of Irvine and City of Santa Ana agreement, 50% of the Alton Parkway Overcrossing at SR-55 project ($30,092,378) is included in this update. Other than these two improvements, the only remaining Existing General Plan improvement per the cities' agreement included in this update is Intersection #719: Flower Street at Segerstrom Avenue that identifies a fair-share contribution of 9.6%, consistent with the Vision Plan Traffic Fee Nexus Study. City

[4] *Project Report for the Dyer Road/Barranca Parkway Improvements (State Route-55 to Aston Street), RBF Consulting, 2004*

[5] *Updated Traffic Study for Alton Avenue Overcrossing at State Route 55 Freeway and Arterial Widening in the Cities of Santa Ana and Irvine, KOA, 2010*

of Irvine's fair-share for implementing improvements at the intersection of Flower Street at Segerstrom Avenue is $68,364 (9.6% of $712,124).

Hence, the 2015 IBC Traffic Fee Nexus Update includes a total of $52,670,912 as funds that would be required to implement improvements within the City of Santa Ana.

Appendix D presents detailed layout and cost estimate worksheets for each improvement.

2.4 Agreement with City of Costa Mesa

Based on the existing agreement between the Cities of Irvine and Costa Mesa, executed in 1993 and presented in Appendix E, the fair-share contribution towards one remaining Existing General Plan improvement included in this update is SR-55 Frontage Road SB Ramps at Paularino Avenue that identifies a fair-share contribution of 2.4%, consistent with the Vision Plan Traffic Fee Nexus Study. City of Irvine's fair-share for implementing improvements at this location is $28,970 (2.4% of $1.2 Million).

Appendix D presents a layout and cost estimate worksheet for this location.

2.5 Agreement with Caltrans District 12

Following the development of the Vision Plan and through consultation with Caltrans District 12 (Caltrans), on January 25, 2011, the City of Irvine and Caltrans entered into an agreement that identified feasible strategies that Caltrans would employ as mitigation for traffic impacts caused by the project on Caltrans facilities. Based on the findings from the Vision Plan Traffic Fee Nexus Study, it was determined that the fair-share cost of implementing these improvements would be $7,025,962 and it would constitute the City of Irvine's fair-share obligation as identified in the agreement. Appendix F presents the 2011 Traffic Mitigation Agreement between City of Irvine and Caltrans. Since the completion of the Vision Plan, the City of Irvine has collected and earmarked $440,663 as payment towards Caltrans agreement. Hence, this 2015 IBC Traffic Fee Nexus Update rolls over $6,585,299 ($7,025,962 less $440,663) from the Vision Plan Traffic Fee Nexus Study, as part of the funding need for implementing improvements associated with the buildout of the Vision Plan.

2.6 Transportation Improvements within the City of Irvine

2.6.1 Based on the 2015 IBC Traffic Study Update

The 2015 IBC Traffic Study Update identified the following eight deficient locations for which improvements were identified (refer to Table ES1.2 in the 2015 IBC Traffic Study Update).

- Intersection #97: Von Karman Avenue/Tustin Ranch Road at Barranca Parkway;
- Intersection #98: Von Karman Avenue at Alton Parkway;
- Intersection #134: Loop Road/Park Avenue at Warner Avenue;
- Intersection #135: Jamboree NB Ramps at Warner Avenue;
- Intersection #144: Jamboree Road at I-405 SB Ramps;
- Intersection #145: Jamboree Road at Michelson Drive;
- Intersection #188: Harvard Avenue at Michelson Drive;
- Intersection #229: Culver Drive at Alton Parkway;

For the purpose of the fee update, cost estimates were developed at six of these locations. Cost estimates were not necessary for intersections #144 (Jamboree Road at I-405 SB Ramps) and #145 (Jamboree Road at Michelson Drive).

- Intersection #144 (Jamboree Road at I-405 SB Ramps) improvement costs were not included in the updated fee because this location is a Caltrans facility and is part of the $7 million agreement with Caltrans. The specific improvement identified for #144 in the Vision Plan Traffic Fee Nexus Study called for widening of this off-ramp to add an approach lane resulting in two-left turn lanes and three-right turn lanes for an approach length of 500 feet, with the City's responsibility identified as 21.6% of a $1.5 million project. The 2015 IBC Traffic Study Update recommended a slightly altered improvement that reassigns these approach lanes to provide two-left turn lanes, one-shared left/right turn lane, and two-right turn lanes, all within the previously determined ROW, hence minimally impacting project costs.
- Intersection #145 (Jamboree Road at Michelson Drive) improvement costs were not included in the updated fee as a specific line item cost because $8,237,407 in CIP funding has been allocated from the IBC Traffic Fee Program Fund Balance to cover a portion of the estimated $17.7 million total cost to implement the pedestrian bridge. The pedestrian bridge across the north leg of the southbound Jamboree approach was proposed as part of the Vision Plan EIR because lane addition improvements at the intersection were determined to be operationally infeasible.

In addition, the 2015 IBC Traffic Study Update identified the following three locations for signalization.

- Armstrong Avenue at McGaw Avenue;
- Gillette Avenue at Alton Parkway;
- Teller Avenue at Dupont Drive;

At the time this report was being prepared, signalization efforts at Armstrong Avenue at McGaw Avenue and at Teller Avenue at Dupont Drive were underway and therefore were not included in the updated fee calculations.

Consistent with the Vision Plan Traffic Fee Nexus Study, this update also assumes 90% of the total cost of improvements within the City of Irvine ($20,007,030) or $18,006,327. It is assumed that the remaining 10% may be funded with outside funding sources such as federal, state and/or county grants.

2.6.2 Existing General Plan Improvements

The remaining Existing General Plan improvement not yet built in the IBC is the widening of Red Hill Avenue between Main Street and MacArthur Boulevard from four lanes to six lanes.

Originally identified in the 1992 EIR and 1992 Fee Program as an improvement that widens the arterial from its existing four lanes to an eight-lane facility, the Vision Plan determined that widening of this segment of Red Hill Avenue from four lanes to six lanes provided adequate traffic circulation to accommodate project buildout. The 2015 IBC Traffic Study Update concurs with that finding and this widening improvement to six lanes is consistent with the City's General Plan Circulation Element updated as part of the Vision Plan effort. The 90% of the cost for this improvement is $16,577,451 (or 90% of the total cost of $18,419,390) is included in the fee program.

Appendix D presents detailed concept layouts and cost estimate worksheets for each improvement that is included in the fee update.

2.7 Existing IBC Fund Balance

The current IBC Traffic Fee Program fund balance is the combination of the remaining funds from the 1992 Traffic Fee Program, balance of funds collected through the Vision Plan implementation since 2010, and earmarked funds

($440,663 – refer Section 2.5) allocated for Caltrans improvements per the settlement agreement with Caltrans. At the time of this update (i.e., snapshot date of July 31, 2015), the overall combined IBC Vision Plan Traffic Fee Program funds were $46,838,863.

As discussed in Section 2.6.1, $8,237,407 from this fund is allocated towards the construction of the pedestrian bridge over Jamboree Road at Michelson Drive. In addition, the City's CIP had allocated $4,766,978 towards the implementation of improvements at intersection #136 (Jamboree Road at Barranca Parkway) and intersection #141 (Jamboree Road at Main Street) from the IBC Traffic Fee Program fund. Subsequently, CIP funding for intersections #136 and #141 was augmented with an additional allocation of $14,350,000 ($5,030,000 for intersection #136 and $9,320,000 for intersection #141), bringing the total funding earmarked for these two intersections to $19,116,978. As these two intersection improvements were identified in the Vision Plan Traffic Study and 2010 Traffic Fee Nexus Study, and implementation was underway, these improvements were assumed to be constructed in terms of traffic analysis. Backing out the allocated funds for these committed improvements, the remaining IBC Traffic Fee Program funds available equaled $19,484,478 and this amount is applied towards this fee update. Table 2.2 summarizes the IBC fund balance applied towards this fee update.

Table 2.2: IBC Traffic Fee Funds applied towards 2015 Update*

Funds / Projects	Amount
IBC Vision Plan Traffic Fee Program funds	$46,838,863
Allocated funds for Jamboree/Michelson pedestrian bridge (included in CIP)	($8,237,407)
Allocated fund balance for Jamboree Road at Barranca Parkway, and Jamboree Road at Main Street improvements (included in CIP)	($19,116,978)
TOTAL	$19,484,478

*as of snapshot date of July 31, 2015
Source: City of Irvine

2.8 Other IBC Vision Plan Traffic Fee Program Costs

Consistent with the Vision Plan Traffic Fee Nexus Study, costs associated with Transportation Management Systems (TMS) are included in this update and will be reevaluated as part of the next two-year update. The TMS costs are estimated at 10% of the effective total costs of improvements ($74,384,482) after subtracting the remaining IBC Traffic Fee fund balance, or approximately $7.44 million. As documented in the Vision Plan EIR, Project Design Feature (PDF 13-1) addresses the goals and objectives of the TMS as follows:

- Monitor travel demand at employment sites and provide reports on trip generation to the City;
- Offer employers and property owners assistance with transportation services on a voluntary basis;
- Deliver transportation services to commuters including a) ride-matching, transit/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; and
- Oversee and fund the implementation and expansion of the i-Shuttle.

Program Administration costs are assumed in the fees as 5% of the effective total costs of improvements ($74,384,482) after subtracting the remaining IBC Traffic Fee fund balance, for an amount of approximately $3.72 million to cover the next two years of staff and consultant time for administering annual fee updates, monitoring/updating the IBC database, inter-departmental and inter-agency coordination, reassessment of land use assumptions and reassessment of the Vision Plan and improvement list as required every two years, starting from this update cycle. Administration costs will also be reevaluated with the next two-year update.

Contingency costs (a standard practice in the industry to cover inflation rates and unforeseen costs) over the 20-year period are estimated at 15% of the effective total costs of improvements ($74,384,482) after subtracting the remaining IBC Traffic Fee fund balance, for an amount of approximately $11.16 million.

The summation of theseother IBC Vision Plan Traffic Fee Program costs for this update equals $22,315,345.

2.9 Development Agreement Cost Reduction

Development Agreements (DAs) currently exist between the City and the following five developments located in the IBC:

- Park Place;
- Central Park West;
- Hines;
- Avalon Apartments; and
- Alton Condominiums

The DAs specify the fees that were locked-in at the time of approval of each specific project. Consistent with the Vision Plan Traffic Fee Nexus Study, it is assumed for this update that two of the developers (Park Place and Central Park West) will continue to pay fees identified in their DAs. Therefore their related fees in the amount of approximately $4 million ($2,769,591 for Park Place and $1,233,998 for Central Park West) and the land use intensity associated with these fees were deducted from the calculation of the proposed updated fees. The intensity and related fees for the remaining three DAs (Hines, Avalon Apartments and Alton Condo) were included in the calculation of the updated fee.

3 Fee Methodology

The methodology used for this fee update is consistent with the Vision Plan Traffic Fee Nexus Study and each step for fee calculations is discussed in detail in the following sections.

3.1 Step 1: Identify Traffic Improvements and the IBC Fair-share

The mitigation measure improvements identified in the 2015 IBC Traffic Study Update to be included for the 2015 IBC Traffic Fee Nexus Update, are presented in Table 3.1. The improvements address project-related impacts based on thresholds of significance described in the traffic study. Improvements in Newport Beach and Tustin, with whom the City of Irvine has separate agreements are excluded from Table 3.1. As discussed previously in Section 2.3 and Section 2.4, select improvements in Santa Ana and Costa Mesa are included.

Table 3.1: Updated IBC Vision Plan Improvement List

Int ID	Intersection / Arterial Location	Jurisdiction	Improvement Strategy
97	Von Karman Avenue/Tustin Ranch Road at Barranca Parkway *	Irvine	Add 3rd NBT and convert de facto right-turn to standard NBR
98	Von Karman Avenue at Alton Parkway *	Irvine	Add 3rd NBT
134	Loop Road/Park Avenue at Warner Avenue	Irvine	Add 3rd EBT and NBR overlap
135	Jamboree NB Ramps/Warner Avenue	Irvine	Add 2nd EBL
188	Harvard Avenue at Michelson Drive	Irvine	Widen SB to 2,2,1
229	Culver Drive at Alton Parkway	Irvine	Improve EB to 2,3,0 (de facto right)
	Red Hill Avenue between Main Street and Mac Arthur Boulevard	Irvine	Widen from 4 lanes to 6 lanes.
	Gillette Avenue at Alton Parkway	Irvine	New traffic signal (T-intersection)
	Alton Overcrossing at SR-55	Santa Ana**	SR-55/Alton Parkway Overcrossing Project plus the following improvements: • Intersection #44: Red Hill / Alton (Add 1 NBR, convert de facto SBR to 1 SBR, add 2nd EBL, convert 1 WBR to free WBR) • Signalization and widening of Halladay Street / Alton Parkway • Signalization at Daimler Street / Alton Parkway
	Dyer Road widening between SR-55 NB on ramp and Red Hill Avenue (Phase 2)	Santa Ana**	Dyer Road widening from SR-55 to Red Hill Avenue (consistent with Barranca-Dyer Project Report)
719	Flower Street and Segerstrom Avenue	Santa Ana	Add eastbound de facto lane
10	SR-55 Frontage Road SB Ramps at Paularino	Costa Mesa	Improve Southbound to 1.5 Left, 1.5 Through, 1 Right.

Source: HDR 2015
* Due to close proximity of improvements, for cost development, these two locations were combined and treated as one contiguous corridor on Von Karman Avenue between Alton Parkway and Barranca Parkway/Tustin Ranch Road.
**Agreement with Santa Ana.

3.2 Step 2: Estimate Total Cost to Implement 2015 IBC Improvement List

In order to implement the improvements identified in the 2015 IBC Traffic Study Update, a total cost of $92,696,238 (see Table 2.1) must be programmed into this fee update effort. This cost includes the cost of the improvements, roll over from the Caltrans agreement (see Section 2.5), deduction of the available fund balance from the IBC Traffic Fee Program (see Table 2.2), project soft costs (see Section 2.8) and deduction of fees related to the two existing Development Agreements (see Section 2.9).

Based on the preliminary engineering and cost estimates, the cost of the needed improvements is $93,868,960 and includes the following:

- 90% of costs related to improvements within City of Irvine and Santa Ana (widening of Dyer Road per agreement between City of Santa Ana and Irvine);
- Fair-share obligation to improvements in Santa Ana and Costa Mesa (remaining GP improvements); and
- Roll over of fair-share obligations pursuant to the Caltrans agreement from 2010.

Table 3.2 presents the list of improvement locations, along with project cost for each, City of Irvine's share and cost of improvements included in the 2015 IBC Traffic Fee Nexus Update.

Preliminary engineering layouts and detailed cost estimates were developed for each improvement. All improvement strategies identified to mitigate traffic impacts caused by the buildout of the Vision Plan were vetted through a review process with City of Irvine planning and engineering staff and were determined to be feasible. The following section discusses in detail the methodology for developing cost estimates.

3.2.1 Development of Improvement Costs

For the purpose of developing planning level cost estimates for each of the improvements, unit costs and planning level concept plans were developed. The concept level plans were based off most recent aerial imagery and field reconnaissance.

<u>Unit Cost Development</u>

Unit costs including ROW costs were reviewed and updated based on Caltrans cost data for 2015 and bid data provided by the City between 2013 and 2015. The 2015 unit costs were compared to the 2010 unit costs for reasonability and the following changes were made to the soft cost:

- ROW support costs were increased from 5% to 10% of construction costs
- Minimum Project Development cost was increased from $200,000 to $300,000

Table 3.2: Updated IBC Vision Plan Improvement List and Associated Cost for Fee Calculation

Int ID	Intersection / Arterial Location	Jurisdiction	Cost	Fair Share	Cost included for Fee Calculation
97 *	Von Karman Avenue/Tustin Ranch Road at Barranca Parkway [1]	Irvine	$7,558,713	90%	$6,802,842
98 *	Von Karman Avenue at Alton Parkway [1]	Irvine		90%	
134	Loop Road/Park Avenue at Warner Avenue [1]	Irvine	$5,411,023	90%	$4,869,921
135	Jamboree NB Ramps/Warner Avenue [1]	Irvine	$2,592,998	90%	$2,333,698
188	Harvard Avenue at Michelson Drive [1]	Irvine	$2,752,766	90%	$2,477,489
229	Culver Drive at Alton Parkway [1]	Irvine	$1,204,030	90%	$1,083,627
	Red Hill Avenue between Main Street and Mac Arthur Boulevard [2]	Irvine	$18,419,390	90%	$16,577,451
	Gillette Avenue at Alton Parkway [1]	Irvine	$487,500	90%	$438,750
	Alton Overcrossing at SR-55 [3]	Santa Ana	$60,184,755	50%	$30,092,378
	Dyer Road widening between SR-55 NB on ramp and Red Hill Avenue (Phase 2) [3]	Santa Ana	$25,011,301	90%	$22,510,171
719	Flower Street and Segerstrom Avenue [4]	Santa Ana	$712,124	9.6%	$68,364
10	SR-55 Frontage Road SB Ramps at Paularino [5]	Costa Mesa	$1,207,101	2.4%	$28,970
				Cost of Improvements	$87,283,661
				Caltrans agreement roll over **	$6,585,299
				2015 Update IBC Vision Plan Improvement Cost	$93,868,960

Source: HDR 2015
* Due to close proximity of improvements, for cost development, these two locations were combined and treated as one contiguous corridor on Von Karman Avenue between Alton Parkway and Barranca/Tustin Ranch Road
** Caltrans D12 agreement with City of Irvine ($7,025,962 minus $440,663 set aside as Caltrans Subfund)
[1] Irvine improvements - full financial responsibility to be funded at 90% through IBC Traffic Fee Program funds
[2] Irvine improvements - remaining Irvine General Plan improvement to be funded at 90% through IBC Traffic Fee Program funds
[3] Santa Ana improvements – full or financial responsibility per agreement
[4] Santa Ana improvements - remaining Irvine General Plan improvement for which City of Irvine has a fair share
[5] Costa Mesa improvements - remaining Irvine General Plan improvement for which City of Irvine has a fair share financial responsibility

Concept Development and Cost Estimates

Planning level concepts were developed based on publicly available "off the shelf" current aerial imagery. Utility identification, including sewer and overhead electrical lines, were determined to the extent possible from publicly available aerial photography. Length of turn pockets where needed was determined based on traffic data where appropriate. Consistent with the Vision Plan Traffic Fee Nexus Study, cost estimates included provisions for the following:

- Preliminary Project Development
- ROW Management
- Design Engineering/Administration Cost
- Construction Engineering Costs/Administration

- Construction Contingency

3.3 Step 3: Identify Remaining IBC Traffic Fund Revenues and Soft Costs to Determine Total Fee for 2015 Update

Based on the discussion in Section 2.7 and data presented in Table 2.2, an amount of $19,484,478, (effective IBC Traffic funds available to be applied toward the 2015 Fee Program) was subtracted from the total needs cost of $93,868,960 shown in Table 3.2.

Other IBC Traffic Fee Program costs, estimated at $22,315,345 and discussed in detail in Section 2.8 were added to the difference between improvement cost needs and the existing available IBC Traffic Fee Program Fund balance ($74,348,482). Finally, fees paid and those that will be paid by developers pursuant to their Development Agreements (DAs) in the amount of $4,003,589, were subtracted from the total value. Table 3.3 summarizes the value for each of the items that determine the final amount of $92,696,238 that must be programmed into this fee update effort.

Table 3.3: Summary of IBC Traffic Fee Update Cost Elements

Items	Cost
2015 Update IBC Vision Plan Improvement Cost*	$93,868,960
Existing IBC Traffic Fee Program Funds (amount to be subtracted)	($19,484,478)
(Effective) 2015 Updated IBC Vision Plan Improvement Cost	$74,384,482
Other IBC Traffic Fee Program (Transportation Management Systems, IBC Program Administration, Contingency)	$22,315,345
Development Agreements (amount to be subtracted)	($4,003,589)
Total Amount to be programmed for the 2015 Fee Update	$92,696,238

* includes Caltrans roll over
Source: HDR 2015

3.4 Step 4: Estimate the Remaining Development subject to 2015 Traffic Fee Update

Based on a thorough review of the City of Irvine IBC database records and Development Agreements (DAs), the remaining developable land uses under the Vision Plan buildout condition were quantified to define appropriate land use fees to fund the transportation improvements identified for this update.

Existing land uses as of the July 31, 2015 snapshot and forecast Year 2035 Vision Plan buildout land uses were applied in the determination of the land use specific traffic impact fees. Consistent with the underlying approach behind the development of the Vision Plan, increases in residential density throughout the IBC result in an overall reduction of non-residential uses (i.e., manufacturing, warehouse and mini-warehouse uses). The Vision Plan approved a residential cap of 15,000 base units plus a maximum potential of 2,038 density bonus units pursuant to state legislation. Based on approvals since 2010 and consistent with the 2015 IBC Traffic Study Update, the total number of density bonus units equals 1,794 DU, less than the 2,038 DU maximum, bringing the total number of DUs to 16,794 DUs, instead of 17,038 DUs assumed in 2010. The 2015 Traffic Fee Nexus Update also assumed that all remaining density bonus units will be charged fees consistent with the market-value base units.

In determining the remaining development subject to traffic impact fees, previous DAs and prepaid fees were considered. In 2005, the City of Irvine included an option for developers to prepay fees for projects under consideration to avoid updated fee adjustments that might occur subsequent to the 2005 update. Developers took advantage of this option and fees were paid for DUs and office equivalency square footage (SF). While there may be prepayment for specific projects that did not move forward based on the past fluctuating economic climate, the prepayment remains valid for future development projects for those identified parcels. As a result, these units and office equivalency SF were excluded from this update. In addition, for the following three developments, fees were paid after the "snap-shot" date for this update (July 31, 2015). Hence, the quantities associated with these developments were included for the 2015 update, however, the prepaid fees from these developments will remain valid and these developments will not be subject to new fees developed through this update.

- 16103 Derian Avenue (formerly 17275 Derian Avenue)
- 360 Fusion (formerly Murphy Apartments, 2852 McGaw Avenue, 17321-17351 Murphy Avenue)
- Main and Jamboree Apartments (2699-2719 White Road, 2772 Main Street)

3.4.1 Dwelling Unit Distribution – 2015 Update

This section presents the status of the maximum allowable dwelling units (DUs) within IBC. The land use assumption for the 2015 IBC Traffic Study Update assumes a total of 7,060 DUs (6,676 base DUs plus 384 density bonus DUs) on the ground in 2015, and 16,794 DUs (15,000 base DUs plus 1,794 density bonus DUs) in buildout Year 2035. Table 3.4 presents a status breakdown of the remaining DUs between Year 2035 and Year 2015. At the time of this update, 122 DUs (60 base DUs and 62 density bonus DUs) did not have a status reported, i.e. were not under construction nor approved or pending. The table indicates that for much of the remaining IBC DUs, fees were prepaid, hence only a few developments remain that will be subject to the updated fees developed as part of this update effort.

Table 3.5 presents the breakdown of land use quantities that will be subject to the updated fee, and Appendix G presents details of developments by parcel.

Table 3.4: IBC Dwelling Unit Summary

Base Units	Density Bonus Units	Total	Details
15,000	1,794	16,794	Maximum allowable DUs allowed for IBC Vision Plan Traffic Program
6,676	384	7,060	DUs on the ground in 2015
4,065	*23*	*4,088*	*DUs Existing at time of approval of Vision Plan*
2,611	*361*	*2,972*	*DUs Existing (on the ground) between 2010 and 2015*
Breakdown of Remaining Units between Year 2035 and Year 2015			
Base Units	Density Bonus Units	Total	Details
8,324	1,410	9,734	Remaining DUs between Year 2015 and Year 2035
8,264	1,348	9,612	Total DUs: under construction/approved/pending
2,020	*323*	*2,343*	*Units Under Construction accounted between 2010 and 2015*
836	*228*	*1,064*	*Units Approved – IBC fees paid between 2010 and 2015*
600	*148*	*748*	*Units Approved – IBC fees paid after 07/31/15 snapshot date* *16103 Derian Avenue* *360 Fusion* *Main and Jamboree Apartments*
2,887	*312*	*3,199*	*Units Approved – no IBC fees paid*
8	*0*	*8*	*Units Approved - fees paid prior to 2010*
1,913	*337*	*2,250*	*Units In Process / Pending - no fees paid*
60	62	122	DUs not associated with known projects*

*as of the snapshot date of July 31, 2015
Source: City of Irvine

Table 3.5: Future Land Use Intensity Subject to the Updated Traffic Fee

	Base (DU)	Density Bonus (DU) *	TOTAL (DU)	Extended Stay (Rooms)	Hotel (Rooms)	Retail Mix (Sq. ft.)	Office (Sq. ft.)	Industrial Mix (Sq. ft.)	Mini Ware-House (Sq. ft.)
2010 Baseline (for reference)	4,779	232	5,011	174	2,322	1,341,002	174	14,700,922	348,056
2015 Baseline (on the ground conditions) [1]	6,676	384	7,060	474	2,322	1,384,000	26,639,000	13,934,000	379,000
2035 Buildout Cumulative with Project	15,000	1,794	16,794	1,049	2,653	1,690,000	34,286,000	12,339,000	549,000
Remaining Development (2015 to 2035)	8,324	1,410	9,734	575	331	306,000	7,647,000	-1,595,000	170,000
Central Park West and Park Place Development (not subject to updated fee per their individual DAs)	2,277	128	2,405	0	0	149,250	2,674,820	0	0
ADJUSTED Remaining Development between 2015 and 2035 (quantities reflect subtraction of intensity related to Central Park West and Park Place DAs) [2]	6,047	1,282	7,329	575	331	156,750	4,972,180	-1,595,000	170,000
Other Developments with prepaid fees prior to 07/31/15 snapshot date	*1,987*	*423*	*2,410*	*161*	*0*	*3,224*	*0*	*0*	*0*
REMAINING DEVELOPMENT SUBJECT TO UPDATED TRAFFIC FEE [3]	4,060	859	4,919	414	331	153,526	4,972,180	-1,595,000	170,000
LAND USE BREAKDOWN									
DEVELOPMENT AGREEMENTS									
Central Park West									
Existing (Fees Paid)	*646*	*0*	*646*	*0*	*0*	*0*	*0*	*0*	*0*
Under Construction (Fees Paid)	*16*	*0*	*16*	*0*	*0*	*0*	*0*	*0*	*0*
Approved (Fees not paid)	*613*	*0*	*613*	*0*	*0*	*26,688*	*0*	*0*	*0*
TOTAL	1,275	0	1,275	0	0	26,688	0	0	0
Park Place									
Existing (Fees Paid)	*1,442*	*232*	*1,674*	*0*	*190*	*0*	*0*	*0*	*0*
Under Construction (Fees Paid)	*861*	*128*	*989*	*0*	*0*	*0*	*0*	*0*	*0*
Approved (Fees not paid)	*787*	*0*	*787*	*0*	*0*	*122,562*	*2,674,820*	*0*	*0*
TOTAL	3,090	360	3,450	0	190	122,562	2,674,820	0	0

Table 3.5: Future Land Use Intensity Subject to the Updated Traffic Fee

	Base (DU)	Density Bonus (DU) *	TOTAL (DU)	Extended Stay (Rooms)	Hotel (Rooms)	Retail Mix (Sq. ft.)	Office (Sq. ft.)	Industrial Mix (Sq. ft.)	Mini Ware-House (Sq. ft.)
OTHER DEVELOPMENTS (INCLUDES HINES, AVALON BAY, ALTON CONDOS DAs)									
Approved (Fees Paid prior to 2010)	*8*		*8*						
Existing (Fees Paid)	*523*	*129*	*652*	*290*	*0*	*0*	*415,696*	*40,753*	*257,525*
Under Construction (Fees Paid)	*1,143*	*195*	*1,338*	*161*	*0*	*3,224*	*0*	*0*	*0*
Approved (Fees Paid)	*836*	*228*	*1,064*	*0*	*0*	*0*	*0*	*0*	*0*
Demolished/Pending Demo(Fees not paid)	*0*	*0*	*0*	*0*	*0*	*0*	*41,609*	*248,246*	*0*
In Process / Pending (Fees not Paid)	*1,913*	*337*	*2,250*	*0*	*0*	*0*	*0*	*0*	*0*
Approved (Fees Paid after 07/31/15) [4]	*600*	*148*	*748*	*0*	*0*	*0*	*0*	*0*	*0*
Approved (Fees not paid)	*1,487*	*312*	*1,799*	*0*	*0*	*15,500*	*785,000*	*0*	*0*
TOTAL	6,510	1,349	7,859	451	0	18,724	1,242,305	288,999	257,525

Source: City of Irvine
* Density Bonus Units will be charged fees consistent with the market value
[1] Quantities includes land use that was on the ground prior to 2015
[2] Backing out quantities for CPW and Park West (only "Under Construction" and "Approved")
[3] Obtained by subtracting quantities that are either "Under Construction" or "Approved" for which fees are already paid
[4] Developments that paid fees after the July 01, 2015 deadline. Hence the fees and associated LU intensity will be included in the fee calc, but these developments will not be subject to new 2017 fees

The remaining quantities of land use subject to the updated fees were determined based on the following procedures, with an example provided in Table 3.6 relating to the residential base units:

- 1: Calculate difference in land use quantities between Year 2015 and Year 2035.
- 2: Calculate land use quantities for Central Park West and Park Place DAs (see Section 2.9 for discussion) to be subtracted from the first procedure above.
- 3: Calculate quantities of land use from other developments where the developer has prepaid IBC fees within the "snap shot" period for this update, for subtraction from the second procedure above. For the three developments where fees were paid after the "snap shot" deadline, the quantities were included for the calculation, but these developments will not be subject to new fees.
    - Any quantities designated as "existing" in Table 3.5 and Table 3.6 were not subtracted because they were included in the quantities that represent Year 2015 on the ground conditions.

Table 3.6: Example Procedures to Determine Land Use Subject to Updated Fee

Procedure	Land Use Description	Quantities	Calculation
1.	Residential Land Use considered for 2015 Baseline	6,676 DU	
	Residential Land Use considered for 2035 Buildout	15,000 DU	15,000 – 6,676 = 8,324 DU
2.	Development Agreements (note: "existing" quantities were not subtracted because these are already included in the 2015 on the ground conditions (Baseline) <u>Central Park West: 1,275</u> *Existing: 646 (not included in this calculation)* *Under Construction: 16* *Approved: 613* <u>Park Place: 3,090</u> *Existing: 1,442 (not included in this calculation)* *Under Construction: 861* *Approved: 787*	(16+613) + (861+787) = 2,277 DU	8,324 – 2,277 = 6,047 DU
3.	Other Developments (note: "existing" quantities were not subtractedbecause these are already included in the 2015 on the ground conditions (Baseline); developments that paid fees after the 07/31/15 snapshot date were not subtracted) *Approved (fees paid prior to 2010): 8* *Existing: 523 (not included in the calculation)* *Under Construction (Fees Paid): 1,143* *Approved (Fees Paid): 836* *Demolished/Pending Demo(Fees not paid): 0* *In Process / Pending (Fees not Paid): 1,913* *Approved (Fees Paid after 07/31/15): 600* *Approved (Fees not paid): 1,487*	8+1,143+836 = 1,987 DU	6,047 – 1,987 = 4,060 DU

Source: City of Irvine, HDR

3.5 Step 5: Estimate of Total Development Intensity Value (DIV)

Since 1992, the IBC study area has had provisions in place to allow for Transfers of Development Rights (TDRs) through the creation of a Development Intensity Value (DIV) budget system in which an allocation of AM, PM and ADT DIVs are assigned to each property in the IBC. These DIVs must be transferred in blocks (AM, PM and ADT) to other properties through a conditional use permit process and accompanying traffic study. The total DIVs associated with the remaining development required for full buildout of the Vision Plan was calculated by applying the IBC trip generation rates to the land use quantities.

Table 3.7 presents the established DIV rates applied in this update and is consistent with those used for the Vision Plan Traffic Fee Nexus Study. Based on the remaining development subject to the updated traffic fee determined in Section 3.4, Step 4, multiplied by the IBC DIV rates, the total DIVs equate to 10,263 (refer to Table 3.8). Consistent with the methodology used for the Vision Plan Traffic Fee Nexus Study and previous IBC fee reports, the PM peak hour DIV rates were applied for all land uses because for a majority of the land uses, the PM peak hour rate is the maximum DIV rate. The PM peak hour rates represent the maximum DIV rate for all IBC land use categories with the exception of industrial and mini-warehouse uses; however for those uses, the DIV rates are significantly less in comparison to the other land uses.

Table 3.7: IBC Land Use DIV Rates

Trip Rate	Residential (per DU)	Extended Stay (per Room)	Hotel (per Room)	Retail Mix (per sq. ft.)	Office (per sq. ft.)	Industrial Mix (per sq. ft.)	Mini Warehouse (per sq. ft.)
PM Peak Hour	0.52	0.42	0.68	0.00696	0.00138	0.00042	0.00027

Source: City of Irvine, ITE, Table 4, IBC Vision Plan Traffic Fee Nexus Study, January 2011

The Vision Plan utilizes a flexible zoning concept, meaning that to account for the planned increase in residential units under the Vision Plan, quantities of planned land uses from other categories such as manufacturing and their associated development intensity would be reduced. This is the reason for the negative quantities (see row "Remaining Development (2015 to 2035)) identified in Table 3.5 and Table 3.8. If the quantities of land uses that were assumed to be developed under the IBC Vision Plan do not develop as planned, the PM peak hour trips associated with those land uses will be available for use for other types of development.

The Vision Plan is an overlay zone that allows for flexibility in land use development. Once the development intensity available in the IBC (identified in Chapter 9-36 of the Zoning Ordinance) is exhausted, no additional development can take place without a General Plan Amendment that intensifies the IBC planning area. The City of Irvine continues to monitor the development patterns in the IBC annually to evaluate how the Vision Plan is taking shape, to ensure that there is sufficient development intensity for the maximum assumed residential and mixed-use development. Subsequent to this update, the reassessment of the IBC Vision Plan Traffic Study will be conducted every two years, with the next update commencing in Fall 2017.

3.6 Step 6: Normalization of Retail and Office Land Uses

In accordance with established precedent in the City and consistent with the mixed-use vision, to encourage additional commercial and retail development in the IBC, the office and retail mix land uses have been normalized in the calculation of remaining developments subject to fee. Because the retail mix land use PM peak hour trip rate is significantly higher (over 5 times higher – 0.00696 for retail mix; 0.00138 for office) than the office land use, the fees for retail mix development are normalized, creating a fee structure in which retail mix and office square footage cost is equivalent. Table 3.8 identifies the normalization of DIVs and land use for office and commercial land uses.

3.7 Step 7: Estimate Cost per DIV

The cost associated per DIV to implement the Vision Plan improvements was calculated by dividing the total program cost by the total number of normalized DIVs that must participate in the funding program. Table 3.9 estimates that the cost per DIV will be $9,032.09. Table 3.10 presents the maximum development fees for each land use category through application of the cost per DIV to the normalized DIVs associated with each category.

Table 3.8: IBC Total DIVs

Land Use	Unit	Remaining Development Subject to Updated Fee	DIVs (rounded)	Remaining Development Subject to Updated Fee (normalized quantities)	Normalized DIVs (rounded)
Residential *	DU	4,919	2,558	4,919	2,558
Extended Stay	Rooms	414	174	414	174
Hotel	Rooms	331	225	331	225
Retail Mix	Sq. Ft.	153,526	1,069	2,562,853	3,965
Office	Sq. Ft.	4,972,180	6,862	2,562,853	3,965
Industrial Mix **	Sq. Ft.	-1,595,000	-670	-1,595,000	-670
Mini-Warehouse	Sq. Ft.	170,000	46	170,000	46
TOTAL DIVs			10,263		10,263

Source: HDR
* includes Base and Density Bonus Units, since Density Bonus Units will be charged as market (Base) units
** includes manufacturing and warehouse sq. ft.

Table 3.9: Cost Estimate per DIV

Total Traffic Fee Program Cost	$92,696,238
Total number of DIVs generated	10,263
Cost per DIV	$9,032.08

Source: HDR

Table 3.10: Traffic Fee Estimates for each Land Use Category

Land Use	Unit	Remaining Development Subject to Updated Fee (normalized quantities) *	Cost per DIV (rounded)	Normalized DIVs (rounded)	Development Fees (Maximum)
Residential	DU	4,919	$9032.08	2,558	$23,104,061
Extended Stay	Rooms	414	$9032.08	174	$1,571,582
Hotel	Rooms	331	$9032.08	225	$2,032,218
Retail Mix	Sq. Ft.	2,562,853	$9032.08	3,965	$35,812,197
Office	Sq. Ft.	2,562,853	$9032.08	3,965	$35,812,197
Industrial Mix ***	Sq. Ft.	-1,595,000	$9032.08	-670	-$6,051,494
Mini Warehouse	Sq. Ft.	170,000	$9032.08	46	$415,476
			TOTAL	10,263	$92,696,238

Source: HDR
* Obtained from Table 3.8
** includes Base and Density Bonus Units, since Density Bonus Units will be charged as market (Base) units
*** includes manufacturing and warehouse sq. ft.

3.8 Step 8: Estimate Cost per Development Unit

To establish the cost per development unit, the maximum fees associated with each land use determined in Section 3.7, Step 7 are divided by the quantity associated with each land use category. Table 3.11 represents the fee per measurable unit for each land use category.

Table 3.11: Traffic Fee Summary

Land Use	Unit	Remaining Development Subject to Updated Fee	Remaining Development Subject to Updated Fee (normalized quantities)	Development Fees (Maximum)	Updated Fee ***
Residential	DU	4,919	4,919	$23,104,061	$4,697
Extended Stay	Room	414	414	$1,571,582	$3,796
Hotel	Room	331	331	$2,032,218	$6,140
Retail Mix	Sq. Ft.	153,526	2,562,853	$35,812,197	$13.97
Office	Sq. Ft.	4,972,180	2,562,853	$35,812,197	$13.97
Industrial Mix **	Sq. Ft.	-1,595,000	-1,595,000	-$6,051,494	$3.79
Mini-Warehouse	Sq. Ft.	170,000	170,000	$415,476	$2.44
				$92,696,238	

Source: HDR 2015
* Includes Density Bonus Units that will be charged fees at the same rate as Base Units
** Includes manufacturing and warehouse SF
*** Effective FY 2017-2018

Table 3.12 presents a fee comparison between the 1992 fees (at the onset of the IBC Traffic Fee Program), 2009 fees (developed through annual adjustments of the 1992 fee), 2010 fees (developed as part of the Vision Plan), 2016 fees (currently what the City charges developers – this is developed by applying annual adjustments to the 2010 fee) and proposed updated fees.

Table 3.12: IBC Fee Comparison

Land Use	Unit	IBC Traffic Fee					Increase from 2016 (factor)
		1992	2009	2010	2016	Proposed***	
Total Residential	DU	$3,734	$7,175	$1,862	$2,254	$4,697	2.08
Extended Stay	Rooms	$3,016	$5,795	$1,503	$1,820	$3,796	2.09
Hotel	Rooms	$4,883	$9,383	$2,435	$2,947	$6,140	2.08
Retail Mix	Sq. Ft.	$10.70	$20.28	$5.45	$6.60	$13.97	2.12
Office	Sq. Ft.	$10.70	$20.28	$5.45	$6.60	$13.97	2.12
Industrial Mix **	Sq. Ft.	$3.30	$5.85	$1.50	$1.82	$3.79	2.08
Mini Warehouse	Sq. Ft.	$1.85	$3.55	$0.97	$1.17	$2.44	2.09

Source: HDR 2015, City of Irvine
* Includes Density Bonus Units charged fees consistent with Base Units
** Includes manufacturing and warehouse SF
*** Effective FY 2017-2018

As can be seen in Table 3.12, the proposed fee is significantly higher than the 2010 and 2016 fees. There are a few reasons behind this increase: (a) new improvements and increases to cost of improvements, (b) fewer developments remaining that are subject to updated fees, and (3) lower remaining funds in the IBC Traffic Fee Program.

Significant Increase in Improvement Costs between 2010 and 2016

- Unit costs have increased moderately between 2010 and 2016 (when the cost estimates were developed), contributing to increase of project cost.
- Increase of right of way (ROW) support costs from 5% to 10% of construction costs, based on current trends in ROW acquisitions, have significantly increased the costs for improvements that require ROW acquisitions.
- New improvements were identified in the 2015 IBC Traffic Study Update that had not been identified in the Vision Plan Traffic Study including:
    - Von Karman/Tustin Ranch Road at Barranca Parkway and Von Karman Avenue at Alton Parkway: Although identified as two separate deficient intersections, based on the geometrics of improvements, the proximity of these adjacent intersections and the efficiency of traffic flow between them, the cost estimate considered this improvement as a corridor improvements that considered widening of Von Karman Avenue between Barranca Parkway and Alton Parkway.
    - Loop Road/Park Avenue at Warner Avenue
    - Jamboree northbound ramps at Warner Avenue
    - Culver Drive at Alton Parkway

- Increases in costs were identified for a few improvements previously identified in the 2010 IBC Traffic Fee Nexus Study. These are briefly discussed below:
    - Alton Overcrossing at SR-55: The Vision Plan Traffic Fee Nexus Study included an estimate of $17.5 million (50% of a total $35 million cost) as the City of Irvine's fair-share contribution pursuant to the agreement with Santa Ana. However, for this update, the total cost has increased to $60 million, resulting in City of Irvine's fair-share contribution of $30 million (50% of the total $60 million cost). This approximate two-fold increase in cost is attributable to the project's current definition which includes additional improvements that must be included as part of the City of Santa Ana's Alton Overcrossing at SR-55 Capital Improvement Program (CIP) project based on an updated traffic study[6] conducted by the City of Santa Ana in 2010. The cost estimate for this Overcrossing project (without the additional improvement costs) was updated in 2014 and was estimated at $55.5 million. As part of the 2015 IBC Traffic Fee Nexus Update, the cost estimate at this location was developed considering the $55.5 million estimated cost plus the cost of the additional improvements resulting from Santa Ana's 2010 traffic study including improvements at intersection #44: Red Hill Avenue at Alton Parkway; signalization and widening of Halladay Street at Alton Parkway; and signalization at Daimler Street at Alton Parkway).
    - Widening of Dyer Road between SR-55 NB on-ramp and Red Hill Avenue: The cost included in the Vision Plan Traffic Fee Nexus Study was $9 million (90% of a total estimated $10 million) based on the Barranca Parkway/Dyer Road Project Report[7] prepared in 2004. With this update, the cost for this improvement increased significantly to $22.5 million (90% of a total cost of $25 million). The Project Report was revisited to ensure that the cost estimates reflected the continuation of the Class II bike lanes on either side of Dyer Road/Barranca Parkway between Red Hill Avenue and the SR-55 NB on-ramp. The necessary widening of Barranca Parkway/Dyer Road will result in partial takes of three properties located (1) west of the railroad tracks and south of Dyer Road; (2) west of Pullman Street and south of Dyer Road; and (3) west of Pullman Street and north of Dyer Road. The partial takes of these properties and the cost for Class II bike lanes add significant costs to the project.
    - Widening of Red Hill Avenue between Main Street and MacArthur Boulevard: For this update, the cost estimate for this improvement (90% of cost) is significantly higher ($18.4 million in 2016, vs. $8.7 million in 2010) due to higher ROW costs, and is attributable to the inclusion of the bike lanes on either side of Red Hill Avenue.

Fewer number of Remaining Development Units and Square Footage Subject to Fee

- As the Vision Plan gets implemented, the number of developable units remaining decreases, resulting in fewer quantities of land use subject to updated fees.
- Since 2005, developers have been taking advantage of the option of prepayment of fees for projects under consideration (see discussion in Section 3.4), thereby further reducing the developable units (residential and non-residential) subject to fee. A comparison with the Vision Plan Traffic Fee Nexus Study shows that the total number of DIVs in 2010 were 17% higher than in 2015, or in other words, the quantity of remaining

[6] *Updated Traffic Study for Alton Avenue Overcrossing at State Route 55 Freeway and Arterial Widening in the Cities of Santa Ana and Irvine, KOA Corporation, 2010*

[7] *Project Report for the Dyer Road/Barranca Parkway Improvements (State Route 55 to Aston Street), RBF Consulting, 2004*

developable units and square footage in 2010 was greater than in 2015. The combination of developable units subject to fee and the higher cost of improvements contribute towards higher fees.

Lesser Remaining Available IBC Traffic Fund Balance

- The Vision Plan Traffic Fee Nexus Study recommended removal of several improvements originally identified in 1992 because they were deemed unnecessary. This resulted in a significant reduction of fees as can be seen in Table 3.12 (2009 vs. 2010). Hence between 2010 and 2015, the rate at which fees were imposed was lower than the pre-2010 years.
- Subsequent to the adoption of the Vision Plan, large sums of payouts were made to the Cities of Newport Beach ($3.65 million) and Tustin ($4.5 million), per the agreements between the Cities and City of Irvine (see Section 2.1 and Section 2.2).
- In addition, a sizeable amount of IBC Traffic Fee funds ($27.4 million – see Table 2.2) are allocated to implement CIP projects identified in the Vision Plan Traffic Study (improvements at the intersections of Jamboree Road at Main Street, Jamboree Road at Barranca Parkway, and the pedestrian bridge at the intersection of Jamboree Road at Michelson Drive). Lower collection rates and a higher allocation of funds to the CIP projects have led to a significantly smaller amount ($19.5 million) of remaining available Vision Plan Traffic Fee Program funds rolled over in this update as compared to 2010. Although the updated fee is higher than 2010, it still remains about 31%-35% lower than what was being charged in 2009.

4 Establishing Nexus

Section 1, Introduction discussed the requirement for a fair-share nexus between the mitigation requirements of the EIR and the traffic fees associated with the necessary mitigation improvements. The introduction further indicated a requirement to substantiate this nexus based on the adopted State legislation to ensure that fees collected are associated with development impacts and the physical improvements. The following statements fulfill the nexus requirements.

4.1 Identify the Purpose of the Impact Fee

The purpose of the 2015 IBC Traffic Fee Nexus Update is to:

- Clearly identify a fee rate to mitigate project related impacts within the IBC study area to an acceptable level of service.
- Mitigate the traffic impacts of new development within the IBC Vision Plan area under the expected buildout commensurate with the EIR Traffic Impact Mitigation Measures under CEQA and other agreements through which a fair-share of improvement costs have been contractually identified in an arms length negotiation.

The 2015 IBC Traffic Study Update evaluated the circulation system of the IBC study area under With and Without Project conditions. The study accounted for approved and pending projects within the IBC study area and forecast regional growth in both interim-year 2020 and Post-2035 buildout conditions. The Without Project conditions for each scenario assumed existing 2015 on-the ground development. The With Project conditions for each scenario included expected development within the IBC area, including the addition of residential DUs through the conversion of non-residential office equivalency square footage as identified in the traffic study.

Utilizing the intersection capacity utilization (ICU) analysis that measures peak hour intersection capacity and performance to assess impacts, the 2015 IBC Traffic Study Update identified project impacts at locations within and outside the City of Irvine, based on the City's TIA guidelines (2004) and those set by each of the affected jurisdiction/agencies (Caltrans and the cities of Newport Beach, Tustin, Santa Ana, Costa Mesa). For details on project- related thresholds, refer to the 2015 IBC Traffic Study Update[8]. As the traffic impacts are the responsibility of the project under CEQA, it is the responsibility of the project to mitigate the project impacts or contribute its fair-share towards each improvement. Thus, the Vision Plan is responsible for mitigating all the project traffic impacts to an acceptable level of service or to existing conditions performance levels. All future development under the Vision Plan will contribute to future circulation system impacts identified in the traffic study and will pay for the necessary improvements to deliver an acceptable level of service.

4.2 Identify the Use of the Impact Fee

The use of the proposed fee is the following:

- To fund the Vision Plan circulation improvements within the City of Irvine.
- To fund improvements to the State Highway System that will contribute to enhanced operations.
- To compensate adjacent jurisdictions for traffic impacts as a result of implementation of the Vision Plan.

The traffic fee will be used to mitigate traffic impacts from the buildout of the Vision Plan both within Irvine and in neighboring jurisdictions/agencies. The fee will be used to pay for improvements that accommodate residential

[8] *Irvine Business Complex Vision Plan – 2015 Five-Year Traffic Study Update, Iteris, HDR, 2016*

intensity increases within the IBC. Without the improvements, the project impacts would not be mitigated as necessary.

4.3 Determine Reasonableness Relationships

As discussed in Section 1.2, Purpose of the 2015 Update to the Vision Plan Nexus Study, California's Mitigation Fee Act creates the legal framework for local governments to assess new fees toward future development to pay its fair-share of the infrastructure cost necessary to serve new residents and businesses. AB 1600 stipulates that a local government must establish a "nexus" or reasonable relationship between a proposed fee and the impacts attributable to the developments paying the fee:

4.3.1 Reasonableness Between Use of Fee and the Type of Development on which the Fee is imposed

- IBC fees will be applied directly to the funding needs for each identified improvement within the City of Irvine and towards any pending financial obligation determined through existing agreements with adjacent jurisdictions regarding Vision Plan traffic impacts.
- IBC fees are collected from new development within the IBC that directly increases traffic on IBC study area roadways and impacts the circulation system component identified in the 2015 IBC Traffic Study Update.
- The 2015 IBC Traffic Study Update identifies the additional traffic volumes generated by new IBC development.
- Project-related fair-shares developed as part of the 2015 IBC Traffic Fee Nexus Update document the proportional responsibility of the project to traffic impact funding requirements.

The fees will be used to construct the improvements that will enable the circulation system to function at acceptable levels of service in Irvine and in adjacent jurisdictions.

4.3.2 Reasonableness Between Need for the Improvements and the Type of Development on which Fee is imposed

- As the IBC continues to develop, increasing traffic will necessitate improvements throughout the study area to maintain efficient circulation.
- Without implementation of project-related improvements, the circulation system will continue to deteriorate as new development compounds traffic operations deficiencies on the roadway network.

The fee collected is based on the forecasted number of trips the proposed development will generate at buildout. The need for the improvements is based on the analysis presented in the 2015 IBC Traffic Study Update. The fee is associated directly with new development within the IBC and the number of total peak hour trips that the new development is expected to generate. As the Vision Plan area develops, fees will be collected and improvements constructed to keep pace with new development, providing a circulation system throughout the IBC that operates at an acceptable level of service.

4.3.3 Reasonableness Between Amount of the Fee and Cost of Public Good (IBC Transportation Needs) attributable to the Type of Development

- Development fees have been defined based on funding of the City of Irvine's fair-share responsibility of the Vision Plan improvements outside the City within the Vision Plan study area, and 90% of the City of Irvine's responsibility for improvements within the City of Irvine. It is assumed that outside funding sources, including federal, state and county grants, can supplement the remaining 10% of development fees to implement improvements within the City of Irvine.

- The fee is supported by all new development at a rate that reflects the relative traffic impact of that development.
- The amount of the fee is directly related to the level of development associated with each new IBC project. The calculation of the impact fee is based upon the recognition that differing types of developments generate differing amounts of trips. The fee is based on the forecasted number of peak trips generated by the proposed development projects.

The total fee includes a program administration fee. This administration fee is required to ensure that the program functions properly and the traffic improvements are implemented appropriately.

To further demonstrate reasonableness of the fees, the updated IBC Transportation fees were compared with another major activity center in Orange County, the Platinum Triangle in Anaheim, California. Table 4.1 compares traffic fees imposed on developments within the Platinum Triangle with those proposed for IBC, in this update.

Table 4.1: Traffic Fee Comparison between Platinum Triangle and IBC

Land Use	Unit	Anaheim Citywide Fee *	Platinum Triangle Supplemental Fee *	Platinum Triangle Total Fee	IBC Updated Traffic Fee **
Residential	DU	$2,029	$3,702	$5,731	$4,697
Extended Stay	Room				$3,796
Hotel	Room	$1,474		$1,474	$6,140
Retail Mix	Sq. Ft.	$5.50	$50.00	$55.50	$13.97
Office	Sq. Ft.	$3.67	$12.00	$15.67	$13.97
Industrial Mix **	Sq. Ft.	$1.42	$3.00	$4.42	$3.79
Mini-Warehouse	Sq. Ft.				$2.44

Source: HDR 2015, City of Anaheim
* City of Anaheim Fee Schedule (http://www.anaheim.net/DocumentCenter/View/202)
** Effective FY 2017-2018

5 Conclusion

This 2015 IBC Traffic Fee Nexus Update has been prepared to reiterate the "nexus" for the development fees needed to fund necessary improvements to the circulation system. The updated traffic fee rates will be effective in the upcoming FY 2017-18. As noted in the Vision Plan EIR, there are overriding considerations for jurisdictional circulation system improvements outside the City of Irvine. As these improvements are not under the City of Irvine's jurisdiction, the City cannot guarantee that these improvements are implemented. However, it is the responsibility to contribute fair-share to the improvements through traffic impact fees in order to fund the improvements within these adjacent jurisdictions. During the development of the IBC Vision Plan, the City reached agreements with Newport Beach, Tustin and Caltrans, and amended an existing agreement with Santa Ana regarding its financial responsibilities to mitigate traffic impacts in each jurisdiction due to the buildout of the Vision Plan.

Since 2010, through the agreements with the Cities of Newport Beach and Tustin, the City of Irvine paid Tustin and Newport Beach a combined amount of $8.15 million as its fair-share, and thereby, has been absolved from any future fair-share contribution provided the City does not exceed its maximum cap on residential units of 15,000 base dwelling units (plus 1,794 density bonus dwelling units pursuant to state law.) For Caltrans, the City of Irvine is obligated to provide, through IBC fee collection, a total amount of $7,025,962, when the agency proceeds with the implementation of improvements at its impacted facilities. Currently the IBC fund has earmarked $440,663 towards that payment. Based on the amended agreement with Santa Ana, the City of Irvine is obligated to contribute $52,670,912 towards three improvements in Santa Ana (widening of Dyer Road, Alton Parkway Overcrossing at SR-55, and Flower Street at Segerstrom Avenue).The agreement with Costa Mesa was not revised and the City of Irvine, through the proposed fee, will collect an amount of $28,970 to contribute towards the improvement at SR-55 Frontage Road SB Ramps at Paularino Avenue.

Based on this update, the proposed fees are significantly higher than the current 2016 fees due to several factors which include additional improvement locations, significant increases in improvement costs between 2010 and 2015, fewer number of remaining developments that will share the cost of the improvements and a lesser amount of remaining available IBC funds that can be applied towards the improvements. However, even with the increased fees, they remain about 30%-35% lower than the 2009 IBC traffic fees, in-place prior to the adoption of the Vision Plan in 2010.

Appendix C

Mitigation Monitoring and Reporting Plan
from 2010 IBC Vision Plan EIR

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

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COI-21.0E

JULY 2010

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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.

1.2 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 (1-5) 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.

Table 1-1
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	**15,000**	
			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		6,016,662	
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:

1.3.1 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

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-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 1-1, 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 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

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

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

- 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 Process

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.

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.

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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.

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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	

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 (PM_{10} 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 (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 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	

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
		gasoline-dispensing facility with a throughput of 3.6 million gallons per year or greater.		
Prior to the issuance of building permits	PDF 2-2	**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 manufacture'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	PDF 2-3	**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	PDF 2-4	**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-BACTs may include, but are not limited to,	Community Development Department	

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
		scrubbers at the industrial facility, or installation of Minimum Efficiency Reporting Value filters rated at 10 or better at all residential units.		
Prior to the issuance of grading permits and during construction activities	PDF 2-5	**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 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 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 9-36-20.3:** 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	

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
		• 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	

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	***Fugitive Dust*** PDF 2-8 **SCAQMD Rule 403 – Fugitive Dust (PM_{10} 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 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. This would achieve a minimum control efficiency for PM_{10} of 5 percent. • During all construction activities, the construction contractor shall sweep streets with Rule 1186 compliant PM_{10}-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 PM_{10} 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 PM_{10} 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 PM_{10} 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	

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*** PDF 2-9	**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 precoated/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	

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 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.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 L_{eq}. 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 widows, 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	

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: a. 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 descendent from the deceased Native American. The most likely descendent 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	

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 descendent 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 descendent or the most likely descendent failed to make a recommendation within 24 hours after being notified by the commission. • The identified descendent fails to make a recommendation; or • The landowner or his/her authorized representative rejects the recommendation of the descendent, 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	

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
		shall review the rough grading plan to ensure conformance with recommendations contained in the reports.		
On-going during grading	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	

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 RWQCB 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-09 (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 8:** 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	

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
		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 6-5	**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	

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/helistops and John Wayne Airport compatibility. Structures that penetrate the 100:1 Notification Surface shall file a Form 7460-1 Notice of Proposed Construction or Alternation 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	

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
		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.		
Included in adopted zone change	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	

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	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	

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 6-8-205(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***		Community Development Department and Construction Contractor	
	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		

Table 3-1
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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	

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	

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 5-8-4.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.b:** 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	

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	

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 ridematching, 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	

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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		

Table 3-1
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Timing	PPPs, PDFs, and MMs	Responsible for Monitoring	Date Completed
	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.		

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: 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.		
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	

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Timing	PPPs, PDFs, and MMs		Responsible for Monitoring	Date Completed
		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.		
Prior to adoption of the AB 1600 nexus study identified in MM 13-1	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				
Existing Plans, Programs and Policies				
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	

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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	**2008 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	

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Timing	PPPs, PDFs, and MMs		Responsible for Monitoring	Date Completed
		heating, and lighting.) Plans submitted for building permits shall include written notes demonstrating compliance with energy standards and shall be reviewed and approved by the Public Utilities Department prior to issuance of building permits.		
5.15 GLOBAL CLIMATE CHANGE				
Existing Plans, Programs and Policies				
During construction and demolition	PPP 15-1	**City of Irvine Municipal Code Title 6 Division 7, Construction and Demolition (C&D) Debris 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 these 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-e 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	

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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:** CARB's 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	PPP 15-5	**California Exec 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	

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Timing	PPPs, PDFs, and MMs		Responsible for Monitoring	Date Completed
		emissions on new motor vehicles.		
Ongoing	PPP 15-8	**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 2006. 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 jobs/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	PPP 15-9	**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	PPP 15-10	**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 staring 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	PPP 15-11	**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	

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Timing	PPPs, PDFs, and MMs		Responsible for Monitoring	Date Completed
		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.		
Ongoing	PPP 15-12	**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	PPP 15-13	**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	PPP 15-14	**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 these 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	

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Timing	PPPs, PDFs, and MMs		Responsible for Monitoring	Date Completed
		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.		
Ongoing	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	

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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, **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 three 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 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	

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		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.		
During design and operation of new commercial, office, and retail developments	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 9-36-20.4: 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	

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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 issuance of building permits	PDF 15-11	**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	PDF 15-12	**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	PDF 15-13	**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	PDF 15-14	**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	

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 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	

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.

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CITY COUNCIL RESOLUTION NO. 17-XX

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF IRVINE, CALIFORNIA, ADOPTING THE UPDATED IRVINE BUSINESS COMPLEX (PA 36) TRANSPORTATION MITIGATION PROGRAM, INCLUDING AN UPDATE TO THE TRAFFIC IMPROVEMENT FEE PROGRAM FOR THE IRVINE BUSINESS COMPLEX, PURSUANT TO SECTION 9-36-14 OF THE ZONING ORDINANCE AND A MINOR MODIFICATION TO MITIGATION MEASURE 13-1 IN THE MITIGATION MONITORING AND REPORTING PROGRAM FOR THE 2010 IBC VISION PLAN ENVIRONMENTAL IMPACT REPORT

WHEREAS, at Public Hearings on July 13 and July 27, 2010, the City Council of the City of Irvine adopted a General Plan Amendment (00497846–PGA) and Zone Change (00497861-PZC) for the Irvine Business Complex (IBC) Vision Plan Project; and,

WHEREAS, in connection with the adoption of the above-described IBC Vision Plan Project, the IBC Vision Plan Program Environmental Impact Report (EIR) (SCH No. 2007011024) ("IBC EIR") was certified as adequate and its corresponding Mitigation Monitoring and Reporting Program (MMRP) was adopted by the Irvine City Council on July 13, 2010; and

WHEREAS, as part of the above-described IBC Vision Plan Project, the City conducted a comprehensive traffic study of the IBC (the "2010 Traffic Study") and added Section 9-36-14 to the Irvine Zoning Ordinance, which created an "IBC Traffic Improvement Fee Program" to provide partial funding for the implementation of the areawide circulation mitigation program identified in the IBC EIR; and

WHEREAS, subsection (K) of Section 9-36-14 of the Irvine Zoning Ordinance, requires to periodically "undertake an updated comprehensive traffic study for the IBC, to evaluate the implementation of the original traffic study and update mitigation as needed"; and

WHEREAS, in accordance with the Zoning Ordinance, in 2015, the City engaged expert consultants to prepare an Irvine Business Complex Vision Plan 2015 Traffic Study Update (prepared by Iteris and HDR, dated January 13, 2016) (referred to herein as the "2015 Traffic Study Update"), and in 2015, the City engaged expert consultants to prepare a 2015 Update to Irvine Business Complex Vision Plan Traffic Fee Nexus Study (prepared by Iteris and HDR, dated June 7, 2017) (referred to herein as the "2015 IBC Nexus Study Update"); and

ATTACHMENT 9

WHEREAS, the 2015 IBC Nexus Study Update prepared in conjunction with 2015 Traffic Study Update includes: cost estimates for circulation improvements; potential funding sources for necessary improvements, including provisions of the updated IBC Development Fee Program; an assessment of the estimated funding shortfall; and potential funding sources to fill the estimated shortfall; and

WHEREAS, the 2015 IBC Traffic Fee Nexus Update also proposes establishing final fair-share fees for implementation of circulation improvements in the IBC; and

WHEREAS, an Addendum to the IBC EIR was prepared to analyze the potential environmental impacts associated with a 2015 update to the IBC Traffic Improvement Fee Program and associated its nexus study (*i.e*., the 2015 Nexus Study Update) and a minor change to Mitigation Measure 13-1 to the MMRP for the IBC EIR to allow the City to update its traffic study in accordance with the procedures and standards set forth in Section 9-36-14(K) of the Irvine Zoning Ordinance (collectively, the "Project"); and

WHEREAS, the Transportation Commission has considered information presented the City staff and other interested parties at public meetings held on July 18 and August 15, 2017; and

WHEREAS, the City Council has considered information presented by City staff and other interested parties at duly noticed public hearings held on June 27 and September 12, 2017; and

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

SECTION 1. The Recitals above are true and correct and incorporated herein by this reference.

SECTION 2. An Addendum to the IBC Vision Plan Program Environmental Impact Report (SCH No. 2007011024) ("IBC EIR") has been prepared pursuant to Section 15164 of the CEQA Guidelines, and concluded that the proposed Project is not anticipated to have a significant effect on the environment.

SECTION 3. The Addendum makes minor changes to Mitigation Measure 13-1. As approved in 2010, Mitigation Measure 13-1 required an initial traffic study for traffic improvements at fifteen specified intersections. The Addendum updates Mitigation Measure 13-1 to allow for subsequent traffic studies in accordance with Section 9-36-14(K) of the Irvine Zoning Ordinance. The City Council hereby finds and declares, based on substantial evidence in the record, that the City has a legitimate reason to modify Mitigation Measure 13-1 — as drafted, the mitigation measure does not contemplate and potentially constrains the scope of updated traffic studies that are required by the Zoning Ordinance. While Mitigation Measure 13-1 was effective for the initial traffic study, it's lack of flexibility could render it less effective for subsequent traffic studies. The City Council further finds and declares, based on substantial evidence in the record, that the

changes to Mitigation Measure 13-1 do not require a subsequent EIR because the updated 2015 Traffic Study notes that the residential unit intensity cap has not increased since the 2010 Traffic Study, and that there is a net overall result of fewer impacts compared to the 2010 Traffic Study. The impacts for the interim year forecast drop from 13 to 10, and for the buildout year forecast from 41 to 22. In addition, four intersections were impacted in the 2010 IBC EIR Traffic Study, whereas in the 2015 Traffic Study Update, only one intersection is impacted, and the number of intersections impacted in buildout fell from 15 to 10. The Project addresses deficient intersections through updated mitigation fees.

Additionally, the number of impacted freeway and other ramps dropped from 5 to 2, and 11 to 6, respectively, since 2010. Lastly, while there are some additional traffic impacts since 2010, there is no substantial evidence in the record that these increases will result in a more severe impact requiring major revisions necessitating a subsequent or supplemental EIR. For instance, four segments of the freeway mainline were impacted in the 2010 Traffic Study, whereas six locations are impacted under the 2015 Traffic Study Update. But during the buildout year, that number drops from 14 impacted segments in the 2010 Traffic Study to 5 locations impacted in the 2015 Traffic Study Update. The fact that the 2015 Traffic Study Update's results indicate that no additional proposed changes are required to the City's General Plan further supports the use of an addendum for the Project.

SECTION 4. Based on substantial evidence in the record including, without limitation, the information and analysis contained in the Addendum, and pursuant to Section 15162 of the California Code of Regulations, the City Council hereby finds and declares that:

A. There are no substantial changes proposed in the Project that would require major revisions of the previous EIR because of the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects.

B. Substantial changes have not occurred with respect to the circumstances under which the Project is undertaken which would require major revisions of the previous EIR because of the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects.

C. There is no new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete, showing any of the following:

    1. The Project would have one or more significant effects not discussed in the previous EIR;

2. Significant effects previously examined would be substantially more severe than shown in the previous EIR;

3. Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; and

4. Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

SECTION 5. Based on the above, the City Council hereby approves and adopts the changes to Mitigation Measure 13-1 set forth below (with new language underlined):

Revised Mitigation Measure 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 initially 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 original AB 1600 nexus study adopted in 2011:

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: 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, one right turn lane, and a shared left-right turn lane.

- 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. The City shall coordinate with Newport Beach and JWA to determine the timing and funding availability for this improvement.

- Intersection #85: MacArthur Boulevard and Birch Street
  - Improve the eastbound approach to two eastbound left-turn lanes and two southbound 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.

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.

<u>Following adoption of the initial 2011 AB 1600 nexus study, the City shall periodically undertake an updated comprehensive AB 1600 nexus study for the IBC to evaluate the implementation of the original and subsequently adopted AB 1600 nexus studies and update mitigation as needed. Subsequent AB 1600 nexus studies for the IBC shall be performed in accordance with Section 9-36-14(K) of the Irvine Zoning Ordinance, as amended from time to time.</u>

SECTION 6. Pursuant to Fish and Game Code Section 711.4(c), all required Fish and Game filing fees have been paid subsequent to certification of the IBC Vision Plan and Mixed Use Overlay Zoning Ordinance EIR, which includes Planning Area 36 (SCH No. 2007011024).

SECTION 7. The City Council hereby finds and declares, based on substantial evidence in the record, that the findings required by State law regarding justification of development fees for public facilities as a result of the ongoing implementation of the IBC Vision Plan Project are satisfied as follows:

A. The purpose of the fees has been identified. The fees are intended to fund area-wide circulation improvements within the IBC Vision Plan Project boundary. These improvements are required due to circulation impacts associated with buildout of the IBC Vision Plan Project.

B. The public facilities to be implemented as a result of the fees have been identified. Arterial and Intersection improvements necessary to accommodate the IBC Vision Plan Project are identified in the Circulation and Traffic Study prepared as part of the certified EIR for the IBC Vision Plan (referred to herein as the "2010 Traffic Study") and the 2015 Traffic Study Update.

C. There is a reasonable relationship between the fees' use and the type of development project on which the fee is imposed. The fees imposed in the IBC Traffic Improvement Fee Program apply to all types of future non-vested traffic-generating development, and are calibrated based on the level of development intensity associated with each different development type.

D. There is a reasonable relationship between the need for the public facilities and the type of development for which the fee is imposed. The circulation improvements identified in the IBC Traffic Improvement Fee Program are required to mitigate traffic impacts directly attributable to the General Plan and Zoning development intensity authorized by General Plan Amendment 00497846–PGA and Zone Change 00497861-PZC. Implementation of the circulation improvements proposed within the 2015 Traffic Study Update and calibrated based on the level of development intensity associated with each different development type.

E. There is a reasonable relationship between the amount of the fees and the costs of the public facilities attributable to the development on which the fee is based. There is a direct correlation between the fee amounts per square foot (or unit) of development and the costs of the circulation improvements and associated administrative costs. A Nexus Study which establishes the relationship between the amount of the fees, the cost of the facilities and the amount attributable to development within the IBC (referred to herein as the 2015 Nexus Study Update") has been prepared as part of the 2015 Traffic Study Update process.

SECTION 8. Based on the above, the City Council hereby adopts the 2015-17 IBC Traffic Improvement Fee Program including the corresponding 2017-18 fee update, as described in this Section and detailed in the 2015 Update to Irvine Business Complex Vision Plan Traffic Fee Nexus Study (dated June 7, 2017) (referred to herein as the "2015 IBC Nexus Study Update"), to raise revenue for the construction of area-wide circulation improvements needed to serve the IBC as development occurs.

A. Boundaries of the final fee district: All property within the IBC, as outlined in Exhibit A, is included in the final fee district.

B. Final fee schedule: The Zoning Ordinance for the IBC specifies the maximum allowable development intensity of land-uses throughout the IBC. The fees are based on a fair share payment as calculated by the level of development intensity "trips" generated by each land use category. The fees to be paid are as follows:

Residential (Dwelling Unit)	$4,697
Commercial (Square Foot)	$3,796
Hotel (Room)	$6,140
Ext Stay Hotel (Room)	$13.97
Office (Square Foot)	$13.97
Manufacturing (Square Foot)	$3.79
Mini-Warehouse (Square Foot)	$2.44
Transfer of Development Rights:	$500.00 per PM Peak Hour Trip

C. Administration of Program: All administration fees shall be used solely for the implementation of the area-wide circulation mitigation program identified in the Final Program Environmental Impact Report for the IBC Vision Plan. Any use of fees by City of Irvine staff or consultants shall be for administering annual fee updates, monitoring/updating the IBC database, inter-departmental and inter-agency coordination, transportation demand management strategies to reduce demand on the IBC roadway system, and reassessment of land use assumptions and reassessment of the IBC Vision Plan EIR Traffic Study and improvement list as noted in Section 9 of this resolution.

D. The proposed fees shall apply to all residential and non-residential development, including density bonus units, for which building permits are issued following the adoption of this resolution.

SECTION 9. Resolution No. 93-35 shall continue to apply only to development projects that are not subject to the payment of fees pursuant to this Resolution.

SECTION 10. Severability. If any section, subsection, subdivision, sentence, clause, phrase, or portion of this Resolution 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 Resolution. The City Council hereby declares that it would have adopted this Resolution and each and every section, subsection, subdivision, sentence, clause, phrase, or portion thereof, irrespective of the fact that any one or more section, subsections, subdivisions, sentences, clauses, phrases, or portions thereof be declared unconstitutional.

SECTION 11. That the City Clerk shall certify to the passage and adoption of this Resolution and enter it into the book of original Resolutions.

PASSED AND ADOPTED by the City Council of the City of Irvine at a regular hearing held on the 12th day of September 2017, 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)

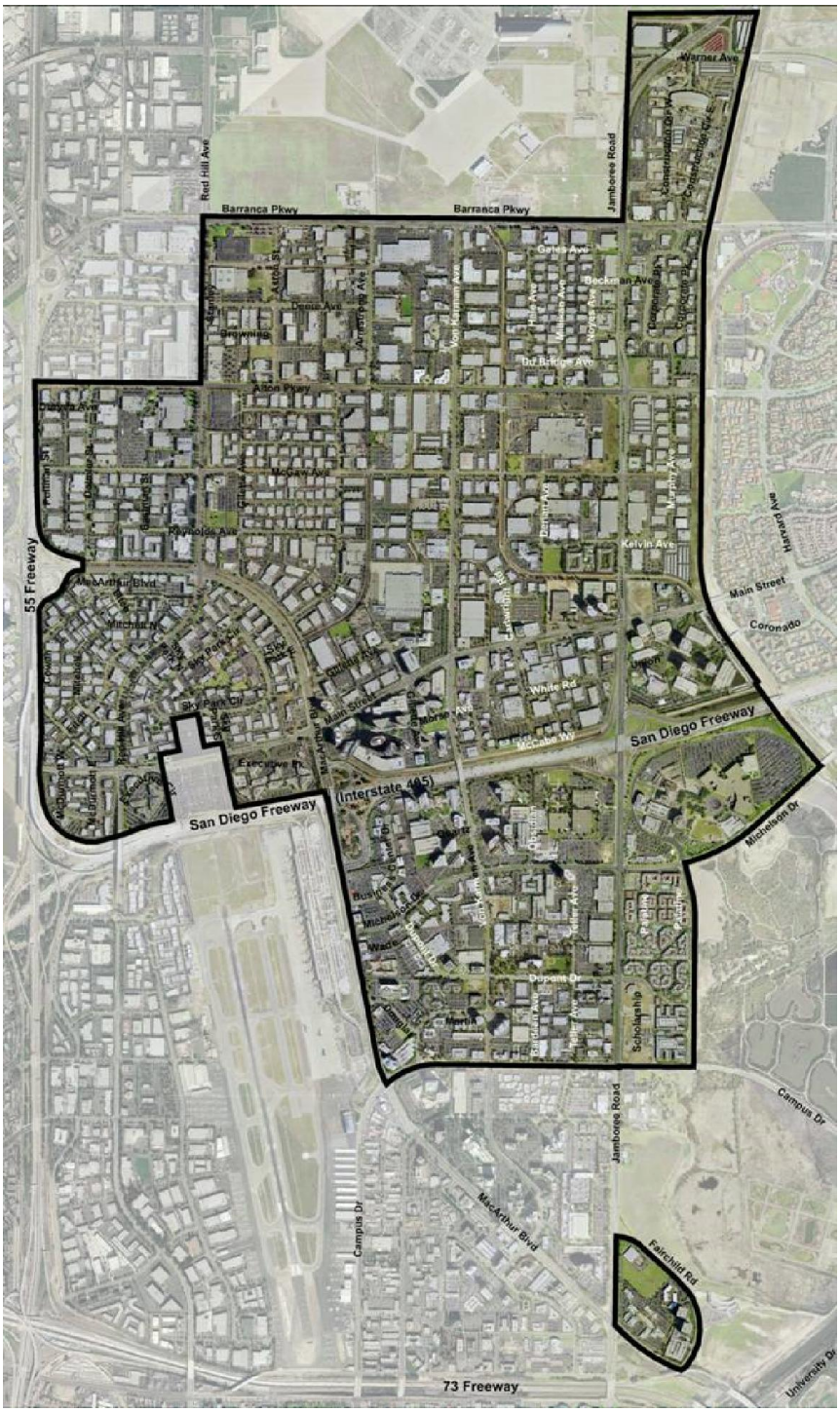
I, Molly McLaughlin, City Clerk of the City of Irvine, HEREBY DO CERTIFY that the foregoing resolution was duly adopted at an adjourned regular meeting of the City Council of the City of Irvine on the 12th day of September 2017, by the following vote:

AYES: COUNCILMEMBERS:

NOES: COUNCILMEMBERS:

ABSENT: COUNCILMEMBERS:

_____
CITY CLERK OF THE CITY OF IRVINE



Irvine Business Complex Boundary

Exhibit A