

# Initial Study/Mitigated Negative Declaration (IS/MND) for Metro Emergency Security Operations Center (ESOC)

Prepared for the Los Angeles County Metropolitan  
Transportation Authority (Metro) by AECOM  
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## 1.0 Introduction

### 1.1 Purpose of the Initial Study

The Los Angeles County Metropolitan Transportation Authority (Metro) is preparing this Initial Study/Mitigated Negative Declaration (IS/MND) to evaluate the potential environmental impacts that would result from the Emergency Security Operations Center (ESOC) (Project) that includes demolition of an existing on-site structure and construction of a new multistory building and subsurface parking garage. This IS has been prepared in accordance with the requirements of California Environmental Quality Act ("CEQA") and the Guidelines for Implementation of the California Environmental Quality Act (State CEQA Guidelines), for the purpose of analyzing the direct, indirect, and cumulative environmental effects of the proposed Project.

***Since the commencement of the IS/MND for the proposed Project, the project description was updated and some project elements changed. Specifically the building footprint was reduced within the Project site (Refer to Figure 3). The conclusions of the technical analysis (Appendices A through D) that was completed for the larger 104,000 square foot building continue to apply to the updated, smaller 100,000 square foot building. The updated project description includes building a 4-story 100,000 square foot building within the existing Metro site, with one level of underground parking. The project construction schedule changed from commencement in 2016 to 2017, and completion in 2019. Additionally, the name of the Project was changed from Operations Control Center (OCC) to the current Emergency Security Operations Center (ESOC). No other project elements were changed other than the reduction in building footprint and total square footage. Therefore, it was not necessary to revise the technical studies (Appendices B through D), as the original findings of no impact still apply. Appendix A, the Traffic Study, was updated per the updated project footprint and new construction build dates in order to take into account for new VMT in the area. The analysis below incorporates the updated project description.***

The State CEQA Guidelines are codified as ~15000 et seq. of the California Code of Regulations (CCR). The IS provides decision-makers, other public agencies, private groups, and/or individuals with an objective assessment of whether significant environmental impacts may result from implementing the proposed Project. Additional information that explains this document is provided below.

### 1.2 Project Background and Overview

The Los Angeles County Metropolitan Transportation Authority (Metro) is proposing to build a new ESOC in downtown Los Angeles at 410 Center Street just south of US Highway 101 (US 101) between Metro Headquarters (Gateway) Building and Division 20 Red Line Yard & Shops. The project site is bounded by Ducommun Street to the north, Jackson Street to the south, and the Red Line Yard Leads to the east. The new ESOC will serve as a crucial element of Metro's emergency response capabilities and provide efficient and effective transportation services all within a central location for personnel to command, control, and communicate the latest and developing intelligence. This capability will allow Metro to make real-time decisions that can save lives and mitigate disruptions to transportation services. The ESOC will integrate the functions of the Emergency Operations Control (EOC), Rail

Operations Control (ROC) and Bus Operations Control (BOC) in the Emergency Security Operations Center. The existing EOC and BOC (located at the Metro Gateway Building) and ROC (located near Willowbrook-Rosa Parks Station) facilities have limited space to accommodate the expansion program, and are heavily taxed in accommodating training, conference, service, and office space necessary to provide effective management of bus and rail operations. Furthermore, it is important to develop a central location to house these operations centers to allow centralized communications and coordination, thereby improving business continuity in day-to-day operations, as well as enhancing Metro’s disaster and terrorism response capabilities.

Metro purchased the 410 Center St. property measuring approximately 78,000 square feet (1.8 acres) and currently uses the site for bus layover operations as well as providing office, conference and training spaces for Los Angeles County Sheriff’s Department (LASD). The site is primarily paved and contains an existing approximately 5,000 square foot building on the northern end of the property to provide office, conference, training and storage space for LASD.

**Figure 1: Regional Location Map**

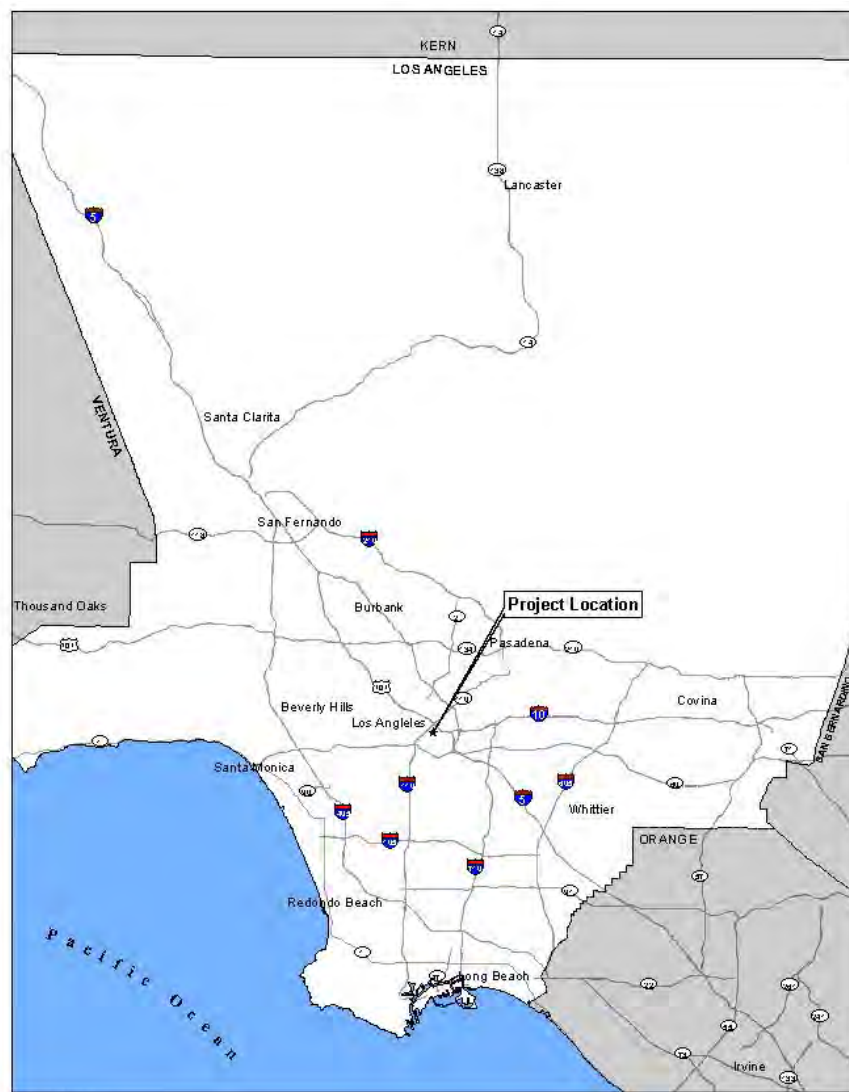


Figure 2: Project Site



### 1.3 Statutory Authority

According to ~15063 of the State CEQA Guidelines following preliminary review, the Lead Agency shall conduct an Initial Study (IS) to determine if the project may have a significant effect on the environment.

If, as a result of the IS, the Lead Agency concludes that there is evidence that any aspect of the proposed project, without mitigation, may cause a significant environmental effect, the Lead Agency shall further

find that an Environmental Impact Report (EIR) must be prepared to analyze environmental impacts. However, if the Lead Agency finds that the proposed project will not cause a significant effect on the environment, either as proposed or as modified to include the mitigation measures identified in the IS, a Negative Declaration or Mitigated Negative Declaration shall be prepared for the project. The significant effects to be considered in the IS include the direct, reasonably foreseeable indirect, cumulative, and growth-inducing impacts of said project.

Under the State CEQA Guidelines ~ 15063( d) identifies specific disclosure requirements for inclusion in an IS, and they include the following:

- A description, including location, of the project;
- An identification of the environmental setting;
- An identification of environmental effects by use of a checklist, matrix, or sample form tailored to satisfy individual agencies' needs and project circumstances, so long as the entries are briefly explained to indicate that substantial evidence exists to support the entries. The brief explanation may be either through a narrative or a reference to another information source such as an attached map, photographs, or an earlier EIR or negative declaration. A reference to another document should include, a citation to the page or pages where the information is found;
- A discussion of mitigation measures for significant effects identified, if any;
- A discussion of compatibility with existing zoning, plans and other applicable land use controls;
- The name of preparers of the IS.

#### **1.4 Incorporation By Reference**

Pursuant to ~15063(d)(3) of the State CEQA Guidelines this IS incorporates by reference all or portions of other technical documents that are a matter of public record. Those documents either relate to the proposed Project or provide additional information concerning the environmental setting in which the Project is proposed. The information contained in this IS is based, in part, on the following related technical studies that include the proposed Project site or provide information addressing the general Project area:

- Traffic Study and Memorandum of Agreement (Appendix A)
- Air Quality/Greenhouse Gas Technical Memorandum (Appendix B)
- Cultural Resources Assessment (Appendix C)
- Hazardous Materials Technical Memorandum (Appendix D)
- Mitigation Monitoring and Reporting Plan (Appendix E)

#### **1.5 Regulatory Permits**

Metro is exempt from City of Los Angeles permits, however it is Metro's policy to coordinate with relevant City departments (for example Building, Planning, Transportation) to ensure that Metro's

projects are consistent with City goals, policies and requirements. The Metro Board will use this IS/MND to inform decision making about this project as required by CEQA.

## **1.6 Agency and Public Comment Period**

In October and November 2015 Metro held a round of public outreach meetings and released the draft environmental clearance document for the ESOC facility at 410 Center Street in the City of Los Angeles' Arts District. Meetings were held with project area stakeholders and a public open house was held on October 14. A summary of comments made and questions asked is provided in Appendix F, Agency and Public Comment Summary. Appendix F also includes information provided at the open house.

A letter from the State Clearinghouse, dated November 16, 2015, was received by Metro stating that no comments were submitted by any State agencies to the Governor's Office of Planning and Research. A copy of this letter is provided in Appendix F.

## **1.7 Conclusion**

Sections 3 and 4 of this IS present a summary of the analysis of the potential environmental impact of the project, in addition to specific mitigation measures. The IS is supported by detailed technical analysis which can be found in Appendices A through D for those environmental resource areas where potential impacts may exist. In accordance with ~ 21080(c) of CEQA, this IS supports the conclusion that the proposed Project does not have a significant adverse impact on the environment, after mitigations.

## **2.0 Project Description**

### **2.1 Project Location**

The proposed project would be located at 410 Center Street, an approximately 1.8-acre site, just south of Highway 101 and a quarter mile from the Metro Headquarters Building (Gateway Building) in downtown Los Angeles. The site is located in an industrial area and the zoning code is designated for heavy manufacturing which also allows for office uses. There are no residential/housing, educational centers, institutional, or public open space in the immediate (within 1,000 feet) area.

### **2.2 Project Objectives**

The project purpose and objectives are to provide efficient and safe transit service to the region as the bus and rail transit system expands. The project would enhance transit reliability for Metro buses and trains and allow for efficient operation of the transit system as it grows.

The multi-modal control center will address key areas including:

- Enhancing physical security to meet federal standards
- Addressing the existing support limitations for bus and rail operations
- Enhancing synergy between the respective staff of law enforcement and security and bus and rail operations
- Enhancing efficiency of operation by integrating other Metro operations, including security and dispatch, rail and bus management and training, rail scheduling, safety and engineering



- Improving daily operation by employing state of the art design standards
- Improving dispatch response time via implementation of the EOC
- Enhancing physical arrangements of the existing BOC, ROC, and EOC to accommodate the planned system extensions

## 2.3 Environmental Setting

The project site is located in the north east edge of downtown Los Angeles, in Los Angeles County, as shown in Figure 1. The area is typically referred to as Central City North with surrounding land uses being industrial and manufacturing in nature. The site is in close proximity to the 101 freeway to the north and the Los Angeles River to the east and experiences a moderate level of background noise due to its close proximity to the freeway as well as numerous rail corridors adjacent to the river. Per the Los Angeles Zoning code, the site is located in M3-1, and designated Heavy Manufacturing in the General Plan. Presently, the ESOC project site serves as a bus training center and layover parking for Metro buses on the large paved lot. Additionally, there is an existing 5,000 square foot building on the north west corner. The current uses are consistent with the zoning designation.

The site boundary consists of the 101 freeway to the north and Los Angeles River to the east, with the community of Boyle Heights, across the Los Angeles River. The Boyle Heights community, located approximately 0.25 miles from the project site, is comprised of largely residential uses with single family homes. Immediately to the south of the project site is the Arts District which is comprised of industrial and commercial uses, art galleries and exhibition warehouse spaces, and housing. The residential area of the Arts district is located across a major thoroughfare, 1<sup>st</sup> Street and Alameda to the southwest, which is 0.5 miles away from the project site. There are no educational, institutions, or schools in the immediate area.

## 2.4 Project Components

Construction of the new ESOC facility will require relocation of current bus and LASD operations, demolishing the existing building structure, and preparing the site for construction. The ESOC facility is currently envisioned to be a maximum of four-story building comprised of approximately 100,000 square feet of commercial office space with approximately 150 parking spaces, both as surface parking and in one level of subterranean parking.

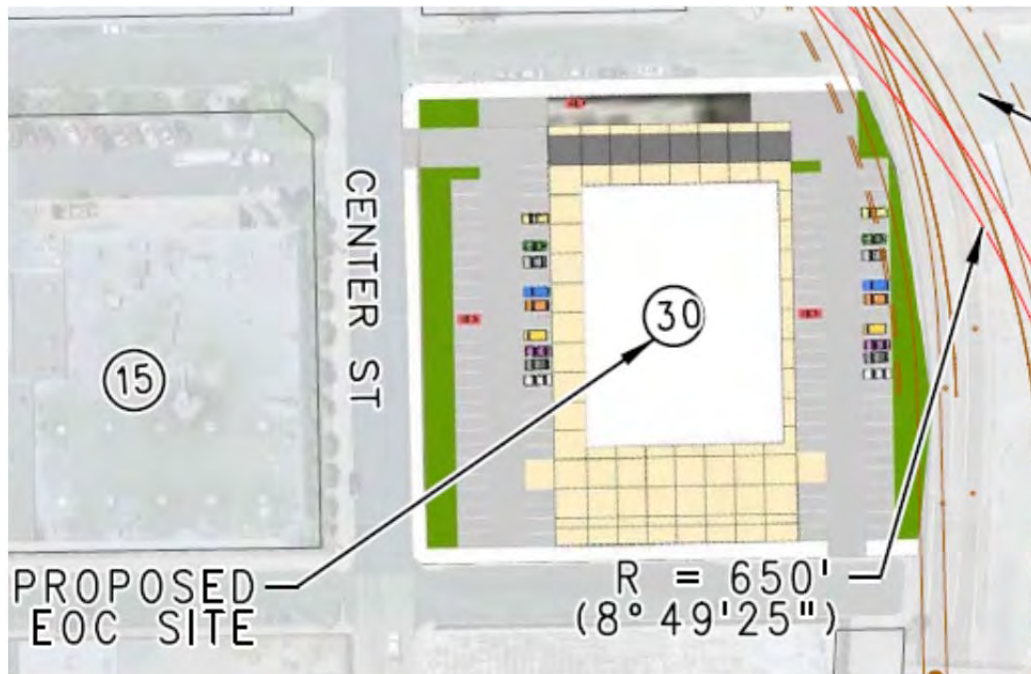
Project components include:

- Demolition of existing structure and site preparation, grading
- Building construction:
  - First floor – emergency operations center/ administrative/personnel support
  - Second floor – security operations center and closed circuit television observations center
  - Third floor – bus operations control center/ support facilities
  - Fourth floor – rail operations control/ support facilities
- Appurtenant features including utilities

- Ingress/egress
- Surface parking with up to 75 parking stalls
- Subsurface parking facility with up to 75 parking stalls

There are numerous projects proposed in the surrounding area to the project, and consideration of impacts of those projects are addressed by each future project as they are planned and funded. Refer to Metro's Rail Coordination Study for a comprehensive overview of surrounding future projects.

**Figure 3: Conceptual Site Plan**



### 3.0 Environmental Evaluation

#### 3.1 Introduction

The environmental assessment discussion below briefly describes the affected environment, potential environmental effects, and cumulative impacts related to:

- Zoning and Land Use
- Traffic and Parking
- Air Quality and Greenhouse Gas
- Cultural Resources
- Visual Quality
- Noise
- Land Acquisition, Displacement and Relocation

- Hazardous Materials
- Geology, Soils, and Seismicity
- Public Parkland and Recreational Resources
- Wetlands and Floodplains
- Hydrology
- Ecological and Biological Resources
- Energy Resources
- Safety and Security

Where potential effects are identified, mitigation measures are provided to minimize or avoid social, economic, or environmental harm. Where applicable, reference is made to stand alone technical appendices prepared in support of the IS.

## **3.2 Environmental Assessment**

### **3.2.1 Zoning and Land Use**

According to the City of Los Angeles Department of Planning and the Central City North Community Plan, the project site is zoned M3, Heavy Industrial, which allows for the construction and operation of various types of manufacturing uses, including service facilities and maintenance yards. The project site is surrounded by industrial, manufacturing and transportation related uses, as shown in Figure 4. The project site is also located in two overlay zones: the River Improvement Overlay District (RIO) and East Los Angeles Enterprise Zone (EZ).

The purpose of the RIO district is to support the goals of the Los Angeles River Revitalization Master Plan and establish a positive interface between river adjacent property and river ways, among others. The EZ is an area that has been provided economic incentives to stimulate investment and employment through tax and regulation relief and improvement of public services.

The ESOC Site is located on Center Street, which has been identified in Metro's Connect US action plan as a major link between communities on the south side of the US 101 (Arts District, Little Tokyo) and those on the north (El Pueblo, Chinatown). The Plan described urban design elements for streetscape and pedestrian environment in and around the ESOC site. Main objectives include:

- Create connections between Union Station and the cultural/historic sites in the surrounding neighborhoods by means of a clear primary route
- Develop a plan for enhancing access on foot or bicycle between the 1<sup>st</sup>/Central Station, Little Tokyo and the Arts District
- Improve pedestrian and bicycle linkages to/from Union Station to the destinations within each neighborhood and between neighborhoods
- Promote improvements that convey the unique identity of each neighborhood and street

Additionally, Center Street will serve as a vital connection for travel to and from Union Station and future projects such as California High Speed Rail (CAHSR) and Southern California Regional Interconnector Project (SCRIP). The proposed Project will be consistent with future land use plans for the area.

Therefore, the proposed project would be consistent with existing zoning and land uses in the project area. No adverse effects related to zoning and land use are anticipated.

Figure 4: Los Angeles City Zoning and Land Use Designations



Source: City of Los Angeles, ZIMAS 2014

### Mitigation Measures

None required.

### 3.2.2 Traffic and Parking

The project site is located in a developed and urban section of Los Angeles. Roadways in the project area exhibit fair operation levels without long periods of traffic queuing at intersections. The traffic study completed for the proposed project (Appendix A) was prepared in accordance with assumptions, methodology, and procedures that are compliant with Metro requirements. In addition, the traffic study was prepared in close coordination with City of Los Angeles Department of Transportation (LADOT) staff with preparation of a Memorandum of Understanding (MOU).

Intersection operations were analyzed using Circular 212 Critical Movement Analysis (CMA) Planning Method per LADOT Traffic Study Policies and Procedures. Operation of the project site would result in an increase of approximately 1,165 daily vehicle trips, 87 AM peak hour trips, and 79 PM peak hour trips. The traffic study area consisted of 5 intersections and the results of the traffic study show that all intersections are currently operating at level of service (LOS) D or better and are projected to continue to do so in all study scenarios (Existing plus Project, 2017, and 2019). Based on LADOT impact guidelines, the project will not create any impacts to any of the study intersections. The construction of the project is proposed to begin in 2017 and is expected to be completed in 2019. Based on LADOT impact guidelines, none of the intersections would be considered significantly impacted under any study scenario.

The full traffic study and supplemental materials can be found in Appendix A.

### **Mitigation Measures**

None required.

### **3.2.3 Air Quality and Greenhouse Gas**

A technical analysis was prepared in accordance with CEQA Guideline §15063 to determine whether or not the proposed project has the potential to generate significant adverse air quality and climate change impacts. Additionally, the analysis was completed in order to demonstrate compliance with the California Clean Air Act (CCAA) for the proposed project, in accordance with CEQA.

Short-term air quality impacts generated during construction of the proposed project would not conflict with the Air Quality Management Plan (AQMP) attainment goals and would result in less than significant regional and localized impacts. In addition, construction of the proposed project would not expose sensitive receptors to substantial concentrations of air contaminants or odors and would not result in cumulatively considerable air quality impacts. Metro has policies in place, such as the Green Construction Policy which limits criteria air pollutant and GHG emissions of construction equipment during construction. This falls under Metro's overall Sustainability Plan to further limit environmental impacts and reduce unnecessary use of limited resources in projects.

The air quality impact determination for operational activities would be less than significant, similar to the impact determination for construction-related impacts. In addition, operation of the proposed project would result in an indirect air quality benefit due to enhanced efficiency and capacity of the rail and bus transit system, which would allow for and attract more riders and reduce regional vehicle miles travelled (VMT) and associated air quality impacts. The technical analysis has been prepared to evaluate AQ impacts due to the project. The analysis and supporting materials can be found in Appendix B.

Greenhouse gas (GHG) emissions generated during construction and operational activities would not result in a significant impact on the environment, nor would the estimated GHG emission levels conflict with applicable plans, policies or regulations geared towards reducing GHG emissions and climate change impacts. Additionally, operation of the proposed project would result in an indirect reduction in regional GHG emissions due to increased ridership (and reduced regional VMT) resulting from the

enhanced rail and bus transit system. The technical memorandum in Appendix A contains detailed analysis and emissions calculations for GHG impacts for the project.

A technical analysis has been prepared to evaluate greenhouse gas impacts due to the Project. The analysis is provided in Appendix B.

### **Mitigation Measures**

AQ-1 - The project shall be designed and constructed in a manner consistent with Metro's sustainability policies (such as Metro's Green Construction Policy, Energy and Sustainability Policy and Metro's Sustainability Implementation Plan) and implement BMPs for emissions.

### **3.2.4 Cultural Resources**

This section addresses historic and archaeological resources, as well as paleontological resources. Analysis was prepared in accordance with CEQA Public Resources Code Section 21000 et seq., and the State CEQA Guidelines, California Code of Regulations Section 15000 et seq., and Section 106 of the National Historic Preservation Act (NHPA) (16 U.S. Code Section 470f) and its implementing regulations (36 Code of Federal Regulations [CFR] Part 800). The supporting, detailed cultural assessment report can be found in Appendix C.

An Area of Potential Effects (APE) was established for the project that includes the Area of Direct Impact (ADI), or Project footprint, and the first tier of adjacent properties that may be indirectly affected by the Project. Archival research and surveys were conducted to identify cultural resources within the APE. Additionally, an archaeological records search at the South Central Coastal Information Center housed at California State University, Fullerton. The records search revealed that the entirety of the ADI was previously studied, and no archaeological resources had been identified within the ADI. Several historical properties were identified within 0.5 mile of the APE, but none are located within the APE. Two additional historical-in-age (50 years or greater in age) buildings were identified within the APE during the built-environment survey, but neither is considered significant or eligible for inclusion in the National Register of Historic Places or California Register of Historical Resources. (see Chapter 3, Archival Research in Appendix C)

Records searches were done at the Natural History Museum of Los Angeles County (NHM) of the APE and vicinity. The search identified no fossil localities within the APE, although significant vertebrate fossils have been recovered from Pleistocene-age older Quaternary alluvial deposits like those that underlie the Project vicinity at varying depths below the current ground surface. Paleontologically sensitive deposits are anticipated to be present 5 to 15 feet below the surface, although depths may vary.

Although no previously documented archaeological resources exist within the APE, undocumented buried archaeological resources may be located within the ADI. The ADI is underlain by deep alluvial deposits dating to the last 10,000 years, and such deposits have the potential to contain significant archaeological resources.

In addition, buried paleontological resources may exist within the APE, particularly at depth. The NHM records search and paleontological assessment indicates that older Quaternary alluvial deposits, buried below the Project ADI, have the potential to contain significant vertebrate fossil remains.

To reduce any potential impacts to cultural and paleontological resources to less than significant under CEQA, cultural and paleontological monitoring of ground-disturbing activities in previously undisturbed soils during construction is proposed. Ground-disturbing activities from the surface to at least the base of younger Quaternary alluvium would be monitored for possible buried cultural resources. Ground-disturbing activities from the contact between younger and older Quaternary alluvium down to final depth would be monitored for possible buried paleontological resources. To ensure that these deposits are monitored, all ground-disturbing activities deeper than approximately 10 feet in depth, and to previously undisturbed soils, would be spot-checked for paleontological resources, unless a determination is made otherwise by a qualified paleontologist. Ground-disturbing activities include geotechnical boring, boring, trenching, grading, excavating, and demolishing building foundations. To guide monitoring for the Project, a Cultural Resources Monitoring and Mitigation Plan should be developed by an archaeologist who meets the standards of the Secretary of the Interior for Archaeology, and a Paleontological Resources Monitoring and Mitigation Plan would be developed by a qualified professional paleontologist.

Technical analysis has been prepared to evaluate existing cultural resources throughout the study area and any potential impacts. The analysis can be found in Appendix C.

## **Mitigation Measures**

### *Archeological Resources*

CR-1 - The Project is expected to occur in previously disturbed soils, however, a qualified archaeologist shall be retained to monitor all project-related, ground-disturbing construction activities (i.e., grading, excavation, etc.) that are in previously undisturbed soils only if encountered. In the event that cultural resources are exposed during construction, the qualified monitor will temporarily halt construction in the immediate vicinity of the discovery (if safe) while the potential resource is evaluated for significance. Construction activities could continue in other areas. If the discovery proves to be significant, additional work, such as data recovery excavation, shall be required. A Cultural Resources Monitoring and Mitigation Plan will be developed outlining monitor procedures.

CR-2 - If potential cultural or archaeological resources are encountered during construction of the proposed project, a Native American monitor shall be retained on an as-needed basis from the Native American group identified in the Cultural Resources Survey report. In the event the Native American monitor identifies cultural or archeological resources, the monitor shall be given the authority to temporarily halt construction in the immediate vicinity of the discovery and contact the project archaeologist/paleontologist.

CR-3 - In the event that human remains are encountered at the project site, all work in the immediate vicinity of the burial must cease, and any necessary steps to ensure the integrity of the immediate area

shall be taken. The Los Angeles County Coroner will be immediately notified. The Coroner must then determine whether the remains are Native American. Should the Coroner determine the remains are Native American, the Coroner has 24 hours to notify the Native American Heritage Commission (NAHC), who shall in turn, notify the person they identify as the most likely descendent (MLD) of any human remains. Further actions shall be determined in part by the recommendations of the MLD. The MLD has 24 hours following notification from the NAHC to make recommendations regarding the disposition of the remains of the discovery. If the MLD does not make recommendations within 24 hours, the owner shall, with appropriate dignity, re-inter the remains in an area of the property secure from further disturbance. Alternatively, if the owner does not accept the MLD's recommendations, the owner or the descendent may request mediation by the NAHC. Procedures of conduct following the discovery of human remains have been mandated by Health and Safety Code §7050.5, Public Resources Code §5097.98, and the California Code of Regulations §15064.5(e) (CEQA).

#### *Paleontological Resources*

CR-4 - The Project is expected to occur in previously disturbed soils, however a qualified paleontological monitor shall be retained to monitor project-related excavation activities on a full-time basis on previously undisturbed soils. Project-related excavation activities of less than ten feet depth shall be monitored on a part-time basis on previously undisturbed soils to ensure that underlying paleontologically sensitive sediments are not being impacted. In addition, the monitor shall ensure the proper differentiation between paleontological and archaeological resources.

CR-5 - The Project is expected to occur in previously disturbed soils. If undisturbed soil is discovered (see also CR-1) a qualified paleontologist shall be retained to supervise the monitoring of construction and to produce a Paleontological Monitoring and Mitigation Plan for the proposed project if needed. Paleontological resource monitoring shall include inspection of exposed rock units during active excavations within sensitive geologic sediments, as defined by the PMMP and as needed. The monitor shall have authority to temporarily divert grading away from exposed fossils in order to efficiently recover the fossil specimens and collect associated data. The qualified archaeologist/paleontologist shall prepare monthly progress reports to be filed with Metro, and the Natural History Museum of Los Angeles County. At each fossil locality, field data forms shall be used to record pertinent geologic data, stratigraphic sections shall be measured, and appropriate sediment samples shall be collected and submitted for analysis. Matrix sampling shall be conducted to test for the presence of microfossils.

CR-6 - Recovered fossils shall be prepared to the point of curation, identified by qualified experts, listed in a database to facilitate analysis, and deposited in a designated paleontological curation facility. The most likely repository would be the Natural History Museum of Los Angeles County.

### **3.2.5 Visual Quality**

The proposed project is located in an industrial area with heavy manufacturing uses surrounding the project site. The current design concept calls for construction of a 100,000 square foot office and operations building of a maximum of 4 stories. The project site is currently used as bus layover and parking and is surrounded by transportation-related uses, such as the US 101 fwy and railroad corridors



to the north and east, and manufacturing buildings, both in use and vacant to the south and west of the project site. As shown in Figure 5 and Figure 6, the site is currently surrounded by an approximately 10 foot high, brick wall which blocks any and all views into and out of the property from street level.

The proposed changes would be consistent with surrounding land uses. There are no scenic vistas or resources in the project area that would be impacted. Existing views of the Downtown Los Angeles skyline looking southwest from the project site will not be obstructed. The project would not substantially degrade the existing visual character of the project site and its surroundings.

All lighting associated with the proposed project would be installed in compliance with all applicable lighting standards to contribute minimally to the visual contrast of the proposed project with surrounding land uses during the nighttime hours. As this will be a 24-hour working facility with employees coming and going from the site, external light will be provided, however this lighting would be consistent with existing lighting at nearby establishments and uses.

**Mitigation Measures**

None required.

**3.2.6 Noise**

The City of Los Angeles has established policies and regulations concerning the generation and control of noise that could adversely affect its citizens and noise-sensitive land uses. This project is in an industrial zone with no surrounding sensitive uses.

There would be no additional impacts to the ambient noise levels that currently exist around the project site. The facility currently conducts bus training and serves as a bus layover for Metro busses. Refer to Appendix A, Traffic Study for detailed information of levels of service of vehicular activity. Due to the loud nature of bus stop-and-go at surrounding street stops and roadways, in addition to the car tow activity in the adjacent towing lot and industrial type machinery and traffic traversing these streets, no noise impacts are anticipated. The noise levels from bus activity would, however, decrease due to the elimination of this bus activity in/around the project area streets. Construction noise will be temporary during build-out of the project.

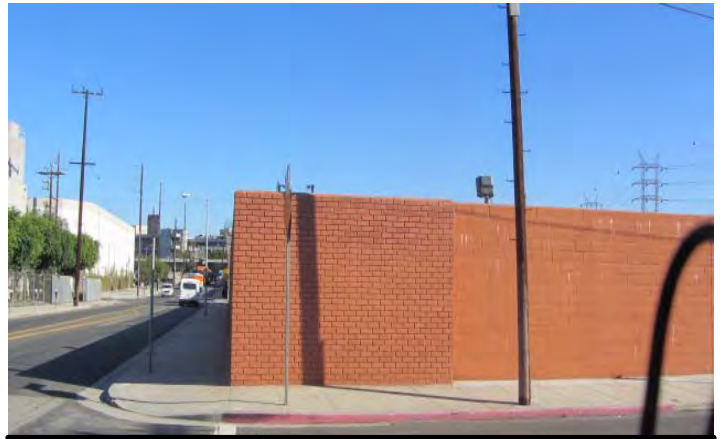
**Mitigation Measures**

None required.

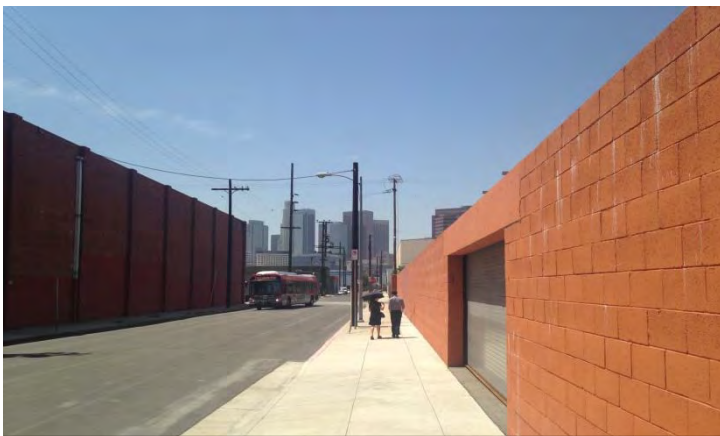
**Figure 5: Outside Property Viewpoints**



Facing south west from across LA River



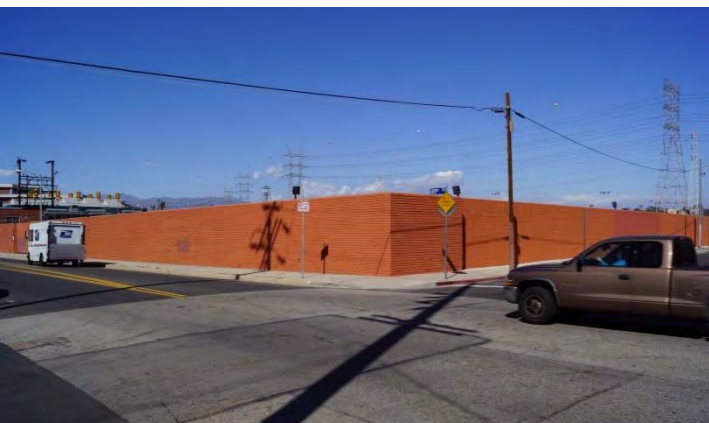
Facing north from corner of Center & Jackson Streets



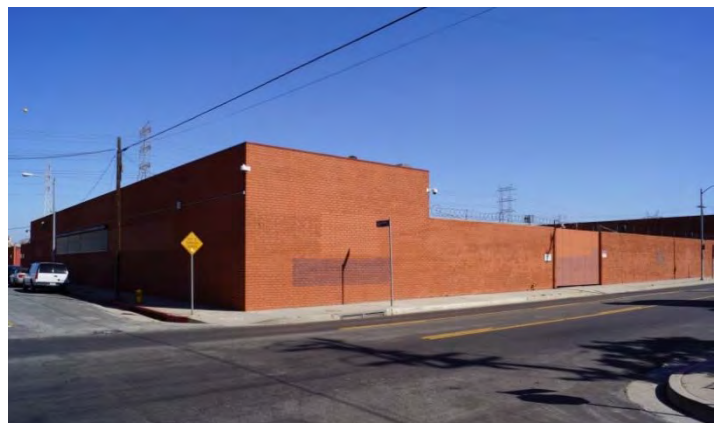
Facing west along Jackson Street



Facing south east from Ducommun Street



Facing north east from Center & Jackson Streets



Facing south east from Center & Ducommun Streets



Figure 6: Inside Property Viewpoints



Facing south from Ducommun into project site



Facing south from Ducommun inside project site



Existing Sherriff's building



Facing northwest inside project site



Facing south along north edge of project site



Facing west inside project site

### 3.2.7 Land Acquisition, Displacement and Relocation

Metro currently owns the site at 410 Center Street, the project site. Implementation of the proposed project would occur on Metro-owned parcels and would not require additional parcels to be acquired. In addition, no housing, commercial, or residential uses currently exist on the site. Additionally, there are no private businesses located on the project site which would require relocation or displacement services as a result of the proposed project. Therefore, no adverse effects are anticipated.

#### Mitigation Measures

None required.

### 3.2.8 Hazardous Materials

A site assessment was prepared to identify hazardous materials impacts on the project site. A recent hazardous material assessment prepared for Metro titled *Technical Review of Onsite Conditions* (TRC Solutions, 2012). Findings were summarized, and can be found in Appendix D.

According to the Phase I and Phase II environment assessments completed by Metro for this site in 2013, no significant environmental conditions were found. Soil appears contaminated to a depth of approximately 15 feet in some areas of the site. Groundwater is historically found at a depth of 28 to 31 feet in this area, and groundwater contains historical contaminants which would be accounted for during construction. Implementation of mitigation measures would reduce potential effects related to soil contamination.

Historical project site land uses included the Southern California Gas Company's (SCGC) Ducommun Street Plant, The National Lead Company possessed warehouses and offices between the railroad tracks, and furniture warehouses. The site was purchased in 1902 by Los Angeles Gas and Electric Company. The operations at the property included gas compression and warehouse storage. Two aboveground gasholders were constructed prior to 1905. The two gasholders were removed in approximately 1920. New structures were built including generators, gas compressors used for gas compression and transmission, blowers for gas transmission, and warehouses. The newer facilities were used in support of butadiene production. Following the demolition of the butadiene facilities in the early 1950s, various operations occurred at the property including crude oil storage.

The proposed underground parking would require grading and excavation of this area, resulting in a potential impact. Contaminated soils would be excavated only from beneath the proposed project building footprint and not from any adjacent area or property. Mitigation measures would reduce environmental effects by ensuring that potentially contaminated soils are identified and removed before the construction of the proposed project.

In August 2014 Metro performed limited asbestos survey on the existing two-story facility on the northwest corner of the project site and found no presence of materials containing asbestos. This same survey found potential hazards due to lead exposure at or above the Los Angeles County Department of Health action level. The area is concentrated in the exterior north, metal gate. Prior to demolition or

construction, specifications should be properly modified to incorporate the stabilization or removal of the lead surfaces.

More recently, in October 2014 Metro performed additional site investigation drilling activities to support the site-specific geotechnical investigation, at 10 boring locations placed throughout the site (*Draft Environmental Investigation Report*, Arcadis, October 2014). Per the report “Based on the analytical data collected during this investigation, no chemicals were detected at concentrations that may be indicative of a Resource Control and Resource Management (RCRA) or California-hazardous waste. The data indicate that the soil can be classified as chemically impacted non-hazardous waste. Accordingly, the soil should be shipped off-site utilizing a bill-of-lading or a non-hazardous waste manifest.”

All applicable policies and procedures within Metro’s System-Wide Hazardous Materials Emergency Response Plan would be implemented during the operation of the proposed project in the event of a hazardous materials emergency. Additionally, the project site was not identified as being located on a former oil field, oil well, within a methane zone or methane buffer zone. No adverse environmental effects related to the handling and emitting of hazardous materials are anticipated.

A summary of the *Technical Review of Onsite Conditions* analysis was prepared to evaluate hazardous conditions in the project site. The summary can be found in Appendix D.

### **Mitigation Measures**

H-M-1 A subsurface investigation, soil sampling, and a geophysical survey will be conducted prior to the construction of the parking structure and to determine the existence or extent of soil contamination due to historical land uses. Contaminated soils or identified USTs will be transported and disposed according to local and State requirements.

H-M-2 Prior to construction and as required by the Land Use Covenant for the parcel, Metro will coordinate with the DTSC in preparation of a Soils Management Plan and Site Health and Safety Plan.

H-M-3 Prior to construction, in the event of tank relocation, preemptive soil sampling of the area would establish potential investigative and/or remedial activities that may be required prior to construction of the proposed project. In the event that contaminated groundwater is encountered during facility removal or other project-related excavation activities, groundwater will be extracted and treated prior to being discharged into the City stormwater drainage system.

H-M-4 Prior construction, asbestos and lead testing will be performed by a licensed Asbestos-Containing Materials/Lead Abatement Contractor to ensure that these hazardous materials are not present in the building materials to be disturbed. The removal of any materials containing asbestos or lead shall be removed by a licensed Asbestos-Containing Materials/Lead Abatement Contractor and in compliance with all applicable local or State regulations.

### **3.2.9 Geology, Soils, and Seismicity**

The project site is located directly adjacent to the Los Angeles River. The project site is not located within an Alquist-Priolo earthquake fault zone, nor designated a landslide area. The nearest fault is located to the northeast, the Upper Elysian Park Fault. According to the City of Los Angeles General Plan, the project site is located in an area that is susceptible to liquefaction.

While soil liquefaction cannot necessarily be avoided, implementation of standard engineering design measures (such as support in structure foundation) is required by state and local codes to minimize potential earthquake impacts. Adherence to existing regulations and implementation of standard construction practices, would ensure that impacts associated with liquefiable soils would be reduced to a less-than-significant level.

#### **Mitigation Measures**

G-S1 Metro shall conduct a geotechnical report that is consistent with Metro criteria and/or design guidelines, as well as City of Los Angeles building specification guidelines.

GS-2 Implementation of BMPs such as scheduling excavation and grading activities during dry weather as feasible, and covering stockpiles of excavated soils with tarps or plastic sheeting would help reduce soil erosion due to grading and excavation activities.

### **3.2.10 Public Parkland and Recreational Areas**

There are no public parks or recreation areas within a quarter mile of the project site. Therefore no adverse effects are anticipated.

#### **Mitigation Measures**

None required.

### **3.2.11 Wetlands and Floodplains**

The project site is not located within or near an area that would be considered a wetland as defined by Section 404 of the Clean Water Act, according to the California Wetlands Information System. According to the Federal Emergency Management Agency (FEMA) the site is not located in a flood zone or floodplain. Therefore, adverse environmental effects related to wetlands and floodplains are not anticipated.

#### **Mitigation Measures**

None required.

### **3.2.12 Hydrology**

The construction phase of the proposed project would potentially cause erosion and run-off into the storm drains due to grading and excavation activities. However, the proposed project would not entail

any activity or processes that would degrade water quality. Project construction and operations would comply with applicable federal, State, and local regulations, as well as other code requirements and permit provisions to prevent any violation of water quality standards or waste discharge requirements. The nearest waterway to the project site is the channelized Los Angeles River, directly adjacent to the east; however the proposed project would not cause runoff where any streams or the river would be altered or impacted. No adverse environmental effects are expected.

**Mitigation Measures**

HD-1 Metro shall employ standard Best Management Practices for project construction and applicable specifications for runoff or discharge.

**3.2.13 Ecological and Biological Resources**

The project site is located in a highly urbanized, heavy industrial area in downtown Los Angeles. There are no natural streams or waterways in the project vicinity that would be considered ecologically sensitive or potentially harbor/support threatened or endangered species.

**Mitigation Measures**

None required.

**3.2.14 Energy Resources**

Currently, the existing two-story Sherriff's facility on the project site uses an existing electrical infrastructure system for daily, 24-hour operations. The project proposes to demolish this existing structure and build a maximum four story building, which would result in a higher demand and use of electricity. The energy use for the 24-hour facility however, would be supported by the utility infrastructure currently in place throughout the city of Los Angeles. Additionally, Metro's Energy and Sustainability Policy would be implemented with the proposed project. Therefore no adverse impacts related to Energy use are expected.

**Mitigation Measures**

None required.

**3.2.15 Safety and Security**

The proposed multi-modal ESOC would integrate EOC, ROC and BOC functions. The new facility will also allow adding more security and reliability for Metro riders. This will be accomplished by upgrading and enhancing traffic monitoring systems, operation monitoring systems, communication network infrastructure, and emergency management systems through the use of state of the art technology. Additionally, LASD personnel will utilize the facility. The project would be operated by Metro and would be closed to the public. All site access would be controlled by on-site guards and 24-hour security teams. The sheriff and police presence on the site is anticipated to be high, as this will be the main control center for the Metro system. No adverse environmental effects related to safety and security are anticipated.

**Mitigation Measures**

None required.

#### 4.0 Initial Study Checklist

##### CEQA Appendix G: Environmental Checklist form

1. **Project title:** Los Angeles Metro Operations Control Center
2. **Lead agency name and address:** Los Angeles Metropolitan Transportation Authority (Metro) One Gateway Plaza, Los Angeles, CA 90012-2932
3. **Contact person and phone number:** Dr. Cris B. Liban, 213-922-2471
4. **Project location:** 410 Center Street, Los Angeles, CA 90012
5. **Project sponsor's name and address:** Los Angeles Metropolitan Transportation Authority (Metro) One Gateway Plaza, Los Angeles, CA 90012-2932
6. **General plan designation:** Heavy Manufacturing
7. **Zoning:** M3-1
8. **Description of project:** See Section 1.2 Project Background and Overview of this IS
9. **Surrounding land uses and setting:** See Section 2.3 Environmental Setting of this IS
10. **Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement.)** None



ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

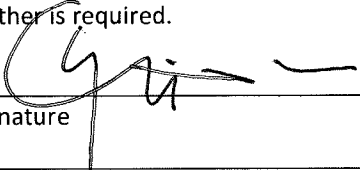
The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

<input type="checkbox"/> Aesthetics	<input type="checkbox"/> Agriculture and Forestry Resources	<input checked="" type="checkbox"/> Air Quality
<input type="checkbox"/> Biological Resources	<input checked="" type="checkbox"/> Cultural Resources	<input checked="" type="checkbox"/> Geology /Soils
<input type="checkbox"/> Greenhouse Gas Emissions	<input checked="" type="checkbox"/> Hazards & Hazardous Materials	<input checked="" type="checkbox"/> Hydrology/Water Quality
<input type="checkbox"/> Land Use/Planning	<input type="checkbox"/> Mineral Resources	<input type="checkbox"/> Noise
<input type="checkbox"/> Population/Housing	<input type="checkbox"/> Public Services	<input type="checkbox"/> Recreation
<input type="checkbox"/> Transportation/Traffic	<input type="checkbox"/> Utilities/Service Systems	<input type="checkbox"/> Mandatory Findings of Significance

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

- 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  
 \_\_\_\_\_  
 Signature

\_\_\_\_\_  
 Date 10/14/15  
 \_\_\_\_\_  
 Date

## 4.1 CEQA Checklist

### CEQA Environmental Checklist

Dist.-Co.-Rte.	P.M/P.M.	E.A.
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This checklist identifies physical, biological, social and economic factors that might be affected by the proposed project. In many cases, background studies performed in connection with the projects indicate no impacts. A NO IMPACT answer in the last column reflects this determination. Where there is a need for clarifying discussion, the discussion is included either following the applicable section of the checklist or is within the body of the environmental document itself. The words "significant" and "significance" used throughout the following checklist are related to CEQA, not NEPA, impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
<b>I. AESTHETICS:</b> Would the project:				
a) Have a substantial adverse effect on a scenic vista	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>II. AGRICULTURE AND FOREST RESOURCES:</b> In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>III. AIR QUALITY:</b> 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>IV. BIOLOGICAL RESOURCES:</b> Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>V. CULTURAL RESOURCES:</b> Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>VI. GEOLOGY AND SOILS:</b> Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>VII. HAZARDS AND HAZARDOUS MATERIALS:</b> Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>VIII. HYDROLOGY AND WATER QUALITY:</b> Would the project:				
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>IX. LAND USE AND PLANNING:</b> Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>X. MINERAL RESOURCES:</b> Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>XI. NOISE:</b> Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>XII. POPULATION AND HOUSING:</b> Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>XIII. PUBLIC SERVICES:</b>				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
<b>XIV. RECREATION:</b>				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>XV. TRANSPORTATION/TRAFFIC:</b> Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>XVI. UTILITIES AND SERVICE SYSTEMS:</b> Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**XVII. MANDATORY FINDINGS OF SIGNIFICANCE**

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Appendix A  
Traffic Study

Metro Emergency Security Operations  
Center (ESOC)  
410 Center Street  
City of Los Angeles

Traffic Study

August 31, 2015

AECOM  
515 South Flower Street, 4<sup>th</sup> Floor  
Los Angeles, CA 90071  
Job Number: 60323255

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Since the commencement of the proposed Project, the project description was updated and some project elements changed. Specifically the building footprint was reduced within the Project site (See Figure 3 in the IS/MND). The updated project description includes building a multi-story 100,000 square foot building within the existing Metro site, with one level of underground parking. Additionally, the name of the Project was changed from Operations Control Center (OCC) to the current Emergency Security Operations Center (ESOC). No other project elements were changed other than the reduction in building footprint and total square footage.

## EXECUTIVE SUMMARY

Metro is proposing to build a new Emergency Security Operations Center (ESOC) of up to 100,000 square feet on an approximately 1.8-acre site, just south of Highway 101 across from the Metro Headquarters Building (Gateway Building). The project is anticipated to start construction in 2017 and open in 2019. Operation of the project site would result in an increase of approximately 1,165 daily vehicle trips, 87 AM peak hour trips, and 79 PM peak hour trips. Intersection operations were analyzed using Circular 212 Critical Movement Analysis (CMA) Planning Method per LADOT Traffic Study Policies and Procedures.

The results show that all intersections are currently operating at level of service (LOS) D or better and are projected to continue to do so in all study scenarios (Existing plus Project, 2017, and 2019). Based on LADOT impact guidelines, none of the intersections would be considered significantly impacted under any study scenario. Therefore, no mitigation measures are required.

## 1.0 INTRODUCTION

This traffic study describes the potential traffic impacts associated with the proposed development of the new Metro Emergency Security Operations Center (ESOC) at 410 Center Street in Los Angeles, CA. A brief description of the project, location, and analysis scenarios are provided in the subsequent sections.

### 1.1 Project Description

The Los Angeles County Metropolitan Transportation Authority (Metro) is proposing to build a new Emergency Security Operations Center (ESOC) in downtown Los Angeles at 410 Center Street just south of US Highway 101 (US 101) between Metro Headquarters (Gateway) Building and Division 20 Red Line Yard & Shops. The project site is bounded by Ducommun Street to the north, Jackson Street to the south, and the Red Line Yard Leads to the east. The new ESOC will serve as a crucial element to Metro's emergency response capabilities and to providing efficient and effective transportation services all within a central location for personnel to command, control, and communicate the latest and developing intelligence. This capability will allow Metro to make real-time decisions that can save lives and mitigate disruptions to transportation services. The ESOC will integrate the Emergency Operations Control (EOC), Rail Operations Control (ROC) and Bus Operations Control (BOC) functions. The existing BOC (located at the Metro Gateway Building) and ROC (located near Willowbrook-Rosa Parks Station) facilities have limited space to accommodate the expansion program, and are heavily taxed in accommodating training, conference, service, and staff office space necessary to provide effective management of bus and rail operations. Furthermore, it is important to develop a central location to house these operations centers to allow centralized communications and coordination, thereby improving business continuity in day-to-day operations, as well as enhancing Metro's disaster and terrorism response capabilities.

Metro purchased the 410 Center St. property measuring about 78,000 square feet (1.8 acres) and currently uses it for bus layover operations as well as providing office, conference and training spaces for Los Angeles County Sheriff's Department (LASD). The site is primarily paved and contains a 5,000 square feet two-story building on the northern end of the property to provide office, conference, training and storage space for LASD for terrorism prevention. Construction of the new ESOC facility will require relocation of current bus and LASD operations, demolishing and clearing the existing building structure, and preparing the site as required. The ESOC facility is currently envisioned to be a 3-story building comprising approximately 100,000 square feet of office space and 150 parking spaces. The City of Los Angeles' plans and zoning code designate the site for heavy manufacturing, which also allows for office uses.

The construction of the project is proposed to begin in 2017 and is expected to be completed in 2019. Operation of the project site would result in an increase of approximately 1,165 daily vehicle trips, including 87 AM peak hour trips and 79 PM peak hour trips, determined in accordance with the methodology described in Section 2.0 below. This traffic analysis has been conducted to determine if the increased traffic volumes would result in changes in existing traffic patterns or volumes that would create an impact under Los Angeles Department of Transportation (LADOT) guidelines and the California Environmental Quality Act (CEQA).



## 1.2 Study Area

The project study area was determined in consultation with LADOT via a memorandum of understanding (MOU). The MOU is included in Appendix A-1. The project study area includes the following 5 signalized intersections:

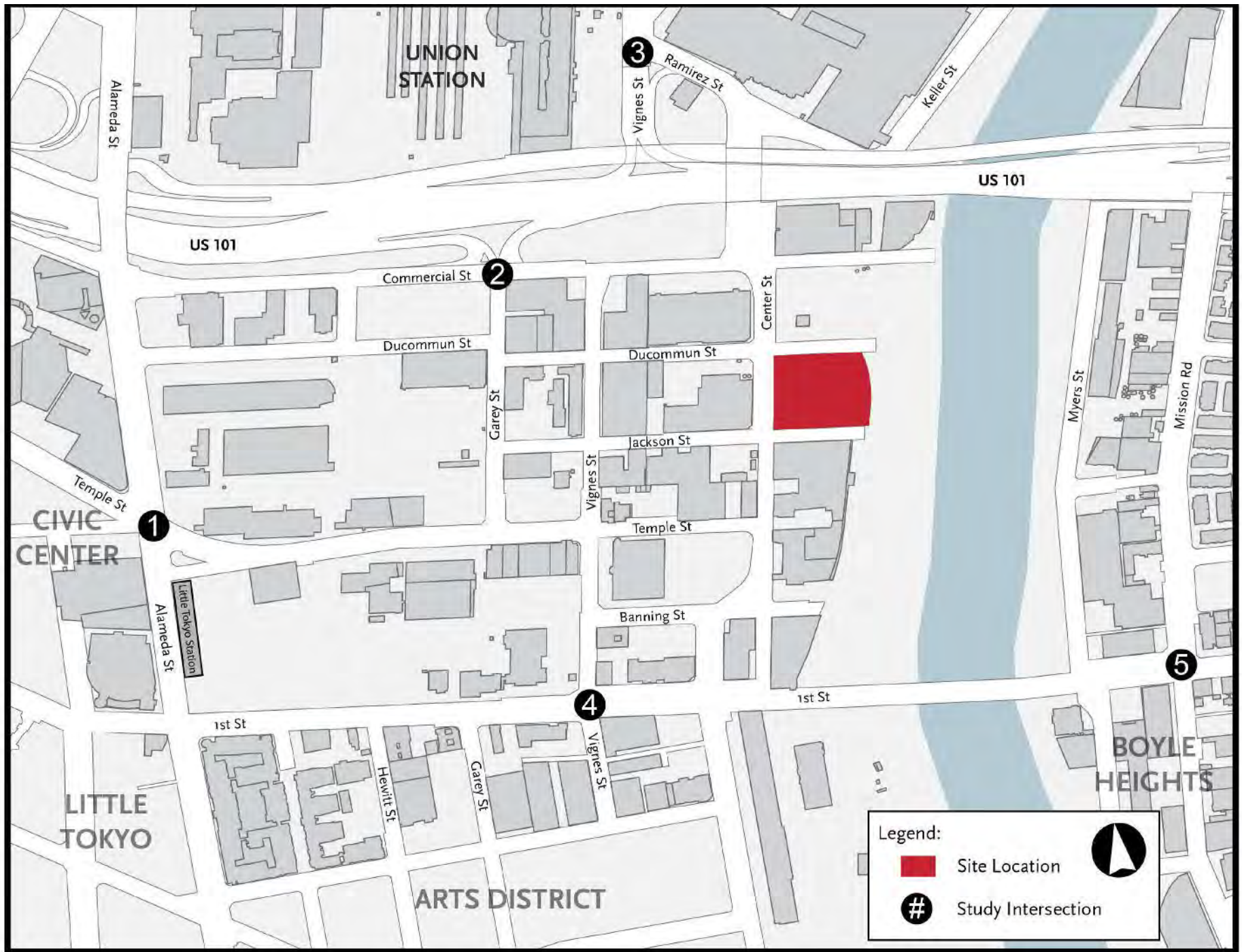
1. Alameda Street & Temple Street
2. Garey Street/ US 101 Southbound Ramps & Commercial Street
3. Vignes Street & Ramirez Street/Patsaouras Plaza
4. Vignes Street & 1<sup>st</sup> Street
5. Mission Road & 1<sup>st</sup> Street

Consistent with LADOT policy, a level of service (LOS) analysis was conducted at the signalized intersections. The development site locations and study intersections are illustrated in Figure 1. Figure 2 displays the existing lane geometry of the study intersections.

## 1.3 Baseline and Analysis Scenarios

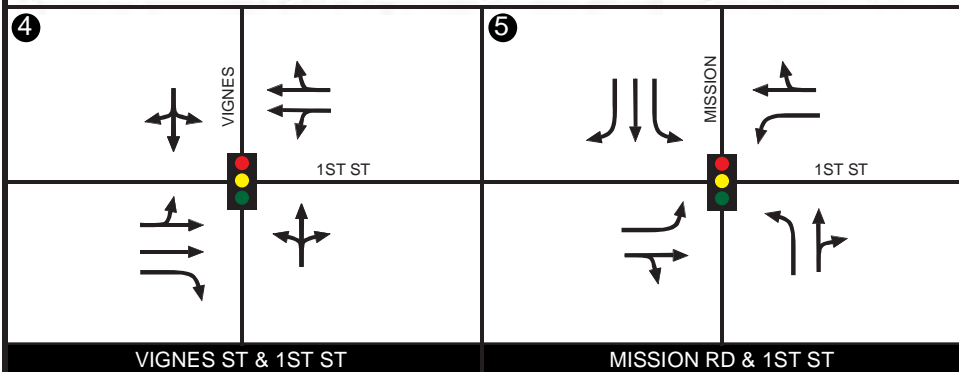
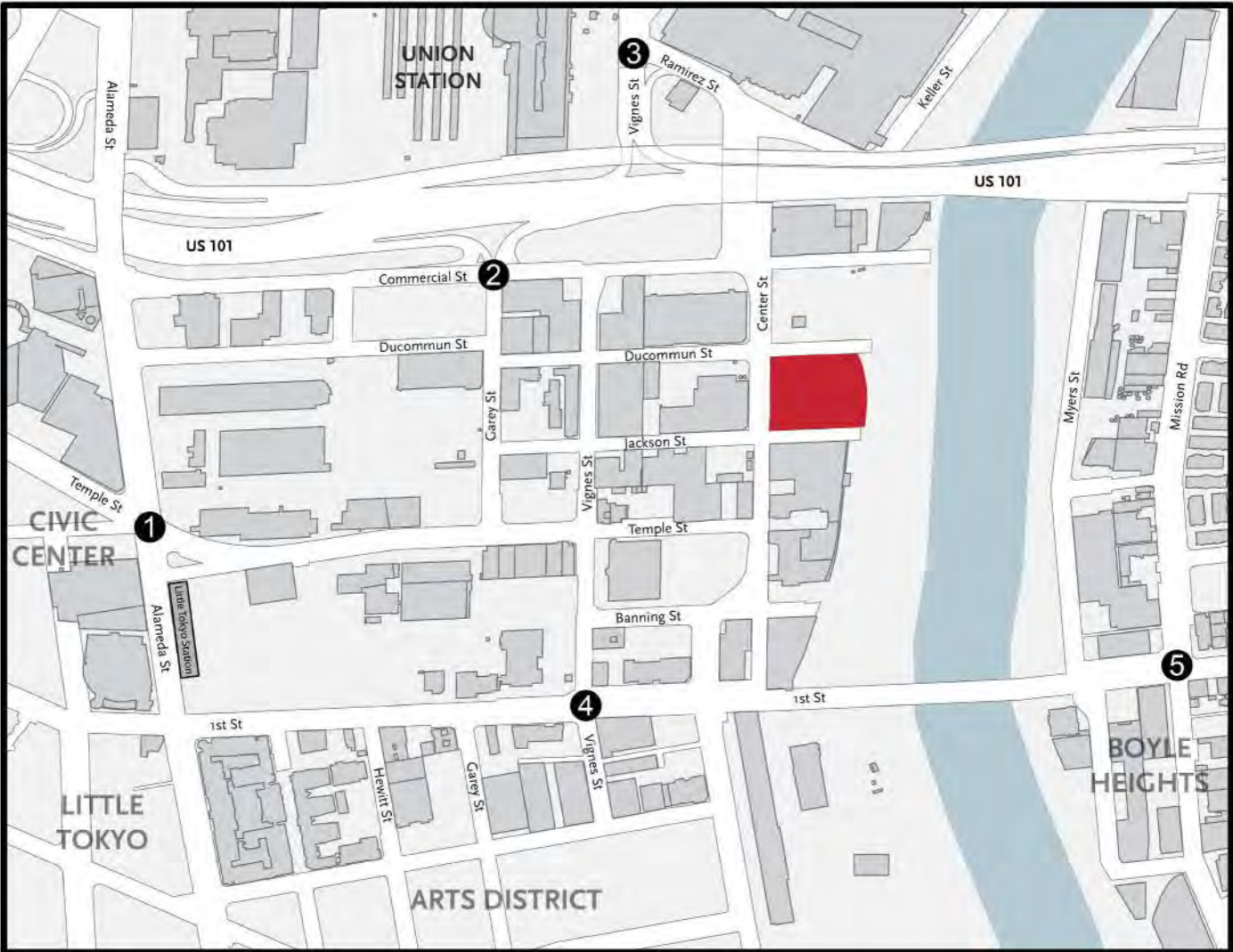
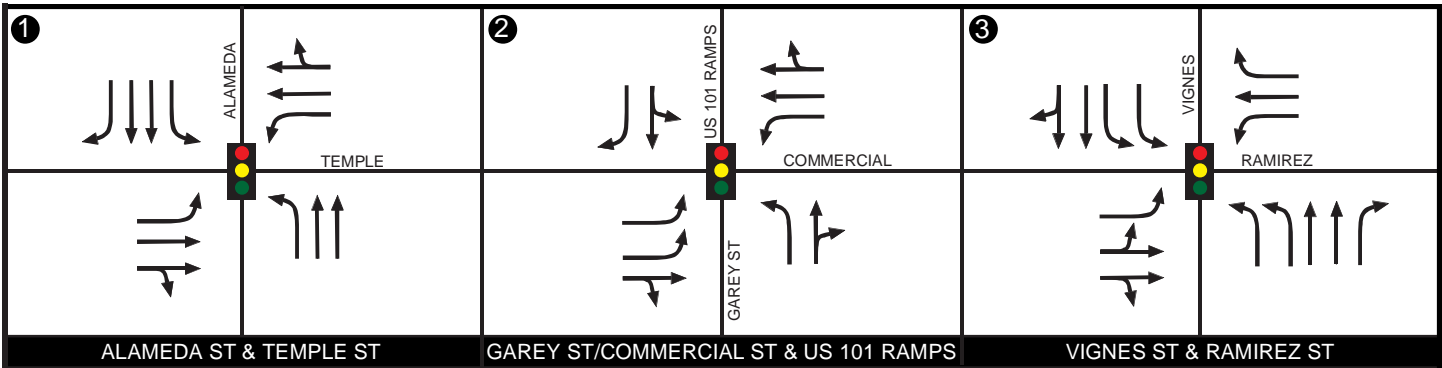
The baseline used to analyze impacts of the project is the existing traffic within the project study area. In addition, consistent with LADOT policy, an additional analysis of the impacts of the project is made based upon conditions anticipated to exist in the buildout year. Both dates of the signed MOU construction year (2017) and projected completion date (2019) were used in the analysis and traffic conditions for both years were conducted. This traffic analysis examines transportation and traffic conditions for the following six scenarios:

- Existing (2014) conditions
- Existing plus Project conditions
- Year 2017 Without Project conditions
- Year 2017 With Project conditions
- Year 2019 Without Project conditions
- Year 2019 With Project conditions



Base map source: City of LA and County of LA

Figure 1: Project Site Location and Study Area Intersections  
Metro Emergency Security Operations Center



Legend:

- Site Location
- Study Intersection

## 2.0 METHODOLOGY

This section details the methodologies for data collection, traffic projections, level of service methodology, and impact criteria.

### 2.1 Data Collection

Detailed weekday AM and PM peak period intersection turning movements were obtained to determine existing traffic volumes on a typical weekday throughout the project area. Existing traffic counts for the study area intersections were taken on Wednesday, June 4<sup>th</sup>, 2014 during the following peak periods:

- Weekday AM period: 7:00 AM to 10:00 AM
- Weekday PM period: 3:00 PM to 6:00 PM

Schools in the Los Angeles Unified School District were still in session on the date of the traffic counts. Existing traffic counts are included in Appendix A-2.

### 2.2 Volume Development

Traffic volume forecasts for the horizon year 2017 and 2019 conditions were developed using an ambient growth factor provided by LADOT of 1 percent per year. This growth rate was applied to the 2014 existing volumes to forecast 2017 and 2019. Year 2017 volumes represent three years of growth (3 percent), and 2019 volumes represent five years of growth (5 percent) that were applied to existing volumes.

#### Related Projects

In addition to the ambient growth, future planned developments near the project study area will generate additional traffic; therefore, an evaluation of related projects was conducted to capture traffic generated by these projects and determine if there are any significant cumulative traffic impacts. Based on consultation with LADOT, information was obtained on 32 other developments (related projects) within a 2.25-mile radius of the project site for which applications are on file. Of the 32 related projects provided, LADOT determined that only 24 related projects will generate traffic at the study intersections, as the size and locations of the others were not sufficient that traffic from those projects would be expected to reach the study intersections. The 24 projects that will generate trips through study area intersections were included in the analysis:

1. Mixed-use development at the Broadway/College Street intersection. Development will construct 223 condominiums and have 25,000 square feet of retail. Project will generate an additional 155 AM and 184 PM peak hour trips.
2. Residential development at the Main Street/Rondout Street. Development will construction 300 condominiums and will generate an additional 71 AM and 87 PM peak hour trips.
3. Mixed-use development at the Fremont Ave/Temple Street intersection. Development will construct 600 apartments and have 30,000 square feet of retail. Project will generate an additional 361 AM and 503 PM peak hour trips.



4. Mixed-use development at the Cesar Chavez Avenue/Grand Avenue intersection. Development will construct 247 apartments and have 8,000 square feet of retail. Project will generate an additional 69 AM and 120 PM peak hour trips.
5. Residential development at the Yale Street/Ord Street. Development will construction 65 apartments and will generate an additional 34 AM and 40 PM peak hour trips.
6. Mixed-use development at the Broadway/Cesar Chavez Avenue intersection. Development will construct 280 residential units and have 17,000 square feet of retail. Project will generate an additional 152 AM and 247 PM peak hour trips.
7. Metro Bus Maintenance and Operations Facility at the Vignes Street/Cesar Chavez Avenue intersection that will generate an additional 85 AM and 88 PM peak hour trips.
8. Retrofitting of the Hall of Justice Building on Temple Street between Broadway and Spring Street. Project will generate an additional 152 AM and 146 PM peak hour trips.
9. Mixed-use development at the Grand Ave/General Thaddeus Kosciuszko Way intersection. Development will construct 265 apartments and have 5,020 square feet of restaurant uses. Project will generate an additional 1,551 AM and 2,464 PM peak hour trips.
10. Mixed-use development at the Hill Street/3<sup>rd</sup> Street intersection. Development will construct 330 condominiums and have 12,000 square feet of retail and restaurant uses. Project will generate an additional 94 AM and 108 PM peak hour trips.
11. Commercial development at the Broadway/2<sup>nd</sup> Street intersection. Development will construct 27,765 square feet of retail and restaurant uses. Project will generate an additional -81 AM (due to transit credits) and 70 PM peak hour trips.
12. Mixed-use development on Los Angeles Street between Temple Street and 1<sup>st</sup> Street. Development will construct 237,000 to 712,500 square feet of office space, 10,000 to 35,000 square feet of retail, and a 2,500 square foot child care center. Project will generate an additional 1,048 AM and 1,374 PM peak hour trips.
13. Two-acre Bus Maintenance and Inspection Facility at the Commercial Street/Hewitt Street intersection. This project will generate an additional 30 AM and 10 PM peak hour trips.
14. Mixed-use development at the 5<sup>th</sup> Street/Olive Street intersection. Development will construct 615 apartments and have 16,309 square feet of restaurant uses. Project will generate an additional 158 AM and 261 PM peak hour trips.
15. Mixed-use development at the Broadway/4<sup>th</sup> Street intersection. Development will construct 430 apartments, 10,000 square feet of retail, and a 5,000 square foot bar. Project will generate an additional 183 AM and 212 PM peak hour trips.
16. Mixed-use development on Los Angeles Street between 2<sup>nd</sup> and 3<sup>rd</sup> Streets. Development will construct 300 condominiums and have 3,400 square feet of retail. Project will generate an additional 224 AM and 126 PM peak hour trips.
17. Mixed-use development at the Los Angeles Street/2<sup>nd</sup> Street intersection. Development will construct 280 condominiums and have 13,500 square feet of retail. Project will generate an additional 248 AM and 334 PM peak hour trips.
18. Mixed-use development at the 2<sup>nd</sup> Street/Garey Street intersection. Development will construct 320 condominiums and have 18,716 square feet of retail. Project will generate an additional 64 AM and 92 PM peak hour trips.
19. Mixed-use development at the Spring Street/8<sup>th</sup> Street intersection. Development will construct 247 condominiums and have 10,675 square feet of retail. Project will generate an additional 90 AM and 140 PM peak hour trips.
20. Mixed-use development at the Main Street/6<sup>th</sup> Street intersection. Development will construct 444 apartments and have 32,000 square feet of retail. Project will generate an additional 199 AM and 274 PM peak hour trips.

21. Mixed-use development on Main Street between 5<sup>th</sup> and 6<sup>th</sup> Streets. Development will construct 160 apartments, 18,000 square feet of retail, 3,500 square feet of restaurant use, and 3,500 square feet of fast-food use. Project will generate an additional 127 AM and 145 PM peak hour trips.
22. Mixed-use development at the Alameda Street/4<sup>th</sup> Street intersection. Development will construct 60 apartments and have 3,000 square feet of restaurant use. Project will generate an additional 55 AM and 59 PM peak hour trips.
23. Santa Fe Freight Yard Redevelopment at the 3<sup>rd</sup> Street/Santa Fe Avenue intersection. Project will generate an additional 339 AM and 458 PM peak hour trips.
24. Mixed-use development at the Santa Fe Avenue/3<sup>rd</sup> Street intersection. Development will construct 420 apartments, 45,000 square feet of retail, 7,500 square feet of high quality restaurant, and 7,500 square feet of fast-food use. Project will generate an additional 208 AM and 229 PM peak hour trips.

Figure 3 shows a map of the related projects, corresponding to the numbering above, that generate traffic at the study intersections. Figure 4 illustrates trips from the related projects. The entire list of related projects provided by LADOT is included in Appendix A-3.

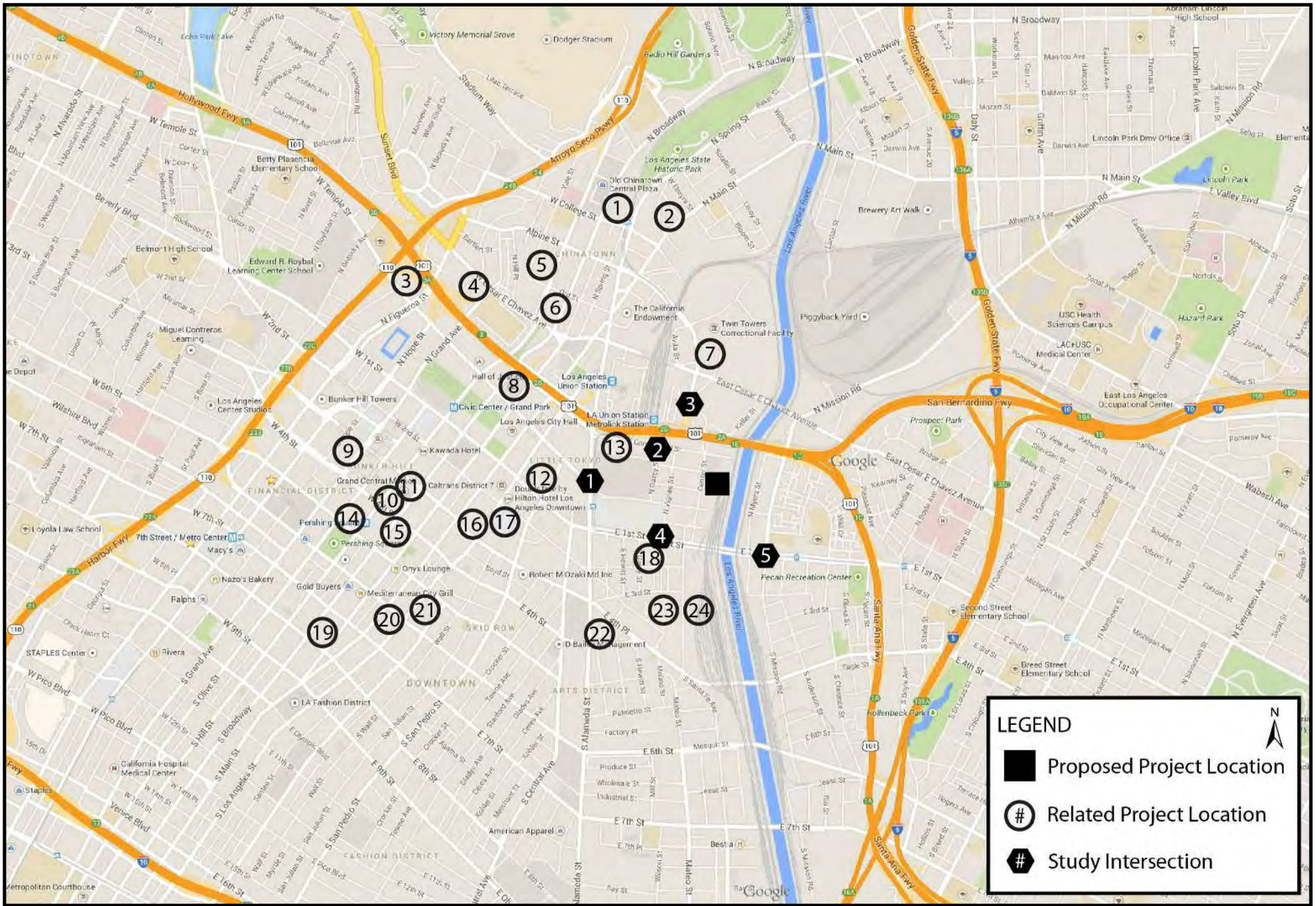
### 2.3 Level of Service Methodology

#### Intersection Methodology

Traffic operations were analyzed using the Transportation Research Board, Circular 212 Critical Movement Analysis (CMA) Planning Method per LADOT Traffic Study Policies and Procedures. CMA is an analysis method that determines the volume to capacity (V/C) ratio on a critical lane basis. A level of service (LOS) is associated with each V/C ratio at a signalized intersection. LADOT's CMA spreadsheet (December 2010 version) was used to implement the CMA methodology in this study.

V/C ratios are measured on a scale of 0 to 1.000. LOS describes the quality of traffic flow and is a measure of such factors as travel speed, travel time and flow interruptions. LOS range from "A" to "F" with LOS "A" representing excellent, free flow conditions and LOS "F" representing jammed, forced flow conditions. Table 1 provides a description of each LOS and associated V/C ratios.





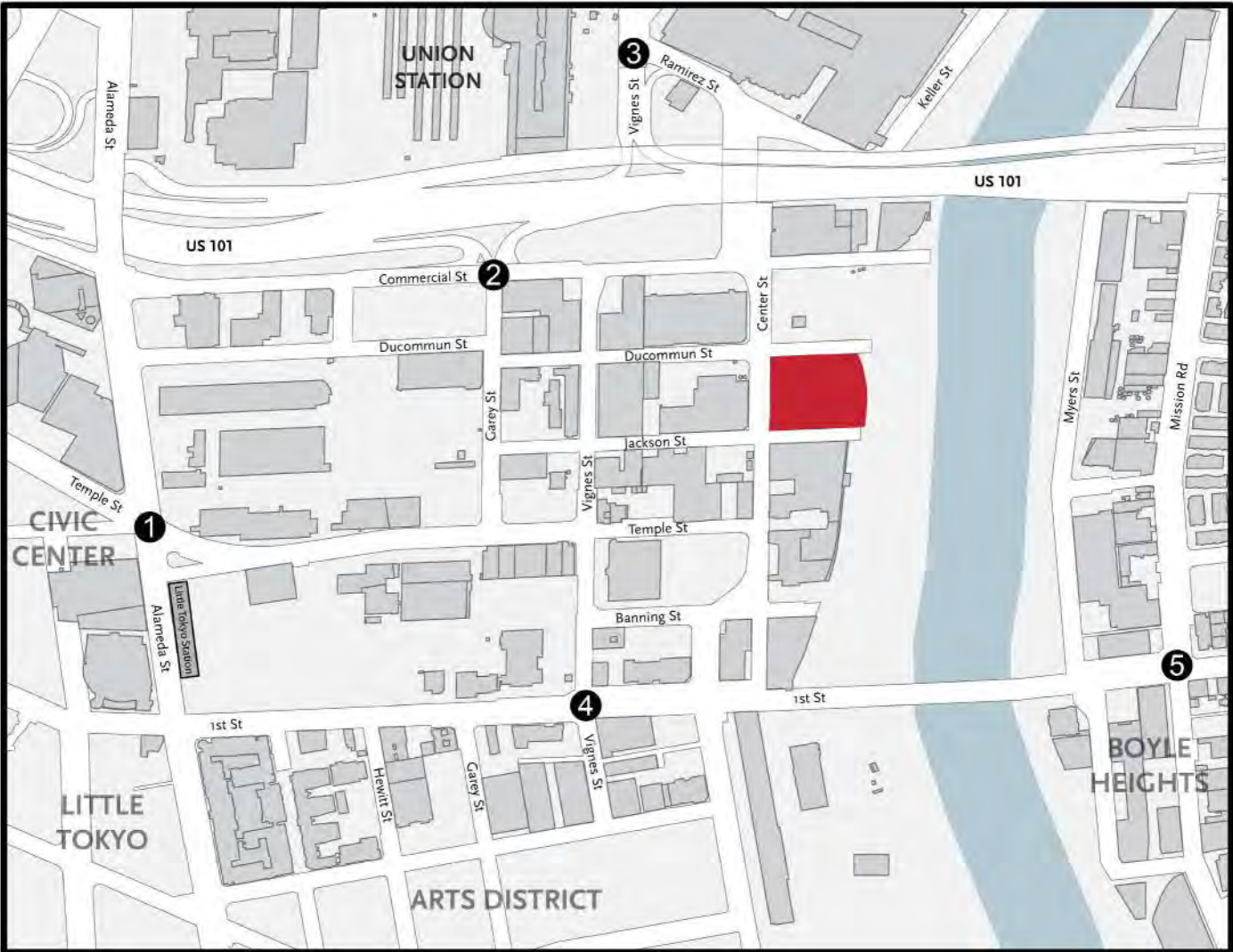
Base map source: Google



Figure 3: Locations of Related Projects  
Metro Emergency Security Operations Center



<b>1</b> 123(139) 102(90) 1(2) ALAMEDA 1(3) 37(33) 11(7) TEMPLE	<b>2</b> 36(27) 42(41) 11(24) US 101 RAMPS 23(17) 5(2) COMMERCIAL	<b>3</b> 22(17) 21(15) 5(4) VIGNES 4(6) 4(3) 25(17) RAMIREZ			
92(182) 25(56) 18(42)	34(15) 64(110)	23(30) 2(1) 2(3) GAREY ST 1(0) 25(51)	17(25) 2(5)	14(26) 9(28)	
ALAMEDA ST & TEMPLE ST		GAREY ST/COMMERCIAL ST & US 101 RAMPS		VIGNES ST & RAMIREZ ST	



<b>4</b> 42(44) 2(32) 19(31) VIGNES 37(32) 85(103) 0(17) 1ST ST	<b>5</b> 8(16) MISSION 56(92) 1ST ST		
28(55) 77(110) 13(28)	22(22) 26(8) 18(6)	14(11) 74(75) 29(41)	31(41)
VIGNES ST & 1ST ST		MISSION RD & 1ST ST	

**Legend:**

- Site Location
- Study Intersection
- XX(YY) AM (PM) Peak Hour Volume

Figure 4: Trips From Related Projects  
Metro Emergency Security Operations Center



Table 1: Level of Service Definitions for Signalized Intersections

Level of Service	Volume/Capacity Ratio	Definition
A	0.000 – 0.600	EXCELLENT. No vehicle waits longer than one red light and no approach phase is fully used.
B	0.601 – 0.700	VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.
C	0.701 – 0.800	GOOD. Occasionally, drivers may have to wait through more than one red light; backups may develop behind turning vehicles.
D	0.801 – 0.900	FAIR. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.
E	0.901 – 1.000	POOR. Represents the most vehicles that intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.
F	Greater than 1.000	FAILURE. Backups from nearby intersections or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Tremendous delays with continuously increasing queue lengths.

Source: Transportation Research Board, *Interim Materials on Highway Capacity*, Transportation Circular No. 212, 1980.

All of the five study intersections are signalized and currently controlled by the City’s Automated Traffic Surveillance and Control (ATSAC) system. The CMA spreadsheet provided by LADOT applies a capacity increase of 7% to reflect the benefits of ATSAC. Per LADOT direction in September 2013, for analysis of future years of 2016 or later, it was assumed that all signalized intersections will be upgraded to the City’s Adaptive Traffic Control System (ATCS). The CMA spreadsheet applies a total capacity increase of 10% to reflect the additional benefits of ATCS. A copy of an e-mail directive from LADOT regarding the use of capacity increases for ATSAC and ATCS is included in Appendix A-4.

## 2.4 Impact Determination

### Intersection Impact Determination

Within the City of Los Angeles, a transportation impact at a signalized intersection shall be deemed significant in accordance with the criteria in Table 2.

Table 2: Significant Transportation Impact - Intersections

Level of Service	Final V/C Ratio	Project-Related Increase in V/C
C	> 0.701 – 0.800	Equal to or greater than 0.040
D	> 0.801 – 0.900	Equal to or greater than 0.020
E	> 0.901 – 1.000	Equal to or greater than 0.010
F	Greater than 1.000	Equal to or greater than 0.010

Source: LADOT Traffic Study Policies and Procedures, August 2014

### 3.0 PROJECT TRIP CHARACTERISTICS

This section summarizes the development of project trips based on a three-step process that involves trip generation, trip distribution, and trip assignment.

#### Project Trip Generation

The ESOC facility is currently envisioned to be a 3-story building comprising approximately 100,000 square feet of office space.

Trip generation rates from *Trip Generation, 9<sup>th</sup> Edition* (Institute of Transportation Engineers [ITE], 2012) were used to develop trip generation estimates for the proposed project, as shown in Table 3. As described below, transit credit adjustments and existing land use credits were deducted from the trip generation.

According to the data submitted to AQMD, Metro employees currently use transit for 37 percent of work trips to all divisions. The share to Gateway Plaza is even higher. The proposed site is just over one-quarter of a mile from Union Station, and less than one-half mile from the Little Tokyo LRT station. It is also well served by the DASH D line. Therefore, a 25 percent transit trip credit was applied to the trip generation.

The existing land use at the project site is a bus depot and a Sheriff's station. This traffic analysis compares existing conditions to project conditions and therefore only the net new trips will result in an impact to the study area intersections. Traffic counts for the existing land uses were conducted on April 22, 2014 and used to determine the active land use credits incorporated into the trip generation estimate provided in Table 3. As shown in Table 3, the project will generate 87 new weekday AM peak hour trips (all inbound trips) and 79 new weekday PM peak hour trips (all outbound trips).

#### Project Trip Distribution

Trip distribution represents the paths that traffic will use to travel to and from a project site. Trip distribution is dependent upon the land use characteristics of a project and the general locations of other land uses at which project trips would originate or terminate. Since the majority of project trips during the peak hours will be employee trips, project trip distribution was based on the location of the project site in relation to freeway access points (US 101 Southbound ramps at Commercial Street and 4<sup>th</sup> Street; US 101 Northbound ramps at Vignes Street/Ramirez Street and 1<sup>st</sup> Street; and I-5 Northbound and Southbound ramps at Mission Road) and other major commuter routes. The selected intersections are along the routes most traffic would travel to get to and from the project site. Traffic will access the project from the Jackson Street and Ducommun Street driveways. Figure 5 illustrates the trip distribution patterns for the project site.

#### Project Trip Assignment

Trip assignment is the product of the project trip generation and the trip distribution percentages at each intersection. The final result of the trip assignment process is a full accounting of project trips, by direction and turning movement at the study intersections. Figure 6 illustrates the assignment of project trips through the study area intersections.

Table 3: Trip Generation

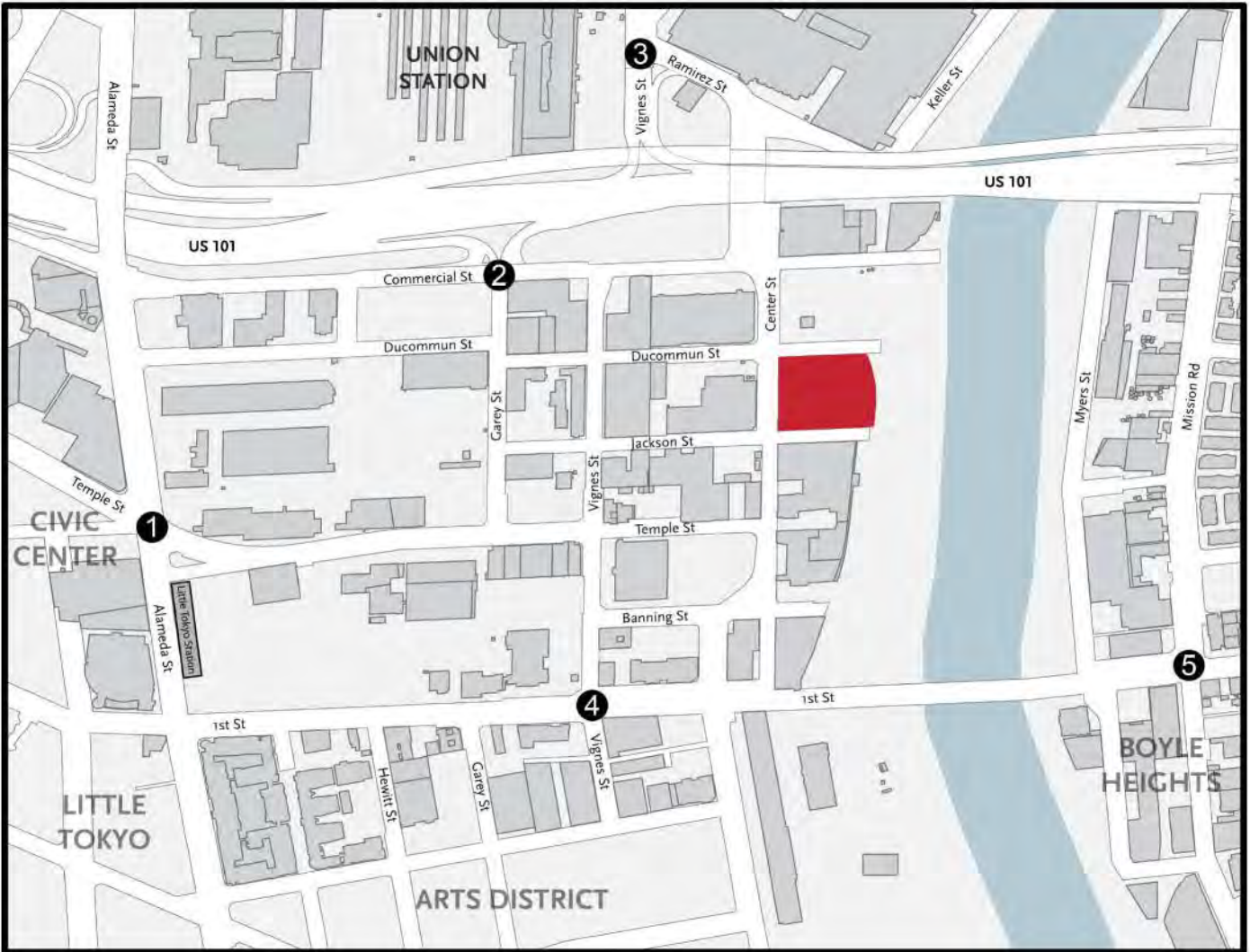
Land Use	Size	Daily Trips		AM Peak Hour Trips				PM Peak Hour Trips			
	ksf	Rate	Total	Rate	Total	In	Out	Rate	Total	In	Out
Emergency Security Operations Center	100	11.65	1,165	1.8	180	160	20	1.74	174	26	148
Transit Credit (25%)					-45	-40	-5		-44	-7	-37
Net Trips					135	120	15		130	19	111
Existing Land Use Credit*					-64	-33	-31		-63	-31	-32
Net New Trips**					87	87	0		79	0	79

Based on *ITE Trip Generation*, 9th Edition, rates for Single Tenant Office Building (Code: 715)

\* Existing active Land Use credit is based on the actual driveway counts conducted on 4/22/2014

\*\* Peak hour total net new trips do not equal net trips minus credit for existing land uses because the net negative outbound trips in the AM peak hour and the net negative inbound trips in the PM peak hour are capped at zero.

<b>1</b> ALAMEDA ← (10%) TEMPLE	<b>2</b> ↓ 10% ↘ 10% US 101 RAMPS	<b>3</b> ↖ (10%) COMMERCIAL	VIGNES ↖ (20%) RAMIREZ		
10% →	GAREY ST ↑ (10%)	↑ (10%)	20% ↘		
ALAMEDA ST & TEMPLE ST		GAREY ST/COMMERCIAL ST & US 101 RAMPS		VIGNES ST & RAMIREZ ST	



<b>4</b> ↖ (20%) ↘ (30%) VIGNES ↖ 30% 1ST ST	<b>5</b> ↖ 15% MISSION ← 15% 1ST ST		
20% ↘	(15%) ↘ (15%) →		
VIGNES ST & 1ST ST		MISSION RD & 1ST ST	

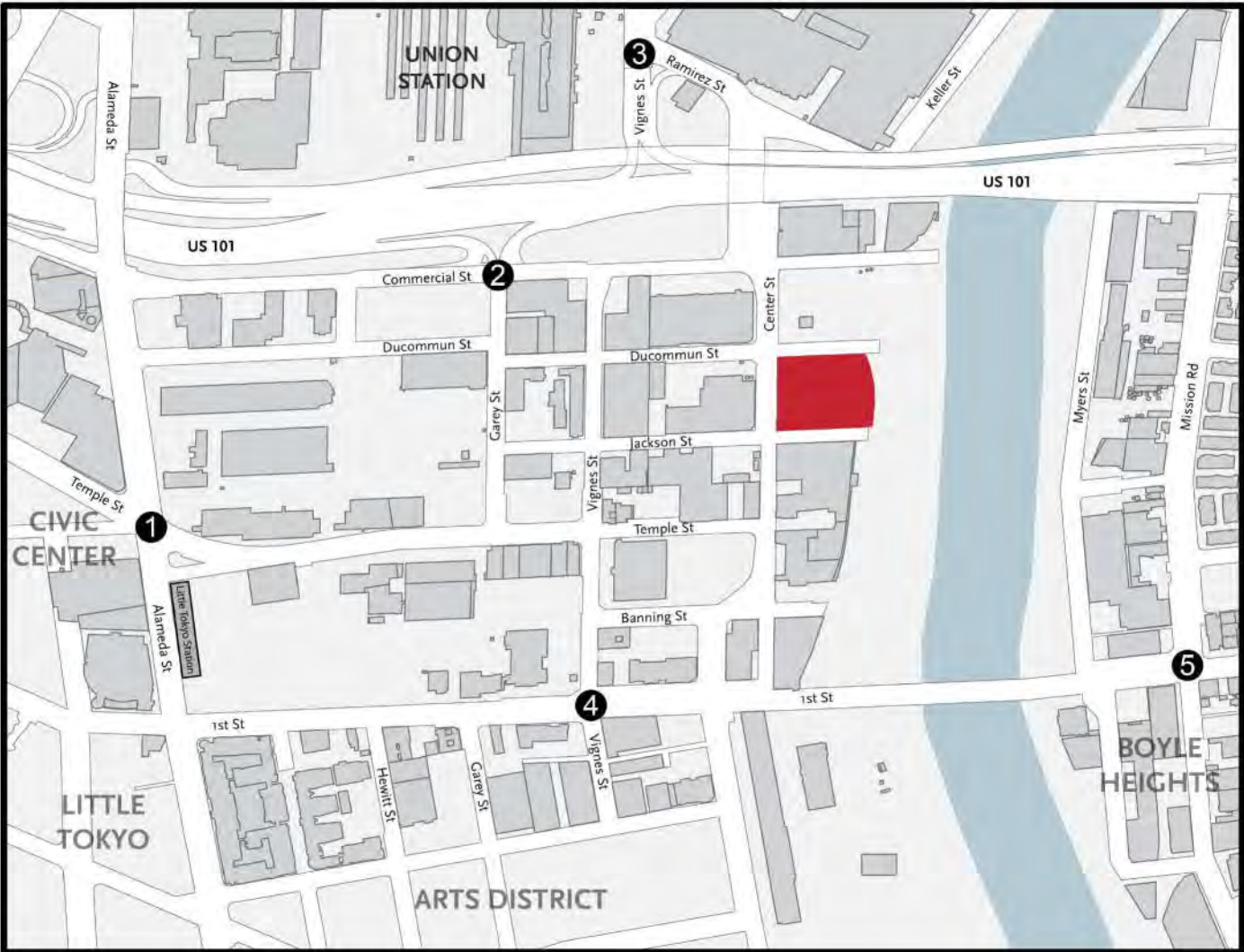
Legend:

Site Location

Study Intersection

XX(YY) Inbound (Outbound)

<p>①</p> <p>ALAMEDA</p> <p>← 0(8)</p> <p>TEMPLE</p>	<p>②</p> <p>← 9(0)</p> <p>↶ 9(0)</p> <p>US 101 RAMPS</p>	<p>③</p> <p>↶ 0(8)</p> <p>COMMERCIAL</p>	<p>VIGNES</p> <p>↶ 0(17)</p> <p>RAMIREZ</p>		
<p>9(0) →</p>	<p>GAREY ST</p>	<p>↑ 0(8)</p>	<p>↷ 17(0)</p>		
<p>ALAMEDA ST &amp; TEMPLE ST</p>		<p>GAREY ST/COMMERCIAL ST &amp; US 101 RAMPS</p>		<p>VIGNES ST &amp; RAMIREZ ST</p>	



<p>④</p> <p>↶ 0(16)</p> <p>↶ 0(24)</p> <p>VIGNES</p> <p>↶ 26(0)</p> <p>1ST ST</p>	<p>⑤</p> <p>↶ 13(0)</p> <p>MISSION</p>	<p>← 13(0)</p> <p>1ST ST</p>
<p>↷ 17(0)</p>	<p>↷ 0(12)</p> <p>↷ 0(12)</p>	
<p>VIGNES ST &amp; 1ST ST</p>		<p>MISSION RD &amp; 1ST ST</p>

Legend:

- Site Location
- Study Intersection
- XX(YY) AM (PM) Peak Hour Volume

## 4.0 EXISTING CONDITIONS

This section documents the existing (2014) traffic conditions within the project study area. Specifically, this section focuses on the study intersections that could be affected by operation of the project.

### 4.1 Intersections

The existing peak-hour turning movement volumes at the study intersections for the weekday AM and PM peak hours are illustrated in Figure 7. Table 4 provides the existing LOS for the five study area intersections. Table 4 indicates that all five study intersections operate at LOS C or better under existing conditions. The traffic analysis CMA worksheets for existing conditions are provided in Appendix A-5.

Table 4: Intersection LOS – Existing Conditions

	INTERSECTION	Control Type	AM PEAK HOUR		PM PEAK HOUR	
			V/C	LOS	V/C	LOS
1	Alameda St & Temple St	Signal	0.526	A	0.597	A
2	Garey St/Commercial St & US 101 SB Ramps	Signal	0.261	A	0.507	A
3	Vignes St & Ramirez St	Signal	0.408	A	0.611	B
4	Vignes St & 1st St	Signal	0.397	A	0.522	A
5	Mission Rd & 1st St	Signal	0.717	C	0.682	B

V/C = volume/capacity

### 4.2 Roadway Segments

Major roadway facilities within the project study area are described below. The discussion presented here focuses on roadways that are approaches to the study intersections or provide direct access to the project site.

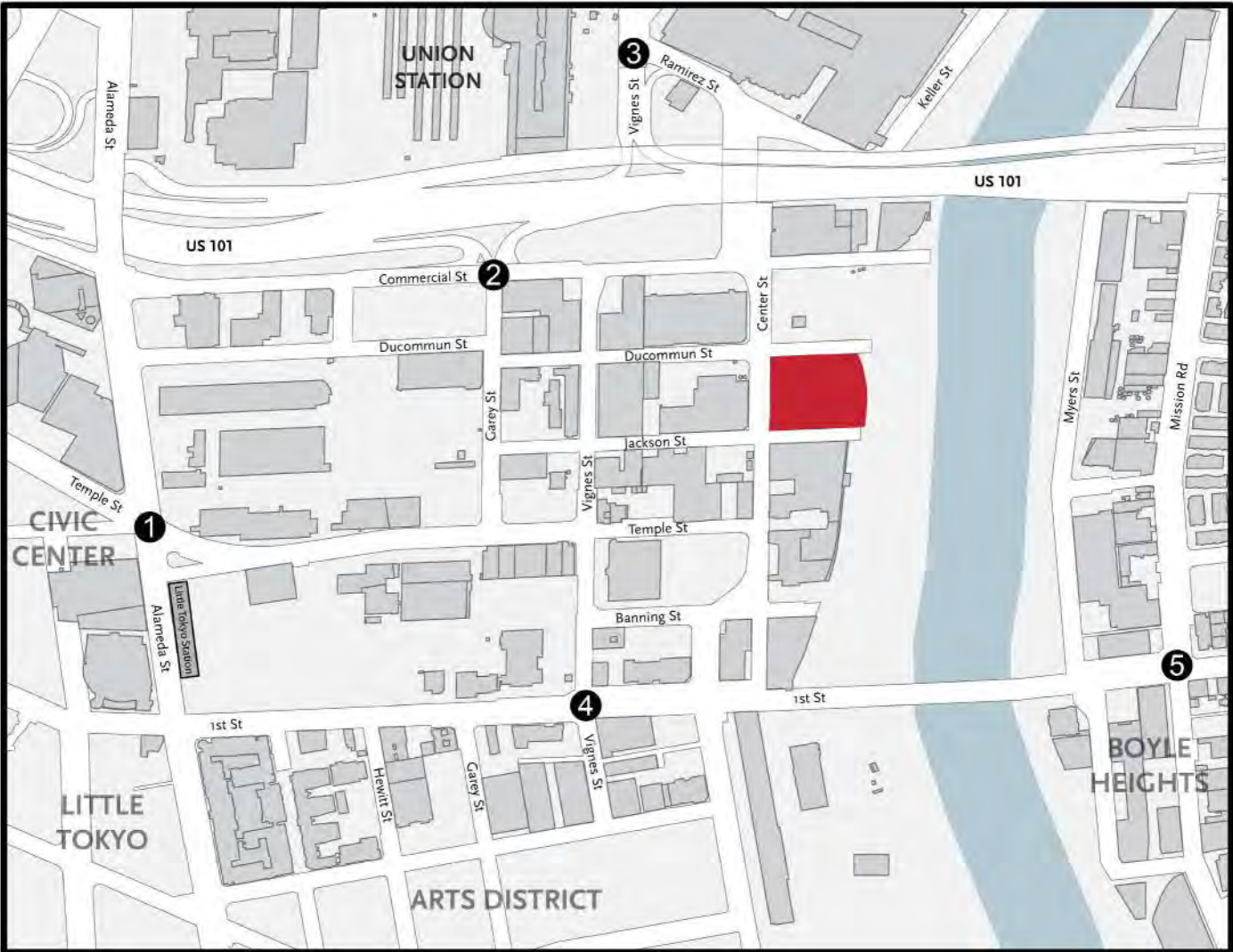
- Alameda Street:** Alameda Street is a north-south major highway (Class II). It varies between two and three lanes in each direction with a speed limit of 35 miles per hour within the study area. Alameda Street provides access to the El Monte Busway, to the west side of Union Station, and to northbound US 101.
- Vignes Street:** Vignes Street is a north-south collector and is intersected within the study area by US 101. South of US 101, Vignes Street has one lane in each direction with metered parking on both sides of the street. Continuing north from the northbound US 101/ Vignes Street on- and off-ramps, Vignes Street connects to the east side of Union Station at Patsaouras Transit Plaza. North of Union Station, Vignes Street has two lanes in each direction with a 35 mile per hour speed limit.
- Garey Street:** Garey Street is a north-south collector and connects to the US 101 Southbound on- and off-ramps at Commercial Street at its northern terminus. It has one lane in each direction with metered parking on both sides of the street.
- Mission Road:** Mission Road is a north-south major highway (Class II). North of 1<sup>st</sup> Street, Mission Road has two lanes in each direction with parking on both sides of the street and a 35

mile per hour speed limit. South of 1<sup>st</sup> Street, Mission Road has one lane in each direction with parking on both sides of the roadway with 25 miles per hour speed limit. Mission Road provides access to I-5.

- Temple Street: Temple Street runs east-west and is classified as a major highway (Class II) west of Alameda Street with two lanes in each direction. Metered parking exists along both sides of the street with a speed limit of 35 miles per hour. East of Alameda Street, Temple Street is classified as a secondary highway and has only one lane in each direction.
- Center Street: Center Street runs north-south and is classified as a major highway (Class II). It has one lane in each direction south of Commercial Street with no parking. North of Commercial Street, Center Street crosses under US 101 where it connects with Ramirez Street before connecting into Vignes Street and Union Station at Patsaouras Transit Plaza.
- 1<sup>st</sup> Street: 1<sup>st</sup> Street runs east-west and is classified as a major highway (Class II) west of Mission Road. East of Alameda Street, the Metro Gold Line runs within the median of 1<sup>st</sup> Street and has two travel lanes in each direction with no parking available. This roadway has a speed limit of 30 miles per hour. East of Mission Road, 1<sup>st</sup> Street is classified as secondary highway with the Metro Gold Line dividing the roadway with one lane in each direction.
- Commercial Street: Commercial Street is an east-west collector. It has two travel lanes in each direction with no on-street parking. This roadway primarily handles the traffic going to and from southbound US 101.
- Ramirez Street: Ramirez Street is classified as a major highway (Class II) as it connects with Center Street near Union Station. This 500-foot segment has two southbound lanes and three northbound lanes as it approaches the Vignes Street at Union Station. There is no parking along this segment. At the southern end of this segment, Ramirez Street continues to the east for 500 feet and is a minor roadway with one lane in each direction and parking on both sides of the street.



<b>1</b> 356(291) 852(712) 20(71) ALAMEDA 18(56) 162(155) 13(18) TEMPLE	<b>2</b> 220(183) 50(23) 167(93) US 101 RAMPS 80(319) 55(62) 5(3) COMMERCIAL	<b>3</b> 326(195) 112(147) 334(229) VIGNES 255(482) 163(153) 64(128) RAMIREZ			
83(247) 163(447) 169(145)	212(72) 599(986)	233(428) 39(58) 21(10) GAREY ST 10(4) 46(231) 5(11)	137(286) 67(62) 71(56)	67(65) 133(407) 71(35)	
ALAMEDA ST & TEMPLE ST		GAREY ST/COMMERCIAL ST & US 101 RAMPS		VIGNES ST & RAMIREZ ST	



<b>4</b> 25(22) 26(30) 23(43) VIGNES 125(31) 724(279) 144(53) 1ST ST	<b>5</b> 480(156) 131(95) 94(73) MISSION 124(97) 506(194) 9(1) 1ST ST		
44(61) 178(813) 9(15)	5(6) 30(34) 29(129)	103(520) 115(474) 14(10)	11(18) 68(183) 4(4)
VIGNES ST & 1ST ST		MISSION RD & 1ST ST	

**Legend:**

- Site Location
- Study Intersection
- XX(YY) AM (PM) Peak Hour Volume



### 4.3 Transit Service

LADOT and Metro operate several transit lines throughout the study area due to its proximity to Union Station. Union Station is the region's primary transit hub and provides regional connections via the Metro bus and rail lines, Metrolink commuter rail, Amtrak long-stance rail, and numerous municipal carriers and specialty shuttles that connect into downtown Los Angeles.

The Patsaouras Transit Plaza is the primary passenger bus facility at Union Station and is utilized by numerous Metro bus routes. The only ingress and egress location to the plaza is accessed through study intersection #3 (Vignes Street/Ramirez Street). Metro bus routes 33, 40, 442, 485, 699, 701, 704, 728, 733, and 745 have stops at the Patsaouras Transit Plaza as well as the LADOT Dash route D and Commuter Express Union Station/Bunker Hill Shuttle Route. The Dodger Stadium Express also uses the plaza to shuttle passengers between Union Station and Dodger Stadium on home game days, but only operates in the PM peak period on those days.

LADOT operates DASH service in the study area. DASH route D traverses most of the study area utilizing Temple Street, Vignes Street, Commercial Street, Center Street, and Ramirez Street before connecting into Patsaouras Transit Plaza. DASH route A travels on 1<sup>st</sup> Street west of Hewitt Street within the study area, then travels north-south on Hewitt Street.

Descriptions of the transit services along the major roadways in the project study area are provided below:

Alameda Street: Metro bus route 40 operates on Alameda Street north of Temple Street with buses arriving every 14-17 minutes in the peak period. Every other route 40 bus terminates at Broadway and Washington without continuing onto Union Station. Buses that continue to Union Station have stops on the west side of Union Station at the Alameda Street/Arcadia Street intersection and on the east side of Union Station within Patsaouras Transit Plaza.

Temple Street: Metro route 30/330 and DASH route D operate on Temple Street. Metro route 30/330 arrives every 5-7 minutes in the peak hour with a stop just west of the Temple Street/Vignes Street intersection. DASH route D has a stop at the Temple/Alameda intersection and buses arrive every 5 minutes throughout the day (until 6PM). Metro route 40 uses Temple Street west of Alameda Street before turning north onto Alameda Street.

Multiple other transit service providers utilize the study area roadways to connect to Union Station, including but not limited to Santa Monica's Big Blue Bus, Orange County Transit, Torrance Transit, and LADOT Commuter Express.

## 5.0 EXISTING PLUS PROJECT CONDITIONS

This section provides a summary of existing conditions with the addition of project traffic at the study intersections.

### Intersection Analysis

The traffic volumes analyzed for the existing plus project conditions include existing traffic volumes and the project trips (as discussed in section 3.0). Intersection peak hour volumes for existing plus project conditions are shown in Figure 8. Table 5 summarizes the peak hour LOS at the intersections in the project study area intersections under this scenario.

Table 5: Intersection Impacts – Existing plus Project

ID#	INTERSECTION	Peak Hour	EXISTING		EXISTING PLUS PROJECT		Change In V/C	Impact?
			V/C	LOS	V/C	LOS		
1	Alameda St & Temple St	AM	0.526	A	0.527	A	0.001	No
		PM	0.597	A	0.599	A	0.002	No
2	Garey St/Commercial St & US 101 SB Ramps	AM	0.261	A	0.274	A	0.013	No
		PM	0.507	A	0.516	A	0.009	No
3	Vignes St & Ramirez St	AM	0.408	A	0.408	A	0.000	No
		PM	0.611	B	0.611	B	0.000	No
4	Vignes St & 1st St	AM	0.397	A	0.412	A	0.015	No
		PM	0.522	A	0.539	A	0.017	No
5	Mission Rd & 1st St	AM	0.717	C	0.735	C	0.018	No
		PM	0.682	B	0.690	B	0.008	No

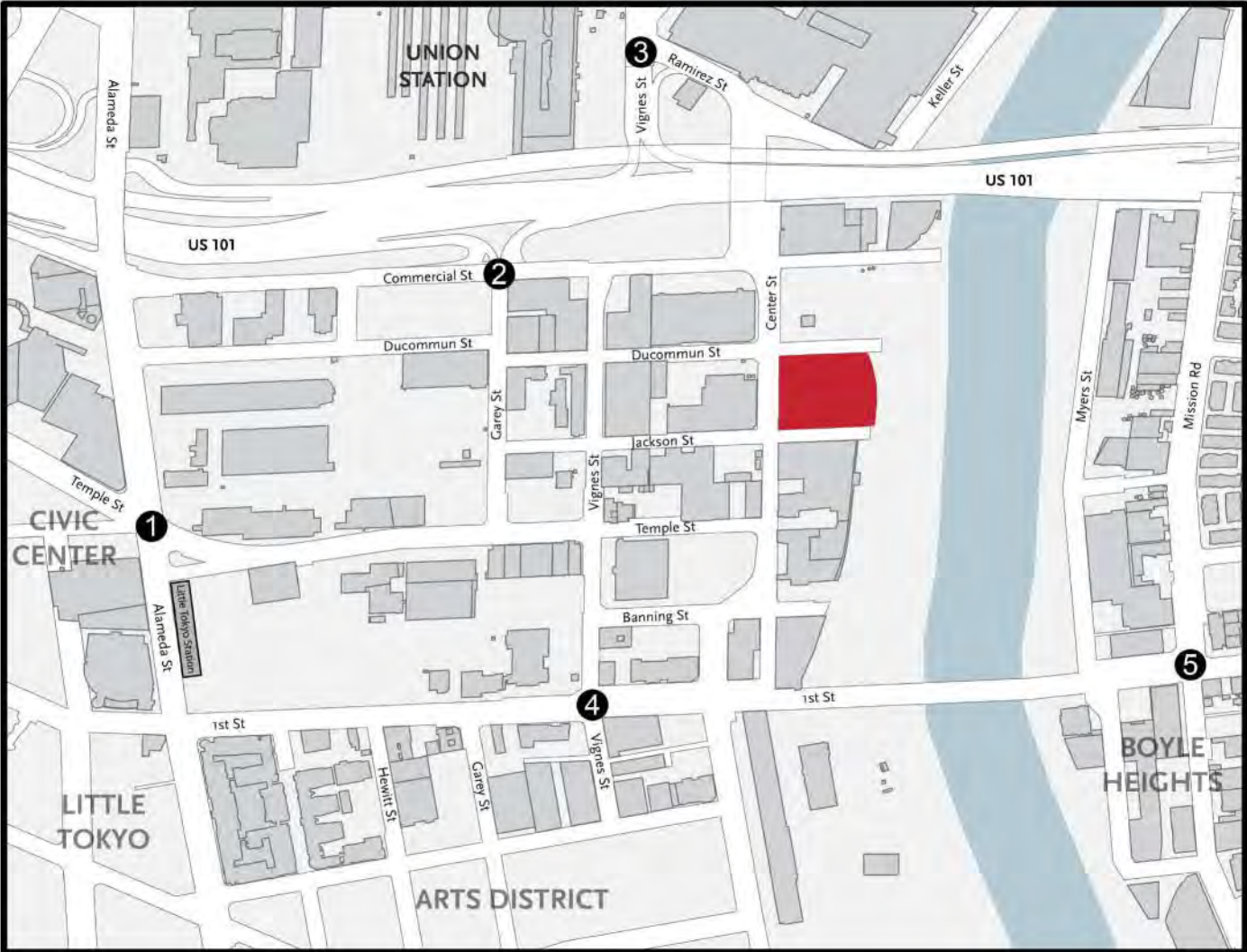
V/C = volume/capacity

As Table 5 indicates, all five study intersections are projected to continue to operate at LOS C or better under existing plus project conditions. The traffic analysis CMA worksheets are provided in Appendix A-5.

### Impact Determination

Under existing plus project conditions, none of the intersections is significantly impacted by the project trips based on the significance thresholds set forth above in Table 2.

<b>1</b> 356(291) 852(712) 20(71) ALAMEDA 18(56) 162(163) 13(18) TEMPLE	<b>2</b> 220(183) 59(23) 176(93) US 101 RAMPS 80(327) 55(62) 5(3) COMMERCIAL	<b>3</b> 326(195) 112(147) 334(229) VIGNES 255(482) 163(153) 64(144) RAMIREZ			
83(247) 172(447) 169(145)	212(72) 599(986)	233(428) 39(58) 21(10) GAREY ST 10(4) 46(239) 5(11)	137(286) 67(62) 71(56)	67(65) 133(407) 88(35)	
ALAMEDA ST & TEMPLE ST		GAREY ST/COMMERCIAL ST & US 101 RAMPS		VIGNES ST & RAMIREZ ST	



<b>4</b> 25(38) 26(30) 23(67) VIGNES 151(31) 724(279) 144(53) 1ST ST	<b>5</b> 493(156) 131(95) 94(73) MISSION 124(97) 519(194) 9(1) 1ST ST		
61(61) 178(813) 9(15)	5(6) 30(34) 29(129)	103(532) 115(486) 14(10)	11(18) 68(183) 4(4)
VIGNES ST & 1ST ST		MISSION RD & 1ST ST	

**Legend:**

- Site Location
- Study Intersection
- XX(YY) AM (PM) Peak Hour Volume

Figure 8: Existing Plus Project Traffic Volumes  
Metro Emergency Security Operations Center

## 6.0 2017 CONDITIONS

This section provides a summary of forecast construction year (2017) conditions with and without project traffic at the study intersections.

### 6.1 Without Project

#### Intersection Analysis

The traffic volumes analyzed for the 2017 Without Project conditions include the ambient area-wide growth and trips from related projects (as discussed in section 2.2). Intersection peak hour volumes for 2017 Without Project are shown in Figure 9. Table 6 summarizes the peak hour LOS at the intersections in the project study area intersections under this scenario.

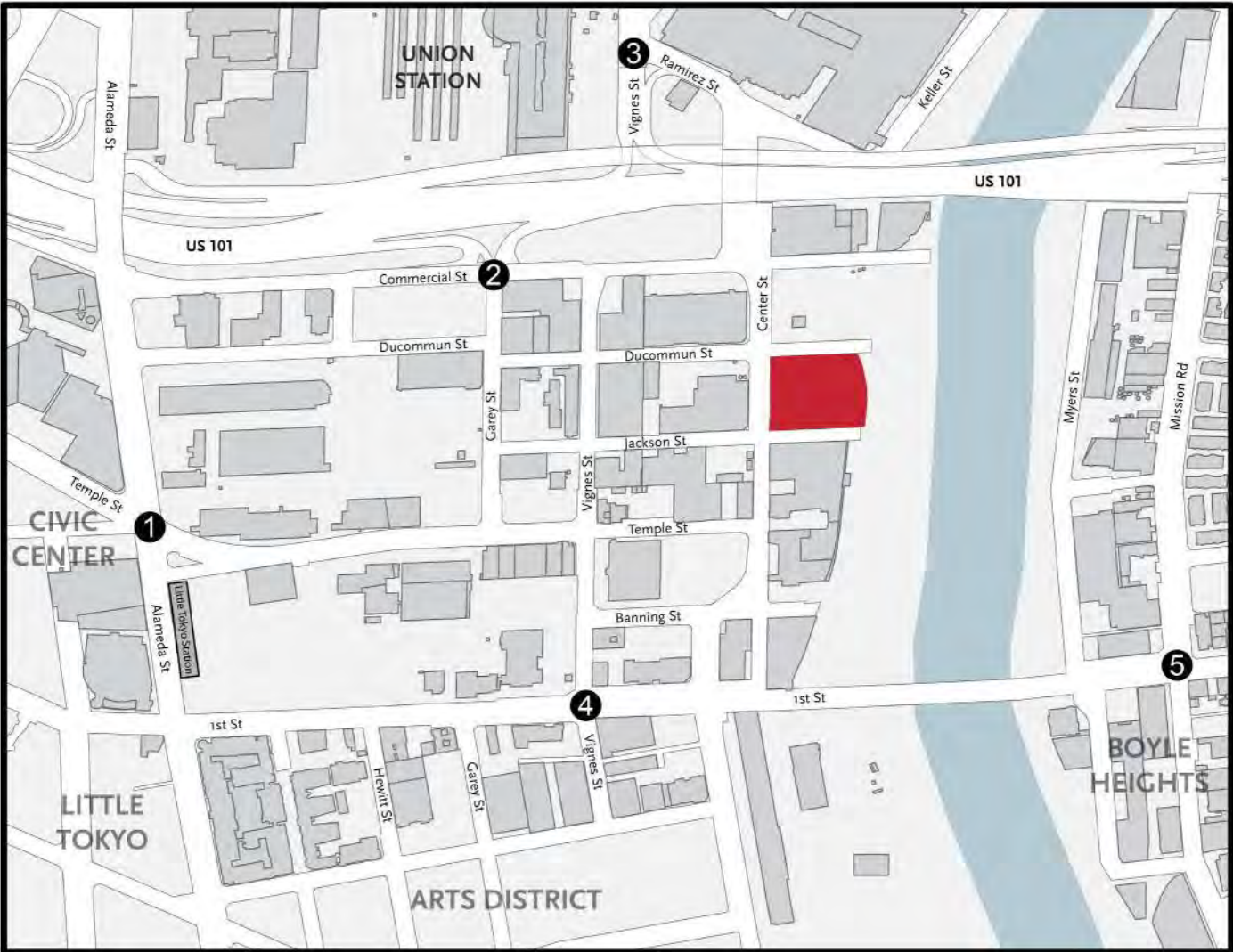
Table 6: Intersection LOS – 2017 Without Project

ID#	INTERSECTION	Control Type	AM PEAK HOUR		PM PEAK HOUR	
			V/C	LOS	V/C	LOS
1	Alameda St & Temple St	Signal	0.650	B	0.774	C
2	Garey St/Commercial St & US 101 SB Ramps	Signal	0.319	A	0.585	A
3	Vignes St & Ramirez St	Signal	0.417	A	0.626	B
4	Vignes St & 1st St	Signal	0.508	A	0.659	B
5	Mission Rd & 1st St	Signal	0.777	C	0.747	C

V/C = volume/capacity

As Table 6 indicates, all five study intersections are projected to continue to operate at LOS C or better under year 2017 Without Project conditions. The traffic analysis CMA worksheets for year 2017 Without Project conditions are provided in Appendix A-5.

<b>1</b> 490(439) 980(823) 22(75) ALAMEDA 20(61) 204(193) 24(26) TEMPLE	<b>2</b> 263(215) 94(65) 183(120) US 101 RAMPS 105(346) 62(66) 5(3) COMMERCIAL	<b>3</b> 358(218) 136(166) 349(240) VIGNES 267(502) 172(161) 91(149) RAMIREZ			
177(436) 193(516) 192(191)	252(89) 681(1126)	263(471) 42(61) 24(13)	11(4) 72(289) 5(11)	158(320) 71(69) 73(58)	69(67) 151(445) 82(64)
ALAMEDA ST & TEMPLE ST		GAREY ST/COMMERCIAL ST & US 101 RAMPS		VIGNES ST & RAMIREZ ST	



<b>4</b> 68(67) 29(63) 43(75) VIGNES 166(64) 831(390) 148(72) 1ST ST	<b>5</b> 502(177) 135(98) 97(75) MISSION 128(100) 577(292) 9(1) 1ST ST		
73(118) 260(947) 22(43)	27(28) 57(43) 48(139)	120(547) 192(563) 43(51)	42(60) 70(188) 4(4)
VIGNES ST & 1ST ST		MISSION RD & 1ST ST	

**Legend:**

- Site Location
- Study Intersection
- XX(YY) AM (PM) Peak Hour Volume

Figure 9: 2017 Without Project Traffic Volumes  
Metro Emergency Security Operations Center

## 6.2 With Project

### Intersection Analysis

The 2017 With Project traffic volumes represent the addition of project traffic to 2017 Without Project conditions. The traffic volumes analyzed for 2017 With Project conditions include the ambient growth rate, related project trips, and trips generated by the project. The 2017 With Project volumes are presented in Figure 10. All five signalized study intersections are projected to continue to operate at LOS C or better in the AM and PM peak hours. The results of 2017 With Project traffic analysis are shown in Table 7. The traffic analysis CMA worksheets for year 2017 With Project weekday conditions are also provided in Appendix A-5.

Table 7: Intersection Impacts – 2017 With Project

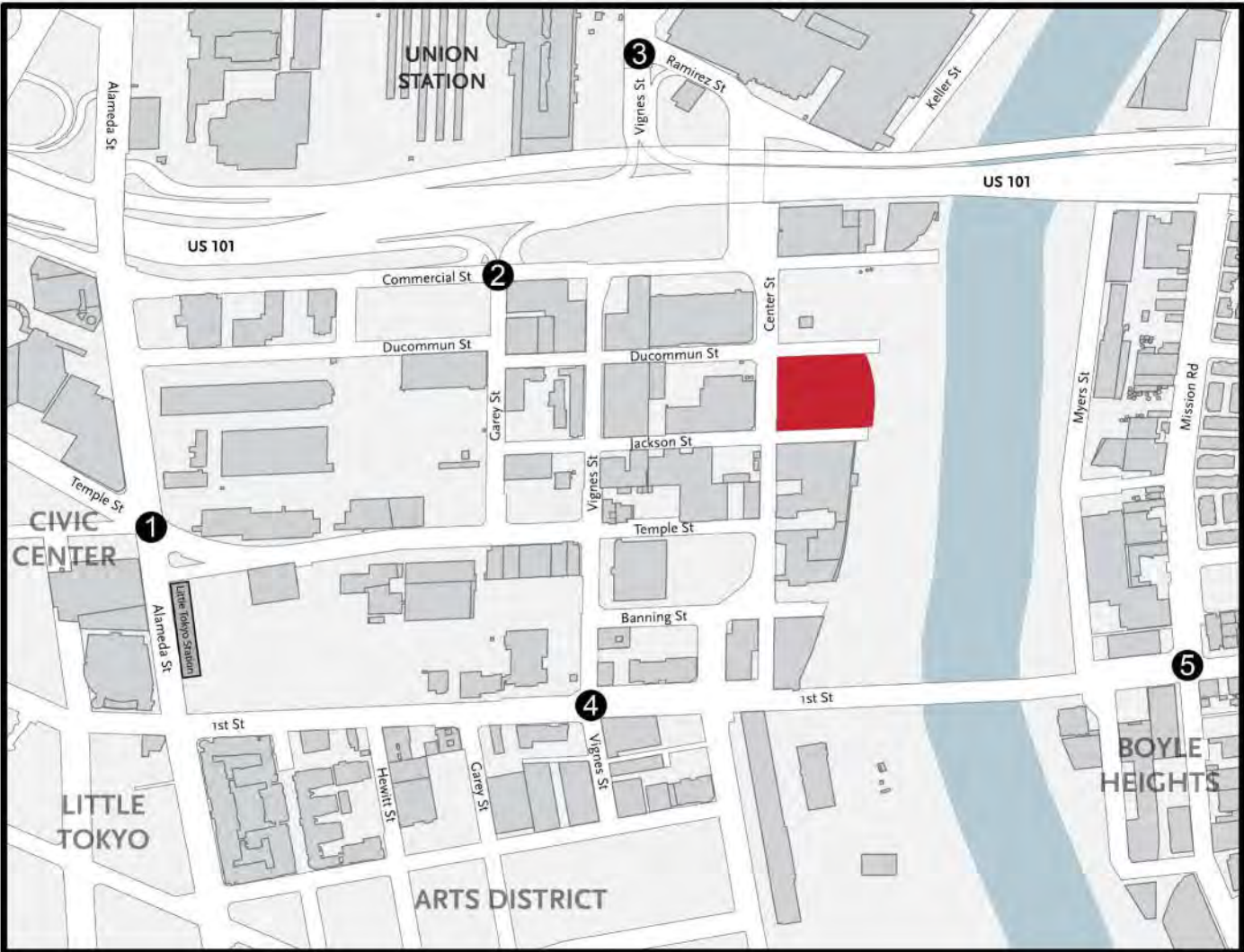
ID#	Intersection	Peak Hour	Without Project		With Project		Change in V/C	Impact?
			V/C	LOS	V/C	LOS		
1	Alameda St & Temple St	AM	0.650	B	0.650	B	0.000	No
		PM	0.774	C	0.777	C	0.003	No
2	Garey St/Commercial St & US 101 SB Ramps	AM	0.319	A	0.333	A	0.014	No
		PM	0.585	A	0.593	A	0.008	No
3	Vignes St & Ramirez St	AM	0.417	A	0.417	A	0.000	No
		PM	0.626	B	0.626	B	0.000	No
4	Vignes St & 1st St	AM	0.508	A	0.523	A	0.015	No
		PM	0.659	B	0.676	B	0.017	No
5	Mission Rd & 1st St	AM	0.777	C	0.795	C	0.018	No
		PM	0.747	C	0.755	C	0.008	No

### Impact Determination

Under 2017 with project conditions, none of the intersections is significantly impacted by the project trips based on the significance thresholds set forth above in Table 2.



<b>1</b> 490(439) 980(823) 22(75) ALAMEDA 20(61) 204(201) 24(26) TEMPLE	<b>2</b> 263(215) 103(66) 192(120) US 101 RAMPS 105(354) 62(66) 5(3) COMMERCIAL	<b>3</b> 358(218) 136(166) 349(240) VIGNES 267(502) 172(161) 91(165) RAMIREZ			
177(436) 202(516) 192(191)	252(89) 681(1126)	263(471) 42(61) 24(13)	11(4) 72(297) 5(11)	158(320) 71(69) 73(58)	69(67) 151(445) 99(64)
ALAMEDA ST & TEMPLE ST		GAREY ST/COMMERCIAL ST & US 101 RAMPS		VIGNES ST & RAMIREZ ST	



<b>4</b> 68(83) 29(63) 43(99) VIGNES 192(64) 831(390) 148(72) 1ST ST	<b>5</b> 515(177) 135(98) 97(75) MISSION 128(100) 590(292) 9(1) 1ST ST		
90(118) 260(947) 22(43)	27(28) 57(43) 48(139)	120(559) 192(575) 43(51)	42(60) 70(188) 4(4)
VIGNES ST & 1ST ST		MISSION RD & 1ST ST	

**Legend:**

- Site Location
- Study Intersection
- XX(YY) AM (PM) Peak Hour Volume

## 7.0 2019 CONDITIONS

This section provides a summary of forecast opening year (2019) conditions with and without project traffic at the study intersections.

### 7.1 Without Project

#### Intersection Analysis

The traffic volumes analyzed for the 2019 Without Project conditions include the ambient area-wide growth and trips from related projects (as discussed in section 2.2). Intersection peak hour volumes for 2019 Without Project are shown in Figure 11. Table 8 summarizes the peak hour LOS at the intersections in the project study area intersections under this scenario.

Table 8: Intersection LOS – 2019 Without Project

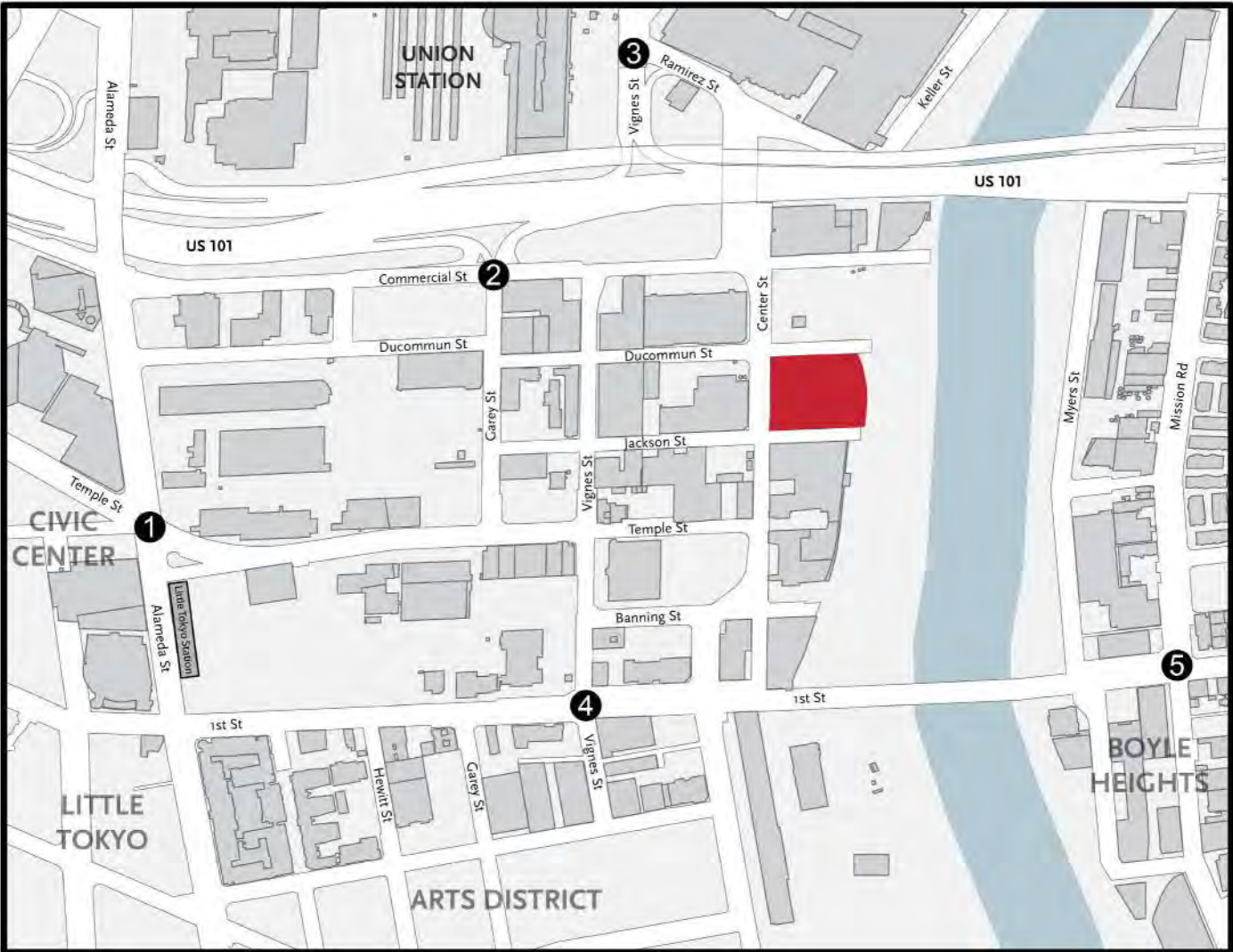
ID#	INTERSECTION	Control Type	AM PEAK HOUR		PM PEAK HOUR	
			V/C	LOS	V/C	LOS
1	Alameda St & Temple St	Signal	0.662	B	0.787	C
2	Garey St/Commercial St & US 101 SB Ramps	Signal	0.326	A	0.597	A
3	Vignes St & Ramirez St	Signal	0.427	A	0.640	B
4	Vignes St & 1st St	Signal	0.518	A	0.722	C
5	Mission Rd & 1st St	Signal	0.793	C	0.762	C

V/C = volume/capacity

As Table 8 indicates, all five study intersections are projected to continue to operate at LOS C or better under year 2019 Without Project conditions. The traffic analysis CMA worksheets for year 2019 Without Project conditions are provided in Appendix A-5.



<b>1</b> 497(445) 997(838) 22(77) ALAMEDA 20(62) 207(196) 25(26) TEMPLE	<b>2</b> 267(219) 95(65) 186(122) US 101 RAMPS 107(352) 63(67) 5(3) COMMERCIAL	<b>3</b> 364(222) 139(169) 356(244) VIGNES 272(512) 175(164) 92(151) RAMIREZ			
179(441) 196(525) 195(194)	257(91) 693(1145)	268(479) 43(62) 24(14) GAREY ST 12(4) 73(294) 5(12)	161(325) 72(70) 75(59)	70(68) 154(453) 84(65)	
ALAMEDA ST & TEMPLE ST		GAREY ST/COMMERCIAL ST & US 101 RAMPS		VIGNES ST & RAMIREZ ST	





<b>4</b> 68(67) 29(64) 43(76) VIGNES 168(65) 845(396) 151(73) 1ST ST	<b>5</b> 512(180) 138(100) 99(77) MISSION 130(102) 587(296) 9(1) 1ST ST	<b>Legend:</b>  Site Location  Study Intersection XX(YY) AM (PM) Peak Hour Volume	
74(119) 264(964) 22(44)	27(28) 58(44) 48(141)	122(557) 195(573) 44(52) 43(60) 71(192) 4(4)	
VIGNES ST & 1ST ST		MISSION RD & 1ST ST	

Figure 11: 2019 Without Project Traffic Volumes  
 Metro Emergency Security Operations Center

## 7.2 With Project

### Intersection Analysis

The 2019 With Project traffic volumes represent the addition of project traffic to 2019 Without Project conditions. The traffic volumes analyzed for 2019 With Project conditions include the ambient growth rate, related project trips, and trips generated by the project. The 2019 With Project volumes are presented in Figure 12. All five signalized study intersections are projected to operate at LOS D or better in the AM and PM peak hours. The results of 2019 With Project traffic analysis are shown in Table 9. The traffic analysis CMA worksheets for year 2019 With Project weekday conditions are also provided in Appendix A-5.

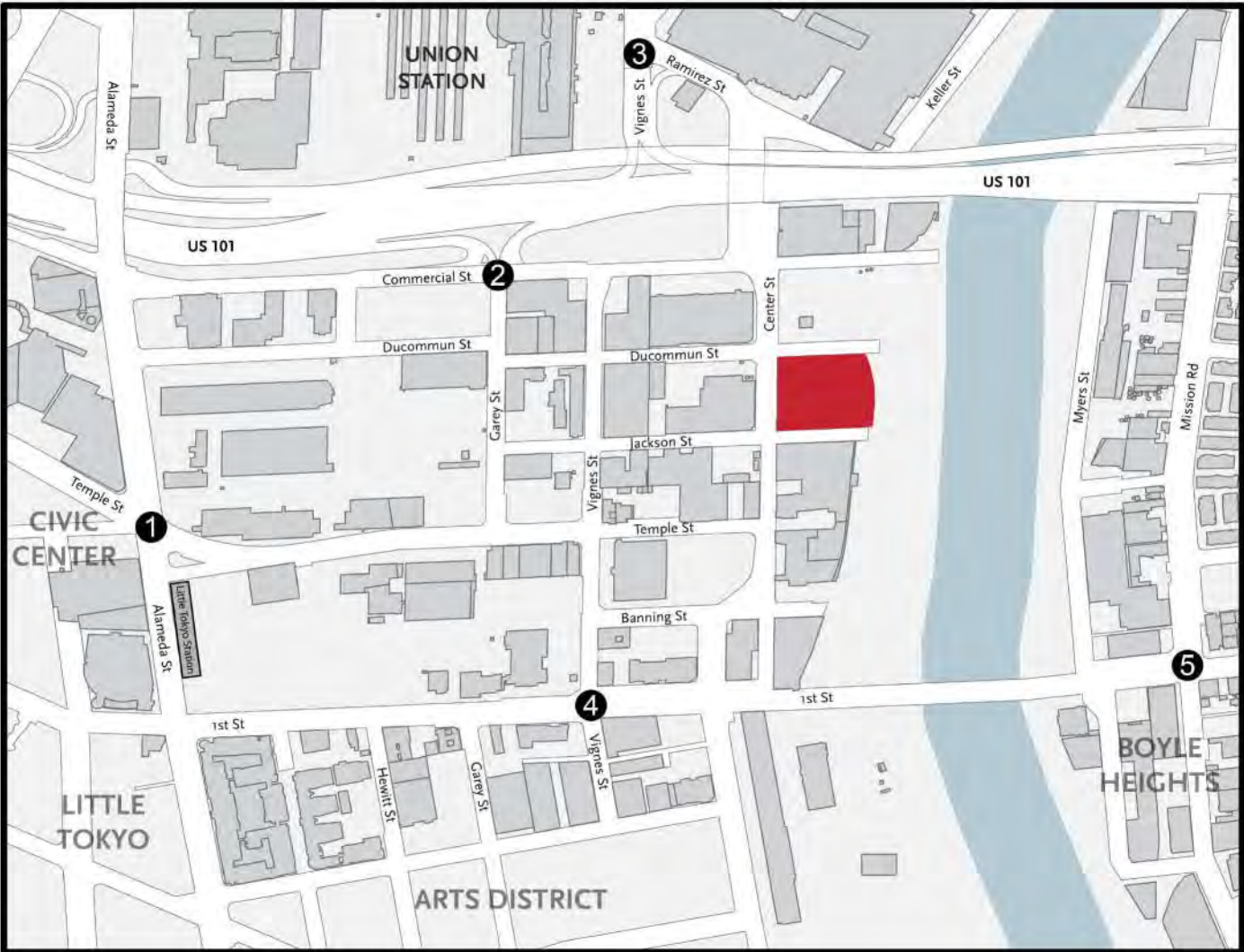
Table 9: Intersection Impacts – 2019 With Project

ID#	Intersection	Peak Hour	Without Project		With Project		Change in V/C	Impact?
			V/C	LOS	V/C	LOS		
1	Alameda St & Temple St	AM	0.662	B	0.662	B	0.000	No
		PM	0.787	C	0.790	C	0.003	No
2	Garey St/Commercial St & US 101 SB Ramps	AM	0.326	A	0.339	A	0.013	No
		PM	0.597	A	0.605	B	0.008	No
3	Vignes St & Ramirez St	AM	0.427	A	0.427	A	0.000	No
		PM	0.640	B	0.640	B	0.000	No
4	Vignes St & 1st St	AM	0.518	A	0.533	A	0.015	No
		PM	0.722	C	0.739	C	0.017	No
5	Mission Rd & 1st St	AM	0.793	C	0.812	D	0.019	No
		PM	0.762	C	0.771	C	0.009	No

### Impact Determination

Under 2019 with project conditions, none of the intersections is significantly impacted by the project trips based on the significance thresholds set forth above in Table 2.

<b>1</b> 497(445) 997(838) 22(77) ALAMEDA 20(62) 207(204) 25(26) TEMPLE	<b>2</b> 267(219) 104(66) 195(122) US 101 RAMPS 107(360) 63(67) 5(3) COMMERCIAL	<b>3</b> 364(222) 139(169) 356(244) VIGNES 272(512) 175(164) 92(167) RAMIREZ			
179(441) 205(525) 195(194)	257(91) 693(1145)	268(479) 43(62) 24(14) GAREY ST 12(4) 73(302) 5(12)	161(325) 72(70) 75(59)	70(68) 154(453) 101(65)	
ALAMEDA ST & TEMPLE ST		GAREY ST/COMMERCIAL ST & US 101 RAMPS		VIGNES ST & RAMIREZ ST	



<b>4</b> 68(83) 29(64) 43(100) VIGNES 194(65) 845(396) 151(73) 1ST ST	<b>5</b> 525(180) 138(100) 99(77) MISSION 130(102) 600(296) 9(1) 1ST ST		
91(119) 264(964) 22(44)	27(28) 58(44) 48(141)	122(569) 195(585) 44(52)	43(60) 71(192) 4(4)
VIGNES ST & 1ST ST		MISSION RD & 1ST ST	

**Legend:**

- Site Location
- Study Intersection
- XX(YY) AM (PM) Peak Hour Volume

Figure 12: 2019 With Project Traffic Volumes  
Metro Emergency Security Operations Center

## 8.0 CONGESTION MANAGEMENT PROGRAM ANALYSIS

The Los Angeles County Congestion Management Program (CMP) requires analysis using CMP methodologies of any CMP arterial monitoring intersections where the proposed project will add 50 or more trips during either the AM or PM weekday peak hours and of freeway monitoring locations where the project will add 150 or more trips, in either direction, during either the AM or PM weekday peak hours. As shown in Figure 6 of this Traffic Study, the proposed project will not add more than 50 trips to any location outside of the identified study intersections during the AM or PM peak hour. Therefore, no further CMP analysis is required.

## 9.0 PARKING AND ACCESS

Parking and Access section will be updated when the details are provided by Metro.

## 10.0 PEDESTRIAN AND BICYCLE PATHS

There are currently no designated bicycle routes in the study area, however, the 2010 City of Los Angeles Bicycle Plan calls for class II bicycle lanes on 1<sup>st</sup> Street, and a bicycle-friendly street on 2<sup>nd</sup> Street in the study area. All of the streets in the study area have sidewalks.

## 11.0 TRANSIT IMPACT ANALYSIS

The project is a new Emergency Security Operations Center to manage daily operations of Metro's regional transit system. The purpose of the project is to provide more efficient transit service to the region. As shown in Table 3, the project itself would generate a total of 87 new vehicle trips to the site in the AM peak hour and 79 in the PM peak hour. Using the CMP methodology of calculating person trips by multiplying vehicle trips by 1.4 and then assigning 3.5% would result in a transit trip generation of 5 transit trips in the AM peak hour and 4 transit trips in the PM peak hour. However, due to the proximity of the project to Union Station and Little Tokyo station (Gold Line LRT), the trip generation calculated in Table 3 shows 45 transit trips in the AM peak hour and 44 in the PM peak hour. Assuming the more conservative, or higher, trip generation, the existing bus service was evaluated for the potential to meet the transit demand created by the development. As described previously in the Transit Service Section, Metro and LADOT operate several transit services throughout the study area due to its proximity to Union Station. Metro bus and rail lines, Metrolink commuter rail, Amtrak, and numerous municipal carriers and specialty shuttles operate at Union Station. Metro Gold Line has a stop at Little Tokyo station, which is also within walking distance from the project. In addition, LADOT DASH route D operates every 5 on weekdays during peak hours. Given the proximity of numerous high-frequency transit services, the project is not expected to cause any significant transit impact.

## 12.0 CONCLUSION

Metro is proposing to build a new Emergency Security Operations Center (ESOC) of up to 100,000 square feet on an approximately 1.8-acre site, just south of Highway 101 across from the Metro Headquarters Building (Gateway Building). The construction of the project is proposed to begin in 2017 and is expected to be completed in 2019. Operation of the project site would result in an increase of approximately 1,165 daily vehicle trips, including 87 AM peak hour trips and 79 PM peak hour trips.

The results show that all intersections are currently operating at LOS D or better and are projected to continue to do so in all study scenarios. Based on the impact thresholds set forth by LADOT, none of the intersections is anticipated to be significantly impacted by the project under any study scenario (Existing plus Project, 2017, and 2019). Therefore, no mitigation measures are required.

### 13.0 LIST OF REFERENCES

City of Los Angeles. 1993. *General Plan: Transportation Element*.

Institute of Transportation Engineers. 2012. *Trip Generation*, 9<sup>th</sup> Edition.

Los Angeles County Metropolitan Transportation Authority. 2010. *Congestion Management Program*.

Los Angeles Department of Transportation. 2014 (August). *Traffic Study Policies and Procedures*.

# Appendix A-1

## Memorandum of Understanding (MOU)



## TRAFFIC STUDY - MEMORANDUM OF UNDERSTANDING (MOU)

This MOU acknowledges that the traffic study for the following project will be prepared in accordance with the latest version of LADOT's Traffic Study Policies and Procedures:

Project Name: Metro Security Operations Center

Project Address: 410 Center Street, Los Angeles, CA

Project Description: 100,000 square feet of Metro Emergency Security Operations Center (Office Building)

Geographic Distribution: Please refer to map on Page 2

Attach graphic illustrating project trip distribution percentages at the studied intersections

Trip Generation Rate(s): ITE 9th Edition / Other ITE 9<sup>th</sup> Edition

Attach trip generation table with a description of the proposed land uses, ITE rates, estimated morning and afternoon peak hour volumes (ins/outs/totals), proposed trip credits, etc.

	<u>in</u>	<u>out</u>	<u>total</u>
AM Trips	87	0	87
PM Trips	0	79	79

Project Buildout Year: 2019

Ambient or CMP Growth Rate: 1.0 % Per Yr.

Related Projects: (to be provided by LADOT)

Subject to Freeway Impact Analysis Screening review: YES  NO

The proposed project is a consolidated operations center for Metro to operate the regional rail and bus system. By efficiently operating the regional transit network, Metro will reduce vehicle trips on the regional freeway network. The project does not directly affect any Caltrans facility and does not require any Caltrans approval. Therefore, Metro believes that there is no basis for Caltrans to review the project. The 4 lanes in each direction of the mainline 101 have a capacity of 8,000 vph (based on an assumed capacity of 2,000 vehicles per hour per lane). We forecast that the project will add less than 80 peak hour trips in either direction of the 101 freeway during either the AM or PM peak hours. All of the off-ramps that project traffic will use are at least two-lane ramps, which have a capacity of 3,000 vph (based on two lanes and an assumed capacity of 1,500 vehicles per hour per lane). We forecast that the project will add less than 30 trips to these off-ramps in the AM or PM peak hours. However, according to Caltrans ramp data, that off-ramp is used by a total of 5,000 vehicles per day. With an assumed capacity of 3,000 vehicles per hour, it would not be operating at LOS E or F based on the current daily volumes. Furthermore, this off-ramp was constructed in 2006 and has an auxiliary lane that extends all the way back to the previous on-ramp from Los Angeles Street, so additional improvements should not be necessary.

### Study Intersections

(Subject to LADOT revision after initial impact analysis)

1. Alameda St & Temple St	4. Vignes St & 1 <sup>st</sup> St
2. Garey St/Commercial St & US 101 SB Ramps	5. Mission Rd & 1 <sup>st</sup> St
3. Vignes St & Ramirez St	

**Trip Credits:** According to the attached data submitted to AQMD, Metro employees currently use transit for 37% of work trips to all divisions. The share to Gateway Plaza is even higher. The proposed site is just over ¼ mile from Union Station, less than ½ mile from the Little Tokyo LRT station. It is also well served by the DASH D line. Therefore, we are conservatively assuming a 25% transit credit in the trip generation.

	Yes	No
Transit Usage	X	
Transportation Demand Management		X
Existing Active Land Use	X	
Previous Land Use		X
Internal Trip		X
Pass-By Trip		X

Consultant

Name Vamshi Akkinapally, AECOM

Address 515 S. Flower St, 4<sup>th</sup> Floor, LA, CA 90071

Phone No. 213-330-7221

E-Mail vamshi.akkinapally@aecom.com

Approved by: *V. Akkinapally* 08/31/2015  
Consultant's Representative Date

Developer

Andrina Dominguez

Los Angeles County MTA

1 Gateway Plaza, LA, CA 90012

(213) 922-2477

DominguezAn@metro.net

*Andrina Dominguez* 9/10/15  
LADOT Representative Date



### Trip Generation Estimates

Land Use	Size ksf	Daily Trips		AM Peak-Hour Trips				PM Peak-Hour Trips			
		Rate	Total	Rate	Total	In	Out	Rate	Total	In	Out
						89%	11%			15%	85%
Single Tenant Office Building (ITE Code: 715)	100	11.65	1,165	1.8	180	160	20	1.74	174	26	148
Transit credit (25%)			-291		-45	-40	-5		-44	-7	-37
Net trips			874		135	120	15		130	19	111
Existing Land Use Credit*					-64	-33	-31		-63	-31	-32
Net New Trips**					87	87	0		79	0	79

Based on *ITE Trip Generation*, 9th Edition

\*Existing Land Use credit is based on the actual driveway counts conducted on 04/22/2014

\*\*The totals do not add up because the negative outbound trips in the AM and the negative inbound trips in the PM peak hour are capped at zero.

### Geographic Distribution and Study Intersections



**Section IV-2 (cont.): D. Weekly Employee Survey Summary Form (Peak)** *Terree Holman*  
 See Instructions on Page 9.

Percent Response: 97%

Summarize the commute modes of employees reporting to work within the standard 6-10 a.m., Mon-Fri window only.

Days of the Week: \_\_\_\_\_ Hours: \_\_\_\_\_ through: \_\_\_\_\_

If different than Monday through Friday, and/or 6:00 AM to 10:00 AM, identify the 5 consecutive days and/or the 4 consecutive hours above

**Mode**

	Mon	Tue	Wed	Thu	Fri	Total
NSR. No Survey Response (60-89%)	0	0	0	0	0	0
Surveys With Errors	0	0	0	0	0	0
A. Drive Alone	1326	1372	1388	1401	1311	6798
B. Motorcycle	18	21	18	16	15	88
C. 2 persons in vehicle	122	123	121	118	116	600
D. 3 persons in vehicle	25	22	26	25	22	120
E. 4 persons in vehicle	7	6	7	7	5	32
F. 5 persons in vehicle	17	17	18	18	15	85
G. 6 persons in vehicle	58	55	54	52	52	271
H. 7 persons in vehicle	6	7	7	7	5	32
I. 8 persons in vehicle	5	6	7	5	4	27
J. 9 persons in vehicle	2	1	1	1	1	6
K. 10 persons in vehicle	8	10	8	8	9	43
L. 11 persons in vehicle	0	0	0	0	0	0
M. 12 persons in vehicle	7	7	7	6	6	33
N. 13 persons in vehicle	0	1	1	1	0	3
O. 14 persons in vehicle	1	1	1	1	0	4
P. 15 persons in vehicle	0	0	0	0	0	0
Q. Bus	309	340	332	333	293	1607
R. Rail/plane	604	664	661	652	598	3179
S. Walk	9	11	11	10	9	50
T. Bicycle	26	22	24	23	25	120
U. Zero Emission Vehicle	0	0	0	0	0	0
V. Telecommute	1	1	1	1	1	5
W. Noncommuting	0	0	0	0	0	0

*Handwritten notes:*  
 120  
 24  
 6  
 17  
 54  
 6  
 5  
 1  
 9  
 5  
 1  
 1  
 321  
 636  
 10  
 24  
 8

**Compressed Work Week Day(s) Off**

X. 3/36 work week	0	0	0	0	0	0
Y. 4/40 work week	0	0	0	0	0	0
Z. 9/80 work week	49	0	3	3	68	123

**Other Days Off**

AA. Vacation	98	79	71	82	86	416
BB. Sick	22	21	26	17	31	117
CC. Regular Day Off, Jury Duty, LOA,	620	553	547	553	668	2941
DD. NSR (90% or higher response)	120	120	120	120	120	600
OO. Off-Peak Trips (mixed schedule)	0	0	0	0	0	0

**Daily Totals**

3460	3460	3460	3460	3460	17300
------	------	------	------	------	-------

*Handwritten summary:*  
 Survey 7/8/13 - 7/12/13  
 Mon - Friday  
 Peak  
 Total = 1240  
 $1240 / 3460 = 35.89\%$   
 1.5 AVR Div. 3, 5, 7, 8, 9, 10, 11, 15, 18, 20, mssc/batawilly

		Tuesday	Wednesday	Thursday	Average	Share
	DA	1372	1388	1401		
	Motorcycle	21	18	16		
	2	123	121	118		
	3	22	26	25		
	4	6	7	7		
	5	17	18	18		
	6	55	54	52		
	7	7	7	7		
	8	6	7	5		
	9	1	1	1		
	10	10	8	8		
	11	0	0	0		
	12	7	7	6		
	13	1	1	1		
	14	1	1	1		
Total auto	15	0	0	0	1660	61.8%
	Bus	340	332	333		
Total transit	Rail/Plane	664	661	652	994	37.0%
	Walk	11	11	10		
Total non-motor	Bike	22	24	23	34	1.3%
Total commuters		2686	2692	2684	2687	100.0%
	Zero	0	0	0		
	Tele	1	1	1		
	Non	0	0	0		
	3/36	0	0	0		
	4/40	0	0	0		
	9/80	0	3	3		
	vac	79	71	82		
	sick	21	26	17		
	LOA	553	547	553		
	NSR	120	120	120		
	off-peak	0	0	0		
Total employees		3460	3460	3460	3460	

# Appendix A-2

## Existing Traffic Count Data



**City Of Los Angeles**  
**Department Of Transportation**  
**MANUAL TRAFFIC COUNT SUMMARY**

**STREET:**  
**North/South** Alameda St

**East/West** Temple St

**Day:** Wednesday **Date:** June 4, 2014 **Weather:** SUNNY

**Hours:** 7-10 & 3-6 **Chckrs:** NDS

**School Day:** YES **District:** \_\_\_\_\_ **I/S CODE** \_\_\_\_\_

	N/B		S/B		E/B		W/B	
<b>DUAL-WHEELED BIKES</b>	313		263		100		73	
<b>BUSES</b>	22		36		19		6	
<b>BUSES</b>	39		65		198		135	

	N/B TIME		S/B TIME		E/B TIME		W/B TIME	
<i>AM PK 15 MIN</i>	226	8.45	348	8.15	117	8.45	55	7.30
<i>PM PK 15 MIN</i>	285	16.15	314	16.30	225	17.15	75	15.30
<i>AM PK HOUR</i>	811	8.00	1268	7.30	435	8.30	212	7.00
<i>PM PK HOUR</i>	1076	15.45	1109	15.45	871	16.45	262	15.30

**NORTHBOUND Approach**

Hours	Lt	Th	Rt	Total
7-8	208	580	1	789
8-9	212	599	0	811
9-10	161	592	3	756
15-16	100	951	0	1051
16-17	81	987	0	1068
17-18	75	925	0	1000
<b>TOTAL</b>	<b>837</b>	<b>4634</b>	<b>4</b>	<b>5475</b>

**SOUTHBOUND Approach**

Hours	Lt	Th	Rt	Total
7-8	21	798	354	1173
8-9	20	852	356	1228
9-10	25	732	335	1092
15-16	36	730	276	1042
16-17	61	746	284	1091
17-18	55	643	291	989
<b>TOTAL</b>	<b>218</b>	<b>4501</b>	<b>1896</b>	<b>6615</b>

**TOTAL**

N-S
1962
2039
1848
2093
2159
1989
<b>12090</b>

**XING S/L**

Ped	Sch
113	1
98	1
68	0
82	6
130	3
130	3
<b>621</b>	<b>14</b>

**XING N/L**

Ped	Sch
38	0
37	0
29	0
23	0
39	0
26	0
<b>192</b>	<b>0</b>

**EASTBOUND Approach**

Hours	Lt	Th	Rt	Total
7-8	59	140	117	316
8-9	83	163	169	415
9-10	112	139	161	412
15-16	230	278	132	640
16-17	260	342	154	756
17-18	221	463	166	850
<b>TOTAL</b>	<b>965</b>	<b>1525</b>	<b>899</b>	<b>3389</b>

**WESTBOUND Approach**

Hours	Lt	Th	Rt	Total
7-8	22	172	18	212
8-9	13	162	18	193
9-10	22	154	25	201
15-16	23	156	68	247
16-17	24	177	58	259
17-18	16	144	76	236
<b>TOTAL</b>	<b>120</b>	<b>965</b>	<b>263</b>	<b>1348</b>

**TOTAL**

E-W
528
608
613
887
1015
1086
<b>4737</b>

**XING W/L**

Ped	Sch
51	1
55	0
39	1
40	2
52	0
58	0
<b>295</b>	<b>4</b>

**XING E/L**

Ped	Sch
99	1
72	0
54	1
49	2
72	0
48	0
<b>394</b>	<b>4</b>



**City Of Los Angeles**  
**Department Of Transportation**  
**MANUAL TRAFFIC COUNT SUMMARY**

**STREET:**  
**North/South** Garey St\_US-101 SB Ramps

**East/West** Commercial St

**Day:** Wednesday **Date:** June 4, 2014 **Weather:** SUNNY

**Hours:** 7-10 & 3-6 **Chckrs:** NDS

**School Day:** YES **District:** \_\_\_\_\_ **I/S CODE** \_\_\_\_\_

	N/B	S/B	E/B	W/B
<b>DUAL-WHEELED BIKES</b>	21	108	97	64
<b>BUSES</b>	0	0	1	0
<b>BUSES</b>	7	163	28	24

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
<i>AM PK 15 MIN</i>	20	9.45	128	7.00	81	9.15	54	7.45
<i>PM PK 15 MIN</i>	117	17.15	94	15.00	130	15.15	114	15.30
<i>AM PK HOUR</i>	63	9.00	461	8.30	293	8.45	176	7.30
<i>PM PK HOUR</i>	404	16.30	321	15.00	496	15.00	394	15.30

**NORTHBOUND Approach**

Hours	Lt	Th	Rt	Total
7-8	3	27	5	35
8-9	6	40	6	52
9-10	13	45	5	63
15-16	5	207	10	222
16-17	9	290	10	309
17-18	11	340	18	369
<b>TOTAL</b>	<b>47</b>	<b>949</b>	<b>54</b>	<b>1050</b>

**SOUTHBOUND Approach**

Hours	Lt	Th	Rt	Total
7-8	181	71	201	453
8-9	177	46	222	445
9-10	156	44	223	423
15-16	111	24	186	321
16-17	82	15	163	260
17-18	95	14	152	261
<b>TOTAL</b>	<b>802</b>	<b>214</b>	<b>1147</b>	<b>2163</b>

**TOTAL**

**XING S/L**

**XING N/L**

N-S	Ped	Sch	Ped	Sch
488	1	0	0	0
497	1	0	0	0
486	3	0	0	0
543	2	0	0	0
569	5	0	0	0
630	1	0	0	0
<b>3213</b>	<b>13</b>	<b>0</b>	<b>0</b>	<b>0</b>

**EASTBOUND Approach**

Hours	Lt	Th	Rt	Total
7-8	124	50	16	190
8-9	178	28	18	224
9-10	218	42	18	278
15-16	437	51	8	496
16-17	364	60	12	436
17-18	273	32	10	315
<b>TOTAL</b>	<b>1594</b>	<b>263</b>	<b>82</b>	<b>1939</b>

**WESTBOUND Approach**

Hours	Lt	Th	Rt	Total
7-8	11	75	83	169
8-9	8	53	82	143
9-10	3	62	84	149
15-16	4	59	305	368
16-17	2	49	274	325
17-18	1	31	218	250
<b>TOTAL</b>	<b>29</b>	<b>329</b>	<b>1046</b>	<b>1404</b>

**TOTAL**

**XING W/L**

**XING E/L**

E-W	Ped	Sch	Ped	Sch
359	0	0	0	0
367	0	0	0	0
427	0	0	0	0
864	0	0	0	0
761	0	0	0	0
565	0	0	2	0
<b>3343</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>



City Of Los Angeles  
 Department Of Transportation  
**MANUAL TRAFFIC COUNT SUMMARY**

STREET: North/South Vignes St

East/West Plaza\_Ramirez St

Day: Wednesday Date: June 4, 2014 Weather: SUNNY

Hours: 7-10 & 3-6 Chekrs: NDS

School Day: YES District: \_\_\_\_\_ I/S CODE \_\_\_\_\_

	N/B	S/B	E/B	W/B
<b>DUAL-WHEELED BIKES</b>	64	214	41	232
<b>BUSES</b>	0	17	22	20
<b>BUSES</b>	73	259	548	386

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	84	9.45	192	7.45	75	7.15	120	8.30
PM PK 15 MIN	138	16.45	161	16.30	101	17.30	197	17.30
AM PK HOUR	290	8.30	652	7.30	259	7.00	446	7.15
PM PK HOUR	508	16.45	571	16.30	317	17.00	736	17.00

**NORTHBOUND Approach**

Hours	Lt	Th	Rt	Total
7-8	41	110	84	235
8-9	39	170	57	266
9-10	19	196	74	289
15-16	40	348	65	453
16-17	42	345	39	426
17-18	48	407	35	490
<b>TOTAL</b>	<b>229</b>	<b>1576</b>	<b>354</b>	<b>2159</b>

**SOUTHBOUND Approach**

Hours	Lt	Th	Rt	Total
7-8	313	119	182	614
8-9	277	100	225	602
9-10	241	120	146	507
15-16	279	136	97	512
16-17	234	170	125	529
17-18	229	147	153	529
<b>TOTAL</b>	<b>1573</b>	<b>792</b>	<b>928</b>	<b>3293</b>

**TOTAL**

**XING S/L**

**XING N/L**

N-S	Ped	Sch	Ped	Sch
849	2	0	48	0
868	2	0	34	0
796	0	0	34	0
965	4	0	60	0
955	0	0	79	0
1019	1	0	41	0
<b>5452</b>	<b>9</b>	<b>0</b>	<b>296</b>	<b>0</b>

**EASTBOUND Approach**

Hours	Lt	Th	Rt	Total
7-8	124	67	68	259
8-9	95	55	58	208
9-10	76	55	34	165
15-16	107	51	43	201
16-17	130	72	66	268
17-18	199	62	56	317
<b>TOTAL</b>	<b>731</b>	<b>362</b>	<b>325</b>	<b>1418</b>

**WESTBOUND Approach**

Hours	Lt	Th	Rt	Total
7-8	65	112	263	440
8-9	73	120	248	441
9-10	74	83	209	366
15-16	122	90	294	506
16-17	131	121	396	648
17-18	128	126	482	736
<b>TOTAL</b>	<b>593</b>	<b>652</b>	<b>1892</b>	<b>3137</b>

**TOTAL**

**XING W/L**

**XING E/L**

E-W	Ped	Sch	Ped	Sch
699	10	0	15	0
649	2	0	12	0
531	6	0	23	0
707	5	0	13	0
916	2	0	10	0
1053	2	0	7	0
<b>4555</b>	<b>27</b>	<b>0</b>	<b>80</b>	<b>0</b>





City Of Los Angeles  
 Department Of Transportation  
**MANUAL TRAFFIC COUNT SUMMARY**

STREET: North/South Vignes St

East/West Garage\_Ramirez St

Day: Wednesday Date: June 4, 2014 Weather: SUNNY

Hours: 7-10 & 3-6 Chekrs: NDS

School Day: YES District: \_\_\_\_\_ I/S CODE \_\_\_\_\_

	N/B		S/B		E/B		W/B	
<b>DUAL-WHEELED BIKES</b>	0		0		0		0	
<b>BUSES</b>	0		4		2		2	
<b>BUSES</b>	0		0		0		0	

	N/B TIME		S/B TIME		E/B TIME		W/B TIME	
<i>AM PK 15 MIN</i>	9	8.30	37	8.30	14	7.00	13	8.00
<i>PM PK 15 MIN</i>	7	16.30	15	17.00	37	17.30	9	16.45
<i>AM PK HOUR</i>	30	8.00	136	8.00	41	8.45	36	8.00
<i>PM PK HOUR</i>	18	16.30	43	16.30	87	17.00	30	16.15

**NORTHBOUND Approach**

Hours	Lt	Th	Rt	Total
7-8	17	0	0	17
8-9	30	0	0	30
9-10	13	0	0	13
15-16	12	0	0	12
16-17	14	0	0	14
17-18	17	0	0	17
<b>TOTAL</b>	<b>103</b>	<b>0</b>	<b>0</b>	<b>103</b>

**SOUTHBOUND Approach**

Hours	Lt	Th	Rt	Total
7-8	0	0	84	84
8-9	0	0	136	136
9-10	0	0	83	83
15-16	0	0	23	23
16-17	0	0	23	23
17-18	0	0	42	42
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>391</b>	<b>391</b>

**TOTAL**

**XING S/L**

**XING N/L**

N-S	Ped	Sch	Ped	Sch
101	0	0	0	0
166	0	0	0	0
96	0	0	0	0
35	0	0	0	0
37	0	0	0	0
59	0	0	0	0
<b>494</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

**EASTBOUND Approach**

Hours	Lt	Th	Rt	Total
7-8	35	3	0	38
8-9	34	1	0	35
9-10	26	6	1	33
15-16	37	1	1	39
16-17	53	1	2	56
17-18	85	2	0	87
<b>TOTAL</b>	<b>270</b>	<b>14</b>	<b>4</b>	<b>288</b>

**WESTBOUND Approach**

Hours	Lt	Th	Rt	Total
7-8	0	21	0	21
8-9	0	36	0	36
9-10	0	28	0	28
15-16	0	14	0	14
16-17	0	27	0	27
17-18	0	27	0	27
<b>TOTAL</b>	<b>0</b>	<b>153</b>	<b>0</b>	<b>153</b>

**TOTAL**

**XING W/L**

**XING E/L**

E-W	Ped	Sch	Ped	Sch
59	0	0	0	0
71	0	0	0	0
61	0	0	0	0
53	0	0	0	0
83	0	0	0	0
114	0	0	0	0
<b>441</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>



**City Of Los Angeles**  
**Department Of Transportation**  
**MANUAL TRAFFIC COUNT SUMMARY**

**STREET:**  
**North/South** Garage

**East/West** Plaza

**Day:** Wednesday **Date:** June 4, 2014 **Weather:** SUNNY

**Hours:** 7-10 & 3-6 **Checkrs:** NDS

**School Day:** YES **District:** \_\_\_\_\_ **I/S CODE** \_\_\_\_\_

	N/B		S/B		E/B		W/B	
<b>DUAL-WHEELED BIKES</b>	0		0		0		0	
<b>BUSES</b>	0		0		0		0	

	N/B TIME		S/B TIME		E/B TIME		W/B TIME	
<i>AM PK 15 MIN</i>	0	0.00	0	0.00	1	7.45	0	0.00
<i>PM PK 15 MIN</i>	0	0.00	0	0.00	2	15.45	0	0.00
<i>AM PK HOUR</i>	0	0.00	0	0.00	2	7.45	0	0.00
<i>PM PK HOUR</i>	0	0.00	0	0.00	4	15.45	0	0.00

NORTHBOUND Approach					SOUTHBOUND Approach					TOTAL	XING S/L		XING N/L	
Hours	Lt	Th	Rt	Total	Hours	Lt	Th	Rt	Total	N-S	Ped	Sch	Ped	Sch
7-8	0	0	0	0	7-8	0	0	0	0	0	0	0	0	0
8-9	0	0	0	0	8-9	0	0	0	0	0	0	0	0	0
9-10	0	0	0	0	9-10	0	0	0	0	0	0	0	0	0
15-16	0	0	0	0	15-16	0	0	0	0	0	0	0	0	0
16-17	0	0	0	0	16-17	0	0	0	0	0	0	0	0	0
17-18	0	0	0	0	17-18	0	0	0	0	0	0	0	0	0
<b>TOTAL</b>	0	0	0	0	<b>TOTAL</b>	0	0	0	0	0	0	0	0	0

EASTBOUND Approach					WESTBOUND Approach					TOTAL	XING W/L		XING E/L	
Hours	Lt	Th	Rt	Total	Hours	Lt	Th	Rt	Total	E-W	Ped	Sch	Ped	Sch
7-8	1	0	0	1	7-8	0	0	0	0	1	0	0	0	0
8-9	2	0	0	2	8-9	0	0	0	0	2	0	0	0	0
9-10	1	0	0	1	9-10	0	0	0	0	1	0	0	0	0
15-16	2	0	0	2	15-16	0	0	0	0	2	0	0	0	0
16-17	2	0	0	2	16-17	0	0	0	0	2	0	0	0	0
17-18	3	0	0	3	17-18	0	0	0	0	3	0	0	0	0
<b>TOTAL</b>	11	0	0	11	<b>TOTAL</b>	0	0	0	0	11	0	0	0	0



City Of Los Angeles  
 Department Of Transportation  
**MANUAL TRAFFIC COUNT SUMMARY**

STREET: North/South Vignes St

East/West 1st St

Day: Wednesday Date: June 4, 2014 Weather: SUNNY

Hours: 7-10 & 3-6 Chekrs: NDS

School Day: YES District: \_\_\_\_\_ I/S CODE \_\_\_\_\_

	N/B		S/B		E/B		W/B	
<b>DUAL-WHEELED BIKES</b>	9		19		45		46	
<b>BUSES</b>	6		9		54		70	
<b>BUSES</b>	2		10		29		26	
	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	22	8.30	25	9.15	69	9.30	264	8.30
PM PK 15 MIN	49	17.00	43	17.00	233	16.45	107	17.45
AM PK HOUR	67	7.45	93	9.00	231	8.15	1002	8.00
PM PK HOUR	169	17.00	120	16.15	893	16.45	363	17.00

**NORTHBOUND Approach**

Hours	Lt	Th	Rt	Total
7-8	5	25	26	56
8-9	5	25	32	62
9-10	5	18	22	45
15-16	8	25	47	80
16-17	5	16	61	82
17-18	6	34	129	169
<b>TOTAL</b>	<b>34</b>	<b>143</b>	<b>317</b>	<b>494</b>

**SOUTHBOUND Approach**

Hours	Lt	Th	Rt	Total
7-8	24	14	21	59
8-9	24	24	23	71
9-10	27	33	33	93
15-16	39	27	31	97
16-17	46	24	33	103
17-18	43	30	22	95
<b>TOTAL</b>	<b>203</b>	<b>152</b>	<b>163</b>	<b>518</b>

**TOTAL**

N-S
115
133
138
177
185
264
<b>1012</b>

**XING S/L**

Ped	Sch
2	0
1	0
2	0
7	0
2	0
8	1
<b>22</b>	<b>1</b>

**XING N/L**

Ped	Sch
3	0
5	0
9	0
7	0
3	0
8	0
<b>35</b>	<b>0</b>

**EASTBOUND Approach**

Hours	Lt	Th	Rt	Total
7-8	28	156	3	187
8-9	38	181	8	227
9-10	40	161	12	213
15-16	56	481	27	564
16-17	56	679	23	758
17-18	61	813	15	889
<b>TOTAL</b>	<b>279</b>	<b>2471</b>	<b>88</b>	<b>2838</b>

**WESTBOUND Approach**

Hours	Lt	Th	Rt	Total
7-8	83	700	111	894
8-9	131	746	125	1002
9-10	113	642	94	849
15-16	32	200	28	260
16-17	42	254	25	321
17-18	53	279	31	363
<b>TOTAL</b>	<b>454</b>	<b>2821</b>	<b>414</b>	<b>3689</b>

**TOTAL**

E-W
1081
1229
1062
824
1079
1252
<b>6527</b>

**XING W/L**

Ped	Sch
3	0
12	0
5	4
8	0
7	0
5	0
<b>40</b>	<b>4</b>

**XING E/L**

Ped	Sch
1	0
0	0
0	0
0	0
0	0
0	0
<b>1</b>	<b>0</b>



City Of Los Angeles  
 Department Of Transportation  
**MANUAL TRAFFIC COUNT SUMMARY**

STREET: North/South Mission Rd  
East/West 1st St  
 Day: Wednesday Date: June 4, 2014 Weather: SUNNY  
 Hours: 7-10 & 3-6 Chekrs: NDS  
 School Day: YES District: \_\_\_\_\_ I/S CODE \_\_\_\_\_

	N/B	S/B	E/B	W/B
<b>DUAL-WHEELED BIKES</b>	84	102	35	53
<b>BUSES</b>	6	12	57	61
<b>BUSES</b>	0	8	25	31

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	35	7.30	189	8.00	63	8.00	181	8.30
PM PK 15 MIN	58	17.45	88	17.15	268	17.00	86	17.30
AM PK HOUR	121	7.15	711	7.30	235	8.00	641	8.00
PM PK HOUR	205	17.00	324	17.00	1013	16.45	292	17.00

**NORTHBOUND Approach**

Hours	Lt	Th	Rt	Total
7-8	12	96	1	109
8-9	11	60	4	75
9-10	11	44	4	59
15-16	6	77	5	88
16-17	9	127	5	141
17-18	18	183	4	205
<b>TOTAL</b>	<b>67</b>	<b>587</b>	<b>23</b>	<b>677</b>

**SOUTHBOUND Approach**

Hours	Lt	Th	Rt	Total
7-8	82	95	424	601
8-9	79	130	468	677
9-10	65	126	405	596
15-16	56	75	107	238
16-17	81	100	124	305
17-18	73	95	156	324
<b>TOTAL</b>	<b>436</b>	<b>621</b>	<b>1684</b>	<b>2741</b>

**TOTAL**

N-S
710
752
655
326
446
529
<b>3418</b>

**XING S/L**

Ped	Sch
3	0
2	0
3	0
7	0
7	0
1	0
<b>23</b>	<b>0</b>

**XING N/L**

Ped	Sch
12	0
5	0
8	0
4	0
12	0
13	0
<b>54</b>	<b>0</b>

**EASTBOUND Approach**

Hours	Lt	Th	Rt	Total
7-8	97	103	5	205
8-9	113	107	15	235
9-10	91	118	8	217
15-16	265	299	10	574
16-17	379	389	8	776
17-18	520	474	10	1004
<b>TOTAL</b>	<b>1465</b>	<b>1490</b>	<b>56</b>	<b>3011</b>

**WESTBOUND Approach**

Hours	Lt	Th	Rt	Total
7-8	4	457	110	571
8-9	14	525	102	641
9-10	6	425	89	520
15-16	5	147	61	213
16-17	2	194	69	265
17-18	1	194	97	292
<b>TOTAL</b>	<b>32</b>	<b>1942</b>	<b>528</b>	<b>2502</b>

**TOTAL**

E-W
776
876
737
787
1041
1296
<b>5513</b>

**XING W/L**

Ped	Sch
0	0
0	0
0	0
0	0
0	0
0	0
<b>0</b>	<b>0</b>

**XING E/L**

Ped	Sch
1	0
4	0
10	0
1	0
9	0
2	0
<b>27</b>	<b>0</b>

# Appendix A-3

## LADOT List of Related Projects

## RELATED PROJECTS

Centroid Info: PROJ ID: 42151  
 Address: 410 N CENTER ST  
 LOS ANGELES, CA 90012  
 Lat/Long: 34.0514, -118.231

Include NULL "Trip info":   
 Include NULL "FirstStudySubmittalDate" (latest)   
 Include "Inactive" projects:   
 Include "Do not show in Related Project":

Buffer Radius:  feet

**Column**

Net\_AM\_Trips - Select -   
 Net\_PM\_Trips - Select -   
 Net\_Daily\_Trips - Select -

Record Count: 32 | Record Per Page: **All Records**

Results generated since: (5/6/2014 2:03:04 PM)

Proj ID	Office	Area	CD	Year	Project Title	Project Desc	Address	First Study Submittal Date	Trip Info										
<a href="#">30998</a>	Metro	MTR	1	2004	Blossom Plaza	223 condos, 25K sf retail, 15K sf restaurant (Target Completion 2016)	900 N Broadway	03/25/2004	Land Use	Unit ID	size	Net_AM_Trips	Net_PM_Trips	Net_Daily_Trips	NetAMIn	NetAMOut	NetPMIn	NetPMOut	Comments
									Mixed Use			155	184	2767	66	89	105	79	223 condo units, 25k sf retail, 15k sf restaurant, 7k sf cultural center
												<b>155</b>	<b>184</b>	<b>2767</b>	<b>66</b>	<b>89</b>	<b>105</b>	<b>79</b>	
<a href="#">31011</a>	Metro	MTR	9	2004	Hall of Justice Reuse Project	Retrofit Hall of Justice building	211 W Temple St	05/06/2004	Land Use	Unit ID	size	Net_AM_Trips	Net_PM_Trips	Net_Daily_Trips	NetAMIn	NetAMOut	NetPMIn	NetPMOut	Comments
									Other	S.F. Gross Area	456900	152	146	1052					Retrofit building for 1,630 to 1,660 employees and new 1,000 parking space structure
												<b>152</b>	<b>146</b>	<b>1052</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
<a href="#">31993</a>	Metro	MTR	9	2005	Ava Little Tokyo	Ava Little Tokyo/Avalon Bay (Construction complete by end 2014)	200 S Los Angeles St	05/18/2005	Land Use	Unit ID	size	Net_AM_Trips	Net_PM_Trips	Net_Daily_Trips	NetAMIn	NetAMOut	NetPMIn	NetPMOut	Comments
									Condominiums	Total Units	570								
									Apartments	Total Units	280								
									Retail	S.F. Gross Area	50000	248	334	4331	59	189	187	147	
												<b>248</b>	<b>334</b>	<b>4331</b>	<b>59</b>	<b>189</b>	<b>187</b>	<b>147</b>	
<a href="#">32348</a>	Metro	MTR	1	2005	Jia Apartments	Jia Apartments - Chinatown Gateway MU Proj (Opening March/April 2014)	639 N Broadway	09/14/2005	Land Use	Unit ID	size	Net_AM_Trips	Net_PM_Trips	Net_Daily_Trips	NetAMIn	NetAMOut	NetPMIn	NetPMOut	Comments
									Mixed Use			152	247	2665	112		154	102	
									Apartments	Total Units	280								
									Retail	S.F. Gross Area	22000								
												<b>152</b>	<b>247</b>	<b>2665</b>	<b>112</b>	<b>0</b>	<b>154</b>	<b>102</b>	
<a href="#">32784</a>	Metro	MTR	14	2005	Bus Maintenance & Inspection Facility	2 acres	454 E Commercial St	12/05/2005	Land Use	Unit ID	size	Net_AM_Trips	Net_PM_Trips	Net_Daily_Trips	NetAMIn	NetAMOut	NetPMIn	NetPMOut	Comments
									Other	Acres	2	30	10		22	8	9	1	Bus Maintenance & Inspection Facility (trip credit for

											existing industrial use)						
											30	10	0	22	8	9	1
Land_Use	Unit_ID	size	Net_AM_Trips	Net_PM_Trips	Net_Daily_Trips	NetAMIn	NetAMOut	NetPMIn	NetPMOut	Comments							
<a href="#">31507</a>	Metro CBD 9 2004	Da Vinci Apts	600 Apts & 30K SF retail	327 N Fremont Av	03/20/2006	Apartment	Total Units	1200									
						Retail	S.F. Gross Area	25000	361	503	5457	113	248	286	217		
			<b>361</b>	<b>503</b>	<b>5457</b>					<b>113</b>	<b>248</b>	<b>286</b>	<b>217</b>				
<a href="#">33110</a>	Metro MTR 9 2006	Vibiana Lofts (Mixed-Use)	300 condos & 3.4K SF retail	225 S Los Angeles St	03/28/2006	Condominiums	Total Units	300	224	126	1910	88	136	75	52		
						Retail	S.F. Gross Area	3400									
			<b>224</b>	<b>126</b>	<b>1910</b>					<b>88</b>	<b>136</b>	<b>75</b>	<b>52</b>				
<a href="#">33305</a>	Metro MTR 1 2006	1101 N Main Condos	300 condos	1101 N MAIN ST	04/10/2006	Condominiums	Total Units	300	71	87	1102	-9	80	75	12	Credit given for transit & exist. Uses	
			<b>71</b>	<b>87</b>	<b>1102</b>					<b>-9</b>	<b>80</b>	<b>75</b>	<b>12</b>				
<a href="#">32977</a>	Metro MTR 9 2006	One Santa Fe Project - Mixed Use	420 apts, 45K SF retail, 7.5 SF fast-food, 7.5K SF qual. rest.	300 S Santa Fe Ave	10/04/2006	Mixed Use		208	229	2443	58	150	139	90	NET		
						Apartment	Total Units	420									
						Retail	S.F. Gross Area	45000									
						Other	S.F. Gross Area	7500								fast-food restaurant	
						Other	S.F. Gross Area	7500								quality restaurant	
			<b>208</b>	<b>229</b>	<b>2443</b>					<b>58</b>	<b>150</b>	<b>139</b>	<b>90</b>				
<a href="#">33596</a>	Metro CBD 14 2006	Mixed-Use	247 Condominiums, 10,675 SF Retail	745 S SPRING ST	11/02/2006	Condominiums	Total Units	247									
						Retail	S.F. Gross Area	10675	90	140	1543	23	67	80	60		
			<b>90</b>	<b>140</b>	<b>1543</b>					<b>23</b>	<b>67</b>	<b>80</b>	<b>60</b>				
<a href="#">33546</a>	Metro MTR 9 2006	Mixed-Use Project	320 Condominiums, 18,716 SF Retail	905 E 2ND ST	01/03/2007	Condominiums	Total Units	320								(Total reflects credits for existing use, transit, walk-in, internal & pass-by)	
						Retail	S.F. Gross Area	18712	64	92	1207	-6	70	69	23		
			<b>64</b>	<b>92</b>	<b>1207</b>					<b>-6</b>	<b>70</b>	<b>69</b>	<b>23</b>				
<a href="#">33243</a>	Metro MTR 9 2006	5th & Olive (formerly Park Fifth) Project	615 Apts and 16.309 KSF Restaurants	427 W 5TH ST	04/12/2007	Apartment	Total Units	615									
						Other	S.F. Gross Area	16309								quality restaurant	



Case Logging and Tracking System (CLATS)

Case ID	Mode	Line	Year	Project Name	Unit Type	Address	Date	Mixed Use	158	261	3134	42	115	164	97	Net trips			
									<b>158</b>	<b>261</b>	<b>3134</b>		<b>42</b>	<b>115</b>	<b>164</b>	<b>97</b>			
<a href="#">34653</a>	Metro	MTR	1	2008	Apartments	65 Apartments	715 N YALE ST	03/12/2008	Land Use	Unit ID	size	Net_AM_Trips	Net_PM_Trips	Net_Daily_Trips	NetAMIn	NetAMOut	NetPMIn	NetPMOut	Comments
									Apartments	Total Units	65	34	40	437	7	27	26	14	
											<b>34</b>	<b>40</b>	<b>437</b>		<b>7</b>	<b>27</b>	<b>26</b>	<b>14</b>	
<a href="#">34450</a>	Metro	MTR	14	2007	MTA Bus facility	Metro Bus Maint & Operations	920 N Vignes St	11/13/2008	Land Use	Unit ID	size	Net_AM_Trips	Net_PM_Trips	Net_Daily_Trips	NetAMIn	NetAMOut	NetPMIn	NetPMOut	Comments
									Other	Other	85		88	2277	33	52	57	31	
											<b>85</b>	<b>88</b>	<b>2277</b>		<b>33</b>	<b>52</b>	<b>57</b>	<b>31</b>	
<a href="#">34803</a>	Metro	MTR	14	2008	Zen Mixed-Use Project (Kawada Tower)	330 Condominiums, 12 KSF Retail/Restaurant	250 S Hill St	03/18/2009	Land Use	Unit ID	size	Net_AM_Trips	Net_PM_Trips	Net_Daily_Trips	NetAMIn	NetAMOut	NetPMIn	NetPMOut	Comments
									Condominiums	Total Units	330								
									Retail	S.F. Gross Area	12000	94	108	1217	21	73	66	42	Total Net Trips
											<b>94</b>	<b>108</b>	<b>1217</b>		<b>21</b>	<b>73</b>	<b>66</b>	<b>42</b>	
<a href="#">35127</a>	Metro	MTR	14	2009	LA City College District Health Academy	675 Student Community College	1704 ZONAL AV	02/23/2010	Land Use	Unit ID	size	Net_AM_Trips	Net_PM_Trips	Net_Daily_Trips	NetAMIn	NetAMOut	NetPMIn	NetPMOut	Comments
									School	Enrollment	675	162	211	486	126	36	143	68	Community College
											<b>162</b>	<b>211</b>	<b>486</b>		<b>126</b>	<b>36</b>	<b>143</b>	<b>68</b>	
<a href="#">35116</a>	Metro	MTR	14	2009	LAUSD 9th St Span K-8 Redevelopment Project	100 Elementary & 405 Middle School Students	820 S TOWNE AV	03/26/2010	Land Use	Unit ID	size	Net_AM_Trips	Net_PM_Trips	Net_Daily_Trips	NetAMIn	NetAMOut	NetPMIn	NetPMOut	Comments
									School	Enrollment	100								Elementary
									School	Enrollment	405	184	0		100	84			Middle
											<b>184</b>	<b>0</b>	<b>0</b>		<b>100</b>	<b>84</b>	<b>0</b>	<b>0</b>	
<a href="#">35556</a>	Metro	MTR	14	2010	1902-1901 Marengo Mixed-Use	Mixed-Use	1902 E Marengo St	03/23/2011	Land Use	Unit ID	size	Net_AM_Trips	Net_PM_Trips	Net_Daily_Trips	NetAMIn	NetAMOut	NetPMIn	NetPMOut	Comments
									Retail	S.F. Gross Area	4415								
									Other	S.F. Gross Area	1500								fast food restaurant
									Other	S.F. Gross Area	4500								high-turnover restaurant
									Other	S.F. Gross Area	16820								medical office
									Other	Other		111	119	1637	70	41	52	67	Net Total
											<b>111</b>	<b>119</b>	<b>1637</b>		<b>70</b>	<b>41</b>	<b>52</b>	<b>67</b>	
<a href="#">35849</a>	Metro	MTR	14	2011	Medical Office Expansion	49542 SF Medical Office Expansion	1828 E Cesar Chavez St	12/08/2011	Land Use	Unit ID	size	Net_AM_Trips	Net_PM_Trips	Net_Daily_Trips	NetAMIn	NetAMOut	NetPMIn	NetPMOut	Comments
									Office	S.F. Gross Area	32300	74	112	1168	58	16	30	82	(Medical Office) Total reflects credit for existing medical office 16800 SF.
											<b>74</b>	<b>112</b>	<b>1168</b>		<b>58</b>	<b>16</b>	<b>30</b>	<b>82</b>	
<a href="#">40002</a>	Metro	MTR	14	2011	Linda Vista Senior Housing and Medical Office	100 Senior Housing Units, 33 KSF Medical Office	610 S St. Louis St	02/08/2012	Land Use	Unit ID	size	Net_AM_Trips	Net_PM_Trips	Net_Daily_Trips	NetAMIn	NetAMOut	NetPMIn	NetPMOut	Comments
									Condominiums	Total Units	97								Senior Housing
									Other	S.F. Gross Area	33000	89	130	1530	65	24	41	89	Medical Office (Net total project trips)
											<b>89</b>	<b>130</b>	<b>1530</b>		<b>65</b>	<b>24</b>	<b>41</b>	<b>89</b>	
<a href="#">40129</a>	Metro	CBD	9	2012	Grand Avenue (Parcel M-2 Rev)		237 S Grand Av	03/07/2012	Land Use	Unit ID	size	Net_AM_Trips	Net_PM_Trips	Net_Daily_Trips	NetAMIn	NetAMOut	NetPMIn	NetPMOut	Comments
									Other		1648								Condo

Case Logging and Tracking System (CLATS)

265 Apartments,  
5020 SF  
Restaurant

	Total Units									
Apartments	Total Units	412								Apts
Retail	S.F. Gross Area	449000								
Office	S.F. Gross Area	681000								Office space for County Office Bldg
Other	Other		1551	2464						Total Net Trips (Option 1)
			<b>1551</b>	<b>2464</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

[40338](#) Metro CBD 14 2012 LA Civic Center Office  
237.5 -712.5 KSF Office, 10 - 35 KSF Retail, 2.5 KSF child care  
150 N LOS ANGELES ST

Land Use	Unit ID	size	Net_AM_Trips	Net_PM_Trips	Net_Daily_Trips	NetAMIn	NetAMOut	NetPMIn	NetPMOut	Comments
Office	S.F. Gross Area	712500	1048	1374	13534	930	118	435	942	Total trips based on Alt. 3
Retail	S.F. Gross Area	35000								
Other	S.F. Gross Area	2500								Child Care
			<b>1048</b>	<b>1374</b>	<b>13534</b>	<b>930</b>	<b>118</b>	<b>435</b>	<b>942</b>	

[40882](#) Metro CBD 14 2013 Mixed-Use  
160 Apartments, 18 KSF Retail, 3.5 KSF Restaurant, 3.5 KSF Fast Food  
534 S main St

Land Use	Unit ID	size	Net_AM_Trips	Net_PM_Trips	Net_Daily_Trips	NetAMIn	NetAMOut	NetPMIn	NetPMOut	Comments
Apartments	Total Units	160								
Retail	S.F. Gross Area	18000								
Other	S.F. Gross Area	3500								Restaurant
Other	S.F. Gross Area	3500	127	145	2213	52	75	87	58	Use=Fast Food, Net includes discounts
			<b>127</b>	<b>145</b>	<b>2213</b>	<b>52</b>	<b>75</b>	<b>87</b>	<b>58</b>	

[35867](#) Metro MTR 9 2011 Mixed-Use  
700 Apartments, 27 KSF Retail, 5 KSF Restaurant  
710 S Grand Av

Land Use	Unit ID	size	Net_AM_Trips	Net_PM_Trips	Net_Daily_Trips	NetAMIn	NetAMOut	NetPMIn	NetPMOut	Comments
Apartments	Total Units	700								
Retail	S.F. Gross Area	27000								
Other	S.F. Gross Area	5000	273	477	5245	88	185	275	202	(Restaurant) Total reflects credit for transit & pass-by.
			<b>273</b>	<b>477</b>	<b>5245</b>	<b>88</b>	<b>185</b>	<b>275</b>	<b>202</b>	

[41295](#) Metro MTR 14 2013 950 E. 3rd St  
Santa Fe Freight Yard Redevelopment  
950 E 3rd St

Land Use	Unit ID	size	Net_AM_Trips	Net_PM_Trips	Net_Daily_Trips	NetAMIn	NetAMOut	NetPMIn	NetPMOut	Comments
School	Other	532								SciArc
Retail	S.F. Gross Area	30062								market, restaurant, retail
Apartments	Total Units	635	339	458	6372	162	177	245	213	Total net project trips
			<b>339</b>	<b>458</b>	<b>6372</b>	<b>162</b>	<b>177</b>	<b>245</b>	<b>213</b>	

[40175](#) Metro CBD 14 2012 201 S Broadway

Land Use	Unit ID	size	Net_AM_Trips	Net_PM_Trips	Net_Daily_Trips	NetAMIn	NetAMOut	NetPMIn	NetPMOut	Comments
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Case Logging and Tracking System (CLATS)

ISAF - 27765 SF  
Retail/Restaurant Retail/Restaurant

Other	S.F. Gross Area	27675	-81	70			-40	-41	53	17	Mixed: office, retail, restaurant
			<b>-81</b>	<b>70</b>	<b>0</b>			<b>-40</b>	<b>-41</b>	<b>53</b>	<b>17</b>

[41228](#) Metro CBD 14 2013 Mixed-Use 430 apartment, 10 KSF Retail, 5 KSF Bar 400 S Broadway 08/07/2013

Land Use	Unit ID	size	Net_AM_Trips	Net_PM_Trips	Net_Daily_Trips	NetAMIn	NetAMOut	NetPMIn	NetPMOut	Comments
Apartments	Total Units	450								
Retail	S.F. Gross Area	7500								
Other	S.F. Gross Area	5000	183	212	2266	36	147	139	73	Use=Bar, total includes existing, transit credit
			<b>183</b>	<b>212</b>	<b>2266</b>		<b>36</b>	<b>147</b>	<b>139</b>	<b>73</b>

[41113](#) Metro MTR 14 2013 Camden Arts Mixed-Use 240 Apartments, 7165 SF Retail, 4110 SF Restaurant 1525 E INDUSTRIAL ST 08/16/2013

Land Use	Unit ID	size	Net_AM_Trips	Net_PM_Trips	Net_Daily_Trips	NetAMIn	NetAMOut	NetPMIn	NetPMOut	Comments
Apartments	Total Units	240								
Retail	S.F. Gross Area	7165								
Other	S.F. Gross Area	4110	96	113	1729	37	59	69	44	Use=restaurant, total includes existing use credit & transit, internal, and passby
			<b>96</b>	<b>113</b>	<b>1729</b>		<b>37</b>	<b>59</b>	<b>69</b>	<b>44</b>

[41516](#) Metro MTR 14 2013 Mixed-Use 60 Apartments, 3 KSF Restaurant 350 S Alameda St 10/17/2013

Land Use	Unit ID	size	Net_AM_Trips	Net_PM_Trips	Net_Daily_Trips	NetAMIn	NetAMOut	NetPMIn	NetPMOut	Comments
Apartments	Total Units	60								
Other	S.F. Gross Area	3000	55	59	689	20	35	38	21	Land Use=restaurant. credit for walk.pass-by
			<b>55</b>	<b>59</b>	<b>689</b>		<b>20</b>	<b>35</b>	<b>38</b>	<b>21</b>

[41460](#) Metro MTR 9 2013 Mixed-Use 444 Apartments, 32 KSF Retail 601 S Main St 10/23/2013

Land Use	Unit ID	size	Net_AM_Trips	Net_PM_Trips	Net_Daily_Trips	NetAMIn	NetAMOut	NetPMIn	NetPMOut	Comments
Apartments	Total Units	432								
Retail	S.F. Gross Area	28400	199	274	2957	45	154	170	104	
			<b>199</b>	<b>274</b>	<b>2957</b>		<b>45</b>	<b>154</b>	<b>170</b>	<b>104</b>

[41625](#) Metro MTR 14 2013 Mixed-Use 240 Apartments, 8 KSF Retail, 12 KSF Restaurant 2051 E 7th st 11/04/2013

Land Use	Unit ID	size	Net_AM_Trips	Net_PM_Trips	Net_Daily_Trips	NetAMIn	NetAMOut	NetPMIn	NetPMOut	Comments
Apartments	Total Units	240								
Retail	S.F. Gross Area	8000								
Other	S.F. Gross Area	12000	106	193	2196	9	97	138	55	Land Use=Restaurant, total includes trip credits.
			<b>106</b>	<b>193</b>	<b>2196</b>		<b>9</b>	<b>97</b>	<b>138</b>	<b>55</b>

[41554](#) Metro MTR 1 2013 Mixed-Use 247 Apartments, 8 KSF Retail 700 W Cesar Chavez Av 12/11/2013

Land Use	Unit ID	size	Net_AM_Trips	Net_PM_Trips	Net_Daily_Trips	NetAMIn	NetAMOut	NetPMIn	NetPMOut	Comments
Apartments	Total Units	247								
Retail		8000	69	120	1159	2	67	78	42	

Case Logging and Tracking System (CLATS)

	S.F. Gross Area							Total includes credit for exist. fast food
		69	120	1159	2	67	78	42



## Appendix A-4

# E-mail Directive from LADOT Regarding ATSAC / ATCS

## Greene, Steve

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**From:** Tomas Carranza [tomas.carranza@lacity.org]  
**Sent:** Tuesday, September 17, 2013 11:19 AM  
**To:** Tomas Carranza  
**Cc:** Laurel Soriano  
**Subject:** Traffic Studies - ATSAC / ATCS

Please note that all of the intersections within the City of Los Angeles are expected to be operating under the Adaptive Traffic Control System (ATCS) by 2016. Therefore, if you are working on a traffic study with a horizon year of 2016 or later, you should assume that the study intersections will be operating under ATCS in your future baseline conditions.

If you have any questions regarding a study that is currently under review, please contact the DOT staffer assigned to your specific study. Any general questions, please contact me.

Tomas Carranza, PE  
Senior Transportation Engineer  
LADOT Development Services Division  
213-972-8476

# Appendix A-5

## CMA Worksheets



# EXISTING PLUS PROJECT CONDITIONS

# CMA Calculation Worksheet



I/S #: 1	North-South Street:	Alameda St		Year of Count:		2014		Ambient Growth: (%):		0		Conducted by:		VKA		Date:		8/28/2015			
	East-West Street:	Temple St		Projection Year:		2014		Peak Hour:		AM		Reviewed by:		Steve Greene		Project:		Metro ESOC			
No. of Phases		4		4		4		4		4		4		4		4		4			
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		0		0		0		0		0		0		0		0		0			
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB---	0	SB---	0	NB---	0	SB---	0	NB---	0	SB---	0	NB---	0	SB---	0	NB---	0	SB---	0	
	EB---	0	WB---	2	EB---	0	WB---	2	EB---	0	WB---	2	EB---	0	WB---	2	EB---	0	WB---	2	
ATSAC-1 or ATCS-2?		1		1		1		1		1		1		1		1		1			
Override Capacity		0		0		0		0		0		0		0		0		0			
		2014 EXISTING COND.				2014 W/ AMBIENT GROWTH				2014 W/ RELATED PROJECTS				2014 W/ PROJECT				2014 W/ TRAFFIC MITIGATION			
MOVEMENT		Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	
NORTHBOUND	Left	212	1	212	0	212	1	212	0	212	1	212	0	212	1	212	0	212	1	212	
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Through	599	2	300	0	599	2	300	0	599	2	300	0	599	2	300	0	599	2	300	
	Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOUTHBOUND	Left	20	1	20	0	20	1	20	0	20	1	20	0	20	1	20	0	20	1	20	
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Through	852	2	426	0	852	2	426	0	852	2	426	0	852	2	426	0	852	2	426	
	Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Right	356	1	315	0	356	1	315	0	356	1	315	0	356	1	315	0	356	1	315	
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EASTBOUND	Left	83	1	83	0	83	1	83	0	83	1	83	0	83	1	83	0	83	1	83	
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Through	163	1	166	0	163	1	166	0	163	1	166	9	172	1	171	0	172	1	171	
	Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Right	169	0	169	0	169	0	169	0	169	0	169	0	169	0	169	0	169	0	169	
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WESTBOUND	Left	13	1	13	0	13	1	13	0	13	1	13	0	13	1	13	0	13	1	13	
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Through	162	1	90	0	162	1	90	0	162	1	90	0	162	1	90	0	162	1	90	
	Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Right	18	0	18	0	18	0	18	0	18	0	18	0	18	0	18	0	18	0	18	
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CRITICAL VOLUMES		North-South: 638		North-South: 638		North-South: 638		North-South: 638		North-South: 638		North-South: 638		North-South: 638		North-South: 638		North-South: 638			
		East-West: 182		East-West: 182		East-West: 182		East-West: 182		East-West: 182		East-West: 182		East-West: 182		East-West: 182		East-West: 182			
		SUM: 820		SUM: 820		SUM: 820		SUM: 820		SUM: 820		SUM: 822		SUM: 822		SUM: 822		SUM: 822			
VOLUME/CAPACITY (V/C) RATIO:		0.596		0.596		0.596		0.596		0.596		0.597		0.597		0.597		0.597			
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.526		0.526		0.526		0.526		0.526		0.527		0.527		0.527		0.527			
LEVEL OF SERVICE (LOS):		A		A		A		A		A		A		A		A		A			

NO INPUT ALLOWED  
INPUT DATA CELL

**PROJECT IMPACT**

Change in v/c due to project: **0.001**      Δv/c after mitigation: **0.001**  
Significant impacted? **NO**      Fully mitigated? **N/A**

# CMA Calculation Worksheet



I/S #: 1	North-South Street:	Alameda St		Year of Count:		2014		Ambient Growth: (%):		0		Conducted by:		VKA		Date:		8/28/2015			
	East-West Street:	Temple St		Projection Year:		2014		Peak Hour:		PM		Reviewed by:		Steve Greene		Project:		Metro ESOC			
No. of Phases		4		4		4		4		4		4		4		4		4			
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		0		0		0		0		0		0		0		0		0			
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB---	0	SB---	0	NB---	0	SB---	0	NB---	0	SB---	0	NB---	0	SB---	0	NB---	0	SB---	0	
	EB---	0	WB---	2	EB---	0	WB---	2	EB---	0	WB---	2	EB---	0	WB---	2	EB---	0	WB---	2	
ATSAC-1 or ATCS-2?		1		1		1		1		1		1		1		1		1			
Override Capacity		0		0		0		0		0		0		0		0		0			
		2014 EXISTING COND.				2014 W/ AMBIENT GROWTH				2014 W/ RELATED PROJECTS				2014 W/ PROJECT				2014 W/ TRAFFIC MITIGATION			
MOVEMENT		Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	
NORTHBOUND	Left	72	1	72	0	72	1	72	0	72	1	72	0	72	1	72	0	72	1	72	
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Through	986	2	493	0	986	2	493	0	986	2	493	0	986	2	493	0	986	2	493	
	Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Left-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
SOUTHBOUND	Left	71	1	71	0	71	1	71	0	71	1	71	0	71	1	71	0	71	1	71	
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Through	712	2	356	0	712	2	356	0	712	2	356	0	712	2	356	0	712	2	356	
	Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Right	291	1	168	0	291	1	168	0	291	1	168	0	291	1	168	0	291	1	168	
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Left-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
EASTBOUND	Left	247	1	247	0	247	1	247	0	247	1	247	0	247	1	247	0	247	1	247	
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Through	447	1	296	0	447	1	296	0	447	1	296	0	447	1	296	0	447	1	296	
	Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Right	145	0	145	0	145	0	145	0	145	0	145	0	145	0	145	0	145	0	145	
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Left-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
WESTBOUND	Left	18	1	18	0	18	1	18	0	18	1	18	0	18	1	18	0	18	1	18	
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Through	155	1	106	0	155	1	106	0	155	1	106	8	163	1	110	0	163	1	110	
	Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Right	56	0	56	0	56	0	56	0	56	0	56	0	56	0	56	0	56	0	56	
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Left-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
CRITICAL VOLUMES		North-South: 564 East-West: 353 SUM: 917		North-South: 564 East-West: 353 SUM: 917		North-South: 564 East-West: 353 SUM: 917		North-South: 564 East-West: 353 SUM: 917		North-South: 564 East-West: 357 SUM: 921		North-South: 564 East-West: 357 SUM: 921		North-South: 564 East-West: 357 SUM: 921		North-South: 564 East-West: 357 SUM: 921		North-South: 564 East-West: 357 SUM: 921			
VOLUME/CAPACITY (V/C) RATIO:		0.667		0.667		0.667		0.667		0.667		0.669		0.669		0.669		0.669			
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.597		0.597		0.597		0.597		0.597		0.599		0.599		0.599		0.599			
LEVEL OF SERVICE (LOS):		A		A		A		A		A		A		A		A		A			

NO INPUT ALLOWED  
INPUT DATA CELL

**PROJECT IMPACT**

Change in v/c due to project: **0.002**      Δv/c after mitigation: **0.002**  
Significant impacted? **NO**      Fully mitigated? **N/A**

# CMA Calculation Worksheet



I/S #: 2	North-South Street:	Garey St/US 101 SB Ramps		Year of Count: 2014		Ambient Growth: (%): 0		Conducted by: VKA		Date: 8/28/2015											
	East-West Street:	Commercial St		Projection Year: 2014		Peak Hour: AM		Reviewed by: Steve Greene		Project: Metro ESOC											
No. of Phases		4		4		4		4		4											
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		3		3		3		3		3											
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB---	0	SB---	3	NB---	0	SB---	3	NB---	0	SB---	3	NB---	0	SB---	3				
		EB---	0	WB---	0	EB---	0	WB---	0	EB---	0	WB---	0	EB---	0	WB---	0				
ATSAC-1 or ATCS-2?		1		1		1		1		1											
Override Capacity		0		0		0		0		0											
		2014 EXISTING COND.				2014 W/ AMBIENT GROWTH				2014 W/ RELATED PROJECTS				2014 W/ PROJECT				2014 W/ TRAFFIC MITIGATION			
MOVEMENT		Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	
NORTHBOUND	Left	10	1	10	0	10	0	10	0	10	0	10	0	10	0	10	0	10	0	10	
	Left-Through		1	31			1	31			1	31			1	31			1	31	
	Through	46	0	0	0	46	0	0	0	46	0	0	0	46	0	0	0	46	0	0	
	Through-Right		1	31			1	31			1	31			1	31			1	31	
	Right	5	0	5	0	5	0	5	0	5	0	5	0	5	0	5	0	5	0	5	
	Left-Through-Right		0	0			0	0			0	0			0	0			0	0	
Left-Right		0	0			0	0			0	0			0	0			0	0		
SOUTHBOUND	Left	167	0	167	0	167	0	167	0	167	0	167	9	176	0	176	0	176	0	176	
	Left-Through		1	217			1	217			1	217			1	235			1	235	
	Through	50	0	0	0	50	0	0	0	50	0	0	9	59	0	0	0	59	0	0	
	Through-Right		0	0			0	0			0	0			0	0			0	0	
	Right	220	1	92	0	220	1	92	0	220	1	92	0	220	1	92	0	220	1	92	
	Left-Through-Right		0	0			0	0			0	0			0	0			0	0	
Left-Right		0	0			0	0			0	0			0	0			0	0		
EASTBOUND	Left	233	2	128	0	233	2	128	0	233	2	128	0	233	2	128	0	233	2	128	
	Left-Through		0	0			0	0			0	0			0	0			0	0	
	Through	39	0	0	0	39	0	0	0	39	0	0	0	39	0	0	0	39	0	0	
	Through-Right		1	60			1	60			1	60			1	60			1	60	
	Right	21	0	21	0	21	0	21	0	21	0	21	0	21	0	21	0	21	0	21	
	Left-Through-Right		0	0			0	0			0	0			0	0			0	0	
Left-Right		0	0			0	0			0	0			0	0			0	0		
WESTBOUND	Left	5	1	5	0	5	1	5	0	5	1	5	0	5	1	5	0	5	1	5	
	Left-Through		0	0			0	0			0	0			0	0			0	0	
	Through	55	1	68	0	55	1	68	0	55	1	68	0	55	1	68	0	55	1	68	
	Through-Right		1	68			1	68			1	68			1	68			1	68	
	Right	80	0	80	0	80	0	80	0	80	0	80	0	80	0	80	0	80	0	80	
	Left-Through-Right		0	0			0	0			0	0			0	0			0	0	
Left-Right		0	0			0	0			0	0			0	0			0	0		
CRITICAL VOLUMES		North-South: 248		North-South: 248		North-South: 248		North-South: 266		North-South: 266											
		East-West: 208		East-West: 208		East-West: 208		East-West: 208		East-West: 208											
		SUM: 456		SUM: 456		SUM: 456		SUM: 474		SUM: 474											
VOLUME/CAPACITY (V/C) RATIO:		0.331		0.331		0.331		0.344		0.344											
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.261		0.261		0.261		0.274		0.274											
LEVEL OF SERVICE (LOS):		A		A		A		A		A											

NO INPUT ALLOWED  
INPUT DATA CELL

**PROJECT IMPACT**

Change in v/c due to project: 0.013      Δv/c after mitigation: 0.013  
Significant impacted? NO      Fully mitigated? N/A

# CMA Calculation Worksheet



I/S #: <b>2</b>	North-South Street:	<b>Garey St/US 101 SB Ramps</b>		Year of Count: <b>2014</b>		Ambient Growth: (%): <b>0</b>		Conducted by: <b>VKA</b>		Date: <b>8/28/2015</b>										
	East-West Street:	<b>Commercial St</b>		Projection Year: <b>2014</b>		Peak Hour: <b>PM</b>		Reviewed by: <b>Steve Greene</b>		Project: <b>Metro ESOC</b>										
No. of Phases		4		4		4		4		4										
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		3		3		3		3		3										
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB---	0	SB---	3	NB---	0	SB---	3	NB---	0	SB---	3							
		EB---	0	WB---	0	EB---	0	WB---	0	EB---	0	WB---	0							
ATSAC-1 or ATCS-2?		1		1		1		1		1										
Override Capacity		0		0		0		0		0										
		<b>2014 EXISTING COND.</b>		<b>2014 W/ AMBIENT GROWTH</b>				<b>2014 W/ RELATED PROJECTS</b>				<b>2014 W/ PROJECT</b>				<b>2014 W/ TRAFFIC MITIGATION</b>				
<b>MOVEMENT</b>		<b>Volume</b>	<b>No. of Lanes</b>	<b>Lane Volume</b>	<b>Added Volume</b>	<b>Total Volume</b>	<b>No. of Lanes</b>	<b>Lane Volume</b>	<b>Added Volume</b>	<b>Total Volume</b>	<b>No. of Lanes</b>	<b>Lane Volume</b>	<b>Added Volume</b>	<b>Total Volume</b>	<b>No. of Lanes</b>	<b>Lane Volume</b>	<b>Added Volume</b>	<b>Total Volume</b>	<b>No. of Lanes</b>	<b>Lane Volume</b>
<b>NORTHBOUND</b>	Left	4	0	4	0	4	0	4	0	4	0	4	0	4	0	4	0	4	0	4
	Left-Through		1	123			1	123			1	123			1	127			1	127
	Through	231	0	0	0	231	0	0	0	231	0	0	8	239	0	0	0	239	0	0
	Through-Right		1	123			1	123			1	123			1	127			1	127
	Right	11	0	11	0	11	0	11	0	11	0	11	0	11	0	11	0	11	0	11
	Left-Through-Right		0	0			0	0			0	0			0	0			0	0
Left-Right		0	0			0	0			0	0			0	0			0	0	
<b>SOUTHBOUND</b>	Left	93	0	93	0	93	0	93	0	93	0	93	0	93	0	93	0	93	0	93
	Left-Through		1	116			1	116			1	116			1	116			1	116
	Through	23	0	0	0	23	0	0	0	23	0	0	0	23	0	0	0	23	0	0
	Through-Right		0	0			0	0			0	0			0	0			0	0
	Right	183	1	0	0	183	1	0	0	183	1	0	0	183	1	0	0	183	1	0
	Left-Through-Right		0	0			0	0			0	0			0	0			0	0
Left-Right		0	0			0	0			0	0			0	0			0	0	
<b>EASTBOUND</b>	Left	428	2	235	0	428	2	235	0	428	2	235	0	428	2	235	0	428	2	235
	Left-Through		0	0			0	0			0	0			0	0			0	0
	Through	58	0	0	0	58	0	0	0	58	0	0	0	58	0	0	0	58	0	0
	Through-Right		1	68			1	68			1	68			1	68			1	68
	Right	10	0	10	0	10	0	10	0	10	0	10	0	10	0	10	0	10	0	10
	Left-Through-Right		0	0			0	0			0	0			0	0			0	0
Left-Right		0	0			0	0			0	0			0	0			0	0	
<b>WESTBOUND</b>	Left	3	1	3	0	3	1	3	0	3	1	3	0	3	1	3	0	3	1	3
	Left-Through		0	0			0	0			0	0			0	0			0	0
	Through	62	1	191	0	62	1	191	0	62	1	191	0	62	1	195	0	62	1	195
	Through-Right		1	191			1	191			1	191			1	195			1	195
	Right	319	0	319	0	319	0	319	0	319	0	319	8	327	0	327	0	327	0	327
	Left-Through-Right		0	0			0	0			0	0			0	0			0	0
Left-Right		0	0			0	0			0	0			0	0			0	0	
<b>CRITICAL VOLUMES</b>		<i>North-South:</i> 239 <i>East-West:</i> 554 <i>SUM:</i> 793		<i>North-South:</i> 239 <i>East-West:</i> 554 <i>SUM:</i> 793				<i>North-South:</i> 239 <i>East-West:</i> 554 <i>SUM:</i> 793				<i>North-South:</i> 243 <i>East-West:</i> 562 <i>SUM:</i> 805				<i>North-South:</i> 243 <i>East-West:</i> 562 <i>SUM:</i> 805				
VOLUME/CAPACITY (V/C) RATIO:		0.577		0.577		0.577		0.577		0.586		0.586								
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.507		0.507		0.507		0.507		0.516		0.516								
LEVEL OF SERVICE (LOS):		A		A		A		A		A		A								

**PROJECT IMPACT**

NO INPUT ALLOWED	Change in v/c due to project:	0.009	Δv/c after mitigation:	0.009
INPUT DATA CELL	Significant impacted?	NO	Fully mitigated?	N/A

# CMA Calculation Worksheet



I/S #: <b>3</b>	North-South Street:	<b>Vignes St</b>		Year of Count:		<b>2014</b>	Ambient Growth: (%):		<b>0</b>	Conducted by:		<b>VKA</b>	Date:		<b>8/28/2015</b>						
	East-West Street:	<b>Ramirez St</b>		Projection Year:		<b>2014</b>	Peak Hour:		<b>AM</b>	Reviewed by:		<b>Steve Greene</b>	Project:		<b>Metro ESOC</b>						
No. of Phases						<b>4</b>			<b>4</b>			<b>4</b>			<b>4</b>			<b>4</b>			
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?						<b>2</b>			<b>2</b>			<b>2</b>			<b>2</b>			<b>2</b>			
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB---	0	SB---	0	NB---	0	SB---	0	NB---	0	SB---	0	NB---	0	SB---	0	NB---	0	SB---	0
		EB---	0	WB---	0	EB---	0	WB---	0	EB---	0	WB---	0	EB---	0	WB---	0	EB---	0	WB---	0
ATSAC-1 or ATCS-2?						<b>1</b>			<b>1</b>			<b>1</b>			<b>1</b>			<b>1</b>			
Override Capacity						<b>0</b>			<b>0</b>			<b>0</b>			<b>0</b>			<b>0</b>			
MOVEMENT		2014 EXISTING COND.			2014 W/ AMBIENT GROWTH				2014 W/ RELATED PROJECTS				2014 W/ PROJECT				2014 W/ TRAFFIC MITIGATION				
		Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	
NORTHBOUND	Left	67	2	37	0	67	2	37	0	67	2	37	0	67	2	37	0	67	2	37	
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Through	133	2	67	0	133	2	67	0	133	2	67	0	133	2	67	0	133	2	67	
	Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Right	71	1	39	0	71	1	39	0	71	1	39	17	88	1	56	0	88	1	56	
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Left-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
SOUTHBOUND	Left	334	2	184	0	334	2	184	0	334	2	184	0	334	2	184	0	334	2	184	
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Through	112	1	219	0	112	1	219	0	112	1	219	0	112	1	219	0	112	1	219	
	Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Right	326	0	326	0	326	0	326	0	326	0	326	0	326	0	326	0	326	0	326	
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Left-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
EASTBOUND	Left	137	1	75	0	137	1	75	0	137	1	75	0	137	1	75	0	137	1	75	
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Through	67	0	0	0	67	0	0	0	67	0	0	0	67	0	0	0	67	0	0	
	Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Right	71	0	71	0	71	0	71	0	71	0	71	0	71	0	71	0	71	0	71	
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Left-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
WESTBOUND	Left	64	1	64	0	64	1	64	0	64	1	64	0	64	1	64	0	64	1	64	
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Through	163	1	163	0	163	1	163	0	163	1	163	0	163	1	163	0	163	1	163	
	Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Right	255	1	163	0	255	1	163	0	255	1	163	0	255	1	163	0	255	1	163	
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Left-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
CRITICAL VOLUMES		North-South: 363 East-West: 294 SUM: 657		North-South: 363 East-West: 294 SUM: 657				North-South: 363 East-West: 294 SUM: 657				North-South: 363 East-West: 294 SUM: 657				North-South: 363 East-West: 294 SUM: 657					
VOLUME/CAPACITY (V/C) RATIO:						0.478						0.478				0.478				0.478	
V/C LESS ATSAC/ATCS ADJUSTMENT:						0.408						0.408				0.408				0.408	
LEVEL OF SERVICE (LOS):						A						A				A				A	

**PROJECT IMPACT**

NO INPUT ALLOWED	Change in v/c due to project:	<b>0.000</b>	Δv/c after mitigation:	<b>0.000</b>
INPUT DATA CELL	Significant impacted?	<b>NO</b>	Fully mitigated?	<b>N/A</b>

# CMA Calculation Worksheet



I/S #: <b>3</b>	North-South Street:	<b>Vignes St</b>		Year of Count:		<b>2014</b>	Ambient Growth: (%):		<b>0</b>	Conducted by:		<b>VKA</b>	Date:		<b>8/28/2015</b>						
	East-West Street:	<b>Ramirez St</b>		Projection Year:		<b>2014</b>	Peak Hour:		<b>PM</b>	Reviewed by:		<b>Steve Greene</b>	Project:		<b>Metro ESOC</b>						
No. of Phases						<b>4</b>			<b>4</b>			<b>4</b>			<b>4</b>			<b>4</b>			
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?						<b>2</b>			<b>2</b>			<b>2</b>			<b>2</b>			<b>2</b>			
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB---	0	SB---	0	NB---	0	SB---	0	NB---	0	SB---	0	NB---	0	SB---	0	NB---	0	SB---	0
		EB---	0	WB---	0	EB---	0	WB---	0	EB---	0	WB---	0	EB---	0	WB---	0	EB---	0	WB---	0
ATSAC-1 or ATCS-2?						<b>1</b>			<b>1</b>			<b>1</b>			<b>1</b>			<b>1</b>			
Override Capacity						<b>0</b>			<b>0</b>			<b>0</b>			<b>0</b>			<b>0</b>			
MOVEMENT		2014 EXISTING COND.				2014 W/ AMBIENT GROWTH				2014 W/ RELATED PROJECTS				2014 W/ PROJECT				2014 W/ TRAFFIC MITIGATION			
		Volume	No. of Lanes	Lane Volume		Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	65	2	36	0	65	2	36	0	65	2	36	0	65	2	36	0	65	2	36	
	Left-Through		0	0			0	0			0	0			0	0			0	0	
	Through	407	2	204	0	407	2	204	0	407	2	204	0	407	2	204	0	407	2	204	
	Through-Right		0	0			0	0			0	0			0	0			0	0	
	Right	35	1	0	0	35	1	0	0	35	1	0	0	35	1	0	0	35	1	0	0
	Left-Through-Right		0	0			0	0			0	0			0	0			0	0	
Left-Right		0	0			0	0			0	0			0	0			0	0		
SOUTHBOUND	Left	229	2	126	0	229	2	126	0	229	2	126	0	229	2	126	0	229	2	126	
	Left-Through		0	0			0	0			0	0			0	0			0	0	
	Through	147	1	171	0	147	1	171	0	147	1	171	0	147	1	171	0	147	1	171	
	Through-Right		1	171			1	171			1	171			1	171			1	171	
	Right	195	0	195	0	195	0	195	0	195	0	195	0	195	0	195	0	195	0	195	
	Left-Through-Right		0	0			0	0			0	0			0	0			0	0	
Left-Right		0	0			0	0			0	0			0	0			0	0		
EASTBOUND	Left	286	1	157	0	286	1	157	0	286	1	157	0	286	1	157	0	286	1	157	
	Left-Through		1	188			1	188			1	188			1	188			1	188	
	Through	62	0	0	0	62	0	0	0	62	0	0	0	62	0	0	0	62	0	0	
	Through-Right		1	59			1	59			1	59			1	59			1	59	
	Right	56	0	56	0	56	0	56	0	56	0	56	0	56	0	56	0	56	0	56	
	Left-Through-Right		0	0			0	0			0	0			0	0			0	0	
Left-Right		0	0			0	0			0	0			0	0			0	0		
WESTBOUND	Left	128	1	128	0	128	1	128	0	128	1	128	16	144	1	144	0	144	1	144	
	Left-Through		0	0			0	0			0	0			0	0			0	0	
	Through	153	1	153	0	153	1	153	0	153	1	153	0	153	1	153	0	153	1	153	
	Through-Right		0	0			0	0			0	0			0	0			0	0	
	Right	482	1	419	0	482	1	419	0	482	1	419	0	482	1	419	0	482	1	419	
	Left-Through-Right		0	0			0	0			0	0			0	0			0	0	
Left-Right		0	0			0	0			0	0			0	0			0	0		
CRITICAL VOLUMES		North-South: 329 East-West: 607 SUM: 936		North-South: 329 East-West: 607 SUM: 936		North-South: 329 East-West: 607 SUM: 936		North-South: 329 East-West: 607 SUM: 936		North-South: 329 East-West: 607 SUM: 936		North-South: 329 East-West: 607 SUM: 936		North-South: 329 East-West: 607 SUM: 936							
VOLUME/CAPACITY (V/C) RATIO:						0.681						0.681				0.681				0.681	
V/C LESS ATSAC/ATCS ADJUSTMENT:						0.611						0.611				0.611				0.611	
LEVEL OF SERVICE (LOS):						<b>B</b>						<b>B</b>				<b>B</b>				<b>B</b>	

**PROJECT IMPACT**

NO INPUT ALLOWED	Change in v/c due to project:	<b>0.000</b>	Δv/c after mitigation:	<b>0.000</b>
INPUT DATA CELL	Significant impacted?	<b>NO</b>	Fully mitigated?	<b>N/A</b>



# CMA Calculation Worksheet



I/S #: 4	North-South Street:	Vignes St		Year of Count:		2014		Ambient Growth: (%):		0		Conducted by:		VKA		Date:		8/28/2015							
	East-West Street:	1st St		Projection Year:		2014		Peak Hour:		AM		Reviewed by:		Steve Greene		Project:		Metro ESOC							
No. of Phases						3								3				3							
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?						2								2				2							
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB---	0	SB---	0	NB---	0	SB---	0	NB---	0	SB---	0	NB---	0	SB---	0	NB---	0	SB---	0				
		EB---	0	WB---	0	EB---	0	WB---	0	EB---	0	WB---	0	EB---	0	WB---	0	EB---	0	WB---	0				
ATSAC-1 or ATCS-2?						1								1				1							
Override Capacity						0								0				0							
MOVEMENT		2014 EXISTING COND.				2014 W/ AMBIENT GROWTH				2014 W/ RELATED PROJECTS				2014 W/ PROJECT				2014 W/ TRAFFIC MITIGATION							
		Volume	No. of Lanes	Lane Volume		Added Volume	Total Volume	No. of Lanes	Lane Volume		Added Volume	Total Volume	No. of Lanes	Lane Volume		Added Volume	Total Volume	No. of Lanes	Lane Volume		Added Volume	Total Volume	No. of Lanes	Lane Volume	
NORTHBOUND	Left	5	0	5	0	5	0	5	0	5	0	5	0	5	0	5	0	5	0	5	0	5	0	5	
	Left-Through	1	1	35	0	1	1	35	0	1	1	35	0	1	1	35	0	1	1	35	0	1	1	35	
	Through	30	0	0	0	30	0	0	0	30	0	0	0	30	0	0	0	30	0	0	0	30	0	0	
	Through-Right		0	0		0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Right	29	1	0	0	29	1	0	0	29	1	0	0	29	1	0	0	29	1	0	0	29	1	0	0
	Left-Through-Right		0	0		0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Left-Right		0	0		0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
SOUTHBOUND	Left	23	0	23	0	23	0	23	0	23	0	23	0	23	0	23	0	23	0	23	0	23	0	23	
	Left-Through		1	49		1	1	49		1	1	49		1	1	49		1	1	49		1	1	49	
	Through	26	0	0	0	26	0	0	0	26	0	0	0	26	0	0	0	26	0	0	0	26	0	0	
	Through-Right		0	0		0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Right	25	1	3	0	25	1	3	0	25	1	3	0	25	1	3	0	25	1	3	0	25	1	3	
	Left-Through-Right		0	0		0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Left-Right		0	0		0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
EASTBOUND	Left	44	0	44	0	44	0	44	0	44	0	44	17	61	0	61	0	61	0	61	0	61	0	61	
	Left-Through		1	111		1	1	111		1	1	111		1	1	120		1	1	120		1	1	120	
	Through	178	1	89	0	178	1	89	0	178	1	89	0	178	1	89	0	178	1	89	0	178	1	89	
	Through-Right		0	0		0	0	0		0	0	0		0	0	0		0	0	0		0	0	0	
	Right	9	1	7	0	9	1	7	0	9	1	7	0	9	1	7	0	9	1	7	0	9	1	7	
	Left-Through-Right		0	0		0	0	0		0	0	0		0	0	0		0	0	0		0	0	0	
Left-Right		0	0		0	0	0		0	0	0		0	0	0		0	0	0		0	0	0	0	
WESTBOUND	Left	144	0	144	0	144	0	144	0	144	0	144	0	144	0	144	0	144	0	144	0	144	0	144	
	Left-Through		1	497		1	1	497		1	1	497		1	1	510		1	1	510		1	1	510	
	Through	724	0	0	0	724	0	0	0	724	0	0	0	724	0	0	0	724	0	0	0	724	0	0	
	Through-Right		1	497		1	1	497		1	1	497		1	1	510		1	1	510		1	1	510	
	Right	125	0	125	0	125	0	125	0	125	0	125	26	151	0	151	0	151	0	151	0	151	0	151	
	Left-Through-Right		0	0		0	0	0		0	0	0		0	0	0		0	0	0		0	0	0	
Left-Right		0	0		0	0	0		0	0	0		0	0	0		0	0	0		0	0	0	0	
CRITICAL VOLUMES		North-South: 58		North-South: 58		North-South: 58		North-South: 58		North-South: 58		North-South: 58		North-South: 58		North-South: 58		North-South: 58							
		East-West: 608		East-West: 608		East-West: 608		East-West: 608		East-West: 608		East-West: 608		East-West: 608		East-West: 608		East-West: 608							
		SUM: 666		SUM: 666		SUM: 666		SUM: 666		SUM: 666		SUM: 666		SUM: 687		SUM: 687		SUM: 687							
VOLUME/CAPACITY (V/C) RATIO:		0.467		0.467		0.467		0.467		0.467		0.467		0.482		0.482		0.482							
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.397		0.397		0.397		0.397		0.397		0.397		0.412		0.412		0.412							
LEVEL OF SERVICE (LOS):		A		A		A		A		A		A		A		A		A							

**PROJECT IMPACT**

NO INPUT ALLOWED	Change in v/c due to project:	0.015	Δv/c after mitigation:	0.015
INPUT DATA CELL	Significant impacted?	NO	Fully mitigated?	N/A

# CMA Calculation Worksheet



I/S #: 4	North-South Street:	Vignes St		Year of Count:		2014		Ambient Growth: (%):		0		Conducted by:		VKA		Date:		8/28/2015			
	East-West Street:	1st St		Projection Year:		2014		Peak Hour:		PM		Reviewed by:		Steve Greene		Project:		Metro ESOC			
No. of Phases						3								3				3			
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?						2								2				2			
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB---	0	SB---	0	NB---	0	SB---	0	NB---	0	SB---	0	NB---	0	SB---	0	NB---	0	SB---	0
		EB---	0	WB---	0	EB---	0	WB---	0	EB---	0	WB---	0	EB---	0	WB---	0	EB---	0	WB---	0
ATSAC-1 or ATCS-2?						1								1				1			
Override Capacity						0								0				0			
MOVEMENT		2014 EXISTING COND.			2014 W/ AMBIENT GROWTH				2014 W/ RELATED PROJECTS				2014 W/ PROJECT				2014 W/ TRAFFIC MITIGATION				
		Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	
NORTHBOUND	Left	6	0	6	0	6	0	6	0	6	0	6	0	6	0	6	0	6	0	6	
	Left-Through		1	40			1	40			1	40			1	40			1	40	
	Through	34	0	0	0	34	0	0	0	34	0	0	0	34	0	0	0	34	0	0	
	Through-Right		0	0			0	0			0	0			0	0			0	0	
	Right	129	1	103	0	129	1	103	0	129	1	103	0	129	1	103	0	129	1	103	
	Left-Through-Right		0	0			0	0			0	0			0	0			0	0	
Left-Right		0	0			0	0			0	0			0	0			0	0		
SOUTHBOUND	Left	43	0	43	0	43	0	43	0	43	0	43	24	67	0	67	0	67	0	67	
	Left-Through		1	73			1	73			1	73			1	97			1	97	
	Through	30	0	0	0	30	0	0	0	30	0	0	0	30	0	0	0	30	0	0	
	Through-Right		0	0			0	0			0	0			0	0			0	0	
	Right	22	1	0	0	22	1	0	0	22	1	0	16	38	1	8	0	38	1	8	
	Left-Through-Right		0	0			0	0			0	0			0	0			0	0	
Left-Right		0	0			0	0			0	0			0	0			0	0		
EASTBOUND	Left	61	0	61	0	61	0	61	0	61	0	61	0	61	0	61	0	61	0	61	
	Left-Through		1	437			1	437			1	437			1	437			1	437	
	Through	813	1	407	0	813	1	407	0	813	1	407	0	813	1	407	0	813	1	407	
	Through-Right		0	0			0	0			0	0			0	0			0	0	
	Right	15	1	12	0	15	1	12	0	15	1	12	0	15	1	12	0	15	1	12	
	Left-Through-Right		0	0			0	0			0	0			0	0			0	0	
Left-Right		0	0			0	0			0	0			0	0			0	0		
WESTBOUND	Left	53	0	53	0	53	0	53	0	53	0	53	0	53	0	53	0	53	0	53	
	Left-Through		1	102			1	102			1	102			1	102			1	102	
	Through	279	0	0	0	279	0	0	0	279	0	0	0	279	0	0	0	279	0	0	
	Through-Right		1	261			1	261			1	261			1	261			1	261	
	Right	31	0	31	0	31	0	31	0	31	0	31	0	31	0	31	0	31	0	31	
	Left-Through-Right		0	0			0	0			0	0			0	0			0	0	
Left-Right		0	0			0	0			0	0			0	0			0	0		
CRITICAL VOLUMES		North-South: 146 East-West: 698 SUM: 844		North-South: 146 East-West: 698 SUM: 844				North-South: 146 East-West: 698 SUM: 844				North-South: 170 East-West: 698 SUM: 868				North-South: 170 East-West: 698 SUM: 868					
VOLUME/CAPACITY (V/C) RATIO:						0.592						0.592				0.609				0.609	
V/C LESS ATSAC/ATCS ADJUSTMENT:						0.522						0.522				0.539				0.539	
LEVEL OF SERVICE (LOS):						A						A				A				A	

NO INPUT ALLOWED  
INPUT DATA CELL

**PROJECT IMPACT**

Change in v/c due to project: **0.017**      Δv/c after mitigation: **0.017**  
Significant impacted? **NO**      Fully mitigated? **N/A**

# CMA Calculation Worksheet



I/S #: 5	North-South Street:	Mission Rd		Year of Count:		2014		Ambient Growth: (%):		0		Conducted by:		VKA		Date:		8/28/2015			
	East-West Street:	1st St		Projection Year:		2014		Peak Hour:		AM		Reviewed by:		Steve Greene		Project:		Metro ESOC			
No. of Phases		3		3		3		3		3		3		3		3		3			
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		0		0		0		0		0		0		0		0		0			
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB---	0	SB---	3	NB---	0	SB---	3	NB---	0	SB---	3	NB---	0	SB---	3	NB---	0	SB---	3	
	EB---	0	WB---	0	EB---	0	WB---	0	EB---	0	WB---	0	EB---	0	WB---	0	EB---	0	WB---	0	
ATSAC-1 or ATCS-2?		1		1		1		1		1		1		1		1		1			
Override Capacity		0		0		0		0		0		0		0		0		0			
		2014 EXISTING COND.				2014 W/ AMBIENT GROWTH				2014 W/ RELATED PROJECTS				2014 W/ PROJECT				2014 W/ TRAFFIC MITIGATION			
MOVEMENT		Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	
NORTHBOUND	Left	11	1	11	0	11	1	11	0	11	1	11	0	11	1	11	0	11	1	11	
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Through	68	0	0	0	68	0	0	0	68	0	0	0	68	0	0	0	68	0	0	
	Through-Right	0	1	72	0	0	1	72	0	0	1	72	0	0	1	72	0	0	1	72	
	Right	4	0	4	0	4	0	4	0	4	0	4	0	4	0	4	0	4	0	4	
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOUTHBOUND	Left	94	1	94	0	94	1	94	0	94	1	94	0	94	1	94	0	94	1	94	
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Through	131	1	131	0	131	1	131	0	131	1	131	0	131	1	131	0	131	1	131	
	Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Right	480	1	377	0	480	1	377	0	480	1	377	13	493	1	390	0	493	1	390	
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
EASTBOUND	Left	103	1	103	0	103	1	103	0	103	1	103	0	103	1	103	0	103	1	103	
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Through	115	0	0	0	115	0	0	0	115	0	0	0	115	0	0	0	115	0	0	
	Through-Right	0	1	129	0	0	1	129	0	0	1	129	0	0	1	129	0	0	1	129	
	Right	14	0	14	0	14	0	14	0	14	0	14	0	14	0	14	0	14	0	14	
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
WESTBOUND	Left	9	1	9	0	9	1	9	0	9	1	9	0	9	1	9	0	9	1	9	
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Through	506	0	0	0	506	0	0	0	506	0	0	13	519	0	0	0	519	0	0	
	Through-Right	0	1	630	0	0	1	630	0	0	1	630	0	0	1	643	0	0	1	643	
	Right	124	0	124	0	124	0	124	0	124	0	124	0	124	0	124	0	124	0	124	
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
CRITICAL VOLUMES		North-South: 388		North-South: 388		North-South: 388		North-South: 388		North-South: 401		North-South: 401		North-South: 401		North-South: 401		North-South: 401			
		East-West: 733		East-West: 733		East-West: 733		East-West: 733		East-West: 746		East-West: 746		East-West: 746		East-West: 746		East-West: 746			
		SUM: 1121		SUM: 1121		SUM: 1121		SUM: 1121		SUM: 1147		SUM: 1147		SUM: 1147		SUM: 1147		SUM: 1147			
VOLUME/CAPACITY (V/C) RATIO:		0.787		0.787		0.787		0.787		0.805		0.805		0.805		0.805		0.805			
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.717		0.717		0.717		0.717		0.735		0.735		0.735		0.735		0.735			
LEVEL OF SERVICE (LOS):		C		C		C		C		C		C		C		C		C			

NO INPUT ALLOWED  
INPUT DATA CELL

**PROJECT IMPACT**

Change in v/c due to project: **0.018**      Δv/c after mitigation: **0.018**  
Significant impacted? **NO**      Fully mitigated? **N/A**

# CMA Calculation Worksheet



I/S #: <b>5</b>	North-South Street:	<b>Mission Rd</b>		Year of Count:		<b>2014</b>		Ambient Growth: (%):		<b>0</b>		Conducted by:		<b>VKA</b>		Date:		<b>8/28/2015</b>							
	East-West Street:	<b>1st St</b>		Projection Year:		<b>2014</b>		Peak Hour:		<b>PM</b>		Reviewed by:		<b>Steve Greene</b>		Project:		<b>Metro ESOC</b>							
No. of Phases						<b>3</b>								<b>3</b>				<b>3</b>							
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?						<b>0</b>								<b>0</b>				<b>0</b>							
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB---	0	SB---	3	NB---	0	SB---	3	NB---	0	SB---	3	NB---	0	SB---	3	NB---	0	SB---	3				
		EB---	0	WB---	0	EB---	0	WB---	0	EB---	0	WB---	0	EB---	0	WB---	0	EB---	0	WB---	0				
ATSAC-1 or ATCS-2?						<b>1</b>								<b>1</b>				<b>1</b>							
Override Capacity						<b>0</b>								<b>0</b>				<b>0</b>							
MOVEMENT		2014 EXISTING COND.				2014 W/ AMBIENT GROWTH				2014 W/ RELATED PROJECTS				2014 W/ PROJECT				2014 W/ TRAFFIC MITIGATION							
		Volume	No. of Lanes	Lane Volume		Added Volume	Total Volume	No. of Lanes	Lane Volume		Added Volume	Total Volume	No. of Lanes	Lane Volume		Added Volume	Total Volume	No. of Lanes	Lane Volume		Added Volume	Total Volume	No. of Lanes	Lane Volume	
NORTHBOUND	Left	18	1	18	0	18	1	18	0	18	1	18	0	18	1	18	0	18	1	18	0	18	1	18	
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Through	183	0	0	0	183	0	0	0	183	0	0	0	183	0	0	0	183	0	0	0	183	0	0	
	Through-Right	0	1	187	0	0	1	187	0	0	1	187	0	0	1	187	0	0	1	187	0	0	1	187	
	Right	4	0	4	0	4	0	4	0	4	0	4	0	4	0	4	0	4	0	4	0	4	0	4	
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Left-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
SOUTHBOUND	Left	73	1	73	0	73	1	73	0	73	1	73	0	73	1	73	0	73	1	73	0	73	1	73	
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Through	95	1	95	0	95	1	95	0	95	1	95	0	95	1	95	0	95	1	95	0	95	1	95	
	Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Right	156	1	0	0	156	1	0	0	156	1	0	0	156	1	0	0	156	1	0	0	156	1	0	0
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Left-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
EASTBOUND	Left	520	1	520	0	520	1	520	0	520	1	520	12	532	1	532	0	532	1	532	0	532	1	532	
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Through	474	0	0	0	474	0	0	0	474	0	0	12	486	0	0	0	486	0	0	0	486	0	0	
	Through-Right	0	1	484	0	0	1	484	0	0	1	484	0	0	1	496	0	0	1	496	0	0	1	496	
	Right	10	0	10	0	10	0	10	0	10	0	10	0	10	0	10	0	10	0	10	0	10	0	10	
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Left-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
WESTBOUND	Left	1	1	1	0	1	1	1	0	1	1	1	0	1	1	1	0	1	1	1	0	1	1	1	
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Through	194	0	0	0	194	0	0	0	194	0	0	0	194	0	0	0	194	0	0	0	194	0	0	
	Through-Right	0	1	291	0	0	1	291	0	0	1	291	0	0	1	291	0	0	1	291	0	0	1	291	
	Right	97	0	97	0	97	0	97	0	97	0	97	0	97	0	97	0	97	0	97	0	97	0	97	
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Left-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
CRITICAL VOLUMES		North-South: 260		North-South: 260		North-South: 260		North-South: 260		North-South: 260		North-South: 260		North-South: 260		North-South: 260		North-South: 260		North-South: 260		North-South: 260		North-South: 260	
		East-West: 811		East-West: 811		East-West: 811		East-West: 811		East-West: 811		East-West: 811		East-West: 823		East-West: 823		East-West: 823		East-West: 823		East-West: 823		East-West: 823	
		SUM: 1071		SUM: 1071		SUM: 1071		SUM: 1071		SUM: 1071		SUM: 1071		SUM: 1083		SUM: 1083		SUM: 1083		SUM: 1083		SUM: 1083		SUM: 1083	
VOLUME/CAPACITY (V/C) RATIO:						0.752		0.752				0.752				0.760				0.760				0.760	
V/C LESS ATSAC/ATCS ADJUSTMENT:						0.682		0.682				0.682				0.690				0.690				0.690	
LEVEL OF SERVICE (LOS):						B		B				B				B				B				B	

**PROJECT IMPACT**

NO INPUT ALLOWED  
INPUT DATA CELL

Change in v/c due to project: **0.008**      Δv/c after mitigation: **0.008**  
Significant impacted? **NO**      Fully mitigated? **N/A**

# 2017 CONDITIONS

# CMA Calculation Worksheet



I/S #: 1	North-South Street:	Alameda St		Year of Count:		2014		Ambient Growth: (%):		1		Conducted by:		VKA		Date:		8/28/2015			
	East-West Street:	Temple St		Projection Year:		2017		Peak Hour:		AM		Reviewed by:		Steve Greene		Project:		Metro ESOC			
No. of Phases		4		4		4		4		4		4		4		4		4			
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		0		0		0		0		0		0		0		0		0			
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB---	0	SB---	0	NB---	0	SB---	0	NB---	0	SB---	0	NB---	0	SB---	0	NB---	0	SB---	0	
	EB---	0	WB---	2	EB---	0	WB---	2	EB---	0	WB---	2	EB---	0	WB---	2	EB---	0	WB---	2	
ATSAC-1 or ATCS-2?		1		2		2		2		2		2		2		2		2			
Override Capacity		0		0		0		0		0		0		0		0		0			
		2014 EXISTING COND.				2017 W/ AMBIENT GROWTH				2017 W/ RELATED PROJECTS				2017 W/ PROJECT				2017 W/ TRAFFIC MITIGATION			
MOVEMENT		Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	
NORTHBOUND	Left	212	1	212	6	218	1	218	34	252	1	252	0	252	1	252	0	252	1	252	
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Through	599	2	300	18	617	2	309	64	681	2	341	0	681	2	341	0	681	2	341	
	Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Left-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
SOUTHBOUND	Left	20	1	20	1	21	1	21	1	22	1	22	0	22	1	22	0	22	1	22	
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Through	852	2	426	26	878	2	439	102	980	2	490	0	980	2	490	0	980	2	490	
	Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Right	356	1	315	11	367	1	324	123	490	1	401	0	490	1	401	0	490	1	401	
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Left-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
EASTBOUND	Left	83	1	83	3	86	1	86	92	178	1	178	0	178	1	178	0	178	1	178	
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Through	163	1	166	5	168	1	171	25	193	1	193	9	202	1	197	0	202	1	197	
	Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Right	169	0	169	5	174	0	174	18	192	0	192	0	192	0	192	0	192	0	192	
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Left-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
WESTBOUND	Left	13	1	13	0	13	1	13	11	24	1	24	0	24	1	24	0	24	1	24	
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Through	162	1	90	5	167	1	93	37	204	1	112	0	204	1	112	0	204	1	112	
	Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Right	18	0	18	1	19	0	19	1	20	0	20	0	20	0	20	0	20	0	20	
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Left-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
CRITICAL VOLUMES		North-South: 638 East-West: 182 SUM: 820		North-South: 657 East-West: 188 SUM: 845		North-South: 742 East-West: 289 SUM: 1032		North-South: 742 East-West: 289 SUM: 1032		North-South: 742 East-West: 289 SUM: 1032		North-South: 742 East-West: 289 SUM: 1032		North-South: 742 East-West: 289 SUM: 1032		North-South: 742 East-West: 289 SUM: 1032		North-South: 742 East-West: 289 SUM: 1032			
VOLUME/CAPACITY (V/C) RATIO:		0.596		0.614		0.750		0.750		0.750		0.750		0.750		0.750		0.750			
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.526		0.514		0.650		0.650		0.650		0.650		0.650		0.650		0.650			
LEVEL OF SERVICE (LOS):		A		A		B		B		B		B		B		B		B			

NO INPUT ALLOWED  
INPUT DATA CELL

**PROJECT IMPACT**

Change in v/c due to project: **0.000**      Δv/c after mitigation: **0.000**  
Significant impacted? **NO**      Fully mitigated? **N/A**

# CMA Calculation Worksheet



I/S #: 1	North-South Street:	Alameda St		Year of Count:		2014		Ambient Growth: (%):		1		Conducted by:		VKA		Date:		8/28/2015			
	East-West Street:	Temple St		Projection Year:		2017		Peak Hour:		PM		Reviewed by:		Steve Greene		Project:		Metro ESOC			
No. of Phases				4		4		4		4		4		4		4		4			
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0		0		0		0		0		0		0		0			
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB---	0	SB---	0	NB---	0	SB---	0	NB---	0	SB---	0	NB---	0	SB---	0	NB---	0	SB---	0
		EB---	0	WB---	2	EB---	0	WB---	2	EB---	0	WB---	2	EB---	0	WB---	2	EB---	0	WB---	2
ATSAC-1 or ATCS-2?				1		2		2		2		2		2		2		2			
Override Capacity				0		0		0		0		0		0		0		0			
MOVEMENT		2014 EXISTING COND.				2017 W/ AMBIENT GROWTH				2017 W/ RELATED PROJECTS				2017 W/ PROJECT				2017 W/ TRAFFIC MITIGATION			
		Volume	No. of Lanes	Lane Volume		Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	72	1	72	2	74	1	74	15	89	1	89	0	89	1	89	0	89	1	89	
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Through	986	2	493	30	1016	2	508	110	1126	2	563	0	1126	2	563	0	1126	2	563	
	Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Left-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
SOUTHBOUND	Left	71	1	71	2	73	1	73	2	75	1	75	0	75	1	75	0	75	1	75	
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Through	712	2	356	22	734	2	367	90	824	2	412	0	824	2	412	0	824	2	412	
	Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Right	291	1	168	9	300	1	173	139	439	1	221	0	439	1	221	0	439	1	221	
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Left-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
EASTBOUND	Left	247	1	247	7	254	1	254	182	436	1	436	0	436	1	436	0	436	1	436	
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Through	447	1	296	14	461	1	305	56	517	1	354	0	517	1	354	0	517	1	354	
	Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Right	145	0	145	4	149	0	149	42	191	0	191	0	191	0	191	0	191	0	191	
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Left-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
WESTBOUND	Left	18	1	18	1	19	1	19	7	26	1	26	0	26	1	26	0	26	1	26	
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Through	155	1	106	5	160	1	109	33	193	1	127	8	201	1	131	0	201	1	131	
	Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Right	56	0	56	2	58	0	58	3	61	0	61	0	61	0	61	0	61	0	61	
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Left-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
CRITICAL VOLUMES		North-South: 564 East-West: 353 SUM: 917		North-South: 581 East-West: 363 SUM: 944		North-South: 638 East-West: 563 SUM: 1201		North-South: 638 East-West: 567 SUM: 1205		North-South: 638 East-West: 567 SUM: 1205		North-South: 638 East-West: 567 SUM: 1205		North-South: 638 East-West: 567 SUM: 1205		North-South: 638 East-West: 567 SUM: 1205		North-South: 638 East-West: 567 SUM: 1205			
VOLUME/CAPACITY (V/C) RATIO:				0.667		0.687		0.874		0.877		0.877		0.877		0.877		0.877			
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.597		0.587		0.774		0.777		0.777		0.777		0.777		0.777			
LEVEL OF SERVICE (LOS):				A		A		C		C		C		C		C		C			

NO INPUT ALLOWED  
INPUT DATA CELL

**PROJECT IMPACT**  
Change in v/c due to project: 0.003      Δv/c after mitigation: 0.003  
Significant impacted? NO      Fully mitigated? N/A

# CMA Calculation Worksheet



I/S #: 2	North-South Street:	Garey St/US 101 SB Ramps		Year of Count: 2014		Ambient Growth: (%): 1		Conducted by: VKA		Date: 8/28/2015										
	East-West Street:	Commercial St		Projection Year: 2017		Peak Hour: AM		Reviewed by: Steve Greene		Project: Metro ESOC										
No. of Phases		4		4		4		4		4										
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		3		3		3		3		3										
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB--- 0	SB--- 3	NB--- 0	SB--- 3	NB--- 0	SB--- 3	NB--- 0	SB--- 3	NB--- 0	SB--- 3									
		EB--- 0	WB--- 0	EB--- 0	WB--- 0	EB--- 0	WB--- 0	EB--- 0	WB--- 0	EB--- 0	WB--- 0									
ATSAC-1 or ATCS-2?		1		2		2		2		2										
Override Capacity		0		0		0		0		0										
		2014 EXISTING COND.		2017 W/ AMBIENT GROWTH				2017 W/ RELATED PROJECTS				2017 W/ PROJECT				2017 W/ TRAFFIC MITIGATION				
MOVEMENT		Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	10	0	10	0	10	0	10	1	11	0	11	0	11	0	11	0	11	0	11
	Left-Through	1	1	31	1	31	1	31	1	39	1	39	1	39	1	39	1	39	1	39
	Through	46	0	0	1	47	0	0	25	72	0	0	0	72	0	0	0	72	0	0
	Through-Right		1	31		31	1	31		50	1	50		50	1	50		50	1	50
	Right	5	0	5	0	5	0	5	0	5	0	5	0	5	0	5	0	5	0	5
	Left-Through-Right		0	0		0	0	0		0	0	0		0	0	0		0	0	0
Left-Right		0	0		0	0	0		0	0	0		0	0	0		0	0	0	0
SOUTHBOUND	Left	167	0	167	5	172	0	172	11	183	0	183	9	192	0	192	0	192	0	192
	Left-Through		1	217		224	1	224		277	1	277		295	1	295		295	1	295
	Through	50	0	0	2	52	0	0	42	94	0	0	9	103	0	0	0	103	0	0
	Through-Right		0	0		0	0	0		0	0	0		0	0	0		0	0	0
	Right	220	1	92	7	227	1	95	36	263	1	118	0	263	1	118	0	263	1	118
	Left-Through-Right		0	0		0	0	0		0	0	0		0	0	0		0	0	0
Left-Right		0	0		0	0	0		0	0	0		0	0	0		0	0	0	0
EASTBOUND	Left	233	2	128	7	240	2	132	23	263	2	145	0	263	2	145	0	263	2	145
	Left-Through		0	0		0	0	0		0	0	0		0	0	0		0	0	0
	Through	39	0	0	1	40	0	0	2	42	0	0	0	42	0	0	0	42	0	0
	Through-Right		1	60		62	1	62		66	1	66		66	1	66		66	1	66
	Right	21	0	21	1	22	0	22	2	24	0	24	0	24	0	24	0	24	0	24
	Left-Through-Right		0	0		0	0	0		0	0	0		0	0	0		0	0	0
Left-Right		0	0		0	0	0		0	0	0		0	0	0		0	0	0	0
WESTBOUND	Left	5	1	5	0	5	1	5	0	5	1	5	0	5	1	5	0	5	1	5
	Left-Through		0	0		0	0	0		0	0	0		0	0	0		0	0	0
	Through	55	1	68	2	57	1	70	5	62	1	84	0	62	1	84	0	62	1	84
	Through-Right		1	68		70	1	70		84	1	84		84	1	84		84	1	84
	Right	80	0	80	2	82	0	82	23	105	0	105	0	105	0	105	0	105	0	105
	Left-Through-Right		0	0		0	0	0		0	0	0		0	0	0		0	0	0
Left-Right		0	0		0	0	0		0	0	0		0	0	0		0	0	0	0
CRITICAL VOLUMES		North-South: 248 East-West: 208 SUM: 456		North-South: 255 East-West: 214 SUM: 469				North-South: 327 East-West: 250 SUM: 577				North-South: 345 East-West: 250 SUM: 595				North-South: 345 East-West: 250 SUM: 595				
VOLUME/CAPACITY (V/C) RATIO:		0.331		0.341				0.419				0.433				0.433				
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.261		0.241				0.319				0.333				0.333				
LEVEL OF SERVICE (LOS):		A		A				A				A				A				

### PROJECT IMPACT

NO INPUT ALLOWED  
INPUT DATA CELL

Change in v/c due to project: 0.014      Δv/c after mitigation: 0.014  
Significant impacted? NO      Fully mitigated? N/A



# CMA Calculation Worksheet



I/S #: <b>2</b>	North-South Street:	<b>Garey St/US 101 SB Ramps</b>		Year of Count: <b>2014</b>		Ambient Growth: (%): <b>1</b>		Conducted by: <b>VKA</b>		Date: <b>8/28/2015</b>										
	East-West Street:	<b>Commercial St</b>		Projection Year: <b>2017</b>		Peak Hour: <b>PM</b>		Reviewed by: <b>Steve Greene</b>		Project: <b>Metro ESOC</b>										
No. of Phases		4		4		4		4		4										
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		3		3		3		3		3										
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB--- 0	SB--- 3	NB--- 0	SB--- 3	NB--- 0	SB--- 3	NB--- 0	SB--- 3	NB--- 0	SB--- 3									
		EB--- 0	WB--- 0	EB--- 0	WB--- 0	EB--- 0	WB--- 0	EB--- 0	WB--- 0	EB--- 0	WB--- 0									
ATSAC-1 or ATCS-2?		1		2		2		2		2										
Override Capacity		0		0		0		0		0										
		<b>2014 EXISTING COND.</b>		<b>2017 W/ AMBIENT GROWTH</b>				<b>2017 W/ RELATED PROJECTS</b>				<b>2017 W/ PROJECT</b>				<b>2017 W/ TRAFFIC MITIGATION</b>				
<b>MOVEMENT</b>		<b>Volume</b>	<b>No. of Lanes</b>	<b>Lane Volume</b>	<b>Added Volume</b>	<b>Total Volume</b>	<b>No. of Lanes</b>	<b>Lane Volume</b>	<b>Added Volume</b>	<b>Total Volume</b>	<b>No. of Lanes</b>	<b>Lane Volume</b>	<b>Added Volume</b>	<b>Total Volume</b>	<b>No. of Lanes</b>	<b>Lane Volume</b>	<b>Added Volume</b>	<b>Total Volume</b>	<b>No. of Lanes</b>	<b>Lane Volume</b>
<b>NORTHBOUND</b>	Left	4	0	4	0	4	0	4	0	4	0	4	0	4	0	4	0	4	0	4
	Left-Through	1	1	123			1	127			1	152			1	156			1	156
	Through	231	0	0	7	238	0	0	51	289	0	0	8	297	0	0	0	297	0	0
	Through-Right		1	123			1	127			1	152			1	156			1	156
	Right	11	0	11	0	11	0	11	0	11	0	11	0	11	0	11	0	11	0	11
	Left-Through-Right		0	0			0	0			0	0			0	0			0	0
Left-Right		0	0			0	0			0	0			0	0			0	0	
<b>SOUTHBOUND</b>	Left	93	0	93	3	96	0	96	24	120	0	120	0	120	0	120	0	120	0	120
	Left-Through		1	116			1	120			1	185			1	185			1	185
	Through	23	0	0	1	24	0	0	41	65	0	0	0	65	0	0	0	65	0	0
	Through-Right		0	0			0	0			0	0			0	0			0	0
	Right	183	1	0	6	189	1	0	27	216	1	0	0	216	1	0	0	216	1	0
	Left-Through-Right		0	0			0	0			0	0			0	0			0	0
Left-Right		0	0			0	0			0	0			0	0			0	0	
<b>EASTBOUND</b>	Left	428	2	235	13	441	2	243	30	471	2	259	0	471	2	259	0	471	2	259
	Left-Through		0	0			0	0			0	0			0	0			0	0
	Through	58	0	0	2	60	0	0	1	61	0	0	0	61	0	0	0	61	0	0
	Through-Right		1	68			1	70			1	74			1	74			1	74
	Right	10	0	10	0	10	0	10	3	13	0	13	0	13	0	13	0	13	0	13
	Left-Through-Right		0	0			0	0			0	0			0	0			0	0
Left-Right		0	0			0	0			0	0			0	0			0	0	
<b>WESTBOUND</b>	Left	3	1	3	0	3	1	3	0	3	1	3	0	3	1	3	0	3	1	3
	Left-Through		0	0			0	0			0	0			0	0			0	0
	Through	62	1	191	2	64	1	196	2	66	1	206	0	66	1	210	0	66	1	210
	Through-Right		1	191			1	196			1	206			1	210			1	210
	Right	319	0	319	10	329	0	329	17	346	0	346	8	354	0	354	0	354	0	354
	Left-Through-Right		0	0			0	0			0	0			0	0			0	0
Left-Right		0	0			0	0			0	0			0	0			0	0	
<b>CRITICAL VOLUMES</b>		North-South: 239		North-South: 246				North-South: 337				North-South: 341				North-South: 341				
		East-West: 554		East-West: 571				East-West: 605				East-West: 613				East-West: 613				
		SUM: 793		SUM: 817				SUM: 941				SUM: 953				SUM: 953				
VOLUME/CAPACITY (V/C) RATIO:		0.577		0.595				0.685				0.693				0.693				
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.507		0.495				0.585				0.593				0.593				
LEVEL OF SERVICE (LOS):		A		A				A				A				A				

**PROJECT IMPACT**

NO INPUT ALLOWED  
INPUT DATA CELL

Change in v/c due to project: **0.008**      Δv/c after mitigation: **0.008**  
Significant impacted? **NO**      Fully mitigated? **N/A**

# CMA Calculation Worksheet



I/S #: <b>3</b>	North-South Street:	<b>Vignes St</b>		Year of Count: <b>2014</b>		Ambient Growth: (%): <b>1</b>		Conducted by: <b>VKA</b>		Date: <b>8/28/2015</b>										
	East-West Street:	<b>Ramirez St</b>		Projection Year: <b>2017</b>		Peak Hour: <b>AM</b>		Reviewed by: <b>Steve Greene</b>		Project: <b>Metro ESOC</b>										
No. of Phases		4		4		4		4		4										
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		2		2		2		2		2										
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB--- 0	SB--- 0	NB--- 0	SB--- 0	NB--- 0	SB--- 0	NB--- 0	SB--- 0	NB--- 0	SB--- 0									
		EB--- 0	WB--- 0	EB--- 0	WB--- 0	EB--- 0	WB--- 0	EB--- 0	WB--- 0	EB--- 0	WB--- 0									
ATSAC-1 or ATCS-2?		1		2		2		2		2										
Override Capacity		0		0		0		0		0										
		<b>2014 EXISTING COND.</b>		<b>2017 W/ AMBIENT GROWTH</b>				<b>2017 W/ RELATED PROJECTS</b>				<b>2017 W/ PROJECT</b>				<b>2017 W/ TRAFFIC MITIGATION</b>				
<b>MOVEMENT</b>		<b>Volume</b>	<b>No. of Lanes</b>	<b>Lane Volume</b>	<b>Added Volume</b>	<b>Total Volume</b>	<b>No. of Lanes</b>	<b>Lane Volume</b>	<b>Added Volume</b>	<b>Total Volume</b>	<b>No. of Lanes</b>	<b>Lane Volume</b>	<b>Added Volume</b>	<b>Total Volume</b>	<b>No. of Lanes</b>	<b>Lane Volume</b>	<b>Added Volume</b>	<b>Total Volume</b>	<b>No. of Lanes</b>	<b>Lane Volume</b>
<b>NORTHBOUND</b>	Left	67	2	37	2	69	2	38	0	69	2	38	0	69	2	38	0	69	2	38
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Through	133	2	67	4	137	2	69	14	151	2	76	0	151	2	76	0	151	2	76
	Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Right	71	1	39	2	73	1	40	9	82	1	37	17	99	1	54	0	99	1	54
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Left-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>SOUTHBOUND</b>	Left	334	2	184	10	344	2	189	5	349	2	192	0	349	2	192	0	349	2	192
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Through	112	1	219	3	115	1	226	21	136	1	247	0	136	1	247	0	136	1	247
	Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Right	326	0	326	10	336	0	336	22	358	0	358	0	358	0	358	0	358	0	358
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Left-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
<b>EASTBOUND</b>	Left	137	1	75	4	141	1	78	17	158	1	87	0	158	1	87	0	158	1	87
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Through	67	0	0	2	69	0	0	2	71	0	0	0	71	0	0	0	71	0	0
	Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Right	71	0	71	2	73	0	73	0	73	0	73	0	73	0	73	0	73	0	73
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Left-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
<b>WESTBOUND</b>	Left	64	1	64	2	66	1	66	25	91	1	91	0	91	1	91	0	91	1	91
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Through	163	1	163	5	168	1	168	4	172	1	172	0	172	1	172	0	172	1	172
	Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Right	255	1	163	8	263	1	168	4	267	1	171	0	267	1	171	0	267	1	171
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Left-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
<b>CRITICAL VOLUMES</b>		North-South: 363 East-West: 294 SUM: 657		North-South: 374 East-West: 303 SUM: 677				North-South: 396 East-West: 315 SUM: 711				North-South: 396 East-West: 315 SUM: 711				North-South: 396 East-West: 315 SUM: 711				
VOLUME/CAPACITY (V/C) RATIO:		0.478		0.492				0.517				0.517				0.517				
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.408		0.392				0.417				0.417				0.417				
LEVEL OF SERVICE (LOS):		A		A				A				A				A				

**PROJECT IMPACT**

NO INPUT ALLOWED  
INPUT DATA CELL

Change in v/c due to project: **0.000**      Δv/c after mitigation: **0.000**  
Significant impacted? **NO**      Fully mitigated? **N/A**

# CMA Calculation Worksheet



I/S #: <b>3</b>	North-South Street:	<b>Vignes St</b>		Year of Count:		<b>2014</b>	Ambient Growth: (%):		<b>1</b>	Conducted by:		<b>VKA</b>	Date:		<b>8/28/2015</b>						
	East-West Street:	<b>Ramirez St</b>		Projection Year:		<b>2017</b>	Peak Hour:		<b>PM</b>	Reviewed by:		<b>Steve Greene</b>	Project:		<b>Metro ESOC</b>						
No. of Phases						<b>4</b>			<b>4</b>			<b>4</b>			<b>4</b>			<b>4</b>			
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?						<b>2</b>			<b>2</b>			<b>2</b>			<b>2</b>			<b>2</b>			
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB---	0	SB---	0	NB---	0	SB---	0	NB---	0	SB---	0	NB---	0	SB---	0	NB---	0	SB---	0
		EB---	0	WB---	0	EB---	0	WB---	0	EB---	0	WB---	0	EB---	0	WB---	0	EB---	0	WB---	0
ATSAC-1 or ATCS-2?						<b>1</b>			<b>2</b>			<b>2</b>			<b>2</b>			<b>2</b>			
Override Capacity						<b>0</b>			<b>0</b>			<b>0</b>			<b>0</b>			<b>0</b>			
MOVEMENT		2014 EXISTING COND.				2017 W/ AMBIENT GROWTH				2017 W/ RELATED PROJECTS				2017 W/ PROJECT				2017 W/ TRAFFIC MITIGATION			
		Volume	No. of Lanes	Lane Volume		Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	65	2	36	2	67	2	37	0	67	2	37	0	67	2	37	0	67	2	37	
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Through	407	2	204	12	419	2	210	26	445	2	223	0	445	2	223	0	445	2	223	
	Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Right	35	1	0	1	36	1	0	28	64	1	0	0	64	1	0	0	64	1	0	
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Left-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
SOUTHBOUND	Left	229	2	126	7	236	2	130	4	240	2	132	0	240	2	132	0	240	2	132	
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Through	147	1	171	4	151	1	176	15	166	1	192	0	166	1	192	0	166	1	192	
	Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Right	195	0	195	6	201	0	201	17	218	0	218	0	218	0	218	0	218	0	218	
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Left-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
EASTBOUND	Left	286	1	157	9	295	1	162	25	320	1	176	0	320	1	176	0	320	1	176	
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Through	62	0	0	2	64	0	0	5	69	0	0	0	69	0	0	0	69	0	0	
	Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Right	56	0	56	2	58	0	58	0	58	0	58	0	58	0	58	0	58	0	58	
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Left-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
WESTBOUND	Left	128	1	128	4	132	1	132	17	149	1	149	16	165	1	165	0	165	1	165	
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Through	153	1	153	5	158	1	158	3	161	1	161	0	161	1	161	0	161	1	161	
	Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Right	482	1	419	15	497	1	432	6	503	1	437	0	503	1	437	0	503	1	437	
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Left-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
CRITICAL VOLUMES		North-South: 329 East-West: 607 SUM: 936		North-South: 339 East-West: 625 SUM: 965		North-South: 355 East-West: 644 SUM: 998		North-South: 355 East-West: 644 SUM: 998		North-South: 355 East-West: 644 SUM: 998		North-South: 355 East-West: 644 SUM: 998		North-South: 355 East-West: 644 SUM: 998							
VOLUME/CAPACITY (V/C) RATIO:						0.681						0.701				0.726				0.726	
V/C LESS ATSAC/ATCS ADJUSTMENT:						0.611						0.601				0.626				0.626	
LEVEL OF SERVICE (LOS):						<b>B</b>						<b>B</b>				<b>B</b>				<b>B</b>	

**PROJECT IMPACT**

NO INPUT ALLOWED  
INPUT DATA CELL

Change in v/c due to project: **0.000**      Δv/c after mitigation: **0.000**  
Significant impacted? **NO**      Fully mitigated? **N/A**

# CMA Calculation Worksheet



I/S #: 4	North-South Street:	Vignes St		Year of Count:		2014		Ambient Growth: (%):		1		Conducted by:		VKA		Date:		8/28/2015			
	East-West Street:	1st St		Projection Year:		2017		Peak Hour:		AM		Reviewed by:		Steve Greene		Project:		Metro ESOC			
No. of Phases				3		3		3		3		3		3		3		3			
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				2		2		2		2		2		2		2		2			
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB---	0	SB---	0	NB---	0	SB---	0	NB---	0	SB---	0	NB---	0	SB---	0	NB---	0	SB---	0
		EB---	0	WB---	0	EB---	0	WB---	0	EB---	0	WB---	0	EB---	0	WB---	0	EB---	0	WB---	0
ATSAC-1 or ATCS-2?				1		2		2		2		2		2		2		2		2	
Override Capacity				0		0		0		0		0		0		0		0		0	
MOVEMENT		2014 EXISTING COND.				2017 W/ AMBIENT GROWTH				2017 W/ RELATED PROJECTS				2017 W/ PROJECT				2017 W/ TRAFFIC MITIGATION			
		Volume	No. of Lanes	Lane Volume		Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	5	0	5	0	5	0	5	22	27	0	27	0	27	0	27	0	27	0	27	
	Left-Through	1	1	35	1	36	1	36	1	84	1	84	1	84	1	84	1	84	1	84	
	Through	30	0	0	1	31	0	0	26	57	0	0	0	57	0	0	0	57	0	0	
	Through-Right		0	0		0	0	0		0	0	0		0	0	0		0	0	0	
	Right	29	1	0	1	30	1	0	18	48	1	0	0	48	1	0	0	48	1	0	
	Left-Through-Right		0	0		0	0	0		0	0	0		0	0	0		0	0	0	0
Left-Right		0	0		0	0	0		0	0	0		0	0	0		0	0	0	0	
SOUTHBOUND	Left	23	0	23	1	24	0	24	19	43	0	43	0	43	0	43	0	43	0	43	
	Left-Through		1	49		50		50		71		71		71		71		71		71	
	Through	26	0	0	1	27	0	0	2	29	0	0	0	29	0	0	0	29	0	0	
	Through-Right		0	0		0	0	0		0	0	0		0	0	0		0	0	0	
	Right	25	1	3	1	26	1	3	42	68	1	31	0	68	1	23	0	68	1	23	
	Left-Through-Right		0	0		0	0	0		0	0	0		0	0	0		0	0	0	0
Left-Right		0	0		0	0	0		0	0	0		0	0	0		0	0	0	0	
EASTBOUND	Left	44	0	44	1	45	0	45	28	73	0	73	17	90	0	90	0	90	0	90	
	Left-Through		1	111		114		114		167		167		175		175		175		175	
	Through	178	1	89	5	183	1	92	77	260	1	130	0	260	1	130	0	260	1	130	
	Through-Right		0	0		0	0	0		0	0	0		0	0	0		0	0	0	
	Right	9	1	7	0	9	1	7	13	22	1	9	0	22	1	9	0	22	1	9	
	Left-Through-Right		0	0		0	0	0		0	0	0		0	0	0		0	0	0	0
Left-Right		0	0		0	0	0		0	0	0		0	0	0		0	0	0	0	
WESTBOUND	Left	144	0	144	4	148	0	148	0	148	0	148	0	148	0	148	0	148	0	148	
	Left-Through		1	497		512		512		573		573		586		586		586		586	
	Through	724	0	0	22	746	0	0	85	831	0	0	0	831	0	0	0	831	0	0	
	Through-Right		1	497		512		512		573		573		586		586		586		586	
	Right	125	0	125	4	129	0	129	37	166	0	166	26	192	0	192	0	192	0	192	
	Left-Through-Right		0	0		0	0	0		0	0	0		0	0	0		0	0	0	0
Left-Right		0	0		0	0	0		0	0	0		0	0	0		0	0	0	0	
CRITICAL VOLUMES		North-South: 58 East-West: 608 SUM: 666		North-South: 60 East-West: 626 SUM: 686		North-South: 127 East-West: 739 SUM: 866		North-South: 127 East-West: 761 SUM: 888		North-South: 127 East-West: 761 SUM: 888		North-South: 127 East-West: 761 SUM: 888		North-South: 127 East-West: 761 SUM: 888		North-South: 127 East-West: 761 SUM: 888		North-South: 127 East-West: 761 SUM: 888			
VOLUME/CAPACITY (V/C) RATIO:				0.467		0.481		0.608		0.623		0.623		0.623		0.623		0.623		0.623	
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.397		0.381		0.508		0.523		0.523		0.523		0.523		0.523		0.523	
LEVEL OF SERVICE (LOS):				A		A		A		A		A		A		A		A		A	

**PROJECT IMPACT**

NO INPUT ALLOWED	Change in v/c due to project:	0.015	Δv/c after mitigation:	0.015
INPUT DATA CELL	Significant impacted?	NO	Fully mitigated?	N/A

# CMA Calculation Worksheet



I/S #: <b>4</b>	North-South Street:	<b>Vignes St</b>		Year of Count:		<b>2014</b>		Ambient Growth: (%):		<b>1</b>		Conducted by:		<b>VKA</b>		Date:		<b>8/28/2015</b>			
	East-West Street:	<b>1st St</b>		Projection Year:		<b>2017</b>		Peak Hour:		<b>PM</b>		Reviewed by:		<b>Steve Greene</b>		Project:		<b>Metro ESOC</b>			
No. of Phases						3								3				3			
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?						2								2				2			
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB---	0	SB---	0	NB---	0	SB---	0	NB---	0	SB---	0	NB---	0	SB---	0	NB---	0	SB---	0
		EB---	0	WB---	0	EB---	0	WB---	0	EB---	0	WB---	0	EB---	0	WB---	0	EB---	0	WB---	0
ATSAC-1 or ATCS-2?						1								2				2			
Override Capacity						0								0				0			
		2014 EXISTING COND.				2017 W/ AMBIENT GROWTH				2017 W/ RELATED PROJECTS				2017 W/ PROJECT				2017 W/ TRAFFIC MITIGATION			
MOVEMENT		Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	
NORTHBOUND	Left	6	0	6	0	6	0	6	22	28	0	28	0	28	0	28	0	28	0	28	
	Left-Through		1	40			1	41			1	71			1	71			1	71	
	Through	34	0	0	1	35	0	0	8	43	0	0	0	43	0	0	0	43	0	0	
	Through-Right		0	0			0	0			0	0			0	0			0	0	
	Right	129	1	103	4	133	1	106	6	139	1	103	0	139	1	103	0	139	1	103	
	Left-Through-Right		0	0			0	0			0	0			0	0			0	0	
Left-Right		0	0			0	0			0	0			0	0			0	0		
SOUTHBOUND	Left	43	0	43	1	44	0	44	31	75	0	75	24	99	0	99	0	99	0	99	
	Left-Through		1	73			1	75			1	138			1	162			1	162	
	Through	30	0	0	1	31	0	0	32	63	0	0	0	63	0	0	0	63	0	0	
	Through-Right		0	0			0	0			0	0			0	0			0	0	
	Right	22	1	0	1	23	1	0	44	67	1	8	16	83	1	24	0	83	1	24	
	Left-Through-Right		0	0			0	0			0	0			0	0			0	0	
Left-Right		0	0			0	0			0	0			0	0			0	0		
EASTBOUND	Left	61	0	61	2	63	0	63	55	118	0	118	0	118	0	118	0	118	0	118	
	Left-Through		1	437			1	450			1	533			1	533			1	533	
	Through	813	1	407	25	838	1	419	110	948	1	474	0	948	1	474	0	948	1	474	
	Through-Right		0	0			0	0			0	0			0	0			0	0	
	Right	15	1	12	0	15	1	12	28	43	1	29	0	43	1	29	0	43	1	29	
	Left-Through-Right		0	0			0	0			0	0			0	0			0	0	
Left-Right		0	0			0	0			0	0			0	0			0	0		
WESTBOUND	Left	53	0	53	2	55	0	55	17	72	0	72	0	72	0	72	0	72	0	72	
	Left-Through		1	102			1	105			1	156			1	156			1	156	
	Through	279	0	0	8	287	0	0	103	390	0	0	0	390	0	0	0	390	0	0	
	Through-Right		1	261			1	269			1	370			1	370			1	370	
	Right	31	0	31	1	32	0	32	32	64	0	64	0	64	0	64	0	64	0	64	
	Left-Through-Right		0	0			0	0			0	0			0	0			0	0	
Left-Right		0	0			0	0			0	0			0	0			0	0		
CRITICAL VOLUMES		North-South: 146		North-South: 150		North-South: 178		North-South: 202		North-South: 202		North-South: 202		North-South: 202		North-South: 202		North-South: 202			
		East-West: 698		East-West: 719		East-West: 903		East-West: 903		East-West: 903		East-West: 903		East-West: 903		East-West: 903		East-West: 903			
		SUM: 844		SUM: 869		SUM: 1082		SUM: 1106		SUM: 1106		SUM: 1106		SUM: 1106		SUM: 1106		SUM: 1106			
VOLUME/CAPACITY (V/C) RATIO:				0.592		0.610		0.759		0.776		0.776		0.776		0.776		0.776			
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.522		0.510		0.659		0.676		0.676		0.676		0.676		0.676			
LEVEL OF SERVICE (LOS):				A		A		B		B		B		B		B		B			

NO INPUT ALLOWED  
INPUT DATA CELL

**PROJECT IMPACT**

Change in v/c due to project: **0.017**      Δv/c after mitigation: **0.017**  
Significant impacted? **NO**      Fully mitigated? **N/A**

# CMA Calculation Worksheet



I/S #: 5	North-South Street:	Mission Rd		Year of Count:		2014		Ambient Growth: (%):		1		Conducted by:		VKA		Date:		8/28/2015			
	East-West Street:	1st St		Projection Year:		2017		Peak Hour:		AM		Reviewed by:		Steve Greene		Project:		Metro ESOC			
No. of Phases		3		3		3		3		3		3		3		3		3			
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		0		0		0		0		0		0		0		0		0			
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB---	0	SB---	3	NB---	0	SB---	3	NB---	0	SB---	3	NB---	0	SB---	3	NB---	0	SB---	3
		EB---	0	WB---	0	EB---	0	WB---	0	EB---	0	WB---	0	EB---	0	WB---	0	EB---	0	WB---	0
ATSAC-1 or ATCS-2?		1		2		2		2		2		2		2		2		2			
Override Capacity		0		0		0		0		0		0		0		0		0			
MOVEMENT		2014 EXISTING COND.			2017 W/ AMBIENT GROWTH				2017 W/ RELATED PROJECTS				2017 W/ PROJECT				2017 W/ TRAFFIC MITIGATION				
		Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	
NORTHBOUND	Left	11	1	11	0	11	1	11	31	42	1	42	0	42	1	42	0	42	1	42	
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Through	68	0	0	2	70	0	0	0	70	0	0	0	70	0	0	0	70	0	0	
	Through-Right	0	1	72	0	0	1	74	0	0	1	74	0	0	1	74	0	0	1	74	
	Right	4	0	4	0	4	0	4	0	4	0	4	0	4	0	4	0	4	0	4	
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Left-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
SOUTHBOUND	Left	94	1	94	3	97	1	97	0	97	1	97	0	97	1	97	0	97	1	97	
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Through	131	1	131	4	135	1	135	0	135	1	135	0	135	1	135	0	135	1	135	
	Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Right	480	1	377	15	495	1	388	8	503	1	382	13	516	1	395	0	516	1	395	
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Left-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
EASTBOUND	Left	103	1	103	3	106	1	106	14	120	1	120	0	120	1	120	0	120	1	120	
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Through	115	0	0	3	118	0	0	74	192	0	0	0	192	0	0	0	192	0	0	
	Through-Right	0	1	129	0	0	1	133	0	0	1	236	0	0	1	236	0	0	1	236	
	Right	14	0	14	0	14	0	14	29	43	0	43	0	43	0	43	0	43	0	43	
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Left-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
WESTBOUND	Left	9	1	9	0	9	1	9	0	9	1	9	0	9	1	9	0	9	1	9	
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Through	506	0	0	15	521	0	0	56	577	0	0	13	590	0	0	0	590	0	0	
	Through-Right	0	1	630	0	0	1	649	0	0	1	705	0	0	1	718	0	0	1	718	
	Right	124	0	124	4	128	0	128	0	128	0	128	0	128	0	128	0	128	0	128	
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Left-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
CRITICAL VOLUMES		North-South: 388 East-West: 733 SUM: 1121		North-South: 400 East-West: 755 SUM: 1155				North-South: 425 East-West: 825 SUM: 1250				North-South: 438 East-West: 838 SUM: 1276				North-South: 438 East-West: 838 SUM: 1276					
VOLUME/CAPACITY (V/C) RATIO:		0.787		0.811				0.877				0.895				0.895					
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.717		0.711				0.777				0.795				0.795					
LEVEL OF SERVICE (LOS):		C		C				C				C				C					

NO INPUT ALLOWED  
INPUT DATA CELL

**PROJECT IMPACT**

Change in v/c due to project: **0.018**      Δv/c after mitigation: **0.018**  
Significant impacted? **NO**      Fully mitigated? **N/A**

# CMA Calculation Worksheet



I/S #: <b>5</b>	North-South Street:	<b>Mission Rd</b>		Year of Count:		<b>2014</b>	Ambient Growth: (%):		<b>1</b>	Conducted by:		<b>VKA</b>	Date:		<b>8/28/2015</b>							
	East-West Street:	<b>1st St</b>		Projection Year:		<b>2017</b>	Peak Hour:		<b>PM</b>	Reviewed by:		<b>Steve Greene</b>	Project:		<b>Metro ESOC</b>							
No. of Phases						<b>3</b>			<b>3</b>			<b>3</b>			<b>3</b>							
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?						<b>0</b>			<b>0</b>			<b>0</b>			<b>0</b>							
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB---	<b>0</b>	SB---	<b>3</b>	NB---	<b>0</b>	SB---	<b>3</b>	NB---	<b>0</b>	SB---	<b>3</b>	NB---	<b>0</b>	SB---	<b>3</b>					
		EB---	<b>0</b>	WB---	<b>0</b>	EB---	<b>0</b>	WB---	<b>0</b>	EB---	<b>0</b>	WB---	<b>0</b>	EB---	<b>0</b>	WB---	<b>0</b>					
ATSAC-1 or ATCS-2?						<b>1</b>			<b>2</b>			<b>2</b>			<b>2</b>							
Override Capacity						<b>0</b>			<b>0</b>			<b>0</b>			<b>0</b>							
		<b>2014 EXISTING COND.</b>				<b>2017 W/ AMBIENT GROWTH</b>				<b>2017 W/ RELATED PROJECTS</b>				<b>2017 W/ PROJECT</b>				<b>2017 W/ TRAFFIC MITIGATION</b>				
<b>MOVEMENT</b>		<b>Volume</b>	<b>No. of Lanes</b>	<b>Lane Volume</b>	<b>Added Volume</b>	<b>Total Volume</b>	<b>No. of Lanes</b>	<b>Lane Volume</b>	<b>Added Volume</b>	<b>Total Volume</b>	<b>No. of Lanes</b>	<b>Lane Volume</b>	<b>Added Volume</b>	<b>Total Volume</b>	<b>No. of Lanes</b>	<b>Lane Volume</b>	<b>Added Volume</b>	<b>Total Volume</b>	<b>No. of Lanes</b>	<b>Lane Volume</b>		
<b>NORTHBOUND</b>	Left	18	1	18	1	19	1	19	41	60	1	60	0	60	1	60	0	60	1	60		
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Through	183	0	0	6	189	0	0	0	189	0	0	0	189	0	0	0	189	0	0		
	Through-Right	0	1	187	0	0	1	193	0	0	1	193	0	0	1	193	0	0	1	193		
	Right	4	0	4	0	4	0	4	0	4	0	4	0	4	0	4	0	4	0	4		
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>SOUTHBOUND</b>	Left	73	1	73	2	75	1	75	0	75	1	75	0	75	1	75	0	75	1	75		
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Through	95	1	95	3	98	1	98	0	98	1	98	0	98	1	98	0	98	1	98		
	Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Right	156	1	0	5	161	1	0	16	177	1	0	0	177	1	0	0	177	1	0		
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>EASTBOUND</b>	Left	520	1	520	16	536	1	536	11	547	1	547	12	559	1	559	0	559	1	559		
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Through	474	0	0	14	488	0	0	75	563	0	0	12	575	0	0	0	575	0	0		
	Through-Right	0	1	484	0	0	1	499	0	0	1	615	0	0	1	627	0	0	1	627		
	Right	10	0	10	0	10	0	10	41	51	0	51	0	51	0	51	0	51	0	51		
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>WESTBOUND</b>	Left	1	1	1	0	1	1	1	0	1	1	1	0	1	1	1	0	1	1	1		
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Through	194	0	0	6	200	0	0	92	292	0	0	0	292	0	0	0	292	0	0		
	Through-Right	0	1	291	0	0	1	300	0	0	1	392	0	0	1	392	0	0	1	392		
	Right	97	0	97	3	100	0	100	0	100	0	100	0	100	0	100	0	100	0	100		
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>CRITICAL VOLUMES</b>		<i>North-South:</i>		<b>260</b>	<i>North-South:</i>		<b>268</b>	<i>North-South:</i>		<b>268</b>	<i>North-South:</i>		<b>268</b>	<i>North-South:</i>		<b>268</b>	<i>North-South:</i>		<b>268</b>	<i>North-South:</i>		<b>268</b>
		<i>East-West:</i>		<b>811</b>	<i>East-West:</i>		<b>836</b>	<i>East-West:</i>		<b>939</b>	<i>East-West:</i>		<b>951</b>	<i>East-West:</i>		<b>951</b>	<i>East-West:</i>		<b>951</b>	<i>East-West:</i>		<b>951</b>
		<i>SUM:</i>		<b>1071</b>	<i>SUM:</i>		<b>1103</b>	<i>SUM:</i>		<b>1206</b>	<i>SUM:</i>		<b>1218</b>	<i>SUM:</i>		<b>1218</b>	<i>SUM:</i>		<b>1218</b>	<i>SUM:</i>		<b>1218</b>
VOLUME/CAPACITY (V/C) RATIO:				<b>0.752</b>			<b>0.774</b>			<b>0.847</b>			<b>0.855</b>			<b>0.855</b>			<b>0.855</b>			<b>0.855</b>
V/C LESS ATSAC/ATCS ADJUSTMENT:				<b>0.682</b>			<b>0.674</b>			<b>0.747</b>			<b>0.755</b>			<b>0.755</b>			<b>0.755</b>			<b>0.755</b>
LEVEL OF SERVICE (LOS):				<b>B</b>			<b>B</b>			<b>C</b>			<b>C</b>			<b>C</b>			<b>C</b>			<b>C</b>

**PROJECT IMPACT**

NO INPUT ALLOWED	Change in v/c due to project:	<b>0.008</b>	Δv/c after mitigation:	<b>0.008</b>
INPUT DATA CELL	Significant impacted?	<b>NO</b>	Fully mitigated?	<b>N/A</b>

# 2019 CONDITIONS



# CMA Calculation Worksheet



I/S #: 1	North-South Street:	Alameda St		Year of Count:		2014		Ambient Growth: (%):		1		Conducted by:		VKA		Date:		8/28/2015			
	East-West Street:	Temple St		Projection Year:		2019		Peak Hour:		AM		Reviewed by:		Steve Greene		Project:		Metro OCC			
No. of Phases		4		4		4		4		4		4		4		4		4			
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		0		0		0		0		0		0		0		0		0			
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB---	0	SB---	0	NB---	0	SB---	0	NB---	0	SB---	0	NB---	0	SB---	0	NB---	0	SB---	0
		EB---	0	WB---	2	EB---	0	WB---	2	EB---	0	WB---	2	EB---	0	WB---	2	EB---	0	WB---	2
ATSAC-1 or ATCS-2?		1		2		2		2		2		2		2		2		2			
Override Capacity		0		0		0		0		0		0		0		0		0			
MOVEMENT		2014 EXISTING COND.			2019 W/ AMBIENT GROWTH				2019 W/ RELATED PROJECTS				2019 W/ PROJECT				2019 W/ TRAFFIC MITIGATION				
		Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	
NORTHBOUND	Left	212	1	212	11	223	1	223	34	257	1	257	0	257	1	257	0	257	1	257	
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Through	599	2	300	31	630	2	315	64	694	2	347	0	694	2	347	0	694	2	347	
	Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Left-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
SOUTHBOUND	Left	20	1	20	1	21	1	21	1	22	1	22	0	22	1	22	0	22	1	22	
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Through	852	2	426	43	895	2	448	102	997	2	499	0	997	2	499	0	997	2	499	
	Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Right	356	1	315	18	374	1	331	123	497	1	408	0	497	1	408	0	497	1	408	
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Left-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
EASTBOUND	Left	83	1	83	4	87	1	87	92	179	1	179	0	179	1	179	0	179	1	179	
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Through	163	1	166	8	171	1	174	25	196	1	196	9	205	1	200	0	205	1	200	
	Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Right	169	0	169	9	178	0	178	18	196	0	196	0	196	0	196	0	196	0	196	
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Left-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
WESTBOUND	Left	13	1	13	1	14	1	14	11	25	1	25	0	25	1	25	0	25	1	25	
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Through	162	1	90	8	170	1	95	37	207	1	114	0	207	1	114	0	207	1	114	
	Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Right	18	0	18	1	19	0	19	1	20	0	20	0	20	0	20	0	20	0	20	
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Left-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
CRITICAL VOLUMES		North-South: 638 East-West: 182 SUM: 820		North-South: 671 East-West: 191 SUM: 862				North-South: 756 East-West: 293 SUM: 1048				North-South: 756 East-West: 293 SUM: 1048				North-South: 756 East-West: 293 SUM: 1048					
VOLUME/CAPACITY (V/C) RATIO:		0.596		0.627				0.762				0.762				0.762					
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.526		0.527				0.662				0.662				0.662					
LEVEL OF SERVICE (LOS):		A		A				B				B				B					

**PROJECT IMPACT**

NO INPUT ALLOWED	Change in v/c due to project:	0.000	Δv/c after mitigation:	0.000
INPUT DATA CELL	Significant impacted?	NO	Fully mitigated?	N/A

# CMA Calculation Worksheet



I/S #: 1	North-South Street:	Alameda St		Year of Count:		2014		Ambient Growth: (%):		1		Conducted by:		VKA		Date:		8/28/2015			
	East-West Street:	Temple St		Projection Year:		2019		Peak Hour:		PM		Reviewed by:		Steve Greene		Project:		Metro OCC			
No. of Phases		4		4		4		4		4		4		4		4		4			
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		0		0		0		0		0		0		0		0		0			
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB---	0	SB---	0	NB---	0	SB---	0	NB---	0	SB---	0	NB---	0	SB---	0	NB---	0	SB---	0
		EB---	0	WB---	2	EB---	0	WB---	2	EB---	0	WB---	2	EB---	0	WB---	2	EB---	0	WB---	2
ATSAC-1 or ATCS-2?		1		2		2		2		2		2		2		2		2			
Override Capacity		0		0		0		0		0		0		0		0		0			
MOVEMENT		2014 EXISTING COND.				2019 W/ AMBIENT GROWTH				2019 W/ RELATED PROJECTS				2019 W/ PROJECT				2019 W/ TRAFFIC MITIGATION			
		Volume	No. of Lanes	Lane Volume		Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	72	1	72	4	76	1	76	15	91	1	91	0	91	1	91	0	91	1	91	
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Through	986	2	493	50	1036	2	518	110	1146	2	573	0	1146	2	573	0	1146	2	573	
	Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Left-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
SOUTHBOUND	Left	71	1	71	4	75	1	75	2	77	1	77	0	77	1	77	0	77	1	77	
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Through	712	2	356	36	748	2	374	90	838	2	419	0	838	2	419	0	838	2	419	
	Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Right	291	1	168	15	306	1	176	139	445	1	224	0	445	1	224	0	445	1	224	
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Left-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
EASTBOUND	Left	247	1	247	13	260	1	260	182	442	1	442	0	442	1	442	0	442	1	442	
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Through	447	1	296	23	470	1	311	56	526	1	360	0	526	1	360	0	526	1	360	
	Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Right	145	0	145	7	152	0	152	42	194	0	194	0	194	0	194	0	194	0	194	
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Left-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
WESTBOUND	Left	18	1	18	1	19	1	19	7	26	1	26	0	26	1	26	0	26	1	26	
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Through	155	1	106	8	163	1	111	33	196	1	129	8	204	1	133	0	204	1	133	
	Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Right	56	0	56	3	59	0	59	3	62	0	62	0	62	0	62	0	62	0	62	
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Left-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
CRITICAL VOLUMES		North-South: 564 East-West: 353 SUM: 917		North-South: 593 East-West: 370 SUM: 963		North-South: 650 East-West: 570 SUM: 1220		North-South: 650 East-West: 574 SUM: 1224		North-South: 650 East-West: 574 SUM: 1224		North-South: 650 East-West: 574 SUM: 1224		North-South: 650 East-West: 574 SUM: 1224		North-South: 650 East-West: 574 SUM: 1224		North-South: 650 East-West: 574 SUM: 1224			
VOLUME/CAPACITY (V/C) RATIO:		0.667		0.701		0.887		0.890		0.890		0.890		0.890		0.890		0.890			
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.597		0.601		0.787		0.790		0.790		0.790		0.790		0.790		0.790			
LEVEL OF SERVICE (LOS):		A		B		C		C		C		C		C		C		C			

NO INPUT ALLOWED  
INPUT DATA CELL

**PROJECT IMPACT**  
Change in v/c due to project: 0.003  
Significant impacted? NO  
Fully mitigated? N/A  
Δv/c after mitigation: 0.003

# CMA Calculation Worksheet



I/S #: <b>2</b>	North-South Street:	<b>Garey St/US 101 SB Ramps</b>		Year of Count: <b>2014</b>		Ambient Growth: (%): <b>1</b>		Conducted by: <b>VKA</b>		Date: <b>8/28/2015</b>										
	East-West Street:	<b>Commercial St</b>		Projection Year: <b>2019</b>		Peak Hour: <b>AM</b>		Reviewed by: <b>Steve Greene</b>		Project: <b>Metro ESOC</b>										
No. of Phases		4		4		4		4		4										
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		3		3		3		3		3										
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB--- 0	SB--- 3	NB--- 0	SB--- 3	NB--- 0	SB--- 3	NB--- 0	SB--- 3	NB--- 0	SB--- 3									
		EB--- 0	WB--- 0	EB--- 0	WB--- 0	EB--- 0	WB--- 0	EB--- 0	WB--- 0	EB--- 0	WB--- 0									
ATSAC-1 or ATCS-2?		1		2		2		2		2										
Override Capacity		0		0		0		0		0										
		<b>2014 EXISTING COND.</b>		<b>2019 W/ AMBIENT GROWTH</b>				<b>2019 W/ RELATED PROJECTS</b>				<b>2019 W/ PROJECT</b>				<b>2019 W/ TRAFFIC MITIGATION</b>				
<b>MOVEMENT</b>		<b>Volume</b>	<b>No. of Lanes</b>	<b>Lane Volume</b>	<b>Added Volume</b>	<b>Total Volume</b>	<b>No. of Lanes</b>	<b>Lane Volume</b>	<b>Added Volume</b>	<b>Total Volume</b>	<b>No. of Lanes</b>	<b>Lane Volume</b>	<b>Added Volume</b>	<b>Total Volume</b>	<b>No. of Lanes</b>	<b>Lane Volume</b>	<b>Added Volume</b>	<b>Total Volume</b>	<b>No. of Lanes</b>	<b>Lane Volume</b>
<b>NORTHBOUND</b>	Left	10	0	10	1	11	0	11	1	12	0	12	0	12	0	12	0	12	0	12
	Left-Through	1	1	31	1	32	1	32	1	39	1	39	1	39	1	39	1	39	1	39
	Through	46	0	0	2	48	0	0	25	73	0	0	0	73	0	0	0	73	0	0
	Through-Right		1	31		32	1	32		51	1	51		51	1	51		51	1	51
	Right	5	0	5	0	5	0	5	0	5	0	5	0	5	0	5	0	5	0	5
	Left-Through-Right		0	0		0	0	0		0	0	0		0	0	0		0	0	0
Left-Right		0	0		0	0	0		0	0	0		0	0	0		0	0	0	0
<b>SOUTHBOUND</b>	Left	167	0	167	9	176	0	176	11	187	0	187	9	196	0	196	0	196	0	196
	Left-Through		1	217		228	1	228		281	1	281		299	1	299		299	1	299
	Through	50	0	0	3	53	0	0	42	95	0	0	9	104	0	0	0	104	0	0
	Through-Right		0	0		0	0	0		0	0	0		0	0	0		0	0	0
	Right	220	1	92	11	231	1	97	36	267	1	120	0	267	1	120	0	267	1	120
	Left-Through-Right		0	0		0	0	0		0	0	0		0	0	0		0	0	0
Left-Right		0	0		0	0	0		0	0	0		0	0	0		0	0	0	0
<b>EASTBOUND</b>	Left	233	2	128	12	245	2	135	23	268	2	147	0	268	2	147	0	268	2	147
	Left-Through		0	0		0	0	0		0	0	0		0	0	0		0	0	0
	Through	39	0	0	2	41	0	0	2	43	0	0	0	43	0	0	0	43	0	0
	Through-Right		1	60		63	1	63		67	1	67		67	1	67		67	1	67
	Right	21	0	21	1	22	0	22	2	24	0	24	0	24	0	24	0	24	0	24
	Left-Through-Right		0	0		0	0	0		0	0	0		0	0	0		0	0	0
Left-Right		0	0		0	0	0		0	0	0		0	0	0		0	0	0	0
<b>WESTBOUND</b>	Left	5	1	5	0	5	1	5	0	5	1	5	0	5	1	5	0	5	1	5
	Left-Through		0	0		0	0	0		0	0	0		0	0	0		0	0	0
	Through	55	1	68	3	58	1	71	5	63	1	85	0	63	1	85	0	63	1	85
	Through-Right		1	68		71	1	71		85	1	85		85	1	85		85	1	85
	Right	80	0	80	4	84	0	84	23	107	0	107	0	107	0	107	0	107	0	107
	Left-Through-Right		0	0		0	0	0		0	0	0		0	0	0		0	0	0
Left-Right		0	0		0	0	0		0	0	0		0	0	0		0	0	0	0
<b>CRITICAL VOLUMES</b>		North-South: <b>248</b>		North-South: <b>260</b>				North-South: <b>332</b>				North-South: <b>350</b>				North-South: <b>350</b>				
		East-West: <b>208</b>		East-West: <b>219</b>				East-West: <b>254</b>				East-West: <b>254</b>				East-West: <b>254</b>				
		SUM: <b>456</b>		SUM: <b>479</b>				SUM: <b>586</b>				SUM: <b>604</b>				SUM: <b>604</b>				
VOLUME/CAPACITY (V/C) RATIO:		0.331		0.348				0.426				0.439				0.439				
V/C LESS ATSAC/ATCS ADJUSTMENT:		<b>0.261</b>		<b>0.248</b>				<b>0.326</b>				<b>0.339</b>				<b>0.339</b>				
LEVEL OF SERVICE (LOS):		<b>A</b>		<b>A</b>				<b>A</b>				<b>A</b>				<b>A</b>				

**PROJECT IMPACT**

NO INPUT ALLOWED	Change in v/c due to project: <b>0.013</b>	Δv/c after mitigation: <b>0.013</b>
INPUT DATA CELL	Significant impacted? <b>NO</b>	Fully mitigated? <b>N/A</b>

# CMA Calculation Worksheet



I/S #: <b>2</b>	North-South Street:	<b>Garey St/US 101 SB Ramps</b>		Year of Count: <b>2014</b>		Ambient Growth: (%): <b>1</b>		Conducted by: <b>VKA</b>		Date: <b>8/28/2015</b>												
	East-West Street:	<b>Commercial St</b>		Projection Year: <b>2019</b>		Peak Hour: <b>PM</b>		Reviewed by: <b>Steve Greene</b>		Project: <b>Metro ESOC</b>												
No. of Phases		4		4		4		4		4												
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		3		3		3		3		3												
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB---	0	SB---	3	NB---	0	SB---	3	NB---	0	SB---	3										
	EB---	0	WB---	0	EB---	0	WB---	0	EB---	0	WB---	0										
ATSAC-1 or ATCS-2?		1		2		2		2		2												
Override Capacity		0		0		0		0		0												
		2014 EXISTING COND.				2019 W/ AMBIENT GROWTH				2019 W/ RELATED PROJECTS				2019 W/ PROJECT				2019 W/ TRAFFIC MITIGATION				
MOVEMENT		Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume		
NORTHBOUND	Left	4	0	4	0	4	0	4	0	4	0	4	0	4	0	4	0	4	0	4		
	Left-Through		1	123			1	129			1	155			1	159			1	159		
	Through	231	0	0	12	243	0	0	51	294	0	0	8	302	0	0	0	302	0	0		
	Through-Right		1	123			1	129			1	155			1	159			1	159		
	Right	11	0	11	1	12	0	12	0	12	0	12	0	12	0	12	0	12	0	12	0	12
	Left-Through-Right		0	0			0	0			0	0			0	0			0	0		
	Left-Right		0	0			0	0			0	0			0	0			0	0		
SOUTHBOUND	Left	93	0	93	5	98	0	98	24	122	0	122	0	122	0	122	0	122	0	122		
	Left-Through		1	116			1	122			1	187			1	187			1	187		
	Through	23	0	0	1	24	0	0	41	65	0	0	0	65	0	0	0	65	0	0		
	Through-Right		0	0			0	0			0	0			0	0			0	0		
	Right	183	1	0	9	192	1	0	27	219	1	0	0	219	1	0	0	219	1	0		
	Left-Through-Right		0	0			0	0			0	0			0	0			0	0		
	Left-Right		0	0			0	0			0	0			0	0			0	0		
EASTBOUND	Left	428	2	235	22	450	2	247	30	480	2	264	0	480	2	264	0	480	2	264		
	Left-Through		0	0			0	0			0	0			0	0			0	0		
	Through	58	0	0	3	61	0	0	1	62	0	0	0	62	0	0	0	62	0	0		
	Through-Right		1	68			1	71			1	75			1	75			1	75		
	Right	10	0	10	1	11	0	11	3	14	0	14	0	14	0	14	0	14	0	14		
	Left-Through-Right		0	0			0	0			0	0			0	0			0	0		
	Left-Right		0	0			0	0			0	0			0	0			0	0		
WESTBOUND	Left	3	1	3	0	3	1	3	0	3	1	3	0	3	1	3	0	3	1	3		
	Left-Through		0	0			0	0			0	0			0	0			0	0		
	Through	62	1	191	3	65	1	200	2	67	1	210	0	67	1	214	0	67	1	214		
	Through-Right		1	191			1	200			1	210			1	214			1	214		
	Right	319	0	319	16	335	0	335	17	352	0	352	8	360	0	360	0	360	0	360		
	Left-Through-Right		0	0			0	0			0	0			0	0			0	0		
	Left-Right		0	0			0	0			0	0			0	0			0	0		
CRITICAL VOLUMES		North-South: 239 East-West: 554 SUM: 793		North-South: 251 East-West: 583 SUM: 834		North-South: 342 East-West: 616 SUM: 958		North-South: 346 East-West: 624 SUM: 970		North-South: 346 East-West: 624 SUM: 970												
VOLUME/CAPACITY (V/C) RATIO:		0.577		0.606		0.697		0.705		0.705												
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.507		0.506		0.597		0.605		0.605												
LEVEL OF SERVICE (LOS):		A		A		A		B		B												

**PROJECT IMPACT**

NO INPUT ALLOWED	Change in v/c due to project: <b>0.008</b>	Δv/c after mitigation: <b>0.008</b>
INPUT DATA CELL	Significant impacted? <b>NO</b>	Fully mitigated? <b>N/A</b>

# CMA Calculation Worksheet



I/S #: <b>3</b>	North-South Street:	<b>Vignes St</b>		Year of Count: <b>2014</b>		Ambient Growth: (%): <b>1</b>		Conducted by: <b>VKA</b>		Date: <b>8/28/2015</b>										
	East-West Street:	<b>Ramirez St</b>		Projection Year: <b>2019</b>		Peak Hour: <b>AM</b>		Reviewed by: <b>Steve Greene</b>		Project: <b>Metro OCC</b>										
No. of Phases		4		4		4		4		4										
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		2		2		2		2		2										
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB--- 0	SB--- 0	NB--- 0	SB--- 0	NB--- 0	SB--- 0	NB--- 0	SB--- 0	NB--- 0	SB--- 0									
		EB--- 0	WB--- 0	EB--- 0	WB--- 0	EB--- 0	WB--- 0	EB--- 0	WB--- 0	EB--- 0	WB--- 0									
ATSAC-1 or ATCS-2?		1		2		2		2		2										
Override Capacity		0		0		0		0		0										
		<b>2014 EXISTING COND.</b>		<b>2019 W/ AMBIENT GROWTH</b>				<b>2019 W/ RELATED PROJECTS</b>				<b>2019 W/ PROJECT</b>				<b>2019 W/ TRAFFIC MITIGATION</b>				
<b>MOVEMENT</b>		<b>Volume</b>	<b>No. of Lanes</b>	<b>Lane Volume</b>	<b>Added Volume</b>	<b>Total Volume</b>	<b>No. of Lanes</b>	<b>Lane Volume</b>	<b>Added Volume</b>	<b>Total Volume</b>	<b>No. of Lanes</b>	<b>Lane Volume</b>	<b>Added Volume</b>	<b>Total Volume</b>	<b>No. of Lanes</b>	<b>Lane Volume</b>	<b>Added Volume</b>	<b>Total Volume</b>	<b>No. of Lanes</b>	<b>Lane Volume</b>
<b>NORTHBOUND</b>	Left	67	2	37	3	70	2	39	0	70	2	39	0	70	2	39	0	70	2	39
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Through	133	2	67	7	140	2	70	14	154	2	77	0	154	2	77	0	154	2	77
	Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Right	71	1	39	4	75	1	41	9	84	1	37	17	101	1	54	0	101	1	54
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Left-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>SOUTHBOUND</b>	Left	334	2	184	17	351	2	193	5	356	2	196	0	356	2	196	0	356	2	196
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Through	112	1	219	6	118	1	230	21	139	1	252	0	139	1	252	0	139	1	252
	Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Right	326	0	326	17	343	0	343	22	365	0	365	0	365	0	365	0	365	0	365
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Left-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>EASTBOUND</b>	Left	137	1	75	7	144	1	79	17	161	1	89	0	161	1	89	0	161	1	89
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Through	67	0	0	3	70	0	0	2	72	0	0	0	72	0	0	0	72	0	0
	Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Right	71	0	71	4	75	0	75	0	75	0	75	0	75	0	75	0	75	0	75
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Left-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>WESTBOUND</b>	Left	64	1	64	3	67	1	67	25	92	1	92	0	92	1	92	0	92	1	92
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Through	163	1	163	8	171	1	171	4	175	1	175	0	175	1	175	0	175	1	175
	Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Right	255	1	163	13	268	1	171	4	272	1	174	0	272	1	174	0	272	1	174
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Left-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>CRITICAL VOLUMES</b>		North-South: 363		North-South: 381				North-South: 403				North-South: 403				North-South: 403				
		East-West: 294		East-West: 309				East-West: 321				East-West: 321				East-West: 321				
		SUM: 657		SUM: 690				SUM: 725				SUM: 725				SUM: 725				
VOLUME/CAPACITY (V/C) RATIO:		0.478		0.502				0.527				0.527				0.527				
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.408		0.402				0.427				0.427				0.427				
LEVEL OF SERVICE (LOS):		A		A				A				A				A				

**PROJECT IMPACT**

NO INPUT ALLOWED  
INPUT DATA CELL

Change in v/c due to project: **0.000**      Δv/c after mitigation: **0.000**  
Significant impacted? **NO**      Fully mitigated? **N/A**

# CMA Calculation Worksheet



I/S #: <b>3</b>	North-South Street:	<b>Vignes St</b>		Year of Count:		<b>2014</b>		Ambient Growth: (%):		<b>1</b>		Conducted by:		<b>VKA</b>		Date:		<b>8/28/2015</b>			
	East-West Street:	<b>Ramirez St</b>		Projection Year:		<b>2019</b>		Peak Hour:		<b>PM</b>		Reviewed by:		<b>Steve Greene</b>		Project:		<b>Metro OCC</b>			
No. of Phases						4				4				4				4			
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?						2				2				2				2			
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB---	0	SB---	0	NB---	0	SB---	0	NB---	0	SB---	0	NB---	0	SB---	0	NB---	0	SB---	0
		EB---	0	WB---	0	EB---	0	WB---	0	EB---	0	WB---	0	EB---	0	WB---	0	EB---	0	WB---	0
ATSAC-1 or ATCS-2?						1				2				2				2			
Override Capacity						0				0				0				0			
MOVEMENT		2014 EXISTING COND.				2019 W/ AMBIENT GROWTH				2019 W/ RELATED PROJECTS				2019 W/ PROJECT				2019 W/ TRAFFIC MITIGATION			
		Volume	No. of Lanes	Lane Volume		Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	65	2	36	3	68	2	38	0	68	2	38	0	68	2	38	0	68	2	38	
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Through	407	2	204	21	428	2	214	26	454	2	227	0	454	2	227	0	454	2	227	
	Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Right	35	1	0	2	37	1	0	28	65	1	0	0	65	1	0	0	65	1	0	
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Left-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
SOUTHBOUND	Left	229	2	126	12	241	2	132	4	245	2	135	0	245	2	135	0	245	2	135	
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Through	147	1	171	7	154	1	180	15	169	1	196	0	169	1	196	0	169	1	196	
	Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Right	195	0	195	10	205	0	205	17	222	0	222	0	222	0	222	0	222	0	222	
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Left-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
EASTBOUND	Left	286	1	157	15	301	1	165	25	326	1	179	0	326	1	179	0	326	1	179	
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Through	62	0	0	3	65	0	0	5	70	0	0	0	70	0	0	0	70	0	0	
	Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Right	56	0	56	3	59	0	59	0	59	0	59	0	59	0	59	0	59	0	59	
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Left-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
WESTBOUND	Left	128	1	128	7	135	1	135	17	152	1	152	16	168	1	168	0	168	1	168	
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Through	153	1	153	8	161	1	161	3	164	1	164	0	164	1	164	0	164	1	164	
	Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Right	482	1	419	25	507	1	440	6	513	1	445	0	513	1	445	0	513	1	445	
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Left-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
CRITICAL VOLUMES		North-South: 329 East-West: 607 SUM: 936		North-South: 346 East-West: 638 SUM: 984		North-South: 361 East-West: 656 SUM: 1018		North-South: 361 East-West: 656 SUM: 1018		North-South: 361 East-West: 656 SUM: 1018		North-South: 361 East-West: 656 SUM: 1018		North-South: 361 East-West: 656 SUM: 1018							
VOLUME/CAPACITY (V/C) RATIO:				0.681		0.716				0.740		0.740				0.740					
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.611		0.616				0.640		0.640				0.640					
LEVEL OF SERVICE (LOS):				B		B				B		B				B					

**PROJECT IMPACT**

NO INPUT ALLOWED	Change in v/c due to project:	0.000	Δv/c after mitigation:	0.000
INPUT DATA CELL	Significant impacted?	NO	Fully mitigated?	N/A

# CMA Calculation Worksheet



I/S #: 4	North-South Street:	Vignes St		Year of Count:		2014		Ambient Growth: (%):		1		Conducted by:		VKA		Date:		8/28/2015			
	East-West Street:	1st St		Projection Year:		2019		Peak Hour:		AM		Reviewed by:		Steve Greene		Project:		Metro ESOC			
No. of Phases						3								3				3			
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?						2								2				2			
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB---	0	SB---	0	NB---	0	SB---	0	NB---	0	SB---	0	NB---	0	SB---	0	NB---	0	SB---	0
		EB---	0	WB---	0	EB---	0	WB---	0	EB---	0	WB---	0	EB---	0	WB---	0	EB---	0	WB---	0
ATSAC-1 or ATCS-2?						1								2				2			
Override Capacity						0								0				0			
MOVEMENT		2014 EXISTING COND.				2019 W/ AMBIENT GROWTH				2019 W/ RELATED PROJECTS				2019 W/ PROJECT				2019 W/ TRAFFIC MITIGATION			
		Volume	No. of Lanes	Lane Volume		Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	5	0	5	0	5	0	5	22	27	0	27	0	27	0	27	0	27	0	27	
	Left-Through		1	35		1	37			1	85		85		1	85		1	85		
	Through	30	0	0	2	32	0	0	26	58	0	0	0	58	0	0	0	58	0	0	
	Through-Right		0	0		0	0			0	0		0	0		0		0	0		
	Right	29	1	0	1	30	1	0	18	48	1	0	0	48	1	0	0	48	1	0	
	Left-Through-Right		0	0		0	0			0	0		0	0		0		0	0		
Left-Right		0	0		0	0			0	0		0	0		0		0	0			
SOUTHBOUND	Left	23	0	23	1	24	0	24	19	43	0	43	0	43	0	43	0	43	0	43	
	Left-Through		1	49		1	51			1	72		72		1	72		1	72		
	Through	26	0	0	1	27	0	0	2	29	0	0	0	29	0	0	0	29	0	0	
	Through-Right		0	0		0	0			0	0		0	0		0		0	0		
	Right	25	1	3	1	26	1	3	42	68	1	31	0	68	1	23	0	68	1	23	
	Left-Through-Right		0	0		0	0			0	0		0	0		0		0	0		
Left-Right		0	0		0	0			0	0		0	0		0		0	0			
EASTBOUND	Left	44	0	44	2	46	0	46	28	74	0	74	17	91	0	91	0	91	0	91	
	Left-Through		1	111		1	117			1	169		178		1	178		1	178		
	Through	178	1	89	9	187	1	94	77	264	1	132	0	264	1	132	0	264	1	132	
	Through-Right		0	0		0	0			0	0		0	0		0		0	0		
	Right	9	1	7	0	9	1	7	13	22	1	9	0	22	1	9	0	22	1	9	
	Left-Through-Right		0	0		0	0			0	0		0	0		0		0	0		
Left-Right		0	0		0	0			0	0		0	0		0		0	0			
WESTBOUND	Left	144	0	144	7	151	0	151	0	151	0	151	0	151	0	151	0	151	0	151	
	Left-Through		1	497		1	522			1	583		596		1	596		1	596		
	Through	724	0	0	37	761	0	0	85	846	0	0	0	846	0	0	0	846	0	0	
	Through-Right		1	497		1	522			1	583		596		1	596		1	596		
	Right	125	0	125	6	131	0	131	37	168	0	168	26	194	0	194	0	194	0	194	
	Left-Through-Right		0	0		0	0			0	0		0	0		0		0	0		
Left-Right		0	0		0	0			0	0		0	0		0		0	0			
CRITICAL VOLUMES		North-South: 58		North-South: 61		North-South: 128		North-South: 128		North-South: 128		North-South: 128		North-South: 128		North-South: 128		North-South: 128			
		East-West: 608		East-West: 638		East-West: 752		East-West: 752		East-West: 773		East-West: 773		East-West: 773		East-West: 773		East-West: 773			
		SUM: 666		SUM: 699		SUM: 880		SUM: 880		SUM: 901		SUM: 901		SUM: 901		SUM: 901		SUM: 901			
VOLUME/CAPACITY (V/C) RATIO:				0.467		0.491		0.618		0.633		0.633		0.633		0.633		0.633			
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.397		0.391		0.518		0.533		0.533		0.533		0.533		0.533			
LEVEL OF SERVICE (LOS):				A		A		A		A		A		A		A		A			

**PROJECT IMPACT**

NO INPUT ALLOWED	Change in v/c due to project:	0.015	Δv/c after mitigation:	0.015
INPUT DATA CELL	Significant impacted?	NO	Fully mitigated?	N/A

# CMA Calculation Worksheet



I/S #: <b>4</b>	North-South Street:	<b>Vignes St</b>		Year of Count:		<b>2014</b>		Ambient Growth: (%):		<b>1</b>		Conducted by:		<b>VKA</b>		Date:		<b>8/28/2015</b>			
	East-West Street:	<b>1st St</b>		Projection Year:		<b>2019</b>		Peak Hour:		<b>PM</b>		Reviewed by:		<b>Steve Greene</b>		Project:		<b>Metro ESOC</b>			
No. of Phases						3				3				3				3			
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?						2				2				2				2			
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB---	0	SB---	0	NB---	0	SB---	0	NB---	0	SB---	0	NB---	0	SB---	0	NB---	0	SB---	0
		EB---	0	WB---	0	EB---	0	WB---	0	EB---	0	WB---	0	EB---	0	WB---	0	EB---	0	WB---	0
ATSAC-1 or ATCS-2?						1				2				2				2			
Override Capacity						0				0				0				0			
MOVEMENT		2014 EXISTING COND.			2019 W/ AMBIENT GROWTH				2019 W/ RELATED PROJECTS				2019 W/ PROJECT				2019 W/ TRAFFIC MITIGATION				
		Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	
NORTHBOUND	Left	6	0	6	0	6	0	6	22	28	0	28	0	28	0	28	0	28	0	28	
	Left-Through		1	40			1	42			1	72			1	72			1	72	
	Through	34	0	0	2	36	0	0	8	44	0	0	0	44	0	0	0	44	0	0	
	Through-Right		0	0			0	0			0	0			0	0			0	0	
	Right	129	1	103	7	136	1	108	6	142	1	105	0	142	1	105	0	142	1	105	
	Left-Through-Right		0	0			0	0			0	0			0	0			0	0	
Left-Right		0	0			0	0			0	0			0	0			0	0		
SOUTHBOUND	Left	43	0	43	2	45	0	45	31	76	0	76	24	100	0	100	0	100	0	100	
	Left-Through		1	73			1	77			1	140			1	164			1	164	
	Through	30	0	0	2	32	0	0	32	64	0	0	0	64	0	0	0	64	0	0	
	Through-Right		0	0			0	0			0	0			0	0			0	0	
	Right	22	1	0	1	23	1	0	44	67	1	8	16	83	1	24	0	83	1	24	
	Left-Through-Right		0	0			0	0			0	0			0	0			0	0	
Left-Right		0	0			0	0			0	0			0	0			0	0		
EASTBOUND	Left	61	0	61	3	64	0	64	55	119	0	119	0	119	0	119	0	119	0	119	
	Left-Through		1	437			1	459			1	542			1	542			1	542	
	Through	813	1	407	41	854	1	427	110	964	1	482	0	964	1	482	0	964	1	482	
	Through-Right		0	0			0	0			0	0			0	0			0	0	
	Right	15	1	12	1	16	1	13	28	44	1	30	0	44	1	30	0	44	1	30	
	Left-Through-Right		0	0			0	0			0	0			0	0			0	0	
Left-Right		0	0			0	0			0	0			0	0			0	0		
WESTBOUND	Left	53	0	53	3	56	0	56	17	73	0	73	0	73	0	73	0	73	0	73	
	Left-Through		1	102			1	107			1	85			1	85			1	85	
	Through	279	0	0	14	293	0	0	103	396	0	0	0	396	0	0	0	396	0	0	
	Through-Right		1	261			1	274			1	449			1	449			1	449	
	Right	31	0	31	2	33	0	33	32	65	0	65	0	65	0	65	0	65	0	65	
	Left-Through-Right		0	0			0	0			0	0			0	0			0	0	
Left-Right		0	0			0	0			0	0			0	0			0	0		
CRITICAL VOLUMES		North-South: 146		North-South: 153		North-South: 181		North-South: 205		North-South: 205		North-South: 205		North-South: 205		North-South: 205		North-South: 205			
		East-West: 698		East-West: 734		East-West: 990		East-West: 990		East-West: 990		East-West: 990		East-West: 990		East-West: 990		East-West: 990			
		SUM: 844		SUM: 887		SUM: 1172		SUM: 1196		SUM: 1196		SUM: 1196		SUM: 1196		SUM: 1196		SUM: 1196			
VOLUME/CAPACITY (V/C) RATIO:				0.592		0.622		0.822		0.839		0.839		0.839		0.839		0.839			
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.522		0.722		0.722		0.739		0.739		0.739		0.739		0.739			
LEVEL OF SERVICE (LOS):				A		A		C		C		C		C		C		C			

NO INPUT ALLOWED  
INPUT DATA CELL

**PROJECT IMPACT**

Change in v/c due to project: **0.017**      Δv/c after mitigation: **0.017**  
Significant impacted? **NO**      Fully mitigated? **N/A**



# CMA Calculation Worksheet



I/S #: 5	North-South Street:	Mission Rd		Year of Count:		2014		Ambient Growth: (%):		1		Conducted by:		VKA		Date:		8/28/2015			
	East-West Street:	1st St		Projection Year:		2019		Peak Hour:		AM		Reviewed by:		Steve Greene		Project:		Metro ESOC			
No. of Phases		3		3		3		3		3		3		3		3		3			
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		0		0		0		0		0		0		0		0		0			
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB---	0	SB---	3	NB---	0	SB---	3	NB---	0	SB---	3	NB---	0	SB---	3	NB---	0	SB---	3
		EB---	0	WB---	0	EB---	0	WB---	0	EB---	0	WB---	0	EB---	0	WB---	0	EB---	0	WB---	0
ATSAC-1 or ATCS-2?		1		2		2		2		2		2		2		2		2			
Override Capacity		0		0		0		0		0		0		0		0		0			
MOVEMENT		2014 EXISTING COND.				2019 W/ AMBIENT GROWTH				2019 W/ RELATED PROJECTS				2019 W/ PROJECT				2019 W/ TRAFFIC MITIGATION			
		Volume	No. of Lanes	Lane Volume		Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	11	1	11	1	12	1	12	31	43	1	43	0	43	1	43	0	43	1	43	
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Through	68	0	0	3	71	0	0	0	71	0	0	0	71	0	0	0	71	0	0	
	Through-Right	0	1	72	0	0	1	76	0	0	1	76	0	0	1	76	0	0	1	76	
	Right	4	0	4	0	4	0	4	0	4	0	4	0	4	0	4	0	4	0	4	
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOUTHBOUND	Left	94	1	94	5	99	1	99	0	99	1	99	0	99	1	99	0	99	1	99	
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Through	131	1	131	7	138	1	138	0	138	1	138	0	138	1	138	0	138	1	138	
	Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Right	480	1	377	24	504	1	396	8	512	1	390	13	525	1	403	0	525	1	403	
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
EASTBOUND	Left	103	1	103	5	108	1	108	14	122	1	122	0	122	1	122	0	122	1	122	
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Through	115	0	0	6	121	0	0	74	195	0	0	0	195	0	0	0	195	0	0	
	Through-Right	0	1	129	0	0	1	136	0	0	1	239	0	0	1	239	0	0	1	239	
	Right	14	0	14	1	15	0	15	29	44	0	44	0	44	0	44	0	44	0	44	
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
WESTBOUND	Left	9	1	9	0	9	1	9	0	9	1	9	0	9	1	9	0	9	1	9	
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Through	506	0	0	26	532	0	0	56	588	0	0	13	601	0	0	0	601	0	0	
	Through-Right	0	1	630	0	0	1	662	0	0	1	718	0	0	1	731	0	0	1	731	
	Right	124	0	124	6	130	0	130	0	130	0	130	0	130	0	130	0	130	0	130	
	Left-Through-Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
CRITICAL VOLUMES		North-South: 388		North-South: 408		North-South: 433		North-South: 446		North-South: 446		North-South: 446		North-South: 446		North-South: 446		North-South: 446			
		East-West: 733		East-West: 770		East-West: 840		East-West: 853		East-West: 853		East-West: 853		East-West: 853		East-West: 853		East-West: 853			
		SUM: 1121		SUM: 1178		SUM: 1273		SUM: 1299		SUM: 1299		SUM: 1299		SUM: 1299		SUM: 1299		SUM: 1299			
VOLUME/CAPACITY (V/C) RATIO:		0.787		0.827		0.893		0.912		0.912		0.912		0.912		0.912		0.912			
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.717		0.727		0.793		0.812		0.812		0.812		0.812		0.812		0.812			
LEVEL OF SERVICE (LOS):		C		C		C		D		D		D		D		D		D			

**PROJECT IMPACT**

NO INPUT ALLOWED	Change in v/c due to project:	0.019	Δv/c after mitigation:	0.019
INPUT DATA CELL	Significant impacted?	NO	Fully mitigated?	N/A

# CMA Calculation Worksheet



I/S #: <b>5</b>	North-South Street:	<b>Mission Rd</b>		Year of Count:		<b>2014</b>		Ambient Growth: (%):		<b>1</b>		Conducted by:		<b>VKA</b>		Date:		<b>8/28/2015</b>			
	East-West Street:	<b>1st St</b>		Projection Year:		<b>2019</b>		Peak Hour:		<b>PM</b>		Reviewed by:		<b>Steve Greene</b>		Project:		<b>Metro ESOC</b>			
No. of Phases						3				3				3				3			
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?						0				0				0				0			
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB---	0	SB---	3	NB---	0	SB---	3	NB---	0	SB---	3	NB---	0	SB---	3	NB---	0	SB---	3
		EB---	0	WB---	0	EB---	0	WB---	0	EB---	0	WB---	0	EB---	0	WB---	0	EB---	0	WB---	0
ATSAC-1 or ATCS-2?						1				2				2				2			
Override Capacity						0				0				0				0			
MOVEMENT		2014 EXISTING COND.				2019 W/ AMBIENT GROWTH				2019 W/ RELATED PROJECTS				2019 W/ PROJECT				2019 W/ TRAFFIC MITIGATION			
		Volume	No. of Lanes	Lane Volume		Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	18	1	18	1	19	1	19	41	60	1	60	0	60	1	60	0	60	1	60	
	Left-Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Through	183	0	0	9	192	0	0	0	192	0	0	0	192	0	0	0	192	0	0	
	Through-Right		1	187			1	197			1	197			1	197			1	197	
	Right	4	0	4	0	4	0	4	0	4	0	4	0	4	0	4	0	4	0	4	
	Left-Through-Right		0	0			0	0			0	0			0	0			0	0	
Left-Right		0	0			0	0			0	0			0	0			0	0		
SOUTHBOUND	Left	73	1	73	4	77	1	77	0	77	1	77	0	77	1	77	0	77	1	77	
	Left-Through		0	0			0	0			0	0			0	0			0	0	
	Through	95	1	95	5	100	1	100	0	100	1	100	0	100	1	100	0	100	1	100	
	Through-Right		0	0			0	0			0	0			0	0			0	0	
	Right	156	1	0	8	164	1	0	16	180	1	0	0	180	1	0	0	180	1	0	
	Left-Through-Right		0	0			0	0			0	0			0	0			0	0	
Left-Right		0	0			0	0			0	0			0	0			0	0		
EASTBOUND	Left	520	1	520	27	547	1	547	11	558	1	558	12	570	1	570	0	570	1	570	
	Left-Through		0	0			0	0			0	0			0	0			0	0	
	Through	474	0	0	24	498	0	0	75	573	0	0	12	585	0	0	0	585	0	0	
	Through-Right		1	484			1	509			1	625			1	637			1	637	
	Right	10	0	10	1	11	0	11	41	52	0	52	0	52	0	52	0	52	0	52	
	Left-Through-Right		0	0			0	0			0	0			0	0			0	0	
Left-Right		0	0			0	0			0	0			0	0			0	0		
WESTBOUND	Left	1	1	1	0	1	1	1	0	1	1	1	0	1	1	1	0	1	1	1	
	Left-Through		0	0			0	0			0	0			0	0			0	0	
	Through	194	0	0	10	204	0	0	92	296	0	0	0	296	0	0	0	296	0	0	
	Through-Right		1	291			1	306			1	398			1	398			1	398	
	Right	97	0	97	5	102	0	102	0	102	0	102	0	102	0	102	0	102	0	102	
	Left-Through-Right		0	0			0	0			0	0			0	0			0	0	
Left-Right		0	0			0	0			0	0			0	0			0	0		
CRITICAL VOLUMES		North-South: 260 East-West: 811 SUM: 1071		North-South: 273 East-West: 852 SUM: 1126		North-South: 273 East-West: 955 SUM: 1229		North-South: 273 East-West: 967 SUM: 1241		North-South: 273 East-West: 967 SUM: 1241		North-South: 273 East-West: 967 SUM: 1241									
VOLUME/CAPACITY (V/C) RATIO:						0.752				0.790				0.862				0.871			
V/C LESS ATSAC/ATCS ADJUSTMENT:						0.682				0.690				0.762				0.771			
LEVEL OF SERVICE (LOS):						B				B				C				C			

**PROJECT IMPACT**

NO INPUT ALLOWED	Change in v/c due to project:	0.009	Δv/c after mitigation:	0.009
INPUT DATA CELL	Significant impacted?	NO	Fully mitigated?	N/A

Appendix B

Air Quality/Greenhouse Gas Technical  
Memorandum

**Since the commencement of the proposed Project, the project description was updated and some project elements changed. Specifically the building footprint was reduced within the Project site (See Figure 3 in the IS/MND). The conclusions of this technical analysis that was completed for the larger building continue to apply to the updated, smaller building. The updated project description includes building a four-story, 100,000 square foot building within the existing Metro site, with one level of underground parking. The larger project description in this technical analysis was 104,000 square feet. Additionally, the name of the Project was changed from Operations Control Center (OCC) to the current Emergency Security Operations Center (ESOC). The ESOC is anticipated to be built in phases; however, the analysis took into account the maximum building footprint for the whole project in order to comply with CEQA. The proposed phased approach does not change the impact determination.**

**No other project elements were changed other than the reduction in building footprint and total square footage. Therefore it was not necessary to revise this Air Quality and Greenhouse Gas Technical Memorandum as the original findings of no impact still apply.**

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## **I. Summary**

### *Summary of Air Quality Impacts*

Short-term air quality impacts generated during construction of the proposed project would be reduced and controlled by construction specifications and design criteria established in Metro's 2011 Green Construction Policy. Construction specifications include requirements for use of newer, less polluting off-road equipment and limiting non-essential vehicle idling during construction of Metro projects, which represent real and quantifiable emission reduction measures. Therefore, air quality impacts generated during construction would not conflict with Air Quality Management Plan (AQMP) attainment goals and would result in less than significant regional and localized impacts. Construction of the proposed project would not expose sensitive receptors to substantial concentrations of air contaminants or odors and would not result in cumulatively considerable air quality impacts.

The air quality impact for operational activities would be less than significant, in fact, operation of the proposed project would result in an indirect air quality benefit due to enhanced efficiency and capacity of the rail and bus transit system, which would allow for and attract more riders and reduce regional vehicle miles travelled (VMT) and associated air quality impacts.

### *Summary of Climate Change Impacts*

Greenhouse gas (GHG) emissions generated during construction and operational activities would not result in a significant impact on the environment, nor would estimated GHG emission levels conflict with applicable plans, policies or regulations geared towards reducing GHG emissions and climate change impacts. Implementation of construction specifications and design criteria, in accordance with Metro's

2011 Green Construction Policy, would further reduce and control GHG emissions generated during construction. In addition, operation of the proposed project would result in an indirect reduction in regional GHG emissions due to increased ridership (and reduced regional VMT) resulting from the enhanced efficiency and capacity of the rail and bus transit system.

## **II. Regulatory Setting**

Metro has prepared this technical analysis to demonstrate compliance with the Federal Clean Air Act (CAA) and California Clean Air Act (CCAA) for a transportation project (Operations Control Central) in accordance with the California Environmental Quality Act (CEQA).

Requirements established per the CAA for transportation projects include completion of a conformity determination to ensure consistency with attainment goals established in the regional State Implementation Plan. A transportation conformity determination is required for transportation projects undergoing CEQA review and that receive federal approval, funding or implementation. A transportation conformity determination was not included in this tech memo because the proposed project is exempt<sup>1</sup>. Additional requirements for projects undergoing CEQA review include evaluation of project-related impacts compared to criteria questions developed for air quality and greenhouse gas emissions, which is presented in the subsections below.

## **III. Purpose and Need**

Metro is proposing to build a new Operations Control Center (OCC) in downtown Los Angeles. Currently, the mostly vacant lot is primarily used for bus parking, bus end of line layovers, and bus operator training. There is an existing Emergency Operations Center (EOC) two-story building on the northwest corner of the site, which houses a small Los Angeles County Sheriff's Department operation focused on terrorism prevention. The overall purpose of the proposed project is to provide efficient and safe transit service to the region as the bus and rail transit system expands. The proposed project would enhance transit reliability for Metro buses and trains and allow for efficient operation of the transit system as it grows. Metro is currently expanding the transit system throughout the Los Angeles region and coordination between bus and rail operations and emergency services is increasingly important as ridership increases, security measures are heightened, and the system components become more complex.

## **IV. Project Description**

The proposed project consists of demolition of the existing on-site structure (approx. 6,000 square feet) and construction of a four story, approximately 114,000 square foot building, subsurface garage

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<sup>1</sup> Per 40 CFR Part 93.126 Subpart A, a project consisting of "reconstruction or renovation of transit buildings and structures" is considered exempt from requiring a transportation conformity determination or hot-spots analysis.

(approximately 150 spaces) and necessary utilities. The proposed multistory (a maximum of 4 stories) multi-modal operation control center facility with subterranean parking garage would consist of a new EOC, a new Rail Operations Center (ROC) and a new Bus Operations Center (BOC).

Proposed project planning, final design and engineering, and construction are anticipated to occur over a 36-month period, starting in late 2014 and continuing through 2019. Of the 36-month period, construction activities resulting in potential air quality would occur over an estimated thirteen-month duration, commencing in 2015, and would include:

- Demolition
- Site Preparation
- Grading
- Building Construction
- Paving
- Architectural Coating

Construction is assumed to occur from 7:00 a.m. to 3:00 p.m., Monday through Friday.

## **V. Project Location**

The proposed project would be located at 410 Center Street, an approximately 1.8-acre site, just south of Highway 101 and a quarter mile from the Metro Headquarters Building (Gateway Building) in downtown Los Angeles. The site is located in an industrial area and the zoning code is designated for heavy manufacturing which also allows for office uses. There are no residential/housing, educational centers, institutional, or public open space in the immediate (within 1,000 feet) area.

## **VI. Air Quality**

Construction activities will generate short-term, temporary criteria pollutant emissions including ozone, carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), particulate matter less than 10 microns (PM<sub>10</sub>) and 2.5 microns in diameter (PM<sub>2.5</sub>), and sulfur dioxide (SO<sub>2</sub>) from the operation of gasoline and diesel-powered on- and off-road equipment. Fugitive dust will also be generated during earthmoving activities associated with site preparation (grading and excavation) and demolition.

The proposed project includes operation of an office/training facility, which will generate area source emissions from architectural coatings during building operations and maintenance (O&M). Operational emission sources also include worker trips to- and from the proposed project site.

### **Description of Baseline Environmental Setting**

The proposed project site is within the jurisdiction of the South Coast Air Quality Management District (SCAQMD), which encompasses 10,473 square miles, consisting of the four-county South Coast Air Basin (SCAB) and the Riverside County portions of the Salton Sea Air Basin and the Mojave Desert Air Basin.

The SCAB, which is a subarea of the SCAQMD’s jurisdiction, is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The 6,745 square-mile SCAB includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties.

The climate of the Los Angeles area is characterized by hot summers, mild winters, and small amounts of precipitation. The major climatic controls in the area are the San Gabriel Mountains on the northeast and the semi-permanent Pacific High pressure system over the eastern Pacific Ocean. The presence and position of the Pacific High dominates summer weather patterns, resulting in little to no precipitation. Daily temperatures during the year range from an average minimum temperature of 36 degrees Fahrenheit to a mean high temperature of 95 degrees Fahrenheit. Most precipitation occurs during infrequent rainstorms in the fall and winter. The average annual precipitation is 17.3 inches per year.

Air quality in a region is primarily affected by the type and amount of contaminants emitted into the atmosphere. However, topographical and meteorological conditions, such as temperature, wind, humidity, precipitation, cloud cover, and influx of solar radiation, substantially affect the dispersion or trapping of the emitted pollutants, thus playing a major role in the prevailing air quality conditions. Within the SCAB, frequent formation of inversion layers traps the air pollutants in the basin, leading to increased pollution episodes. The SCAB has low mixing heights and light winds, which are conducive to the accumulation of air pollutants.

Health-based air quality standards have been established by the United States Environmental Protection Agency (USEPA) and the California Air Resources Board (CARB) for the following criteria air pollutants: ozone, CO, NO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, and lead. The Federal standards are called National Ambient Air Quality Standards (NAAQS), and the California standards are called California Ambient Air Quality Standards (CAAQS).

The USEPA classifies air basins as either attainment or “non-attainment” for each criteria pollutant based on whether or not the NAAQS have been achieved. Some air basins have not received sufficient analysis for certain criteria air pollutants and are designated as “unclassified” for those pollutants. Similarly, areas have been designated as attainment, non-attainment, or unclassified with respect to the CAAQS. The CAAQS and NAAQS attainment status for the SCAB are listed in Table 1. The SCAB is designated non-attainment for both the Federal and State ozone and PM<sub>2.5</sub> standards; the SCAB is designated non-attainment for the State PM<sub>10</sub> standard and maintenance for the Federal standard.

**Table 1: SCAB Attainment Status**

Pollutant	State Designation	Federal Designation
CO	Attainment	Maintenance
O <sub>3</sub> <sup>1</sup>	Non-attainment (1-hour)	Non-attainment (1-hour)

**Table 1: SCAB Attainment Status**

Pollutant	State Designation	Federal Designation
	Non-attainment (8-hour)	Non-attainment (8-hour)
PM <sub>10</sub>	Non-attainment	Maintenance
PM <sub>2.5</sub>	Non-attainment	Non-attainment
NO <sub>2</sub>	Attainment	Maintenance
SO <sub>2</sub>	Attainment	Attainment
Lead	Attainment (Riverside County)	Attainment (Riverside County)
Notes:		
1. Federal non-attainment designations for O <sub>3</sub> are categorized into six levels of severity including marginal, moderate, serious, severe-15, severe-17, or extreme.		

**Analysis of Potential Impacts**

The significance criteria established by the applicable air quality management district or air pollution control district are used here to make the following determination. Would the project:

- a) Conflict with or obstruct implementation of the applicable air quality plan?

*Construction and Operational Impacts*

The proposed project is located within the SCAB, under the jurisdiction of the SCAQMD. The applicable air quality plan is the *Final 2012 Air Quality Management Plan (AQMP)* and is designed to achieve state and Federal Clean Air Act requirements for current nonattainment pollutants including 8-hr ozone and particulate matter less than or equal to 2.5 microns aerodynamic diameter (PM<sub>2.5</sub>). The SCAB is currently designated extreme nonattainment for the 8-hr ozone National Ambient Air Quality Standard (NAAQS) and nonattainment for the PM<sub>2.5</sub> NAAQS.

The Air Quality Management Plan is a blueprint of control measures designed to attain and maintain with a margin of safety NAAQS. The control measures are developed by compiling a current air pollutant emissions inventory, projecting the emissions inventory to future years, evaluating the impacts of future emissions on ambient air quality through air quality modeling, determining reductions in the projected future emissions needed to attain the standards and devising control measures that will achieve those emission reductions. The AQMP is generally updated every three years. The last update to the SCAQMD AQMP was adopted by the SCAQMD Governing Board in 2012.

The 2012 AQMP demonstrates that the applicable ambient air quality standards can be achieved within the timeframes required under federal law. Population and commercial/industrial growth projections from local general plans adopted by cities in the district and compiled by the Southern California



Association of Governments (SCAG) are some of the inputs used to develop the AQMP. The proposed project does not involve the construction of new housing and it would require minimal new fulltime employees during operation. Therefore, the proposed project would not cause increases in the growth projections in the 2012 AQMP and it would be consistent with the AQMP.

The proposed project must comply with applicable SCAQMD requirements and control measures for new or modified sources. By complying with these requirements, the proposed project would not conflict with or obstruct implementation of the AQMP.

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

#### *Short-term Construction Impacts*

The proposed project is located within the SCAB, which is currently designated as nonattainment for 8-hr ozone<sup>2</sup> and non-attainment for PM<sub>2.5</sub> for federal standards. The SCAQMD is responsible for monitoring and maintaining compliance with air quality standards within the Basin. The SCAQMD has adopted thresholds of significance for construction and operation for evaluating air quality impacts under the California Environmental Quality Act (CEQA).

Construction of the proposed project will generate temporary emissions of criteria pollutants (CO, SO<sub>x</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, and ozone precursors (VOCs and oxides of nitrogen [NO<sub>x</sub>])). Criteria pollutant emissions would be generated during the operation of gas and diesel-powered equipment and motor vehicles. Fugitive PM<sub>10</sub> and PM<sub>2.5</sub> emissions would also be generated by earthmoving activities, such as grading, excavation, demolition, and by motor vehicle roadway travel.

Construction emissions from the operation of diesel-fueled off-road equipment and on-road motor vehicles were estimated using default values obtained from the California Emissions Estimator Model (CalEEMod), version 2013.2.2, including daily usage, equipment-specific emission and load factors. The emission factors represent the fleet-wide average emission factors during 2015/6, consistent with the anticipated 2015 start date of construction, within the SCAB. Fugitive dust emissions were evaluated based on vehicle transport on paved surfaces and demolition of 40,000<sup>3</sup> square feet of existing on-site structures, using CalEEMod.

Peak daily emissions include both on-site and off-site emissions; on-site emissions are generated by sources within the footprint of the proposed project site; off-site emissions are generated by sources

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<sup>2</sup> Federal designation classification is extreme nonattainment for 8-hr ozone.

<sup>3</sup> Square footage of existing structures planned for demolition is an assumption based on lot acreage (50 percent of lot acreage or 40,000 square feet).

such as worker commute or vendor haul trips. Detailed construction schedules have not yet been developed for the proposed project. Therefore, the duration and phasing of construction activities is based on default assumptions available in CalEEMod for industrial/parking land-use projects.

Peak daily construction emissions are summarized in Table 2 and are compared to the SCAQMD regional mass daily emission CEQA significance thresholds for construction.

**Table 2: Peak Daily Construction Emissions, Regional Emissions Impact Summary (lb/day)<sup>1</sup>**

Activity Description	Criteria Pollutant					
	VOC	CO	NOx	SOx	PM <sub>10</sub> <sup>2</sup>	PM <sub>2.5</sub> <sup>2</sup>
<b>On-Site</b>						
Construction Equipment <sup>3</sup>	0.37	42.63	56.89	0.04	3.08	2.84
Fugitive Particulate Matter	--	--	--	--	8.33	4.52
Architectural Coatings <sup>3</sup>	54.82	--	--	--	--	--
<b>On-Site Total<sup>3</sup></b>	<b>54.82</b>	<b>42.63</b>	<b>56.89</b>	<b>0.04</b>	<b>11.41</b>	<b>7.36</b>
<b>Off-Site</b>						
Motor Vehicle Exhaust <sup>3</sup>	0.08	1.29	0.10	2.55E-03	0.20	0.05
<b>Off-Site Total</b>	<b>0.08</b>	<b>1.29</b>	<b>0.10</b>	<b>2.55E-03</b>	<b>0.20</b>	<b>0.05</b>
<b>Peak Day =</b>	<b>54.82</b>	<b>43.92</b>	<b>56.99</b>	<b>0.04</b>	<b>11.61</b>	<b>7.41</b>
SCAQMD Mass-Daily Threshold (Construction)	75	550	100	150	150	55
Exceed SCAQMD Mass-Daily Threshold (Y/N) <sup>4</sup> ?	No	No	No	No	No	No
Notes:						
“--” indicates pollutant is not emitted by source						
1. Air quality assumptions including equipment list and emission factors are presented in Appendix A.						
2. The applicant will implement fugitive dust control measures including site watering, in accordance with Rule 403.						
3. Peak daily emissions of VOCs would occur during architectural coating application, following completion of building construction. Therefore, peak daily VOC emissions from building construction (onsite construction equipment and offsite motor vehicle exhaust) and architectural coating application have not been summed together in Table 1, as they would not occur on the same day.						
4. SCAQMD Air Quality Significance Thresholds, March 2011						
Source: Modeled by AECOM, 2014						

As presented in Table 2, construction emissions would not exceed the SCAQMD’s regional mass-based daily significance thresholds for VOC, CO, NOx, SOx, PM<sub>10</sub> or PM<sub>2.5</sub>. Therefore, regional air quality impacts during construction of the proposed project would be less than significant.

The SCAQMD has developed a Localized Significance Threshold (LST) Methodology to evaluate the potential localized impacts of criteria pollutants from on-site emissions sources during construction and operation, as applicable (SCAQMD, 2008). The localized significance threshold methodology requires an analysis regarding whether or not emissions of specified criteria pollutants would cause

ambient air quality standards to be exceeded at the nearest off-site receptor. The localized significance threshold analysis is performed for emissions of CO, NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> and is not required for SO<sub>x</sub> and VOC emissions because these pollutants do not contribute to localized criteria pollutant air quality impacts, although VOC may be analyzed as a toxic air contaminant (TAC).

The LST Methodology consists of performing dispersion modeling for CO, NO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> from on-site emissions to determine whether or not the project may cause exceedances of the applicable LSTs at the nearest sensitive receptors.

Table 3 compares peak daily on-site construction emissions to the applicable LST<sup>4</sup>. Off-site emissions are not considered in the localized impact evaluation because they would be generated during vehicle usage within the region and would not result in localized exposure. As shown in Table 3, on-site CO, NO<sub>x</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> construction emissions are below the applicable interpolated values from the lookup tables. Therefore, CO, NO<sub>x</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> emissions would not be expected to cause significant localized air quality impacts.

**Table 3: Peak Daily Construction Emissions - Localized Emissions Summary (lb/day)**

Description	CO	NO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Peak Daily On-Site Construction Emissions	42.63	56.89	11.41	7.36
Allowable Emissions – 2 acre site, 315 meters	5,064	215	99	44
Exceed SCAQMD LST (Y/N)?	No	No	No	No
Air quality assumptions including equipment list and emission factors are presented in Appendix A. LSTs for SRA 2, receptor distance of 315 meters, obtained from: <a href="http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/appendix-c-mass-rate-lst-look-up-tables.pdf?sfvrsn=2">http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/appendix-c-mass-rate-lst-look-up-tables.pdf?sfvrsn=2</a> Source: Modeled by AECOM, 2014				

Although short-term construction emissions are not expected to result in a significant adverse air quality impact, implementation of Metro’s 2011 Green Construction Policy including requirements for use of newer, less polluting off-road equipment and limiting non-essential idling in accordance with CARB’s five-minute idling restriction would further reduce and control criteria pollutant emissions generated during construction.

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<sup>4</sup> The majority of construction activities would occur during site preparation, which is less than two acres in size. The proposed project is located in Source Receptor Area (SRA) No. 2 (Los Angeles), with the nearest residence located approximately 315 meters east of the proposed project site. Therefore, the SCAQMD lookup tables for a two-acre project and a receptor distance of 315 meters were utilized. Since the lookup tables only list emissions for receptor distances of 25, 50, 100, 200 and 500 meters, linear interpolation between the values for 200 meters and 500 meters was used to calculate the values for 315 meters.

SCAQMD Rule 403 *Fugitive Dust* requires implementation of the following best management practices (BMP's) to reduce and control the generation and impacts of fugitive dust emissions resulting from various earthmoving and excavation activities.

Prior to the authorization of final construction plans, the following measures shall be included in the project design:

- BMP-1: Watering for all sources of dust will be conducted for all excavation and earth moving activities.
- BMP-2: Street sweeping shall be initiated if visible dust is deposited upon public paved roadways due to the project.
- BMP-3: All clearing or earth moving activities shall be discontinued during periods of high winds (i.e., greater than 25 mph), to prevent excessive amounts of dust.
- BMP-5: General contractors shall maintain and operate construction equipment to minimize exhaust emissions.

In addition, SCAQMD's Rule 1113 *Architectural Coatings* establishes VOC content limits for various internal and external building and appurtenance applications. It has been assumed that all architectural coatings applied during proposed project construction would contain 100 grams per liter or less of VOCs.

As shown in Tables 2 and 3, the proposed project would not exceed the SCAQMD's mass daily thresholds or LSTs for construction and therefore would not violate or contribute to a violation of the air quality standards. In addition, any construction impacts resulting from the proposed project would be temporary in nature and would cease once construction has completed. Proposed project construction will result in less-than-significant regional and localized impacts.

*Operational Impacts*

Operational emission sources include fugitive VOC emissions from architectural coating usage during building O&M activities and worker trips. Worker trips would generate on- and off-site emissions from travel within the parking lot area and to and from the proposed project site. However, the purpose of the proposed project is to modernize and consolidate regional bus and rail operations so emissions from employees accessing the site will be more than offset by greater scale reductions in emissions from a greatly enhanced transit operating system.

The estimated criteria pollutant emissions from proposed project operations are shown in Table 4. As presented in Table 4, operational emissions would not exceed the SCAQMD's mass daily operational emission thresholds. Therefore, regional operational impacts would be less than significant.

**Table 4: Peak Daily Operational Emissions, Regional Emissions Impact Summary (lb/day)**

Emission Source	VOC	CO	NOx	SOX	PM <sub>10</sub>	PM <sub>2.5</sub>
<i>On-Site</i> <sup>1</sup>						

**Table 4: Peak Daily Operational Emissions, Regional Emissions Impact Summary (lb/day)**

Emission Source	VOC	CO	NOx	SOX	PM <sub>10</sub>	PM <sub>2.5</sub>
Motor Vehicles	0.51	6.44	1.61	0.02	0.03	0.02
Motor Vehicle Fugitive PM	--	--	--	--	1.15	0.31
Area and Energy Sources	4.45	0.22	0.22	1.37E-03	0.02	0.02
<b>On-Site Total</b>	<b>4.96</b>	<b>6.66</b>	<b>1.83</b>	<b>0.02</b>	<b>1.20</b>	<b>0.35</b>
<b>Off-Site<sup>1</sup></b>						
Motor Vehicles	1.53	19.31	4.82	0.05	0.08	0.07
Motor Vehicle Fugitive PM	--	--	--	--	3.44	0.92
<b>Off-Site Total</b>	<b>1.53</b>	<b>19.31</b>	<b>4.82</b>	<b>0.05</b>	<b>3.51</b>	<b>0.98</b>
<b>Total =</b>	<b>6.49</b>	<b>25.97</b>	<b>6.65</b>	<b>0.07</b>	<b>4.71</b>	<b>1.33</b>
SCAQMD Mass-Daily Threshold (Operation)	55	550	55	150	150	55
Exceed SCAQMD Mass-Daily Threshold (Y/N)?	No	No	No	No	No	No
<p>“--” indicates pollutant is not emitted by source</p> <p>Notes:</p> <p>1. The contribution of on-site emissions from motor vehicles is assumed to be equal to 25 percent of total emission estimated using CalEEMod. The remaining 75 percent contribution of emissions is assumed to be generated off-site, during worker commute trips to and from the proposed project site.</p> <p>Air quality assumptions including equipment list and emission factors are presented in Appendix A.</p> <p>Source: Modeled by AECOM, 2014</p>						

Localized impacts from operations were evaluated based on on-site emission sources. On-site emission sources include worker vehicle travel. Table 5 compares peak daily on-site operation emissions to the applicable interpolated values in the SCAQMD lookup tables.

**Table 5: Peak Daily Operational Emissions, Localized Emissions Impact Summary (lb/day)**

Description	CO	NOx	PM <sub>10</sub>	PM <sub>2.5</sub>
Peak Daily On-Site Operation Emissions	6.66	1.83	1.20	0.35
Allowable Emissions – 2 acre site, 315 meters	5,064	215	24	11
Exceed SCAQMD LST (Y/N)?	No	No	No	No
<p>Air quality assumptions including equipment list and emission factors are presented in Appendix A.</p> <p>LSTs for SRA 2, receptor distance of 315 meters, obtained from: <a href="http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/appendix-c-mass-rate-lst-look-up-tables.pdf?sfvrsn=2">http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/appendix-c-mass-rate-lst-look-up-tables.pdf?sfvrsn=2</a></p> <p>Source: Modeled by AECOM, 2014</p>				

As presented in Table 5, peak daily operational emissions would not exceed the SCAMQD's LSTs for operations. Therefore, localized impacts would be less than significant.

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

#### *Construction and Operational Impacts*

As discussed in item (b) above, the proposed project would result in the generation of criteria pollutant emissions below the SCAQMD regional and localized thresholds for construction and operational activities. These thresholds are designed to identify those projects which may result in significant levels of air pollution and to assist the region in attaining the applicable state and federal ambient air quality standards. Because the proposed project would not exceed any SCAQMD air quality significance threshold, the proposed project is not considered to result in significant levels of emissions and these emissions are not cumulatively considerable or cumulatively significant.

- d) Expose sensitive receptors to substantial pollutant concentrations?

#### *Construction Impacts*

Construction activities would include operation of diesel-fueled equipment and vehicles resulting in emissions of diesel particulate matter (DPM), a recognized carcinogenic TAC. However, since carcinogenic DPM health risk is estimated using the annual average concentration over long exposure periods (40 to 70 years), the Office of Environmental Health Hazard Assessment (OEHHA) does not suggest estimating carcinogenic health risk for exposure periods less than nine years. The construction phase for the proposed project, approximately thirteen months, is substantially less than the nine-year exposure period indicated by OEHHA. Therefore, construction of the proposed project would not expose sensitive receptors to substantial TAC concentrations. Furthermore, as shown in Table 3, emissions of criteria pollutants would not cause LSTs to be exceeded. Therefore, construction of the proposed project would not expose sensitive receptors (located off-site) to substantial criteria pollutant concentrations.

#### *Operational Impacts*

The proposed project would result in building O&M activities and a small increase in vehicle miles travelled due to new daily worker trips within the proposed project area. The proposed project would not result in new sources of significant TAC emissions. Therefore, proposed project O&M would not expose existing sensitive receptors to substantial criteria pollutant concentrations. Additionally, the proposed project would result in emission reductions, compared to existing conditions, from transportation improvements resulting from the enhanced transit operating system.

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

*Construction and Operational Impacts*

Construction and O&M of the proposed project are not anticipated to generate odorous emissions. Some odors could result from off-road equipment exhaust during construction activities, but these emissions would disperse very quickly in the open area. Given the short-term and temporary nature of construction activities, construction-related odor impacts would be less than significant. Worker trips generated during O&M would not be anticipated to generate or expose any persons to substantial odor emissions. As a result, the proposed project would not create objectionable odors affecting a substantial number of people. This impact would be less than significant.

**VII. Greenhouse Gas Emissions**

Greenhouse gas (GHG) emissions will be generated during both construction and O&M of the proposed project. The significance of potential GHG emission impacts were determined using SCAQMD guidance and CEQA Guidelines designed to evaluate and mitigate climate change impacts.

**Description of Baseline Environmental Conditions**

Gases that trap heat in the atmosphere are often called greenhouse gases. Some GHGs such as carbon dioxide occur naturally and are emitted to the atmosphere through natural processes and human activities while other GHGs are created and emitted solely through human activities. The principal GHGs that enter the atmosphere because of human activities are carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), and fluorinated gases. Within the past decade, increasing awareness of the potential effects GHG emissions may have on public health and welfare through a process known as global warming has led to more policy and increasing regulation of these pollutants. State and local plans and policies designed to reduce GHG emissions are presented below.

*State-level Plans*

The California Global Warming Solutions Act (Act) of 2006 established under Assembly Bill 32 (Chapter 488, Statutes of 2006) (AB 32), caps California's GHG emissions at 1990 levels by 2020. This legislation represents the first enforceable state-wide program in the US to cap all GHG emissions from major industries and include penalties for non-compliance. The AB 32 Scoping Plan contains the main strategies California will use to reduce GHG emissions. These reduction actions include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-based mechanisms such as a cap-and-trade system. These measures have been introduced through various workshops and continue to be developed.

The Climate Change Scoping Plan (CCSP), established December 11, 2008 pursuant to AB 32, outlines emission reduction strategies based on regulations, market mechanisms, and other actions. Six key elements include:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards;
- Achieving a statewide renewable energy mix of 33 percent;
- Developing a state cap-and-trade program related to GHG emissions that links with partner programs to create a regional market system;
- Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets;
- Adopting and implementing measures pursuant to existing state laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard and;
- Creating targeted fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the state's long-term commitment to AB 32 implementation.

Title 24, Part 6, of the California Code of Regulations, establishes California Building Energy Efficiency Standards for residential and nonresidential buildings, which include, but are not limited to, roofing, lighting and insulation standards designed to improve energy efficiency and reduce overall GHG emissions. Operational components associated with proposed buildings and structures will be required to comply with the efficiency standards.

#### *Regional and Local-level Plans*

The SCAQMD has prepared a Draft Guidance Document entitled *Interim CEQA Greenhouse Gas Significance Thresholds* (October 2008) for evaluating operational and construction impacts of proposed industrial projects, and has adopted an interim threshold for industrial projects of 10,000 metric tons of CO<sub>2</sub>-equivalent<sup>5</sup> (MTCO<sub>2</sub>e) per year, which includes direct emissions from stationary and transportation-related sources as well as indirect emissions from sources such as generation of electricity used by a project and generation of electricity to supply water to a project. Per SCAQMD guidance, construction emissions should be amortized over the economic life of the project, which is proposed at 30 years.

Local plans related to climate change and GHG emission reductions recently adopted are described below:

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<sup>5</sup> A metric ton is 1,000 kilograms, which is equivalent to 2,205 pounds. CO<sub>2</sub>-equivalent is the sum of all GHG emissions, with emissions of each GHG multiplied by its global warming potential, which is its warming potential relative to CO<sub>2</sub>.



- Los Angeles County Metropolitan Transportation Authority's Climate Action and Adaptation Plan, finalized in June 2012, identifies the regional GHG emissions inventory along with goals for future GHG emission reductions due to operation of Metro facilities.
- Los Angeles County Metropolitan Transportation Authority's Countywide Sustainability Planning Policy and Implementation Plan, adopted in December 2012, establishes goals for sustainable transportation solutions including provisions for clean-fueled, efficient, long-term transportation systems while minimizing material and resource use through conservation, re-use, recycling and re-purposing.

### **Analysis of Potential Construction and Operational Impacts**

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determination.

Would the project:

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

The proposed project will generate direct and indirect GHG emissions during construction and operation. "Direct" sources of GHG emissions generally can be controlled by the facility; "indirect" sources are located off-site and are typically owned or controlled by another entity, such as off-site electricity generation. Direct sources during construction include on- and off-road mobile sources. The use of electric-driven construction equipment is not anticipated for the proposed project. Therefore, there are no indirect sources of GHG emissions associated with construction. Direct sources during operation include worker trips to- and from the proposed project site. Indirect GHG emissions will result from utility usage including electricity and water usage.

Construction-related GHG emissions from the operation of diesel-fueled off-road equipment and on-road motor vehicles were estimated using default values obtained from CalEEMod, version 2013.2.2, including daily usage, equipment-specific emission and load factors. The emission factors represent the fleet-wide average emission factors during 2015/6, consistent with the anticipated 2015 start date of construction, within the SCAB.

Indirect GHG emissions from electricity use during operation of the proposed project were estimated using the default annual electric power requirements and GHG emission intensities for Southern California Edison (emissions per amount of electricity generated) obtained from CalEEMod, version 2013.2.

As described above, the SCAQMD has adopted a significance threshold of 10,000 MTCO<sub>2</sub>e/yr for industrial projects (SCAQMD, 2008). The SCAQMD GHG CEQA Significance Threshold Stakeholder

Working Group recommended options for evaluating non-industrial projects including thresholds for residential, commercial, and mixed use projects (SCAQMD, 2010). The draft thresholds released by the SCAQMD include possible thresholds of 3,000 MTCO<sub>2</sub>e/yr for all non-industrial projects and use of an efficiency metric of 4.8 MT CO<sub>2</sub>e per “service population” per year. These thresholds have not been adopted by the SCAQMD.

The total construction<sup>6</sup> and operational GHG emissions of 1,415 MTCO<sub>2</sub>e/yr associated with the proposed project would be less than any of the proposed or adopted GHG thresholds discussed above. Therefore, the proposed project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. This impact would be less than significant.

Would the project:

- b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHG’s?

Currently, GHG’s are not required under law to be included in Air Quality Management Plan’s (AQMP’s) and are not currently regulated by local Air Quality Management District’s (AQMD’s). Statewide GHG emissions are regulated through AB 32, which codifies the State’s GHG emissions target by requiring the State’s GHG emissions be reduced to 1990 levels by 2020 and directs CARB to enforce the statewide cap that began phasing in 2012. As discussed above, GHG emissions from the proposed project are less than any of the proposed or adopted GHG thresholds and therefore would not conflict with any local or state targets for GHG emission reductions. Impacts related to GHG emissions would be less than significant.

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<sup>6</sup> Per SCAQMD guidance, construction emissions should be amortized over the economic life of the project, which is proposed at 30 years (SCAQMD, 2008).

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Appendix C  
Cultural Resources Assessment

CULTURAL RESOURCES ASSESSMENT  
FOR THE METRO EMERGENCY SECURITY OPERATIONS CENTER, LOS  
ANGELES, CALIFORNIA

Prepared for:  
Los Angeles County Metropolitan Transportation Authority

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**Since the commencement of the proposed Project, the project description was updated and some project elements changed. Specifically the building footprint was reduced within the Project site (See Figure 3 in the IS/MND). The conclusions of this technical analysis that was completed for the larger building continue to apply to the updated, smaller building. The updated project description includes building a four-story, 100,000 square foot building within the existing Metro site, with one level of underground parking. The larger project description in this technical analysis was 104,000 square feet. Furthermore, references to FTA and federal coordination below no longer apply as no federal funding is being considered at this time.**

**Additionally, the name of the Project was changed from Operations Control Center (OCC) to the current Emergency Security Operations Center (ESOC). No other project elements were changed other than the reduction in building footprint and total square footage. Therefore it was not necessary to revise this Cultural Resources Assessment as the original findings of no impact still apply.**

## Executive Summary

This document reports a Phase I cultural and paleontological resources assessment conducted in compliance with the National Historic Preservation Act (NHPA), the National Environmental Policy Act (NEPA), and provisions of the California Environmental Quality Act (CEQA). Metro is proposing to construct a new Operations Control Center (OCC) at 410 Center Street, roughly 0.33 mile south of Metro's Gateway Headquarters Building. The proposed OCC will enhance Metro's emergency response capabilities by providing a central location for personnel to command, control, and communicate the latest and developing transit and emergency intelligence more efficiently and effectively. The overall purpose of the project is to provide efficient and safe transit service to the region as the bus and rail transit system expands. The project would enhance transit reliability for Metro buses and trains and allow for efficient operation of the transit system as it grows. Metro is currently expanding the transit system throughout the Los Angeles region and coordination between bus and rail operations and emergency services is increasingly important as ridership increases, security measures are heightened, and the system components become more complex.

An Area of Potential Effects (APE) was established for the Project that includes the Area of Direct Impact (ADI), or Project footprint, and the first tier of adjacent properties that may be indirectly affected by the Project. AECOM conducted archival research and survey to identify cultural resources within the APE. AECOM also conducted an archaeological records search at the South Central Coastal Information Center housed at California State University, Fullerton. The records search revealed that the entirety of the ADI was previously studied, and no archaeological resources had been identified within the ADI. Several historical properties were identified within 0.5 mile of the APE, but none were located within the APE. Two new historical-in-age (50 years or greater in age) buildings were identified within the APE



during AECOM's built-environment survey, but neither is considered significant or eligible for inclusion in the National Register of Historic Places or California Register of Historical Resources.

In addition, AECOM requested a records search at the Natural History Museum of Los Angeles County (NHM) of the APE and vicinity. The search identified no fossil localities within the APE, although significant vertebrate fossils have been recovered from Pleistocene-age older Quaternary alluvial deposits like those that underlie the Project vicinity at varying depths below the current ground surface. Paleontologically sensitive deposits are anticipated to be present 5 to 15 feet below the surface, although depths may vary.

In compliance with state and federal law, the FTA and Metro will contact interested parties about the Project. This includes contacting the Native American Heritage Commission to request a Sacred Lands File search for the APE. Further consultation with interested Native American groups and other interested parties will be managed by Metro.

Although no previously documented archaeological resources exist within the APE, undocumented buried archaeological resources may be located within the ADI. The ADI is underlain by deep alluvial deposits dating to the last 10,000 years, and such deposits have the potential to contain significant archaeological resources. At the time of European contact, the APE was occupied by the Gabrielino, who maintained a large village, *Ya'angna*, in the vicinity. The Gabrielino village was later the site of the historic Pueblo of Los Angeles, and the Project APE is within the boundaries of the original land grant for the pueblo. Under Spanish control, the Project vicinity grew into a thriving residential community, only later developing as an industrial center in the 19th century. Due to the long occupation of the Project vicinity from prehistoric to modern times, monitoring of ground-disturbing activities by a qualified archaeological monitor is recommended.

In addition, buried paleontological resources may exist within the APE, particularly at depth. The NHM records search and paleontological assessment indicates that older Quaternary alluvial deposits, buried below the Project ADI, have the potential to contain significant vertebrate fossil remains. Further, NHM recommends that any substantial excavations within the Project ADI be monitored by a professional paleontologist. We recommend paleontological resources monitoring of any ground-disturbing activity deeper than 10 feet below the ground surface.

To reduce any potential impacts to cultural and paleontological resources to less than significant under CEQA and not adverse per Section 106 of the NHPA and NEPA, cultural and paleontological monitoring of ground-disturbing activities is recommended. Ground-disturbing activities from the surface to at least the base of younger Quaternary alluvium should be monitored for possible buried cultural resources. Ground-disturbing activities from the contact between younger and older Quaternary alluvium down to final depth should be monitored for possible buried paleontological resources. To ensure that these deposits are monitored, all ground-disturbing activities deeper than approximately 10 feet in depth should be spot-checked for paleontological resources, unless a determination is made otherwise by a qualified paleontologist. Ground-disturbing activities include geotechnical boring, boring, trenching,

grading, excavating, and demolishing building foundations. To guide monitoring for the Project, a Cultural Resources Monitoring and Mitigation Plan should be developed by an archaeologist who meets the standards of the Secretary of the Interior for Archaeology, and a Paleontological Resources Monitoring and Mitigation Plan should be developed by a qualified professional paleontologist.

## Chapter 1 Introduction

This document presents the results of a Phase I cultural resources assessment conducted for the planned Operations Control Center Project (Project) to be constructed by the Los Angeles County Metropolitan Transportation Authority (Metro). The proposed Operations Control Center (OCC) will enhance Metro's emergency response capabilities by providing a central location for personnel to command, control, and communicate developing transit and emergency intelligence. The OCC will be constructed on property located at 410 Center Street in Downtown Los Angeles, roughly 0.33 mile south of Metro's Union Station Gateway Complex (USG).

This document was prepared in support of a Draft Initial Study/Mitigated Negative Declaration prepared in accordance with the California Environmental Quality Act (CEQA), Public Resources Code Section 21000 et seq., and the State CEQA Guidelines, California Code of Regulations Section 15000 et seq., and Section 106 of the National Historic Preservation Act (NHPA) (16 U.S. Code Section 470f) and its implementing regulations (36 Code of Federal Regulations [CFR] Part 800).

### Report Organization

This report is organized following the *Archaeological Resource Management Reports (ARMR): Recommended Contents and Format* guidelines, Department of Parks and Recreation (DPR), Office of Historic Preservation, State of California, 1990. These guidelines provide a standardized format and suggested report content, scaled to the size of a project. This report first includes a Project description, including Project location and setting and proposed Project work. Next, the environmental and cultural settings of the Area of Potential Effects (APE) are presented. This is followed by the archival research methods and results, which also includes a description of the Sacred Lands File search and discussion of the results. In addition, a paleontological records search and the results are provided. Then, survey methodology and results are described. The final section summarizes the results of the cultural resources investigation and provides recommendations and conclusions for mitigation.

### Project Location

The Project is located in the Warehouse or Arts District of the City of Los Angeles, Los Angeles County, within Section 9 of Township 1 South, Range 13 West of the Los Angeles U.S. Geological Survey (USGS) 7.5-minute quadrangle map (Figure 1). The Project APE has been established as the Project footprint, or Area of Direct Impact (ADI), and the first tier of adjacent properties that may be affected by the Project, including the streets surrounding the ADI and the structures facing the ADI along Center, Ducommun, and Jackson Streets. As currently planned, the ADI is an approximately 2-acre property located at 410 Center Street just south of U.S. Route 101. The ADI encompasses an entire city block and is presently developed with a paved parking lot and one standing structure. The ADI is bordered by an existing Metro right-of-way to the east, Center Street to the west, Ducommun Street to the north, and Jackson Street to the south (Figure 2).

## **Project Description**

With support from the Federal Transportation Authority (FTA), Metro plans to build a centralized OCC for the entire Metro system adjacent to the established USG. USG is Metro's primary Southern California transit hub, serving Metro bus and rail lines, Metrolink commuter rail, Amtrak long-distance rail, and numerous municipal carriers and specialty shuttles. The Los Angeles Sheriff's Department identifies this complex as a major profile target for terrorism. A centralized OCC is a critical component for Metro's continuing operation to maintain USG's estimated 100,000 daily boarding capacity and to reduce potential loss of life or transportation service in the event of natural disaster or terrorist attack.

## **Regulatory Setting**

Cultural and paleontological resources in California are protected by a number of federal, state, and local regulations, statutes, and ordinances. Cultural resources are defined as buildings, sites, structures, or objects, each of which may have historical, architectural, archaeological, cultural, and/or scientific importance. Paleontological resources are not only fossils themselves, but also the associated rocks or organic matter and the physical characteristics of the fossils' associated sedimentary matrix that provide evidence of past life on the planet.

## **National Environmental Policy Act and National Historic Preservation Act**

Federal agencies must consider the effects of proposed projects on historic properties and natural resources. Lead agencies evaluate potential impacts under the National Environmental Policy Act (NEPA) and potential effects under the NHPA to "historic properties," which are defined as resources that are listed in or eligible for listing in the National Register of Historic Places (NRHP), in an effort to avoid potential significant impacts and adverse effects. Resources that may be eligible for listing in the NRHP include districts, sites, buildings, structures, and objects that are at least 50 years old and are significant in American history, prehistory, architecture, archaeology, engineering, and/or culture. To be eligible for listing, the resource must meet one of the NRHP Criteria for Evaluation (A–D) (36 CFR 60.4), as follows:

- A. A property is associated with events that have made a significant contribution to the broad patterns of our history; or
- B. A property is associated with the lives of a person or persons significant in our past; or
- C. A property embodies the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possesses high artistic values, or that represents a significant and distinguishable entity whose components may lack individual distinction; or
- D. A property has yielded, or may be likely to yield, information important in prehistory or history.

In addition, historic properties must possess integrity of location, design, setting, material, workmanship, feeling, and association.

Resources younger than 50 years may be eligible if they have exceptional importance and meet Criteria Consideration G, as described in Bulletin No. 22 from the National Park Service (NPS), “How to Evaluate and Nominate Potential National Register Properties that have Achieved Significance Within the Last 50 Years” (NPS 1979). Other types of resources that are typically not eligible for the NRHP, including religious properties, moved properties, birthplaces or graves, cemeteries, reconstructed properties, and commemorative properties, may be eligible under other specific NRHP criteria considerations.

NEPA requires that environmental impacts to historic properties be evaluated and addressed during the environmental review process in coordination with procedures established by Section 106 of the NHPA to address effects on historic properties. A significant impact and/or an adverse effect would occur if a project would directly or indirectly diminish any of the characteristics that qualify a historic property for NRHP eligibility or listing. Under NEPA, a significant impact may be resolved with mitigation measures to avoid the impact or to reduce the impact to a level of less than significant. Under Section 106 of the NHPA, adverse effects must be resolved through a consultation process between the federal lead agency, the State Historic Preservation Office (SHPO), interested parties, and the Advisory Council on Historic Preservation (ACHP). If an adverse effect cannot be avoided, mitigation may be agreed upon and documented in a signed Memorandum of Agreement to resolve the adverse effect. If mitigation is not agreed upon through the Section 106 process, consultation is terminated and the ACHP may make comments on the procedure.

### **California Environmental Quality Act**

CEQA and its guidelines (CERES 2009) require the evaluation of potential impacts to “historical resources” that are defined as resources listed in or eligible for listing in the California Register of Historical Resources (CRHR). Under California Public Resources Code (PRC) Section 5024.1, the CRHR was established to serve as an authoritative guide to the state’s significant historical and archaeological resources. The CRHR consists of historical resources that are (a) listed automatically, (b) listed following procedures and criteria adopted by the State Historical Resources Commission, and/or (c) nominated by an application and listed after a public hearing process. The criteria for listing historical resources in the CRHR are consistent with those developed by the NPS for listing in the NRHP, but have been modified for state use to include a range of historical resources that better reflect the history of California.

A historical resource is significant at the local, state, or national level under one or more of the following four criteria (1–4):

1. Is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States;
2. Is associated with the lives of persons important to local, California, or national history;
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values; or

4. Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

Historical resources must also possess integrity, the authenticity of a historical resource's physical identity evidenced by the survival of characteristics that existed during the resource's period of significance, and retain enough of this historic character or appearance to be recognizable as a historical resource and to convey the reasons for this significance. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association.

Historical resources may include built environment and archaeological resources, as well as "unique paleontological resources" or "unique geologic features." In addition to historic properties listed in or eligible for listing in the NRHP that are automatically considered historical resources under CEQA, the CRHR includes designated California Historic Landmarks, California Points of Historical Interest, and certain locally identified historic resources (see below). CEQA also requires that mitigation measures to reduce or avoid impacts to historical resources be incorporated into a project, and a range of alternatives be considered that could substantially lessen significant impacts to historical resources.

Under CEQA, a project would result in a significant impact to historical resources if it results in a direct or indirect substantial adverse change to the resource. A significant impact would occur if a project would directly or indirectly diminish any of the characteristics that qualify or define a historical resource. A significant impact may be resolved with mitigation measures to avoid the impact or to reduce the impact to a level of less than significant.

Treatment of paleontological resources under CEQA is generally similar to treatment of cultural resources, requiring evaluation of resources in the project area; assessment of potential impacts on significant or unique resources; and development of mitigation measures for potentially significant impacts, which may include monitoring combined with data recovery excavation and/or avoidance.





Figure 2: Project Location Map



Cultural Resources Assessment for the Metro Operations Control Center Project



Figure 3: Project Area Map



Figure 3  
Project Area of Direct Impact Map

Cultural Resources Assessment for the Metro Operations Control Center Project

## Chapter 2 Project Setting

### Environmental Setting

The Project is located in a relatively flat area of the western Los Angeles Basin. The basin is formed by the Santa Monica Mountains to the northwest, the San Gabriel Mountains to the north, and the San Bernardino and San Jacinto Mountains to the east. The basin was formed by alluvial and fluvial deposits derived from these surrounding mountains. Prior to urban development and the channelization of the Los Angeles River, the APE (located less than 0.25 mile west of the Los Angeles River channel) was likely covered with marshes, thickets, riparian woodland, and grassland. Prehistorically, the floodplain forest of the Los Angeles Basin formed one of the most biologically rich habitats in Southern California. Willow, cottonwood, and sycamore, and dense underbrush of alder, hackberry, and shrubs once lined the Los Angeles River as it passed near present-day downtown Los Angeles. Although, historically, most of the Los Angeles River was dry for at least part of the year, shallow bedrock in what is now the Elysian Park area north of downtown forced much of the river's underground water to the surface. This allowed for a steady year-round flow of water through the area that later became known as downtown Los Angeles.

### Cultural Setting

This section summarizes the current understanding of major prehistoric and historic developments in and around Los Angeles. This brief overview provides a context within which the cultural resources that might be encountered in the APE may be considered and evaluated. The Project-specific context, discussing development of the APE over time, can be found in Chapter 3 (Archival Research).

#### Prehistory

Following the seminal work of William Wallace (1955) and Claude Warren (1968), the prehistory of the Southern California coastal region is typically divided into Early, Middle, and Late Periods, with an initial Paleo-Indian period dating to the late Pleistocene and early Holocene.

#### *Paleo-Indian Period*

In the Southern California coastal region, the earliest evidence of human occupation comes from a handful of sites with early tools and some human remains that have been dated from 7,000 years ago to greater than 10,000 years old. These include the nearby Baldwin Hills and Los Angeles Mesa sites where construction activities in the 1920s and 1930s uncovered human remains in deep alluvial deposits. The human remains were tentatively dated to 10,000 to more than 20,000 years old (Moratto 1984:53). Recent research into the Los Angeles Mesa materials suggests that the early dates should be considered tentative, and that some studies suggest a date of no more than 5,000 years old for some of the individuals (Brooks et al. 1990).

***Early Period (5,000 to 3,000 B.C.)***

Although people are known to have inhabited what is now Southern California beginning at least 13,000 years Before Present (B.P.) (Arnold et al. 2004), the first solid evidence of human occupation in the Los Angeles basin dates to roughly 7000 B.C. and is associated with a period known as the Early Period or the Millingstone Horizon (Wallace 1955; Warren 1968). Millingstone populations established permanent settlements that were located primarily on the coast and in the vicinity of estuaries, lagoons, lakes, streams, and marshes where a variety of resources, including seeds, fish, shellfish, small mammals, and birds, were exploited. Early Period occupations are typically identified by the presence of handstones (manos) and millingstones (metates). Sites from this time period typically contain shell middens, large numbers of milling implements, crude core and cobble tools, flaked stone tools, distinctive cogged stone implements, and infrequent side-notched dart points (Fenenga 1953). The focus at inland sites appears to be in plant food processing and hunting. Along the coast, populations invested in maritime food gathering strategies, including close-shore and deep-sea fishing, as well as shellfish collection (Grenda 1997).

***Middle Period (3000 B.C. to AD 1000)***

Although many aspects of Millingstone culture persisted, by 3000 B.C., a number of socioeconomic changes occurred, as understood through changes in material culture (Erlandson 1994; Wallace 1955; Warren 1968). These changes are associated with the period known as the Middle Period or Intermediate Horizon (Wallace 1955). The mortar and pestle were introduced during this period, suggesting an increased reliance on hard plant foods such as acorns (Altschul and Grenda 2002). Increasing population size coincides with intensified exploitation of terrestrial and marine resources (Erlandson 1994). This was accomplished, in part, through use of new technological innovations such as the circular shell fishhook on the coast, and, in inland areas, use of the mortar and pestle to process an important new vegetal food staple, acorns, and the dart and atlatl, resulting in a more diverse hunting capability (Warren 1968). A shift in settlement patterns from smaller to larger and more centralized habitations is understood by many researchers as an indicator of increasingly territorial and sedentary populations (Erlandson 1994). During the Middle Period, specialization in labor emerged, trading networks became an increasingly important means by which both utilitarian and non-utilitarian materials were acquired, and travel routes were extended.

***Late Period (AD 1000 to 1782)***

The Late Prehistoric period, spanning from approximately AD 1000 to the Spanish Mission era, is the period associated with the florescence of contemporary Native American groups. The Late Period is notable for a dramatic increase in the number of habitation and food processing sites. These sites include more bone tools, numerous types of *Olivella* shell beads, circular fishhooks, and occasional pottery vessels (Miller 1991). Between AD 1000 and 1250, small arrow-sized projectile points, of the Desert side-notched and Cottonwood triangular series, were adopted along what is now the Southern California coast (Altschul and Grenda 2002). Following European contact, glass trade beads and metal items also appeared in the archaeological record. Burial practices shifted to cremation in what is now

the Los Angeles Basin and northern Orange County. However, at many coastal and most Channel Island sites, interment remained the common practice (Moratto 1984).

Some researchers argue that the changes seen at the beginning of this period reflect the movement of Shoshonean speakers from the eastern deserts into the area that is now the Southern California coast. Some researchers, though, suggest that the movement of desert-adapted Shoshonean speakers occurred as much as 2,000 years earlier (Bean and Smith 1978; Sutton 2009).

At the time of European contact, the Project vicinity was occupied by Shoshonean-speaking Gabrielino people who controlled what is now the Los Angeles Basin and Orange County down to Aliso Creek (Kroeber 1925). The northern San Fernando Valley was the northernmost extent of the territory occupied by people who the Spanish referred to as the *Fernadeño*, whose name was derived from nearby Mission San Fernando. The *Fernadeño* spoke one of four regional Uto-Aztecan dialects of Gabrielino, a Cupan language in the Takic family, and were culturally identical to the Gabrielino. The Tataviam and Chumash, of the Hokan Chumashan language family, lived to the north and west of this territory, respectively, and it is likely that the territorial boundaries between these linguistically distinct groups fluctuated in prehistoric times (Bean and Smith 1978; Shipley 1978).

Occupying what is now the southern Channel Islands and adjacent mainland areas of Los Angeles and Orange Counties, the Gabrielino are reported to have been second only to their Chumash neighbors in terms of population size, regional influence, and degree of sedentism (Bean and Smith 1978). The Gabrielino are estimated to have numbered around 5,000 in the pre-contact period (Kroeber 1925). Maps produced by early explorers indicate the existence of at least 40 Gabrielino villages, but as many as 100 may have existed prior to contact with Europeans (Bean and Smith 1978; McCawley 1996; Reid 1939[1852]).

Prehistoric subsistence consisted of hunting, fishing, and gathering. Small terrestrial game was hunted with deadfalls, rabbit drives, and by burning undergrowth, and larger game such as deer were hunted using bows and arrows. Fish were taken by hook and line, nets, traps, spears, and poison (Bean and Smith 1978; Reid 1939[1852]). The primary plant resources were the acorn, gathered in the fall and processed with mortars and pestles, and various seeds that were harvested in late spring and summer and ground with manos and metates. The seeds included chia and other sages, various grasses, and islay or holly leafed-cherry (Reid 1939[1852]).

## **History**

Early European exploration of the coastal and inland trade routes of what became California began in the 1500s, but more than a century passed before Spain mounted a concerted colonization effort. The historical era in California begins with Spanish colonization and is often divided into three distinctive chronological and historical periods: the Spanish or Mission Period (1542 to 1821), the Mexican or Rancho Period (1821 to 1848), and the American Period (1848 to present).

### ***Spanish Period (1542 to 1821)***

Before direct Spanish settlement, more than two centuries of sporadic European exploration had spread disease and European goods throughout what became California, from the coasts and bays to the mountains and deserts. Introduced diseases reduced Native American populations in the area by as much as 75% (Larson et al. 1994).

The Portola Expedition of 1769 was likely the first time that Europeans made direct contact with the people living in the vicinity of the Project site (Johnston 1962). Passing through what is now the Los Angeles area, Portola reached the San Gabriel Valley on August 2, 1769, and traveled west through a pass between two hills where they encountered the Los Angeles River and camped on its east bank near the present-day North Broadway Bridge. Father Juan Crespi, who was traveling with Portola and documenting their travels, recorded that they “entered a spacious valley, well grown with cottonwoods and alders, among which ran a beautiful river. This plain where the river runs is very extensive and ... is the most suitable site for a large settlement” (The River Project 2001). Father Crespi goes on to describe this “green, lush valley,” its “very full flowing, wide river,” the “riot of color” in the hills, and the abundance of native grapevines, wild roses, grizzly, antelope, quail, and steelhead trout. Father Crespi observed that the soil was rich and “capable of supporting every kind of grain and fruit which may be planted.” The river was named *El Rio y Valle de Nuestra Senora la Reina de Los Angeles de la Porciuncula*.

Gabrielino villages are reported by early explorers to have been most abundant near the Los Angeles River, in the area north of what is now downtown known as the Glendale Narrows, and those areas along the river’s various outlets into the ocean. Among those villages north of what is now downtown Los Angeles were *Maawnga* near present-day Griffith Park; *Totongna* and *Kawengna* in the present-day San Fernando Valley; *Hahamongna*, northeast of present-day Glendale; and, closest to the APE, the village of *Ya’angna*, in present-day downtown Los Angeles. At the time of Portola’s visit, the village of *Ya’angna* is reported to have supported a population of at least 200 (Gumprecht 1999), and was later reported to have contained anywhere from 500 to 1,500 huts, implying an even greater population (Reid 1939 [1852]). The exact location of *Ya’angna* continues to be debated, although some believe it to have been located at the site of the present-day Civic Center (McCawley 1996). This settlement, widely regarded as a precursor of modern Los Angeles, was abandoned by 1836.

Gabrielino populations were particularly devastated by early Spanish colonization efforts, such that, by the late 1800s, very few Gabrielino people remained in their native homeland. Some fled to refuges with their kin farther inland or to villages of neighboring tribes to the north or south (Kroeber 1925). Many others perished from disease and conflict with the invading Spanish, who established the Pueblo of Los Angeles in the middle of Gabrielino territory. This early colonial pueblo quickly became a major political and economic center due to its strategic location along natural transportation corridors that ran east to west and north to south.

Missions were established in the years that followed the Portola expedition, the fourth being the Mission San Gabriel Arcangel founded in 1771 near the present-day city of Montebello. By the early 1800s, the majority of the surviving Gabrielino population had entered the mission system. The Gabrielino inhabiting present-day Los Angeles County were under the jurisdiction of either Mission San Gabriel or Mission San Fernando. Mission life promised the Native Americans security in a time when their traditional trade and political alliances were failing, and epidemics and subsistence instabilities were increasing (Jackson 1999).

On September 4, 1781, twelve years after Crespi's initial visit, El Pueblo de la Reina de Los Angeles was established, not far from the site where Portola and his men camped. Watered by the river's ample flow and the area's rich soils, the original pueblo occupied 28 square miles and consisted of a central square surrounded by 12 houses and a series of 36 agricultural fields occupying 250 acres, plotted to the east between the town and the river (Gumprecht 1999). Los Angeles' original central square was located near the present-day intersection of North Broadway and Cesar E. Chavez Boulevard, less than 0.25 mile southwest of the Project APE.

An irrigation system to carry water from the river to the fields and the pueblo was the community's first priority, and it was constructed almost immediately. The main irrigation ditch, Zanja Madre, was completed by the end of October 1781. It was constructed in the area of present-day Elysian Park, and carried water south along present-day Alameda Street to the pueblo and beyond to the fields and orchards (Gumprecht 1999).

By 1786, the flourishing pueblo attained self-sufficiency, and funding by the Spanish government ceased (Gumprecht 1999). Fed by a steady supply of water and an expanding irrigation system, agriculture and ranching grew. By the early 1800s, the pueblo produced 47 cultigens. Among the most popular were grapes used for the production of wine (Gumprecht 1999). Vineyards blanketed the landscape between present-day San Pedro Street and the Los Angeles River. By 1830, an estimated 100,000 vines were being cultivated at 26 Los Angeles vineyards (Gumprecht 1999).

### ***Mexican Period (1821 to 1848)***

Alta California became a state when Mexico won its independence from Spain in 1821. Independence and the removal of economic restrictions attracted settlers to the town of Los Angeles, and it slowly grew in size and expanded to the south and west. The population nearly doubled during this period, increasing from 650 to 1,250 between 1822 and 1845 (Weber 1982:226). Until 1832, Los Angeles was essentially a military post, with all able-bodied males listed on the muster rolls and required to perform guard duty and field duty whenever circumstances required. The Mexican Congress elevated Los Angeles from pueblo to city status in 1835, declaring it the new state capital (Robinson 1979:238–239).

After independence, the authority of the Alta California missions gradually declined, culminating with their secularization in 1834. Although the Mexican government directed that each mission's lands, livestock, and equipment be divided among its converts, the majority of these holdings quickly fell into

non-Indigenous hands. Mission buildings were abandoned and fell into decay. If mission life was difficult for Native Americans, secularization was worse. After two generations of forced dependence on the missions, they were suddenly disenfranchised. After secularization, “nearly all of the Gabrielinos went north, while those of San Diego, San Luis, and San Juan overran this county, filling the Angeles and surrounding ranchos with more servants than were required” (Reid 1977 [1851]:104).

The first party of American immigrants arrived in Los Angeles in 1841, although Americans and Mexicans had previously been tied through commerce. As the possibility of a takeover of California by the United States loomed large, the Mexican government increased the number of land grants in an effort to keep the land in the hands of upper-class Californios, including the Domínguez, Lugo, and Sepúlveda families (Wilkman and Wilkman 2006:14–17). Mexican Governor Pío Pico and his predecessors made more than 600 rancho grants between 1833 and 1846, putting most of the state’s lands into private ownership for the first time (Gumprecht 1999). Having been established as a pueblo, property within Los Angeles could not be dispersed by the governor, and this task instead fell under the city council’s jurisdiction (Robinson 1979).

### ***American Period (1848 to Present)***

The United States took control of California after the Mexican/American War of 1846, and seized Monterey, San Francisco, San Diego, and the state capital, Los Angeles, with little resistance. Local unrest soon bubbled to the surface, and Los Angeles slipped from American control in 1847. Approximately 600 U.S. sailors, Marines, Army dragoons, and mountain men converged under the leadership of Colonel Stephen W. Kearney and Commodore Robert F. Stockton in early January of that year to challenge the California resistance. Hostilities officially ended with the signing of the Treaty of Guadalupe Hidalgo in 1848, in which the United States agreed to pay Mexico \$15 million for the conquered territory, which included California, Nevada, and Utah, and parts of Colorado, Arizona, New Mexico, and Wyoming. The conquered territory represented nearly half of Mexico’s pre-1846 holdings. California joined the Union in 1850 as the 31<sup>st</sup> state (Wilkman and Wilkman 2006:15).

The discovery of gold in Northern California in 1849 gave rise to the California Gold Rush, leading to an enormous influx of American citizens in the 1850s and 1860s. These “forty-niners” rapidly displaced the old rancho families, and Southern California’s prosperity in the 1850s was largely a result of the increased demand for cattle, both for meat and hides, created by the Gold Rush. Southern California was able to meet this need, and the local ranching community profited handsomely (Bell 1881: 26).

The 1850s witnessed a number of important changes for Los Angeles. An act of the state legislature incorporated the city on April 4, 1850, granting it all the rights, claims, and powers formerly held by the pueblo. In July of that year, the city elected a mayor, treasurer, assessor, and marshal, along with a seven-member Common Council. Six of the seven original members of the Common Council had been either native born or naturalized citizens of Mexico, prior to gaining American citizenship (Guinn 1915: 270–271). The Common Council voted to continue a number of the established laws of the Mexican city

council (the *ayuntamiento*), and also put in place a number of new ordinances to address new problems and concerns.

As a result of growing population and the increasing diversion of water, the once plentiful water supply provided by the Los Angeles River began to dwindle. The once extensive flood plain dried up, the lushly forested landscape had been cleared for construction materials and fuel, and the tens of thousands of head of cattle, horses, and sheep owned by ranchers had decimated the local grasses (Gumprecht 1999).

### ***The Los Angeles Water System***

For the Pueblo of Los Angeles, the *zanjas*, or publicly owned irrigation ditches, sustained the area for many years and enabled ranching and cultivation of the fertile flood plains. The *zanjas* were established by the residents' Mexican predecessors, and consisted of gravity systems, which resulted in the irrigation of lands that lay at lower elevations than the source. Lands at a higher elevation could not be irrigated by the *zanjas*. The *Zanja Madre* (Mother Ditch) diverted water from the Los Angeles River and carried it south to the agricultural lands surrounding the pueblo. Initially, there was little worry about the future water needs of the city, and no regulation of the water distribution itself. Typically, farmers would dig their own ditches from the main ditches or from the river itself. Private water carriers hauled and sold water to households for domestic use. As the pueblo grew and more water was diverted from the river, the supply began to dwindle (Gumprecht 1999).

By the mid-19th century, city officials established a system of water use fees and rules to govern the *zanjas*. They created the official city position of *zanjero*, the highest paid of any public official in Los Angeles. The duties of the *zanjero* varied, including issuance of permits for water usages, maintenance of the ditches, maintenance of the city dam, and even the early coordination of flood control work on the Los Angeles River (Gumprecht 1999).

While the *zanjas* worked well for irrigation, the water was frequently unsuitable for domestic purposes. The city had no sewer system or other outlet for its liquid waste, and the *zanjas* were being used for laundry, bathing, and trash and sewage disposal. Several efforts to pipe domestic water directly to homes were tried as early as 1864. To keep up with demand, the city allowed several private companies to be formed to provide domestic supplies of water. The city continued to oversee the irrigation system, eventually enclosing several of the *zanjas* in wooden or brick conduits and creating ornamental *zanjas* in several areas (Gumprecht 1999).

As Southern California grew, the Los Angeles River became an inadequate supply of water for the residential and industrial development that gradually displaced the farmland. With the arrival of the Southern Pacific Railroad (SPRR), the demand became so great that the Los Angeles City Water Company began tapping the river's water supply before it even reached the surface. Water supply reservoirs began to be used, and the *zanja* system was dismantled ditch by ditch (Gumprecht 1999). By 1902, the



Los Angeles municipal government took back jurisdiction of its own water needs and purchased the existing water system, which consisted of seven reservoirs and 337 miles of pipe.

Not long after, under the direction of William Mulholland, the Los Angeles Bureau of Water Works and Supply constructed the 233-mile-long Los Angeles Aqueduct. This 5-year project, completed in 1913, employed the labor of thousands of men, and brought millions of gallons of water from the Owens Valley into the San Fernando (now Los Angeles) Reservoir (Gumprecht 1999).

Land developers, drawn by cheap prices, began to purchase, subdivide, and sell off the old Ranchos to incoming Euro-American settlers. Southern California was being advertised as a paradise on earth, complete with year-round sunshine, perpetually ripe fruit, and flowers that bloomed in winter.

### ***Southern Pacific Railroad***

The SPRR has its origins in the creation of the Central Pacific Railroad. Although major cities in Northern California, such as San Francisco, Sacramento, and San Jose, were connected via railway in the 1850s and 1860s, the west as a whole remained detached from railways in the east. While working for the Sacramento Valley Railroad, Theodore D. Judah spotted a route to the east through the Sierra Nevada Mountains. Judah and a few other men formed the Central Pacific Railroad to build the western segment of the transcontinental railroad themselves. Judah had a difficult time securing financial backing, until he met Collis P. Huntington in 1861. Huntington, along with Mark Hopkins, Charles Crocker, and Leland Stanford, purchased enough stock in the company so that it could incorporate under California law (Orsi 2005: 3–7). These four men later became known as “the Big Four.”

Over the next few years, the Big Four and Judah worked furiously at raising the necessary capital by selling company stock and lobbying for federal subsidies (Orsi 2005: 9–14). In 1863, they began to lay track in Sacramento and, on May 10, 1869, the Central Pacific Railroad met the Union Pacific Railroad at Promontory, Utah, thereby creating the first transcontinental railroad (Orsi 2005: 17).

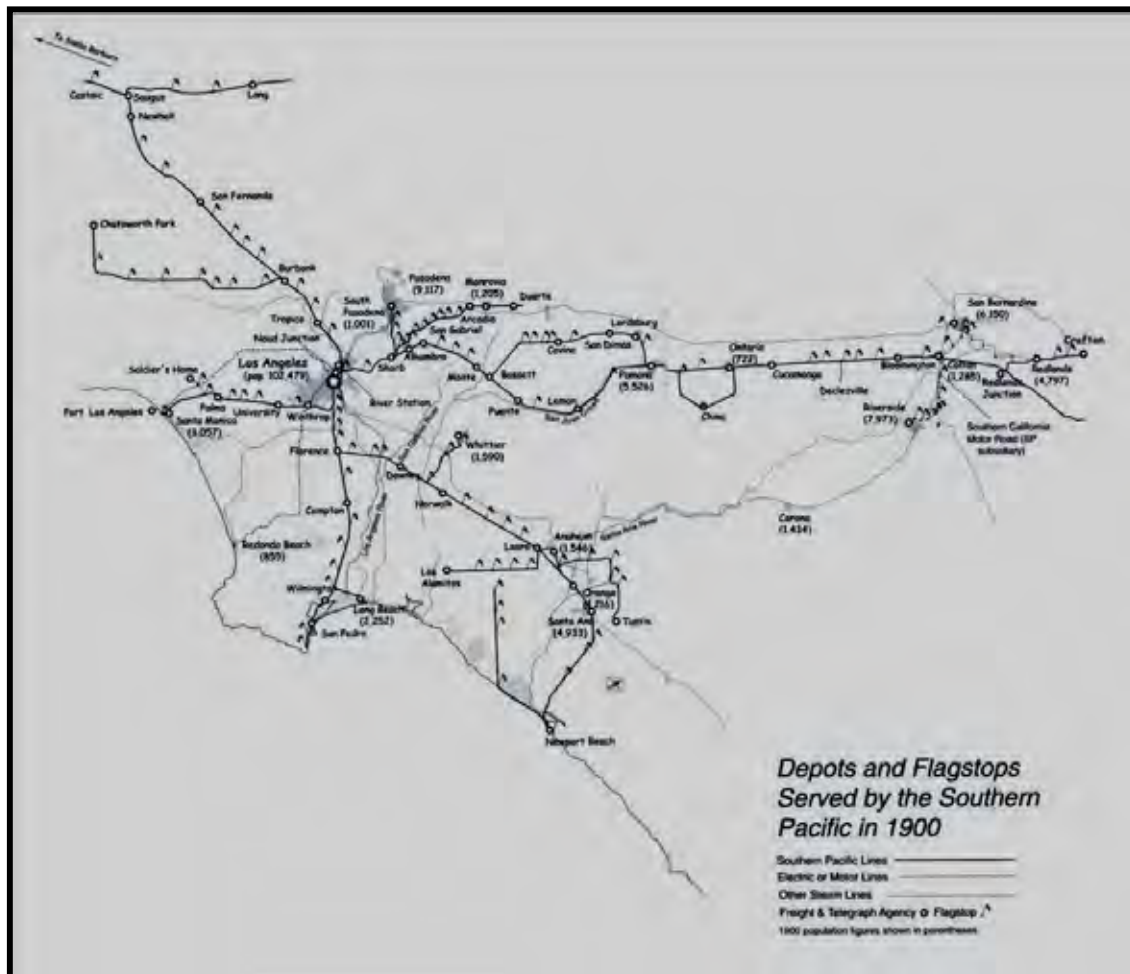
Unfortunately, the transcontinental railway failed to provide the anticipated profit margin. In an effort to expand their holdings and boost profits, the Big Four set about acquiring smaller railroads, while continuing to build new lines themselves. The Central Pacific purchased several smaller lines in Northern California and the Pacific Northwest, and the yet-to-be-constructed SPRR (Orsi 2005: 17–19).

One of the smaller railroads that the Big Four acquired was the Los Angeles & San Pedro Railroad. The SPRR had agreed in 1872 to build its line through Los Angeles in exchange for a subsidy from the city and title to the Los Angeles & San Pedro Railroad (Mullaly and Petty 2002: 13; Orsi 2005: 19–20). It was this arrangement that gave the SPRR its monopoly on goods entering Los Angeles via the wharf at Wilmington, until the construction of the Los Angeles & Independence Railroad in 1875.

The Big Four then began to construct lines to the south and southeast (Plate 1). Los Angeles was connected to northern rail lines on September 5, 1878, via a 7,000-foot-long tunnel at Newhall Pass in San Fernando. In 1883, the SPRR completed its second transcontinental railway, the Sunset Route from

Los Angeles to New Orleans (Orsi 2005: 137). The completion of a second transcontinental line in 1886 by the Santa Fe Railroad resulted in a fare war, which drove fares to an unprecedented low and population growth to an all-time high (Meyer 1981:45; Robinson 1979; Scott 2004:53; Wilkman and Wilkman 2006:33–34).

**Plate 1: Southern Pacific Railroad and Competing Routes in 1900 (modified after Mullaly and Petty 2002)**



The growing population of Los Angeles necessitated a new, deeper port. Huntington decided to move the SPRR's port services to Santa Monica for two reasons. First, the Los Angeles Terminal Railway built a competing line from Los Angeles to San Pedro in 1891 (Greenwood and Associates 1999: 8). Second, the federal government was thinking about subsidizing the construction of a deep-water port at San Pedro. Huntington, who feared the loss of his monopoly, set out to construct a new port in an area where he could physically restrict and control rail travel. Santa Monica, with its steep ocean-side cliffs, provided just such a place. The rail line and new wharf, dubbed Port Los Angeles, were completed in 1893, and

the SPRR transferred its operations from San Pedro to Santa Monica. For the next few years, Huntington lobbied for the federal subsidy to build the deep-water port at Santa Monica, while those in favor of a “free harbor” worked to get that money for San Pedro. In 1897, the government decided that San Pedro was the better choice (Scott 2004).

Collis P. Huntington died suddenly 3 years later, in 1900. Control of the SPRR passed not to his nephew Henry E. Huntington, but to Edward H. Harriman. Harriman, who controlled the Union Pacific and Illinois Central Railroads, managed to purchase 50% of SPRR stock (Orsi 2005: 33). Harriman made significant improvements to the railroad’s lines, but in 1913, anti-trust laws forced him to sever his relationship with the SPRR (Orsi 2005).

In 1918, the United States entered World War I, and the United States Railroad Administration controlled the railroads until 1922, when it was returned to corporate management (Mullaly and Petty 2002:76–77).

Between the 1920s and 1930s, the population more than doubled in Los Angeles, making it the fifth largest metropolis in the United States. Despite this, competition with local passenger lines and highways, and the rising popularity of the automobile, caused a loss of intra-California and interstate passenger railroad service revenues (Livingstone et al. 2006). To adapt to the new business environment, the railroad companies reconfigured their operations in the 1930s and 1940s. In the 1950s, the SPRR merged with the Southern Pacific Railroad Company, and then in the 1960s, it became the Southern Pacific Transportation Company. Finally, in 1996, it merged with Union Pacific Railroad, and SPRR was no more (Livingstone et al. 2006).

### ***Streets and Railroads***

Transportation, especially rail transportation, continued to be improved through the first half of the 20th century. By 1906, all the streets except Temple Street had their present names, and a new Atchison, Topeka, and Santa Fe Railroad track passed through the blocks between Temple and Ducommun Streets (Sanborn 1906). Baist Real Estate Survey maps indicate that by 1910, a steam railroad track ran down Banning Street, and by 1914, a track was added down Jackson Street (Baist 1910, 1914).

## Chapter 3 Archival Research

Archival research for this Project was conducted in September 2013 at the South Central Coastal Information Center (SCCIC) housed at California State University, Fullerton, and the Natural History Museum of Los Angeles County. The research focused on the identification of previously recorded cultural and paleontological resources within the Project APE and within a 0.5-mile radius of the Project APE (study area). A 0.5-mile buffer around the APE, as specified in the scope of work approved by Metro, is customary in California records searches, although larger or smaller buffers are appropriate at the discretion of a qualified archaeologist.

### Archaeological Records Search

The archaeological records search at SCCIC included review of previously recorded archaeological site records and reports; historic site and property inventories; and historic maps, including Sanborn Fire Insurance Maps. Inventories of the NRHP, CRHR, California State Historic Resources Inventory, California Historical Landmarks, and California Points of Interest were also reviewed to identify cultural resources within both the Project area and study area. The entirety of the Project APE has been previously surveyed and/or investigated. The records search revealed that 118 cultural resource investigations were previously conducted within 0.5 mile of the Project APE and can be found in Attachment A. These cultural resource investigations include the following:

- 18 Monitoring Reports
- 14 Assessments and/or Evaluations
- 13 Archaeological Survey Reports
- 10 Reports for Cell Towers
- 10 Cultural Studies or Investigations
- 8 Environmental Impact Statements and/or Environmental Impact Reports
- 5 Phase I Reports
- 5 Architectural and/or Historical Survey Reports
- 4 Mitigation Reports
- 4 Section 106 Reports
- 4 Records Searches and/or Evaluation Reports
- 3 Discovery and/or Monitoring Plans
- 2 Treatment Plans
- 2 Inventories
- 2 Reports on Finding Adverse Effects
- 2 Testing Reports

- 1 each of Archaeological Status Report, Paleontologic Resource Impact Mitigation Report, Report on Archaeological Findings, Report on Interested Parties Consultation, Historical Report, District Plan, Cultural Resources Overview, Report on Bone Recovery, Report on Historical Evaluation Guidelines, Determination of Eligibility NRHP Request, Environmental Site Assessment Report, and Historic American Engineering Record (HAER) Documentation Report

The records search also indicated that 76 cultural resources have been previously recorded within 0.5 mile of the Project APE. None of these resources occur within the Project APE. Of the 76 previously recorded resources, 50 of these resources are commercial, industrial, religious, ancillary, or residential buildings. The remaining 26 previously recorded resources consist of one multicomponent prehistoric groundstone and historic refuse deposit; one multicomponent site that includes Native American burials and historic Chinatown; six historic refuse deposits or scatters; five railroad- or streetcar-related resources, one of which includes stone pavement; four sites with historic refuse and structural features, one of which includes the *zanja* irrigation system; two bridge viaduct resources; Union Station; Little Tokyo; a police facilities building; the Motor Transport Division building; the Los Angeles Police Memorial; the Aoyama Tree (a Moreton Bay fig tree [*Ficus macrophylla*]); and a vacant lot that was formerly an industrial building. Attachment A summarizes these resources and their eligibility for the NRHP, CRHR, and/or local listings.

### Historic Property Data File

The Directory of Properties in the Historic Property Data File was consulted to identify historic properties within the APE. One historic property is located opposite Banning Street south of the APE. The James K. Hill & Sons Pickle Works building is located at 1001 E. First Street. Refer to Attachment A, under its Primary number 19-187722.

### California Historical Landmarks

California Historical Landmarks are buildings, structures, sites, or places that have been determined to have statewide historical interest. A search of California Historical Landmarks revealed two landmarks within 0.5 mile of the APE: the Los Angeles Plaza and the site of the Lugo Adobe, demolished in 1951, but formerly located on the southeast corner of Los Angeles and Alameda Streets. These are summarized in Table 1.

**Table 1: California Historical Landmarks within 0.5 Mile of the APE**

Monument Number (LAHCM-)	Address	Description
156	500 Block North Main Street	Los Angeles Plaza
301	Southeast Corner Los Angeles and Alameda Streets	Lugo Adobe (Site of)

### Los Angeles Historic-Cultural Monuments

Los Angeles Historic-Cultural Monuments (LAHCMs) are sites in Los Angeles that have been designated by the Los Angeles Cultural Heritage Commission. A search of the LAHCM found 10 monuments within 0.5 mile of the APE. They are summarized in Table 2.

**Table 2: Los Angeles Historic-Cultural Monuments within 0.5 Mile of the APE**

Monument Number (LAHCM-)	Address	Description
64	Cesar Chavez Avenue and Los Angeles Street and North Main Street and Plaza Park	Los Angeles Plaza Park
101	357 Aliso Street/800–850 North Alameda Street	Los Angeles Union Station Passenger Terminal and Grounds
102	1030 East Cesar Chavez Avenue	Residence
224	Cesar Chavez Avenue Between Mission and Vignes Streets	Macy Street Viaduct over the Los Angeles River
312	120–122 North San Pedro Street	Japanese Union Church of Los Angeles
313	109–119 North Central Avenue/355-369 East First Street	Los Angeles Homba Hongwanji Buddhist Temple
2309	106–120 North San Pedro Street and 301–369 East First Street	Little Tokyo Historical District
2177	900 North Alameda Street	Post Office Terminal Annex
2310	521 North Main Street, 10 Olvera Street, 100 Cesar Chavez Avenue & 535 North Main Street, 134 Plaza Street, 430 North Main Street, 500 North Main Street, 535 North Main Street, 535 North Main Street & 100–110 Cesar Chavez Avenue, Alameda/Spring/Macy & Arcadia/Old Sunset, Arcadia/Macy/Alameda & Old Sunset/Spring, Macy/Old Sunset/Spring & Alameda/Arcadia, Spring/Macy/Alameda & Arcadia/Old Sunset, Sunset Old/Arcadia & Spring/Macy Alameda, 418 North Main Street	Los Angeles Plaza Historic District

Monument Number (LAHCM-)	Address	Description
2346	800–850 North Alameda Street	Los Angeles Union Station Passenger Terminal and Grounds

### Other Archival Research

Historic maps and other documents were used to track the history of the Project APE from undeveloped countryside, through a planned but never realized residential subdivision known as the Aliso Tract, to the industrial sector that is there today.

The APE appears in 1850s maps as undeveloped lands beside the Los Angeles River. The first official map of Los Angeles, E. O. C. Ord's 1849 *Plan de la Ciudad de Los Angeles*, shows the large buildings that served as the headquarters for Jean-Louis Vignes' El Aliso winery to the northwest of the APE, where what was then El Aliso Road arced northward. The APE appears to be located in what used to be vineyards and riverine scrubland at the end of a minor road leading away from El Aliso (Ord 1849). Henry Hancock's *Map of the City of Los Angeles*, based on his 1853 surveys, presents much the same picture. Hancock included a note for the land adjacent to the Los Angeles River that was later occupied by rail lines: "sand over which the River spreads its waters which are wasted" (Hancock 1875).

By 1884, when H. J. Stevenson produced his *Map of the City of Los Angeles*, the APE had been subdivided into the Aliso Tract, of which the ADI is found in Block N (Plate 2). The streets as they are today were laid out, but many did not have their present names. Ducommun Street was known as Lazard Street east of Vignes Street. What is now Jackson Street was then known as Weill Street. Today's East Temple Street was then Turner Street. Banning and Center Streets have their present names. The First Street bridge was constructed by this time. The lands that came to be occupied by the railroad are designated city lands.

**Plate 2: Map of the City of Los Angeles (Stevenson 1884; Los Angeles Public Library Map Collection)  
(polygon indicates present Project Area of Direct Impact)**



In the 1888 Sanborn Fire Insurance maps of the APE vicinity, the railroad had been constructed east of the ADI and a residential neighborhood had sprung up. A few frame dwellings appear, with development concentrated in the south, closer to the First Street artery. There are no structures between what are now Ducommun and Jackson Streets, and only one between Jackson and East Temple Streets. The block between Banning and Turner Streets had six dwellings and other ancillary buildings.

During the 1880s, effects of the Los Angeles River were felt. During the 1884 flood, 35 homes were washed away in the Aliso Tract. Three houses belonging to a single owner were washed away on Center Street (Gumprecht 1999: 158). Inhabitants immediately began to rebuild, only to be struck by a more damaging flood in 1886. Two people were killed in the Aliso Tract during the flood of 1886, including a woman struck by a floating house near the corner of First and Center Streets (Gumprecht 1999: 161).



New levees were constructed by the railroads and the city in 1888, which allowed for further development of the Aliso Tract. Frame houses continued to be built in the APE into the 20th century (Plate 3), but most new development in the area was industrial, capitalizing on the proximity of the railroad.

**Plate 3: Pierce's Birdseye Map of Los Angeles in the late 1800s, Detail Showing APE (Pierce 1894)**



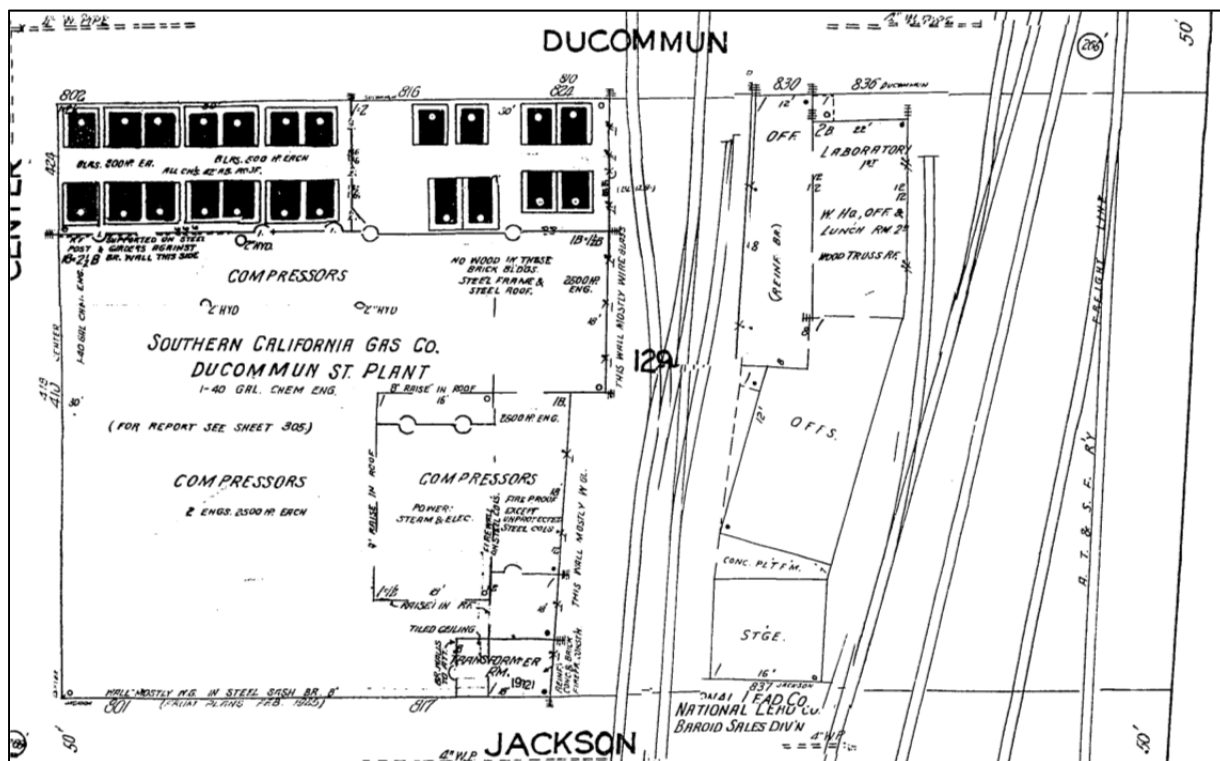
### 400 Block Center Street

The block between Jackson and Ducommun Streets was slowly built up in comparison to nearby land. In 1896, W.P. Fuller and Company's Oil Ware House occupied the northeast corner of this city block, beside the railroad tracks. Three dwellings were also located on the city block. These dwellings include a frame cabin that is not oriented to the existing streets (Sanborn 1896).

By 1906, the Los Angeles Gas & Electric Company owned half of the block between Jackson and Ducommun Streets. It operated two 1,000,000-cubic-foot gas holders on the premises. A furniture warehouse occupied a lot to the east, on the opposite side of the Atchison, Topeka, and Santa Fe Railroad tracks (Sanborn 1906).

By 1950, the two blocks between Temple Street and Ducommun Street were occupied almost exclusively by the Southern California Gas Company's Ducommun Street Plant (Plate 4) as part of its large collection of facilities stretching from East Temple Street to Alhambra Avenue. The National Lead Company possessed warehouses and offices between the railroad tracks on the 400 block, in the place formerly occupied by the furniture warehouse (Sanborn 1950).

Plate 4: 400 Block Center Street (Sanborn 1950)



In 1956, the 400 block of Center Street was reworked yet again. The Southern California Gas Company leveled the existing Ducommun Street Compressor Station, which was run by steam, to build a new gas-driven facility that would occupy half the space of the previous facility (LAT 1956). Built by Guy T. Martin & Company and designed by Los Angeles architects Allison & Rible, the new gas facility cost more than \$5 million. The new compressor station was enclosed in a 42- by 192-foot rigid frame steel building. The

renovated campus boasted the most up-to-date facilities available, including eight 2,000-horse-power compressors, an auxiliary generating plant, and a new workshop. The exterior was faced with brick on the lower portions and porcelain-enameled steel panels on the upper portions (LAT1957). The 1956 Sanborn map notes that a basement ran under most of this complex, with the apparent exception of the buildings parallel to Ducommun Street (Plate 4).

## **Sacred Lands File Search**

In September 2013, AECOM prepared a letter to Native American Heritage Commission (NAHC) staff requesting a Sacred Lands File search for the proposed Project and the immediate vicinity. This letter was provided to Metro staff for their review and submittal to the FTA and NAHC. Due to uncertainties concerning the Project description and APE at that time, the letter to the NAHC was not sent. FTA will contact the NAHC and Native American groups to initiate formal consultation in compliance with Section 106 of the NHPA and CEQA. In addition, FTA will initiate consultation with the SHPO on the basis of this assessment report and with reference to the current Project design and APE for historic and cultural properties.

## **Other Interested Parties**

Other interested parties, including historical societies, repositories, and museums, will be contacted by AECOM as part of the community outreach.

## **Paleontological Records Search**

On September 10, 2013, AECOM requested that staff from the Natural History Museum of Los Angeles County (NHM) conduct a search of its paleontological records and holdings. The request was accompanied by a Project description and a map of the APE. The search was conducted to identify any previously recorded paleontological fossils or other localities in the Project APE or vicinity, and to determine the level of paleontological sensitivity within the APE. A response was received dated October 17, 2013 (Attachment A) (McLeod 2013).

The records search indicated that there are no known NHM vertebrate fossil localities within the proposed APE; however, there are fossil localities nearby from the same sedimentary deposits. The entire APE is underlain by surficial deposits of younger Quaternary alluvium. Most of this alluvium was deposited by the Los Angeles River within the last 10,000 years. Younger Quaternary alluvium usually does not yield significant fossil vertebrates in its upper levels. However, older Quaternary alluvium dated to the Pleistocene may contain significant fossils, and is present at varying depths beneath the younger alluvium.

The NHM fossil localities closest to the APE are LACM 7701–7702 in the City of Commerce, southeast of the APE. These localities are situated near the intersection of Atlantic Avenue and the Long Beach Freeway (Interstate 710). The localities yielded fossil specimens of threespine stickleback (*Gasterosteus aculeatus*), salamander (*Batrachoseps*), lizard (Lacertilia), snake (Colubridae), rabbit (*Sylvilagus*), pocket mouse (*Microtus*), harvest mouse (*Reithrodonomys*), and pocket gopher (*Thomomys*), located 11 to 34 feet below grade (McLeod 2013).

## Chapter 4 Archaeological and Built Environment Survey

### Methods

A field survey of the Project APE was conducted by Linda Kry on April 16, 2013, and by Marc Beherec on October 16, 2013. The survey identified built-environment resources within the Project APE. The entire 400 block of Center Street and its sidewalks, and the east ends of Ducommun and Jackson Streets and their sidewalks were accessible to survey. DPR 523 forms were completed for the two historical-age built resources recorded (Attachment B).

### Results

The site survey revealed that the APE is developed with structures, paved surfaces, or prepared gravel surfaces. The only exception is a narrow swath of bare ground, approximately 10 feet wide and 40 feet long, at the east end of Jackson Street. Ground visibility was approximately 50% in this area, which was obscured by concrete barriers and modern trash. No prehistoric cultural resources were observed within the APE. Two historical-age built resources (410 Center Street and 820 E. Jackson Street) were identified within the APE.

#### 410 Center Street

This property includes Assessor's Parcel Numbers 5173021002, 5173021903, and 5173021003, and 810 East Ducommun Street. The block is enclosed by a brick fence and is the former site of the Southern California Gas Company's Ducommun Street Plant and the Ducommun Street Compressor Station. The majority of the site has been cleared and is covered with an asphalt-paved parking lot that is used for bus parking. At the northwest corner of the lot, there is a two-story, rectangular, brick industrial building (Plate 5). The building is approximately seven bays long by one bay wide, and is oriented along Ducommun Street. The south side of the building faces the parking lot. The center portion of the south side is sided with horizontally grooved metal and contains a large garage door at the ground floor and industrial windows in the upper story. The end portions of the building are brick and contain man doors and industrial windows in the first and second stories. The east side of the building is enclosed in the yard and contains a single garage door. The north and west sides of the building are incorporated into the perimeter brick wall that surrounds the yard. The north wall contains a narrow row of windows, and the west wall is blank.

The building and perimeter wall date to the late 1950s and are associated with the reconstruction of the compressor plant in 1957. This building and perimeter wall appear to be auxiliary structures to the main plant structures, which have been removed, and do not have a level of significance to meet NRHP Criterion A or CRHR Criterion 1. The structures have no known associations with important historical figures; therefore, they do not meet NRHP Criterion B or CRHR Criterion 2. These utilitarian structures do not exhibit any architectural significance, as they are simplistically designed and recently altered, and do not represent the work of a master or any unique materials or workmanship; therefore, they do not

meet NRHP Criterion C or CRHR Criterion 3. These resources are mid-20th century standing structures and do not have the potential to yield important archaeological information; therefore, they do not meet NRHP Criterion D or CRHR Criterion 4. The resource located at 410 Center Street is not eligible for the NRHP or CRHR. Demolition of these structures within the ADI would not result in any impacts on cultural resources unless ground disturbance occurs. If demolition involves ground-disturbing activities, then the archaeological recommendations described in Chapter 5 apply.

**Plate 5: Brick Industrial Building, 400 Block Center Street, View Northwest**



**820 E. Jackson Street**

Built circa 1962, the brick cold-storage building located at 820 E. Jackson Street is within the APE (Plate 6). The building is roughly two stories high with a rectangular plan approximately 12 bays long by eight bays wide. The exterior walls are brick with brick pilasters between each bay. The east and west exterior walls have no fenestration. The north wall has a wide garage door on the eastern end of the building with a sign above that reads “National Cold Storage.” The south wall is connected to other buildings associated with the National Cold Storage plant that extends beyond East Temple Street.

National Cold Storage, Inc. was a cold-storage and distribution facility, previously known as the National Ice and Cold Storage Company, which was founded circa 1880. The original National Ice and Cold Storage Company was located to the south of Temple (then Turner) Street until it expanded north in the 1950s. The cold-storage brick building is associated with the 1950s expansion of the facility. The building is an industrial structure that supported the functions of the facility, but was a later addition to the original plant, and does not have a level of significance to meet NRHP Criterion A or CRHR Criterion 1. The National Ice and Cold Storage Company was founded in the late 19th century, and this building has no known associations with important historical figures; therefore, it does not meet NRHP Criterion B or



CRHR Criterion 2. The building is a particular type of building that serves the cold-storage function of the facility, but is industrial in design and is not a unique example of the type. It does not represent the work of a master or any unique materials or workmanship; therefore, it does not meet NRHP Criterion C or CRHR Criterion 3. The building is a mid-20th-century standing structure and does not have the potential to yield important archaeological information; therefore, it does not meet NRHP Criterion D or CRHR Criterion 4. This building is not eligible for the NRHP or CRHR.

**Plate 6: 820 E. Jackson Street, from Jackson Street, View Southwest**



## Summary

Archival research and survey resulted in the identification of two historic built resources that are 45 years or older (410 Center Street and 820 E. Jackson Street). Neither resource appears eligible for the NRHP or CRHR.

Archival research and a pedestrian survey did not reveal any previously recorded or surface-visible archaeological resources in the APE. However, review of historical maps and archival records, as well as previous investigations in the vicinity of the Project, indicate the potential for encountering buried prehistoric and historical sites in the APE. As described in Project Setting, above, the Project vicinity has been continuously occupied since prehistory. The APE is next to the Los Angeles River, and less than 0.5 mile from Los Angeles Plaza, which was the heart of historic Los Angeles. A pueblo on that site, in turn, was situated at or near the site of *Ya'anga*, a prehistoric and Contact-period Gabriellino settlement.

Due to the presence of a large basement at the Southern California Gas facility, most of the historical material remaining within the ADI will probably be related to the 1950s Southern California Gas facility.

However, there is the possibility for deep earlier historical features, such as privies and wells. In addition, historical sites may underlie the north end of the site, where historic maps do not indicate the existence of a basement. In addition, prehistoric sites may lie buried beneath the levels of previous disturbance.

## Chapter 5 Management Recommendations

### Built Environment Recommendations

There are no historic properties under NEPA or NHPA, or historical resources for the purposes of CEQA within the Project APE. Therefore, no further actions are necessary for built-environment resources.

### Archaeological Recommendations

The background research and survey indicate a probability for buried archaeological resources within the APE. The APE is in the general vicinity of the Gabrielino settlement *Ya'anga*, and on the banks of an important water source, the Los Angeles River. In addition, the APE is within 0.5 mile of the Los Angeles Plaza, the historic heart of el Pueblo de Nuestra Senora la Reina de los Angeles. Also, the area has been intensively used since the late 19th century, and many of the structures in the APE date to the first half of the 20th century. Due to the movement of the Los Angeles River, archaeological resources may be deeply buried in the APE. Consequently, it is recommended that Metro retain a qualified cultural resources specialist to monitor ground-disturbing activities in soils that have not been previously disturbed. This monitor must have the authority to divert work to quickly and safely examine archaeological finds and evaluate and determine appropriate treatment for the resource in accordance with California PRC Section 21083.2(i) and Section 106 of the NHPA. To guide monitoring for the Project, a Cultural Resources Monitoring and Mitigation Plan should be developed by an archaeologist meeting the standards of the Secretary of the Interior for Archaeology.

If any Native American cultural material is encountered within the Project site, further consultation with interested Native American parties should be conducted to apprise them of any such findings and solicit any comments they may have regarding appropriate treatment and disposition of the resources. If human remains are discovered, work in the immediate vicinity of the discovery will be suspended and the Los Angeles County Coroner will be contacted. If the remains are deemed to be Native American in origin, the County Coroner will contact the NAHC, which will identify a Most Likely Descendant pursuant to PRC Section 5097.98 and California Code of Regulations Section 15064.5. Work may be resumed at the landowner's discretion, but will only commence after consultation and treatment have been concluded. Work may continue on other parts of the Project while consultation and treatment are conducted.

### Paleontological Recommendations

Surface deposits at the APE and surrounding area consist of younger Quaternary Alluvium deposited by the Los Angeles River. These deposits are younger than 10,000 years old and have a low probability of yielding scientifically significant fossils. Nevertheless, older Quaternary alluvium is expected to be present at differential depths within the APE. Older Quaternary alluvium has yielded significant vertebrate fossils in the Los Angeles Basin in the past. Consequently, ground-disturbing activities from the contact between younger and older Quaternary alluvium down to final depth should be monitored for possible buried paleontological resources by a qualified paleontological monitor. To ensure these



deposits are monitored, all ground-disturbing activities on previously undisturbed soils should be spot-checked for paleontological resources. The paleontological monitor must have the authority to divert work to quickly and safely excavate and remove significant fossil resources, or, at that individual's discretion, sediment samples. To guide monitoring for the Project, a Paleontological Resources Monitoring and Mitigation Plan should be developed by a qualified professional paleontologist.

## Project Personnel

AECOM personnel involved in the cultural resources assessment are as follows: Marc Beherec, Ph.D., Registered Professional Archaeologist (RPA), served as report author and conducted archival research and archaeological survey; M.K. Meiser, M.A., evaluated the built environment resources; Linda Kry, B.A., served as report author and conducted archival research and archaeological survey; Angela Keller, Ph.D., RPA, provided substantive editing and additional background research; Christy Dolan, M.A., RPA, performed senior review; and Tim Harris, B.A., provided graphics and GIS support.

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# **ATTACHMENT A**

## **Cultural Resources Records Search Results**

**Previous Surveys Conducted within 0.5 Mile of the Project APE**

<b>Author</b>	<b>Report (LA-)</b>	<b>Description</b>	<b>Date</b>
Anonymous	10507	Technical Report – Historical/Architectural Resources – Los Angeles Rail Rapid Transit Project “Metro Rail” Draft Environmental Impact Statement and Environmental Impact Report	1983
Anonymous	1577	Identification Study for Cultural Resources Within Proposed Metro Rail Subway Station Locations in Metropolitan, Los Angeles, CA	1985
Anonymous	2950	Consolidated Report: Cultural Resource Studies for the Proposed Pacific Pipeline Project	1992
Anonymous	3813*	An Archival Study of a Segment of the Proposed Pacific Pipeline, City of Los Angeles, California	1992
Anonymous	2966	Draft Stage I Environmental Site Assessment Eastside Extension (from Whittier Boulevard and Atlantic Boulevard Intersection to Union Station Area) Metro Red Line Los Angeles, California	1993
Anonymous	4386	Cultural Resources Overview Los Angeles County Metropolitan Transportation Authority’s Interstate Commerce Commission Abandonment Exemption Pasadena-Los Angeles Light Rail Transit Project	1993
Anonymous	3497	Draft Supplemental Environmental Impact Report Pasadena–Los Angeles Light Rail Transit Project	1994

<b>Author</b>	<b>Report (LA-)</b>	<b>Description</b>	<b>Date</b>
Anonymous	3498	Final Supplemental Environmental Impact Report Pasadena–Los Angeles Light Rail Transit Project	1994
Anonymous	9843	Final Supplemental Environmental Impact Statement/Final Subsequent Environmental Impact Report: Los Angeles East Corridor	2001
Anonymous	9844*	Draft: Los Angeles Eastside Corridor, Revised Cultural Resources Technical Report, Final Supplemental Environmental Impact Statement/Final Subsequent Environmental Impact Report	2001
Ashkar, Shahira	4834	Cultural Resources Inventory Report for Williams Communications, Inc. Proposed Fiber Optic Cable System Installation Project, Los Angeles to Anaheim, Los Angeles and Orange Counties	1999
Berger, Louis	4262	Zanja No. 3: Brick Culvert Historic American Engineering Record Documentation at the Proposed Federal Cen Complex Los Angeles, California	1987
Billat, Lorna	9395	Meyers/CA-6357A 300 Avery Street, Los Angeles, CA	2004
Bove, Frederick J.	982	Archaeological Resource Survey and Impact Assessment of a Proposed Parking Lot, Los Angeles, California	1977
Bonner, Wayne H.	8541	Cultural Resource Records Search Results and Site Visit for Cingular Telecommunications Facility Candidate 057-01 (el-005-01), DWP Equipment Yard, 433 East Temple Avenue, Los Angeles, Los Angeles County, California	2005



<b>Author</b>	<b>Report (LA-)</b>	<b>Description</b>	<b>Date</b>
Bonner, Wayne H.	9095	Cultural Resources Records Search Results and Site Visit for Cingular Candidate EI-005-02 (Devon Storage) 801 East Commercial Street, Los Angeles, Los Angeles County, California	2005
Bonner, Wayne H.	8537	Cultural Resource Records Search Results and Site Visit for T-Mobile Candidate La03612a (Alameda and Macy) 701 North Main Street, Los Angeles, Los Angeles County, California	2006
Bonner, Wayne H.	12211	Cultural Resources Records Search and Site Visit Results for T-Mobile West, LLC Candidate IE05267B (0567 Storage Space Bldg) 300 Avery Street, Los Angeles, Los Angeles County, California	2012
Brown, Joan C.	2788*	Archaeological Literature and Records Review, and Impact Analysis for the Eastside Corridor Alternative Los Angeles, California	1992
Budinger, Fred E., Jr.	6840*	Phase I Archaeological Survey Former Aliso Street Mgp Site Los Angeles, California	2003
Carnevale, Mike	11165	Draft – Environmental Impact Statement, United States General Services Administration, GSA Document Num ZCA81642/1999 Los Angeles U.S. Courthouse, Los Angeles, California	2001
Carrico, Richard L.	8026	Treatment Plan for Potential Cultural Resources Within Proposed Metro Rail Subway Station Locations in Metropolitan Los Angeles, California	1985

<b>Author</b>	<b>Report (LA-)</b>	<b>Description</b>	<b>Date</b>
Chase, Paul G.	3986	A Cultural Resources Assessment of the Plaza El Pueblo De Los Angeles State Historic Park	1981
Chase, Paul G.	3812	Archaeological Monitoring of the W-7 Ramp Project, Olvera St., El Pueblo De Los Angeles State Historic Park	1982
City of Los Angeles	3907	Historic Property Survey: Unit I Mission Road – Zonal Avenue to Marengo Street W.o. 61266, Unit Ii Mission Road, Golden State Freeway to Macy Street W.o. 61621, Unit Iii Mission Road at Macy Street W.o. 61622	1978
Costello, Julia G.	1642	Los Angeles Downtown People Mover Program Archaeological Resources Survey: Phase II Evaluation of Significance and Recommendations for Future Actions	1980
Costello, Julia G.	1643	Los Angeles Downtown People Mover Program Archaeological Resources Survey Phase 3	1981
Costello, Julia G., et. al.	11115	Final Report: Historical Archaeology at the Headquarters Facility Project Site, the Metropolitan Water District of Southern California	1999
Costello, Julia G., and Larry R. Wilcoxon	850	An Archaeological Assessment of Cultural Resources in Urban Los Angeles, California – La Placita De Dolores LAN-887	1978
Cottrell, Marie G.	2695	Report of an Archaeological and Historical Survey Conducted for 28+/- Acre Parcel Proposed for a New Central	1979
Daly, Pam, and Nancy Sikes	11642*	Westside Subway Extension Project, Historic Properties and Archaeological Resources Supplemental Survey Technical Reports	2012

<b>Author</b>	<b>Report (LA-)</b>	<b>Description</b>	<b>Date</b>
Dietler, Sara, Adela Amaral, and Linda Kry	10606	Final Archaeological Assessment for the Temple Street Widening Project, City of Los Angeles, California	2010
Dillon, Brian D.	3501	Archaeological Record Search and Impact Evaluation for the Los Angeles Wastewater Program Management Project Los Angeles, California	1990
Dillon, Brian D.	3151	Alameda District Plan, Los Angeles California: Prehistoric and Early Historic Archaeological Research	1994
Dodson, Jodie	10862	Historic American Buildings Survey James K. Hill and Sons Pickle Works (Sante Fe Lofts)	2008
Duke, Curt	4311	Cultural Resource Assessment for the Los Angeles Cellular Telephone Company, Facility Number 195, Located 333 North Mission Road, City and County of Los Angeles, California	1999
Foster, John M.	3377	No title	1996
Foster, John M.	10894	Archaeological/Historical Assessment of the Proposed Hazardous Materials Storage Building at the Central Maintenance Facility, Los Angeles	2000
Foster, John M.	5201	Archaeological Assessment of the Proposed Hazardous Materials Storage Building at the Central Maintenance Facility, Los Angeles	2001
Foster, John M.	6343	Archaeological Monitor Report: Sewer Line Trenching for the Avila Adobe Interpretive Center, El Pueblo De Los Angeles	2001

<b>Author</b>	<b>Report (LA-)</b>	<b>Description</b>	<b>Date</b>
Foster, John M.	6344	Archaeological Assessment of the Proposed Hazardous Materials Storage Building at the Central Maintenance Facility, Los Angeles	2001
Foster, John M.	7246	Santa Monica Boulevard Transit Parkway Project, Bone Recovery	2004
Foster, John M.	8513	Archaeological Inventory: Emergency Operations Center, Fire Station, and Parking Garage	2005
Foster, John M.	7546	Archaeological Monitoring Program Final Report, La Placita Renovation and Winery Restroom Project, Los Angeles, California	2006
Foster, John M., and Roberta S. Greenwood	3923	Archaeological Investigations at Maintenance of Way Facility, South Sante Fe Avenue (CA-LAN-2563h)	1998
Foster, John M., and Lynn C. Kronzek	7551	Mitigation of Impacts on an Archaeological Feature in the Winery el Pueblo De Los Angeles Historical Monument	2006
Glenn, Brian K., and Sherri Gust	10856	Cultural Resource Monitoring and Mitigation Plan for the Los Angeles County Metropolitan Transportation Authority Eastside Gold Line Transit Corridor, Los Angeles, Los Angeles County, California	2004
Goldberg, Susan K., Bradley J. Adams, Carole Denardo, Scott A. Williams, Marilyn J. Wyss, Mark C. Robinson, A. Onken, and Melinda C. Horne	6382	The Metropolitan Water District of Southern California Headquarters Facility Project the People of Yaanga?: Archaeological Investigations at CA-LAN-1575/h	1999

<b>Author</b>	<b>Report (LA-)</b>	<b>Description</b>	<b>Date</b>
Goldberg, Susan K., and Melinda C. Horne	4080	Archaeological Research Design and Treatment Plan: The Metropolitan Water District of Southern California Headquarters Facility Project	1996
Greenwood, Roberta S.	483	Archaeological Resources Survey the Proposed Downtown People Mover Project Corridor Area	1978
Greenwood, Roberta S.	3103*	Cultural Resources Impact Mitigation Program Angeles Metro Red Line Segment 1	1993
Greenwood, Roberta S.	7564	Archaeological Status Report: Collections and Reports	1998
Greenwood, Roberta S.	6837	Cultural Resources Monitoring: Northeast Interceptor Sewer Project	2003
Greenwood, Roberta S., John M. Foster, and Judith A. Rasson	2618	Historical and Archaeological Assessment of the Southern California Rapid Transit District (SCRTD) Union Station Headquarters Project	1992
Greenwood, Roberta S., and Portia Lee	4047	Transportation-Related Resources on South Sante Fe Avenue, Los Angeles	1998
Gregory, Carrie, and Margarita Wuellner	8514	Historical Assessment and Technical Report for the Proposed Public Safety Facilities Master Plan, Los Angeles, California	2004
Gurrola, Manuel	11915	Interested Parties Consultation for Union Station/Patsaouras Plaza El Monte Busway Station Project, Reference 100802A	2011
Gust, Sherry, and Amy Glover	10805	Cultural Resources Mitigation Compliance Report for the Metro Gold Line Eastside Extension, City of Los Angeles, California, for the Period 2004 to 2006	2009

<b>Author</b>	<b>Report (LA-)</b>	<b>Description</b>	<b>Date</b>
Hale, Alice E.	6359	Archaeological Monitor Report the Los Angeles Gas Works 513 North Main Street	2001
Hale, Alice E.	7555	Inspection of Auger Bore Samples for the Coyote Pass Geotechnical Project	2004
Hale, Alice E., and Scott Savastion	7558	Archaeological Monitor Report Alameda Street Improvements	2004
Hale, Alice E., and Scott Savastion	8532	Archaeological Monitor Report: the Plaza House, 507–511 North Main Street, Los Angeles, California	2004
Huey, Gene	2712	Archaeological Survey Report for the El Monte Busway Extension in the City of Los Angeles, Los Angeles County, California	1978
Huey, Gene	766	Addendum to Archaeological Survey Report for the El Monte Busway Extension in the City of Los Angeles, Los Angeles County, California	1980
Iverson, Gary	5131	Negative Archaeological Survey Report: 119910	1999
Johnson McAvoy, Christy	11242	Los Angeles Union Station, TEA-21 Improvements Section 106 Review, FTA Project Number CA-03-0504-01	2001
Kaptain, Neal	2486	Monitoring and Mapping: Union Station Utility Upgrade, CA-LAN-1575h	1991
King, Chester	3587	Prehistoric Native American Cultural Sites in Santa Monica Mountains	1994
Lee, Portia	4217	Seismic Retrofit of First Street Bridge Over the Los Angeles River	n.d.
Lee, Portia	4219	Seismic Retrofit of Macy Street Bridge Over the Los Angeles River	n.d.

<b>Author</b>	<b>Report (LA-)</b>	<b>Description</b>	<b>Date</b>
Levantez, Joel	11691	Verizon Cellular Communications Tower Site – 80 <sup>th</sup> Street, 8065 Emerson Avenue, Los Angeles, CA 9004, Results of Architectural History Survey for Verizon Cellular Communications Tower Site	2011
Lisecki, Lee	6087	The Metropolitan Water District of Southern California Headquarters Facility Project Archival Documentation for Southern Ramp and Service Wing at Union Station, Los Angeles	1996
Loftus, Shannon	11338	Cultural Resource Records Search and Site Survey, AT&T Site EL0005 (51029) Perm-Devon Storage LTE 801 E. Commercial Street, Los Angeles, Los Angeles County, California 90012, CASPR #3551015656	2011
Loftus, Shannon	11353	Historic Architectural Resource Finding of Evaluation Summary, AT&T Site (51029) Perm-Devon Storage 801 E. Commercial Street, Los Angeles, Los Angeles County, California 90012, CASPR #3551015656	2011
Loftus, Shannon	11405	Cultural Resource Records Search and Site Survey AT&T Site LAC778, 4th Street/101 Freeway, 300 ½ Avery Street, Los Angeles, Los Angeles County, California 90013 CASPR #3551015013	2011
Loftus, Shannon	11416	Historic Architectural Resource Finding of Evaluation Summary, AT&T Site LAC778, 4th Street/101 Freeway, 300 ½ Avery Street, Los Angeles County, California 90013 CASPR#3551015013	2011

<b>Author</b>	<b>Report (LA-)</b>	<b>Description</b>	<b>Date</b>
Loftus, Shannon L.	10806	Addendum-Paleontological and Cultural Resource Compliance Monitoring Report, Los Angeles County, Metropolitan Transit Authority, Eastside Gold Line Transit Corridor Project	2010
McAvoy, Christie	11125	National Center for the Preservation of Democracy, Section 106 Submittal	2002
McLean, Deborah K.	3946	Archaeological Assessment for Pacific Bell Mobile Services Telecommunications Facility La 057-03, 433 East Temple Street, City and County of Los Angeles, California	1998
McMorris, Christopher	7425	City of Los Angeles Monumental Bridges 1900–1950: Historic Context and Evaluation Guidelines	2004
Messick, Peter, and Alice E. Hale	8910	Archaeological Monitoring Report Mangrove Parking Lot Project, Los Angeles, California	2007
O’Neil, Stephen	11682	Los Angeles Union Station/MetroLink SCRRA Reconstruction of Platform 7 Project Faunal Findings Report/Cultural Resources Services	2011
Padon, Beth	5451	The VA Outpatient Clinic Project	n.d.
Padon, Beth	1609	Los Angeles Outpatient Clinic Veterans Administration Archaeological Assessment Report Phase II	1986
Padon, Beth	4263	General Services Administration Federal Center: Archaeological Assessment Report Phase 2	1986



<b>Author</b>	<b>Report (LA-)</b>	<b>Description</b>	<b>Date</b>
Ramirez, Robert S.	9283	A Phase I Cultural Resource Assessment and Vertebrate Paleontologic Assessment for the Los Angeles Department of Water and Power District Cooling Plant Distribution System Project in the City of Los Angeles, Los Angeles County, California	2007
Rehberger, Linda H., and Peter Messick	8525	Archaeological Monitoring Report, Veteran Memorial, El Pueblo De Los Angeles, Los Angeles Street and Alameda Street, Los Angeles, California	2004
Rice, Glen E.	161	Draft Environmental Impact Report Blanchard Drilling Districts and Soto Street Drill Site Standard Oil Company, California	1975
Robinson, Mark, and Karen Crawford	11765	Cultural Resources Monitoring and Discovery Plan for the Union Station/Patsaouras Plaza El Monte Busway Station Project	2012
Rogers, Leslie	11785	Final Environmental Impact Statement/Final Environmental Impact Report for the Westside Subway Extension	2012
Romani, John F.	4082	Archaeological Survey Report for the I-5 Transitway	1982
Salls, Roy A.	1770	Report of Archaeological Reconnaissance Survey of ESA Project 7217b, City of Los Angeles, Los Angeles County, CA	1989
Savastio, Scott A.	5446	Report for Monitoring: Sewer Pipe Repair at Alameda and Arcadia Streets, Los Angeles	2001
Savastio, Scott A.	5450	Archaeological Monitoring Report: Los Angeles Web Host 900 South Alameda Street, Los Angeles, California	2001

<b>Author</b>	<b>Report (LA-)</b>	<b>Description</b>	<b>Date</b>
Schmidt, James J.	5447	Archaeological Monitoring Report: 911 Dispatch Center First and Los Angeles Streets Los Angeles, California	1999
Singer, Clay A.	1476	Archaeological Surface Surveys of Three Proposed Railway Connections Downtown Los Angeles, Los Nietos/Sante Fe Springs, Colton, CA	1985
Singer, Clay A.	4048	Archaeological Surface Surveys of Three Proposed Railway Connections in Downtown Los Angeles, Los Nietos, Sante Fe Springs, and Colton, California	1985
Slawson, Dana N.	7545	Mitigation of Impacts on the Zanja Madre Archaeological Feature, La Placita	2006
Snyder, John W., Stephen Mikesell, and Pierzinski	8252*	Request for Determination of Eligibility for Inclusion in the National Register of Historic Places/Historic Bridges California: Concrete Arch, Suspension, Steel Girder and Steel Arch	1986
Speed, Lawrence	11048*	American Recovery and Reinvestment Act (ARRA) Funded Security Enhancement Project (PRJ29112359) – Improved Access Controls, Station Hardening, CCTV Surveillance System, and Airborne Particle Detection at Los Angeles Station and Maintenance Yard, LA, CA	2009
Starzak, Richard	4448	Section 106 Documentation for the Metro Rail Red Line East Extension in the City and County of Los Angeles, California	1994

<b>Author</b>	<b>Report (LA-)</b>	<b>Description</b>	<b>Date</b>
Starzak, Richard	4625	Historic Property Survey Report for the Proposed Alameda Corridor From the Ports of Long Beach and Los Angeles to Downtown Los Angeles in Los Angeles County, California	1994
Strauss, Monica	7888*	Archaeological Resources Assessment for the Proposed Public Safety Facilities Master Plan Project, City of Los Angeles, California	2004
Sylvia, Barbara	6345	Highway Project Description to Grind and Cold Plain Existing Asphalt and Concrete Pavement, Place Rubber Asphalt Concrete and Replace Existing Lane Stripes with Thermoplastic Striping on the Northbound Route 110 Northbound Route 5 Connector	2001
Tang, Bai "Tom"	10638	Preliminary Historical/Archaeological Resources Study, Southern California Regional Rail Authority (SCRRA) River Subdivision Positive Train Control Project, City of Los Angeles, Los Angeles County, California	2010
Tang, Bai "Tom"	10641	Preliminary Historical/Archaeological Resources Study, San Bernardino Line Positive Train Control Project, Southern California Regional Rail Authority, Counties of Los Angeles and San Bernardino	2010
Unknown	7178	Report on Cultural Resources Mitigation and Monitoring Activities Fluor/Level (3) Los Angeles Local Loops	2001
Unknown	11710	Regional Connector Transit Corridor Draft Environmental Impact Statement/Draft Environmental Impact Report Appendix Y Cultural Resources-Archaeology	2011

<b>Author</b>	<b>Report (LA-)</b>	<b>Description</b>	<b>Date</b>
Various	8519	The Metropolitan Water District of Southern California Headquarters Facility Project; Union Station, Los Angeles, California	1997
Warren, Keith	8969	Results of Archaeological Monitoring for the New Police Administration Building	2007
Wlodarski, Robert J.	2577	Results of Records Search Phase Conducted for the Proposed Alameda Corridor Project, Los Angeles County, California	1992
Weitze, Karen J.	2713	Aliso Street Historical Report El Monte Busway Extension in the City of Los Angeles 07-la-101 P.m.O. to .5 072 417801	1980
Wlodarski, Robert J.	2644	The Results of a Phase I Archaeological Study for the Proposed Alameda Transportation Corridor Project, Los Angeles County, California	1992
Wlodarski, Robert J.	3901	Phase I Archaeological Study: Proposed Senior Housing Project (H.U.D.) Between First, Clarence, and Utah Streets, City of Los Angeles, California	1998
Wlodarski, Robert J.	6085	A Phase I Archaeological Study for the Proposed Eugene Obregon Congressional Medal of Honor Memorial [W] Father Serra Park and El Pueblo De Los Angeles State Historic Park, City of Los Angeles, Los Angeles County, California	2003
Wlodarski, Robert J.	8523	A Phase I Archaeological Study for the Proposed Las Casitas Affordable Housing Project [1450 E. 1st Street/1158 S. Utah Street/131-175 S. Clarence/1405 E. 3rd Street], City of Los Angeles, County of Los Angeles, California	2004

Author	Report (LA-)	Description	Date
Wlodarski, Robert J.	7900	Records Search and Field Reconnaissance Phase for the Proposed Royal Street Communications Wireless Telecommunications Site La0150a (east LA/American Storage), Located at 300 South Avery Street, Los Angeles California 90013	2006
Wuellner, Margarita J.	8515	Historical Evaluation Report for the Downtown Bus Maintenance and Inspection Facility, Los Angeles, California	2005

\* Indicates study overlapping with Project APE.

#### Previously Recorded Cultural Resources – Eligibility Status

Permanent Trinomial (CA-LAN-)	P-Number (P-19-)	Description	Time Period	Eligibility Status
0007	000007	Prehistoric groundstone and ceramics and historic dump associated with Chinatown	Prehistoric; ca. 1830s–1870s; modern	Unevaluated
1575H	001575	Historic Chinatown; architectural remains, associated artifacts; Native American burials	ca. 1860–1930s	Unevaluated
	002610	Old Santa Fe Avenue, stone pavement, and street car line	1880–1914	Unevaluated
	002563	Historic refuse deposit	ca. 1860–1892	Unevaluated
	003169	Linear alignment or railroad or trolley car tracks	1880–1945	Unevaluated
	003340	Historic refuse scatter	Unknown	Unevaluated
3588	003588	Brick foundations with historic refuse deposit	1880–1914	Unevaluated

<b>Permanent Trinomial (CA-LAN-)</b>	<b>P-Number (P-19-)</b>	<b>Description</b>	<b>Time Period</b>	<b>Eligibility Status</b>
4112	004112	Historic site with historic building foundations, a section of the <i>zanja</i> irrigation system, and historic refuse deposits	1880–1945	Unevaluated
4171	004171	Site composed of historic refuse deposits, foundations, and railroad tracks	1848–1945	Unevaluated
4179H	004179	Historic refuse deposit	1914–post 1945	Unevaluated
4198H	004198	Site composed of historic refuse deposits, privies, and structural remains	1848–1945	Ineligible for CRHR
	100882	Historic refuse isolate	Unknown	Ineligible for NRHP or CRHR
	100883	Historic refuse isolate	Unknown	Ineligible for NRHP or CRHR
	100887	Historic refuse isolate	Unknown	Ineligible for NRHP or CRHR
	150194	Gothic Revival style 4th Street viaduct	1931	Eligible for NRHP determined by Section 106 process, listed in CRHR
	150195	1st Street viaduct	1927–1928	Eligible for NRHP determined by Section 106 process, listed in CRHR
	150196	Industrial building	Ca. 1900	Eligible for NRHP determined by Section 106 process, listed in CRHR and eligible for local listing
	150202	Commercial building	1926	Ineligible for NRHP, CRHR, or local designation
	167026	Commercial building	1906	Ineligible for NRHP, CRHR, or local designation
	167027	Commercial building	1910	Ineligible for NRHP, CRHR, or local designation
	167028	Commercial building	1904	Ineligible for NRHP, CRHR, or local designation

<b>Permanent Trinomial (CA-LAN-)</b>	<b>P-Number (P-19-)</b>	<b>Description</b>	<b>Time Period</b>	<b>Eligibility Status</b>
	167029	Former industrial building; demolished in 1977 and now a vacant lot	1895–1902	Ineligible for NRHP, CRHR, or local designation
	167083	Religious building	1925	Eligible for NRHP and/or CRHR
	167489	Commercial building	1908	Eligible for NRHP as a contributor to an NRHP-eligible district
	167490	Commercial building	1907	Ineligible for NRHP, CRHR, or local designation
	167492	Commercial building	1957	Ineligible for NRHP, CRHR, or local designation
	167943	Commercial building	1930	Ineligible for NRHP, CRHR, or local designation
	167499	National Register of Historic Places Inventory Nomination Form for Little Tokyo Historic District	1905–1942	Individual property determined eligible for NRHP through Section 106 and listed in CRHR
	171159	Union Station	1933	Individual property listed in NRHP by Keeper and listed in CRHR
	173336	Religious building	1938	Unevaluated
	173344	Commercial building	1940	Might become eligible for listing in NRHP
	173654	Rehabilitation commercial/industrial building	Unknown	Ineligible for NRHP
	174134	Commercial building	ca. 1900	Ineligible for NRHP
	174941	Dormitory buildings	1942	Eligible for local listing only; listed or eligible separately under local ordinance
	174978	Industrial building	1907	Eligible for listing in NRHP as a separate property

<b>Permanent Trinomial (CA-LAN-)</b>	<b>P-Number (P-19-)</b>	<b>Description</b>	<b>Time Period</b>	<b>Eligibility Status</b>
	174979	Commercial building	1934	Eligible for NRHP to person completing or reviewing form
	176183	Commercial/industrial building	Unknown	Ineligible for NRHP and local listing
	186110	Union Pacific Railroad	ca. 1869	Eligible for NRHP
	186112	Southern Pacific Los Angeles Division; Union Pacific Railroad	1874–1877	Ineligible for NRHP
	186882	Police facilities building	1952–1955	Appears eligible as a contributor to a fully documented district
	186883	Motor Transport Division	1958	Appears eligible as a contributor to a fully documented district
	186884	Vacant commercial building	1952	Ineligible for NRHP
	186888	The Los Angeles Police Memorial	1971	Appears eligible as a contributor to a fully documented district
	186944	Banning Street railroad spur tracks	Early 1900s	Ineligible for NRHP
	186945	Industrial building	1946–1973	Ineligible for NRHP
	187722	Industrial building	1888	Eligible for listing in NRHP as a separate property
	188195	Industrial building	1913	Ineligible for NRHP; not assessed for CRHR or local designation
	188242	Industrial building	1902–1966	Ineligible for NRHP
	188247	Industrial building	1939–1944	Ineligible for NRHP by keeper
	188248	Multi-family property	1926	Ineligible for NRHP by keeper
	188249	Commercial building	1920	Ineligible for NRHP by keeper
	188250	Industrial building	1937	Ineligible for NRHP by keeper



<b>Permanent Trinomial (CA-LAN-)</b>	<b>P-Number (P-19-)</b>	<b>Description</b>	<b>Time Period</b>	<b>Eligibility Status</b>
	188791	Industrial building	1955	Ineligible for NRHP by keeper
	188792	Industrial building	1946	Ineligible for NRHP by keeper
	190515	Commercial building	1897	Ineligible for NRHP
	190516	Commercial building	1909	Ineligible for NRHP
	190521	Industrial building	1913	Eligible for listing in NRHP as a separate property
	190522	Commercial building	ca. 1907	Ineligible for NRHP
	190523	Commercial building	1964	Ineligible for NRHP
	190524	Commercial building	1909	Ineligible for NRHP
	190526	Commercial building	1965	Ineligible for NRHP
	190527	Commercial building	1965	Ineligible for NRHP
	190529	Commercial building	1964	Ineligible for NRHP
	190530	Commercial building	1938	Ineligible for NRHP
	190531	Commercial building	1985	Ineligible for NRHP
	190532	Commercial building	ca. 1913	Eligible for listing in NRHP as a separate property
	190533	Commercial building	1913	Ineligible for NRHP
	190535	Commercial building	1913	Ineligible for NRHP
	190536	Commercial building	1931	Ineligible for NRHP
	190538	Commercial building	1885	Ineligible for NRHP
	190539	Aoyama Tree; 50-foot high "rubber" tree	1920	Appears eligible for CRHR
	190542	Retail/hotel building	1910	Ineligible for NRHP
	190543	Ancillary building	ca. late 1960s	Ineligible for NRHP
	190546	Commercial building	1910–1926	Ineligible for NRHP
	190549	Commercial building	1967	Ineligible for NRHP
	190550	Industrial building	1947	Ineligible for NRHP

## **ATTACHMENT B**

# **Paleontological Records Search Results**

Natural History Museum  
of Los Angeles County  
900 Exposition Boulevard  
Los Angeles, CA 90007  
tel 213.763.DINO  
www.nhm.org



Vertebrate Paleontology Section  
Telephone: (213) 763-3325  
FAX: (213) 746-7431  
e-mail: [smcleod@nhm.org](mailto:smcleod@nhm.org)

17 October 2013

AECOM  
515 South Flower Street, 9<sup>th</sup> Floor  
Los Angeles, CA 90071

Attn: Marc Beherec, Archaeologist

re: Paleontological resources for the proposed LACMTA Emergency Operations Control Center Project, AECOM Project Number 60306346, in the City of Los Angeles, Los Angeles County, project area

Dear Marc:

I have conducted a thorough search of our paleontology collection records for the locality and specimen data for the proposed LACMTA Emergency Operations Control Center Project, AECOM Project Number 60306346, in the City of Los Angeles, Los Angeles County, project area as outlined on the portion of the Los Angeles USGS topographic quadrangle map that you sent to me via e-mail on 10 September 2013. We do not have any vertebrate fossil localities that lie directly within the proposed project area, but we do have localities nearby from the same sedimentary deposits that occur in the proposed project area.

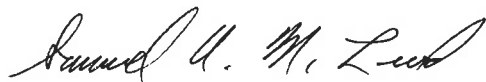
The entire proposed project site area has surficial deposits of younger Quaternary Alluvium, primarily derived as fluvial deposits from the flood plain of the Los Angeles River, which currently flows in a concrete channel immediately to the east. These younger Quaternary deposits usually do not contain significant fossil vertebrates, at least in the uppermost layers, but the underlying older Quaternary deposits found at varying depths may well contain significant vertebrate fossils.

Our closest vertebrate fossil localities are LACM 7701-7702, southeast of the proposed project area in the City of Commerce near the intersection of Atlantic Avenue and the Long Beach Freeway (I-710) that produced fossil specimens of threespine stickleback, *Gasterosteus aculeatus*, salamander, *Batrachoseps*, lizard, Lacertilia, snake, Colubridae, rabbit, *Sylvilagus*, pocket mouse, *Microtus*, harvest mouse, *Reithrodontomys*, and pocket gopher, *Thomomys*, 11 to 34 feet below grade.

Surface grading or very shallow excavations in the proposed project area are unlikely to encounter significant fossil vertebrates. Deeper excavations that extend down into older Quaternary deposits, however, may well uncover significant vertebrate fossil remains even at a relatively shallow depth. Any substantial excavations in the proposed project area, therefore, should be monitored closely to quickly and professionally collect any vertebrate fossil remains without impeding development. Any fossils collected during mitigation activities should be placed in an accredited scientific institution for the benefit of current and future generations.

This records search covers only the vertebrate paleontology records of the Natural History Museum of Los Angeles County. It is not intended to be a thorough paleontological survey of the proposed project area covering other institutional records, a literature survey, or any potential on-site survey.

Sincerely,

A handwritten signature in cursive script, reading "Samuel A. McLeod". The signature is written in dark ink and is positioned above the typed name.

Samuel A. McLeod, Ph.D.  
Vertebrate Paleontology

enclosure: invoice

# **ATTACHMENT C**

## **DPR Forms**

State of California — The Resources Agency  
DEPARTMENT OF PARKS AND RECREATION  
**PRIMARY RECORD**

Primary #  
HRI #  
Trinomial  
NRHP Status Code

Other Listings  
Review Code

Reviewer

Date

Page 1 of 3

\*Resource Name or #: 410 Center Street

**P1. Other Identifier:** Southern California Gas Ducommun Street Plant

**\*P2. Location:**  Not for Publication  Unrestricted

**\*a. County:** Los Angeles

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

**\*b. USGS 7.5' Quad:** Los Angeles

**Date:** 2012 T ; R ; ¼ of ¼ of Sec ; **B.M.**

**c. Address:** 410 Center Street

**City:** Los Angeles, CA

**Zip:** 90012

**d. UTM: Zone:** 11S; 386380 mE/ 3768553 mN (G.P.S.)

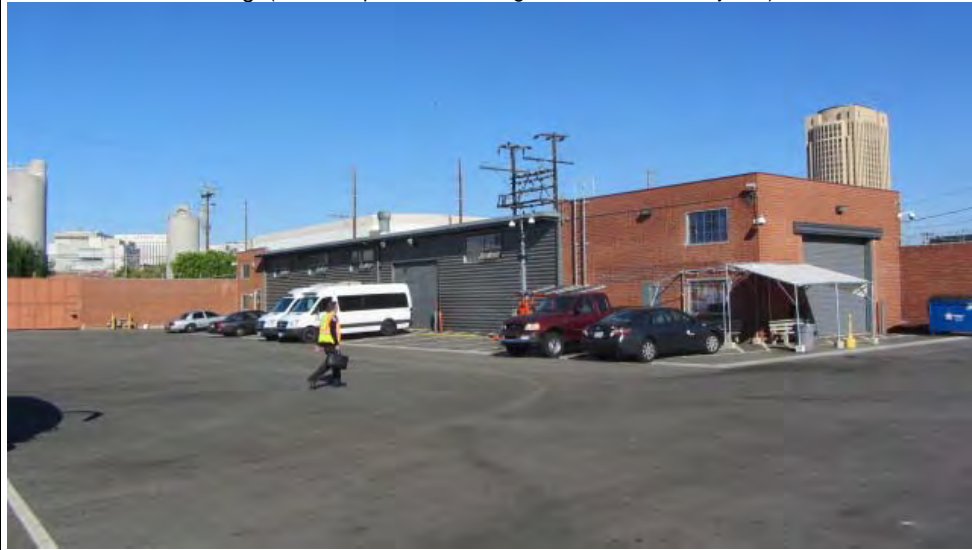
**e. Other Locational Data:** (e.g., parcel #, directions to resource, elevation, etc., as appropriate) Elevation: 270 feet  
Southeast corner of Center Street and Ducommun Street. Assessor's Parcel Number 5173-021-905.

**\*P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)  
The property is enclosed by a brick fence and is the former site of the Southern California Gas Company's Ducommun Street Plant and the Ducommun Street Compressor Station. The majority of the site has been cleared and is covered with an asphalt-paved parking lot that is used for bus parking. At the northwest corner of the lot, there is a two-story, rectangular, brick industrial building. The building is approximately seven bays long by one bay wide, and is oriented along Ducommun Street. The south side of the building faces the parking lot. The center portion of the south side is sided with horizontally-grooved metal and contains a large garage door at the ground floor and industrial windows in the upper story. The end portions of the building are brick, and contain man doors and industrial windows in the first and second stories. The east side of the building is also enclosed in the yard, and contains a single garage door. The north and west sides of the building are incorporated into the perimeter brick wall that surrounds the yard. The north wall contains a narrow row of windows, and the west wall is blank.

**\*P3b. Resource Attributes:** (List attributes and codes) HP8—Industrial Building. HP46—Walls.

**\*P4. Resources Present:**  Building  Structure  Object  Site  District  Element of District  Other (Isolates, etc.)

P5a. Photo or Drawing (Photo required for buildings, structures, and objects.)



**P5b. Description of Photo:** (View, date, accession #) Brick Industrial Building at 410 Center Street, View Northwest, October 16, 2013

**\*P6. Date Constructed/Age and Sources:**  Historic

Prehistoric  Both  
Ca. 1957 (LAT 1956, 1957)

**\*P7. Owner and Address:**

Los Angeles County Metropolitan Authority  
1 Gateway Plaza  
Los Angeles, CA 90012

**\*P8. Recorded by:** (Name, affiliation, and address)

M.K. Meiser, M.A.  
Marc A. Beherec, Ph.D., RPA  
AECOM  
515 S. Flower St., 8th Floor  
Los Angeles, CA 90071

**\*P9. Date Recorded:** August 7, 2014

**\*P10. Survey Type:** (Describe) Intensive survey.

**\*P11. Report Citation:** (Cite survey report and other sources, or enter "none.")

Marc A. Beherec, M.K. Meiser, Linda Kry, and Angela H. Keller. 2014. Cultural Resources Assessment for the Metro Operations Control Center Project, Los Angeles, California. Los Angeles: AECOM.

**\*Attachments:**  NONE  Location Map  Sketch Map  Continuation Sheet  Building, Structure, and Object Record  
 Archaeological Record  District Record  Linear Feature Record  Milling Station Record  Rock Art Record  
 Artifact Record  Photograph Record  Other (List):

# BUILDING, STRUCTURE, AND OBJECT RECORD

Page 2 of 3

\*NRHP Status Code 6Z

\*Resource Name or # (Assigned by recorder) 410 Center Street

B1. **Historic Name:** Southern California Gas Company Ducommun Street Plant.

B2. **Common Name:** 410 Center Street.

B3. **Original Use:** Site was used to pump natural gas into distribution pipes; exact purpose of building is unknown, but it was an ancillary building to the main plant structures, which have been removed.

B4. **Present Use:** County offices.

\*B5. **Architectural Style:** Utilitarian Industrial.

\*B6. **Construction History:** (Construction date, alterations, and date of alterations)

In 1956-1957, the Southern California Gas Company's Ducommun Street Compressor Station was leveled, and an entirely new facility built on the site (LAT 1956, 1957). This building dates to that 1957 rebuilding. At an unknown later date, all the buildings and structures at the site, with the exception of this building and the brick wall which surrounds the site, were demolished. The building appears to have several post-construction modifications, including a bricked-up doorway in its north wall to Ducommun Street and a bricked-up window in its west wall facing Center Street, but these cannot be dated with certainty.

\*B7. **Moved?**  No  Yes  Unknown **Date:** **Original Location:**

\*B8. **Related Features:** A brick fence of poor integrity bounds this parcel and adjacent assessors parcels 5173-021-903 and 5173-021-906 on the north and west. Cinder block and metal fencing of an apparently later date bounds the south and east. The brick portion of the fence appears to date to the 1956-1957 building period.

B9a. **Architect:** Allison and Rible (George B. Allison & Ulysses Floyd Rible)

B9b. **Builder:** Guy T. Martin & Co., Inc.

\*B10. **Significance:** Theme Energy/Utilities Area Los Angeles

Period of Significance c. 1957 Property Type Industrial Applicable Criteria N/A

(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.) The building and perimeter wall date to the late 1950s, and are associated with the reconstruction of the Southern California Gas Company's Ducommun Street compressor plant in 1957. This building and perimeter wall appear to be ancillary structures to the main plant structures, which have been removed, and do not have a level of significance to meet NRHP Criterion A or CRHR Criterion 1. The structures have no known associations with important historical figures; therefore, they do not meet NRHP Criterion B or CRHR Criterion 2. These utilitarian structures do not exhibit any architectural significance, as they are simplistically designed and recently altered, and do not represent the work of a master or any unique materials or workmanship; therefore, they do not meet NRHP Criterion C or CRHR Criterion 3. These resources are mid-20th century standing structures and do not have the potential to yield important archaeological information; therefore, they do not meet NRHP Criterion D or CRHR Criterion 4. It is not eligible for the NRHP or CRHR.

B11. **Additional Resource Attributes:** (List attributes and codes) HP8—Industrial Building. HP46—Walls.

\*B12. **References:**

Los Angeles Times (LAT).

1956 Big Project Announced: New \$5,000,000 Facility Slated by Gas Company. 29 April: E1.

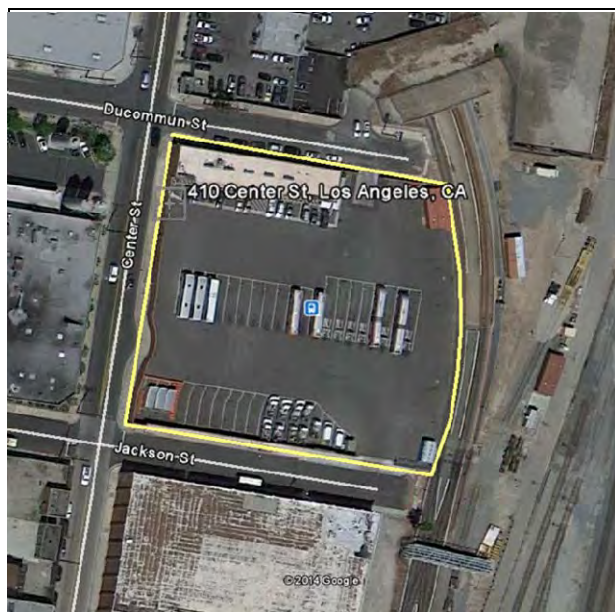
1957 Open House Event Planned for New Gas Company Plant. 9 June: G14.

B13. **Remarks:**

\*B14. **Evaluator:** M.K. Meiser, M.A.

\*Date of Evaluation: August 7, 2014

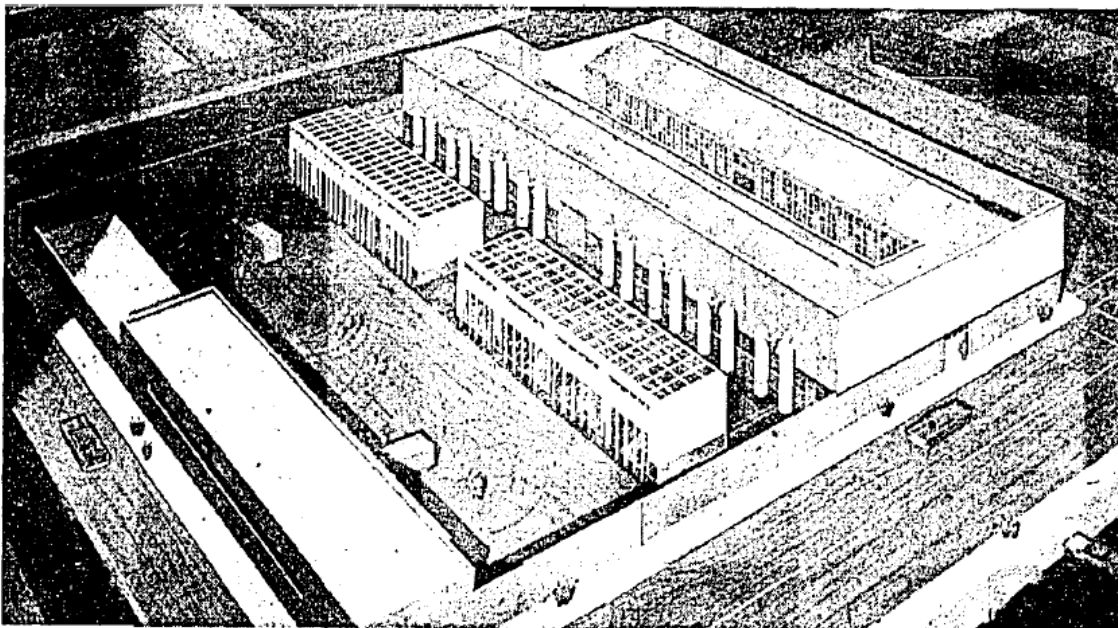
(This space reserved for official comments.)







410 Center Street and Brick Wall, View Southeast.



**IMPROVEMENT PROGRAM** – Architect's sketch above, depicts Southern California Gas Co.'s Ducommun St. compressor station as it will look on com-

pletion of \$5,000,000 modernization program. Consulting architects for project are Allison & Ribble. Engineering and construction by Guy T. Martin & Co.

The Ducommun Street Plant (including 410 Center Street) in an architect's conceptual sketch (LAT 1956). The evaluated building is in the lower left hand corner.



## Appendix D

# Hazardous Materials Technical Memorandum

**Since the commencement of the proposed Project, the project description was updated and some project elements changed. Specifically the building footprint was reduced within the Project site (See Figure 3 in the IS/MND). The conclusions of this technical analysis that was completed for the larger building continue to apply to the updated, smaller building. The updated project description includes building a four-story, 100,000 square foot building within the existing Metro site, with one level of underground parking. The larger project description in this technical analysis was 104,000 square feet. Additionally, the name of the Project was changed from Operations Control Center (OCC) to the current Emergency Security Operations Center (ESOC). No other project elements were changed other than the reduction in building footprint and total square footage. Therefore it was not necessary to revise this Hazardous Materials Technical Memorandum as the original findings of no impact still apply.**

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## Memorandum

Metro proposes to build a new multi-modal Operations Control Center (OCC) on the project site, located at 410 Center Street, an industrial area in downtown Los Angeles. Metro currently owns the project site and uses it for bus storage, bus layover, and conducts bus operator training on-site. The surrounding industrial and manufacturing area is bound by the Los Angeles River and Interstate 101 freeway. The City of Los Angeles zoning code for the project site is designated as heavy manufacturing.

This memo is based on a number of previous hazardous materials investigations of the project site performed in 2012 (listed below). No new hazardous materials testings were performed as part of this technical memorandum analysis. Instead, a summary of on-site conditions is provided based on recently completed hazardous materials investigations by Metro.

Block N was purchased in 1902 by Los Angeles Gas and Electric Company. The operations at the property included gas compression and warehouse storage. Two aboveground gasholders were constructed prior to 1905. The two gasholders were removed in approximately 1920. New structures were built including generators, gas compressors used for gas compression and transmission, blowers for gas transmission, and warehouses. The newer facilities were used in support of butadiene production. Following the demolition of the butadiene facilities in the early 1950s, various operations occurred at the property including crude oil storage.<sup>1</sup>

TRC prepared for Metro a *Technical Review of Onsite Conditions* (August 2012), which summarizes the historical environmental assessments, investigations, and human health risk assessments prepared for the subject property. Site-specific investigations previously performed at the Site were found in the following documents:

- Preliminary Endangerment Assessment, Earth Tech (date unknown)
- Remedial Investigation Report, Earth Tech (2003)
- Supplemental Sampling in the Northwest Corner, Tetra Tech Master Remedial Investigation (2002)

- Soil Gas Verification Report, Avocet Environmental (2007)

The following documents contained information pertaining to Human Health Risk assessments that were previously performed for the site.

- Focused Risk Assessment for Sector C – Block N, Tetra Tech (2003)
- Remedial Action Workplan Sector C (Block N), Tetra Tech (2004)
- Removal Action Completion Report, Revised, Tetra Tech (2006)
- Soil Gas Human Health Risk Evaluation (included as part of the 2007 Avocet Soil Gas Verification Sampling Report), McDaniel Lambert, Inc. (2007)

The Contaminants of Potential Concern (COPC), based on soil gas survey results, indicate the presence of dicyclopentadiene and chlorinated compounds (Tetrachloroethylene, Trichloroethane, and Trichloroethene), benzene, toluene, ethylbenzen, and xylene (BTEX) compounds and methyl tertiary-butyl ether (MTBE). Near-surface soils (i.e., less than 5 feet below ground surface) were impacted with benzene and Polycyclic Aromatic Hydrocarbons (PAHs). Volatile organic compounds (BTEX, 1,2,4-trimethylbenzene, vinyl chloride), naphthalene, and semi-volatile organic compounds (SVOCs) were detected in ground water.

The Department of Toxic Substances Control (DTSC) has overseen the investigation and cleanup of this property under the Voluntary Cleanup Agreements with The Gas Company (Sempra Energy) and The Greenwald Company. On November 3, 2006, DTSC approved the Removal Action Completion Report dated October 30, 2006, which concluded that all contaminated soils in the northwest portion of the site have been excavated and removed. Due to the presence of residual chemicals, a land use covenant (LUC) was signed on November 28, 2007, which The Greenwald Company agreed to implement. The LUC prevents certain sensitive uses and includes an Operation and Maintenance (O&M) Plan. The O&M Plan specifies engineering controls required to ensure safe commercial and multi-residential use of the subject property.<sup>2</sup>

DTSC certified that the Removal Action Workplan dated June 2004 had been satisfactory implemented and the LUC was recorded with the County of Los Angeles on December 5, 2007. The DTSC's letter dated December 14, 2007 states that the LUC does not restrict commercial and industrial land uses on the site. The LUC does prevent sensitive uses such as: hospital for humans, a public or private school for persons under 21 years of age, a day care center for children, a single family residence and a ground-floor residence (in a basement or first floor above slab-on-grade).<sup>3</sup>

Specifically, the LUC lists the following prohibited uses and requirements:

- Hospital, public or private school for persons under 21, day care center, raising of food, and elder care center are prohibited
- No excavation of contaminated soils without DTSC review and approval
- No groundwater extraction at any depth without approval
- Notify DTSC prior to development, prior to subsurface work, after change of property owner, and damages to remedy and monitoring system upon discovery

- Activities prohibited which disturb the remedy and monitoring systems without approval
- Prepare a Health and Safety Plan prior to subsurface work

According to the DTSC inspector, “the remedy currently protects human health and the environment” and “based on the aforementioned findings of the five-year review site inspection and technical assessment, the following tasks are recommended: no changes at this time.”<sup>4</sup>

Metro proposes to build a new operations control center on the property site. The first phase in the construction of the OCC project would begin with the demolition of the existing two-story building on the site along with removal of the asphalt/ concrete cover. The proposed project consist of a multi-story (maximum 4 stories) building with a subterranean parking garage (of approximately 150 spaces), and necessary utilities. The proposed maximum 4-story building will house a new Emergency Operations Center (EOC), a new Rail Operations Center (ROC), and a new Bus Operations Center (BOC) with the existing EOC, ROC, and BOC facilities to serve as a satellite or redundant facilities. The proposed project would be consistent with current zoning and the provisions of the land use covenant (LUC).

The following actions are planned to ensure the surrounding community is protected from contamination during construction and operation of the proposed project.

### **Construction**

Per the Land Use Covenant Agreement (DTSC, 2007), soil disturbances greater than 10 feet below ground surface requires the parcel owner (currently Metro) to notify the DTSC of any building, filling, grading, mining or excavating in the Property or any portion of the property<sup>4a</sup>. The parcel owner is also to prepare and submit to DTSC a Soils Management Plan and Site Health and Safety Plan prior to the start of any soil disturbance activity. TRC (2012) indicated that based on historical environmental assessments, investigations, and human health risk assessments for the property, potential risks associated with exposures to site-related COPC during construction or subsurface utility maintenance activities are within the range of risks that are generally considered to be acceptable for similar exposure conditions.<sup>5</sup>

The Soils Management Plan and Site Health and Safety Plan typically include provisions for further reducing potential construction worker exposures to COPC in soil and for the segregation, management and disposal of soil excavated during site development activities. The Soils Management Plan also typically includes processes for monitoring and sampling and offsite disposal in accordance with local, State and federal requirements. Metro will develop the appropriate contents of these plans when it coordinates with the DTSC during project execution.

The hazardous materials to be used during project demolition and construction include gasoline, diesel fuel, oil, and lubricants as well as minimal amounts of cleaners, solvents, adhesives, and paint materials. No acutely hazardous materials would be used or stored onsite during construction. Demolition of the existing two-story building will include an asbestos and lead based paint (LBP) survey to identify materials containing asbestos and LBP prior to the start of demolition work. Asbestos and LBP will be removed, segregated and disposed by licensed contractors in accordance with local, State, and federal requirements.

The contractor will submit for Metro's approval a Contractor Generated Waste Handling Plan to ensure the proper handling, transport, and disposal of contractor generated waste. Contractor generated waste may include small quantities of spilled fuel oil and grease drippings from construction equipment may occur during construction. Such materials generally have a low relative risk to human health and the environment. If there is a large spill, the spill area will be bermed or controlled as quickly as is practical to minimize the footprint of the spill. Contaminated soil and materials produced during cleanup of a spill will be placed into drums for offsite disposal in accordance with local, State, and federal requirements. If a spill or leak into the environment involves hazardous materials equal to or greater than the specific reportable quantity, Metro will notify the appropriate federal, State, and local reporting requirements.

Most of the hazardous waste generated during construction, such as unused or off specification paint and primer, paint thinner, solvents, and vehicle and equipment maintenance-related materials, can be recycled. Empty containers (i.e., drums and totes) will be returned to vendors, if possible. The small quantities of hazardous waste that cannot be recycled are not expected to significantly impact the capacity of the Class I landfills located in California.

Solid waste generated from construction activities may include scrap lumber, plastic, metal, glass, asphalt and concrete, and empty non-hazardous material containers. Typical management practices for this material include recycling when possible, proper storage of waste to prevent wind dispersion, and routine pick-up and disposal of waste to approved local Class III landfills. Solid wastes from construction are not expected to significantly impact the capacity of the Class III landfills in the County of Los Angeles. Best management practices for handling of such waste will be addressed and included in the Project Sustainability Plan.

Wastewater generated at the construction site will include sanitary wastes, dust suppression drainage, and equipment wash water. Construction-related sanitary wastes, collected in portable self-contained chemical toilets, will be pumped periodically. Detailed handling will be addressed in the Contractor Generated Waste Handling Plan. Temporary construction impacts will be isolated to the project site.

Best management practices (BMPs) will be implemented and consistent with hazardous materials and hazardous waste storage, handling, emergency spill response, and reporting. As a result of the implementation of the above procedures and coordination with DTSC, impacts associated with the proposed project during construction would not be significant. Additionally, Metro has a Green Construction Policy to reduce the air quality emissions and Recycling and Reuse Policy to reduce waste generation from this site.

### **Operations:**

As the project transitions from construction to operations, Metro will continue to implement and adhere to the requirements of the LUC and the O&M Plan. In the event maintenance activities require soil disturbance, Metro will coordinate with DTSC regarding the appropriate maintenance activities, as required by the land use covenant agreement.

Based on the summary of remedial activities and human health risk assessments prepared by TRC in 2012, potential risks associated with exposures to site-related COPC during subsurface utility

maintenance activities are within the range of risks that are generally considered to be acceptable, per land use restrictions, for similar exposure conditions.<sup>6</sup>

With the exception of subsurface utility maintenance activities, direct contact with soil (i.e., soil ingestion and dermal contact) is unlikely to occur once the proposed project is operational. Potential risks associated with exposures to site-related COPC during future construction or subsurface utility maintenance activities are within the range of risks that are generally considered to be acceptable for similar exposure conditions.<sup>7</sup>

Since the proposed project includes construction of a multistory building, the proposed project will require, per City of Los Angeles Methane Mitigation requirements, installation of a soil vapor barrier or other engineering control to limit the potential migration of VOCs into the multistory building's indoor air. The results of vapor intrusion modeling and human health risk assessments for the commercial/industrial land use scenario suggest that potential exposures and risks are within the range of acceptable risks for the defined land use as typically applied by the DTSC and U.S. Environmental Protection Agency.<sup>8</sup> Metro would obtain the appropriate approvals (e.g., DTSC, City of Los Angeles) for installation of the appropriate engineering controls to protect human occupants from vapor intrusion, when necessary.

The operation of the multistory building is expected to generate sanitary wastewater, non-hazardous wastes, and small quantities of hazardous wastes.

Hazardous wastes and unused hazardous materials are not expected during normal operations, rather maintenance activities by contractors may require the periodic use of hazardous materials. Contractors will remove wastes generated and unused hazardous materials as part of their work obligations. Hazardous waste and unused hazardous materials will not be stored on site.

Universal wastes (e.g., florescent lamps and batteries) and unusable materials will be handled, stored and managed per California Universal Waste Requirements.

Non-hazardous solid wastes generated during operation of the proposed project will include solid waste from routine maintenance (e.g., used air filters), and office and domestic wastes. Maintenance-derived wastes will be recycled to the extent practical. Those maintenance-derived wastes that cannot be recycled will be transported for disposal at a Class III landfill. Domestic wastes, including office paper, newsprint, aluminum cans, plastic, and glass containers and other non-hazardous solid waste material, will be recycled to the extent practical. The remaining solid wastes will be removed on a regular basis for disposal at a Class III landfill.

Best management practices (BMPs) will be implemented and consistent with hazardous materials and hazardous waste storage, handling, emergency spill response, and reporting. As a result of the implementation of the above procedures, impacts associated with the proposed project during the operation phase would not be significant.

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<sup>1</sup> DTSC, Envirostor ID 60000170, [www.envirostor.dtsc.ca.gov](http://www.envirostor.dtsc.ca.gov), reviewed July 10, 2014.

<sup>2</sup> DTSC, Site Certification, 410 Center Street, Former Aliso Street MGP Facility, Sector C, Block N, Los Angeles County Assessor's Parcels 5173-021-002 and 5173-021-003, December 11, 2007

<sup>3</sup> DTSC, Site Certification, 410 Center Street, Former Aliso Street MGP Facility, Sector C, Block N, Los Angeles, December 14, 2007

<sup>4</sup> DTSC, 5 Year Review Report, September 12, 2012

<sup>4a</sup> DTSC, Covenant to Restrict Use of Properties Environmental Restriction, Re: County of Los Angeles APN 51730021-002 and 5173-021-003, 410 North Center Street,, Los Angeles California, DTSC Site Codes 301001-11 and 301333-11

<sup>5</sup> TRC, Metro Emergency Operations Center, 410 Center Street, Los Angeles, California, Former Aliso Street MGP Facility, Sector C, Block N, Technical Review of Onsite Conditions, August 8, 2012

<sup>6</sup> TRC, Metro Emergency Operations Center, 410 Center Street, Los Angeles, California, Former Aliso Street MGP Facility, Sector C, Block N, Technical Review of Onsite Conditions, August 8, 2012

<sup>7</sup> TRC, Metro Emergency Operations Center, 410 Center Street, Los Angeles, California, Former Aliso Street MGP Facility, Sector C, Block N, Technical Review of Onsite Conditions, August 8, 2012

<sup>8</sup> TRC, Metro Emergency Operations Center, 410 Center Street, Los Angeles, California, Former Aliso Street MGP Facility, Sector C, Block N, Technical Review of Onsite Conditions, August 8, 2012

## Appendix E

# Mitigation Monitoring and Reporting Plan



Mitigation Monitoring and Reporting Plan for Metro  
Emergency Security Operations Center

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Impact	Mitigation Measure(s)	Monitoring Actions	Responsible Party	Timeframe
<b>Air Quality</b>				
	AQ-1 - The project shall be designed and constructed in a manner consistent with Metro's sustainability policies (such as Metro's Green Construction Policy, Energy and Sustainability Policy and Metro's Sustainability Implementation Plan) and implement BMPs for emissions.	Monitor construction activities for compliance	Metro	Construction
<b>Archeological Resources</b>				
Unknown archaeological resources could be disturbed during construction	CR-1 – The Project is expected to occur in previously disturbed soils, however, a qualified archaeologist shall be retained to monitor all project-related, ground-disturbing construction activities (i.e., grading, excavation, etc.) that are in previously undisturbed soils, only if encountered. In the event that cultural resources are exposed during construction, the qualified monitor will temporarily halt construction in the immediate vicinity of the discovery (if safe); while the potential resource is evaluated for significance. Construction activities could continue in other areas. If the discovery proves to be significant, additional work, such as data recovery excavation, shall be required. A cultural Resources Monitoring and Mitigation Plan will be developed outlining monitor procedures.	Monitor construction activities for previously undisturbed soils for compliance (on an as-needed basis)	Metro	Pre-construction
		Verify qualifications of archaeologist	Metro	Pre-construction
	CR-2 - If potential cultural or archaeological resources are encountered during construction of the proposed project, a Native American monitor shall be retained on an as-needed basis from the Native American group identified in the Cultural Resources Survey report. In the event the Native American monitor identifies cultural or archeological resources, the monitor shall be given the authority to temporarily halt	Monitor construction activities for previously undisturbed soils for compliance (on an as-needed basis)	Metro	Construction

Mitigation Monitoring and Reporting Plan for Metro  
Emergency Security Operations Center

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	construction in the immediate vicinity of the discovery and contact the project archaeologist/paleontologist.	Verify that a suitable repository has been identified and recovered fossils are deposited appropriately	Metro	Construction
	CR-3 - In the event that human remains are encountered at the project site, all work in the immediate vicinity of the burial must cease, and any necessary steps to ensure the integrity of the immediate area shall be taken. The Los Angeles County Coroner will be immediately notified. The Coroner must then determine whether the remains are Native American. Should the Coroner determine the remains are Native American, the Coroner has 24 hours to notify the Native American Heritage Commission (NAHC), who shall in turn, notify the person they identify as the most likely descendent (MLD) of any human remains. Further actions shall be determined in part by the recommendations of the MLD. The MLD has 24 hours following notification from the NAHC to make recommendations regarding the disposition of the remains of the discovery. If the MLD does not make recommendations within 24 hours, the owner shall, with appropriate dignity, re-inter the remains in an area of the property secure from further disturbance. Alternatively, if the owner does not accept the MLD's recommendations, the owner or the descendent may request mediation by the NAHC. Procedures of conduct following the discovery of human remains have been mandated by Health and Safety Code §7050.5, Public Resources Code §5097.98, and the California Code of Regulations §15064.5(e) (CEQA).	Monitor construction activities for previously undisturbed soils for compliance (on an as-needed basis)	Metro	Construction
		Identify MLD and ensure timely inspection occurs	Metro	Construction

Paleontological

Mitigation Monitoring and Reporting Plan for Metro  
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Resources				
<p>Previously undiscovered paleontological resources may be disturbed during construction</p>	<p>CR-4 - The Project is expected to occur in previously disturbed soils, however a qualified paleontological monitor shall be retained to monitor project-related excavation activities on a full-time basis on previously undisturbed soils. Project-related excavation activities of less than ten feet depth shall be monitored on a part-time basis on previously undisturbed soils to ensure that underlying paleontologically sensitive sediments are not being impacted. In addition, the monitor shall ensure the proper differentiation between paleontological and archaeological resources.</p>	<p>Monitor construction activities for previously undisturbed soils for compliance (on an as-needed basis)</p>	<p>Metro</p>	<p>Pre-construction</p>
	<p>CR-5 - The Project is expected to occur in previously disturbed soils. If undisturbed soil is discovered (see also CR-1), a qualified paleontologist shall be retained to supervise the monitoring of construction and to produce a Paleontological Monitoring and Mitigation Plan for the proposed project, if needed. Paleontological resource monitoring shall include inspection of exposed rock units during active excavations within sensitive geologic sediments, as defined by the PMMP and as needed. The monitor shall have authority to temporarily divert grading away from exposed fossils in order to efficiently recover the fossil specimens and collect associated data. The qualified archaeologist/paleontologist shall prepare monthly progress reports to be filed with Metro, and the Natural History Museum of Los Angeles County. At each fossil locality, field data forms shall be used to record pertinent geologic data, stratigraphic sections shall be measured, and appropriate sediment samples shall be collected and submitted for analysis. Matrix sampling shall be conducted to test for the presence of microfossils.</p>	<p>Verify qualifications of paleontologist</p>	<p>Metro</p>	<p>Pre-construction</p>

Mitigation Monitoring and Reporting Plan for Metro  
Emergency Security Operations Center

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	CR-6 - Recovered fossils shall be prepared to the point of curation, identified by qualified experts, listed in a database to facilitate analysis, and deposited in a designated paleontological curation facility. The most likely repository would be the Natural History Museum of Los Angeles County.	Monitor construction activities for previously undisturbed soils for compliance (on an as-needed basis)	Metro	Construction
Hazardous Materials				
	H-M-1 A subsurface investigation, soil sampling, and a geophysical survey will be conducted prior to the construction of the parking structure to determine the existence or extent of soil contamination due to historical land uses. Contaminated soils or identified USTs will be transported and disposed according to local and State requirements.	Monitor construction activities for compliance	Metro	Pre-construction
	H-M-2 Prior to construction and as required by the Land Use Covenant for the parcel, Metro will coordinate with the DTSC in the preparation of a Soils Management Plan and Site Health and Safety Plan.	Verify that reports have been completed	Metro	Pre-construction
	H-M-2 Prior to construction, in the event of tank relocation, preemptive soil sampling of the area would establish potential investigative and/or remedial activities that may be required prior to construction of the proposed project. In the event that contaminated groundwater is encountered during facility removal or other project-related excavation activities, groundwater will be extracted and treated prior to being discharged into the City stormwater drainage system.	Monitor construction activities for compliance	Metro	Pre-construction
	H-M-3 Prior construction, asbestos and lead testing will be performed by a licensed Asbestos-Containing Materials/Lead Abatement Contractor to ensure that these hazardous materials	Verify that adequate surveys have been completed	Metro	Pre-construction

Mitigation Monitoring and Reporting Plan for Metro  
Emergency Security Operations Center

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	are not present in the building materials to be disturbed. The removal of any materials containing asbestos or lead shall be removed by a licensed Asbestos-Containing Materials/Lead Abatement Contractor and in compliance with all applicable local or State regulations.	Monitor construction activities for compliance and verify that any necessary abatement has been completed before demolition begins	Metro	Pre-construction
Geology, Soils, and Seismicity				
	G-S1 Metro shall conduct a geotechnical report that is consistent with Metro criteria and/or design guidelines, as well as City of Los Angeles building specification guidelines.	Verify that additional geotechnical studies have been completed.	Metro	Pre-construction
		Check design contract documents and construction specifications for compliance	Metro	Pre-construction
		Verify that an adequate geotechnical report has been prepared	Metro	Pre-construction
	GS-2 Implementation of BMPs such as scheduling excavation and grading activities during dry weather as feasible, and covering stockpiles of excavated soils with tarps or plastic sheeting would help reduce soil erosion due to grading and excavation activities.	Monitor construction activities for compliance	Metro	Construction
Hydrology				
	HD-1 Implementation of BMPs for project construction and applicable specifications for runoff or discharge	Monitor construction activities for compliance	Metro	Construction

## Appendix F

### Agency and Public Comment Summary



**Metro**

# Interoffice Memo

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Date	December 4, 2015
To	Dr. Cris B. Liban, Executive Officer, Environmental Compliance and Sustainability
From	Bronwen Keiner, Sr. Community Relations Officer, Metro Community and Municipal Affairs
Subject	Metro Emergency Security Operations Center Outreach and Environmental Clearance Document – Public Comments

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In October and November 2015 Metro held a round of public outreach meetings and released the environmental clearance document for Metro's proposed Emergency Security Operations Center (ESOC) facility at 410 Center Street in the City of Los Angeles' Arts District.

The following is a summary of the comments received and addressed by Metro prior to and during the public comment period for the Mitigated Negative Declaration (MND) CEQA document which ran from October 19, 2015 to November 17, 2015 :

**Prior to the Comment Period:**

- Six questions were asked and answered orally at the Arts District Los Angeles Business Improvement District briefing on 10/9/15 (Attachment A).
- Four questions were asked and answered orally at the Community Open House on 10/14/15 (Attachment B).
- One comment was emailed from Steve Lantz from the South Bay Cities Council of Governments on 10/16 and a response was sent by email (Attachment C).


**During the Comment Period:**

- Six questions were asked and answered orally at the Historic Cultural Neighborhood Council/Los Angeles River and Arts Business Association Urban Design and Land Use Committee briefing on 10/21/15 (Attachment D).

These comments, while not specific to the IS/MND document, are recorded in this memorandum in order to accurately reflect that all comments received regarding the Project were properly addressed and responded to.

Specific to the IS/MND, a letter was received from Scott Morgan, Director of the State Clearinghouse, dated November 16, 2015 stating that no comments were submitted by any state agencies to the Governor's Office of Planning and Research State Clearinghouse and Planning Unit. A copy of the letter is provided in Attachment E.

There are no changes necessary to the IS/MND from any of these comments.

  
\_\_\_\_\_  
*In concurrence*

Dr. Cris B. Liban, Executive Officer, Environmental Compliance and Sustainability



あなたのお声をお聞かせください!首都はロサンゼ  
ルスのアーツディストリクト内の410 センターストリー  
トの首都の所有地に災害対策本部 (ESOC) を設け  
ることを提案しております。そこで、あなたの意見を求  
めたいと考えております。

新たに建設される ESOC の施設はおよそ 4 階建て、100,000  
平方フィートの大きさに、地下 1 階の駐車場が含まれると考え  
られています。ESOC は関係者専用の厳密な施設となり、一般  
には公開されません。第一段階としましては、施設は災害対策  
本部として、そして首都安全活動および緊急調整の中心部とし  
て用いられます。次の段階では地下鉄およびバスのオペレー  
ションセンターを一つの管理センターに統一化させ、首都の  
拡大しつつある鉄道およびバスのネットワークをより効果的  
に管理するよう心がけます。

プロジェクトについてより詳しく知りたい方は是非オープンハ  
ウスへいらして、ご意見をお聞かせください。オープンハウス  
ではプロジェクト全体についての情報や、環境分析の概要に  
ついて発表いたします。また、現地では質問への対応や、ご意  
見を収集するスタッフが配置されます。

#### オープンハウス:

2015 年 10 月 14 日(水)  
午後6~8時

ロサンゼルス 本派本願寺  
蓮の間 BおよびC  
815 E. 1st Street  
Los Angeles, CA 90012

駐車可  
ゴールドライン・リトルトーキョーおよびバスライン30より  
アクセス可能

詳しい情報を知りたい方は、[metro.net/capitalprojects](http://metro.net/capitalprojects)  
へアクセスしていただくか、ブロンウェン・ケイナーにEメ  
ール [keinerb@metro.net](mailto:keinerb@metro.net) あるいはお電話 213.922.4465 にて  
ご連絡をください。

コメントに関しましては、  
環境プロジェクトマネージャー Dr.クリス B. リバンまでお  
送りください。

One Gateway Plaza, MS 99-17-2  
Los Angeles, CA 90012-2952  
[libane@metro.net](mailto:libane@metro.net)  
213.922.2471

All Metro meetings are held in ADA accessible facilities. ADA accommodations and translations  
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ール [keinerb@metro.net](mailto:keinerb@metro.net) あるいはお電話 213.922.4465 をしていただければ、手配が可能です。

323.466.3876

Español	Հայերեն	русский
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**METRO EMERGENCY SECURITY OPERATIONS CENTER**  
Open House Wednesday, October 14

**CENTRO DE OPERACIONES DE EMERGENCIA DE METRO**  
Evento de puertas abiertas Miércoles 14 de octubre

首都災害対策本部  
オープンハウス 2015年10月14日(水)





We want to hear from you! Metro is proposing to build a new Emergency Security Operations Center (ESOC) facility at 410 Center Street in the City of Los Angeles Arts District (southeast corner of Ducommun Street and Center Street) on property already owned by Metro. We are seeking your input.

The new ESOC facility would be approximately 4-stories tall and 100,000 square feet in size with one level of subterranean parking. The ESOC would be a secured facility for authorized personnel only and not open to the public. In the first phase, it would serve as the Emergency Operations Center and central location for Metro security operations and emergency coordination. In follow-up phase(s), it could integrate Metro Rail and Bus Operations Centers into a consolidated operations center for more effective management of Metro's expanding rail and bus networks.

Please join us to learn more about the project and provide your feedback. The Open House will include information about the overall project and an overview of the environmental analysis for the project. Staff will be available to answer questions and gather input.

**¡Queremos verlo ahí! Metro propone construir nuevas instalaciones para un nuevo centro de operaciones de emergencia (Emergency Security Operations Center, ESOC) en el número 410 de la calle Center, en el Distrito de Artes de la ciudad de Los Ángeles (en la esquina sureste de las calles Ducommun y Center), en una propiedad que ya le pertenece a Metro. Queremos saber sus comentarios.**

Las nuevas instalaciones del ESOC tendrá aproximadamente 4 pisos y contará con una superficie de 100,000 pies cuadrados con un estacionamiento subterráneo de un nivel. El ESOC contará con instalaciones seguras con acceso solamente a personal autorizado y no estará abierto al público. Durante la primera fase, servirán como el centro de operaciones de emergencia y como ubicación central para las operaciones de seguridad y la coordinación de emergencias de Metro. En la(s) fase(s) subsiguiente(s), se podrán integrar los centros de operaciones de tren y de autobús de Metro en un solo centro de operaciones consolidado para tener una administración más eficiente de las redes de tren y de autobús de Metro que se encuentran en expansión.

Asista a nuestra reunión para conocer más sobre el proyecto y dar sus comentarios. El evento de puertas abiertas incluirá información sobre el proyecto en general y un panorama del análisis medioambiental para el proyecto. El personal estará disponible para responder las preguntas y recabar los aportes.

### Open House:

Wednesday, October 14, 2015  
6:00pm – 8:00pm  
Los Angeles Homba Hongwanji Buddhist Temple  
Lotus Rooms B and C  
815 E. 1st Street  
Los Angeles, CA 90012

Parking is available.  
Served by Metro Gold Line Little Tokyo Station and Metro Bus Line 30.

For more information, visit [metro.net/capitalprojects](http://metro.net/capitalprojects) or contact Bronwen Keiner at [keinerb@metro.net](mailto:keinerb@metro.net) or 213.922.4465.

Please submit written comments to:  
Dr. Cris B. Liban, Environmental Project Manager  
One Gateway Plaza, MS 99-17-2  
Los Angeles, CA 90012-2952  
[libane@metro.net](mailto:libane@metro.net)  
213.922.2471

### Evento de puertas abiertas:

Miércoles 14 de octubre de 2015  
De 6:00pm a 8:00pm  
Templo budista Homba Hongwanji en Los Ángeles  
Salones Lotus B y C  
815 E. 1st Street  
Los Angeles, CA 90012

Con estacionamiento disponible.  
Las líneas más cercanas al lugar del evento son Metro Gold Line en la estación Little Tokyo y la línea 30 de autobús de Metro.

Para obtener más información, visite [metro.net/capitalprojects](http://metro.net/capitalprojects) o contacte a Bronwen Keiner al [keinerb@metro.net](mailto:keinerb@metro.net) o 213.922.4465.

Envíe sus comentarios por escrito a:  
Dr. Cris B. Liban, Environmental Project Manager  
One Gateway Plaza, MS 99-17-2  
Los Angeles, CA 90012-2952  
[libane@metro.net](mailto:libane@metro.net)  
213.922.2471

## Arts District Project Area



Subject to Change 15-2422 © 2015 LACMTA



## Attachment A

### Six questions were asked and answered orally at the Arts District Los Angeles Business Improvement District briefing on 10/9/15.

Duane Martin and Executive Officer of Project Management Jeanet Owens provided a briefing to the Arts District Los Angeles BID Board on Friday, October 9, 2015. Duane Martin, Sheriff Karl Schow and Jeanet Owens responded orally to the six questions asked by attendees below:

1. Q. What kind of level of criminal activity have you seen in the area?
  - a. In general, Metro does not see a high level of criminal activity on its system. Also, with the communications systems that are in place, sheriff deputies can see crime during its progress and respond within minutes to the scene. This is a deterrent to crime as well.
2. Q. Is there a communications network with the BID security team?
  - a. Yes, wherever there is a Metro line the Sheriff's Department works closely with the BIDs and other security teams in the area.
3. Q. Do you have a design or architect proposed for the 4-story building?
  - a. Metro just released an RFP for the Architecture and Engineering, and it is due on 10/29/15. The selected A&E contractor will develop a preliminary design-development to 65%. We estimate that construction will start in 2017 and be completed in 2020.
4. Q. How many people do you expect to work in the facility?
  - a. We expect 40-50 people max per shift, and up to 100 employees total. A majority of employees will take transit to the site and Metro will coordinate a shuttle to and from Metro Headquarters. The ESOC would be a secured facility for authorized personnel only and not open to the public.
5. Q. Will there be a traffic light to mitigate for fast moving emergency vehicles?
  - a. The IS/MND shows no traffic impacts. Emergency vehicles will not be coming to and going from the facility on a regular basis as that will not be the primary use of the facility.
6. Q. What is the percentage of the budget allocated for art, will local artists be selected from the Arts District and how often is the Metro artist pool opened?
  - a. We are at the early stage of planning and design. Metro will allocate .5% for art. The project will include a site specific, integrated public art component. The artist will be selected from Metro's artist pool which was created following extensive local outreach and artist workshops; the pool is opened every three years.

## **Attachment B**

**Four questions were asked and answered orally at the Community Open House on 10/14/15.**

An open house was held on Wednesday, October 14, 2015 at the Los Angeles Homba Hongwanji Buddhist Temple where Metro Deputy Executive Officer of Project Management Duane Martin, Executive Officer of Project Management Jeanet Owens, and Executive Officer of Environmental Compliance and Sustainability Cris Liban informed attendees about the project and received input. Duane Martin responded orally to the four questions asked by attendees below:

1. Q. How many employees will ESOC have?
  - a. There will be approximately 100 employees. The ESOC would be a secured facility for authorized personnel only and not open to the public.
2. Q. Are you designing it to house people in the event of an extended emergency?
  - a. The facility could accommodate authorized personnel in the event of an extended emergency.
3. Q. Is it fully funded?
  - a. It is partially funded. Metro was awarded a Proposition 1B 2010-2011 California Transit Security Grant (CTSG) in the amount of \$112.7 million for construction of an Emergency Operations Center in the first phase. Due to funding limitations, the build-out of the ROC and BOC is being planned for future phases within the next five to 15 years.
4. Q. Is it a possible terrorist target?
  - a. There are no facilities, buildings or infrastructure projects that are off limits to terrorists. Metro has a very well trained team of experts who will be consulting on this project to make it as safe as possible. The ESOC facility will be unassuming in design to draw the least amount of attention, but it will certainly be aesthetically pleasing.

**Attachment C**

**One comment was emailed from Steve Lantz from the South Bay Cities Council of Governments on 10/16 and a response was sent by email.**

**From:** Keiner, Bronwen  
**Sent:** Friday, October 16, 2015 4:30 PM  
**To:** 'Stephen Lantz'  
**Subject:** RE: Metro security center

Dear Steve,

Thank you for your inquiry regarding the Metro Emergency Security Operations Center (ESOC).

Metro is proposing to build the new ESOC facility at 410 Center Street in the City of Los Angeles Arts District (southeast corner of Ducommun Street and Center Street) on property already owned by Metro.

The new ESOC facility will be a LEED Silver certification with up to 4-stories tall and up to 100,000 square feet in size with one level of subterranean parking. The ESOC would be a secured facility for authorized personnel only and not open to the public. In the first phase, it would house an Emergency Operations Center and be the central location for Metro security operations and emergency coordination. In follow-up phase(s), it could integrate Metro Rail and Bus Operations Centers into a consolidated operations center for more effective management of Metro's expanding rail and bus networks. The functions of the Metro ESOC differ from the City's EOC and Caltrans in that most of the EOC activities for Metro will be more Metro transit related whereas the others cater to the city and region with a wider variety of emergency responses. In an event of an emergency, Metro also has a seat at the City of Los Angeles, County and Caltrans EOCs when required. The location of the ESOC near the outskirts of the downtown area and in close proximity to Metro Gateway Building makes it ideal location in terms of convenience from an emergency response capability much like the City EOC.

The existing Rail Operations Center (ROC), Bus Operations Center (BOC) and Emergency Operations Center facilities have limited space to accommodate Metro's expansion program, and are heavily taxed in accommodating training, conference, service, and staff office space necessary to provide effective management of bus, rail and emergency operations. The new ESOC facility will provide efficient and effective emergency and security response within a central location for personnel to coordinate resources and gather intelligence.

Metro was awarded a Proposition 1B 2010-2011 California Transit Security Grant (CTSG) in the amount of \$112.7 million for construction of an Emergency Operations Center in the first phase. Due to funding limitations, the build-out of the ROC and BOC is being planned for future phases within the next five to 15 years.

We anticipate that the environmental document will be released on Monday, October 19<sup>th</sup> and I will share the link with you as soon as it is ready. For more information, please visit [www.metro.net/capitalprojects](http://www.metro.net/capitalprojects).

Thanks, again!

Best regards,  
~Bronwen

Bronwen Trice Keiner  
Senior Community Relations Officer  
Community & Municipal Affairs/Central Area  
Metro  
213-922-4465 office  
213-923-3142 cell  
[keinerb@metro.net](mailto:keinerb@metro.net)

*~ To Provide Excellence in Service and Support ~*

**From:** Stephen Lantz [<mailto:lantzsh10@gmail.com>]  
**Sent:** Wednesday, October 14, 2015 6:25 PM  
**To:** Keiner, Bronwen  
**Subject:** Metro security center

Do you have any more detailed information on the proposed new 100,000 sq. ft. Metro Security Operations Center? Is it a new facility to be used by the LA Co. Sherriff? Is Metro proposing to re-activate its transit police? Is it a way to free up space at Gateway for Metro expansion? What's wrong with the current rail and bus operating facilities that are probably 20 years old? What funding is going to be used to pay for the new facility? Why in downtown LA when LA DOT EOC is nearby and Caltrans Operations Center is in Eagle Rock? What will happen to the current Operations Center at the intersection of the Green Line and Blue Line? Wouldn't you want to be outside of Downtown LA to make it more convenient and accessible for the security personnel?

## Attachment D

Six questions were asked and answered orally at the Historic Cultural Neighborhood Council/Los Angeles River and Arts Business Association Urban Design and Land Use Committee briefing on 10/21/15.

Duane Martin and Executive Officer of Environmental Compliance and Sustainability Cris Liban provided a briefing to the Historic Cultural Neighborhood Council/Los Angeles River and Arts Business Association Urban Design and Land Use Committee on Wednesday, October 21, 2015. Duane Martin and Cris Liban responded orally to the six questions asked by attendees below:

1. Q. The HCNC/LARABA is somewhat involved with the historic site adjacent to the proposed ESOC. We have experienced a problematic design process with Metro's Maintenance of Way building. We are happy that you are sensitive to the needs of Arts District stakeholders. What kind of process are you offering for the public to get input, get involved during the early stage of the design? Our group and SciArc are resources that can help if you are open to that.
  - a. Metro is at the early stage of planning and design. Metro will hold multiple community meetings to involve Arts District stakeholders in the design process, and the project will include a site specific, integrated public art component. A detailed community outreach component is included in the Statement of Work for the Architectural and Engineering Design Services.  
We are also in the middle of the environmental process and have a month to receive your feedback on the environmental clearance document. We encourage you to review the document, and we welcome your input. The building design will incorporate, where feasible, sustainable design and construction principles. The building will also be designed to achieve Leadership in Energy and Environmental Design (LEED) –New Construction Silver certification (at a minimum).
2. Q. Are there sunken tanks on the property?
  - a. The site was remediated and the Department of Toxic Substance has determined the site to be safe and clear.
3. Q. What can you do to make sure it doesn't look like another Metro facility? Can you create a 20-30 foot setback on Center Street so you could build studios? That would be much more interesting from a street perspective and be a better value from an economic and community perspective. We are asking you to see if something like this could be considered
  - a. We appreciate your feedback. That is an interesting idea. We will see what the Architectural and Engineering drawings look like to determine if we could accommodate something like that.
4. Q. What is the length of the red brick wall? Right now there are a lot of municipal buildings but more alternative uses are mixing in to the area. Making it more pedestrian friendly will make it better tied in with the neighborhood. Also, people speed along Center Street to Santa Fe after exiting the freeway. The high brick wall doesn't enhance the pedestrian feel – it encourages the speeding. Please keep in mind that this is an emerging neighborhood where neighbors are going to be creating and living there, going to coffee shops, etc. It won't just be surrounded by the Fire Dept. and Police Dept. Center Street and Santa Fe were identified for bikeability and walkability in Metro's own Linkages Study (ConnectUS). A setback for bikeability and/or open space would be beneficial to fulfilling that mission.

- a. Metro is a proponent of making the area as bicycle and pedestrian friendly as possible. Metro will ensure that ESOC maintains Center St as an important bicycle and pedestrian facility. Metro will complement the character and identity of the neighborhood by integrating ESOC's design with the surrounding neighborhood and uses to the greatest extent possible. The ESOC design will employ urban design principles that ensure that the facility will be a good neighbor and maintains an appropriate aesthetic for the unique Arts District area.
- 5. Q. I am interested in storm water management. I have been concerned about the non-connection of different master plans. The water table is polluted.
  - a. Metro has a strong commitment to sustainability. For example, the new Division 13 has 2 large tanks for irrigation and bus washing, permeable pavement and LEED-Silver certification. The Foothill Extension and Orange Line have swales and water retention basins. We will be looking into implementing several storm water management strategies with ESOC.
- 6. Q. How many people will be manning this facility? 100,000 square feet sounds like a big size.
  - a. There will be approximately 30-50 people manning the facility per shift in Phase 1. More could be added in future phases for a total of up to approximately 100 employees.

**Attachment E**  
**Letter from the Governor's Office of Planning and Research State Clearinghouse and Planning Unit**





STATE OF CALIFORNIA  
Governor's Office of Planning and Research  
State Clearinghouse and Planning Unit



Edmund G. Brown Jr.  
Governor

Ken Alex  
Director

November 16, 2015

Cris Liban  
Los Angeles Metropolitan Transportation Authority  
One Gateway Plaza  
Los Angeles, CA 90012

Subject: Emergency Security Operations Center  
SCH#: 2015101051

Dear Cris Liban:

The State Clearinghouse submitted the above named Mitigated Negative Declaration to selected state agencies for review. The review period closed on November 13, 2015, and no state agencies submitted comments by that date. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act.

Please call the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process. If you have a question about the above-named project, please refer to the ten-digit State Clearinghouse number when contacting this office.

Sincerely,

Scott Morgan  
Director, State Clearinghouse