September 2018| EIR Addendum

Orange County Civic Center Facilities Strategic Plan – Phases 1 and 2 Amendment

for County of Orange

VOLUME I

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1. Introduction

1.1 BACKGROUND, PURPOSE, AND SCOPE

This document is an Addendum to the previously certified Environmental Impact Report (EIR) (State Clearinghouse No. 2016081044) for the approved Orange County Civic Center Facilities Strategic Plan (FSP; 2017 Approved Project) and addresses minor changes to the phasing and Building 14 construction, also known as Orange County Civic Center FSP Phases 1 and 2 Amendment (2018 Proposed Project).

The 2017 Final EIR, in conjunction with this Addendum, serve as the environmental review for the 2018 Proposed Project, as required by the California Environmental Quality Act (CEQA) (Public Resources Code [PRC] Sections 21000 et seq.) and the State CEQA Guidelines (California Code of Regulations [CCR], Title 14, Chapter 3, Sections 15000–15387). Pursuant to the provisions of CEQA and the State CEQA Guidelines, the County of Orange is the Lead Agency charged with deciding whether or not to approve the 2018 Proposed Project. This addendum addresses the potential environmental impacts associated with the 2018 Proposed Project as compared to the 2017 Approved Project.

1.1.1 2017 Approved Project

The 2017 Approved Project entails the phased demolition, renovation, and new construction of multiple government buildings at the project site. The proposed demolition and new construction would occur in the superblock area of the project site; demolition would also occur just north of the superblock across from Civic Center Drive. Physical improvements at the County satellite buildings would be limited to renovation. Although the 2017 Approved Project includes the construction of new buildings, it is for the purpose of consolidating County facilities and employees; therefore, the net increase in the total number of County employees at the project site would be minor at about 505 employees.

Table 1 provides a development summary of the 2017 Approved Project, which allows for the renovation of 289,360 square feet, demolition of 429,277 square feet, and construction of 818,676 square feet of building space. This would result in a net increase of 389,399 square feet of new government office uses.

The 2017 Approved Project includes the demolition of five buildings: 433 West Civic Center Drive and Buildings 10, 11, 12, and 14. The demolished buildings in the superblock would be replaced with five new buildings: Buildings 10, 12, 14, 16, and a County ancillary building and associated parking and landscaping. The new County ancillary building would be constructed for the use of the County employees within the superblock; uses would include a conference room and training center; any vehicle trips associated with such uses are expected to be negligible and off peak hours.

The 2017 Approved Project includes renovation of two County satellite buildings outside of the superblock site. First, the existing H.G. Osborne building at 300 N. Flower Street would be renovated to accommodate

the District Attorney, a wellness center, and the Public Defender. Second, the building at 401 Civic Center currently occupied by the District Attorney would be renovated for future occupancy by the Orange County Probation Department.

The 2017 Approved Project also includes the sale of various County-owned buildings totaling 382,163 square feet within or adjacent to the FSP area. Full implementation of the 2017 Approved Project would impact approximately 3,311 existing employees. Staff from buildings at 909 N. Main Street, 1015/1055 N. Main Street, and 1770 N. Broadway totaling 382,163 square feet would ultimately be relocated into new construction in the superblock area. These buildings are expected to be sold following the transfer of departments to the new buildings.

Table 1 2017 Approved Project Buildout Summary

Building	Renovation (square feet)	Demolition (square feet)	New Construction (square feet)	Net New Construction (square feet)
Building 10	-	109,180	160,940	+51,760
Building 11	-	109,939	-	-109,939
Building 12	-	163,100	135,200	-27,900
Building 14	-	38,240	264,316	+226,076
Building 16	-	-	251,020	+251,020
H.G. Osborne (300 N. Flower Street)	187,360	-	-	-
401 W Civic Center	102,000	-	-	-
433 W. Civic Center	-	8,818	-	-8,818
Ancillary Facility	-	-	7,200	+7,200
Subtotal	289,360	429,277	818,676	+389,399
			Total	389,399

Source: County of Orange 2016.
Note: Renovation is not included in the net new construction square footage.

Infrastructure

New water and sewer lateral would be constructed from the new buildings to connect into the existing water and sewer pipelines along N. Ross Street to the west, W. Civic Center Drive to the north, and N. Broadway to the east. Off-site upgrades may include replacement of the water pipeline within the N. Ross Street right-of-way adjacent to the west boundary of the superblock between W. Civic Center Drive and W. Santa Ana Boulevard.

Project Phasing

Implementation of the 2017 Approved Project was expected to occur in four phases over a period of approximately 18 years. Table 2 summarizes the 2017 Approved Project's implementation by phase, with an assumed buildout by 2035.

Table 2 2017 Approved Project Buildout by Phase

Building	Renovation	Demolition	New Construction
Phase 1 (2016–2021)			
Building 11		109,939	Temporary parking
Building 16		-	251,020
County Ancillary Building		-	7,200
H.G. Osborne	144,200	-	-
Phase I Subtotal	144,200	109,939	258,220
		Phase 1 Subtotal – Net New Construction	+148,281
Phase 2 (2021–2027)			
Building 10		109,180	Temporary parking
Building 12		163,100	Temporary parking
Building 14		38,240	264,316
433 W. Civic Center		8,818	
H.G. Osborne	43,160	-	-
Phase I Subtotal	43,160	319,338	264,316
		Phase 2 Subtotal – Net New Construction	-55,022
Phase 3 (2024–2030)			
401 W Civic Center	102,000	-	-
		Phase 3 Subtotal – Net New Construction	-
Phase 4 (2030–2035)			
Building 10	-	-	160,940
Building 12	-	-	135,200
		Phase 4 Subtotal – Net New Construction	+296,140
Totals	Total Renovation 289,360	Total Demolition 429,277	Total New Construction 818,676
		Net New Building	+389,399

Source: County of Orange 2016.

As shown in Table 2, Phase 1 includes the demolition of existing Building 11 and replacement with temporary surface parking. New Building 16 and the County ancillary building would be constructed at the northeast corner of N. Ross Street and W. Santa Ana Boulevard. Building 16 would be six stories with two levels of subterranean parking. This phase also includes the renovation of the H.G. Osborne Building.

Phase 2 includes the demolition of Buildings 10, 12, and 14, and the building at 433 W. Civic Center. The site of Buildings 10 and 12 would become temporary surface parking during interim phases. Construction of new Building 14 would be six stories with two stories of subterranean parking. Renovation of the H.G. Osborne Building would continue.

Phase 3 includes the renovation of the building at 401 W. Civic Center. Phase 4 includes the construction of two new Buildings 10 and 12. Building 10 would be six stories with two levels of subterranean parking, and Building 12 would be four stories with two levels of subterranean parking.

Project Approvals

Implementation of the 2017 Approved Project required the following approvals.

Lead Agency	Action
County of Orange Board of Supervisors	▪ Certify the Orange County Civic Center FSP EIR ▪ Adopt Findings of Fact and Statement of Overriding Considerations ▪ Adopt a Mitigation Monitoring and Reporting Program ▪ Adopt the Orange Civic Center FSP
Responsible Agencies	**Action**
City of Santa Ana	▪ Approval of water and sewer connections ▪ Issue permits for off-site improvements
Regional Water Quality Control Board, Santa Ana Region	▪ Issue National Pollutant Discharge Elimination System Permits (as necessary)
South Coast Air Quality Management District	▪ Issue any air quality permits required to implement the project

Finding. On April 25, 2017, the County of Orange Board of Supervisors certified the 2017 Certified EIR and approved the 2017 Approved Project.

2017 Certified EIR

The 2017 Certified EIR analyzed environmental impacts of the 2017 Approved Project. Most impacts identified in the EIR were determined to be less than significant after implementation of mitigation measures. However, the following impacts were determined to be significant and unavoidable after implementation of feasible mitigation measures:

- **Air Quality (Operational).** Long-term regional air quality impacts from NO_x emissions were determined to exceed SCAQMD thresholds and significantly contribute to nonattainment designations of the South Coast Air Basin.

- **Greenhouse Gas Emissions.** Buildout of the proposed project would result in a substantial increase in GHG emissions and would exceed the SCAQMD Working Group efficiency standard.

- **Noise (Construction).** Construction activity would increase existing noise levels by more than 5 dB, which would potentially disturb nearby sensitive receptors.

Finding. On April 25, 2017, the County of Orange Board of Supervisors certified the 2017 Certified EIR and approved the 2017 Approved Project. The 2017 Certified EIR (State Clearinghouse No. 2016081044) was prepared in conformance with CEQA (PRC Sections 21000 et seq.) and the CEQA Guidelines (14 CCR Sections 15000 et seq.).

1.1.2 2018 Proposed Project

Since certification of the 2017 Certified EIR and approval of the 2017 Approved Project, phasing and total net new square footage has been revised. Overall, the 2018 Proposed Project would result in a reduction of 36,201 net new building square feet compared to the 2017 Approved Project. Total renovation would be reduced from the 2017 Approved Project of 289,360 square feet by 43,160 square feet to 246,200 square feet, demolition would increase by 38,420 square feet, and new construction would increase by 2,219 square feet. The revised phasing is provided in Table 3.

Table 3 2018 Proposed Project Buildout by Phase

Building	Renovation	Demolition	New Construction
Phase 1 (2016–2020)			
Building 16		38,420	248,177
– Building 16 (new one-stop-shop)			4,344
Building 18 (new event/conference center)		-	6,214
H.G. Osborne	144,200		
Phase I Subtotal	144,200	38,420	258,735
	Phase 1 Subtotal – Net New Construction		+220,315
Phase 2 (2019-2022)			
Building 10		109,180	Permanent public surface parking
Building 11		109,939	
Building 12		163,100	Permanent public surface parking
Building 14		38,240	251,020
– Building 14 (new Board meeting room)			15,000
433 W. Civic Center		8,818	
Phase 2 Subtotal	-	429,277	266,020
	Phase 2 Subtotal – Net New Construction		-163,257
Phase 3 (2024–2030) [1]			
401 W Civic Center	102,000	-	-
	Phase 3 Subtotal – Net New Construction		-
Phase 4 (2030–2035)[1]			
Building 10	-	-	160,940
Building 12	-	-	135,200
	Phase 4 Subtotal – Net New Construction		+296,140
2018 Proposed Project Totals	Total Renovation 246,200	Total Demolition 467,697	Total New Construction 820,895
2017 Approved Project Totals	289,360	429,277	818,676
Change from 2017 Approved Project	-43,160	+38,420	+2,219
		Net New Building	+353,198
		Change from 2017 Approved Project	-36,201

Source: County of Orange 2018.

1 No change from 2017 Approved Project.

As shown in Table 3, Phase 1 would be completed by 2020 and includes demolition of Building 16 (38,420 square feet) and new construction of Building 16 (248,177 square feet), a one-stop-shop (4,344 square feet), and Building 18–a new event/conference center for County employees–(6,214 square feet). Compared to the 2017 Approved Project, the 2018 Proposed Project would result in a reduction of 71,519 square feet of demolition and an increase in 515 square feet of new construction, resulting in an increase in 72,034 square feet of net new construction during Phase 1 (see Tables 2 and 3). Renovation of 144,200 square feet of the H.G. Osborne building would occur, which is the same as the 2017 Approved Project. Note completion of the Osborne renovation would occur in Phase 3.

Phase 2 would occur from 2019-2022. The demolition of Building 11 (109,939 square feet) would move from Phase 1 to Phase 2, the remaining demolition activities would be the same as the 2017 Approved Project. Additionally, Phase 2 includes the construction of a new 15,000 square foot Board meeting room as part of Building 14. With respect to Building 14, the 2017 Approved Project allowed for the construction of 264,361 square feet and the 2018 Proposed Project would allow for the construction of 266,020 square feet, resulting in 1,704 square feet increase in new building construction. Due to the increase in demolition during Phase 2, the net new construction would be reduced by 108,235 square feet.

Phases 3 and 4 would remain the same as the 2017 Approved Project.

1.2 LEAD AGENCY AND DISCRETIONARY APPROVALS

This EIR Addendum documents the County's consideration of the potential environmental impacts resulting from the 2018 Proposed Project and explains why CEQA analysis in the form of a subsequent EIR or supplemental EIR is not required. The County of Orange is the lead agency and has approval authority over the 2018 Proposed Project. Discretionary approvals for the 2018 Proposed Project include the following:

- Adopt the Orange Civic Center FSP Phases 1 and 2 Amendment
- Construction of Building 14

2. Environmental Findings

The CEQA Guidelines provide detailed information on when a subsequent EIR, supplemental EIR, and EIR Addendum can be prepared. This chapter considers the provisions of CEQA Guidelines Sections 15162, 15163, and 15164 and discusses this Addendum to the Orange County Civic Center Facilities Strategic Plan EIR (State Clearinghouse No. 2016081044).

2.1 ENVIRONMENTAL PROCEDURES

Pursuant to CEQA and the State CEQA Guidelines, the County's review of the Addendum focuses on the potential environmental impacts associated with the 2018 Proposed Project that might cause major revisions to the 2017 Certified EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects pursuant to State CEQA Guidelines Section 15162.

Pursuant to CEQA Section 21166 and State CEQA Guidelines Section 15162, when an EIR has been certified or a negative declaration adopted for a project, no subsequent or supplemental EIR or negative declaration shall be prepared for the project unless the lead agency determines that one or more of the following conditions are met:

- Substantial project changes are proposed that will 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;

- Substantial changes would occur with respect to the circumstances under which the project is undertaken that require major revisions to 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

- New information of substantial importance that was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified or the negative declaration was adopted shows any of the following:

    A. The project will have one or more significant effects not discussed in the previous EIR or negative declaration.

    B. Significant effects previously examined will be substantially more severe than identified 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

proponent declines to adopt the mitigation measures or alternatives.

D. Mitigation measures or alternatives that are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponent declines to adopt the mitigation measures or alternatives.

If some changes or additions to the previously prepared EIR or negative declaration are necessary, but none of the conditions specified in Section 15162 are present, the lead agency shall prepare an addendum (CEQA Guidelines Section 15164[a]). In accordance with the CEQA Guidelines, since none of the conditions specified in Section 15162 are present, the County has determined that an Addendum to the 2017 Certified EIR is the appropriate form of environmental review for the 2018 Proposed Project.

This Addendum analyzes the differences between the 2018 Proposed Project and the 2017 Approved Project and any changes to the existing conditions that have occurred since the certification of the 2017 Certified EIR. It also reviews any new information related to environmental impacts, mitigation measures and/or alternatives (if any) that was not known and could not have been known with exercise of reasonable diligence at the time that the 2008 Final EIR was certified. It further examines whether, as a result of any changes or any new information, a Subsequent EIR or Negative Declaration may be required. This examination includes an analysis of the provisions of CEQA Section 21166 and State CEQA Guidelines Section 15162 and their applicability to the 2018 Proposed Project.

2.2 CEQA GUIDELINES

This section describes the requirements for the preparation of a Subsequent EIR and EIR Addendum and demonstrates why the preparation of an Addendum to the 2017 Certified EIR is appropriate for the proposed specific plan revisions.

2.2.1 CEQA Guidelines, Section 15162: Subsequent EIRs and Negative Declarations

CEQA Guidelines Section 15162(a) states,

> When an EIR has been certified or a negative declaration adopted for a project, no subsequent EIR shall be prepared for that project unless the lead agency determines, on the basis of substantial evidence in the light of the whole record, one or more of the following:

1. **No substantial changes are proposed in the project which will require major revisions of the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects.** (14 CCR Section 15162[a][1])

A subsequent EIR or supplemental EIR is only required when "substantial changes" occur to a project or the circumstances surrounding a project, or "new information" about a project implicates "new significant environmental effects" or a "substantial increase in the severity of previously significant effects."

A supplemental EIR is not required unless there is substantial evidence that modifications to the project would significantly increase the severity of the impacts identified in the previous EIR. Under CEQA, "substantial evidence" includes facts, reasonable assumptions predicated upon facts, and expert opinion supported by facts.

A statement of overriding considerations was made for significant unavoidable environmental impacts identified in the 2017 Certified EIR related to air quality (operational), greenhouse gas emissions, and noise (construction).

Approval of the 2018 Proposed Project would not require major revisions to the 2017 Certified EIR because no new significant environmental effects or substantial increase in the severity of previously identified significant effects would occur. No major changes to the Orange County Civic Center FSP are proposed, and the footprint and type of land uses have not been modified. The modification of the project would result in a change in phasing, and an overall reduction in net new building square footage. Furthermore, the 2018 Proposed Project would not cause a substantial increase in the severity of cumulative impacts identified in the 2017 Certified EIR.

The analysis below, which discusses environmental topic areas listed in Appendix G of the CEQA Guidelines, demonstrates that no substantial changes are proposed and no major revisions of the 2017 Certified EIR would be required due to approval of the 2018 Proposed Project.

Aesthetics. The 2018 Proposed Project, like the 2017 Approved Project, proposes governmental office buildings on the project site. The type and scale of development on the project site does not differ from that analyzed in the 2017 Certified EIR, and the proposed net new building area is less than the 2017 Approved Project. Therefore, no new impacts or substantially greater impacts than previously analyzed would occur.

Agriculture and Forestry Resources. There are no agricultural or forestry resources on the project site. Therefore, the 2018 Proposed Project, like the 2017 Approved Project, would not impact these types of resources. No new impacts or substantially greater impacts than previously analyzed would occur.

Air Quality. PlaceWorks has prepared a technical memorandum (see Attachment A) to evaluate potential construction and operational impacts associated with the 2018 Proposed Project relative to those identified in the 2017 Certified EIR. This technical analysis is consistent with the current methodology of the South Coast Air Quality Management District (SCAQMD) for projects in the South Coast Air Basin (SoCAB). The study calculates construction-related criteria air pollutant and GHG emissions using CalEEMod v. 2016.3.2.2, which is the latest emissions computer model released by SCAQMD. Long-term operational air quality impacts would be reduced due to the reduction in vehicle trips (IBI 2018).

The AQ/GHG Technical Memorandum found that the 2018 Proposed Project would:

- Not further conflict with or obstruct SCAQMD's air quality management plan for the SoCAB.
- Not increase the severity or result in new short-term or long-term regional air quality impacts, cumulative air quality impacts, or localized air quality impacts compared to the 2017 Approved Project.

- Like the 2017 Approved Project, not create objectionable odors affecting a substantial number of people.

For detailed analysis supporting these conclusions, see Attachment A to this EIR Addendum.

Similar to the 2017 Approved Project, the 2018 Proposed Project would be required to comply with Mitigation Measures AQ-1 and AQ-2. Consistent with the finding above, no new impacts or substantially greater impacts than previously analyzed would occur.

Biological Resources. The 2017 Certified EIR determined that the 2017 Approved Project would not result in any significant impacts to biological resources. The project site is currently developed as government office uses, surrounded by urban uses, and the 2018 Proposed Project would not expand the geographic extent of potential impacts. No new impacts or substantially greater impacts than previously analyzed would occur.

Cultural Resources. The 2018 Proposed Project would disturb the same area as the 2017 Approved Project and would not be expected to uncover any additional subsurface cultural resources beyond those contemplated by the 2017 Certified EIR. Furthermore, the 2018 Proposed Project, like the 2017 Approved Project, would be required to comply with applicable regulations and mitigation identified in the 2017 Certified EIR (see Mitigation Measure CUL-1 and CUL-2), which were determined to reduce potential impacts to less than significant. No new impacts or substantially greater impacts than previously analyzed would occur.

Geology and Soils. The 2017 Certified EIR found the that the 2017 Approved Project would not result in significant impacts related to geology and soils, including impacts resulting from seismic activity or erosion, with implementation of regulatory requirements. The type and footprint of development on the project site does not differ from that analyzed in the 2017 Certified EIR. Furthermore, the 2018 Proposed Project, like the 2017 Approved Project, would be required to comply with applicable regulations, and standard conditions identified in the 2017 Certified EIR. Therefore, no new impacts or substantially greater impacts than previously analyzed would occur.

Greenhouse Gas Emissions. As discussed above under Air Quality, an AQ/GHG Technical Memorandum has been prepared to evaluate air quality and greenhouse gas emission impacts of the 2018 Proposed Project relative to those of the 2017 Approved Project. The AQ/GHG Technical Memorandum determined that the 2018 Proposed Project would:

- Not increase the severity or result in new greenhouse gas emissions impacts compared to the 2017 Approved Project.

- Not conflict with an applicable plan, policy, or regulation adopted for the purpose reducing GHG emissions. Applicable plans include the California Air Resources Board Scoping Plan, and Southern California Association of Governments' Regional Transportation Plan/Sustainable Communities Strategy.

For detailed analysis supporting these conclusions, see Attachment A to this EIR Addendum. Similar to the 2017 Approved Project, the 2018 Proposed Project would be required to comply with Mitigation Measures AQ-1 and AQ-2. No new impacts or substantially greater impacts than previously analyzed would occur.

Hazards and Hazardous Materials. The 2017 Certified EIR determined that the 2017 Approved Project could involve the transport and disposal of hazardous materials associated with demolition activities. The 2018 Proposed Project would involve similar type of construction activities as the 2017 Approved Project. Furthermore, the 2018 Proposed Project, like the 2017 Approved Project, would be required to comply with applicable regulations and mitigation identified in the 2017 Certified EIR (see Mitigation Measures HAZ-1 and HAZ-2). No new impacts or substantially greater impacts than previously analyzed would occur.

Hydrology and Water Quality. The 2017 Certified EIR determined that the 2017 Approved Project would not result in significant impacts related to hydrology and water quality. The 2018 Proposed Project would have the same development footprint, resulting in the same amount of runoff and water quality requirements. Potential hydrology and water quality impacts due to modification of the proposed project were adequately analyzed in the 2017 Certified EIR. No new impacts or substantially greater impacts than previously analyzed would occur.

Land Use and Planning. The proposed land uses of the 2018 Proposed Project are consistent with those of the 2017 Approved Project. No new impacts or substantially greater impacts than previously analyzed would occur.

Mineral Resources. The 2017 Certified EIR found that there were no impacts related to mineral resources. Because the 2017 Approved Project and 2018 Proposed Project both feature the same type of development on the same project site, no loss of mineral resource accessibility would occur, and this topic was adequately analyzed by the 2017 Certified EIR. No new impacts or substantially greater impacts than previously analyzed would occur.

Noise. As with the 2017 Approved Project, implementation of the 2018 Proposed Project would generate construction-related and operational noise. Operational noise would decrease slightly due to the decrease in vehicle trips (IBI 2018).

The 2017 Certified EIR identified a temporary significant and unavoidable impact related to construction noise. The 2018 Proposed Project, like the 2017 Approved Project, contemplated the construction of government offices on the project site. The 2018 Proposed Project has the same development footprint as the 2017 Approved Project. Although, development in Phases 1 and 2 would change and demolition and new construction would slightly increase during those phases, construction would require the same types of equipment and associated noise levels. Therefore, modifications to the project are consistent with those analyzed in the 2017 Certified EIR, and conclusions related to noise would remain the same. The 2018 Proposed Project would be required to comply with the County Code and Mitigation Measures N-1 through N-3. No new impacts or substantially greater impacts than previously analyzed would occur.

Population and Housing. The 2017 Certified EIR found that the 2017 Approved Project would not result in a significant impact related to population and housing. Like the 2017 Approved Project, the 2018 Proposed

Project would be consistent with the County's general plan and zoning and is consistent with regional growth projections. No new impacts or substantially greater impacts than previously analyzed would occur.

Public Services. The 2018 Proposed Project would reduce the net new building square footage and vehicle trips compared to the 2017 Approved Project. Therefore, the modifications to the project would result in a slight decrease in impacts related to police and fire protection. Like the 2017 Approved Project, there would be no impacts related to schools and parks. No new impacts or substantially greater impacts than previously analyzed would occur.

Recreation. The 2017 Certified EIR determined that the construction and renovation of governmental office buildings would have no impact on recreational facilities. The 2018 Proposed Project would have the same uses and would not increase the use of recreational facilities in the area. No new impacts or substantially greater impacts than previously analyzed would occur.

Tribal Cultural Resources. The 2018 Proposed Project would disturb the same area as the 2017 Approved Project and would not be expected to uncover any additional subsurface tribal cultural resources beyond those contemplated by the 2017 Certified EIR. Furthermore, the 2018 Proposed Project, like the 2017 Approved Project, would be required to comply with applicable regulations and mitigation identified in the 2017 Certified EIR (see Mitigation Measure CUL-1), which were determined to reduce potential impacts to less than significant. No new impacts or substantially greater impacts than previously analyzed would occur.

Transportation and Traffic. IBI Group has prepared a technical memorandum (see Attachment B) to evaluate potential traffic impacts associated with the 2018 Proposed Project relative to those identified in the 2017 Certified EIR. This technical analysis is consistent with the analysis provided in the 2017 Certified EIR. Because there would be a decrease in net new construction at project buildout by 36,201 square feet (see Table 3), there would be an overall decrease in project related trips. However, due to the changes that would occur in Phases 1 and 2 the traffic analysis evaluated and compared traffic impacts for four scenarios: Existing (2018), Existing with Project (2018), Opening Year (2020) – No Project, and Opening Year (2020) – Without Project. The results indicate no significant traffic impacts are anticipated under the re-evaluation of the Existing and Opening Year Conditions; in addition, the ramp queue analysis results indicate the project is not anticipated to cause impacts to the freeway ramp queueing. For detailed analysis supporting these conclusions, see Attachment B to this EIR Addendum.

Utilities and Service Systems. The 2017 Certified EIR found that the 2017 Approved Project would not have significant impacts related to wastewater, solid waste, or energy resources. The EIR found that there was adequate water supply to meet 2017 Approved Project demands, however, replacement of the water lines along Ross Street may need to be replaced. The modifications to the project would result in a slight reduction in water demand and wastewater generation. Furthermore, the 2018 Proposed Project would be required to comply with regulatory compliance and Mitigation Measure USS-1. Because utility demands of the 2018 Proposed Project would be less than those of the 2017 Approved Project, this topic was adequately analyzed by the 2017 Certified EIR. No new impacts or substantially greater impacts than previously analyzed would occur.

2. **No substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects. (14 CCR Section 15162(a)(2))**

Approval of the 2018 Proposed Project would not require major revisions to the 2017 Certified EIR because no substantial changes have occurred with respect to the circumstances under which the project was undertaken. Existing conditions on the project site have not significantly changed. The revisions would not result in any physical changes to the environment that would cause new significant effects or increase the severity of previously identified cumulative impacts.

Although a statement of overriding considerations was made in conjunction with the 2017 Certified EIR, substantial changes in the circumstances under which the project was undertaken have not occurred since the 2017 Approved Project was adopted on April 25, 2017. No substantial increases in the severity of the cumulative impacts would occur. Therefore, the 2018 Proposed Project would not have new significant environmental effects or substantially increase the severity of previously identified significant effects due to changes in circumstances.

3. **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, shows any of the following:**

   a. **The project will not have one or more significant effects not discussed in the previous EIR.** (14 CCR Section 15162(a)(3)(A))

   No new information has been introduced that would increase the severity of the identified cumulative impacts or cause new significant effects not discussed in the certified EIR. The revised phasing plan is not considered new information of substantial importance. The 2018 Proposed Project would not permit new development or result in physical changes to the environment that would increase previously identified cumulative impacts. The 2018 Proposed Project would not have significant project or cumulative effects because there are no new areas of development or other changes to the physical environment outside the original project site.

   b. Significant effects previously examined will not be substantially more severe than shown in the previous EIR. (14 CCR Section 15162(a)(3)(B))

   No new information has been introduced that would increase the severity of impacts discussed in the 2017 Certified EIR. The 2018 Proposed Project does not propose nor allow new development or other changes to the physical environment that were not previously analyzed.

   c. No 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" (14 CCR Section 15162(a)(3)(C))

Since the certification of the EIR, no new, previously unknown information of substantial importance has come to light that would affect the mitigation measures that were adopted or the alternatives that were considered as a part of the decision-making process for the 2017 Certified EIR.

The 2018 Proposed Project would not create new significant effects that were not previously analyzed, nor would the magnitude of impacts exceed those found in the 2017 Certified EIR. No new mitigation measures are proposed, and the Mitigation Monitoring and Reporting Program adopted as a part of the 2017 Certified EIR remains adequate to mitigate impacts of the Orange County Civic Center FSP.

The alternatives that were analyzed also remain applicable to the Orange County Civic Center FSP and do not need to be reconsidered; therefore, the 2018 Proposed Project does not create new impacts that would require new analysis of project alternatives.

d. No 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. (14 CCR Section 15162(a)(3)(D))

No new mitigation measures are required, and the Mitigation Monitoring and Reporting Program adopted as a part of the 2017 Certified EIR remains adequate to mitigate impacts of the Orange County Civic Center FSP. The alternatives that were analyzed also remain applicable and do not need to be reconsidered; the 2018 Proposed Project does not create new impacts that would require new analysis of project alternatives.

As substantiated in this document, the 2018 Proposed Project does not create new significant impacts that would require the preparation of a subsequent EIR, and an addendum to the 2017 Certified EIR would be appropriate to satisfy CEQA.

2.2.2 CEQA Guidelines Section 15164: Addendum to an EIR or Negative Declaration

1. The lead agency or responsible agency shall 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 preparation of a subsequent EIR have occurred. (14 CCR Section 15164(a))

This EIR Addendum provides additional information specifically relevant to the changes to the 2017 Certified EIR caused by the 2018 Proposed Project. None of the conditions from Section 15162 are present that would require a subsequent EIR.

2. An addendum to an adopted negative declaration may be prepared if only minor technical changes or additions are necessary or none of the conditions described in Section 15162 calling for the preparation of a subsequent EIR or negative declaration have occurred. (14 CCR Section 15164(b))

The Orange County Civic Center FSP, was the subject of a full EIR, not a negative declaration; therefore subsection (b) does not apply.

3. **An addendum need not be circulated for public review but can be included in or attached to the final EIR or adopted negative declaration.** (14 CCR Section 15164(c))

This Addendum will be made available for public review as part of the packet for the Board of Supervisors hearing at which the 2018 Proposed Project will be considered.

4. **The decision making body shall consider the addendum with the final EIR or adopted negative declaration prior to making a decision on the project.** (14 CCR Section 15164(d))

The County of Orange Board of Supervisors will consider the EIR Addendum and the 2017 Certified EIR prior to approving the 2018 Proposed Project.

5. **A brief explanation of the decision not to prepare a subsequent EIR pursuant to Section 15162 should be included in an addendum to an EIR, the lead agency's findings on the project, or elsewhere in the record. The explanation must be supported by substantial evidence.** (14 CCR Section 15164(e))

Pursuant to CEQA Guidelines Section 15164, after an EIR has been certified for a project, if some minor technical changes to the previously certified EIR are necessary, preparation of an Addendum to the EIR is appropriate.

Previous analysis of environmental impacts has been conducted for the Orange County Civic Center FSP in an Initial Study, a Draft EIR, and a certified Final EIR. As determined through a review of the adopted Orange County Civic Center FSP and the 2017 Certified EIR, the 2018 Proposed Project would not involve new significant environmental effects or a substantial increase in the severity of significant effects already identified in the 2017 Certified EIR. Given this finding, an Addendum to the existing EIR is appropriate and has been prepared.

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3. Environmental Determination

Based on the evidence in light of the whole record documented in the certified Final EIR and cited incorporations:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☒ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature — *Date* 9/4/18

COLBY CATALDI — *Printed Name* — *For*

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Attachment A.
Air Quality and Greenhouse Gas Emissions Technical Memorandum

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PLACEWORKS

DATE	September 4, 2018
TO	County of Orange
ADDRESS	1143 E. Fruit Street, Santa Ana, CA 92701
CONTACT	Scott Dessort, Section Manager, OC Public Works
FROM	Nicole Vermilion, Associate Principal, Director of Air Quality, Noise & GHG Services
SUBJECT	Air Quality and Greenhouse Gas Technical Memorandum for the 2018 County of Orange Civic Center Facilities Strategic Plan Project
PROJECT NUMBER	ORC-14.2

Introduction

This Air Quality and Greenhouse Gas (GHG) Technical Memorandum evaluates the air quality and GHG emissions impacts pursuant to the California Environmental Quality Act (CEQA) from the development and operation of the proposed modifications to the County of Orange Civic Center Facilities Strategic Plan project (FSP Project or Approved Project). In the 2017 Environmental Impact Report (EIR) (SCH No. 2016081044).

PROJECT DESCRIPTION

Since certification of the 2017 Certified EIR and approval of the 2017 Approved Project, phasing and total net new square footage has been revised. Overall, the 2018 Proposed Project would result in a reduction of 36,201 net new building square feet compared to the 2017 Approved Project. Total renovation would be reduced by 43,160 square feet, demolition would increase by 38,420 square feet, and new construction would increase by 2,219 square feet. The revised phasing is provided in Table 1.

Table 1 2018 Proposed Project Buildout by Phase

Building	Renovation	Demolition	New Construction
Phase 1 (2016–2020)			
Building 16		38,420	248,177
– Building 16 (new one-stop-shop)			4,344
Building 18 (new event/conference center)		-	6,214
H.G. Osborne	144,200		
Phase 1 Subtotal – Net New Construction			+220,315
Phase 2 (2019-2022)			
Building 10		109,180	Permanent public surface parking
Building 11		109,939	

Building 12		163,100	Permanent public surface parking
Building 14		38,240	251,020
– Building 14 (new Board meeting room)			15,000
433 W. Civic Center		8,818	
		Phase 2 Subtotal – Net New Construction	-163,257
Phase 3 (2024–2030)			
401 W Civic Center	102,000	-	-
		Phase 3 Subtotal – Net New Construction	-
Phase 4 (2030–2035)			
Building 10	-	-	160,940
Building 12	-	-	135,200
		Phase 4 Subtotal – Net New Construction	+296,140
Totals	Total Renovation 246,200	Total Demolition 467,697	Total New Construction 820,895
Change from 2017 Approved Project	-36,201	+38,420	+2,219
		Net New Building	+353,198
		Change from 2017 Approved Project	-36,201

Source: County of Orange 2018.

Air Quality

The primary air pollutants of concern for which ambient air quality standards (AAQS) have been established are ozone (O_3), carbon monoxide (CO), coarse inhalable particulate matter (PM_{10}), fine inhalable particulate matter ($PM_{2.5}$), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), and lead (Pb). Areas are classified under the federal and California Clean Air Acts as either in attainment or nonattainment for each criteria pollutant based on whether the AAQS have been achieved. The South Coast Air Basin (SoCAB), which is managed by the South Coast Air Quality Management District (SCAQMD), is designated nonattainment for O_3, and $PM_{2.5}$ under the California and National AAQS, nonattainment for PM_{10} under the California AAQS, and nonattainment for lead (Los Angeles County only) under the National AAQS (CARB 2017a).

SUMMARY OF AIR QUALITY IMPACTS ASSOCIATED WITH THE APPROVED PROJECT

Construction

The 2017 Certified EIR identified that construction of the proposed project would not exceed the regional or localized significance thresholds (LSTs) of the South Coast Air Quality Management District (SCAQMD) for each of the four construction phases or result in construction health risk impacts. Therefore, air quality impacts from project-related construction activities were less than significant and no mitigation measures were required.

Operation

The 2017 Certified EIR identified that implementation of the proposed project would increase vehicle trips, energy use and associated criteria air pollutant emissions of VOC, NO_X, CO, PM_{10}, and $PM_{2.5}$ above the SCAQMD's regional operation significance thresholds. Additionally, because criteria air pollutants would exceed the SCAQMD's significance thresholds there is a potential for the proposed project to conflict with the SCAQMD Air Quality Management Plan (AQMP). Mitigation Measures AQ-1 and AQ-2 were

incorporated into the EIR to encourage and accommodate use of alternative-fueled vehicles and nonmotorized transportation. However, despite adherence to these mitigation measures, long-term project-level and cumulative operational impacts and consistency with the AQMP were identified as a significant unavoidable impact of the project.

The 2017 Certified EIR did not identify any significant impacts related to consistency with the odors or localized operational impacts (operational LSTs, carbon monoxide).

IMPACTS ASSOCIATED WITH THE PROPOSED MODIFICATIONS

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?

Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR. The 2017 Certified EIR identified significant impacts related to consistency with the SCAQMD AQMP. Although the 2017 Approved Project would not substantially affect the regional growth projections because the land use is consistent with General Plan designations, the 2017 Approved Project would represent a substantial increase in emissions compared to existing conditions and would exceed SCAQMD's regional operational significance threshold for VOC, NO_x, CO, PM_{10}, and $PM_{2.5}$. As a result, FSP Project could potentially exceed the assumptions in the AQMP and would not be considered consistent with the AQMP.

The modifications to the 2017 Approved Project would not result in an increase in trips and associated emissions criteria air pollutant emissions. Consequently, no changes or new significant information would require major revisions of the 2017 Certified EIR.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR. The following describes project-related impacts from short-term construction activities and long-term operation of the project modifications.

Short-Term Air Quality Impact

The 2017 Certified EIR identified less than significant construction impacts. The proposed modifications would result in higher building demolition volumes in Phase 2 compared to that 2017 Approved Project as a result of shifting demolition of Building 11 from Phase 1 to Phase 2. Construction emissions for the project modifications were estimated using the California Emissions Estimator Model (CalEEMod), Version 2016.3.2.25. The construction schedule and equipment mix is based on preliminary engineering and is subject to changes during final design and as dictated by field conditions. Results of the construction emission modeling are shown in Table 2, Phase 2 Maximum Daily Construction Emissions. Emissions associated with the project modifications for Phase 2 construction are compared to those generated by 2017 Approved Project, as identified in the 2017 Certified EIR. As shown in the table, air pollutant emissions from construction-related activities of the modifications to Phase 2 construction would not exceed their respective SCAQMD regional significance threshold values and would not be substantially greater than those identified for the 2017 Approved Project. No changes or new significant information would require major revisions to the 2017 Certified EIR.

Table 2 Phase 2 Maximum Regional Construction Emissions

Source	Criteria Air Pollutants (lbs/day)					
	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Approved Project[1]						
Maximum Daily Phase 1	30	72	48	<1	8	3
Maximum Daily Phase 2	23	73	57	<1	6	3
Maximum Daily Phase 3	7	8	10	<1	3	1
Maximum Daily Phase 4	7	14	37	<1	3	1
Maximum Daily Emissions	30	72	57	<1	8	3
SCAQMD Regional Threshold	75	100	550	150	150	55
Exceeds Threshold?	No	No	No	No	No	No
Phase 2 Modified Project[2]						
2020 Building Demolition and Haul	1	20	9	<1	5	1
2020 Asphalt Demolition and Haul	1	13	9	<1	2	1
2020 Site Preparation and Haul	2	47	15	<1	3	1
2020 Rough Grading and Haul	4	83	35	<1	6	2
2020 Utility Trenching + Rough Grading Haul	2	66	21	<1	5	2
2020 Utility Trenching + Fine Grading + Haul	3	61	24	<1	5	2
2020 Building Construction	3	30	25	<1	4	2
2021 Building Construction	3	27	24	<1	3	2
2022 Building Construction	3	25	23	<1	3	2
2022 Building + Coating	22	27	26	<1	4	2
2022 Building + Coating + Paving	23	32	33	<1	4	2
2022 Building + Landscape + Coating	23	32	31	<1	4	2
Maximum Daily Emissions	23	83	35	<1	6	2
SCAQMD Regional Threshold	75	100	550	150	150	55
Exceeds Threshold?	No	No	No	No	No	No
Change from the Approved Project						
Maximum Daily Emissions	<1	10	-22	<-1	-1	-1
SCAQMD Regional Threshold	75	100	550	150	150	55
Exceeds Threshold?	No	No	No	No	No	No

Source:
1 Orange, County 2017
2 CalEEMod 2016.3.2.2.25

Long-Term Operation-Related Air Quality Impact

The 2017 Certified EIR identified that long-term operational emissions would exceed the SCAQMD regional significance thresholds. Mitigation Measures AQ-1 and AQ-2 were incorporated into the EIR to encourage and accommodate use of alternative-fueled vehicles and nonmotorized transportation. However, despite adherence to these mitigation measures, long-term project-level and cumulative operational impacts and consistency with the AQMP were identified as a significant unavoidable impact of the project. The modifications to the proposed project would not affect the operational assumptions identified in the 2017 Certified EIR. Based on the updated 10th Edition of the Institute of Transportation Engineer's (ITE) Trip

Generation Manual, the proposed project would generate less trips than identified in the 2017 Certified EIR (IBI 2018). No impact would occur and no changes or new significant information would require major revisions to the 2017 Certified EIR.

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

No Impact. The SoCAB is designated nonattainment for O_3 and $PM_{2.5}$ under the California and National AAQS, nonattainment for PM_{10} under the California AAQS, and nonattainment for lead under the National AAQS (CARB 2017a). According to SCAQMD methodology, any project that does not exceed or can be mitigated to less than the daily threshold values would not add significantly to a cumulative impact (SCAQMD 1993).

The 2017 Certified EIR identified cumulative long-term air quality impacts and less then significant short-term construction impacts. The 2017 Approved Project would exceed SCAQMD's significance thresholds during the long-term operation phase, and would, therefore, cumulatively contribute to the nonattainment designations of the SoCAB. Based on the updated 10th Edition of the Institute of Transportation Engineer's (ITE) Trip Generation Manual, the proposed project would generate less trips than identified in the 2017 Certified EIR (IBI 2018). No changes or new significant information would require major revisions to the 2016 Certified EIR.

d) Expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR. The 2017 Certified EIR identified less than significant localized operational and construction impacts. The proposed modifications would result in higher building demolition volumes in Phase 2 compared to the 2017 Approved Project as a result of shifting demolition of Building 11 from Phase 1 to Phase 2. The following describes changes in localized impacts from short-term Phase 2 construction activities compared to the 2017 Approved Project.

CONSTRUCTION LOCALIZED SIGNIFICANCE IMPACTS

Localized significance thresholds (LSTs) are based on the California AAQS, which are the most stringent AAQS that have been established to provide a margin of safety in the protection of public health and welfare. They are designated to protect sensitive receptors most susceptible to further respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and people engaged in strenuous work or exercise. Construction LSTs are based on the size of the project site, distance to the nearest sensitive receptor, and Source Receptor Area. The nearby sensitive receptors to the project site are the residential land uses north of Building 14 along North Ross Street.

Air pollutant emissions generated by construction activities are anticipated to cause increases in air pollutant concentrations. Table 3, *Phase 2 Localized Construction Emissions,* shows the maximum daily construction emissions (pounds per day) onsite compared with the SCAQMD's LSTs for the modified Phase 2 construction activities. As shown in the table, construction activities would not exceed the LSTs. Therefore, localized impacts would be less than significant. No impact would occur and no changes or new significant information would require major revisions to the 2017 Certified EIR.

Table 3 Phase 2 Localized Construction Emissions

Source	Pollutants (pounds per day)[1, 2]			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Phase 2[3]				
2020 Building Demolition and Haul	5	5	3.42	0.75
2020 Asphalt Demolition and Haul	9	7	1.33	0.51
2020 Site Preparation and Haul	10	5	0.44	0.38
2020 Rough Grading and Haul	21	17	0.99	0.87
2020 Utility Trenching + Rough Grading Haul	3	3	0.29	0.22
2020 Utility Trenching + Fine Grading + Haul	12	10	0.98	0.72
2020 Building Construction	22	17	1.47	1.36
2021 Building Construction	20	17	1.28	1.18
2022 Building Construction	18	17	1.08	0.99
2022 Building + Coating	20	19	1.22	1.12
2022 Building + Coating + Paving	25	26	1.49	1.37
2022 Building + Landscape + Coating	25	24	1.55	1.43
SCAQMD ≤1.00-acre LST	81	485	14.92	4.91
Exceeds LST?	No	No	No	No

Source: CalEEMod 2013.2.2.25; SCAQMD 2008a & 2011.
Note: In accordance with SCAQMD methodology, only onsite stationary sources and mobile equipment are included in the analysis.
[1] Based on the preliminary information provided by the County. Where specific, project-related information was not available, construction assumptions were based on past similar projects or CalEEMod defaults, which are based on construction surveys conducted by SCAQMD of construction equipment and phasing for comparable projects.
[2] Includes implementation of fugitive dust control measures required by SCAQMD under Rule 403, including watering disturbed areas a minimum of two times per day, reducing speed limit to 15 miles per hour on unpaved surfaces, replacing ground cover quickly, and street sweeping with Rule 1186–compliant sweepers. Per the County, modeling also assumes a VOC content of 100 grams per liter for exterior paints and 100 VOC content interior paints.
[3] LSTs are based on sensitive receptors within 194 feet (59 meters) and nonsensitive receptors within 82 feet (25 meters).

e) Create objectionable odors affecting a substantial number of people?

No Impact. The 2017 Certified EIR identified that future government office uses are not expected to create objectionable odors. The changes to the project would not change the proposed land uses. No impacts related to odors would occur. No changes or new significant information would require revisions to the 2017 Certified EIR.

MITIGATION MEASURES FROM THE 2017 CERTIFIED EIR

The following project design features and mitigation measures were taken directly from the 2017 Certified EIR.

Project Design Features

PDF AQ-1 Prior to issuance of building permits for new buildings in the FSP area, the County shall indicate on the building plans that the following features have been incorporated into the design of the buildings.

- Short-term bicycle parking shall be provided as specified in Section 5.106.4.1.1 (Nonresidential Mandatory Measures) of the California Green Building Code (CALGreen).
- Long-term bicycle parking shall be provided as specified in Section 5.106.4.1.2 (Nonresidential Mandatory Measures) of CALGreen.

Mitigation Measures

AQ-1 Prior to issuance of building permits for new buildings in Phase 2 and later (Buildings 10, 12, and 14) in the FSP Project, the County shall indicate on the building plans that the following features have been incorporated into the design of the buildings. Implementation of these building efficiency measures correspond with later phases of the FSP Project when employee growth would occur and physical construction of the OC Streetcar is anticipated (Year 2020).

- For buildings in Phase 2 and later with more than 10 tenant-occupants, changing/shower facilities shall be provided as specified in Section A5.106.4.3 (Nonresidential Voluntary Measures) of the California Green Building Code (CALGreen).
- Preferential parking for low-emitting, fuel-efficient, and carpool/van vehicles shall be provided as specified in Section A5.106.5.1 (Nonresidential Voluntary Measures) of CALGreen.
- Facilities shall be installed to support future Tier 1 or Tier 2 electric vehicle charging at each government building. Installation shall be consistent with Section A5.106.5.3 (Nonresidential Voluntary Measures) of CALGreen.

AQ-2 Prior to occupancy of Phase 1, as part of the employee commute reduction program, the County shall identify programs to provide the last-mile connections for employees to and from the Santa Ana Regional Transportation Center (e.g., transit passes, bicycle sharing, car sharing programs, guaranteed ride home/service-based trips).

GREENHOUSE GAS EMISSIONS

Scientists have concluded that human activities are contributing to global climate change by adding large amounts of heat-trapping gases, known as greenhouse gases (GHGs), into the atmosphere. The primary source of these GHG is fossil fuel use. The Intergovernmental Panel on Climate Change (IPCC) has identified four major GHGs—water vapor, carbon dioxide (CO_2), methane (CH_4), and ozone (O_3)—that are the likely cause of an increase in global average temperatures observed within the 20th and 21st centuries. Other GHG identified by the IPCC that contribute to global warming to a lesser extent include nitrous oxide (N_2O), sulfur hexafluoride (SF_6), hydro fluorocarbons, per fluorocarbons, and chlorofluorocarbons.[1, 2]

[1] Water vapor (H_2O) is the strongest GHG and the most variable in its phases (vapor, cloud droplets, ice crystals). However, water vapor is not considered a pollutant, but part of the feedback loop rather than a primary cause of change.

This section analyzes the Development Site's contribution to global climate change impacts in California through an analysis of project-related GHG emissions. Information on manufacture of cement, steel, and other "life cycle" emissions that would occur as a result of the Development Site are not applicable and are not included in this analysis.[3] Black carbon emissions are not included in the GHG analysis because the California Air Resources Board (CARB) does not include this pollutant in the state's Assembly Bill 32 (AB 32) and Senate Bill 32 (SB 32) inventory and treats this short-lived climate pollutant separately.[4]

SUMMARY OF GHG EMISSIONS IMPACTS ASSOCIATED WITH THE APPROVED PROJECT

The 2017 Certified EIR concluded that the 2017 Approved Project would result in a significant unavoidable increase in GHG emissions. However, the 2017 Approved Project would not conflict with plans adopted for the purpose of reducing GHG emissions.

IMPACTS ASSOCIATED WITH THE DEVELOPMENT SITE

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) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR. The 2017 Certified EIR concluded that the 2017 Approved Project would result in an increase in GHG emissions per service population. Implementation of Mitigation Measures AQ-1 and AQ-2 would reduce project-related GHG emissions to the extent feasible; however, these measures would not substantially reduce project-related mobile source GHG emissions (which comprise approximately 85 percent of the project's total GHG emissions) to achieve the 2.2 MTCO2e/SP efficiency metric. Mobile source emissions are regulated by state and federal emissions and fuel use standards and are outside of the control of the County. According to the County, the proposed project would be built to LEED-Silver standard and would exceed the 2016 Building and Energy Efficiency Standards by 25 percent.

[2] Black carbon contributes to climate change both directly, by absorbing sunlight, and indirectly, by depositing on snow (making it melt faster) and by interacting with clouds and affecting cloud formation. Black carbon is the most strongly light-absorbing component of PM emitted from burning fuels. Reducing black carbon emissions globally can have immediate economic, climate, and public health benefits. California has been an international leader in reducing emissions of black carbon, with close to 95 percent control expected by 2020 due to existing programs that target reducing PM from diesel engines and burning activities (CARB 2014). However, state and national GHG inventories do not yet include black carbon due to ongoing work resolving the precise global warming potential of black carbon. Guidance for CEQA documents does not yet include black carbon.

[3] Life cycle emissions include indirect emissions associated with materials manufacture. However, these indirect emissions involve numerous parties, each of which is responsible for GHG emissions of their particular activity. The California Resources Agency, in adopting the CEQA Guidelines Amendments on GHG emissions found that lifecycle analyses was not warranted for project-specific CEQA analysis in most situations, for a variety of reasons, including lack of control over some sources, and the possibility of double-counting emissions (see Final Statement of Reasons for Regulatory Action, December 2009). Because the amount of materials consumed during the operation or construction of the Development Site is not known, the origin of the raw materials purchased is not known, and manufacturing information for those raw materials are also not known, calculation of life cycle emissions would be speculative. A life-cycle analysis is not warranted (OPR 2008).

[4] Particulate matter emissions, which include black carbon, are analyzed in *Air Quality*. Black carbon emissions have sharply declined due to efforts to reduce on-road and off-road vehicle emissions, especially diesel particulate matter. The state's existing air quality policies will virtually eliminate black carbon emissions from on-road diesel engines within 10 years (CARB 2017c).

Over 85 percent of the GHG emissions from the proposed project are from transportation sources. Therefore, reducing GHG emissions from the transportation sector is the only way to substantially reduce emissions impacts. The County of Orange Human Resources Services established the OC Rideshare Program, which provides incentives for County of Orange and Superior Court employees. The incentives include: one-time one-day or one-week free ticket or pass on a public transit mode (train, rail, or buss); monetary incentive for leasing a vanpool vehicle to commute; monetary incentive for leasing or purchasing an electric vehicle (EV or PHEV); and monetary incentive for registering for the OC Rideshare Program for the first time and tracking 20 rideshare event dates. The County also implemented the Employee Commute Reduction Program (ECRP) under SCAQMD Rule 2202. The program provides employees with a menu of emission reduction strategies that can be implemented to meet the designated emission reduction target for the worksite. The ECRP is intended to reduce VMT and increase the average vehicle ridership of work related trips. In addition, the cities of Santa Ana and Garden Grove developed the OC Streetcar Fixed Guideway Project that will serve the historic downtown Santa Ana and Civic Center. Expected to begin operations in 2020, the OC Streetcar would complement services provided at the Santa Ana Regional Transportation Station and provide passengers a way to get to their final destination. OCTA and Santa Ana also have planned Class II bicycle facilities on Civic Center Drive and Santa Ana Boulevard, an existing bike hut, and proposed bike racks at the Civic Center. Furthermore, to discourage car use, visitors of the Civic Center are required to pay for parking.

In addition, potential VMT reductions are incorporated based on the proposed project's Travel Demand TDM measures. The applicable TDM measures from the 2010 Quantifying Greenhouse Gas Mitigation Measures from CAPCOA include:

» Commute Trip Reduction Program (Voluntary)
» Provide Ride Sharing Programs
» Implement Subsidized or Discounted Transit Program
» Provide End of Trip Facilities
» Provide Employer-Sponsored Vanpool/Shuttle
» Locate Project near Bike Path/Bike Lane

No additional mitigation measures are available that are feasible for the County to implement and enforce, have a proportional nexus to the project's impact, and would substantially reduce the project's GHG emissions to achieve the 2.2 $MTCO_2e$/SP threshold in year 2035. Until CARB updates the Scoping Plan in response to Executive Order B-30-15 and Senate Bill 32, there is no statewide GHG reduction plan for post-2020 targets. Therefore, project-related GHG emissions would continue to exceed SCAQMD's bright-line and efficiency thresholds, and impacts would be significant and unavoidable.

The 2018 Proposed Project would reduce impacts related to greenhouse gas emissions because the proposed project would generate less trips than identified in the 2017 Certified EIR (IBI 2018). No impact would occur and no changes or new significant information would require major revisions to the 2017 Certified EIR.

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR. The 2017 Certified EIR concluded that the Approved Project would not conflict with plans adopted for the purpose of reducing GHG emissions. Applicable plans include CARB's Scoping Plan and SCAG's Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). Since the 2017 Certified EIR was adopted, CARB has

adopted the 2017 Scoping Plan Update to address additional GHG reductions to achieve the new 2030 target under Senate Bill 32 (SB 32). The proposed modifications would not be affected by the new 2030 targets. GHG emissions would be reduced due to the reduction in project trips. Additionally, since adoption of the new California Building Code, new buildings constructed after 2020 will be more energy efficient. Consequently, like the 2017 Approved Project, the modifications to the project would not conflict with plans adopted for the purpose of reducing GHG emissions. No changes or new significant information would require major revisions of the 2017 Certified EIR.

MITIGATION MEASURES FROM THE 2017 CERTIFIED EIR

The following project design features and mitigation measures were taken directly from the 2017 Certified EIR.

Project Design Features

PDF AQ-1 Prior to issuance of building permits for new buildings in the FSP area, the County shall indicate on the building plans that the following features have been incorporated into the design of the buildings.

- Short-term bicycle parking shall be provided as specified in Section 5.106.4.1.1 (Nonresidential Mandatory Measures) of the California Green Building Code (CALGreen).
- Long-term bicycle parking shall be provided as specified in Section 5.106.4.1.2 (Nonresidential Mandatory Measures) of CALGreen.

Mitigation Measures

AQ-1 Prior to issuance of building permits for new buildings in Phase 2 and later (Buildings 10, 12, and 14) in the FSP Project, the County shall indicate on the building plans that the following features have been incorporated into the design of the buildings. Implementation of these building efficiency measures correspond with later phases of the FSP Project when employee growth would occur and physical construction of the OC Streetcar is anticipated (Year 2020).

- For buildings in Phase 2 and later with more than 10 tenant-occupants, changing/shower facilities shall be provided as specified in Section A5.106.4.3 (Nonresidential Voluntary Measures) of the California Green Building Code (CALGreen).
- Preferential parking for low-emitting, fuel-efficient, and carpool/van vehicles shall be provided as specified in Section A5.106.5.1 (Nonresidential Voluntary Measures) of CALGreen.
- Facilities shall be installed to support future Tier 1 or Tier 2 electric vehicle charging at each government building. Installation shall be consistent with Section A5.106.5.3 (Nonresidential Voluntary Measures) of CALGreen.

AQ-2 Prior to occupancy of Phase 1, as part of the employee commute reduction program, the County shall identify programs to provide the last-mile connections for employees to and from the Santa Ana Regional Transportation Center (e.g., transit passes, bicycle sharing, car sharing programs, guaranteed ride home/service-based trips).

Bibliography

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Appendix A – Modeling Assumptions and Emissions Summary

CalEEMod Project Characteristics Inputs - Modified Project Construction (Phase 2)

Project Address:	"superblock" bounded by Ross St, Civic Center Dr, Broadway, and Santa Ana Blvd.	
Project Location:	Orange County	
Climate Zone:	8	
Land Use Setting:	Urban	
Operational Year:	2027	Modeled as 2025
Utility Company:	Southern California Edison	
Air Basin:	South Coast Air Basin	
Air District:	SCAQMD	
SRA:	17	

Components

	SQFT	Acre	
Building 14 (6-Story Above Ground)	266,020	1.02	
Building 14 (2-Levels Subeterraen Parking)	80,000	0.00	
Osborne Building	43,160	0.00	(renovation only)
Landscaping	12,424	0.29	
Hardscape	70,403	1.62	
Temporary Surface Parking (Existing Building 10)	21,836	0.50	
Temporary Surface Parking (Existing Building 12)	40,775	0.94	
Temporary Surface Parking (Existing 433 W Civic Center Building)	4,409	0.10	
		4.46	

CalEEMod Land Use Inputs

Land Use	Land Use Type	Land Use Subtype	Unit Amount	Size Metric	Lot Acreage	Square Feet
Building 14 (above ground) + Osborne Building	Commercial	Government (Civic Center)	309.18	1000sqft	1.02	309,180
Building 14 (2-Levels Subeterraen Parking)	Parking	Enclosed Parking with Elevator	80.00	1000sqft	0.00	80,000
Temporary Surface Parking	Parking	Parking Lot	1.54	acres	1.54	67,020
Landscaping & Hardscape	Parking	Other Non-Asphalt Surfaces	1.90	acres	1.90	0
					4.46	

Building Demolition

Total Building SQFT to be demolished: 429,277 BSF (Existing Building 14, 12, 11, 10, 433 W Civic Center)

Construction Activity	Demolition Volume (BSF)	Haul Truck Capacity (CY)	Haul Distance (miles)*	Total Trip Ends	Total Days	Trip Ends/Day
Building Demo Debris Haul	429,277	16	35	1,953	58	34

**Provided by the Applicant.*

Asphalt Demolition

Construction Activity	Demolition Volume (tons)	Haul Truck Capacity (tons)*	Haul Distance (miles)*	Total Trip Ends	Total Days	Trip Ends/Day
Asphalt Demo Debris Haul	512	25	35	41	5	9
					0	

**Provided by the Applicant.*

Soil Hauling

Construction Activity	Import Volume (CY)	Export Volume (CY)		Distance (miles)*	Total Trip Ends	Total Days	Trip Ends/Day
Site Preparation Soil Haul	0	4,965	16	35	621	7	89
Rough Grading Soil Haul	0	38,350	16	35	4,794	32	150
Fine Grading Soil Haul	1,241	2,482	16	35	466	4	117

**Provided by the Applicant.*

Architectural Coating

Non-Residential Architectural Coating

Percentage of Buildings' Interior Painted: 100%

Percentage of Buildings' Exterior Painted: 100%

SCAQMD Rule 1113

Interior Paint VOC content: 100 grams per liter

Exterior Paint VOC content: 100 grams per liter

Construction - Unmitigated Run

SCAQMD Rule 403

Replace Ground Cover	PM10:	5	% Reduction
	PM25:	5	% Reduction
Water Exposed Area	Frequency:	2	per day
	PM10:	55	% Reduction
	PM25:	55	% Reduction
Unpaved Roads	Vehicle Speed:	15	mph

SCAQMD Rule 1186

Clean Paved Road	9	% PM Reduction

Demo Haul Trip Calculation

*Conversion factors**

0.046	ton/SF	<<---CalEEMod Appendix A
1.2641662	tons/cy	<<---CalEEMod Appendix A
20	tons	<<---CalEEMod User's Guide
15.820705	CY	
0.7910352	CY/ton	

Building Demoltion Haul Trips (BSF and Haul Truck (CY) given)

BSF Demo	Tons/SF	Tons	Haul Truck (CY)	Haul Truck (Ton)	Round Trips	Total Trip Ends
429,277	0.046	19746.742	16	20.23	976	1953

Pavement Volume to Weight Conversion

Component	Total SF of Area[1]	Assumed Thickness (foot)[2]	Debris Volume (cu. ft)	Weight of Crushed Asphalt (lbs/cf)[3]	AC Mass (lbs)	AC Mass (tons)
Phase 2 Asphalt	60,704	0.375	22,764	45	1,024,380	512.19

[1] *Based on aerial photo measurements.*

[2] *Pavements and Surface Materials. Nonpoint Education for Municipal Officials, Technical Paper Number 8. University of Conneticut Cooperative Extension System, 1999.*

[3] *http://www.reade.com/reade-resources/reference-educational/reade-reference-chart-particle-property-briefings/26-weight-per-cubic-foot-and-specific-gravity-metals-minerals-organics-inorganics-ceraqmics*

CalEEMod Construction Phase Inputs
5-Day Work Week/8 hours per day

Phase 2 Construction Schedule**

Phase Name	Phase Type	Start Date	End Date	CalEEMod Total Days	Total Days
Building Demolition	Demolition	1/1/2020	3/20/2020	58	79
Building Demo Debris Haul	Demolition	1/1/2020	3/20/2020	58	79
Asphalt Demolition	Demolition	3/21/2020	3/27/2020	5	6
Asphalt Demo Debris Haul	Demolition	3/22/2020	3/27/2020	5	5
Site Preparation	Site Preparation	3/28/2020	4/7/2020	7	10
Site Preparation Soil Haul	Site Preparation	3/28/2020	4/7/2020	7	10
Rough Grading	Grading	4/8/2020	4/20/2020	9	12
Rough Grading Soil Haul	Grading	4/20/2020	6/2/2020	32	43
Utility Trenching	Trenching	5/27/2020	6/11/2020	12	15
Fine Grading	Grading	6/10/2020	6/16/2020	5	6
Fine Grading Soil Haul	Grading	6/11/2020	6/16/2020	4	5
Building Construction	Building Construction	11/14/2020	8/16/2022	457	640
Architectural Coating	Architectural Coating	1/12/2022	8/16/2022	155	216
Asphalt Paving	Paving	5/4/2022	5/18/2022	11	14
Finishing/Landscaping	Paving	7/21/2022	8/15/2022	18	25

CalEEMod Construction Off-Road Equipment Inputs**

Equipment Type	CalEEMod Equipment Type	Unit Amount	Hours/Day	HP	LF	Vendor Trips
Building Demolition* **						
Concrete/Industrial Saws	Concrete/Industrial Saws	1	8	10	0.73	
Rubber Tired Dozers	Rubber Tired Dozers	1	1	357	0.4	
Tractors/Loaders/Backhoes	Tractors/Loaders/Backhoes	2	6	108	0.37	
Water Truck*						4
Asphalt Demolition						
335 Excavator	Excavators	1	8	162	0.3819	
973 Track Loader	Tractors/Loaders/Backhoes	1	8	97	0.37	
950 Rubber Tire Loader	Rubber Tired Loaders	1	8	199	0.3618	
Water Truck*						4
Site Preparation						
Low Drill	Bore/Drill Rigs	1	8	205	0.5025	
Forklift	Forklifts	1	8	89	0.201	
Crane 40 ton	Cranes	1	8	226	0.2881	
Water Truck*						4
Rough Grading						
Excavator	Excavators	2	8	162	0.3819	
Rubber Tire Loader	Rubber Tired Loaders	1	8	199	0.3618	
Forklift	Forklifts	1	8	89	0.201	
Small Compactor	Rollers	2	8	80	0.3752	
Down Hole Hammer Drill	Bore/Drill Rigs	2	8	205	0.5025	
Water Truck*						4
Utility Trenching						
Backhoe	Tractors/Loaders/Backhoes	1	8	97	0.37	
Forklift	Forklifts	1	8	89	0.201	
Water Truck*						4
Fine Grading						
Skip Loader	Tractors/Loaders/Backhoes	1	8	97	0.37	
Blade	Graders	1	8	174	0.4087	
Water Truck*						4
Building Construction						
300 Ton Conv Crane	Cranes	1	8	226	0.2881	
Forklift	Forklifts	1	8	89	0.201	
Boom Lifts	Forklifts	5	8	89	0.201	
Manlift	Forklifts	1	8	89	0.201	
Lifts	Forklifts	6	8	89	0.201	
Asphalt Paving						
Skip Loader	Tractors/Loaders/Backhoes	1	8	97	0.37	
Roller	Rollers	1	8	80	0.3752	
Paving Equipment	Paving Equipment	1	8	130	0.3551	
Architectural Coating						0
Lift	Forklifts	1	8	89	0.201	
Boom Lifts	Forklifts	1	8	89	0.201	
Finishing/Landscaping						
Backhoe	Tractors/Loaders/Backhoes	1		97	0.37	
Trencher	Trenchers	1	8	80	0.5025	

*Emissions accounted for in the vendor trips assigned.
**Based on construction information approved by the Applicant.
***Based on building demolition for Civic Center Building 16 Demolition.

	Building Demo	Renovation	New Construction	Surface Demo	New Surfaces	Acreage Disturbed	
FSP Site Acreage						10.74	
Phase 1							
Asphalt to be Demolished and turn into temporary surface parking (at Existing B#11)				91,520	91,520	2.10	
New B#16 (6 stories above ground)			252,521			0.97	area overlap
New B#16 (2 stories below ground)			80,000			0.00	area overlap
New B#18 County Ancillary Building			6,214			0.14	
Renovate Portion of Osborne Building Interior		144,200				0.00	
Hardscape					60,584	1.39	
Landscape					10,691	0.25	
Total Acreage Disturbed Phase 1						5.48	
Phase 2	429,277	43,160	346,020	60,704	149,847	10	
Demolish Existing B#10 (5 stories) and turn into perminant surface parking	109,180				21,836	0.50	
Demolish Existing B#11 (4 stories) and turn into perminant surface parking	109,939					0.63	
Demolish Existing B#12 (4 stories) and turn into perminant surface parking	163,100				40,775	0.94	
Demolish Existing B#14	38,240					0.00	area overlap
Demolish Existing 433 W Civic Center Building (2 stories) and turn into surface parking	8,818				4,409	0.10	
Asphalt to be Demolished (at Existing B#14)				60,704		0.00	area overlap
New B#14 (6 stories above ground)			266,020			1.02	area overlap
New B#14 (2 stories below ground)			80,000			0.00	area overlap
Renovate Portion of Osborne Building Interior		43,160				0.00	not included in modeling since interior
Hardscape					70,403	1.62	
Landscape					12,424	0.29	
Total Acreage Disturbed Phase 2						4.46	
Phase 3							
Renovate 401 W. Civic Center Building		102,000				0.00	
Asphalt to be Demolished				37,750		0.00	
Hardscape					66,534	1.53	
Landscape					11,741	0.27	
Total Acreage Disturbed Phase 3						1.80	
Phase 4							
New B#12 (4+2 stories above ground)			135,200			0.52	area overlap
New B#12 (2 stories below ground)			80,000			0.00	area overlap
New B#10 (6 stories above ground)			160,940			0.62	area overlap
New B#10 (2 stories below ground)			80,000			0.00	area overlap
Asphalt to be Demolished (at B#12 & B#10)				21,180		0.00	area overlap
Hardscape					35,238	0.81	
Landscape					6,219	0.14	
Total Acreage Disturbed Phase 4						2.08	

Appendix B – Phase 2 Construction CalEEMod Outputs

LST Construction - Revised P2

3.2 Building Demolition - 2020
Mitigated Construction On-Site

Category	lb/day	NOx	CO	PM10 Total	PM2.5 Total
Off-Road		5	5	0.30	0.28
Total		5	5	0.30	0.28

3.3 Building Demo Debris Haul - 2020
Mitigated Construction On-Site

Category	lb/day	NOx	CO	PM10 Total	PM2.5 Total
Fugitive Dust				3.11	0.47
Off-Road		0	0	0.00	0.00
Total		0	0	3.11	0.47
BUILD DEMO + HAUL		5	5	3.42	0.75
1-Acre LST		81	485	14.92	4.91
Exceeds		no	no	no	no

3.4 Asphalt Demolition - 2020
Mitigated Construction On-Site

Category	lb/day	NOx	CO	PM10 Total	PM2.5 Total
Off-Road		9	7	0.40	0.36
Total		9	7	0.40	0.36

3.5 Asphalt Demo Debris Haul - 2020
Mitigated Construction On-Site

Category	lb/day	NOx	CO	PM10 Total	PM2.5 Total
Fugitive Dust				0.94	0.14
Off-Road		0	0	0.00	0.00
Total		0	0	0.94	0.14

PAV DEMO + HAUL	9	7	1.33	0.51
1-Acre LST	81	485	14.92	4.91
Exceeds	no	no	no	no

3.6 Site Preparation - 2020
Mitigated Construction On-Site

		NOx	CO	PM10 Total	PM2.5 Total
Category	lb/day				
Fugitive Dust				0.00	0.00
Off-Road		10	5	0.41	0.38
Total		10	5	0.41	0.38

3.7 Site Preparation Soil Haul - 2020
Mitigated Construction On-Site

		NOx	CO	PM10 Total	PM2.5 Total
Category	lb/day				
Fugitive Dust				0.03	0.01
Off-Road		0	0	0.00	0.00
Total		0	0	0.03	0.01

SITE PREP + HAUL	10	5	0.44	0.38
1-Acre LST	81	485	14.92	4.91
Exceeds	no	no	no	no

3.8 Rough Grading - 2020
Mitigated Construction On-Site

		NOx	CO	PM10 Total	PM2.5 Total
Category	lb/day				
Fugitive Dust				0.00	0.00
Off-Road		21	17	0.93	0.86
Total		21	17	0.93	0.86

3.9 Rough Grading Soil Haul - 2020
Mitigated Construction On-Site

		NOx	CO	PM10 Total	PM2.5 Total
Category	lb/day				

Fugitive Dust			0.06	0.01
Off-Road	0	0	0.00	0.00
Total	0	0	0.06	0.01
GRADE + HAUL	21	17	0.99	0.87
1-Acre LST	81	485	14.92	4.91
Exceeds	no	no	no	no

3.10 Utility Trenching - 2020
Mitigated Construction On-Site

	NOx	CO	PM10 Total	PM2.5 Total
Category lb/day				
Off-Road	3	3	0.23	0.21
Total	3	3	0.23	0.21
HAUL + TRENCH	3	3	0.29	0.22
1-Acre LST	81	485	14.92	4.91
Exceeds	no	no	no	no

3.11 Fine Grading - 2020
Mitigated Construction On-Site

	NOx	CO	PM10 Total	PM2.5 Total
Category lb/day				
Fugitive Dust			0.23	0.02
Off-Road	9	7	0.52	0.48
Total	9	7	0.75	0.50
TRENCH + GRADE	12	10	0.98	0.72
1-Acre LST	81	485	14.92	4.91
Exceeds	no	no	no	no

3.12 Fine Grading Soil Haul - 2020
Mitigated Construction On-Site

	NOx	CO	PM10 Total	PM2.5 Total
Category lb/day				
Fugitive Dust			0.05	0.01
Off-Road	0	0	0.00	0.00
Total	0	0	0.05	0.01
GRAD + HAUL + TRENCH	12	10	1.02	0.72
1-Acre LST	81	485	14.92	4.91
Exceeds	no	no	no	no

3.13 Building Construction - 2020
Mitigated Construction On-Site

Category	lb/day	NOx	CO	PM10 Total	PM2.5 Total
Off-Road		22	17	1.47	1.36
Total		22	17	1.47	1.36
1-Acre LST		81	485	14.92	4.91
Exceeds		no	no	no	no

3.13 Building Construction - 2021
Mitigated Construction On-Site

Category	lb/day	NOx	CO	PM10 Total	PM2.5 Total
Off-Road		20	17	1.28	1.18
Total		20	17	1.28	1.18
1-Acre LST		81	485	14.92	4.91
Exceeds		no	no	no	no

3.13 Building Construction - 2022
Mitigated Construction On-Site

Category	lb/day	NOx	CO	PM10 Total	PM2.5 Total
Off-Road		18	17	1.08	0.99
Total		18	17	1.08	0.99

3.14 Architectural Coating - 2022
Mitigated Construction On-Site

Category	lb/day	NOx	CO	PM10 Total	PM2.5 Total
Archit. Coating				0.00	0.00
Off-Road		2	2	0.14	0.13
Total		2	2	0.14	0.13
Building + Coatings		20	19	1.22	1.12
1-Acre LST		81	485	14.92	4.91
Exceeds		no	no	no	no

3.15 Asphalt Paving - 2022
Mitigated Construction On-Site

Category	lb/day	NOx	CO	PM10 Total	PM2.5 Total
Off-Road		5	7	0.27	0.25
Paving				0.00	0.00
Total		5	7	0.27	0.25
COAT + PAVE + BUILD		25	26	1.49	1.37
1-Acre LST		81	485	14.92	4.91
Exceeds		no	no	no	no

3.16 Finishing/Landscaping - 2022
Mitigated Construction On-Site

Category	lb/day	NOx	CO	PM10 Total	PM2.5 Total
Off-Road		5	5	0.34	0.31
Paving				0.00	0.00
Total		5	5	0.34	0.31
LAND + COAT + BUILD		25	24	1.55	1.43
1-Acre LST		81	485	14.92	4.91
Exceeds		no	no	no	no

Regional Construction - Revised P2

3.2 Building Demolition - 2020
Mitigated Construction On-Site

Category	lb/day	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Off-Road		1	5	5	0	0	0
Hauling		0	0	0	0	0	0
Vendor		0	0	0	0	0	0
Worker		0	0	0	0	0	0
Total		1	6	6	0	0	0

3.3 Building Demo Debris Haul - 2020
Mitigated Construction On-Site

Category	lb/day	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Fugitive Dust						3	0
Off-Road		0	0	0	0	0	0
Hauling		0	14	4	0	1	0
Vendor		0	0	0	0	0	0
Worker		0	0	0	0	0	0
Total		0	14	4	0	4	1
BUILD DEMO + HAUL		1	20	9	0	5	1

3.4 Asphalt Demolition - 2020
Mitigated Construction On-Site

Category	lb/day	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Off-Road		1	9	7	0	0	0
Hauling		0	0	0	0	0	0
Vendor		0	0	0	0	0	0
Worker		0	0	0	0	0	0
Total		1	9	8	0	1	0

3.5 Asphalt Demo Debris Haul - 2020

Mitigated Construction On-Site

Category	lb/day	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Fugitive Dust						1	0
Off-Road		0	0	0	0	0	0
Hauling		0	3	1	0	0	0
Vendor		0	0	0	0	0	0
Worker		0	0	0	0	0	0
Total		0	3	1	0	1	0
PAV DEMO + HAUL		1	13	9	0	2	1

3.6 Site Preparation - 2020
Mitigated Construction On-Site

Category	lb/day	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Fugitive Dust						0	0
Off-Road		1	10	5	0	0	0
Hauling		0	0	0	0	0	0
Vendor		0	0	0	0	0	0
Worker		0	0	0	0	0	0
Total		1	10	6	0	1	0

3.7 Site Preparation Soil Haul - 2020
Mitigated Construction On-Site

Category	lb/day	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Fugitive Dust						0	0
Off-Road		0	0	0	0	0	0
Hauling		1	37	10	0	3	1
Vendor		0	0	0	0	0	0
Worker		0	0	0	0	0	0
Total		1	37	10	0	3	1
SITE PREP + HAUL		2	47	15	0	3	1

3.8 Rough Grading - 2020

Mitigated Construction On-Site

Category	lb/day	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Fugitive Dust						0	0
Off-Road		2	21	17	0	1	1
Hauling		0	0	0	0	0	0
Vendor		0	0	0	0	0	0
Worker		0	0	1	0	0	0
Total		2	22	18	0	1	1

3.9 Rough Grading Soil Haul - 2020
Mitigated Construction On-Site

Category	lb/day	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Fugitive Dust						0	0
Off-Road		0	0	0	0	0	0
Hauling		2	62	17	0	4	1
Vendor		0	0	0	0	0	0
Worker		0	0	0	0	0	0
Total		2	62	17	0	5	1
RGRADE + HAUL		4	83	35	0	6	2

3.10 Utility Trenching - 2020
Mitigated Construction On-Site

Category	lb/day	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Off-Road		0	3	3	0	0	0
Hauling		0	0	0	0	0	0
Vendor		0	0	0	0	0	0
Worker		0	0	0	0	0	0
Total		0	4	4	0	0	0
HAUL + TRENCH		2	66	21	0	5	2

3.11 Fine Grading - 2020
Mitigated Construction On-Site

Category	lb/day	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Fugitive Dust						0	0
Off-Road		1	9	7	0	1	0
Hauling		0	0	0	0	0	0
Vendor		0	0	0	0	0	0
Worker		0	0	0	0	0	0
Total		1	9	7	0	1	1
TRENCH + GRADE		1	13	11	0	1	1

3.12 Fine Grading Soil Haul - 2020
Mitigated Construction On-Site

Category	lb/day	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Fugitive Dust						0	0
Off-Road		0	0	0	0	0	0
Hauling		1	48	13	0	3	1
Vendor		0	0	0	0	0	0
Worker		0	0	0	0	0	0
Total		1	48	13	0	4	1
GRAD + HAUL + TRENCH		3	61	24	0	5	2

3.13 Building Construction - 2020
Mitigated Construction On-Site

Category	lb/day	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Off-Road		2	22	17	0	1	1
Hauling		0	0	0	0	0	0
Vendor		0	8	2	0	0	0
Worker		1	0	5	0	2	0
Total		3	30	25	0	4	2

3.13 Building Construction - 2021
Mitigated Construction On-Site

Category	lb/day	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Off-Road		2	20	17	0	1	1
Hauling		0	0	0	0	0	0
Vendor		0	7	2	0	0	0
Worker		1	0	5	0	2	0
Total		3	27	24	0	3	2

3.13 Building Construction - 2022
Mitigated Construction On-Site

Category	lb/day	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Off-Road		2	18	17	0	1	1
Hauling		0	0	0	0	0	0
Vendor		0	7	2	0	0	0
Worker		1	0	5	0	2	0
Total		3	25	23	0	3	2

3.14 Architectural Coating - 2022
Mitigated Construction On-Site

Category	lb/day	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Archit. Coating		19				0	0
Off-Road		0	2	2	0	0	0
Hauling		0	0	0	0	0	0
Vendor		0	0	0	0	0	0
Worker		0	0	1	0	0	0
Total		19	2	3	0	0	0
Building + Coatings		22	27	26	0	4	2

3.15 Asphalt Paving - 2022
Mitigated Construction On-Site

Category	lb/day	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total

Off-Road	1	5	7	0	0	0
Paving	0				0	0
Hauling	0	0	0	0	0	0
Vendor	0	0	0	0	0	0
Worker	0	0	0	0	0	0
Total	1	5	7	0	0	0
COAT + PAVE + BUILD	23	32	33	0	4	2

3.16 Finishing/Landscaping - 2022
Mitigated Construction On-Site

Category lb/day	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Off-Road	1	5	5	0	0	0
Paving	0				0	0
Hauling	0	0	0	0	0	0
Vendor	0	0	0	0	0	0
Worker	0	0	0	0	0	0
Total	1	5	5	0	0	0
LAND + COAT + BUILD	23	32	31	0	4	2
MAXIMUM	23	83	35	0	6	2
SCAQMD Con. Thres.	75	100	550	150	150	55
Exceeds Thresholds	no	no	no	no	no	no
Certified EIR Phase 2 Maximum	23	73	57	0	6	3
Change	0.1	10	-22	-0.00005	-1	-1
SCAQMD Con. Thres.	75	100	550	150	150	55
Exceeds Thresholds	no	no	no	no	no	no

OC FSP - Construction (Phase 2)

Orange County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Government (Civic Center)	309.18	1000sqft	1.01	309,180.00	0
Enclosed Parking with Elevator	80.00	1000sqft	0.00	80,000.00	0
Other Non-Asphalt Surfaces	1.90	Acre	1.90	0.00	0
Parking Lot	1.54	Acre	1.54	67,020.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2025
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 0 Land Use Square Feet to exclude striping

Construction Phase - Phase 2 construction schedule is based on Phase 1 construction schedule with extended demolition phase.

Off-road Equipment - Based on construction information approved by the Applicant.

Off-road Equipment - Placeholder only.

Off-road Equipment - Based on construction information approved by the Applicant.

Off-road Equipment - Based on construction information approved by the Applicant.

Off-road Equipment - Based on construction information approved by the Applicant.

Off-road Equipment - Placeholder only.

Off-road Equipment - Based on building demolition for Civic Center Building 16 Demolition.

Off-road Equipment - Based on construction information approved by the Applicant.

Off-road Equipment - Placeholder only.

Off-road Equipment - Based on construction information approved by the Applicant.

Off-road Equipment - Based on construction information approved by the Applicant.

Off-road Equipment - Placeholder only.

Off-road Equipment - Based on construction information approved by the Applicant.

Off-road Equipment - Placeholder only.

Off-road Equipment - Based on construction information approved by the Applicant.

Trips and VMT - Water truck emissions accounted for in the vendor trips assigned.

Demolition -

Grading -

Architectural Coating - SCAQMD Rule 1113

Construction Off-road Equipment Mitigation - SCAQMD Rule 403 & 1186

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Fleet Mix -

OC FSP - Construction (Phase 2)

Orange County, Summer

Area Coating -

Energy Use -

Water And Wastewater -

Solid Waste -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	154,590.00	162,559.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	463,770.00	461,214.00
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	18.00	155.00
tblConstructionPhase	NumDays	230.00	457.00
tblConstructionPhase	NumDays	20.00	58.00
tblConstructionPhase	NumDays	20.00	58.00
tblConstructionPhase	NumDays	20.00	5.00
tblConstructionPhase	NumDays	20.00	5.00
tblConstructionPhase	NumDays	8.00	5.00
tblConstructionPhase	NumDays	8.00	4.00
tblConstructionPhase	NumDays	8.00	9.00
tblConstructionPhase	NumDays	8.00	32.00
tblConstructionPhase	NumDays	18.00	11.00
tblConstructionPhase	NumDays	5.00	7.00
tblConstructionPhase	NumDays	5.00	7.00
tblGrading	MaterialExported	0.00	4,965.00
tblGrading	MaterialExported	0.00	38,350.00
tblGrading	MaterialExported	0.00	2,482.00
tblGrading	MaterialImported	0.00	1,241.00
tblLandUse	LandUseSquareFeet	82,764.00	0.00
tblLandUse	LandUseSquareFeet	67,082.40	67,020.00
tblLandUse	LotAcreage	7.10	1.01
tblLandUse	LotAcreage	1.84	0.00
tblOffRoadEquipment	HorsePower	81.00	10.00
tblOffRoadEquipment	HorsePower	231.00	226.00
tblOffRoadEquipment	HorsePower	158.00	162.00
tblOffRoadEquipment	HorsePower	158.00	162.00
tblOffRoadEquipment	HorsePower	158.00	162.00
tblOffRoadEquipment	HorsePower	158.00	162.00
tblOffRoadEquipment	HorsePower	158.00	162.00
tblOffRoadEquipment	HorsePower	158.00	162.00
tblOffRoadEquipment	HorsePower	158.00	162.00
tblOffRoadEquipment	HorsePower	158.00	162.00
tblOffRoadEquipment	HorsePower	187.00	174.00
tblOffRoadEquipment	HorsePower	187.00	174.00
tblOffRoadEquipment	HorsePower	187.00	174.00
tblOffRoadEquipment	HorsePower	187.00	174.00
tblOffRoadEquipment	HorsePower	130.00	125.00

OC FSP - Construction (Phase 2)

Orange County, Summer

tblOffRoadEquipment	HorsePower	130.00	125.00
tblOffRoadEquipment	HorsePower	132.00	130.00
tblOffRoadEquipment	HorsePower	132.00	130.00
tblOffRoadEquipment	HorsePower	247.00	357.00
tblOffRoadEquipment	HorsePower	247.00	255.00
tblOffRoadEquipment	HorsePower	247.00	255.00
tblOffRoadEquipment	HorsePower	247.00	255.00
tblOffRoadEquipment	HorsePower	247.00	255.00
tblOffRoadEquipment	HorsePower	247.00	255.00
tblOffRoadEquipment	HorsePower	247.00	255.00
tblOffRoadEquipment	HorsePower	247.00	255.00
tblOffRoadEquipment	HorsePower	247.00	255.00
tblOffRoadEquipment	HorsePower	247.00	255.00
tblOffRoadEquipment	HorsePower	221.00	205.00
tblOffRoadEquipment	HorsePower	221.00	205.00
tblOffRoadEquipment	HorsePower	231.00	226.00
tblOffRoadEquipment	HorsePower	203.00	199.00
tblOffRoadEquipment	HorsePower	203.00	199.00
tblOffRoadEquipment	HorsePower	97.00	108.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	13.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00

OC FSP - Construction (Phase 2)

Orange County, Summer

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	35.00
tblTripsAndVMT	HaulingTripLength	20.00	35.00
tblTripsAndVMT	HaulingTripLength	20.00	35.00
tblTripsAndVMT	HaulingTripLength	20.00	35.00
tblTripsAndVMT	HaulingTripLength	20.00	35.00
tblTripsAndVMT	HaulingTripNumber	465.00	466.00
tblTripsAndVMT	HaulingTripNumber	51.00	41.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	75.00	74.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	WorkerTripNumber	161.00	160.00

OC FSP - Construction (Phase 2) - Orange County, Summer

OC FSP - Construction (Phase 2)

Orange County, Summer

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	3.8425	83.4838	34.6784	0.2346	8.4484	1.5261	8.8065	1.4208	1.4055	2.4165	0.0000	25,516.1790	25,516.1790	3.4301	0.0000	25,601.9311
2021	2.8602	27.3647	23.8644	0.0606	2.2612	1.3067	3.5679	0.6104	1.2027	1.8130	0.0000	6,143.6208	6,143.6208	0.9912	0.0000	6,168.4010
2022	22.7267	32.0168	33.2508	0.0767	2.7083	1.5804	4.2552	0.7289	1.4545	2.1745	0.0000	7,706.9631	7,706.9631	1.3923	0.0000	7,741.7690
Maximum	**22.7267**	**83.4838**	**34.6784**	**0.2346**	**8.4484**	**1.5804**	**8.8065**	**1.4208**	**1.4545**	**2.4165**	**0.0000**	**25,516.1790**	**25,516.1790**	**3.4301**	**0.0000**	**25,601.9311**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	3.8425	83.4838	34.6784	0.2346	4.5385	1.5261	5.7038	1.2429	1.4055	2.3235	0.0000	25,516.1790	25,516.1790	3.4301	0.0000	25,601.9311
2021	2.8602	27.3647	23.8644	0.0606	2.0909	1.3067	3.3976	0.5686	1.2027	1.7712	0.0000	6,143.6208	6,143.6208	0.9912	0.0000	6,168.4010
2022	22.7267	32.0168	33.2508	0.0767	2.5030	1.5804	4.0525	0.6785	1.4545	2.1247	0.0000	7,706.9631	7,706.9631	1.3923	0.0000	7,741.7690
Maximum	**22.7267**	**83.4838**	**34.6784**	**0.2346**	**4.5385**	**1.5804**	**5.7038**	**1.2429**	**1.4545**	**2.3235**	**0.0000**	**25,516.1790**	**25,516.1790**	**3.4301**	**0.0000**	**25,601.9311**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**31.94**	**0.00**	**20.90**	**9.78**	**0.00**	**2.88**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.9740	3.6000e-004	0.0400	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0859	0.0859	2.2000e-004		0.0915
Energy	0.0835	0.7590	0.6376	4.5500e-003		0.0577	0.0577		0.0577	0.0577		910.8478	910.8478	0.0175	0.0167	916.2605
Mobile	10.2619	36.6036	133.6326	0.5604	56.5490	0.3885	56.9375	15.1211	0.3601	15.4812		57,098.6139	57,098.6139	2.1693		57,152.8466
Total	**17.3193**	**37.3630**	**134.3101**	**0.5650**	**56.5490**	**0.4463**	**56.9953**	**15.1211**	**0.4179**	**15.5390**		**58,009.5476**	**58,009.5476**	**2.1870**	**0.0167**	**58,069.1985**

OC FSP - Construction (Phase 2)
Orange County, Summer

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.9740	3.6000e-004	0.0400	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0859	0.0859	2.2000e-004		0.0915
Energy	0.0835	0.7590	0.6376	4.5500e-003		0.0577	0.0577		0.0577	0.0577		910.8478	910.8478	0.0175	0.0167	916.2605
Mobile	10.2619	36.6036	133.6326	0.5604	56.5490	0.3885	56.9375	15.1211	0.3601	15.4812		57,098.6139	57,098.6139	2.1693		57,152.8466
Total	**17.3193**	**37.3630**	**134.3101**	**0.5650**	**56.5490**	**0.4463**	**56.9953**	**15.1211**	**0.4179**	**15.5390**		**58,009.5476**	**58,009.5476**	**2.1870**	**0.0167**	**58,069.1985**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Building Demolition	Demolition	1/1/2020	3/20/2020	5	58	
2	Building Demo Debris Haul	Demolition	1/1/2020	3/20/2020	5	58	
3	Asphalt Demolition	Demolition	3/21/2020	3/27/2020	5	5	
4	Asphalt Demo Debris Haul	Demolition	3/22/2020	3/27/2020	5	5	
5	Site Preparation	Site Preparation	3/28/2020	4/7/2020	5	7	
6	Site Preparation Soil Haul	Site Preparation	3/28/2020	4/7/2020	5	7	
7	Rough Grading	Grading	4/8/2020	4/20/2020	5	9	
8	Rough Grading Soil Haul	Grading	4/20/2020	6/2/2020	5	32	
9	Utility Trenching	Trenching	5/27/2020	6/11/2020	5	12	
10	Fine Grading	Grading	6/10/2020	6/16/2020	5	5	
11	Fine Grading Soil Haul	Grading	6/11/2020	6/16/2020	5	4	
12	Building Construction	Building Construction	11/14/2020	8/16/2022	5	457	
13	Architectural Coating	Architectural Coating	1/12/2022	8/16/2022	5	155	
14	Asphalt Paving	Paving	5/4/2022	5/18/2022	5	11	
15	Finishing/Landscaping	Paving	7/21/2022	8/15/2022	5	18	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 3.44

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 461,214; Non-Residential Outdoor: 162,559; Striped Parking

OC FSP - Construction (Phase 2)

Orange County, Summer

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Building Demolition	Concrete/Industrial Saws	1	8.00	10	0.73
Building Demolition	Excavators	0	8.00	162	0.38
Building Demolition	Rubber Tired Dozers	1	1.00	357	0.40
Building Demolition	Tractors/Loaders/Backhoes	2	6.00	108	0.37
Building Demo Debris Haul	Concrete/Industrial Saws	0	8.00	81	0.73
Building Demo Debris Haul	Excavators	0	8.00	162	0.38
Building Demo Debris Haul	Rubber Tired Dozers	0	8.00	255	0.40
Asphalt Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Asphalt Demolition	Excavators	1	8.00	162	0.38
Asphalt Demolition	Rubber Tired Dozers	0	8.00	255	0.40
Asphalt Demolition	Rubber Tired Loaders	1	8.00	199	0.36
Asphalt Demolition	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Asphalt Demo Debris Haul	Concrete/Industrial Saws	0	8.00	81	0.73
Asphalt Demo Debris Haul	Excavators	0	8.00	162	0.38
Asphalt Demo Debris Haul	Rubber Tired Dozers	0	8.00	255	0.40
Site Preparation	Bore/Drill Rigs	1	8.00	205	0.50
Site Preparation	Cranes	1	8.00	226	0.29
Site Preparation	Forklifts	1	8.00	89	0.20
Site Preparation	Rubber Tired Dozers	0	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Site Preparation Soil Haul	Rubber Tired Dozers	0	8.00	255	0.40
Site Preparation Soil Haul	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Rough Grading	Bore/Drill Rigs	2	8.00	205	0.50
Rough Grading	Excavators	2	8.00	162	0.38
Rough Grading	Forklifts	1	8.00	89	0.20
Rough Grading	Graders	0	8.00	174	0.41
Rough Grading	Rollers	2	8.00	80	0.38
Rough Grading	Rubber Tired Dozers	0	8.00	255	0.40
Rough Grading	Rubber Tired Loaders	1	8.00	199	0.36
Rough Grading	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Rough Grading Soil Haul	Excavators	0	8.00	162	0.38
Rough Grading Soil Haul	Graders	0	8.00	174	0.41
Rough Grading Soil Haul	Rubber Tired Dozers	0	8.00	255	0.40
Rough Grading Soil Haul	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Utility Trenching	Forklifts	1	8.00	89	0.20
Utility Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Fine Grading	Excavators	0	8.00	162	0.38
Fine Grading	Graders	1	8.00	174	0.41
Fine Grading	Rubber Tired Dozers	0	8.00	255	0.40
Fine Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Fine Grading Soil Haul	Excavators	0	8.00	162	0.38
Fine Grading Soil Haul	Graders	0	8.00	174	0.41
Fine Grading Soil Haul	Rubber Tired Dozers	0	8.00	255	0.40

OC FSP - Construction (Phase 2)

Orange County, Summer

Fine Grading Soil Haul	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Building Construction	Cranes	1	8.00	226	0.29
Building Construction	Forklifts	13	8.00	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Building Construction	Welders	0	8.00	46	0.45
Architectural Coating	Air Compressors	0	6.00	78	0.48
Architectural Coating	Forklifts	2	8.00	89	0.20
Asphalt Paving	Cement and Mortar Mixers	0	6.00	9	0.56
Asphalt Paving	Pavers	0	8.00	125	0.42
Asphalt Paving	Paving Equipment	1	8.00	130	0.36
Asphalt Paving	Rollers	1	8.00	80	0.38
Asphalt Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Finishing/Landscaping	Cement and Mortar Mixers	0	6.00	9	0.56
Finishing/Landscaping	Pavers	0	8.00	125	0.42
Finishing/Landscaping	Paving Equipment	0	6.00	130	0.36
Finishing/Landscaping	Rollers	0	6.00	80	0.38
Finishing/Landscaping	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Finishing/Landscaping	Trenchers	1	8.00	80	0.50

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Building Demolition	4	10.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Demo Debris Haul	0	0.00	0.00	1,953.00	14.70	6.90	35.00	LD_Mix	HDT_Mix	HHDT
Asphalt Demolition	3	8.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Asphalt Demo Debris Haul	0	0.00	0.00	41.00	14.70	6.90	35.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation Soil Haul	0	0.00	0.00	621.00	14.70	6.90	35.00	LD_Mix	HDT_Mix	HHDT
Rough Grading	8	20.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Rough Grading Soil Haul	0	0.00	0.00	4,794.00	14.70	6.90	35.00	LD_Mix	HDT_Mix	HHDT
Utility Trenching	2	5.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Fine Grading	2	5.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Fine Grading Soil Haul	0	0.00	0.00	466.00	14.70	6.90	35.00	LD_Mix	HDT_Mix	HHDT
Building Construction	14	160.00	74.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	2	32.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Asphalt Paving	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Finishing/Landscaping	2	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

OC FSP - Construction (Phase 2)

Orange County, Summer

3.2 Building Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5183	5.2917	5.1961	6.7400e-003		0.3039	0.3039		0.2796	0.2796		653.3515	653.3515	0.2113		658.6342
Total	**0.5183**	**5.2917**	**5.1961**	**6.7400e-003**		**0.3039**	**0.3039**		**0.2796**	**0.2796**		**653.3515**	**653.3515**	**0.2113**		**658.6342**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0128	0.4167	0.1100	1.0000e-003	0.0256	2.1700e-003	0.0277	7.3500e-003	2.0800e-003	9.4300e-003		108.4516	108.4516	8.7700e-003		108.6709
Worker	0.0384	0.0242	0.3273	1.0900e-003	0.1118	7.4000e-004	0.1125	0.0296	6.8000e-004	0.0303		109.0044	109.0044	2.4800e-003		109.0665
Total	**0.0512**	**0.4409**	**0.4373**	**2.0900e-003**	**0.1373**	**2.9100e-003**	**0.1403**	**0.0370**	**2.7600e-003**	**0.0398**		**217.4559**	**217.4559**	**0.0113**		**217.7373**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5183	5.2917	5.1961	6.7400e-003		0.3039	0.3039		0.2796	0.2796	0.0000	653.3515	653.3515	0.2113		658.6342
Total	**0.5183**	**5.2917**	**5.1961**	**6.7400e-003**		**0.3039**	**0.3039**		**0.2796**	**0.2796**	**0.0000**	**653.3515**	**653.3515**	**0.2113**		**658.6342**

OC FSP - Construction (Phase 2)

Orange County, Summer

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0128	0.4167	0.1100	1.0000e-003	0.0239	2.1700e-003	0.0261	6.9500e-003	2.0800e-003	9.0300e-003		108.4516	108.4516	8.7700e-003		108.6709
Worker	0.0384	0.0242	0.3273	1.0900e-003	0.1030	7.4000e-004	0.1038	0.0275	6.8000e-004	0.0282		109.0044	109.0044	2.4800e-003		109.0665
Total	**0.0512**	**0.4409**	**0.4373**	**2.0900e-003**	**0.1270**	**2.9100e-003**	**0.1299**	**0.0345**	**2.7600e-003**	**0.0372**		**217.4559**	**217.4559**	**0.0113**		**217.7373**

3.3 Building Demo Debris Haul - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.2855	0.0000	7.2855	1.1031	0.0000	1.1031			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**7.2855**	**0.0000**	**7.2855**	**1.1031**	**0.0000**	**1.1031**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.4065	13.8801	3.7720	0.0428	1.0255	0.0513	1.0768	0.2807	0.0491	0.3298		4,771.0331	4,771.0331	0.4798		4,783.0281
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.4065**	**13.8801**	**3.7720**	**0.0428**	**1.0255**	**0.0513**	**1.0768**	**0.2807**	**0.0491**	**0.3298**		**4,771.0331**	**4,771.0331**	**0.4798**		**4,783.0281**

OC FSP - Construction (Phase 2)

Orange County, Summer

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.1146	0.0000	3.1146	0.4716	0.0000	0.4716			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**3.1146**	**0.0000**	**3.1146**	**0.4716**	**0.0000**	**0.4716**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.4065	13.8801	3.7720	0.0428	0.9554	0.0513	1.0067	0.2635	0.0491	0.3125		4,771.0331	4,771.0331	0.4798		4,783.0281
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.4065**	**13.8801**	**3.7720**	**0.0428**	**0.9554**	**0.0513**	**1.0067**	**0.2635**	**0.0491**	**0.3125**		**4,771.0331**	**4,771.0331**	**0.4798**		**4,783.0281**

3.4 Asphalt Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8274	8.9015	7.2334	0.0145		0.3964	0.3964		0.3647	0.3647		1,406.7837	1,406.7837	0.4550		1,418.1583
Total	**0.8274**	**8.9015**	**7.2334**	**0.0145**		**0.3964**	**0.3964**		**0.3647**	**0.3647**		**1,406.7837**	**1,406.7837**	**0.4550**		**1,418.1583**

OC FSP - Construction (Phase 2)

Orange County, Summer

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0128	0.4167	0.1100	1.0000e-003	0.0256	2.1700e-003	0.0277	7.3500e-003	2.0800e-003	9.4300e-003		108.4516	108.4516	8.7700e-003		108.6709
Worker	0.0307	0.0194	0.2619	8.7000e-004	0.0894	5.9000e-004	0.0900	0.0237	5.4000e-004	0.0243		87.2035	87.2035	1.9900e-003		87.2532
Total	**0.0435**	**0.4361**	**0.3719**	**1.8700e-003**	**0.1150**	**2.7600e-003**	**0.1177**	**0.0311**	**2.6200e-003**	**0.0337**		**195.6551**	**195.6551**	**0.0108**		**195.9241**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8274	8.9015	7.2334	0.0145		0.3964	0.3964		0.3647	0.3647	0.0000	1,406.7837	1,406.7837	0.4550		1,418.1583
Total	**0.8274**	**8.9015**	**7.2334**	**0.0145**		**0.3964**	**0.3964**		**0.3647**	**0.3647**	**0.0000**	**1,406.7837**	**1,406.7837**	**0.4550**		**1,418.1583**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0128	0.4167	0.1100	1.0000e-003	0.0239	2.1700e-003	0.0261	6.9500e-003	2.0800e-003	9.0300e-003		108.4516	108.4516	8.7700e-003		108.6709
Worker	0.0307	0.0194	0.2619	8.7000e-004	0.0824	5.9000e-004	0.0830	0.0220	5.4000e-004	0.0225		87.2035	87.2035	1.9900e-003		87.2532
Total	**0.0435**	**0.4361**	**0.3719**	**1.8700e-003**	**0.1063**	**2.7600e-003**	**0.1091**	**0.0290**	**2.6200e-003**	**0.0316**		**195.6551**	**195.6551**	**0.0108**		**195.9241**

OC FSP - Construction (Phase 2) - Orange County, Summer

OC FSP - Construction (Phase 2)

Orange County, Summer

3.5 Asphalt Demo Debris Haul - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.1913	0.0000	2.1913	0.3318	0.0000	0.3318			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.1913**	**0.0000**	**2.1913**	**0.3318**	**0.0000**	**0.3318**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0990	3.3801	0.9186	0.0104	0.2497	0.0125	0.2622	0.0684	0.0120	0.0803		1,161.8553	1,161.8553	0.1168		1,164.7763
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0990**	**3.3801**	**0.9186**	**0.0104**	**0.2497**	**0.0125**	**0.2622**	**0.0684**	**0.0120**	**0.0803**		**1,161.8553**	**1,161.8553**	**0.1168**		**1,164.7763**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.9368	0.0000	0.9368	0.1418	0.0000	0.1418			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.9368**	**0.0000**	**0.9368**	**0.1418**	**0.0000**	**0.1418**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

OC FSP - Construction (Phase 2)

Orange County, Summer

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0990	3.3801	0.9186	0.0104	0.2327	0.0125	0.2452	0.0642	0.0120	0.0761		1,161.8553	1,161.8553	0.1168		1,164.7763
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0990**	**3.3801**	**0.9186**	**0.0104**	**0.2327**	**0.0125**	**0.2452**	**0.0642**	**0.0120**	**0.0761**		**1,161.8553**	**1,161.8553**	**0.1168**		**1,164.7763**

3.6 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.8450	9.8396	5.1800	0.0159		0.4083	0.4083		0.3756	0.3756		1,538.6640	1,538.6640	0.4976		1,551.1048
Total	**0.8450**	**9.8396**	**5.1800**	**0.0159**	**0.0000**	**0.4083**	**0.4083**	**0.0000**	**0.3756**	**0.3756**		**1,538.6640**	**1,538.6640**	**0.4976**		**1,551.1048**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0128	0.4167	0.1100	1.0000e-003	0.0256	2.1700e-003	0.0277	7.3500e-003	2.0800e-003	9.4300e-003		108.4516	108.4516	8.7700e-003		108.6709
Worker	0.0307	0.0194	0.2619	8.7000e-004	0.0894	5.9000e-004	0.0900	0.0237	5.4000e-004	0.0243		87.2035	87.2035	1.9900e-003		87.2532
Total	**0.0435**	**0.4361**	**0.3719**	**1.8700e-003**	**0.1150**	**2.7600e-003**	**0.1177**	**0.0311**	**2.6200e-003**	**0.0337**		**195.6551**	**195.6551**	**0.0108**		**195.9241**

OC FSP - Construction (Phase 2)

Orange County, Summer

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.8450	9.8396	5.1800	0.0159		0.4083	0.4083		0.3756	0.3756	0.0000	1,538.6640	1,538.6640	0.4976		1,551.1048
Total	**0.8450**	**9.8396**	**5.1800**	**0.0159**	**0.0000**	**0.4083**	**0.4083**	**0.0000**	**0.3756**	**0.3756**	**0.0000**	**1,538.6640**	**1,538.6640**	**0.4976**		**1,551.1048**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0128	0.4167	0.1100	1.0000e-003	0.0239	2.1700e-003	0.0261	6.9500e-003	2.0800e-003	9.0300e-003		108.4516	108.4516	8.7700e-003		108.6709
Worker	0.0307	0.0194	0.2619	8.7000e-004	0.0824	5.9000e-004	0.0830	0.0220	5.4000e-004	0.0225		87.2035	87.2035	1.9900e-003		87.2532
Total	**0.0435**	**0.4361**	**0.3719**	**1.8700e-003**	**0.1063**	**2.7600e-003**	**0.1091**	**0.0290**	**2.6200e-003**	**0.0316**		**195.6551**	**195.6551**	**0.0108**		**195.9241**

3.7 Site Preparation Soil Haul - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0802	0.0000	0.0802	0.0122	0.0000	0.0122			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0802**	**0.0000**	**0.0802**	**0.0122**	**0.0000**	**0.0122**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

OC FSP - Construction (Phase 2) - Orange County, Summer

OC FSP - Construction (Phase 2)

Orange County, Summer

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.0710	36.5690	9.9379	0.1128	2.7018	0.1351	2.8369	0.7395	0.1293	0.8688		12,569.8976	12,569.8976	1.2641		12,601.4998
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**1.0710**	**36.5690**	**9.9379**	**0.1128**	**2.7018**	**0.1351**	**2.8369**	**0.7395**	**0.1293**	**0.8688**		**12,569.8976**	**12,569.8976**	**1.2641**		**12,601.4998**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0343	0.0000	0.0343	5.1900e-003	0.0000	5.1900e-003			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0343**	**0.0000**	**0.0343**	**5.1900e-003**	**0.0000**	**5.1900e-003**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.0710	36.5690	9.9379	0.1128	2.5170	0.1351	2.6522	0.6941	0.1293	0.8234		12,569.8976	12,569.8976	1.2641		12,601.4998
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**1.0710**	**36.5690**	**9.9379**	**0.1128**	**2.5170**	**0.1351**	**2.6522**	**0.6941**	**0.1293**	**0.8234**		**12,569.8976**	**12,569.8976**	**1.2641**		**12,601.4998**

OC FSP - Construction (Phase 2) - Orange County, Summer

OC FSP - Construction (Phase 2)

Orange County, Summer

3.8 Rough Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.9442	21.2644	17.1315	0.0409		0.9334	0.9334		0.8588	0.8588		3,962.8356	3,962.8356	1.2817		3,994.8771
Total	**1.9442**	**21.2644**	**17.1315**	**0.0409**	**0.0000**	**0.9334**	**0.9334**	**0.0000**	**0.8588**	**0.8588**		**3,962.8356**	**3,962.8356**	**1.2817**		**3,994.8771**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0128	0.4167	0.1100	1.0000e-003	0.0256	2.1700e-003	0.0277	7.3500e-003	2.0800e-003	9.4300e-003		108.4516	108.4516	8.7700e-003		108.6709
Worker	0.0769	0.0484	0.6547	2.1900e-003	0.2236	1.4800e-003	0.2250	0.0593	1.3600e-003	0.0607		218.0087	218.0087	4.9700e-003		218.1330
Total	**0.0896**	**0.4651**	**0.7646**	**3.1900e-003**	**0.2491**	**3.6500e-003**	**0.2528**	**0.0666**	**3.4400e-003**	**0.0701**		**326.4603**	**326.4603**	**0.0137**		**326.8038**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.9442	21.2644	17.1315	0.0409		0.9334	0.9334		0.8588	0.8588	0.0000	3,962.8356	3,962.8356	1.2817		3,994.8771
Total	**1.9442**	**21.2644**	**17.1315**	**0.0409**	**0.0000**	**0.9334**	**0.9334**	**0.0000**	**0.8588**	**0.8588**	**0.0000**	**3,962.8356**	**3,962.8356**	**1.2817**		**3,994.8771**

OC FSP - Construction (Phase 2)

Orange County, Summer

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0128	0.4167	0.1100	1.0000e-003	0.0239	2.1700e-003	0.0261	6.9500e-003	2.0800e-003	9.0300e-003		108.4516	108.4516	8.7700e-003		108.6709
Worker	0.0769	0.0484	0.6547	2.1900e-003	0.2061	1.4800e-003	0.2075	0.0550	1.3600e-003	0.0564		218.0087	218.0087	4.9700e-003		218.1330
Total	**0.0896**	**0.4651**	**0.7646**	**3.1900e-003**	**0.2300**	**3.6500e-003**	**0.2336**	**0.0619**	**3.4400e-003**	**0.0654**		**326.4603**	**326.4603**	**0.0137**		**326.8038**

3.9 Rough Grading Soil Haul - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1355	0.0000	0.1355	0.0205	0.0000	0.0205			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.1355**	**0.0000**	**0.1355**	**0.0205**	**0.0000**	**0.0205**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.8086	61.7543	16.7822	0.1904	4.5625	0.2282	4.7907	1.2488	0.2183	1.4671		21,226.8832	21,226.8832	2.1347		21,280.2502
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**1.8086**	**61.7543**	**16.7822**	**0.1904**	**4.5625**	**0.2282**	**4.7907**	**1.2488**	**0.2183**	**1.4671**		**21,226.8832**	**21,226.8832**	**2.1347**		**21,280.2502**

OC FSP - Construction (Phase 2)

Orange County, Summer

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0579	0.0000	0.0579	8.7700e-003	0.0000	8.7700e-003			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0579**	**0.0000**	**0.0579**	**8.7700e-003**	**0.0000**	**8.7700e-003**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.8086	61.7543	16.7822	0.1904	4.2506	0.2282	4.4788	1.1722	0.2183	1.3906		21,226.8832	21,226.8832	2.1347		21,280.2502
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**1.8086**	**61.7543**	**16.7822**	**0.1904**	**4.2506**	**0.2282**	**4.4788**	**1.1722**	**0.2183**	**1.3906**		**21,226.8832**	**21,226.8832**	**2.1347**		**21,280.2502**

3.10 Utility Trenching - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3535	3.4027	3.4600	4.6300e-003		0.2298	0.2298		0.2114	0.2114		448.7993	448.7993	0.1452		452.4281
Total	**0.3535**	**3.4027**	**3.4600**	**4.6300e-003**		**0.2298**	**0.2298**		**0.2114**	**0.2114**		**448.7993**	**448.7993**	**0.1452**		**452.4281**

OC FSP - Construction (Phase 2) - Orange County, Summer

OC FSP - Construction (Phase 2)

Orange County, Summer

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0128	0.4167	0.1100	1.0000e-003	0.0256	2.1700e-003	0.0277	7.3500e-003	2.0800e-003	9.4300e-003		108.4516	108.4516	8.7700e-003		108.6709
Worker	0.0192	0.0121	0.1637	5.5000e-004	0.0559	3.7000e-004	0.0563	0.0148	3.4000e-004	0.0152		54.5022	54.5022	1.2400e-003		54.5332
Total	**0.0320**	**0.4288**	**0.2737**	**1.5500e-003**	**0.0815**	**2.5400e-003**	**0.0840**	**0.0222**	**2.4200e-003**	**0.0246**		**162.9538**	**162.9538**	**0.0100**		**163.2041**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3535	3.4027	3.4600	4.6300e-003		0.2298	0.2298		0.2114	0.2114	0.0000	448.7993	448.7993	0.1452		452.4281
Total	**0.3535**	**3.4027**	**3.4600**	**4.6300e-003**		**0.2298**	**0.2298**		**0.2114**	**0.2114**	**0.0000**	**448.7993**	**448.7993**	**0.1452**		**452.4281**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0128	0.4167	0.1100	1.0000e-003	0.0239	2.1700e-003	0.0261	6.9500e-003	2.0800e-003	9.0300e-003		108.4516	108.4516	8.7700e-003		108.6709
Worker	0.0192	0.0121	0.1637	5.5000e-004	0.0515	3.7000e-004	0.0519	0.0138	3.4000e-004	0.0141		54.5022	54.5022	1.2400e-003		54.5332
Total	**0.0320**	**0.4288**	**0.2737**	**1.5500e-003**	**0.0754**	**2.5400e-003**	**0.0780**	**0.0207**	**2.4200e-003**	**0.0231**		**162.9538**	**162.9538**	**0.0100**		**163.2041**

OC FSP - Construction (Phase 2) - Orange County, Summer

OC FSP - Construction (Phase 2)

Orange County, Summer

3.11 Fine Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.9225	9.0637	6.8357	9.3100e-003		0.5213	0.5213		0.4796	0.4796		902.2494	902.2494	0.2918		909.5446
Total	**0.9225**	**9.0637**	**6.8357**	**9.3100e-003**	**0.5303**	**0.5213**	**1.0516**	**0.0573**	**0.4796**	**0.5369**		**902.2494**	**902.2494**	**0.2918**		**909.5446**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0128	0.4167	0.1100	1.0000e-003	0.0256	2.1700e-003	0.0277	7.3500e-003	2.0800e-003	9.4300e-003		108.4516	108.4516	8.7700e-003		108.6709
Worker	0.0192	0.0121	0.1637	5.5000e-004	0.0559	3.7000e-004	0.0563	0.0148	3.4000e-004	0.0152		54.5022	54.5022	1.2400e-003		54.5332
Total	**0.0320**	**0.4288**	**0.2737**	**1.5500e-003**	**0.0815**	**2.5400e-003**	**0.0840**	**0.0222**	**2.4200e-003**	**0.0246**		**162.9538**	**162.9538**	**0.0100**		**163.2041**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2267	0.0000	0.2267	0.0245	0.0000	0.0245			0.0000			0.0000
Off-Road	0.9225	9.0637	6.8357	9.3100e-003		0.5213	0.5213		0.4796	0.4796	0.0000	902.2494	902.2494	0.2918		909.5445
Total	**0.9225**	**9.0637**	**6.8357**	**9.3100e-003**	**0.2267**	**0.5213**	**0.7480**	**0.0245**	**0.4796**	**0.5041**	**0.0000**	**902.2494**	**902.2494**	**0.2918**		**909.5445**

OC FSP - Construction (Phase 2)

Orange County, Summer

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0128	0.4167	0.1100	1.0000e-003	0.0239	2.1700e-003	0.0261	6.9500e-003	2.0800e-003	9.0300e-003		108.4516	108.4516	8.7700e-003		108.6709
Worker	0.0192	0.0121	0.1637	5.5000e-004	0.0515	3.7000e-004	0.0519	0.0138	3.4000e-004	0.0141		54.5022	54.5022	1.2400e-003		54.5332
Total	**0.0320**	**0.4288**	**0.2737**	**1.5500e-003**	**0.0754**	**2.5400e-003**	**0.0780**	**0.0207**	**2.4200e-003**	**0.0231**		**162.9538**	**162.9538**	**0.0100**		**163.2041**

3.12 Fine Grading Soil Haul - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1053	0.0000	0.1053	0.0159	0.0000	0.0159			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.1053**	**0.0000**	**0.1053**	**0.0159**	**0.0000**	**0.0159**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.4064	48.0226	13.0505	0.1481	3.5480	0.1775	3.7255	0.9711	0.1698	1.1409		16,506.8461	16,506.8461	1.6600		16,548.3464
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**1.4064**	**48.0226**	**13.0505**	**0.1481**	**3.5480**	**0.1775**	**3.7255**	**0.9711**	**0.1698**	**1.1409**		**16,506.8461**	**16,506.8461**	**1.6600**		**16,548.3464**

OC FSP - Construction (Phase 2) - Orange County, Summer

OC FSP - Construction (Phase 2)

Orange County, Summer

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0450	0.0000	0.0450	6.8100e-003	0.0000	6.8100e-003			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0450**	**0.0000**	**0.0450**	**6.8100e-003**	**0.0000**	**6.8100e-003**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.4064	48.0226	13.0505	0.1481	3.3054	0.1775	3.4829	0.9116	0.1698	1.0813		16,506.8461	16,506.8461	1.6600		16,548.3464
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**1.4064**	**48.0226**	**13.0505**	**0.1481**	**3.3054**	**0.1775**	**3.4829**	**0.9116**	**0.1698**	**1.0813**		**16,506.8461**	**16,506.8461**	**1.6600**		**16,548.3464**

3.13 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3157	22.1424	17.4130	0.0255		1.4741	1.4741		1.3562	1.3562		2,471.0954	2,471.0954	0.7992		2,491.0755
Total	**2.3157**	**22.1424**	**17.4130**	**0.0255**		**1.4741**	**1.4741**		**1.3562**	**1.3562**		**2,471.0954**	**2,471.0954**	**0.7992**		**2,491.0755**

OC FSP - Construction (Phase 2) - Orange County, Summer

OC FSP - Construction (Phase 2)

Orange County, Summer

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2364	7.7092	2.0348	0.0184	0.4728	0.0402	0.5130	0.1361	0.0385	0.1745		2,006.3541	2,006.3541	0.1623		2,010.4109
Worker	0.6149	0.3874	5.2372	0.0175	1.7884	0.0118	1.8003	0.4743	0.0109	0.4852		1,744.0698	1,744.0698	0.0398		1,745.0637
Total	**0.8513**	**8.0965**	**7.2720**	**0.0359**	**2.2612**	**0.0521**	**2.3133**	**0.6104**	**0.0494**	**0.6597**		**3,750.4239**	**3,750.4239**	**0.2020**		**3,755.4746**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3157	22.1424	17.4130	0.0255		1.4741	1.4741		1.3562	1.3562	0.0000	2,471.0954	2,471.0954	0.7992		2,491.0755
Total	**2.3157**	**22.1424**	**17.4130**	**0.0255**		**1.4741**	**1.4741**		**1.3562**	**1.3562**	**0.0000**	**2,471.0954**	**2,471.0954**	**0.7992**		**2,491.0755**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2364	7.7092	2.0348	0.0184	0.4424	0.0402	0.4827	0.1286	0.0385	0.1671		2,006.3541	2,006.3541	0.1623		2,010.4109
Worker	0.6149	0.3874	5.2372	0.0175	1.6485	0.0118	1.6603	0.4400	0.0109	0.4508		1,744.0698	1,744.0698	0.0398		1,745.0637
Total	**0.8513**	**8.0965**	**7.2720**	**0.0359**	**2.0909**	**0.0521**	**2.1430**	**0.5686**	**0.0494**	**0.6179**		**3,750.4239**	**3,750.4239**	**0.2020**		**3,755.4746**

OC FSP - Construction (Phase 2) - Orange County, Summer

OC FSP - Construction (Phase 2)

Orange County, Summer

3.13 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0852	20.0730	17.1220	0.0255		1.2807	1.2807		1.1782	1.1782		2,471.0457	2,471.0457	0.7992		2,491.0253
Total	**2.0852**	**20.0730**	**17.1220**	**0.0255**		**1.2807**	**1.2807**		**1.1782**	**1.1782**		**2,471.0457**	**2,471.0457**	**0.7992**		**2,491.0253**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1975	6.9423	1.8828	0.0183	0.4728	0.0144	0.4872	0.1361	0.0138	0.1499		1,989.0645	1,989.0645	0.1560		1,992.9638
Worker	0.5775	0.3494	4.8597	0.0169	1.7884	0.0116	1.8000	0.4743	0.0107	0.4850		1,683.5106	1,683.5106	0.0361		1,684.4119
Total	**0.7750**	**7.2917**	**6.7424**	**0.0351**	**2.2612**	**0.0260**	**2.2872**	**0.6104**	**0.0245**	**0.6348**		**3,672.5752**	**3,672.5752**	**0.1920**		**3,677.3757**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0852	20.0730	17.1220	0.0255		1.2807	1.2807		1.1782	1.1782	0.0000	2,471.0457	2,471.0457	0.7992		2,491.0253
Total	**2.0852**	**20.0730**	**17.1220**	**0.0255**		**1.2807**	**1.2807**		**1.1782**	**1.1782**	**0.0000**	**2,471.0457**	**2,471.0457**	**0.7992**		**2,491.0253**

OC FSP - Construction (Phase 2)

Orange County, Summer

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1975	6.9423	1.8828	0.0183	0.4424	0.0144	0.4568	0.1286	0.0138	0.1424		1,989.0645	1,989.0645	0.1560		1,992.9638
Worker	0.5775	0.3494	4.8597	0.0169	1.6485	0.0116	1.6601	0.4400	0.0107	0.4506		1,683.5106	1,683.5106	0.0361		1,684.4119
Total	**0.7750**	**7.2917**	**6.7424**	**0.0351**	**2.0909**	**0.0260**	**2.1169**	**0.5686**	**0.0245**	**0.5930**		**3,672.5752**	**3,672.5752**	**0.1920**		**3,677.3757**

3.13 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8417	17.8074	16.8501	0.0255		1.0784	1.0784		0.9921	0.9921		2,471.1353	2,471.1353	0.7992		2,491.1156
Total	**1.8417**	**17.8074**	**16.8501**	**0.0255**		**1.0784**	**1.0784**		**0.9921**	**0.9921**		**2,471.1353**	**2,471.1353**	**0.7992**		**2,491.1156**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1857	6.5679	1.8180	0.0180	0.4728	0.0126	0.4853	0.1361	0.0120	0.1481		1,969.5293	1,969.5293	0.1511		1,973.3065
Worker	0.5458	0.3166	4.5356	0.0163	1.7884	0.0114	1.7998	0.4743	0.0105	0.4848		1,621.1220	1,621.1220	0.0327		1,621.9405
Total	**0.7314**	**6.8844**	**6.3536**	**0.0343**	**2.2612**	**0.0239**	**2.2851**	**0.6104**	**0.0225**	**0.6328**		**3,590.6513**	**3,590.6513**	**0.1838**		**3,595.2470**

OC FSP - Construction (Phase 2)

Orange County, Summer

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8417	17.8074	16.8501	0.0255		1.0784	1.0784		0.9921	0.9921	0.0000	2,471.1353	2,471.1353	0.7992		2,491.1156
Total	**1.8417**	**17.8074**	**16.8501**	**0.0255**		**1.0784**	**1.0784**		**0.9921**	**0.9921**	**0.0000**	**2,471.1353**	**2,471.1353**	**0.7992**		**2,491.1156**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1857	6.5679	1.8180	0.0180	0.4424	0.0126	0.4550	0.1286	0.0120	0.1406		1,969.5293	1,969.5293	0.1511		1,973.3065
Worker	0.5458	0.3166	4.5356	0.0163	1.6485	0.0114	1.6598	0.4400	0.0105	0.4504		1,621.1220	1,621.1220	0.0327		1,621.9405
Total	**0.7314**	**6.8844**	**6.3536**	**0.0343**	**2.0909**	**0.0239**	**2.1148**	**0.5685**	**0.0225**	**0.5910**		**3,590.6513**	**3,590.6513**	**0.1838**		**3,595.2470**

3.14 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	18.9166					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2272	2.1098	2.3075	3.0600e-003		0.1398	0.1398		0.1286	0.1286		296.0617	296.0617	0.0958		298.4555
Total	**19.1438**	**2.1098**	**2.3075**	**3.0600e-003**		**0.1398**	**0.1398**		**0.1286**	**0.1286**		**296.0617**	**296.0617**	**0.0958**		**298.4555**

OC FSP - Construction (Phase 2) - Orange County, Summer

OC FSP - Construction (Phase 2)

Orange County, Summer

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1092	0.0633	0.9071	3.2500e-003	0.3577	2.2700e-003	0.3600	0.0949	2.0900e-003	0.0970		324.2244	324.2244	6.5500e-003		324.3881
Total	**0.1092**	**0.0633**	**0.9071**	**3.2500e-003**	**0.3577**	**2.2700e-003**	**0.3600**	**0.0949**	**2.0900e-003**	**0.0970**		**324.2244**	**324.2244**	**6.5500e-003**		**324.3881**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	18.9166					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2272	2.1098	2.3075	3.0600e-003		0.1398	0.1398		0.1286	0.1286	0.0000	296.0617	296.0617	0.0958		298.4555
Total	**19.1438**	**2.1098**	**2.3075**	**3.0600e-003**		**0.1398**	**0.1398**		**0.1286**	**0.1286**	**0.0000**	**296.0617**	**296.0617**	**0.0958**		**298.4555**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1092	0.0633	0.9071	3.2500e-003	0.3297	2.2700e-003	0.3320	0.0880	2.0900e-003	0.0901		324.2244	324.2244	6.5500e-003		324.3881
Total	**0.1092**	**0.0633**	**0.9071**	**3.2500e-003**	**0.3297**	**2.2700e-003**	**0.3320**	**0.0880**	**2.0900e-003**	**0.0901**		**324.2244**	**324.2244**	**6.5500e-003**		**324.3881**

OC FSP - Construction (Phase 2) - Orange County, Summer

OC FSP - Construction (Phase 2)

Orange County, Summer

3.15 Asphalt Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5065	5.1129	6.6057	9.7500e-003		0.2731	0.2731		0.2512	0.2512		943.8344	943.8344	0.3053		951.4658
Paving	0.3668					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.8733**	**5.1129**	**6.6057**	**9.7500e-003**		**0.2731**	**0.2731**		**0.2512**	**0.2512**		**943.8344**	**943.8344**	**0.3053**		**951.4658**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0273	0.0158	0.2268	8.1000e-004	0.0894	5.7000e-004	0.0900	0.0237	5.2000e-004	0.0242		81.0561	81.0561	1.6400e-003		81.0970
Total	**0.0273**	**0.0158**	**0.2268**	**8.1000e-004**	**0.0894**	**5.7000e-004**	**0.0900**	**0.0237**	**5.2000e-004**	**0.0242**		**81.0561**	**81.0561**	**1.6400e-003**		**81.0970**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5065	5.1129	6.6057	9.7500e-003		0.2731	0.2731		0.2512	0.2512	0.0000	943.8344	943.8344	0.3053		951.4658
Paving	0.3668					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.8733**	**5.1129**	**6.6057**	**9.7500e-003**		**0.2731**	**0.2731**		**0.2512**	**0.2512**	**0.0000**	**943.8344**	**943.8344**	**0.3053**		**951.4658**

OC FSP - Construction (Phase 2)

Orange County, Summer

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0273	0.0158	0.2268	8.1000e-004	0.0824	5.7000e-004	0.0830	0.0220	5.2000e-004	0.0225		81.0561	81.0561	1.6400e-003		81.0970
Total	**0.0273**	**0.0158**	**0.2268**	**8.1000e-004**	**0.0824**	**5.7000e-004**	**0.0830**	**0.0220**	**5.2000e-004**	**0.0225**		**81.0561**	**81.0561**	**1.6400e-003**		**81.0970**

3.16 Finishing/Landscaping - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5379	5.1420	4.9036	6.5700e-003		0.3357	0.3357		0.3089	0.3089		636.5717	636.5717	0.2059		641.7187
Paving	0.2242					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.7621**	**5.1420**	**4.9036**	**6.5700e-003**		**0.3357**	**0.3357**		**0.3089**	**0.3089**		**636.5717**	**636.5717**	**0.2059**		**641.7187**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0171	9.8900e-003	0.1417	5.1000e-004	0.0559	3.5000e-004	0.0562	0.0148	3.3000e-004	0.0152		50.6601	50.6601	1.0200e-003		50.6856
Total	**0.0171**	**9.8900e-003**	**0.1417**	**5.1000e-004**	**0.0559**	**3.5000e-004**	**0.0562**	**0.0148**	**3.3000e-004**	**0.0152**		**50.6601**	**50.6601**	**1.0200e-003**		**50.6856**

OC FSP - Construction (Phase 2)

Orange County, Summer

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5379	5.1420	4.9036	6.5700e-003		0.3357	0.3357		0.3089	0.3089	0.0000	636.5717	636.5717	0.2059		641.7187
Paving	0.2242					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.7621**	**5.1420**	**4.9036**	**6.5700e-003**		**0.3357**	**0.3357**		**0.3089**	**0.3089**	**0.0000**	**636.5717**	**636.5717**	**0.2059**		**641.7187**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0171	9.8900e-003	0.1417	5.1000e-004	0.0515	3.5000e-004	0.0519	0.0138	3.3000e-004	0.0141		50.6601	50.6601	1.0200e-003		50.6856
Total	**0.0171**	**9.8900e-003**	**0.1417**	**5.1000e-004**	**0.0515**	**3.5000e-004**	**0.0519**	**0.0138**	**3.3000e-004**	**0.0141**		**50.6601**	**50.6601**	**1.0200e-003**		**50.6856**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	10.2619	36.6036	133.6326	0.5604	56.5490	0.3885	56.9375	15.1211	0.3601	15.4812		57,098.6139	57,098.6139	2.1693		57,152.8466
Unmitigated	10.2619	36.6036	133.6326	0.5604	56.5490	0.3885	56.9375	15.1211	0.3601	15.4812		57,098.6139	57,098.6139	2.1693		57,152.8466

OC FSP - Construction (Phase 2)
Orange County, Summer

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
Government (Civic Center)	8,632.31	0.00	0.00	19,041,204	19,041,204
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	8,632.31	0.00	0.00	19,041,204	19,041,204

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Government (Civic Center)	16.60	8.40	6.90	75.00	20.00	5.00	50	34	16
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.566758	0.042765	0.209365	0.107075	0.014132	0.005761	0.026332	0.018095	0.001807	0.001489	0.004961	0.000606	0.000854
Government (Civic Center)	0.566758	0.042765	0.209365	0.107075	0.014132	0.005761	0.026332	0.018095	0.001807	0.001489	0.004961	0.000606	0.000854
Other Non-Asphalt Surfaces	0.566758	0.042765	0.209365	0.107075	0.014132	0.005761	0.026332	0.018095	0.001807	0.001489	0.004961	0.000606	0.000854
Parking Lot	0.566758	0.042765	0.209365	0.107075	0.014132	0.005761	0.026332	0.018095	0.001807	0.001489	0.004961	0.000606	0.000854

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0835	0.7590	0.6376	4.5500e-003		0.0577	0.0577		0.0577	0.0577		910.8478	910.8478	0.0175	0.0167	916.2605
NaturalGas Unmitigated	0.0835	0.7590	0.6376	4.5500e-003		0.0577	0.0577		0.0577	0.0577		910.8478	910.8478	0.0175	0.0167	916.2605

OC FSP - Construction (Phase 2)

Orange County, Summer

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Government (Civic Center)	7742.21	0.0835	0.7590	0.6376	4.5500e-003		0.0577	0.0577		0.0577	0.0577		910.8478	910.8478	0.0175	0.0167	916.2605
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0835**	**0.7590**	**0.6376**	**4.5500e-003**		**0.0577**	**0.0577**		**0.0577**	**0.0577**		**910.8478**	**910.8478**	**0.0175**	**0.0167**	**916.2605**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Government (Civic Center)	7.74221	0.0835	0.7590	0.6376	4.5500e-003		0.0577	0.0577		0.0577	0.0577		910.8478	910.8478	0.0175	0.0167	916.2605
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0835**	**0.7590**	**0.6376**	**4.5500e-003**		**0.0577**	**0.0577**		**0.0577**	**0.0577**		**910.8478**	**910.8478**	**0.0175**	**0.0167**	**916.2605**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	6.9740	3.6000e-004	0.0400	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0859	0.0859	2.2000e-004		0.0915
Unmitigated	6.9740	3.6000e-004	0.0400	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0859	0.0859	2.2000e-004		0.0915

OC FSP - Construction (Phase 2)

Orange County, Summer

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.7964					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.1738					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.6800e-003	3.6000e-004	0.0400	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0859	0.0859	2.2000e-004		0.0915
Total	**6.9740**	**3.6000e-004**	**0.0400**	**0.0000**		**1.4000e-004**	**1.4000e-004**		**1.4000e-004**	**1.4000e-004**		**0.0859**	**0.0859**	**2.2000e-004**		**0.0915**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.7964					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.1738					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.6800e-003	3.6000e-004	0.0400	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0859	0.0859	2.2000e-004		0.0915
Total	**6.9740**	**3.6000e-004**	**0.0400**	**0.0000**		**1.4000e-004**	**1.4000e-004**		**1.4000e-004**	**1.4000e-004**		**0.0859**	**0.0859**	**2.2000e-004**		**0.0915**

7.0 Water Detail

7.1 Mitigation Measures Water

OC FSP - Construction (Phase 2)

Orange County, Summer

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Attachment B.
Traffic Study Addendum

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IBI GROUP
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Memorandum

To/Attention	Placeworks	**Date**	August 30, 2018
From	IBI Group	**Project No**	100667
cc			

Subject County of Orange Facilities Strategic Plan - Traffic Study Addendum #2

This memorandum serves as an addendum to update the latest Traffic Impact Analysis for the County of Orange Facilities Strategic Plan (Dec 2016). The purpose of this addendum is to provide an update to incorporate modifications to the project phasing plan and anticipated opening year (Appendix A). The following items are included in this addendum:

1. Analysis of the following scenarios:
    a. Existing Conditions (2018) – No Project Conditions
    b. Existing Conditions (2018) – with County of Orange Facilities Strategic Plan (Phase 1)
    c. Opening Year (2020) – No Project Conditions
    d. Opening Year (2020) – with County of Orange Facilities Strategic Plan (Phase 1)
2. Turning movement volumes for the following intersections were updated from 2014 to 2016 count data:
    a. Intersection 7: Broadway and Civic Center Drive
    b. Intersection 13: Broadway and Santa Ana Boulevard
    c. Intersection 16: Broadway and 5th Street
    d. Intersection 19: Broadway and 4th Street
3. Level of Service and Queue Analysis of Caltrans operated intersections
4. Existing Year scenario updated from 2016 to 2018
5. Opening Year scenario updated from 2021 to 2020

1 ANALYSIS METHODOLOGY

The level of service (LOS) analysis and traffic forecasting methodologies are consistent with those presented in Section 3 of the Traffic Impact Analysis (Dec 2016) and the Traffic Study Addendum #1 incorporating Caltrans intersections (Mar 2017). Using the annual growth rate of 0.50%, the 2016 turning movement volumes were adjusted to develop Existing Year (2018) and Opening Year (2020) base turning movement volumes for all study intersections.

1.1 Project Trips

Project related traffic volumes were obtained utilizing the 10th edition of the Institute of Transportation Engineers (ITE) Trip Generation Manual. Trip generation estimates were based on Government Office Complex (Land Use Code 733) vehicle rates. Trip generation for Phase 1 and Phase 1+4 of the project were developed, and are summarized in Table 1-1 and Table 1-2, respectively. It should be noted that the scenarios which include Phase 1+4 of the project were not re-evaluated as the prior project trip generation assessed in the Traffic Impact Analysis (Dec 2016) is more conservative than the modified trip generation for Phase 1+4 presented in Table 1-2.

Table 1-1: Project Phase 1 Trip Generation

	Unit	ADT	A.M. Peak Hour			P.M. Peak Hour		
			In	Out	Total	In	Out	Total
Trip Rates[1] (Land Use Code)								
Government Office Complex (733)	TSF	33.98	1.90	0.23	2.13	0.87	1.95	2.82
Existing Trip Generation (to be demolished)	**Size**							
Building 16	38.420	1,306	73	9	82	34	75	108
Project Trip Generation	**Size**							
Building 16	252.521	8,581	479	59	538	221	491	712
Building 18	6.214	211	12	1	13	5	12	18
Net Phase 1 Trip Generation	**Size**							
Project - Existing	***220.315***	***7,486***	***418***	***52***	***469***	***193***	***429***	***621***

Notes: TSF - thousand square feet; ADT - average daily traffic

[1]Trip rates referenced from the Institute of Transportation Engineers (ITE) Trip Generation, 10th Edition (2017).

Table 1-2: Project Phase 1+4 Trip Generation

	Unit	ADT	A.M. Peak Hour			P.M. Peak Hour		
			In	Out	Total	In	Out	Total
Trip Rates[1] (Land Use Code)								
Government Office Complex (733)	TSF	33.98	1.90	0.23	2.13	0.87	1.95	2.82
Existing Trip Generation (to be demolished)	**Size**							
Buildings 10, 11, 12, 14, and 433 W Civic Center	429.277	14,587	814	101	914	375	835	1,211
Project Trip Generation	**Size**							
Buildings 10, 12, and 14	562.160	19,102	1,066	132	1,197	491	1,094	1,585
Net Phase 4 Trip Generation	**Size**							
Project - Existing	***132.883***	***4,515***	***252***	***31***	***283***	***116***	***259***	***375***
Phase 1 + 4 TRIP GENERATION	***353.198***	***12,002***	***670***	***83***	***752***	***309***	***687***	***996***

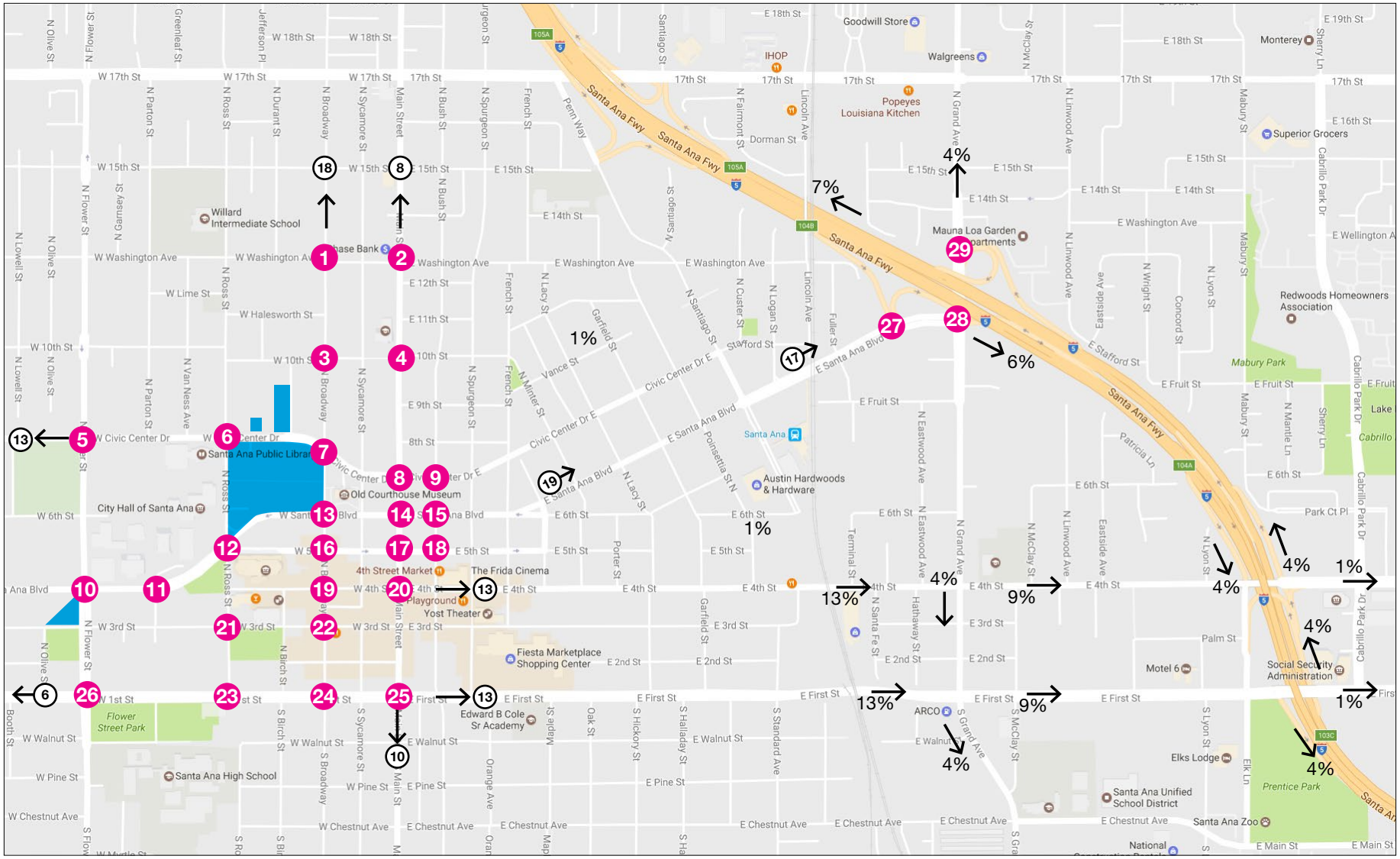
Notes: TSF - thousand square feet; ADT - average daily traffic

[1]Trip rates referenced from the Institute of Transportation Engineers (ITE) Trip Generation, 10th Edition (2017).

1.2 Trip Distribution

Consistent with the Traffic Impact Analysis (Dec 2016), trip distribution percentages were based on Civic Center area employee survey data. This data identified the number of employees that originate from North Orange County, Central Orange County, South Orange County, Los Angeles County, Riverside County, San Bernardino County, and San Diego County. The regional trip distribution percentages are shown in Figure 1. The resultant trip assignment for the AM and PM periods are illustrated in Figure 2 through Figure 5.

Figure 1 Regional Trip Distribution



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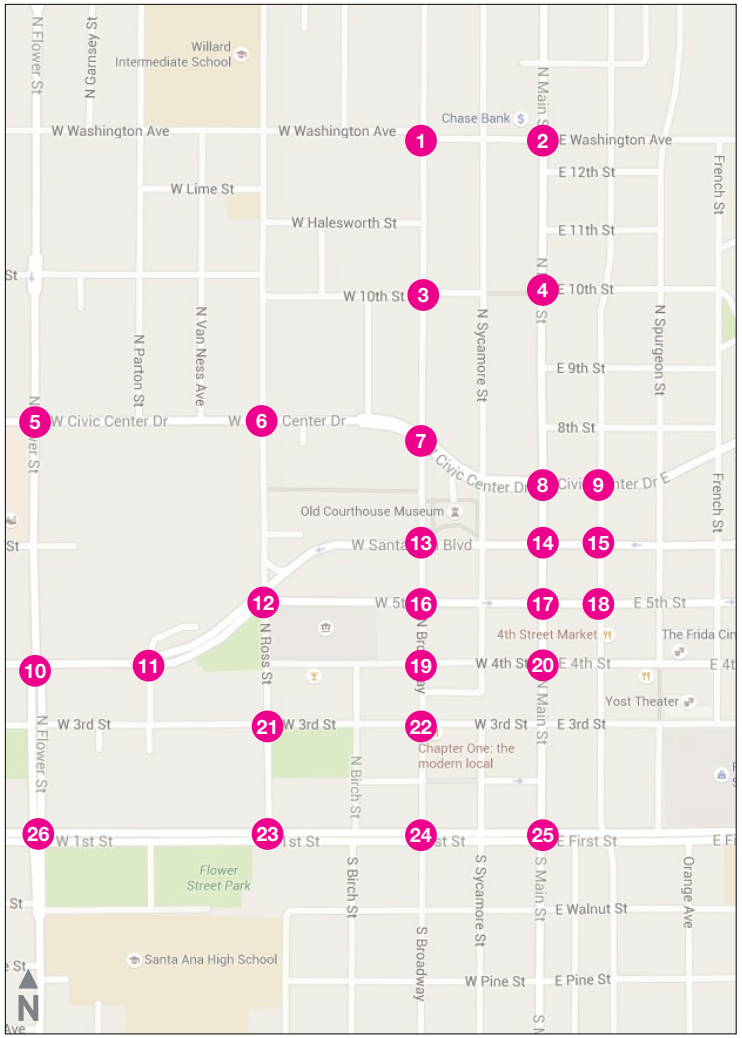
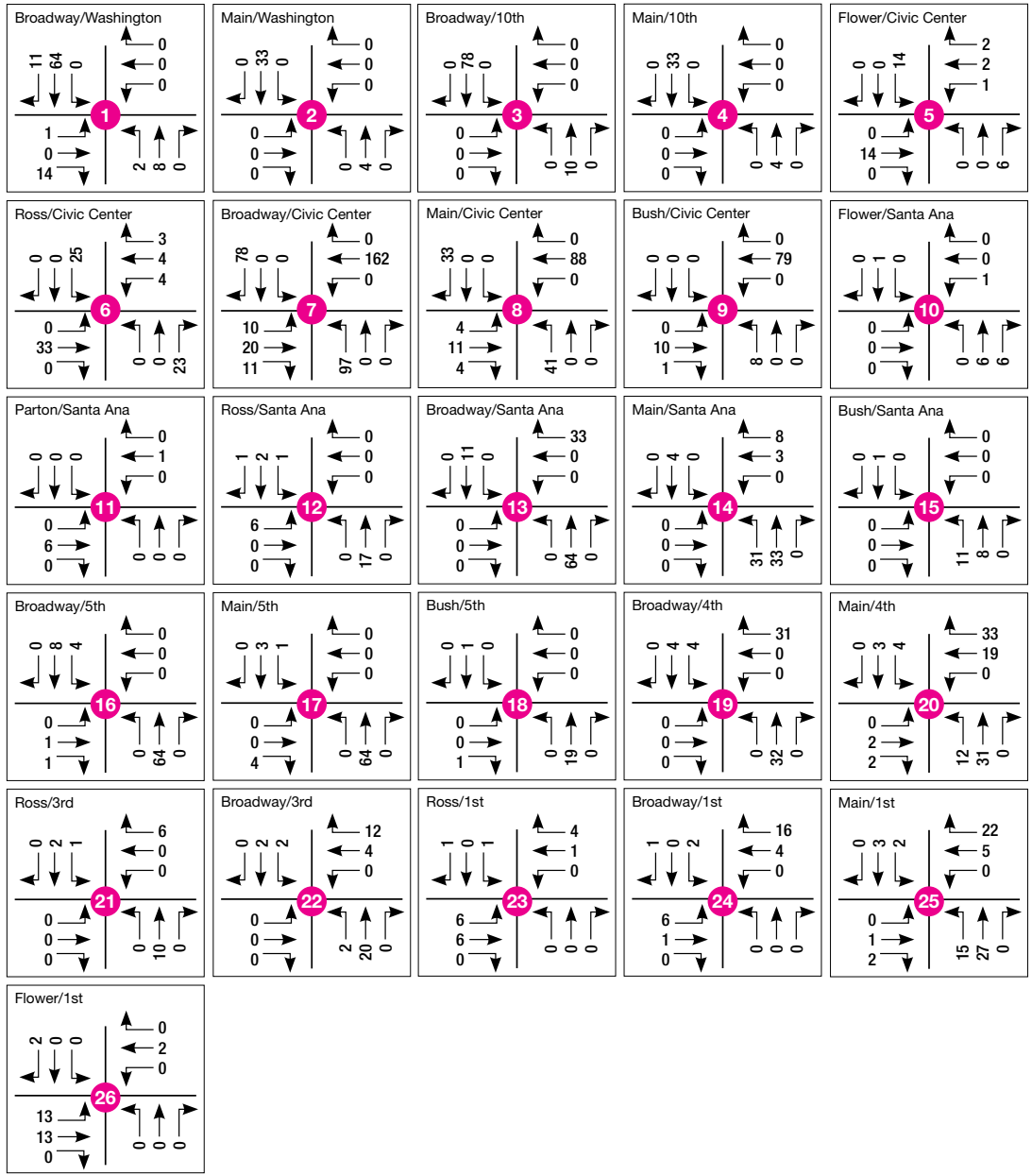
- Study Intersection
- Regional Trip Distribution Percentage
- Project Site

Figure 2 – Project (Phase 1) Trip Assignment AM Peak Hour





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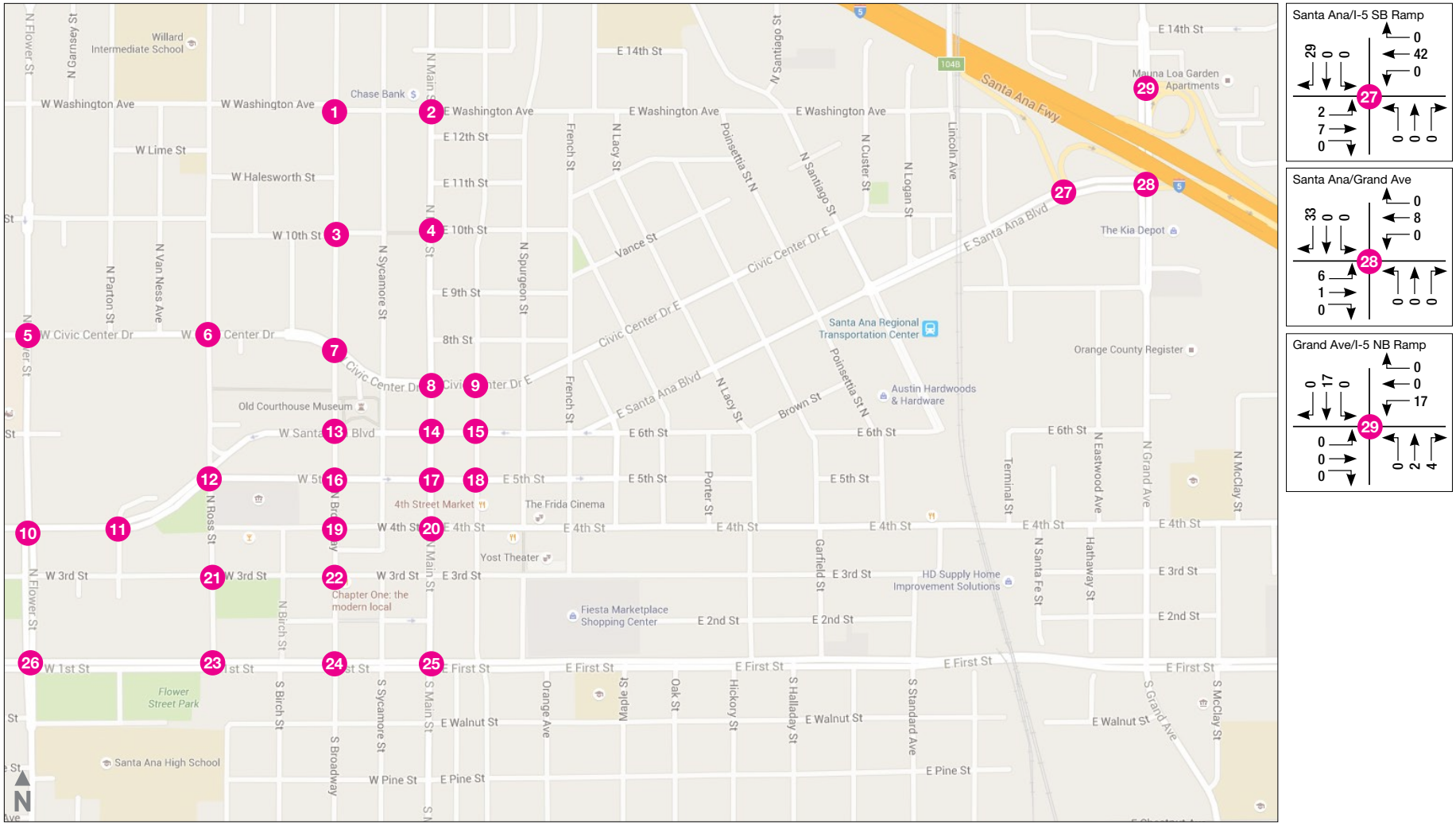
- (#) Study Intersection
- AM Peak Hour Volume

Figure 3 – Project (Phase 1) Trip Assignment AM Peak Hour



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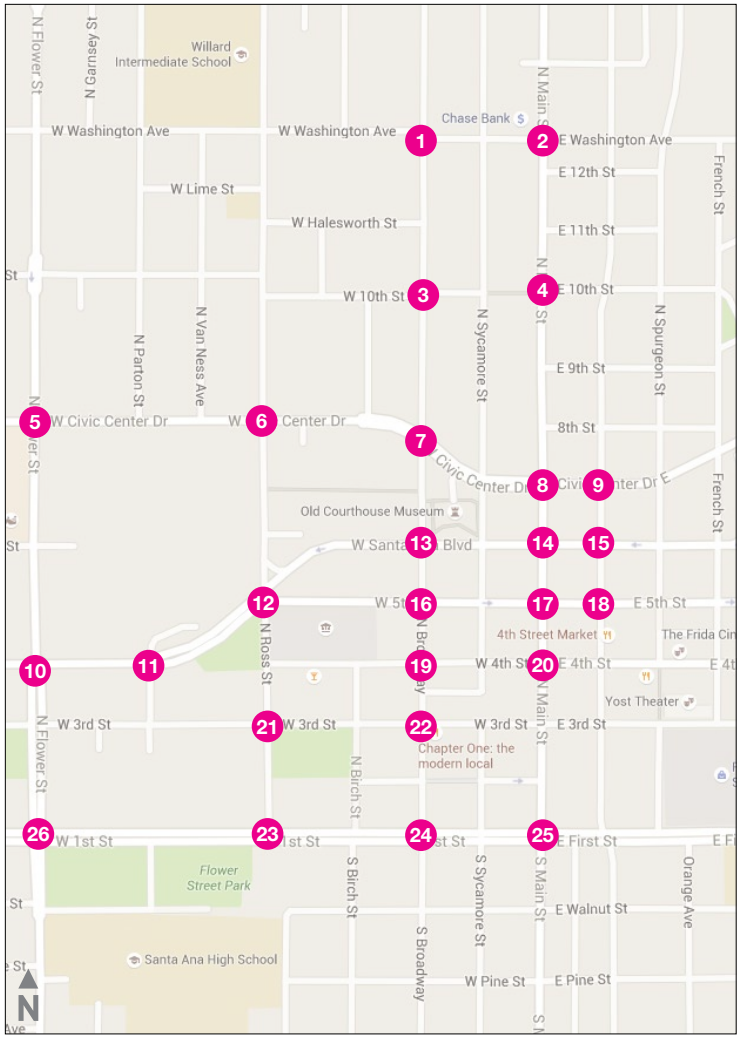
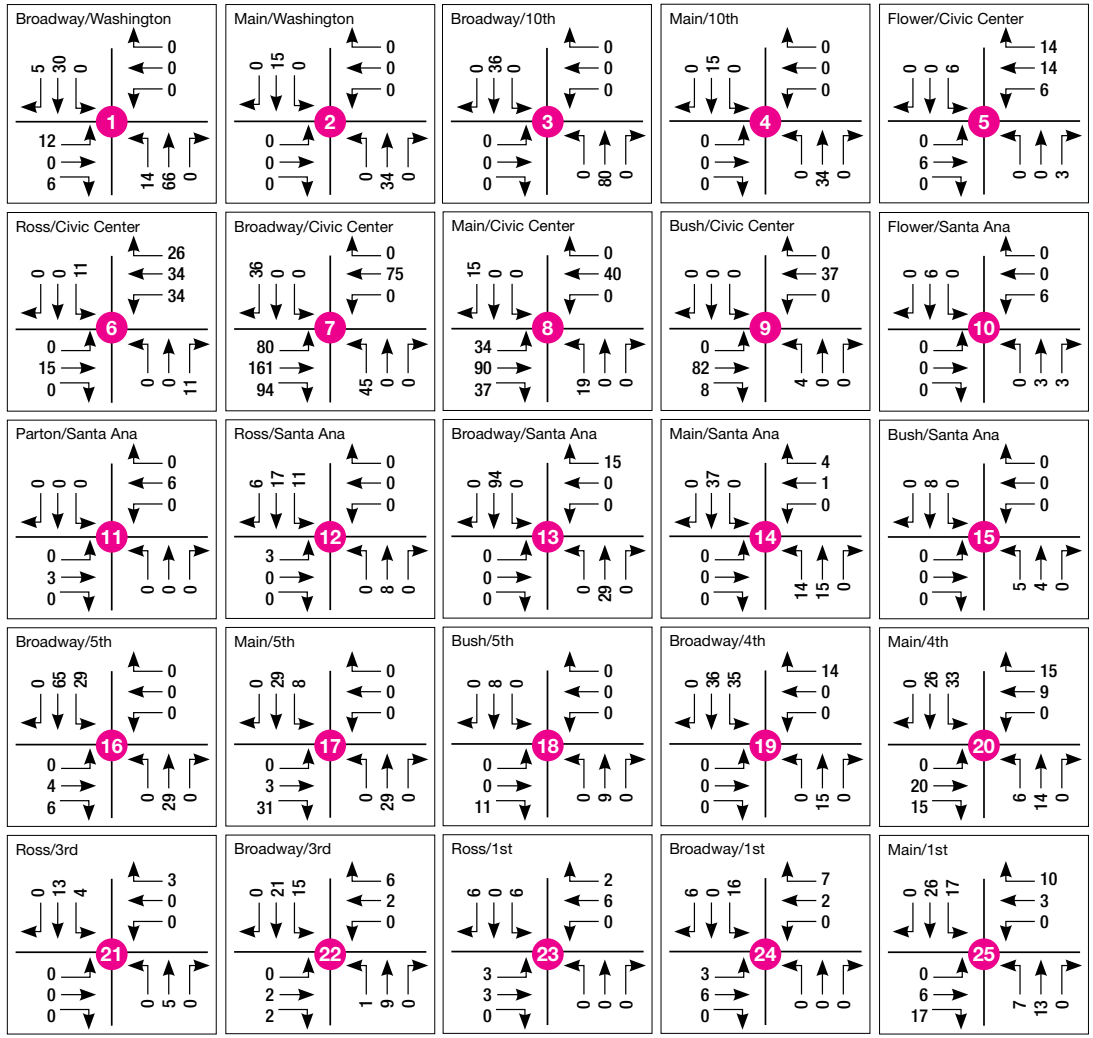
(#) Study Intersection

AM Peak Hour Volume

Figure 4 – Project (Phase 1) Trip Assignment PM Peak Hour





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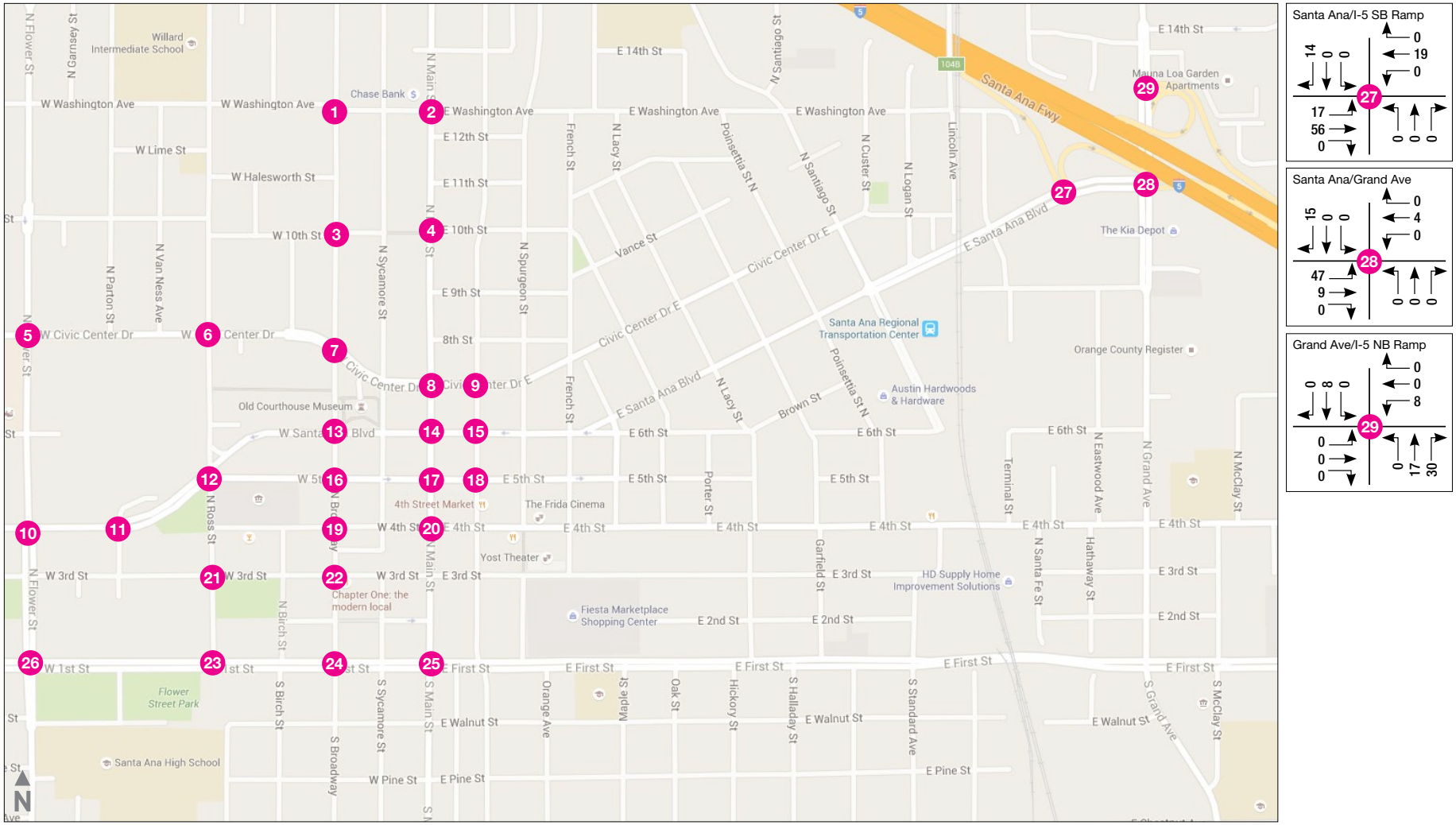
- (#) Study Intersection
- AM Peak Hour Volume

Figure 5 – Project (Phase 1) Trip Assignment PM Peak Hour



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(#) Study Intersection

AM Peak Hour Volume

2 EXISTING YEAR (2018)

2.1 Intersection Volumes

Existing traffic volumes at study intersections were pulled from the Traffic Impact Analysis (Dec 2016) with the exception of four intersections. These intersections (below) were updated from 2014 counts to 2016 counts. Using an annual growth rate of 0.50%, the 2016 turning movement volumes were adjusted to develop Existing Year (2018) turning movement volumes for all study intersections; this is consistent with the Traffic Impact Analysis (Dec 2016). Turning movement volumes for AM and PM peak periods are summarized in Figure 6 through Figure 9. Original count data is provided in the Appendix B.

Table 2-1: Intersection Data Summary

Int. No.	N/S Street	E/W Street	Source	Count Date
7	Broadway	Civic Center Drive	HNTB	2016
13	Broadway	Santa Ana Boulevard	HNTB	2016
16	Broadway	5th Street	HNTB	2016
19	Broadway	4th Street	HNTB	2016

2.2 Existing Year (2018) No Project Intersection Level of Service Analysis

The intersection operations analysis for the Existing Year (2018) No Project scenario was performed consistent with the methodology outlined in Section 3 of the Traffic Impact Analysis. Of the 29 intersections analyzed as part of the study, all but one intersection operates at a LOS C or better; intersection 28 operates at LOS D during both peak periods. Table 2-2 summarizes the study intersection levels of service.

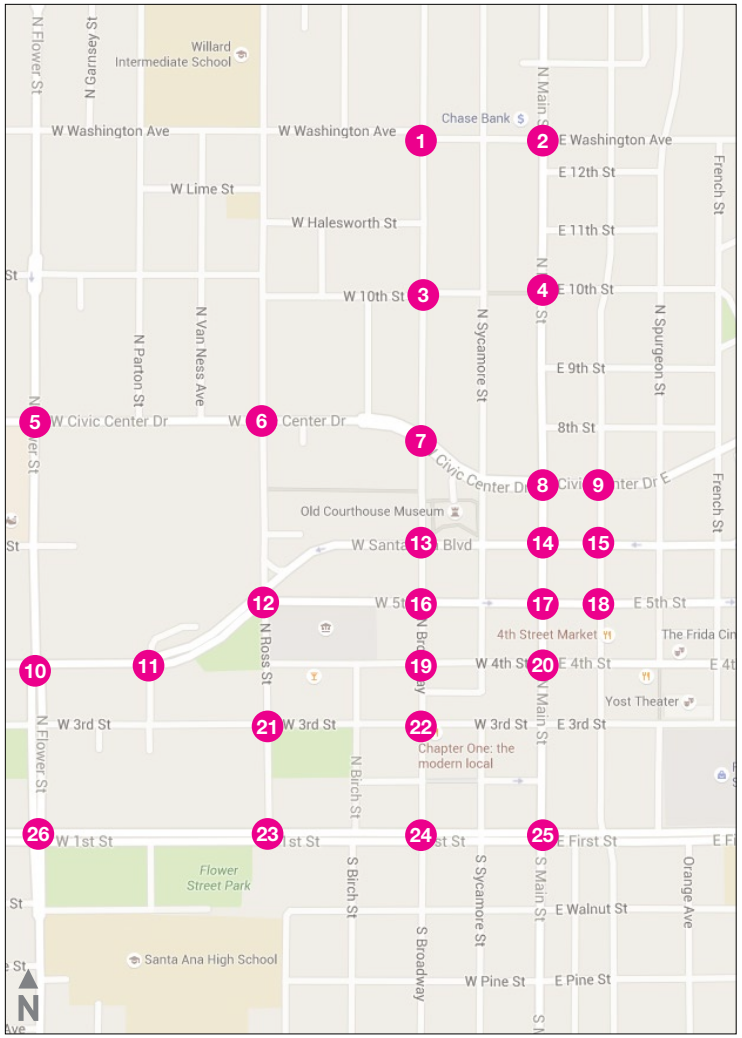
Table 2-2: Existing Year (2018) No Project LOS Summary

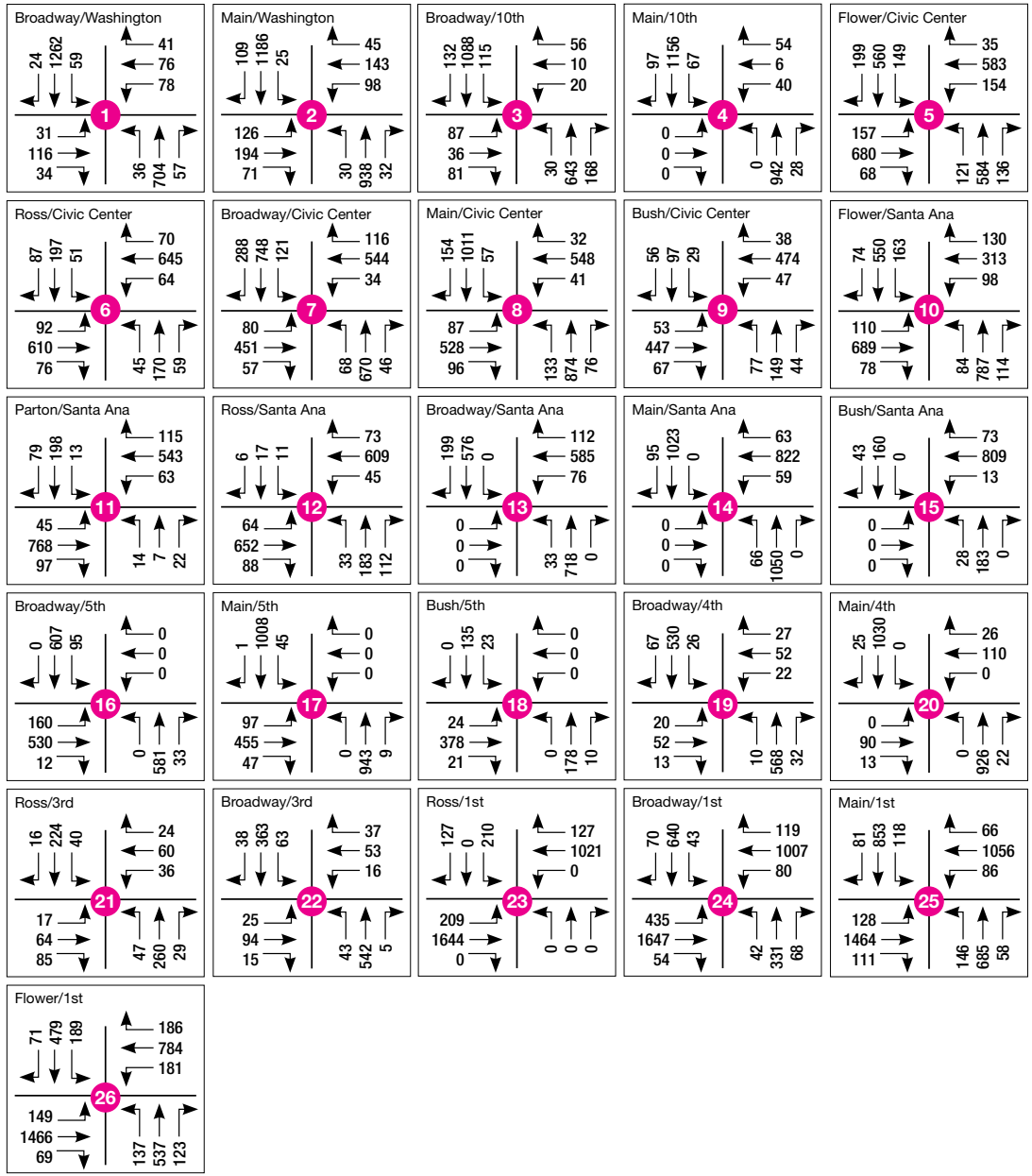
Intersection		Analysis	Control	Peak Hour	No Project	
					LOS	V/C
1	Broadway & Washington Avenue	ICU	Signal	AM	A	0.586
				PM	A	0.482
2	Main Street & Washington Avenue	ICU	Signal	AM	B	0.650
				PM	B	0.624
3	Broadway & 10th Street	ICU	Signal	AM	A	0.540
				PM	A	0.544
4	Main Street & 10th Street	ICU	Signal	AM	A	0.454
				PM	A	0.438
5	Flower Street & Civic Center Drive	ICU	Signal	AM	B	0.648
				PM	B	0.678
6	Ross Street & Civic Center Drive	ICU	Signal	AM	A	0.487
				PM	A	0.408
7	Broadway & Civic Center Drive	ICU	Signal	AM	B	0.622
				PM	A	0.557
8	Main Street & Civic Center Drive	ICU	Signal	AM	B	0.668
				PM	C	0.728
9	Bush Street & Civic Center Drive	ICU	Signal	AM	A	0.380
				PM	A	0.533
10	Flower Street & Santa Ana Boulevard	ICU	Signal	AM	B	0.624
				PM	A	0.526
11	Parton Street & Santa Ana Boulevard	ICU	Signal	AM	A	0.255
				PM	A	0.322
12	Ross Street & Santa Ana Boulevard	ICU	Signal	AM	A	0.376
				PM	A	0.360
13	Broadway & Santa Ana Boulevard	ICU	Signal	AM	A	0.424
				PM	A	0.387

Intersection		Analysis	Control	Peak Hour	No Project	
					LOS	V/C
14	Main Street & Santa Ana Boulevard	ICU	Signal	AM	A	0.587
				PM	A	0.539
15	Bush Street & Santa Ana Boulevard	ICU	Signal	AM	A	0.331
				PM	A	0.338
16	Broadway & 5th Street	ICU	Signal	AM	A	0.398
				PM	A	0.437
17	Main Street & 5th Street	ICU	Signal	AM	A	0.450
				PM	B	0.609
18	Bush Street & 5th Street	ICU	Signal	AM	A	0.220
				PM	A	0.429
19	Broadway & 4th Street	ICU	Signal	AM	A	0.279
				PM	A	0.353
20	Main Street & 4th Street	ICU	Signal	AM	A	0.415
				PM	A	0.509
22	Broadway & 3rd Street	ICU	Signal	AM	A	0.453
				PM	B	0.612
23	Ross Street & 1st Street	ICU	Signal	AM	A	0.449
				PM	A	0.573
24	Broadway & 1st Street	ICU	Signal	AM	B	0.643
				PM	C	0.722
25	Main Street & 1st Street	ICU	Signal	AM	C	0.740
				PM	C	0.752
26	Flower Street & 1st Street	ICU	Signal	AM	C	0.719
				PM	C	0.737
Intersection		**Analysis Methodology**	**Control**	**Peak Hour**	**No Project**	
					LOS	**Delay (s)**
21	Ross Street & 3rd Street	HCM 2000	AWSC	AM	B	11.4
				PM	B	10.7
27	Santa Ana Boulevard & I-5 SB Ramp	HCM 2010	Signal	AM	B	14.7
				PM	B	14.9
28	Grand Avenue & Santa Ana Boulevard / I-5 SB Carpool Ramp	HCM 2010	Signal	AM	D	35.7
				PM	D	36.0
29	Grand Avenue & I-5 NB Ramp	HCM 2010	Signal	AM	B	13.7
				PM	B	14.0

Notes:
LOS – Level of Service
V/C – Volume to Capacity (Ratio)
AWSC – All-Way Stop Control

Figure 6 – 2018 No Project AM Peak Hour Traffic Volumes

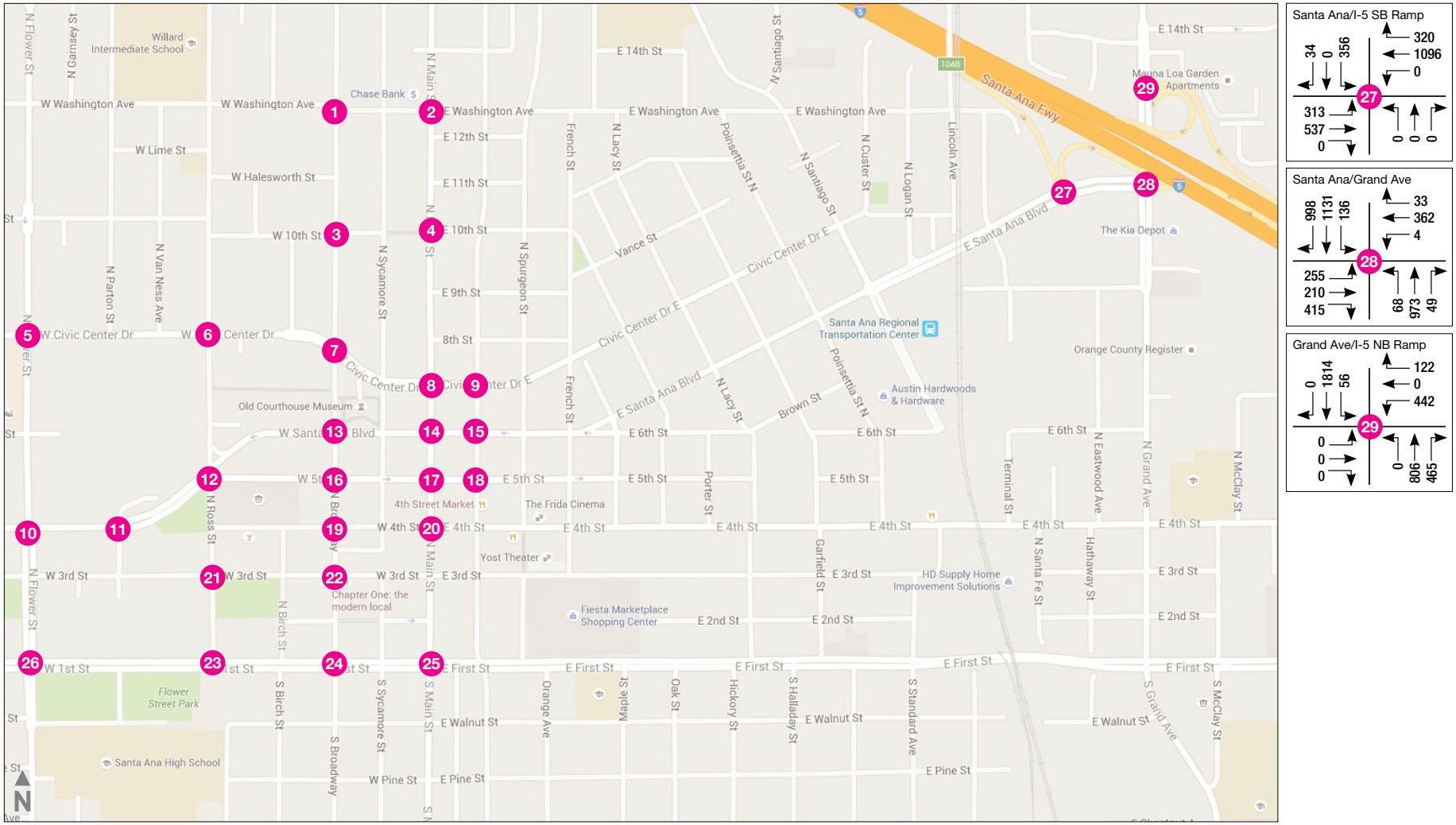




legend

- (#) Study Intersection
- AM Peak Hour Volume

Figure 7 – 2018 No Project AM Peak Hour Traffic Volumes

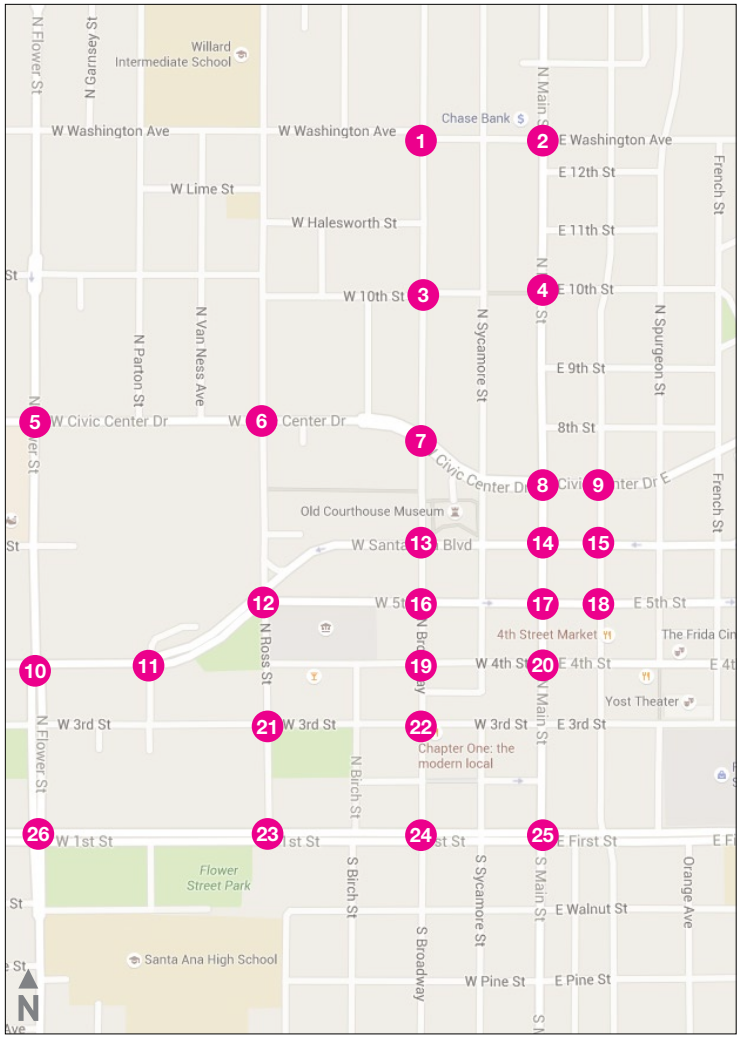


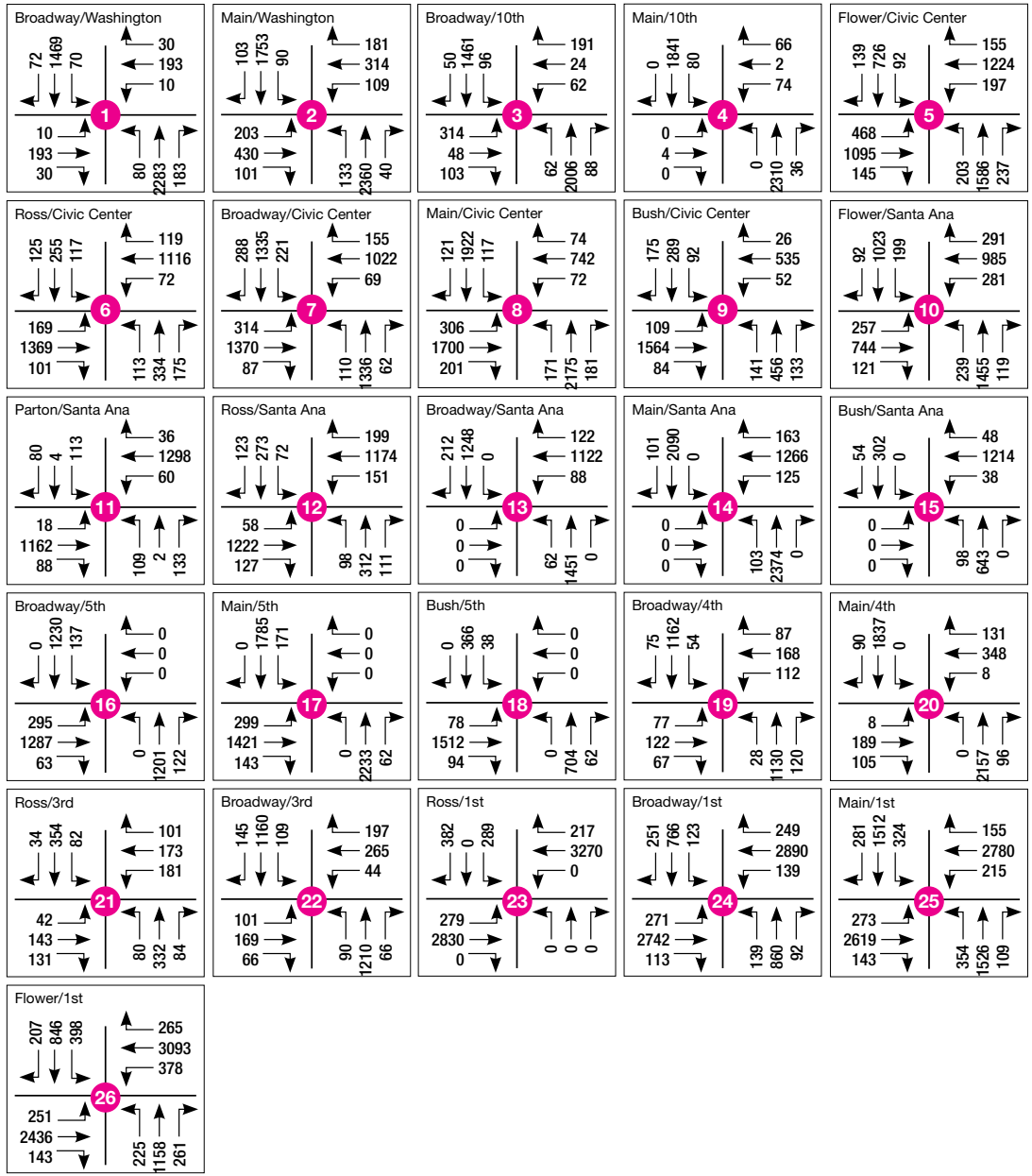
legend

(#) Study Intersection

AM Peak Hour Volume

Figure 8 – 2018 No Project PM Peak Hour Traffic Volumes

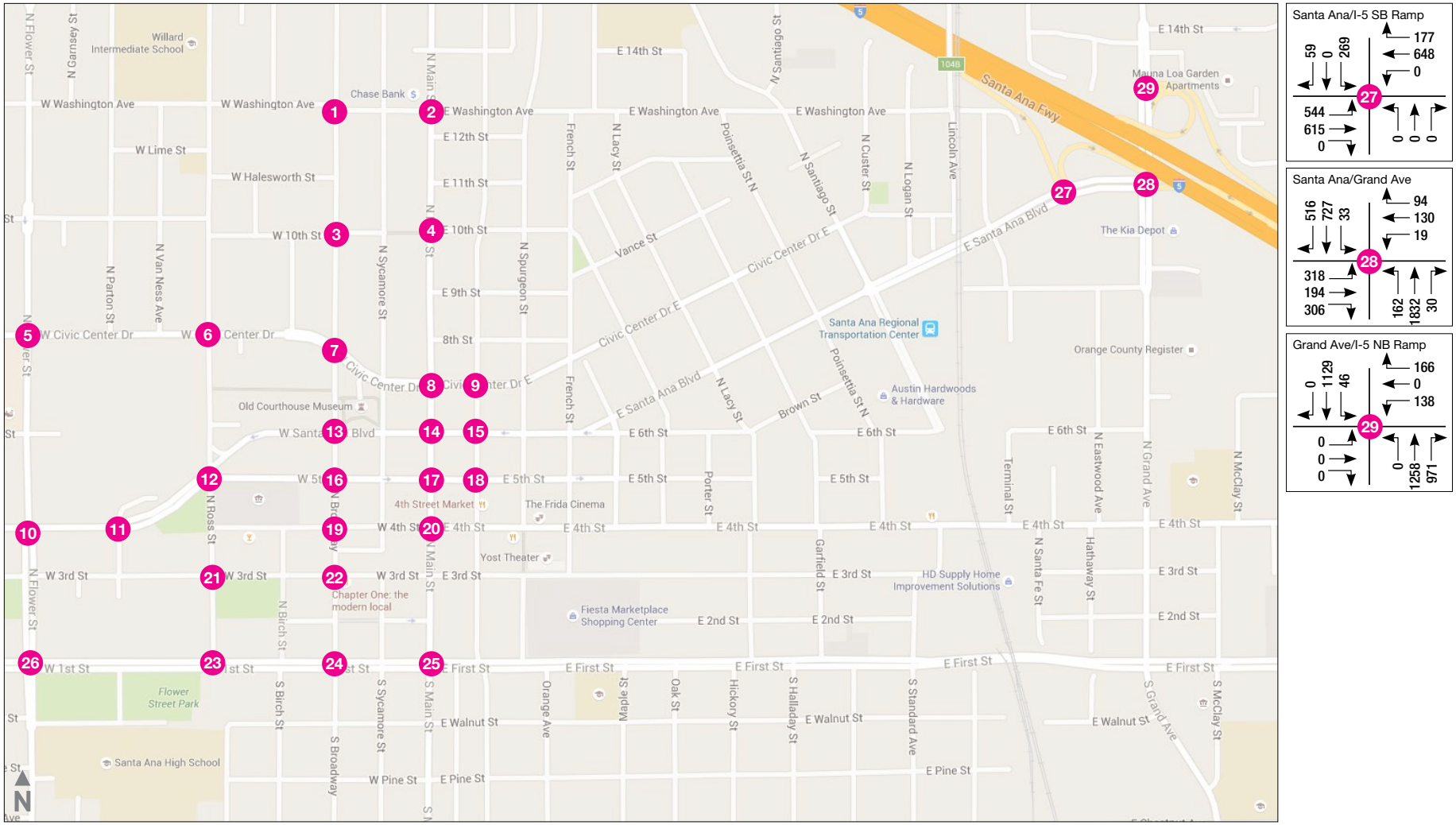




legend

- (#) Study Intersection
- AM Peak Hour Volume

Figure 9 – 2018 No Project PM Peak Hour Traffic Volumes



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- (#) Study Intersection
- AM Peak Hour Volume

2.3 Existing Year (2018) No Project Queue Analysis

Consistent with the Traffic Study Addendum #1 (Mar 2017), a freeway ramp queue analysis was conducted at Caltrans intersections. The off-ramps provide sufficient queue capacity for the queue lengths observed in the AM and PM peak hours. A summary of the AM and PM peak hour ramp queue lengths is presented in Table 2-3 below:

Table 2-3: Existing Year (2018) No Project Queue Summary

ID	INTERSECTION	CONTROL TYPE	QUEUE CAPACITY (FT)	PEAK HOUR	QUEUE LENGTH (FT)
27	Santa Ana Boulevard & I-5 SB Ramp	Signalized	1,000	AM	136
				PM	89
28	Santa Ana Boulevard & Grand Avenue	Signalized	1,200	AM	238
				PM	91
29	Grand Avenue & I-5 NB Ramp	Signalized	1,400	AM	162
				PM	64

Note: Queue length - 95th percentile.

2.4 Existing Year (2018) With Project (Phase 1) Level of Service Analysis

The intersection operations analysis for the Existing Year (2018) With Project (Phase 1) scenario was performed consistent with the methodology outlined in Section 3 of the Traffic Impact Analysis (Dec 2016). Figure 10 through Figure 13 present the turning movement volumes for the AM and PM peak hours. Of the 29 intersections analyzed as part of the study, all intersections are anticipated to operate at a level of C or better. The study intersection levels of service are summarized in Table 2-4. No significant impacts are expected with the addition of project trips.

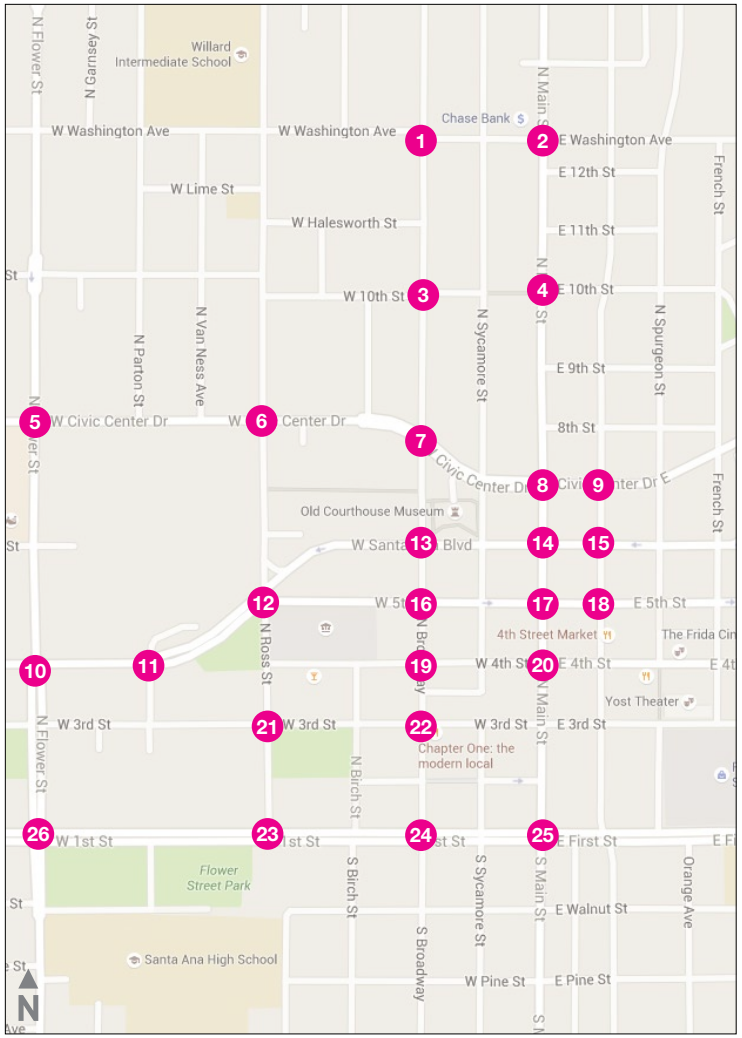
Table 2-4: Existing Year (2018) With Project (Phase 1) LOS Summary

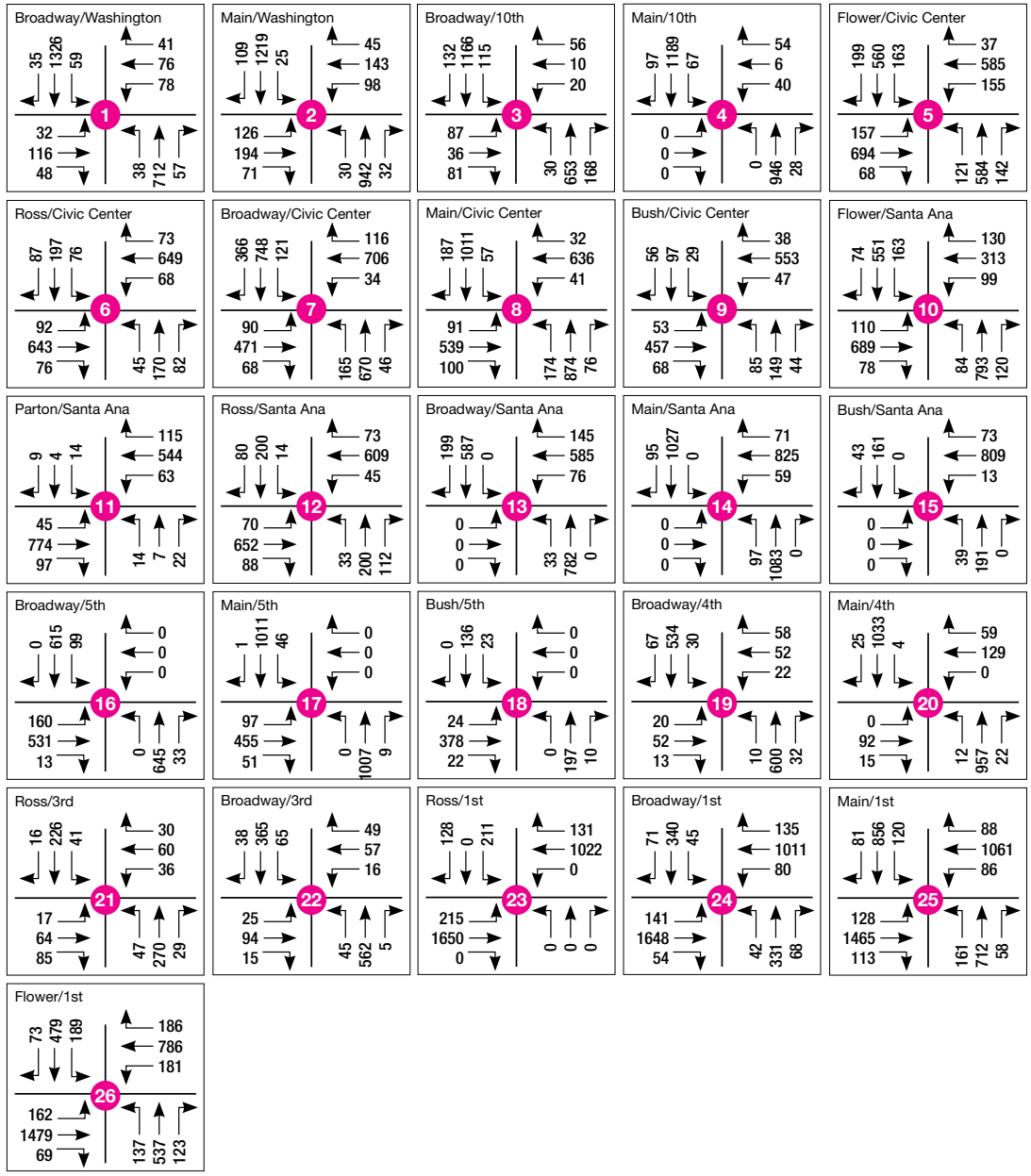
Intersection		Analysis	Control	Peak Hour	No Project		With Project		Change in V/C	Impact
					LOS	V/C	LOS	V/C		
1	Broadway & Washington Avenue	ICU	Signal	AM	A	0.586	B	0.62	0.034	No
				PM	A	0.482	A	0.51	0.028	No
2	Main Street & Washington Avenue	ICU	Signal	AM	B	0.650	B	0.661	0.011	No
				PM	B	0.624	B	0.635	0.011	No
3	Broadway & 10th Street	ICU	Signal	AM	A	0.54	A	0.564	0.024	No
				PM	A	0.544	A	0.569	0.025	No
4	Main Street & 10th Street	ICU	Signal	AM	A	0.454	A	0.464	0.010	No
				PM	A	0.438	A	0.448	0.010	No
5	Flower Street & Civic Center Drive	ICU	Signal	AM	B	0.648	B	0.664	0.016	No
				PM	B	0.678	B	0.692	0.014	No
6	Ross Street & Civic Center Drive	ICU	Signal	AM	A	0.487	A	0.489	0.002	No
				PM	A	0.408	A	0.434	0.026	No
7	Broadway & Civic Center Drive	ICU	Signal	AM	B	0.622	C	0.764	0.142	No
				PM	A	0.557	B	0.672	0.115	No
8	Main Street & Civic Center Drive	ICU	Signal	AM	B	0.668	C	0.749	0.081	No
				PM	C	0.728	C	0.768	0.04	No
9	Bush Street & Civic Center Drive	ICU	Signal	AM	A	0.380	A	0.41	0.030	No
				PM	A	0.533	A	0.564	0.031	No
10	Flower Street & Santa Ana Boulevard	ICU	Signal	AM	B	0.624	B	0.627	0.003	No
				PM	A	0.526	A	0.527	0.001	No
11	Parton Street & Santa Ana Boulevard	ICU	Signal	AM	A	0.255	A	0.256	0.001	No
				PM	A	0.322	A	0.324	0.002	No

Intersection		Analysis	Control	Peak Hour	No Project		With Project		Change in V/C	Impact
					LOS	V/C	LOS	V/C		
12	Ross Street & Santa Ana Boulevard	ICU	Signal	AM	A	0.376	A	0.378	0.002	No
				PM	A	0.360	A	0.366	0.006	No
13	Broadway & Santa Ana Boulevard	ICU	Signal	AM	A	0.424	A	0.434	0.010	No
				PM	A	0.387	A	0.42	0.033	No
14	Main Street & Santa Ana Boulevard	ICU	Signal	AM	A	0.587	B	0.61	0.023	No
				PM	A	0.539	A	0.561	0.022	No
15	Bush Street & Santa Ana Boulevard	ICU	Signal	AM	A	0.331	A	0.338	0.007	No
				PM	A	0.338	A	0.34	0.002	No
16	Broadway & 5th Street	ICU	Signal	AM	A	0.398	A	0.42	0.022	No
				PM	A	0.437	A	0.467	0.030	No
17	Main Street & 5th Street	ICU	Signal	AM	A	0.450	A	0.472	0.022	No
				PM	B	0.609	B	0.63	0.021	No
18	Bush Street & 5th Street	ICU	Signal	AM	A	0.220	A	0.232	0.012	No
				PM	A	0.429	A	0.437	0.008	No
19	Broadway & 4th Street	ICU	Signal	AM	A	0.279	A	0.311	0.032	No
				PM	A	0.353	A	0.388	0.035	No
20	Main Street & 4th Street	ICU	Signal	AM	A	0.415	A	0.457	0.042	No
				PM	A	0.509	A	0.551	0.042	No
22	Broadway & 3rd Street	ICU	Signal	AM	A	0.453	A	0.477	0.024	No
				PM	B	0.612	B	0.632	0.02	No
23	Ross Street & 1st Street	ICU	Signal	AM	A	0.449	A	0.455	0.006	No
				PM	A	0.573	A	0.58	0.007	No
24	Broadway & 1st Street	ICU	Signal	AM	B	0.643	B	0.643	0.000	No
				PM	C	0.722	C	0.736	0.014	No
25	Main Street & 1st Street	ICU	Signal	AM	C	0.74	C	0.751	0.011	No
				PM	C	0.752	C	0.757	0.005	No
26	Flower Street & 1st Street	ICU	Signal	AM	C	0.719	C	0.722	0.003	No
				PM	C	0.737	C	0.744	0.007	No
Intersection		**Analysis**	**Control**	**Peak Hour**	**No Project**		**With Project**		**Change in Delay(s)**	**Impact**
					LOS	**Delay (s)**	**LOS**	**Delay (s)**		
21	Ross Street & 3rd Street	HCM 2000	AWSC	AM	B	11.4	B	11.6	0.2	No
				PM	B	10.7	B	10.9	0.2	No
27	Santa Ana Boulevard & I-5 SB Ramp	HCM 2010	Signal	AM	B	14.7	B	13.9	-0.8	No
				PM	B	14.9	B	14.1	-0.8	No
28	Grand Avenue & Santa Ana Boulevard / I-5 SB Carpool Ramp	HCM 2010	Signal	AM	D	35.7	C	30.6	-5.1	No
				PM	D	36.0	C	31.1	-4.9	No
29	Grand Avenue & I-5 NB Ramp	HCM 2010	Signal	AM	B	13.7	B	11.4	-2.3	No
				PM	B	14.0	B	11.5	-2.5	No

Notes:
LOS – Level of Service
V/C – Volume to Capacity (Ratio)
AWSC – All-Way Stop Control

Figure 10 – Existing Year (2018) With Project (Phase 1) AM Peak Hour Traffic Volumes





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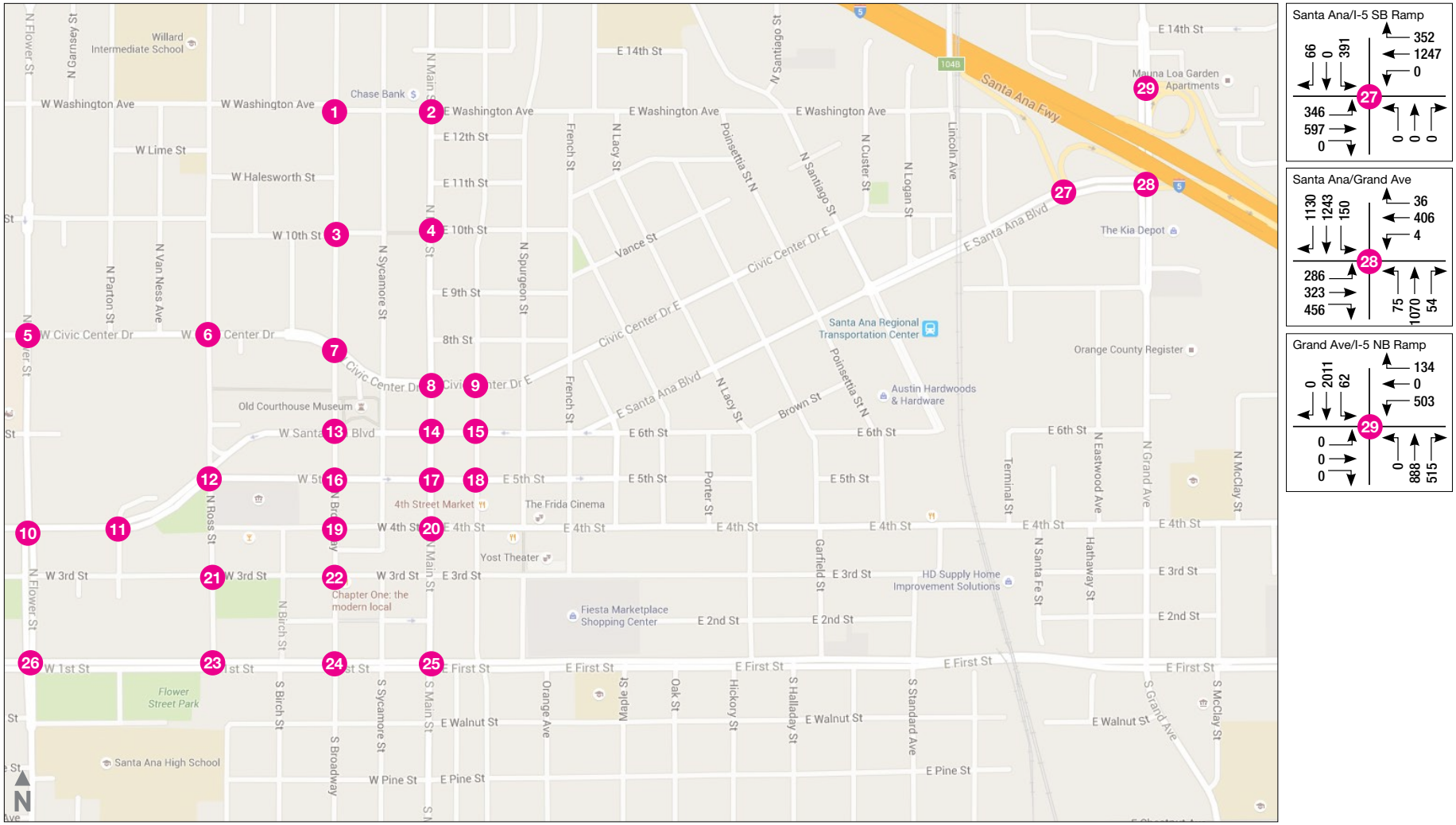
- (#) Study Intersection
- AM Peak Hour Volume

Figure 11 – Existing Year (2018) With Project (Phase 1) AM Peak Hour Traffic Volumes



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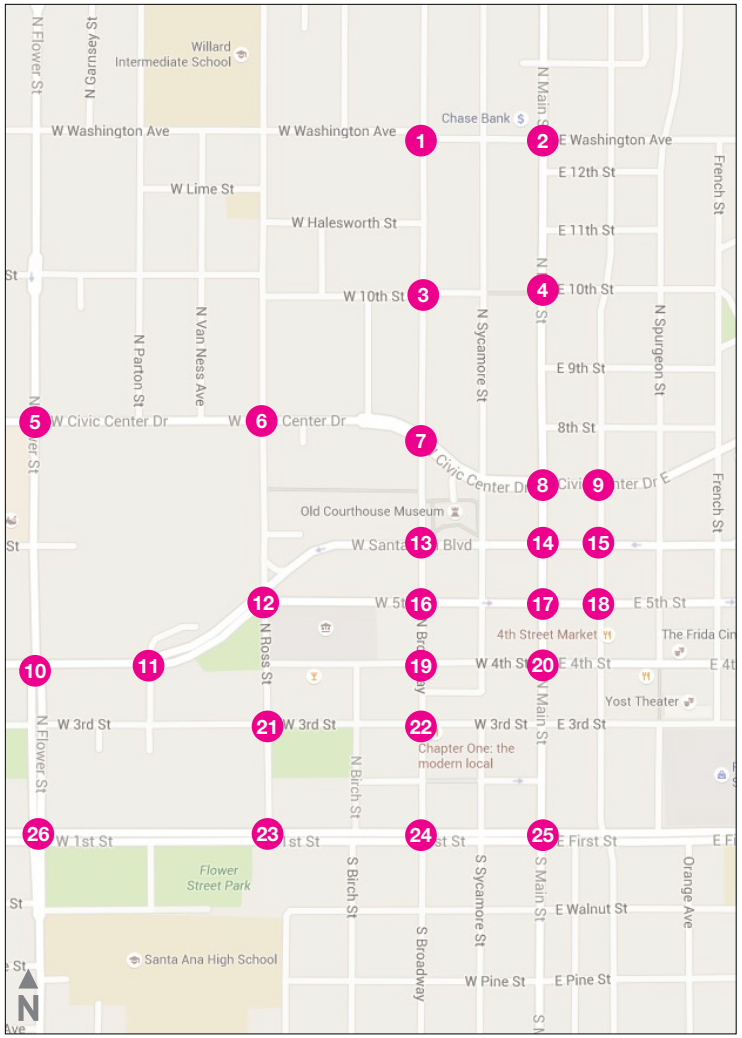
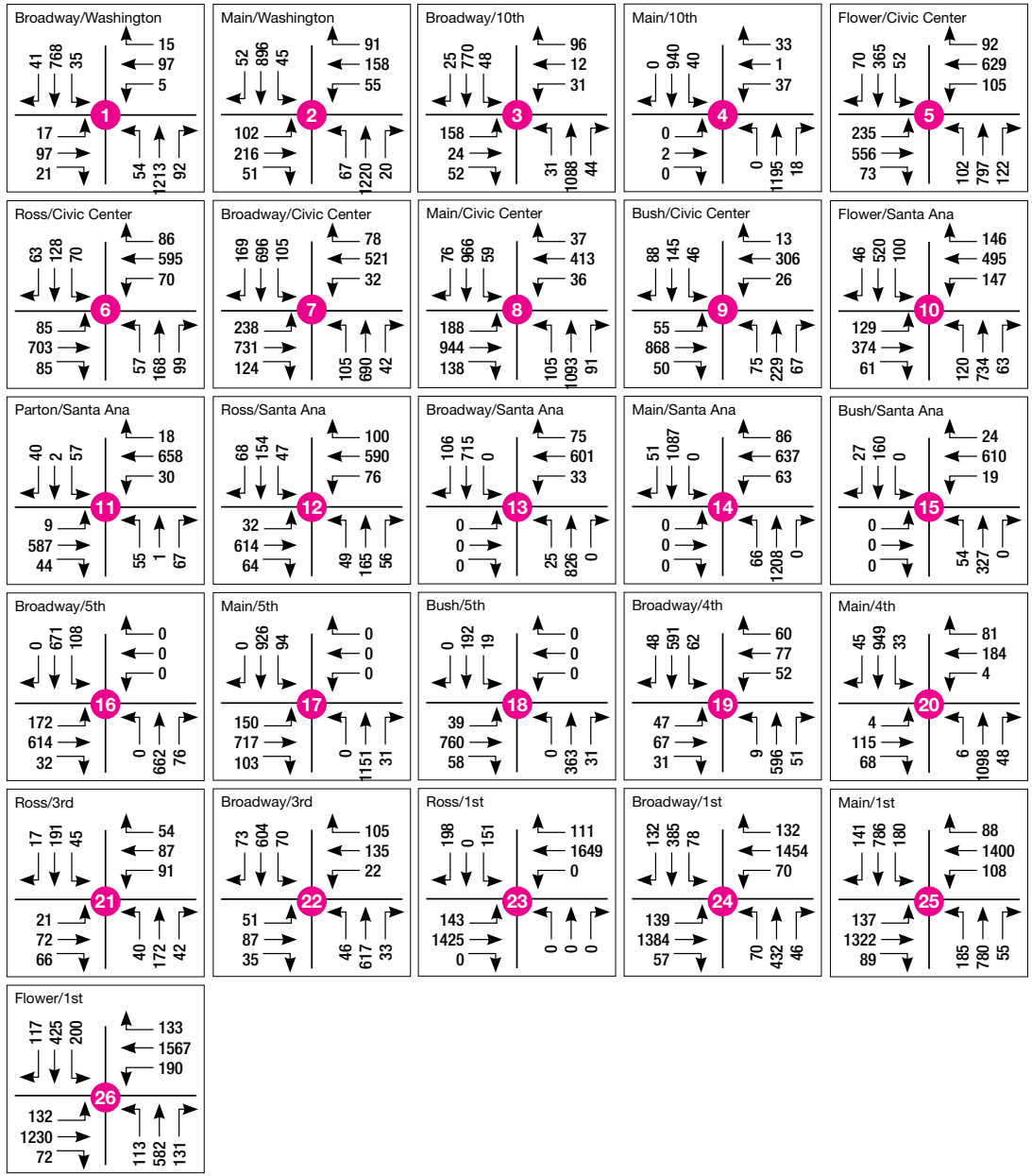
- (#) Study Intersection
- AM Peak Hour Volume

Figure 12 – Existing Year (2018) With Project (Phase 1) PM Peak Hour Traffic Volumes





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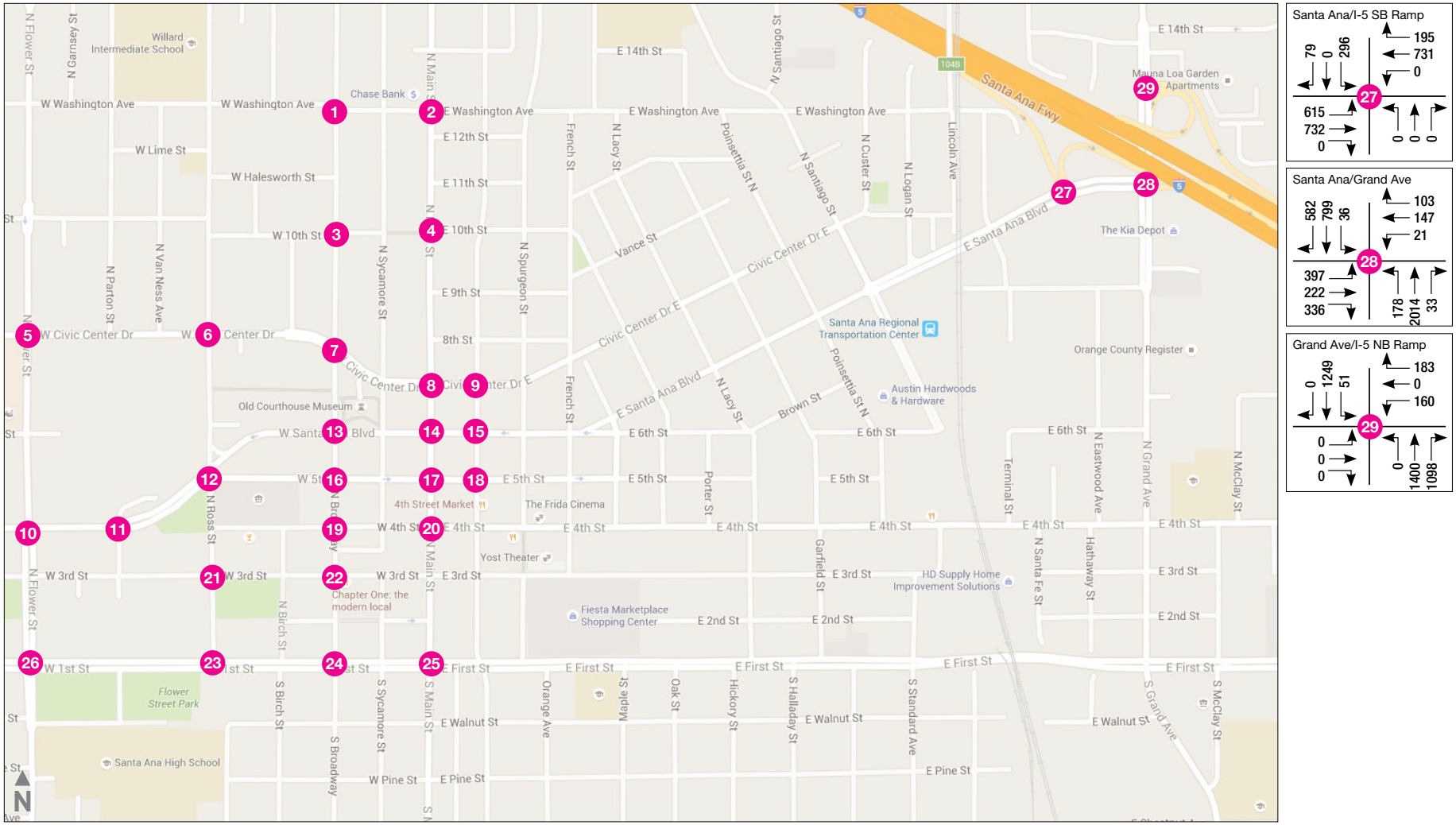
- (#) Study Intersection
- AM Peak Hour Volume

Figure 13 – Existing Year (2018) With Project (Phase 1) PM Peak Hour Traffic Volumes



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(#) Study Intersection

AM Peak Hour Volume

2.5 Existing Year (2018) With Project (Phase 1) Queue Analysis

Consistent with the Traffic Study Addendum #1 (Mar 2017), a freeway ramp queue analysis was conducted at Caltrans intersections. The off-ramps provide sufficient queue capacity for the queue lengths observed in the AM and PM peak hours. A summary of the AM and PM peak hour ramp queue lengths is presented in Table 2-5 below:

Table 2-5: Existing Year (2018) With Project (Phase 1) Queue Summary

ID	INTERSECTION	CONTROL TYPE	QUEUE CAPACITY (FT)	PEAK HOUR	QUEUE LENGTH (FT)
27	Santa Ana Boulevard & I-5 SB Ramp	Signalized	1,000	AM	136
				PM	90
28	Santa Ana Boulevard & Grand Avenue	Signalized	1,200	AM	245
				PM	93
29	Grand Avenue & I-5 NB Ramp	Signalized	1,400	AM	174
				PM	69

Note: Queue length - 95th percentile.

3 OPENING YEAR (2020)

3.1 Intersection Volumes

Consistent with the Traffic Impact Analysis (Dec 2016) and discussed in Section 2.1, an annual growth rate of 0.5% was used to determine intersection turning movement volumes for Opening Year (2020) conditions.

3.2 Opening Year (2020) No Project Intersection Level of Service Analysis

The intersection operations analysis for the Opening Year (2020) No Project scenario was performed consistent with the methodology outlined in Section 3 of the Traffic Impact Analysis (Dec 2016). Turning movement volumes for the AM and PM peak periods are presented in Figure 14 through Figure 17. Of the 29 intersections analyzed as part of the study, all but one intersection are operating at a LOS C or better; intersection 28 operates at LOS D during both peak periods. Table 3-2 summarizes the study intersection levels of service.

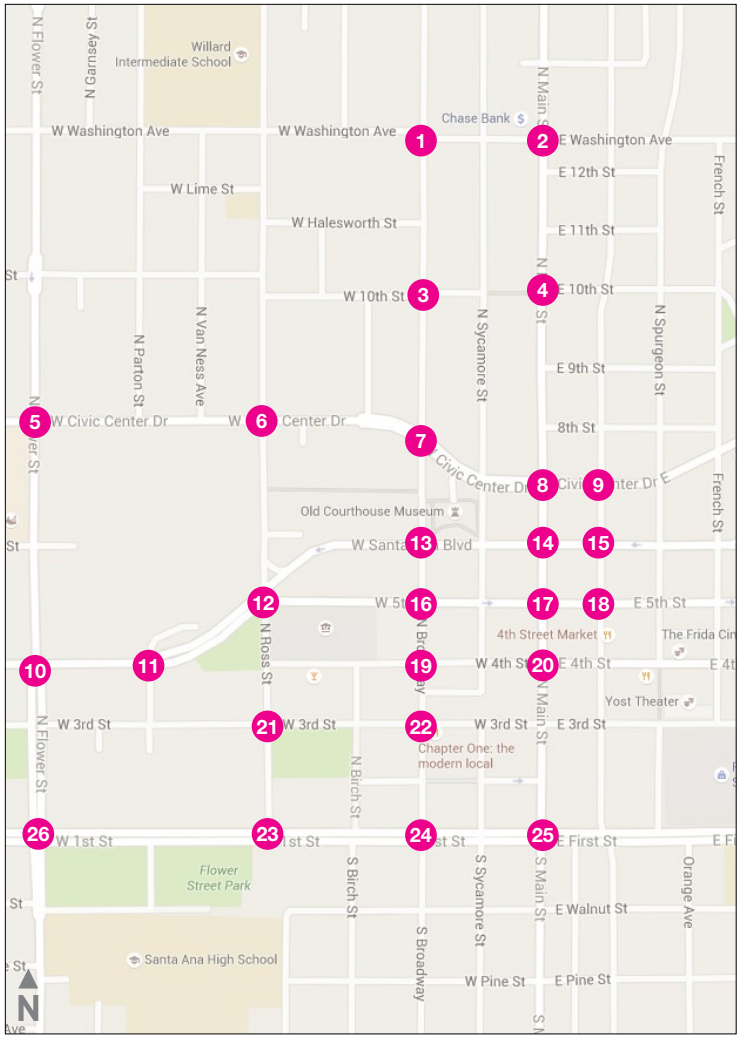
Table 3-2: Opening Year (2020) No Project LOS Summary

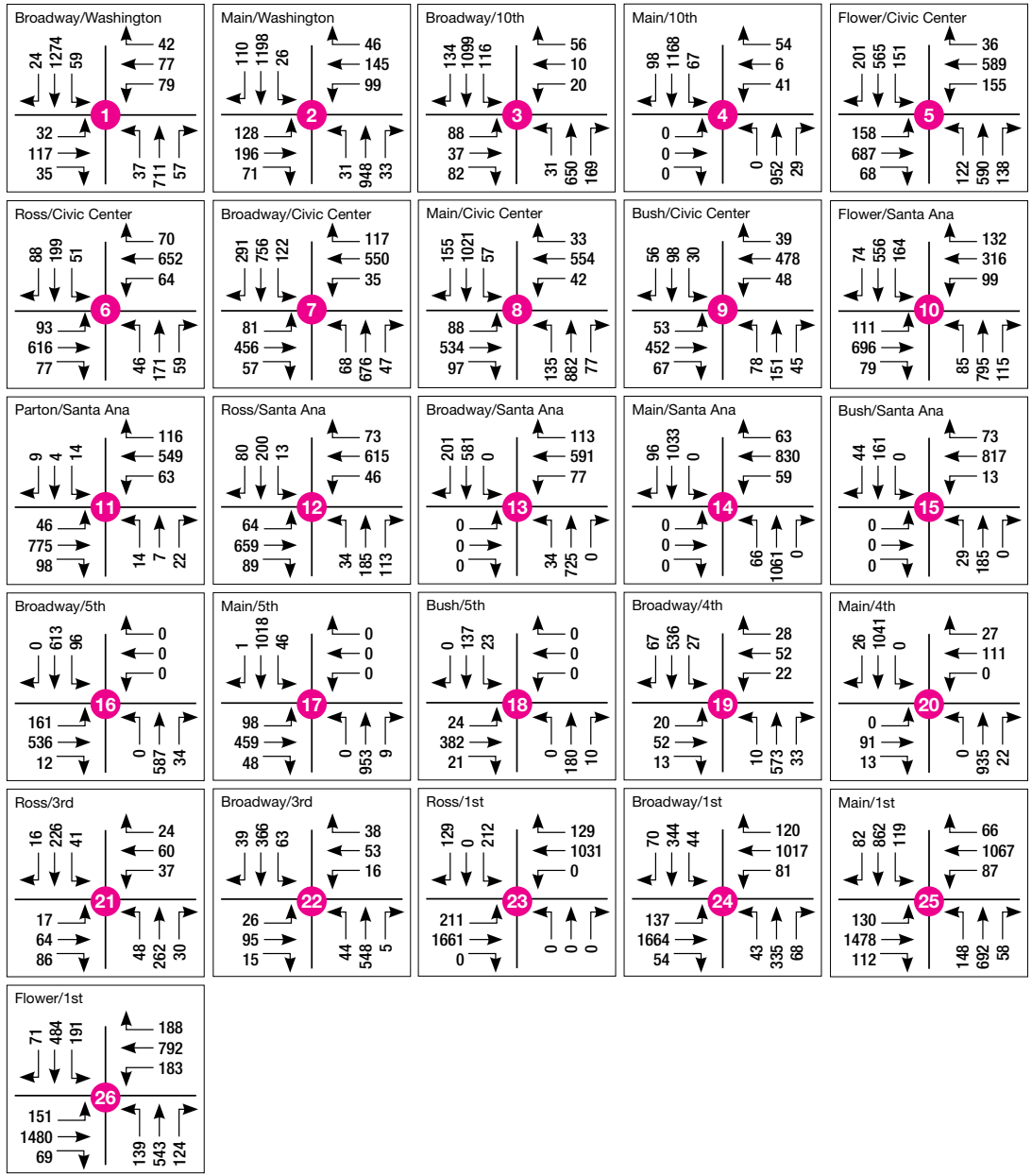
Intersection		Analysis	Control	Peak Hour	No Project	
					LOS	V/C
1	Broadway & Washington Avenue	ICU	Signal	AM	A	0.593
				PM	A	0.487
2	Main Street & Washington Avenue	ICU	Signal	AM	B	0.657
				PM	B	0.631
3	Broadway & 10th Street	ICU	Signal	AM	A	0.547
				PM	A	0.550
4	Main Street & 10th Street	ICU	Signal	AM	A	0.459
				PM	A	0.443
5	Flower Street & Civic Center Drive	ICU	Signal	AM	B	0.655
				PM	B	0.686
6	Ross Street & Civic Center Drive	ICU	Signal	AM	A	0.492
				PM	A	0.406
7	Broadway & Civic Center Drive	ICU	Signal	AM	B	0.629
				PM	A	0.563

Intersection		Analysis	Control	Peak Hour	No Project	
					LOS	V/C
8	Main Street & Civic Center Drive	ICU	Signal	AM	B	0.690
				PM	C	0.735
9	Bush Street & Civic Center Drive	ICU	Signal	AM	A	0.385
				PM	A	0.539
10	Flower Street & Santa Ana Boulevard	ICU	Signal	AM	B	0.630
				PM	A	0.532
11	Parton Street & Santa Ana Boulevard	ICU	Signal	AM	A	0.257
				PM	A	0.324
12	Ross Street & Santa Ana Boulevard	ICU	Signal	AM	A	0.381
				PM	A	0.364
13	Broadway & Santa Ana Boulevard	ICU	Signal	AM	A	0.510
				PM	A	0.465
14	Main Street & Santa Ana Boulevard	ICU	Signal	AM	B	0.692
				PM	B	0.627
15	Bush Street & Santa Ana Boulevard	ICU	Signal	AM	A	0.428
				PM	A	0.410
16	Broadway & 5th Street	ICU	Signal	AM	A	0.402
				PM	A	0.442
17	Main Street & 5th Street	ICU	Signal	AM	A	0.455
				PM	B	0.615
18	Bush Street & 5th Street	ICU	Signal	AM	A	0.222
				PM	A	0.433
19	Broadway & 4th Street	ICU	Signal	AM	A	0.283
				PM	A	0.357
20	Main Street & 4th Street	ICU	Signal	AM	A	0.420
				PM	A	0.514
22	Broadway & 3rd Street	ICU	Signal	AM	A	0.458
				PM	B	0.618
23	Ross Street & 1st Street	ICU	Signal	AM	A	0.454
				PM	A	0.579
24	Broadway & 1st Street	ICU	Signal	AM	B	0.650
				PM	C	0.730
25	Main Street & 1st Street	ICU	Signal	AM	C	0.748
				PM	C	0.759
26	Flower Street & 1st Street	ICU	Signal	AM	C	0.726
				PM	C	0.745
Intersection		**Analysis Methodology**	**Control**	**Peak Hour**	**No Project**	
					LOS	**Delay (s)**
21	Ross Street & 3rd Street	HCM 2000	AWSC	AM	B	11.5
				PM	B	10.7
27	Santa Ana Boulevard & I-5 SB Ramp	HCM 2010	Signal	AM	B	14.8
				PM	B	15.1
28	Grand Avenue & Santa Ana Boulevard / I-5 SB Carpool Ramp	HCM 2010	Signal	AM	D	36.1
				PM	D	36.5
29	Grand Avenue & I-5 NB Ramp	HCM 2010	Signal	AM	B	13.8
				PM	B	14.2

Notes:
LOS – Level of Service
V/C – Volume to Capacity (Ratio)
AWSC – All-Way Stop Control

Figure 14 – Opening Year (2020) No Project AM Peak Hour Traffic Volumes

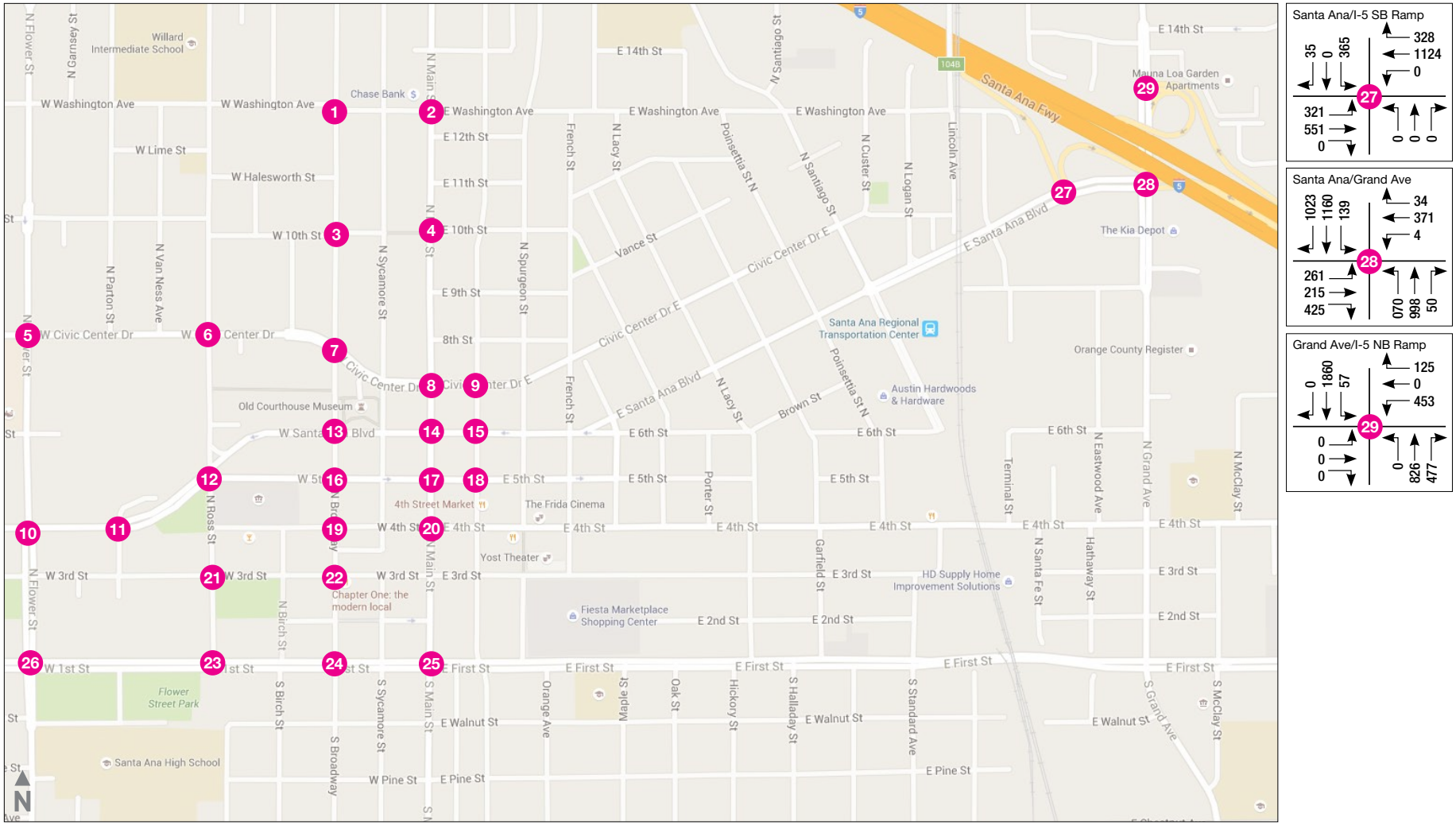




legend

- (#) Study Intersection
- AM Peak Hour Volume

Figure 15 – Opening Year (2020) No Project AM Peak Hour Traffic Volumes

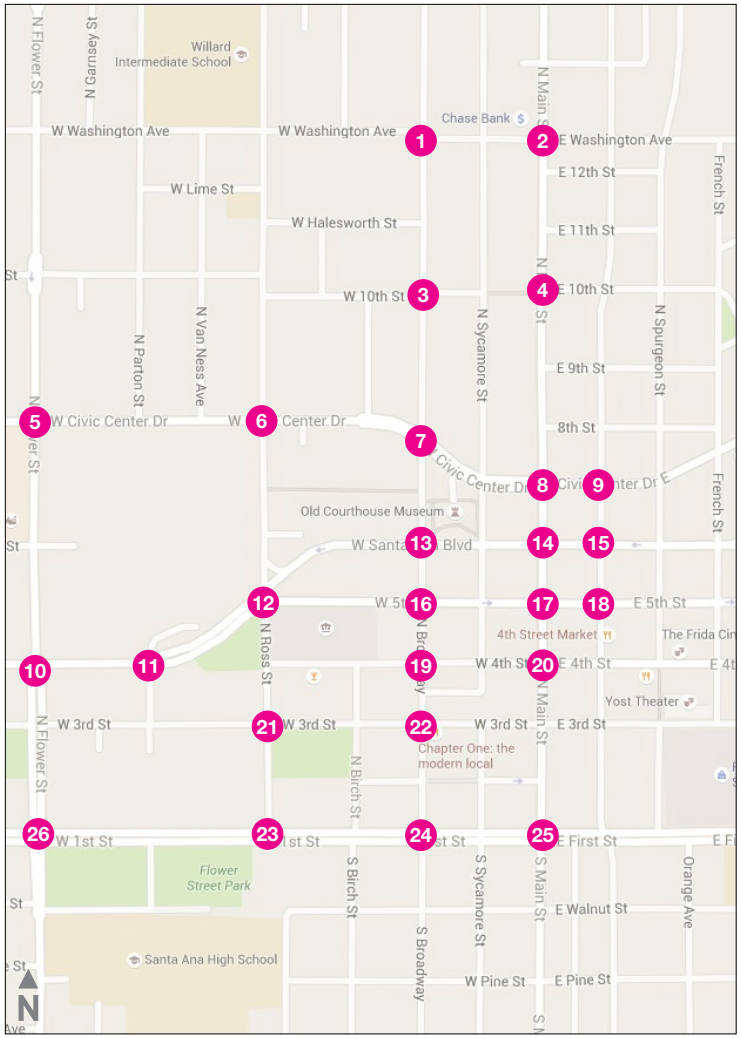


legend

(#) Study Intersection

AM Peak Hour Volume

Figure 16 – Opening Year (2020) No Project PM Peak Hour Traffic Volumes



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- (#) Study Intersection
- AM Peak Hour Volume

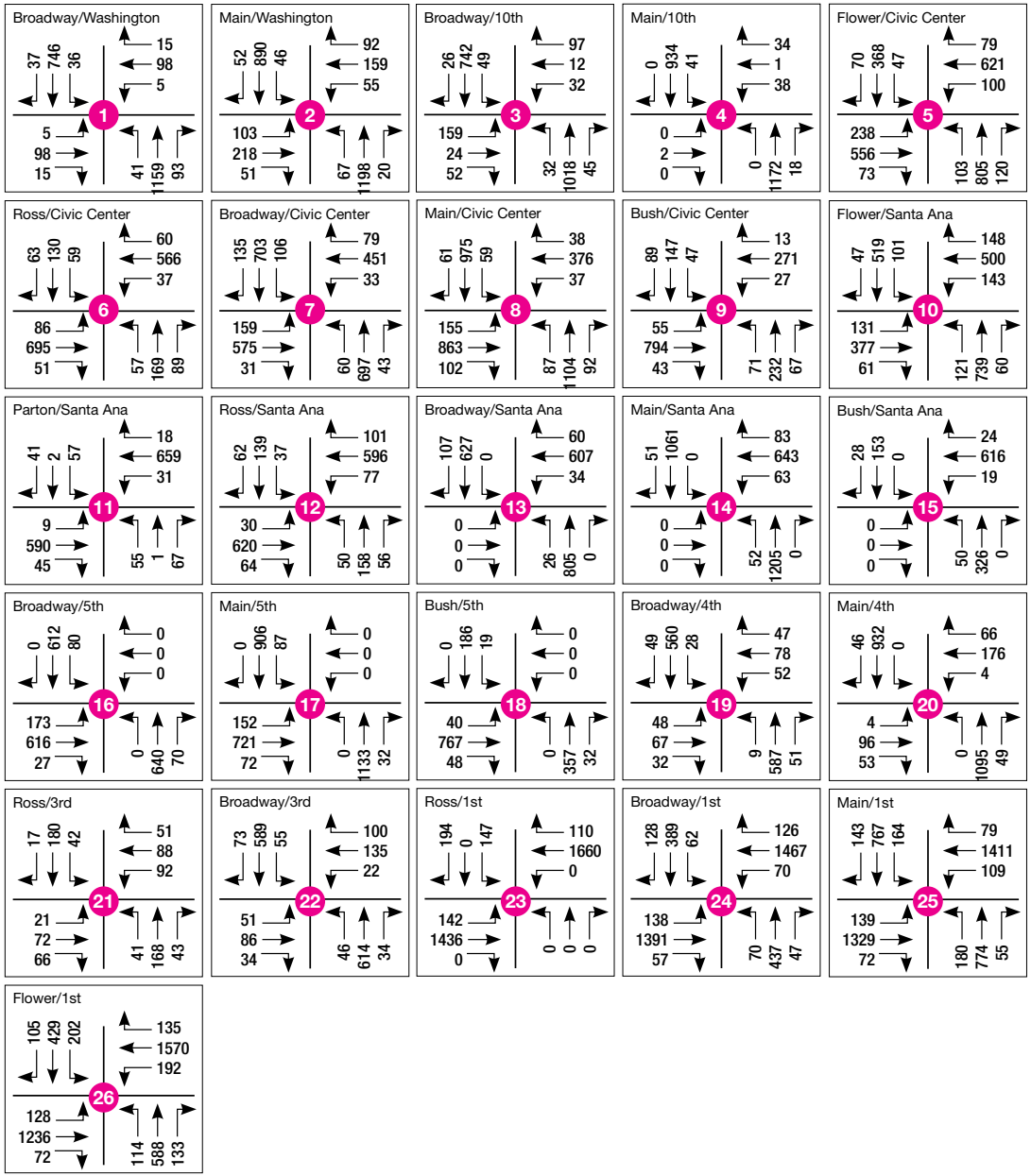
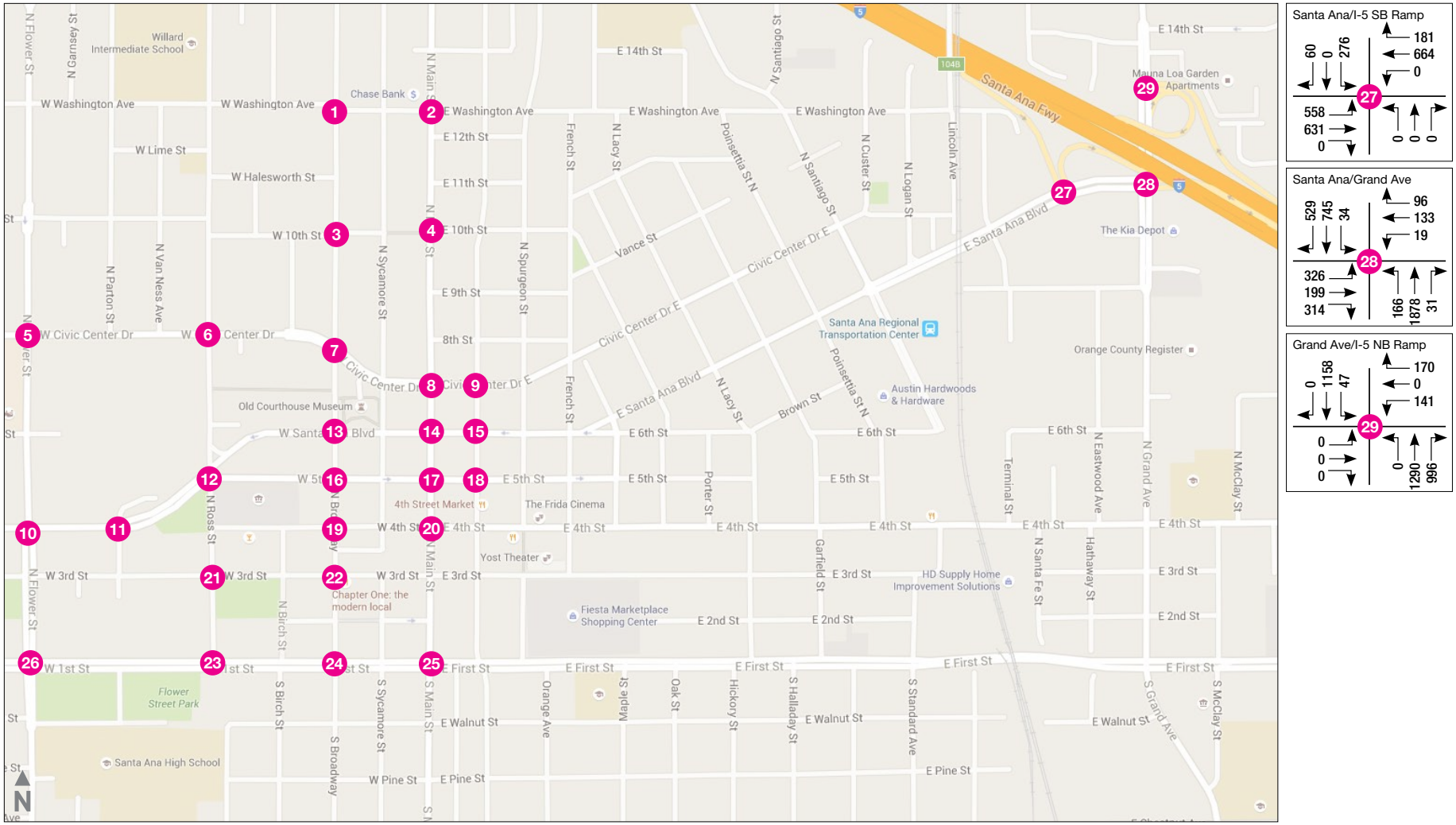


Figure 17 – Opening Year (2020) No Project PM Peak Hour Traffic Volumes



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(#) Study Intersection

AM Peak Hour Volume

3.3 Opening Year (2020) No Project Queue Analysis

Consistent with the Traffic Study Addendum #1 (Mar 2017), a freeway ramp queue analysis was conducted at Caltrans intersections. The off-ramps provide sufficient queue capacity for the queue lengths observed in the AM and PM peak hours. A summary of the AM and PM peak hour ramp queue lengths is presented in Table 3-3 below:

Table 3-3: Opening Year (2020) No Project Queue Summary

ID	INTERSECTION	CONTROL TYPE	QUEUE CAPACITY (FT)	PEAK HOUR	QUEUE LENGTH (FT)
27	Santa Ana Boulevard & I-5 SB Ramp	Signalized	1,000	AM	138
				PM	89
28	Santa Ana Boulevard & Grand Avenue	Signalized	1,200	AM	241
				PM	105
29	Grand Avenue & I-5 NB Ramp	Signalized	1,400	AM	168
				PM	65

Note: Queue length - 95th percentile.

3.4 Opening Year (2020) With Project (Phase 1) Level of Service Analysis

The intersection operations analysis for the Opening Year (2020) With Project (Phase 1) scenario was performed consistent with the methodology outlined in Section 3 of the Traffic Impact Analysis. Figure 18 through Figure 21 present the turning movement volumes for the AM and PM peak hours. Of the 29 intersections analyzed as part of the study, all intersections are operating at a level of C or better. The study intersection levels of service are summarized in Table 3-4. No significant impacts are expected with the addition of project trips.

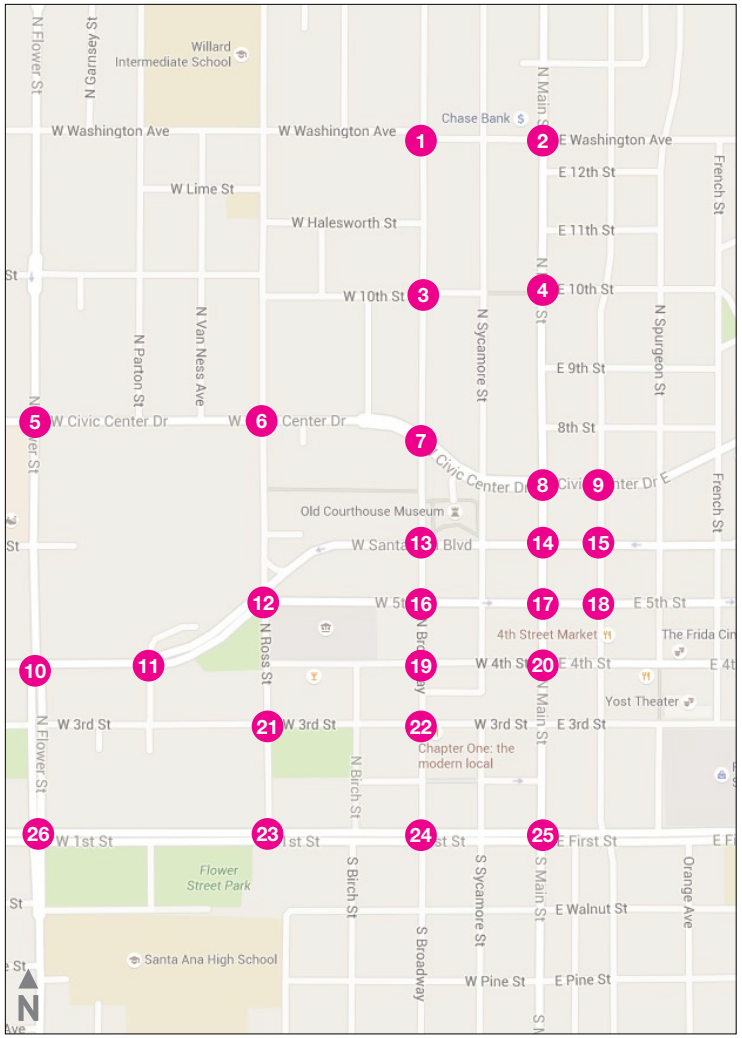
Table 3-4: Opening Year (2020) With Project (Phase 1) LOS Summary

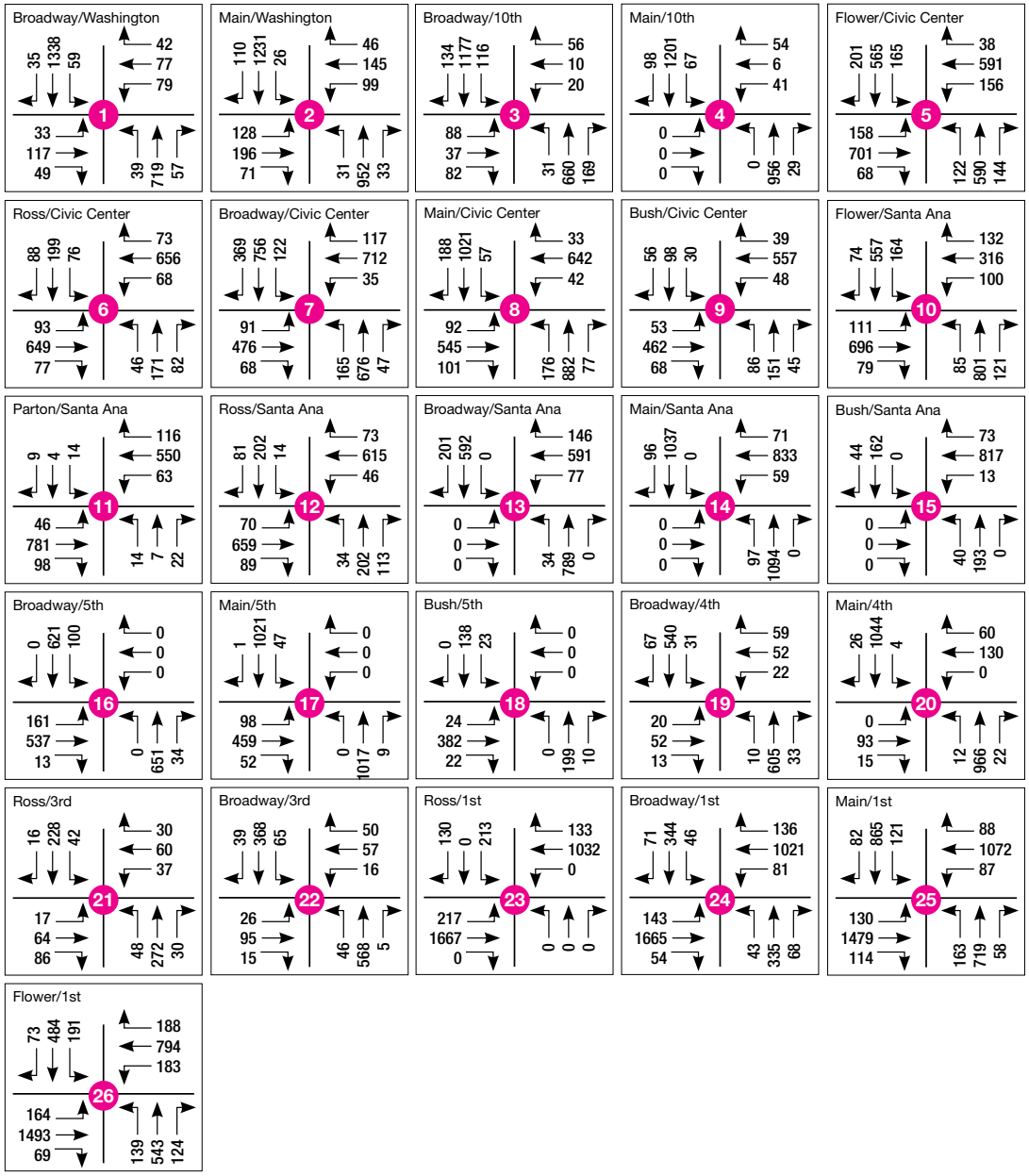
Intersection		Analysis	Control	Peak Hour	No Project		With Project		Change in V/C	Impact
					LOS	V/C	LOS	V/C		
1	Broadway & Washington Avenue	ICU	Signal	AM	A	0.593	B	0.627	0.034	No
				PM	A	0.487	A	0.523	0.036	No
2	Main Street & Washington Avenue	ICU	Signal	AM	B	0.657	B	0.667	0.010	No
				PM	B	0.631	B	0.641	0.010	No
3	Broadway & 10th Street	ICU	Signal	AM	A	0.547	A	0.571	0.024	No
				PM	A	0.550	A	0.575	0.025	No
4	Main Street & 10th Street	ICU	Signal	AM	A	0.459	A	0.469	0.010	No
				PM	A	0.443	A	0.454	0.011	No
5	Flower Street & Civic Center Drive	ICU	Signal	AM	B	0.655	B	0.670	0.015	No
				PM	B	0.686	B	0.699	0.013	No
6	Ross Street & Civic Center Drive	ICU	Signal	AM	A	0.492	A	0.494	0.002	No
				PM	A	0.406	A	0.438	0.032	No
7	Broadway & Civic Center Drive	ICU	Signal	AM	B	0.629	C	0.771	0.142	No
				PM	A	0.563	B	0.677	0.114	No
8	Main Street & Civic Center Drive	ICU	Signal	AM	B	0.690	C	0.756	0.066	No
				PM	C	0.735	C	0.775	0.040	No
9	Bush Street & Civic Center Drive	ICU	Signal	AM	A	0.385	A	0.414	0.029	No
				PM	A	0.539	A	0.570	0.031	No
10	Flower Street & Santa Ana Boulevard	ICU	Signal	AM	B	0.630	B	0.633	0.003	No
				PM	A	0.532	A	0.533	0.001	No
11	Parton Street & Santa Ana Boulevard	ICU	Signal	AM	A	0.257	A	0.258	0.001	No
				PM	A	0.324	A	0.326	0.002	No

Intersection		Analysis	Control	Peak Hour	No Project		With Project		Change in V/C	Impact
					LOS	V/C	LOS	V/C		
12	Ross Street & Santa Ana Boulevard	ICU	Signal	AM	A	0.381	A	0.382	0.001	No
				PM	A	0.364	A	0.371	0.007	No
13	Broadway & Santa Ana Boulevard	ICU	Signal	AM	A	0.510	A	0.523	0.013	No
				PM	A	0.465	A	0.499	0.034	No
14	Main Street & Santa Ana Boulevard	ICU	Signal	AM	B	0.692	C	0.716	0.024	No
				PM	B	0.627	B	0.648	0.021	No
15	Bush Street & Santa Ana Boulevard	ICU	Signal	AM	A	0.428	A	0.436	0.008	No
				PM	A	0.410	A	0.412	0.002	No
16	Broadway & 5th Street	ICU	Signal	AM	A	0.402	A	0.425	0.023	No
				PM	A	0.442	A	0.471	0.029	No
17	Main Street & 5th Street	ICU	Signal	AM	A	0.455	A	0.477	0.022	No
				PM	B	0.615	B	0.636	0.021	No
18	Bush Street & 5th Street	ICU	Signal	AM	A	0.222	A	0.234	0.012	No
				PM	A	0.433	A	0.441	0.008	No
19	Broadway & 4th Street	ICU	Signal	AM	A	0.283	A	0.314	0.031	No
				PM	A	0.357	A	0.393	0.036	No
20	Main Street & 4th Street	ICU	Signal	AM	A	0.420	A	0.462	0.042	No
				PM	A	0.514	A	0.556	0.042	No
22	Broadway & 3rd Street	ICU	Signal	AM	A	0.458	A	0.482	0.024	No
				PM	B	0.618	B	0.638	0.020	No
23	Ross Street & 1st Street	ICU	Signal	AM	A	0.454	A	0.46	0.006	No
				PM	A	0.579	A	0.586	0.007	No
24	Broadway & 1st Street	ICU	Signal	AM	B	0.650	B	0.651	0.001	No
				PM	C	0.730	C	0.744	0.014	No
25	Main Street & 1st Street	ICU	Signal	AM	C	0.748	C	0.758	0.010	No
				PM	C	0.759	C	0.765	0.006	No
26	Flower Street & 1st Street	ICU	Signal	AM	C	0.726	C	0.729	0.003	No
				PM	C	0.745	C	0.752	0.007	No
Intersection		**Analysis**	**Control**	**Peak Hour**	**No Project**		**With Project**		**Change in Delay(s)**	**Impact**
					LOS	**Delay (s)**	**LOS**	**Delay (s)**		
21	Ross Street & 3rd Street	HCM 2000	AWSC	AM	B	11.5	B	11.7	0.2	No
				PM	B	10.7	B	10.9	0.2	No
27	Santa Ana Boulevard & I-5 SB Ramp	HCM 2010	Signal	AM	B	14.8	B	14.1	-0.7	No
				PM	B	15.1	B	14.3	-0.8	No
28	Grand Avenue & Santa Ana Boulevard / I-5 SB Carpool Ramp	HCM 2010	Signal	AM	D	36.1	C	30.0	-6.1	No
				PM	D	36.5	C	30.4	-6.1	No
29	Grand Avenue & I-5 NB Ramp	HCM 2010	Signal	AM	B	13.8	B	11.5	-2.3	No
				PM	B	14.2	B	11.6	-2.6	No

Notes:
LOS – Level of Service
V/C – Volume to Capacity (Ratio)
AWSC – All-Way Stop Control

Figure 18 – Opening Year (2020) With Project AM Peak Hour Traffic Volumes





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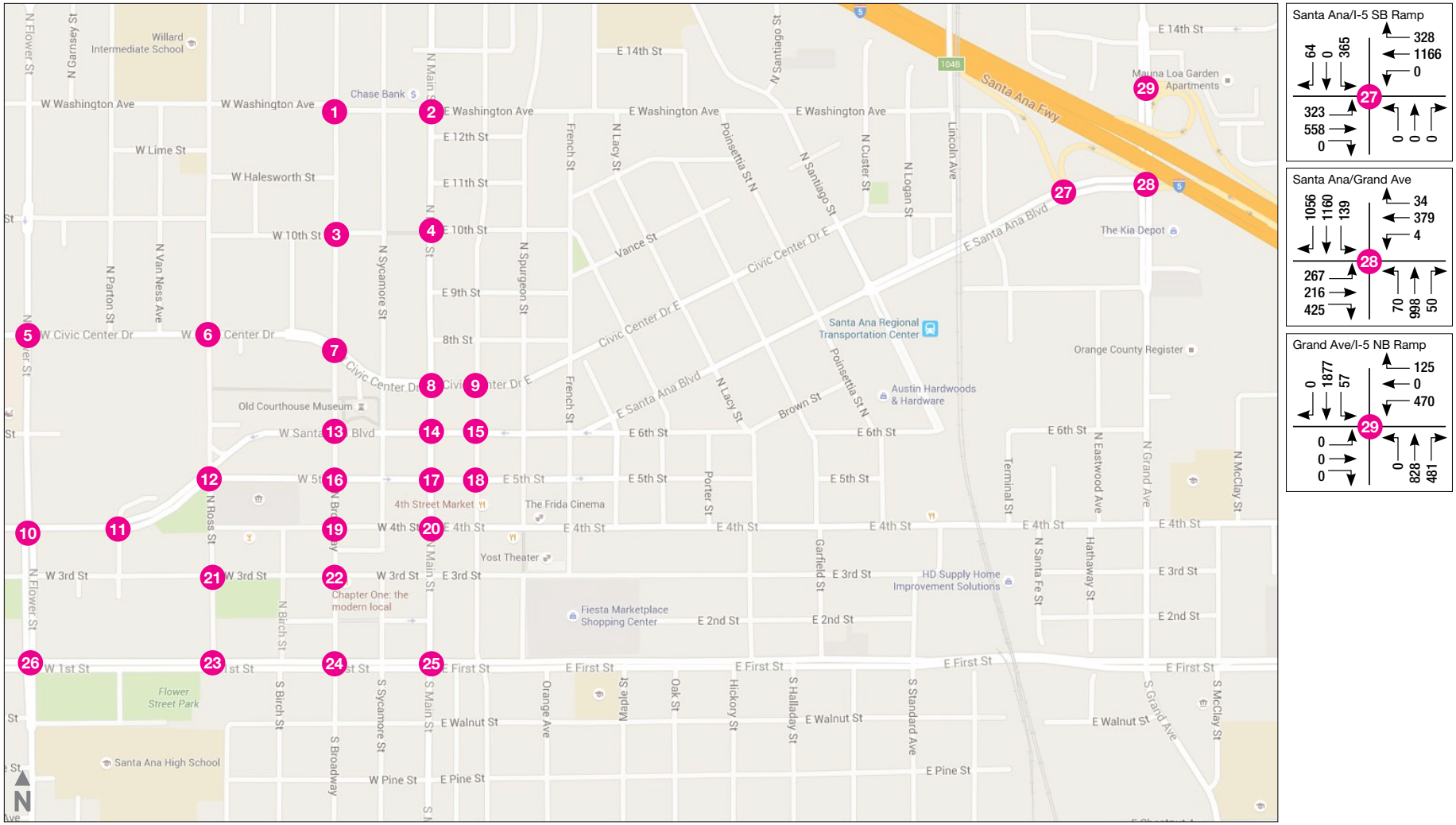
- (#) Study Intersection
- AM Peak Hour Volume

Figure 19 – Opening Year (2020) With Project PM Peak Hour Traffic Volumes



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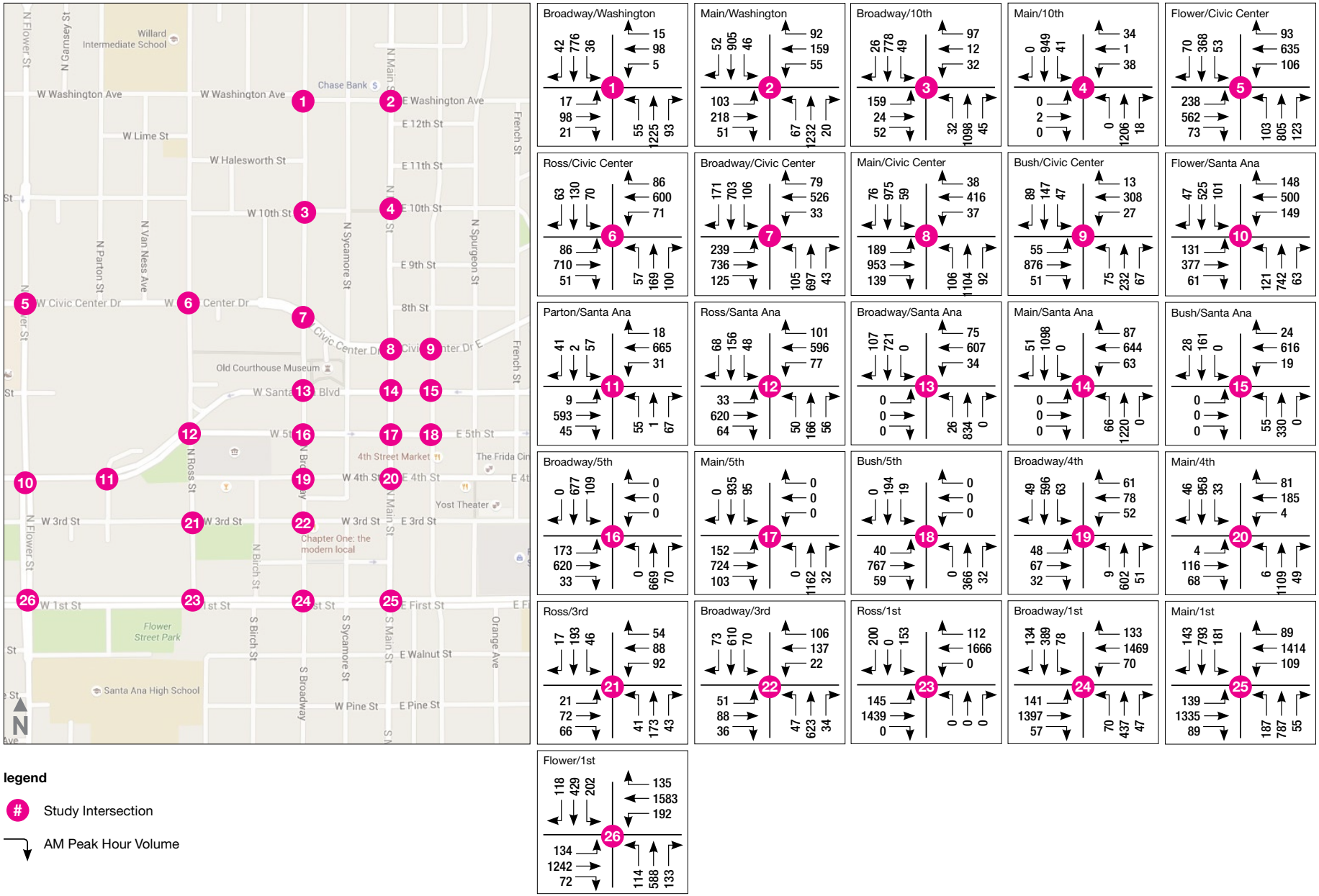
(#) Study Intersection

AM Peak Hour Volume

Figure 20 – Opening Year (2020) With Project PM Peak Hour Traffic Volumes



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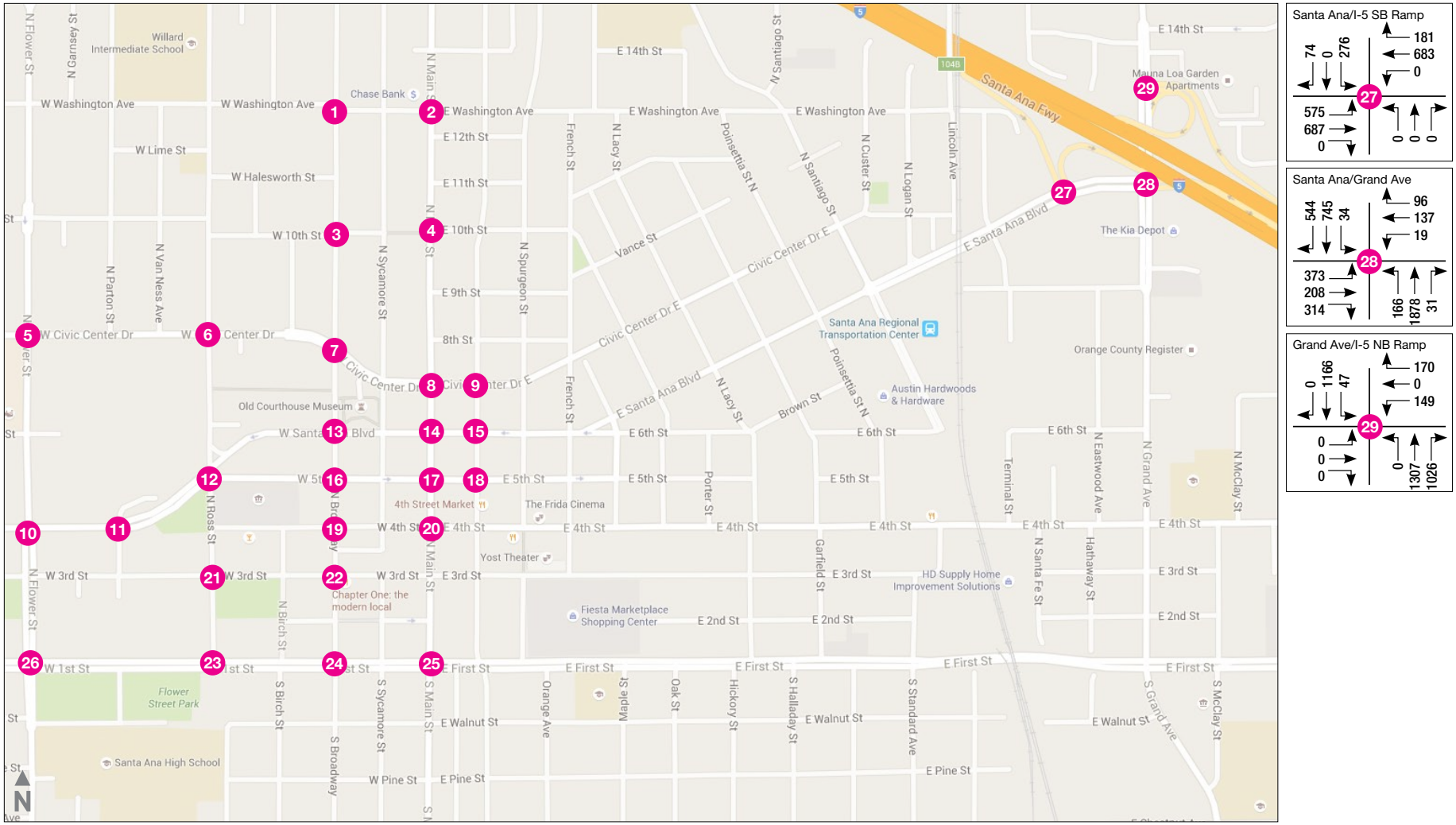
- (#) Study Intersection
- AM Peak Hour Volume

Figure 21 – Opening Year (2020) With Project AM Peak Hour Traffic Volumes



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(#) Study Intersection

AM Peak Hour Volume

3.5 Opening Year (2020) With Project (Phase 1) Queue Analysis

Consistent with the Traffic Study Addendum #1 (Mar 2017), a freeway ramp queue analysis was conducted at Caltrans intersections. The off-ramps provide sufficient queue capacity for the queue lengths observed in the AM and PM peak hours. A summary of the AM and PM peak hour ramp queue lengths is presented in Table 3-5 below:

Table 3-5: Opening Year (2020) With Project (Phase 1) Queue Summary

ID	INTERSECTION	CONTROL TYPE	QUEUE CAPACITY (FT)	PEAK HOUR	QUEUE LENGTH (FT)
27	Santa Ana Boulevard & I-5 SB Ramp	Signalized	1,000	AM	138
				PM	90
28	Santa Ana Boulevard & Grand Avenue	Signalized	1,200	AM	248
				PM	112
29	Grand Avenue & I-5 NB Ramp	Signalized	1,400	AM	178
				PM	70

Note: Queue length - 95th percentile.

3 CONCLUSION

This addendum was prepared to assess the potential circulation impacts associated with the phased demolition, renovation, and new construction of the Facilities Strategic Plan. A revised phasing plan required re-evaluation of the Existing Year and Opening Year Conditions (2018 and 2020). Traffic operations for these conditions were evaluated consistent with the Traffic Impact Analysis (Dec 2016) and the Traffic Study Addendum #1 (Mar 2017) with results indicate no significant traffic impacts are anticipated under the re-evaluation of the Existing and Opening Year Conditions; in addition, the ramp queue analysis results indicate the project is not anticipated to cause impacts to the freeway ramp queueing.

4 APPENDIX

APPENDIX A

Table 3-2 Buildout by Phase

Building	Renovation	Demolition	New Construction
Phase 1 (2016–2020)			
Building 16		38,420	248,177
– Building 16 (new one-stop-shop)			4,344
Building 18 (new event/conference center)		-	6,214
H.G. Osborne	144,200		
Phase 1 Subtotal – Net New Construction			+220,315
Phase 2 (2019-2022)			
Building 10		109,180	Permanent public surface parking
Building 11		109,939	
Building 12		163,100	Permanent public surface parking
Building 14		38,240	251,020
– Building 14 (new Board meeting room)			15,000
433 W. Civic Center		8,818	
Phase 2 Subtotal – Net New Construction			-163,257
Phase 3 (2024–2030)			
401 W Civic Center	102,000	-	-
Phase 3 Subtotal – Net New Construction			-
Phase 4 (2030–2035)			
Building 10	-	-	160,940
Building 12	-	-	135,200
Phase 4 Subtotal – Net New Construction			+296,140
Totals	Total Renovation	Total Demolition	Total New Construction
Net New Building			+353,198

Source: County of Orange 2018.

Placeworks – August 30, 2018

APPENDIX B

Table 2.1a – Existing Intersection Turning Volumes – AM Peak Hour

2016 Intersection Turning Volumes													
AM Peak Hour													
No.	Intersection (N/S - E/W)	SBL	SBT	SBR	WBL	WBT	WBR	NBL	NBT	NBR	EBL	EBT	EBR
1	Harbor Blvd - Westminster Ave	200	1543	96	245	613	211	133	1102	224	141	1024	23
2	Fairview St - Civic Center Dr	236	1364	7	312	3	137	5	1327	447	4	27	17
3	Fairview St - 5th St	81	1485	100	127	285	95	185	1477	67	183	390	168
4	Sullivan St - 5th St	14	2	10	72	330	40	94	10	87	32	406	114
5	Hawley St - 5th St	53	0	173	0	259	41	0	0	0	60	422	0
6	Raitt St - Civic Center Dr	63	261	43	86	347	30	62	361	93	57	643	88
7	Raitt St - 4th St	127	434	36	51	12	57	4	484	84	10	23	3
8	Raitt St - 1st St	47	371	50	128	884	69	39	403	179	62	1471	49
9	Western Ave - Santa Ana Blvd	18	13	2	38	109	8	2	15	26	7	267	6
10	Forest Ave - Santa Ana Blvd	14	20	5	81	146	36	2	15	44	7	310	14
11	Pacific Ave - Santa Ana Blvd	65	95	20	17	201	80	4	75	34	38	405	18
12	Bristol St - Civic Center Dr	299	1377	62	120	324	112	110	1262	108	153	632	91
13	Bristol St - Santa Ana Blvd	118	1466	48	127	228	37	49	1367	156	78	365	34
14	Bristol St - 1st St	228	1239	148	153	685	140	228	1229	198	210	1342	171
15	Baker St - Santa Ana Blvd	10	12	48	22	298	12	13	24	109	16	651	31
16	Shelton St - Santa Ana Blvd	81	23	21	15	293	65	17	17	58	24	742	17
17	Flower St - Civic Center Dr	148	581	177	143	607	42	136	604	125	152	684	69
18	Flower St - Santa Ana Blvd	154	541	79	108	305	128	82	715	94	99	668	88
19	Flower St - 1st St	192	527	42	186	817	188	136	576	131	105	1445	71
20	Ross St - Civic Center Dr	54	208	87	68	641	76	58	156	64	90	600	80
21	Ross St - Santa Ana Blvd/5th St	41	161	115	32	540	72	32	157	91	57	632	76
22	Ross St - 4th St	47	223	0	14	0	36	0	258	16	0	0	0
23	Ross St - 1st St	203	0	123	0	988	124	0	0	0	212	1636	0
24	Broadway - Civic Center Dr	120	741	285	34	539	115	67	663	46	79	447	56
25	Broadway - Santa Ana Blvd	0	570	197	75	579	111	33	711	0	0	0	0
26	Broadway - 5th St	94	601	0	0	0	0	0	575	33	158	525	12
27	Broadway - 4th St	26	525	66	22	51	27	10	562	31	20	51	13
28	Broadway - 1st St	52	378	59	89	1019	117	41	328	81	125	1573	45
29	Main St - Civic Center Dr	46	1066	166	43	550	17	148	868	63	79	429	115
30	Main St - Santa Ana Blvd	0	1027	92	60	734	59	55	971	0	0	0	0
31	Main St - 5th St	38	1058	0	0	0	0	0	940	12	98	425	79
32	Main St - 4th St	1	1098	23	1	108	20	0	971	36	0	89	18
33	Main St - 1st St	112	870	103	61	959	74	125	668	73	128	1417	112
34	Spurgeon St - Civic Center Dr	14	24	67	8	437	24	32	23	6	59	432	20
35	Spurgeon St - Santa Ana Blvd	0	22	29	8	843	49	2	12	0	0	0	0
36	Spurgeon St - 5th St	23	5	0	0	0	0	0	0	2	13	434	6
37	Spurgeon St - 4th St	0	0	0	0	152	8	0	0	0	2	142	0
38	Spurgeon St - 1st St	0	0	77	0	1126	9	0	0	0	0	1624	0
39	Mortimer St - Santa Ana Blvd	4	3	2	30	742	2	0	0	322	0	0	0
40	Mortimer St - 5th St	5	29	0	7	0	31	0	144	9	236	83	78
41	Mortimer St - 4th St	105	0	33	0	211	123	0	0	0	50	241	0
42	Lacy St - Civic Center Dr	12	34	27	8	418	12	9	20	35	9	349	14
43	Lacy St - Santa Ana Blvd	8	55	10	13	695	28	4	29	32	5	348	4
44	Lacy St - 6th St/Brown St	22	27	9	35	73	12	11	31	73	5	37	11
45	Lacy St - 4th St	63	44	6	48	322	51	18	76	148	5	366	22
46	Santiago St - Civic Center Dr	3	285	58	56	68	20	180	133	11	124	42	205
47	Santiago St - Santa Ana Blvd	311	163	92	108	730	252	27	65	54	47	445	14
48	Hesperian St - Santa Ana Blvd	0	0	0	12	272	2	6	0	44	0	439	6

Table 2.1b – Existing Intersection Turning Volumes – PM Peak Hour

2016 Intersection Turning Volumes													
PM Peak Hour													
No.	Intersection (N/S - E/W)	SBL	SBT	SBR	WBL	WBT	WBR	NBL	NBT	NBR	EBL	EBT	EBR
1	Harbor Blvd - Westminster Ave	216	1221	184	240	870	286	246	1453	279	180	620	44
2	Fairview St - Civic Center Dr	119	1363	0	423	0	169	4	1471	284	1	6	2
3	Fairview St - 5th St	118	1383	264	71	412	128	175	1517	92	143	276	128
4	Sullivan St - 5th St	8	3	4	93	428	25	131	7	95	10	371	107
5	Hawley St - 5th St	27	0	70	0	469	46	0	0	0	93	398	0
6	Raitt St - Civic Center Dr	19	190	33	77	667	45	102	302	71	29	345	60
7	Raitt St - 4th St	42	394	42	72	18	118	3	530	64	27	17	6
8	Raitt St - 1st St	55	322	67	154	1508	112	78	437	153	59	1132	71
9	Western Ave - Santa Ana Blvd	12	8	3	38	222	19	4	9	16	8	118	2
10	Forest Ave - Santa Ana Blvd	7	5	4	37	323	26	3	16	33	8	146	3
11	Pacific Ave - Santa Ana Blvd	52	69	13	51	369	99	21	101	32	20	156	16
12	Bristol St - Civic Center Dr	147	1442	79	174	674	147	176	1429	115	118	378	58
13	Bristol St - Santa Ana Blvd	101	1536	45	235	416	78	56	1545	49	50	168	34
14	Bristol St - 1st St	213	1257	248	189	1231	139	274	1353	237	212	1014	138
15	Baker St - Santa Ana Blvd	8	7	37	15	638	12	17	11	34	15	245	34
16	Shelton St - Santa Ana Blvd	37	15	41	33	605	58	16	14	16	15	264	11
17	Flower St - Civic Center Dr	45	406	87	94	638	83	101	730	88	134	443	62
18	Flower St - Santa Ana Blvd	115	443	44	170	556	157	121	644	55	116	380	57
19	Flower St - 1st St	166	456	102	196	1433	138	127	480	103	133	1153	126
20	Ross St - Civic Center Dr	56	157	87	38	609	61	62	186	77	52	604	42
21	Ross St - Santa Ana Blvd/5th St	34	138	62	45	688	93	41	159	46	24	521	48
22	Ross St - 4th St	59	186	0	40	0	53	0	197	26	0	0	0
23	Ross St - 1st St	177	0	168	0	1481	103	0	0	0	139	1260	0
24	Broadway - Civic Center Dr	104	689	132	32	442	77	59	683	42	156	564	30
25	Broadway - Santa Ana Blvd	0	615	105	33	595	59	25	789	0	0	0	0
26	Broadway - 5th St	78	600	0	0	0	0	0	627	69	170	604	26
27	Broadway - 4th St	27	549	48	51	76	46	9	575	50	47	66	31
28	Broadway - 1st St	59	384	106	65	1486	87	78	382	49	121	1295	53
29	Main St - Civic Center Dr	58	939	60	28	348	46	81	1000	57	138	684	101
30	Main St - Santa Ana Blvd	0	985	53	53	563	91	43	1109	0	0	0	0
31	Main St - 5th St	65	965	0	0	0	0	0	998	34	137	643	94
32	Main St - 4th St	1	1023	34	5	166	47	1	1042	60	2	106	52
33	Main St - 1st St	196	728	161	101	1203	81	178	769	61	162	1133	87
34	Spurgeon St - Civic Center Dr	26	29	100	7	240	13	11	31	7	65	727	16
35	Spurgeon St - Santa Ana Blvd	0	28	21	8	661	33	9	19	0	0	0	0
36	Spurgeon St - 5th St	33	5	0	0	0	0	0	8	5	18	686	18
37	Spurgeon St - 4th St	0	0	0	0	217	27	0	0	0	5	152	0
38	Spurgeon St - 1st St	0	0	109	0	1475	44	0	0	0	0	1513	0
39	Mortimer St - Santa Ana Blvd	10	1	7	39	418	8	0	0	594	0	0	0
40	Mortimer St - 5th St	5	36	0	5	0	48	0	170	18	454	118	50
41	Mortimer St - 4th St	78	0	63	0	314	154	0	0	0	60	222	0
42	Lacy St - Civic Center Dr	12	19	19	4	173	12	25	28	15	11	547	20
43	Lacy St - Santa Ana Blvd	19	15	18	22	458	15	4	36	22	6	626	6
44	Lacy St - 6th St/Brown St	9	23	12	22	30	6	69	53	81	7	24	12
45	Lacy St - 4th St	51	35	8	104	416	114	58	103	89	6	293	26
46	Santiago St - Civic Center Dr	8	190	54	14	19	10	98	215	20	256	64	248
47	Santiago St - Santa Ana Blvd	292	118	49	51	490	157	36	127	94	63	726	24
48	Hesperian St - Santa Ana Blvd	0	0	1	11	483	0	6	0	19	0	200	4

OCTA bus routes that operate in the vicinity of the Project include:

- Route 43 – Fullerton to Costa Mesa via Harbor Boulevard
- Route 47 – Fullerton to Balboa via Fairview Street