MID-COAST CORRIDOR
TRANSIT PROJECT

Addendum to the Final Subsequent Environmental Impact Report for UTC Transit Center Parking Structure

State Clearinghouse No. 2010051001

November 2, 2020

Prepared by

SANDAG

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The environmental impacts, alternatives, and feasible mitigation associated with the Mid-Coast Corridor Transit Project were evaluated in the *Mid-Coast Corridor Transit Project Final Supplemental Environmental Impact Statement/Subsequent Environmental Impact Report* (SEIS/SEIR) (San Diego Association of Governments [SANDAG], 2014a). SANDAG served as the California Environmental Quality Act (CEQA) lead agency for the Final SEIR. On November 21, 2014, the SANDAG Board of Directors certified the Final SEIR and adopted the CEQA Findings of Fact, the Statement of Overriding Considerations, and the Mitigation Monitoring and Reporting Program (Resolution No. RTC 2015-03) prior to approving the Mid-Coast Corridor Transit Project (Resolution No. RTC 2015-04). A Notice of Determination was filed with the San Diego County Clerk on November 21, 2014, and with the Governor's Office of Planning and Research on November 24, 2014.

This Addendum satisfies Sections 15162 and 15164 of the CEQA Guidelines by disclosing the refinements to the project with substantial evidence to enable the agency to determine if substantial changes have occurred that would necessitate major revisions to the SEIS/SEIR, and whether new information of substantial importance has led to new significant impacts or a substantial increase in the severity of previously identified impacts.

SANDAG proposes the construction and operation of a new parking structure that would provide transit parking for the University Towne Centre (UTC) Transit Center station. Parking on the ground floor would be used by shopping center patrons with transit parking provided on the other floors of the structure. The provision of transit parking in a structure was originally envisioned in the Draft SEIS/SEIR.

This Addendum describes these modifications and documents compliance with CEQA Section 21166 and CEQA Guidelines Section 15162. Pursuant to Section 15164, this Addendum is appropriate because only minor technical changes and additions are necessary and none of the conditions described in Section 15162 have occurred. This Addendum provides the documentation for SANDAG's reasoned conclusion based on substantial evidence in light of the whole record that the revised project as described herein does not create any of the conditions in CEQA Section 21166 and CEQA Guidelines Section 15162 requiring preparation of a subsequent or supplemental EIR.

SANDAG evaluated the UTC Transit Center parking structure refinements described within this Addendum using those impact categories that are potentially affected by the proposed changes to the project. No new significant impacts would result from the proposed parking structure, and none of the previously identified significant environmental effects would substantially increase in severity; therefore, the impact conclusions in the Final SEIR remain unchanged. The environmental effects of the proposed UTC Transit Center parking structure described herein remain consistent with the Final SEIR Findings of Fact and Statement of Overriding Considerations, and the mitigation measures outlined in the Mitigation Monitoring and Reporting Program (Resolution No. RTC 2015-03) would mitigate potential impacts from the proposed work. Accordingly, SANDAG reaffirms the Findings of Fact and Statement of Overriding Considerations adopted by the SANDAG Board of Directors on November 21,

2014. The documents and other materials that constitute the administrative record that were considered during preparation of the Addendum to the Final SEIR include, but are not limited to, the Final SEIR for the approved project, all appendices and technical studies, comments submitted, reports, and public notices issued by SANDAG in conjunction with the project. This Addendum will be maintained in the administrative record files at SANDAG located at 401 B Street, Suite 800, San Diego, California 92101.

Jim Linthicum for 12/8/2020

SANDAG Executive Director Date

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Acronyms and Abbreviations

The following acronyms, initialisms, and short forms are used in this report.

BMP	best management practices
CEQA	California Environmental Quality Act
EIR	environmental impact report
FTA	Federal Transit Administration
GHG	greenhouse gas
I-	Interstate
LOS	level-of-service
MOU	Memorandum of Understanding
MTS	Metropolitan Transit System
NEPA	National Environmental Policy Act
OTTC	Old Town Transit Center
ROD	Record of Decision
SANDAG	San Diego Association of Governments
SEIR	subsequent environmental impact report
SEIS	supplemental environmental impact statement
TCE	temporary construction easement
TPSS	traction power substation
Trolley	San Diego Trolley
UCSD	University of California San Diego
UTC	University Towne Centre

1.0 INTRODUCTION

1.1 Purpose and Scope of Addendum

The San Diego Association of Governments (SANDAG) and the Federal Transit Administration (FTA) completed the *Mid-Coast Corridor Transit Project Final Supplemental Environmental Impact Statement/Subsequent Environmental Impact Report* (SEIS/SEIR) (SANDAG, 2014a) in the fall of 2014. As the National Environmental Policy Act (NEPA) Lead Agency, FTA signed the Record of Decision (ROD) for the project on October 15, 2014, and issued the Notice of Availability of the combined Final SEIS and ROD on November 7, 2014, thus completing the NEPA review of the project. As the California Environmental Quality Act (CEQA) Lead Agency, the SANDAG Board of Directors certified the Final SEIR and adopted the Findings of Fact, the Statement of Overriding Considerations, and the Mitigation and Monitoring Reporting Program on November 21, 2014, completing the CEQA review of the project. A Notice of Determination was filed with the San Diego County Clerk on November 21, 2014, and with the Governor's Office of Planning and Research on November 24, 2014.

Section 15162 of the CEQA Guidelines (14 California Code of Regulations Section 15000 et seq.) provides that after certification of an environmental impact report (EIR), a subsequent or supplemental EIR is prohibited unless the agency determines that there are substantial changes in the project or circumstances requiring major revisions to the EIR due to new significant environmental effects or a substantial increase in the severity of previously identified significant effects, or new information that involves "new significant environmental effects or a substantial increase in the severity of previously identified significant effects." Per Section 15163, when one or more of the conditions described in Section 15162 are satisfied, a supplemental EIR containing only the information required to make the prior EIR adequate for the project may be prepared if only minor additions or changes would be necessary to make the previous EIR adequately apply to the project. Per Section 15164 of the CEQA Guidelines, an agency shall prepare an addendum to a previously certified EIR if some changes or additions are necessary but none of the Section 15162 conditions that warrant preparation of a subsequent EIR are met.

This Addendum evaluates the construction and operation of a new parking structure that would provide transit parking for the University Towne Centre (UTC) Transit Center station and visitors to the shopping center. The proposed parking structure would be up to four stories plus the ground floor and would provide between 260 and 340 transit parking spaces to serve the UTC Transit Center, depending on the ultimate layout of the parking configuration. The ground floor would include approximately 65 parking spaces for use by shopping center patrons. The proposed parking structure would be constructed on an existing paved parking lot within the Westfield UTC shopping center. Refer to Section 1.3 for a description of these modifications. This Addendum describes the project activities associated with the proposed parking structure, evaluates the environmental impacts of the parking structure, and provides substantial evidence that none of the conditions of CEQA Guidelines Section 15162 requiring the preparation of a subsequent or supplemental EIR are met.

1.2 Project Description

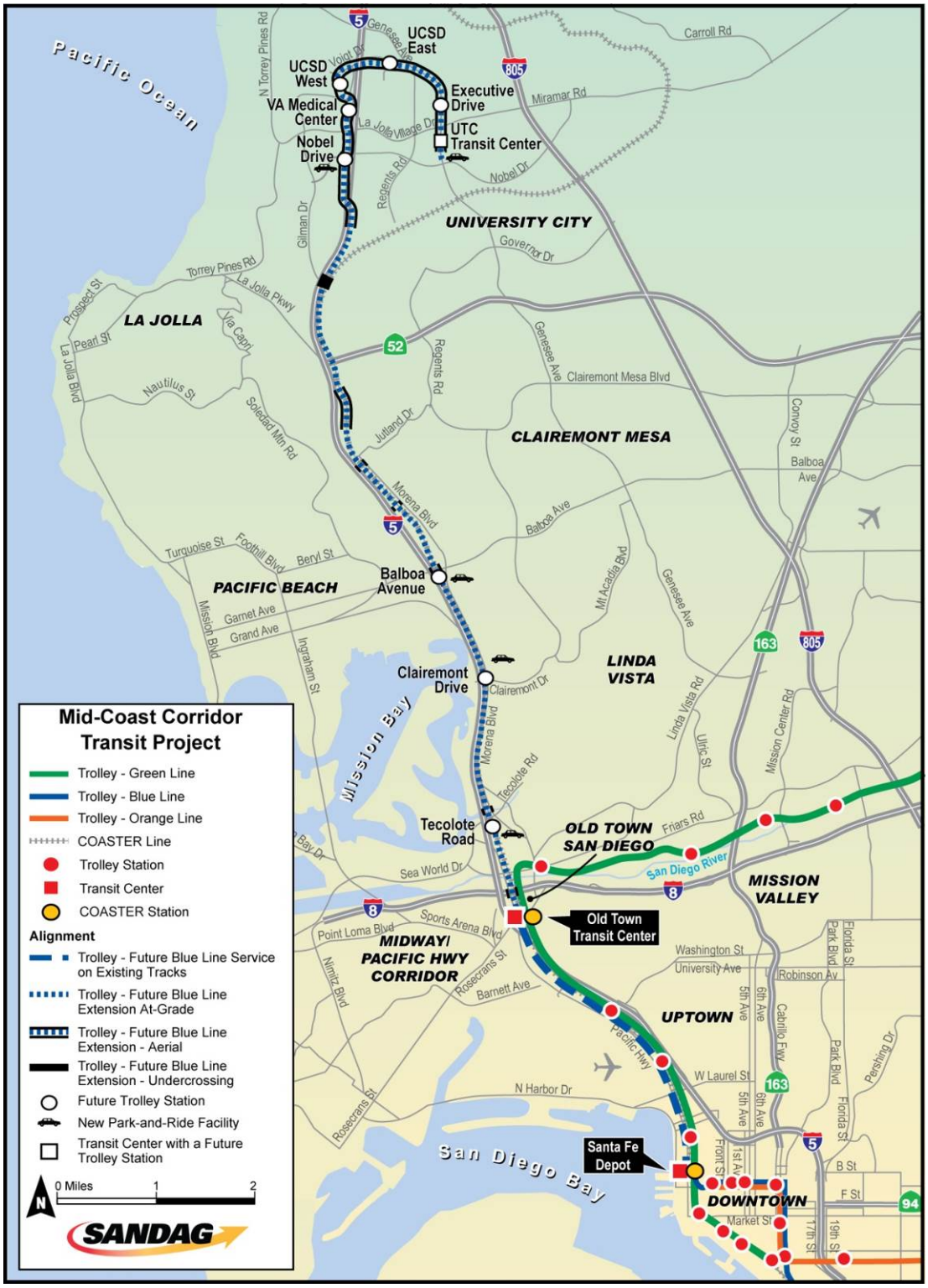
The Mid-Coast Corridor Transit Project will extend the San Diego Trolley (Trolley) Blue Line from Santa Fe Depot in Downtown San Diego to the UTC Transit Center in University City. The project will use the existing Trolley tracks for approximately 3.5 miles, from Downtown San Diego to north of the Old Town Transit Center (OTTC) and south of the San Diego River. The Trolley Blue Line trains will share the existing tracks with the Trolley Green Line trains in this area. The only improvements included in the project south of the OTTC are upgrades to the existing systems, including the signaling system and traction power system to accommodate the increase in Trolley service.

North of the OTTC, the project will include construction of 10.9 miles of new double track that will extend from south of the San Diego River to the terminus at the UTC Transit Center. The new extension will follow the Los Angeles–San Diego–San Luis Obispo Rail Corridor Agency tracks within existing Metropolitan Transit System (MTS) and City of San Diego right-of-way from south of the San Diego River to north of the Interstate (I-) 5/State Route 52 interchange. The alignment will then leave the MTS right-of-way and parallel the east side of the I-5 corridor traveling north partially within California Department of Transportation right-of-way and partially on private property. South of Nobel Drive, the alignment will transition to an aerial structure and cross over to the west side of I-5. From Nobel Drive, the alignment will continue north to the University of California San Diego (UCSD) West Campus, cross back over to the east side of I-5 and along the south side of Voigt Drive to Genesee Avenue, and continue south in the median of Genesee Avenue to the UTC Transit Center.

The project includes 9 new stations (4 at grade and 5 elevated); 5 park-and-ride facilities with 1,170 parking spaces; 14 new traction power substations (TPSSs), including 3 between Santa Fe Depot and the OTTC; and 36 new low-floor light rail transit vehicles. No new maintenance facilities are required. New stations will be located at Tecolote Road, Clairemont Drive, Balboa Avenue, Nobel Drive, the Veterans Administration Medical Center, UCSD West, UCSD East, Executive Drive, and the UTC Transit Center. Figure 1-1 shows the project alignment and station locations.

With the extension of the Trolley Blue Line from Santa Fe Depot to the UTC Transit Center, continuous service will be provided from the San Ysidro Transit Center at the U.S.–Mexico international border to University City. The service will be provided every 7.5 minutes during peak and midday off-peak periods in 2030. In the opening year, service will be provided every 15 minutes during peak and midday off-peak periods.

Figure 1-1. Mid-Coast Corridor Transit Project



Source: SANDAG, 2019

1.3 Description of Proposed Work

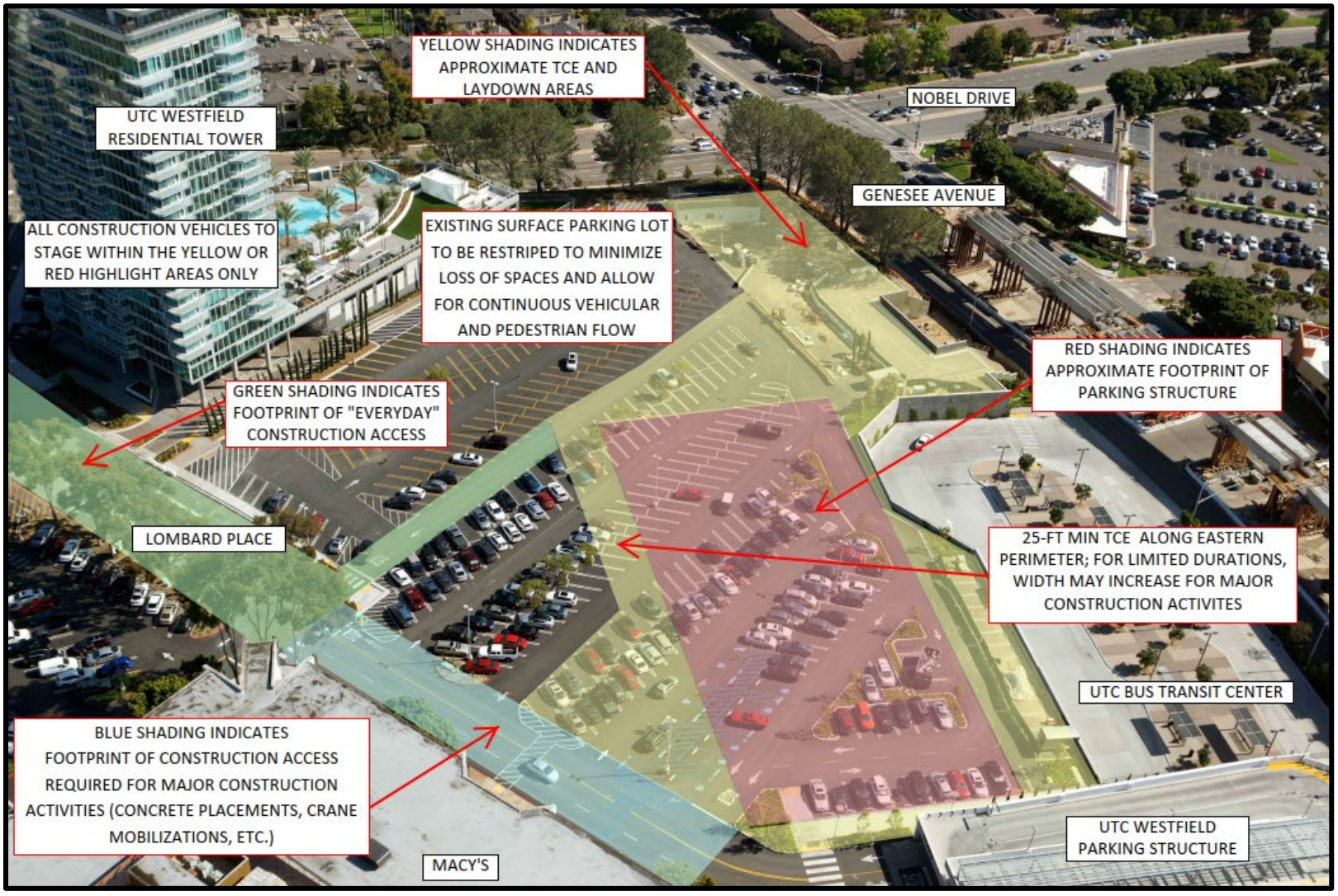
In the Draft SEIS/SEIR (SANDAG 2013), transit parking spaces were proposed at the UTC Transit Center station that would have been provided in a joint-use parking structure at the Westfield UTC shopping center. The parking structure would have been constructed by Westfield as part of the planned expansion of the shopping center with transit parking spaces constructed as an additional level on the parking structure. Access to the parking structure was assumed from the intersection of Genesee Avenue and Esplanade Court/UTC Driveway. However, comments received on the Draft SEIS/SEIR indicated concerns from Westfield UTC about construction timing of the parking structure and concerns by SANDAG regarding commitment of funds. Specifically, design of the shopping center parking structure was underway by Westfield UTC prior to final approval of the project by SANDAG and FTA.

Based on further design and the lack of committed funds for construction at the time of the Final SEIS/SEIR preparation, the Final SEIS/SEIR assumed that the 260 transit parking spaces would be provided by acquisition of parking spaces from the Westfield UTC shopping center. The Final SEIS/SEIR did not specify where the 260 transit parking spaces would be provided. Altogether, the project as evaluated in the Final SEIS/SEIR would acquire 287 parking spaces from the Westfield UTC shopping center, of which, 260 parking spaces would be dedicated for transit parking to serve the UTC Transit Center and the other spaces would accommodate a TPSS unit.

Since completion of the Final SEIS/SEIR, SANDAG has continued coordination with representatives of the Westfield UTC shopping center. As part of this coordination, the Westfield UTC shopping center requested that SANDAG construct a parking structure to provide transit parking in lieu of the purchase of existing shopping center parking spaces. On October 26, 2015, a Memorandum of Understanding (MOU) was executed between SANDAG, MTS, and Westfield UTC that provide a, “Option for Park & Ride Facility”. This MOU states that SANDAG has the option to acquire exclusive permanent and temporary easements to construct, operate, and provide public access to a park-and-ride facility on UTC property, reserving the land surface to the “Developer” (property owner). The MOU identified two potential locations for the parking structure. SANDAG would be responsible for the size, design, specifications, and construction of the parking structure and would coordinate with Westfield UTC regarding construction activities.

Of the two locations considered in the MOU, the preferred location for the proposed parking structure would be in an existing paved parking lot within the Westfield UTC shopping center (Figure 1-2). The proposed parking structure would be bounded by an existing UTC Westfield parking structure to the north, an interior roadway (Lombard Place) and Macy’s department store to the east, a residential tower to the south, and the UTC Transit Center and Genesee Avenue to the west. A pedestrian walkway to Genesee Avenue and the UTC Transit Center would be provided on the west side of the proposed parking structure. New landscaping and trees are proposed around the perimeter of the proposed parking structure and accessways. In addition, a stormwater basin would be provided on the southwestern corner of the parking structure.

Figure 1-2. UTC Transit Center Parking Structure and Easements



Source: SANDAG, 2020

Based on current design efforts, the proposed parking structure would be up to four stories including the ground floors and would provide between 260 and 340 transit parking spaces, depending on the ultimate layout of the parking configuration. Consistent with the Final SEIS/SEIR, a minimum of 260 transit parking spaces would be provided. There would be two entrances to the proposed parking structure—one on the south side and one on the east. The ground floor accessed from the entrance on the south would include approximately 65 parking spaces for use by shopping center patrons. Parking for transit patrons would be provided starting on the ramp near the east entrance, which provides access starting at the ramp to the first floor. It is anticipated that the proposed parking structure would use a ticket and fare management parking control system.

The Draft SEIS/SEIR assumed parking access would be via the intersection of Genesee Avenue at Esplanade Court/UTC Driveway only. As previously stated, the Final SEIS/SEIR assumed acquisition of 260 parking spaces from Westfield UTC to provide transit parking. Because the specific location of those spaces was unknown, the Final SEIS/SEIR continued to assume access would be via Genesee Avenue and Esplanade Court/UTC Driveway. Based on the revised location of the proposed parking structure, access is assumed to be via the three existing driveways to the Westfield UTC shopping center: La Jolla Village Drive at Executive Drive, Genesee Avenue at Esplanade Court/UTC Driveway, and Nobel Drive at Lombard Place. Specifically, it is assumed motorists would use the first driveway they encounter on their path of travel to the parking structure.

Construction would begin in January 2021 and last approximately 9 months, with an anticipated completion date of summer/fall 2021. It is anticipated the proposed parking structure would be operational on opening day of the Mid-Coast Corridor Transit Project.

The construction area includes the proposed parking structure footprint as well as other temporary construction easements (TCE) for laydown and staging areas and construction access (Figure 1-2). TCE and laydown areas would be in the immediate area surrounding the UTC parking structure footprint. This includes a 25-foot minimum TCE along the eastern perimeter of the UTC parking structure footprint, in which the width may increase for major construction activities for limited durations. Up to 450 existing shopping center parking spaces within the construction area would be temporarily affected. Lombard Place and Palisade Road, east and south of the proposed parking structure, respectively, would be required for construction access (including access for major construction activities such as concrete placements, crane mobilizations, etc.). Construction activities include grading, trenching for foundation and utilities, and drilling for piles to support the structure. The depth of soil disturbance would be up to 50 feet below current grade.

2.0 ENVIRONMENTAL EVALUATION

This section presents the transportation and environmental evaluation of the direct and indirect short-term, long-term, and cumulative impacts for the proposed transit parking structure at Westfield UTC shopping center, as described in Section 1.3. This evaluation was conducted pursuant to CEQA and addresses the thresholds of significance established in the Draft and Final SEIR. For each of the subsections that follow, the CEQA thresholds of significance from the Draft and Final SEIS/SEIR are presented along with the evaluation of the proposed parking structure. A determination regarding consistency with the conclusions in the Draft and Final SEIS/SEIR is also provided, as applicable. The findings presented below are specific to the proposed work.[1] Unless otherwise noted, the proposed work would not affect the mitigation measures or project measures identified in the Final SEIS/SEIR and Mitigation Monitoring and Reporting Program.

SANDAG has reviewed the proposed parking structure refinement and determined that detailed discussion of the following topics is not warranted and that each of the below environmental topics would not change the impact conclusion in the Draft and Final SEIS/SEIR. A brief explanation is provided for each topic:

- *Transportation – Bicycle and Pedestrian Facilities*: The proposed parking structure would be located entirely within the Westfield UTC shopping center parking lot with access via existing driveways into the shopping center. The proposed parking structure would not affect existing bicycle or pedestrian facilities along the main roadways (e.g., Genesee Avenue).
- *Transportation – Freight*: The proposed parking structure would have no effect on the movement of rail freight as the parking structure would not be located in proximity to active freight rail. The proposed parking structure would not affect vehicular freight because no major roadways or freight loading docks would be closed, either during construction or long term.
- *Transportation – Transit System*: The proposed parking structure would not affect transit routes or transit activities at the UTC Transit Center, either during construction or long term, because the parking structure would be adjacent to and elevated from these facilities. The purpose of the parking structure is to provide parking for transit riders utilizing these facilities.
- *Land Use*: Because the proposed parking structure would be located within an existing parking lot, it would be consistent with the existing surrounding land uses, would not substantially alter existing or planned land uses, and would not conflict with any applicable land use plans, policies, or regulations. The location of the parking structure has been determined in coordination with representatives of the shopping center and would avoid impacts to future development at the shopping center. The proposed parking structure would not conflict with applicable habitat

[1] For example, if the Final SEIR identified a “Less than Significant Impact” and the Addendum states “No Impact,” it means the project refinements do not have any impact in and of themselves. It does not mean that the impact stated in the Final SEIR has changed.

conservation plans or natural community conservation plans as no such plans apply to these locations. No farmland would be converted to non-farmland use.

- *Community and Neighborhood:* The proposed parking structure would be located within the Westfield UTC shopping center parking lot. The parking structure would not physically divide a community or displace a community resource and no vulnerable populations or religious or sacred uses are located in proximity to the parking structure.
- *Socioeconomics*: The proposed parking structure would not displace dwelling units, either permanently or during construction. Similar to the Draft SEIS/SEIR, construction of the parking structure would require TCEs. The TCEs have been coordinated with representatives of the shopping center.
- *Air Quality and Climate Change*: The proposed parking structure would have no effect on the operation of the Mid-Coast Corridor Transit Project. As further discussed in Section 2.2, the proposed parking structure and its related traffic trips would not generate new vehicle trips beyond what was evaluated in the Final SEIS/SEIR because modeling identified a demand for only 260 spaces. However, vehicle trips would be distributed throughout three different access points to the Westfield UTC shopping center instead of a single access point. Thus, the proposed parking structure would not have the potential to increase mobile source emissions related to air quality or greenhouse gases (GHG) or increase energy use. Construction-related impacts to air quality and climate change are evaluated in Section 2.5 and 2.6, respectively.
- *Noise and Vibration*: Operation and construction-related activities of the proposed parking structure would not change the impacts identified in the Final SEIS/SEIR. The noise environment in the vicinity of the proposed parking structure consist of ambient traffic noise associated with the Westfield UTC shopping center and vehicles along Genesee Avenue, Nobel Drive, Lombard Place, La Jolla Village Drive, Executive Drive, and Esplanade Court. The primary noise sources of the proposed parking structure would consist of tires, vehicle engines, and occasional vehicle horns, which are similar to other noise sources in this location. Such noise levels would be similar to the existing ambient noise levels as identified in the Final SEIS/SEIR and would be further attenuated based on the design of the parking structure (i.e., walls structure orientation, barrier designs).

Construction of a portion of a parking structure within the Westfield UTC shopping center parking lot was evaluated in the Draft SEIS/SER. The Final SEIS/SEIR stated that daytime construction of the overall project would temporarily and intermittently increase ambient noise levels well above existing conditions at some residences within 150 feet of construction activity. This would result in a substantial increase above existing ambient noise levels without the implementation of project and mitigation measures, thus constituting a significant impact. Noise associated with the proposed parking structure may occur during a 12-hour period from 7:00a.m. to 7:00 p.m. and would be similar to what would have occurred during construction of the design evaluated in the Final SEIS/SEIR. A residential structure has been added within the Westfield UTC shopping center parking lot since completion of the Final SEIS/SEIR and would be within 150 feet of construction activity. Construction would comply with the requirements of the Noise

Control Plan and Section 21.04 of the San Diego Municipal Code and Mitigation Measures CON1 and CON2, as applicable. Although no nighttime construction work is anticipated for the proposed parking structure, in the event nighttime construction is required, CON2 would be implemented. Furthermore, construction timing is being coordinated with the Westfield UTC shopping center to further minimize noise impacts in the surrounding vicinity.

- *Ecosystems and Biological Resources*: The Westfield UTC shopping center is in an urban setting and is completely developed. The proposed parking structure site is not within or adjacent to the City of San Diego's Multi-Habitat Planning Area. No natural areas or sensitive biological resources are located within the footprint of the proposed parking structure or in the immediate vicinity of the Westfield UTC shopping center.
- *Water Resources*: The proposed parking structure would include necessary stormwater best management practices (BMPs) during construction and operation consistent with applicable water quality regulations. As described in Section 1.3, a stormwater basin would be provided on the southwestern corner of the proposed parking structure. Design and construction would comply with all applicable standards. Grading activities and foundation construction activities would not deplete groundwater and would not interfere with groundwater recharge.
- *Hazardous Materials*: The proposed parking structure would not be located within or near the hazardous materials sites of environmental concern that were identified in the Final SEIS/SEIR. The proposed parking structure would not introduce hazardous materials during operation. Construction of the proposed parking structure would comply with federal, state, and local requirements if hazardous materials are discovered during construction.
- Geotechnical and Seismic Conditions: According to the Mid-Coast Corridor Transit Project Geotechnical, Geologic and Seismic Impacts Technical Report (SANDAG, 2014b), the proposed parking structure is located in an area of no to low risk for lateral spreading, subsidence, liquefaction, or collapse, as well as a low-to-moderate risk for mudslide. As stated in the Final SEIS/SEIR, the Westfield UTC shopping center does not lie within a recognized area of active faulting and no active faults have been observed. Additionally, the proposed parking structure would not be located in an area that would be subject to seiche or tsunami. The proposed parking structure would follow applicable design standards, including the California Build Code, and would not expose people or structures to substantial risk of loss or injury resulting from existing geotechnical or seismic hazards, nor would the proposed parking structure create geotechnical hazards such as unstable slopes.
- *Energy:* Energy was evaluated in the Final SEIS/SEIR for the region and corridor with the evaluation of long-term/operational effects based on roadway vehicle miles traveled and Trolley energy requirements. The proposed parking structure would not generate new vehicle trips beyond what was evaluated in the Final SEIS/SEIR and would not have a discernible effect on the energy consumption of the overall project. In addition, construction of a parking structure within the Westfield UTC shopping center parking lot was evaluated in the Draft SEIS/SER. The proposed parking structure does not change construction methods or increase the duration of

construction from what was evaluated in the Draft SEIS/SEIR and consequently would not increase energy requirements.

- *Safety and Security:* The proposed parking structure would be located entirely within the Westfield UTC shopping center parking lot and would have no effect on the provision of community safety services and would not affect emergency response times in the community. The proposed parking structure would include crime prevention and security measures such as provisions of sight lines, parking structure lighting systems, and a closed-circuit television system. Construction means and methods would be similar to those required for the construction activities evaluated in the Final SEIS/SEIR and would be performed consistent with federal, state, and local laws and regulations.
- *Electromagnetic Fields:* The proposed parking structure would not contain electromagnetic sources nor create new electromagnetic fields. Further, the proposed parking structure would not affect the implementation of Mitigation Measure EMF1 or the effectiveness of this mitigation measure.
- *Utilities:* The proposed parking structure would require the relocation of existing public utilities to accommodate the placement of the parking structure columns at depths up to 50 feet. As evaluated in the Final SEIS/SEIR, a Utilities Relocation Plan would be developed as part of the project design and would identify all required utility relocations, temporary routing, and reconstruction. Utilities would be relocated prior to advancing construction of the proposed parking structure. SANDAG would coordinate with affected utility companies and the Westfield UTC shopping center. Operation of the proposed parking structure is not anticipated to exceed the capacity of the existing electrical system.

2.1 Transportation—Parking

2.1.1 Long-Term Impacts

The Final SEIS/SEIR included the following CEQA thresholds of significance for long-term impacts of the project on parking:

Would the project substantially affect parking supply?

Final SEIR Finding: Less-Than-Significant Impact (On- and Off-Street Parking)

Addendum Finding: No Impact (On-Street Parking); Less-Than-Significant Impact (Off-Street Parking)

As described in Section 1.3, the Final SEIS/SEIR assumed that 287 parking spaces would be acquired from the Westfield UTC shopping center, of which, 260 parking spaces would be dedicated for transit parking to serve the UTC Transit Center and the other spaces would accommodate a TPSS unit. The Final SEIS/SEIR concluded that the acquisition of these spaces would result in less-than-significant long-term parking impacts because this acquisition would not reduce the shopping center's existing parking supply (approximately 4,500 spaces) below the current parking demand.

The physical footprint of the proposed parking structure and reconfiguration of drive aisles to provide access would result in the removal of approximately 220 parking spaces from the Westfield UTC shopping center parking lot. Approximately 65 parking spaces would be provided on the ground floor of the parking structure for use by shopping center patrons, resulting in a net loss of approximately 155 parking spaces. Per the MOU, SANDAG is not required to replace all parking displaced by the proposed parking structure. The permanent loss of 155 parking spaces to support transit parking is a decrease from the 260 parking spaces that would have been permanently acquired for transit parking as assumed in the Final SEIS/SEIR. Therefore, the proposed parking structure would not change the impact conclusions in the Final SEIS/SEIR.

2.1.2 Construction-related Impacts

The Final SEIS/SEIR included the following CEQA thresholds of significance for construction-related impacts of the project on parking:

Would the project construction substantially affect parking supply?

Final SEIR Finding: Less-Than-Significant Impact

Addendum Finding: Less-Than-Significant Impact

Would the project construction impede emergency access?

Final SEIR Finding: Less-Than-Significant Impact

Addendum Finding: Less-Than-Significant Impact

Parking for construction workers would be provided entirely on-site within the Westfield UTC shopping center property (Figure 1-2). No on-street parking would be eliminated as a result of construction of the proposed parking structure.

TCEs would be required to support construction of the proposed parking structure, resulting in the temporary loss of up to 450 parking spaces. The Final SEIS/SEIR committed to minimizing parking loss during the November to January shopping season to accommodate holiday shoppers. Construction of the proposed parking structure is anticipated to occur between January 2021 and summer/fall 2021, avoiding the November to January shopping season. The TCEs and construction timeframe are being coordinated with representatives of Westfield UTC. Therefore, construction of the proposed parking structure would not change the impact conclusions in the Final SEIS/SEIR.

Construction of the proposed parking structure would not affect on-street emergency access nor would it affect the roadway system in a manner that would impede the provision of emergency services on the property. Emergency access would be maintained to locations on the Westfield UTC shopping center. Further, all construction activities would be temporary. Therefore, construction of the proposed parking structure would not change the impact conclusions in the Final SEIS/SEIR.

2.2 Transportation – Freeway and Roadway System

2.2.1 Long-Term Impacts

The Final SEIS/SEIR included the following CEQA thresholds of significance for long-term impacts of the project on the freeway and roadway system:

Threshold 1: Would the project conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways?

Final SEIR Finding: Less-Than-Significant Impact

Addendum Finding: Less-Than-Significant Impact

The Final SEIS/SEIR did not identify significant long-term impacts to applicable plans, ordinances, or policies related to the roadway system. The proposed parking structure would be located within an existing parking lot. Therefore, the proposed parking structure would not change the impact conclusions in the Final SEIS/SEIR in regard to applicable plans, ordinances, or policies related to the freeway and roadway system.

Threshold 2: Would the project result in any intersection, roadway segment, or freeway segment operating at LOS D or better, to operate at LOS E or F or cause any ramp meter delays to exceed 15 minutes?

Threshold 3: Would the project impact any intersection, roadway segment, or freeway segment operating at LOS E or F under existing or cumulative conditions? If yes, then the impact would be significant if it exceeds the thresholds in Table 3-28 of the Final SEIS/SEIR.

Final SEIR Finding for Thresholds 2 and 3: Less-Than-Significant Impact (Freeway Segments, Freeway Interchanges); Significant Impact (Certain Roadways, Intersections)

Addendum Finding for Thresholds 2 and 3: Less-Than-Significant Impact (Freeway Segments, Freeway Interchanges, Roadways, Intersections)

In regard to Thresholds 2 and 3, a traffic analysis was completed for the Draft SEIS/SEIR to evaluate level-of-service impacts associated with vehicles accessing the 260 transit parking spaces that would be provided for the UTC Transit Center station at the Westfield UTC shopping center. Based on the anticipated location of the joint-use parking structure, it was assumed that all patrons would access parking via the intersection of Genesee Avenue and Esplanade Court/UTC Driveway. Based on the evaluation, an adverse impact was identified at one intersection—Genesee Avenue and Esplanade Court/UTC Driveway—due to a degradation in level-of-service during the p.m. peak hour in the 2030 horizon year. To mitigate impacts, it was proposed that the westbound approach geometry (i.e., the driveway to the Westfield UTC shopping center) be modified to add a westbound left-turn lane. With implementation of this measure, there would not be significant impacts at this intersection.

The Final SEIS/SEIR assumed that 260 parking spaces would be acquired from the Westfield UTC shopping center to provide transit parking. Even though the precise location of those parking spaces was unknown, it was assumed that access to parking would continue to occur via the intersection of Genesee Avenue and Esplanade Court/UTC Driveway. As such, the mitigation proposed in the Draft SEIS/SEIR was also included in the Final SEIS/SEIR and Mitigation Monitoring and Reporting Program.

Based on the location of the proposed parking structure, assumptions regarding access to station parking have been refined such that it is assumed access would occur via three existing driveways to the Westfield UTC shopping center: La Jolla Village Drive at Executive Drive, Genesee Avenue at Esplanade Court/UTC Driveway, and Nobel Drive at Lombard Place. Because motorists are anticipated to approach the shopping center from multiple directions, it is assumed motorists would use the first driveway they encounter on their path of travel to the proposed parking structure. Therefore, based on the modifications to the parking access assumptions, a supplemental traffic analysis was conducted to assess whether new traffic impacts would occur (SANDAG, 2019). No change in the number of project trips was assumed as part of the analysis because the travel demand forecast modeling conducted for the Draft and Final SEIS/SEIR identified a demand for 260 parking spaces.

The supplemental traffic study used the same methodology as the Draft and Final SEIS/SEIR. To assess whether new traffic impacts would be generated as part of the modified access assumptions, the analysis years were updated to account for current conditions by using 2019 for existing conditions and 2035 for the horizon year. The updated analysis used the annual volume growth rate identified in the Draft SEIS/SEIR and applied that growth rate on a per-year basis to grow project trips from 2010 to 2019 and ultimately 2035. An “Existing + Project” analysis was also completed (the study is provided as Appendix A).

Based on the analysis, the project with modifications to the parking access at the Westfield UTC shopping center would not result in new significant traffic impacts at the intersections evaluated. The identified mitigation measure, to modify the westbound approach geometry at the intersection of Genesee Avenue and Esplanade Court/UTC Driveway to include the westbound turn lane, has already been implemented by Westfield UTC. Therefore, the proposed parking structure would result in a less-than-significant impact related to the freeway and roadway system and would not change the impact conclusions in the Final SEIS/SEIR.

Threshold 4: Would the project result in a substantial restriction in access to publicly or privately owned land?

Final SEIR Finding: No Impact

Addendum Finding: No Impact

Threshold 5: Would the project increase traffic hazards to motor vehicles, bicyclists or pedestrians due to proposed non-standard design features (e.g., poor sight distance, proposed driveway onto an access-restricted roadway)?

Final SEIR Finding: No Impact

Addendum Finding: No Impact

Threshold 6: Would the project result in inadequate emergency access?

Final SEIR Finding: Less-Than-Significant Impact

Addendum Finding: Less-Than-Significant Impact

In response to Thresholds 4, 5, and 6, the proposed parking structure would be located entirely within the Westfield UTC shopping center. The proposed parking structure would not result in a substantial restriction in access to publicly or privately owned land, would not increase traffic hazards, and would not result inadequate emergency access. Therefore, the proposed parking structure would not change the impact conclusions in the Final SEIS/SEIR.

2.2.2 Construction-related Impacts

The Final SEIS/SEIR included the following CEQA threshold of significance for construction-related impacts of the project on the freeway and roadway system:

Would the project construction substantially impede or slow traffic movement?

Final SEIR Finding: Significant Impact with Mitigation

Addendum Finding: Significant Impact with Mitigation, no increase in severity

All construction activities related to the proposed UTC Transit Center parking structure would be located within the Westfield UTC shopping center property. Construction access to the construction site would be via Nobel Drive and Lombard Place, with construction vehicle staging and access on Lombard Place, directly east of the proposed parking structure site. Haul routes to and from the construction area would use Genesee Avenue and Nobel Drive, which were identified as haul routes in the Draft and Final SEIS/SEIR. Construction of the Mid-Coast Corridor Transit Project adjacent to the Westfield UTC shopping center is substantially complete and, therefore, construction vehicles associated with major construction of other elements of the project have decreased from the peak of construction activities and the use of Genesee Avenue and Nobel Drive as haul routes would decrease from what was previously analyzed. Therefore, the proposed parking structure would not change the impact conclusions in the Final SEIS/SEIR.

2.3 Historic, Archaeological, and Paleontological Resources

2.3.1 Long-Term Impacts

The Final SEIS/SEIR included the following CEQA thresholds of significance for long-term impacts of the project on historic, archaeological, and paleontological resources:

Would the project cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?

Final SEIR Finding: No Impact

Addendum Finding: No Impact

Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Final SEIR Finding: No Impact

Addendum Finding: No Impact

Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Final SEIR Finding: No Impact

Addendum Finding: No Impact

Would the project disturb any human remains, including those interred outside of formal cemeteries?

Final SEIR Finding: No Impact

Addendum Finding: No Impact

The proposed parking structure would be located entirely within the Westfield UTC shopping center parking lot. No historic resources, archaeological resources, and paleontological resources are located in the Westfield UTC shopping center. Therefore, the proposed parking structure would have no impact and would not change the impact conclusions in the Final SEIS/SEIR.

2.3.2 Construction-related Impacts

The Final SEIS/SEIR included the following CEQA thresholds of significance for construction-related impacts of the project on historic, archaeological, and paleontological resources:

Would the project construction cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5 (e.g., if inadvertent physical contact or damage from vibration affects the property)?

Final SEIR Finding: Less-Than-Significant Impact

Addendum Finding: No Impact

Would project construction cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Final SEIR Finding: Less-Than-Significant Impact

Addendum Finding: Less-Than-Significant Impact

Would the project construction disturb human remains, including interments outside former cemeteries?

Final SEIR Finding: Less-Than-Significant Impact with Mitigation

Addendum Finding: Less-Than-Significant Impact with Mitigation

Would the project construction cause substantial damage to, or destruction of, significant paleontological resources?

Final SEIR Finding: Less-Than-Significant Impact with Mitigation

Addendum Finding: Less-Than-Significant Impact with Mitigation

The proposed parking structure would be located entirely within the Westfield UTC shopping center parking lot and no historic resources are located in the Westfield UTC shopping center or in its proximity. Therefore, the proposed parking structure would have no impact on historic properties and would not change the impact conclusions in the Final SEIS/SEIR.

An archaeological field survey was completed on July 30, 2019, for areas where the proposed parking structure would result in new ground disturbance compared to the Final SEIS/SEIR. Although the proposed parking structure is currently designed to be up to four stories plus the ground floor, the archaeological field survey assumed a six-story parking structure (including one sublevel). Regardless, the current design would still require ground disturbance such as grading, trenching for foundation and utilities, and drilling for piles to support the structure. The depth of soil disturbance would be up to 50 feet below current grade. No archaeological artifacts, features, or sites were identified during the survey. Based on the work completed, no new archaeological resources were identified in the expanded soil disturbance areas; therefore, there would be no new effects on known archaeological historic properties resulting from construction of the proposed parking structure. Implementation of the mitigation measures identified in the Final SEIS/SEIR related to unanticipated discoveries of archaeological resources during construction (CON16: Cultural Resources Awareness Training) and discovery of human remains (CON17: Treatment of Human Remains) would apply to the proposed parking structure project area. In the event of an unanticipated discovery, procedures set forth in

the *Mid-Coast Corridor Transit Project Cultural Resources Discovery Plan* (SANDAG, 2017) would be implemented. Therefore, construction of the proposed parking structure would result in less-than-significant impacts under this threshold and would not change the impact conclusions in the Final SEIS/SEIR.

As stated in Section 4.17.3.2 of the Final SEIS/SEIR, no known burials have been identified within the project area. To account for the possibility of unanticipated discovery of human remains during construction, Mitigation Measure CON17: Treatment of Human Remains would be implemented during construction. Therefore, consistent with the Final SEIS/SEIR, construction of the proposed parking structure would result in less-than-significant impacts under this threshold with mitigation and would not change the impact conclusions in the Final SEIS/SEIR.

Consistent with the Final SEIS/SEIR, construction of the proposed parking structure could have significant impacts on paleontological resources, but these impacts would be reduced to less-than-significant with implementation of Mitigation Measure CON18: Paleontological Resources Monitoring and Mitigation Plan. Based on the *Mid-Coast Corridor Transit Project Paleontological Resources Monitoring and Mitigation Plan* (SANDAG, 2016), there are no known significant fossil localities at the Westfield UTC shopping center and no significant fossils were identified during construction activities for the Mid-Coast Corridor Transit Project that have been completed to date. Therefore, evidence suggests that the likelihood of encountering fossils on the Westfield UTC shopping center property is low. As such, part-time monitoring is required for work that occurs beyond the depths and extents of previous disturbance. Construction would require limited excavation, much of which is adjacent to areas that were previously disturbed. Construction of the proposed parking structure would not increase the likelihood of discovering paleontological resources. Therefore, consistent with the Final SEIR, construction of the proposed parking structure would have a less-than-significant impact with mitigation under this threshold and would not change the impact conclusions in the Final SEIS/SEIR.

2.4 Visual Resources and Aesthetics

2.4.1 Long-Term Impacts

The Final SEIS/SEIR included the following CEQA thresholds of significance for long-term impacts of the project on visual resources and aesthetics:

Would the project substantially block a view of the coast and from the coast through a designated public view corridor as shown in an adopted community plan, the General Plan, or the Local Coastal Program?

Final SEIR Finding: Less-Than-Significant Impact

Addendum Finding: No Impact

Would the project substantially block a view from a public viewing area of a public resource (such as the ocean) that is considered significant by the applicable community plan?

Final SEIR Finding: Less-Than-Significant Impact

Addendum Finding: No Impact

Would the project strongly contrast with the surrounding development or natural topography through excessive height, bulk, signage, or architectural projections?

Final SEIR Finding: Less-Than-Significant Impact with Mitigation

Addendum Finding: Less-Than-Significant Impact

Would the project significantly alter the natural landform in a manner that substantially degrades the visual character of the surrounding area?

Final SEIR Finding: Less-Than-Significant Impact

Addendum Finding: No Impact

Would the project substantially degrade the existing visual character or quality of the site and its surroundings?

Final SEIR Finding: Significant Impact (Loss of Trees in Certain Locations), Less-Than-Significant Impact (Project Features)

Addendum Finding: Less-Than-Significant Impact

Would the project emit or reflect a significant amount of light and glare that would adversely affect day or nighttime views in the area?

Final SEIR Finding: Less-Than-Significant Impact

Addendum Finding: Less-Than-Significant Impact

As described in Section 1.3, the proposed parking structure would be constructed on an existing paved parking lot within the Westfield UTC shopping center and would be bounded by the UTC Westfield parking structure to the north, an interior roadway (Lombard Place) and a Macy's department store to the east, a residential tower to the south, and the UTC Transit Center and Genesee Avenue to the west.

The proposed parking structure would add a new structural element with height and mass within the Westfield UTC shopping center development. However, the overall scale and form of the new parking structure would be consistent with the scale of surrounding structures, including the UTC Westfield parking structure to the north, the two-story Macy's building to the east, and the multi-story residential tower to the south. The proposed parking structure would be designed to complement the Westfield UTC shopping center and would include decorative landscaping and trees and façade treatments along the perimeter that would soften the bulk and scale of the structure. As a result, the proposed parking structure would not strongly contrast with the surrounding

development nor degrade the existing visual character of the UTC Westfield property. Therefore, the proposed parking structure would result in a less-than-significant impact and would not result in greater impacts than those identified in the Final SEIS/SEIR.

No important or scenic resources, dominant landforms, highly valued viewing scenes, landmark architecture, or intact natural resources are located on or in proximity to the Westfield UTC shopping center. In addition, views of the coast and from the coast are blocked by surrounding development and are not available at this location and elevation. Therefore, the proposed parking structure would not impact views of the coast or natural resources.

The proposed parking structure would be illuminated for evening and nighttime use, including internal lighting for stalls and traffic aisles and exterior security lighting. Exterior lighting would be directed toward the structure and pedestrian access areas to avoid spillover light effects. Any lighting visible from off-site locations would blend with the overall ambient glow associated with the immediate urban environment, which includes lighting associated with the shopping center and other parking structures. The proposed parking structure façade would not be reflective or produce glare. Therefore, the proposed parking structure would result in a less-than-significant impact and would not result in greater lighting impacts than those identified in the Final SEIS/SEIR.

2.4.2 Construction-related Impacts

The Final SEIS/SEIR included the following CEQA thresholds of significance for construction-related visual impacts of the project:

Would the project construction substantially degrade the existing visual character or quality of the site and its surroundings?

Final SEIR Finding: Less-Than-Significant Impact

Addendum Finding: Less-Than-Significant Impact

Would the project construction create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Final SEIR Finding: Less-Than-Significant Impact

Addendum Finding: Less-Than-Significant Impact

The Final SEIS/SEIR stated that project construction would have a less-than-significant impact under this threshold because construction activities are typically perceived as temporary. Construction activities of the proposed parking structure would be temporary in nature and would occur concurrently with other construction activities associated with the project in this area. Therefore, the proposed parking structure would result in a less-than-significant impact and would not result in greater impacts than those identified in the Final SEIS/SEIR.

Construction of the proposed parking structure would not create new sources of light or glare from what was evaluated in the Final SEIS/SEIR. Construction of the proposed parking structure would occur primarily during the day. If nighttime construction is

required, temporary illumination sources would be shielded and directed toward the construction to avoid light spillover and glare (consistent with project screening measures identified in the Final SEIS/SEIR). Therefore, the proposed parking structure would result in a less-than-significant impact and would not result in greater impacts than those identified in the Final SEIS/SEIR.

2.5 Air Quality

2.5.1 Construction-related Impacts

The Final SEIS/SEIR included the following CEQA threshold of significance for construction-related air quality impacts of the project:

Would the project during construction conflict with the adopted air quality plan and cause air quality to exceed regulatory thresholds?

Final SEIR Finding: Significant Impact

Addendum Finding: Significant Impact (Project + Proposed Work), No Change in Severity

The Final SEIS/SEIR determined that construction of the project is expected to have significant, although temporary, impacts on air quality. Project measures and BMPs would minimize construction emissions. However, even with these measures, the South Coast Air Quality Management District significance thresholds for nitrogen oxides and the San Diego Air Pollution Control District significance threshold for nitrogen oxides are expected to be exceeded and the impacts would be considered significant and unavoidable.

The maximum annual and daily pollutant emissions identified in the Final SEIS/SEIR and used to identify the significant effect were estimated for the entire project based on the construction schedule and range of activities assuming simultaneous use of many pieces of heavy-duty construction equipment. As of August 2020, a substantial portion of heavy construction activities required for the overall project has been completed. Specifically, all guideway columns and the majority of the guideway itself have been constructed. The construction area for the proposed parking structure represents a minor portion of the overall construction area for the project. Additionally, construction of the proposed parking structure would require limited heavy equipment compared to the amount of equipment that was simultaneously in operation during intense construction activities. As such, emissions would not exceed the maximum daily emissions presented in the Final SEIS/SEIR and would add a limited amount to the tons-per-year totals. Thus, while construction of the proposed parking structure may generate additional pollutant emissions, including nitrogen oxides, these emission levels would not worsen or exacerbate the identified significant impacts. Therefore, consistent with the Final SEIS/SEIR, construction of the parking structure along with other project elements throughout the corridor would have a significant impact under this threshold and the impact determination from the Final SEIS/SEIR remains unchanged.

2.6 Climate Change

2.6.1 Construction-related Impacts

The Final SEIS/SEIR did not include separate CEQA thresholds of significance for construction-related GHG emissions; however, emissions of carbon dioxide, a GHG, were evaluated as part of the construction-related air quality analysis. Section 4.17.3 of the Final SEIS/SEIR stated that while GHG emissions during construction would exceed local thresholds, these emissions would be temporary and would be offset by the overall reduction in GHG emissions that would result through implementation of the project. As stated in Section 2.5, emissions would not exceed the maximum daily emissions presented in the Final SEIS/SEIR and would add a limited amount to the tons-per-year totals. Thus, while construction of the proposed parking structure may generate additional pollutant emissions, these emission levels would be minor relative to the overall project and would not worsen or exacerbate the identified significant impacts. Therefore, the impact conclusions in the Final SEIS/SEIR for climate change remain unchanged.

2.7 Growth-Inducing Impacts

Construction of the proposed parking structure would occur on an existing parking lot within the Westfield UTC shopping center to serve the UTC Transit Center transit users and would not result in growth-inducing impacts. The proposed parking structure does not include housing or provide new infrastructure that could induce growth. Therefore, the impact conclusions from the Final SEIS/SEIR remain unchanged.

2.8 Cumulative Impacts

Cumulative effects are caused when the impacts of the project or proposed work are combined with past, present, and reasonably foreseeable actions, including both public and private actions. As described in this Addendum, implementation of the proposed work would not result in new significant impacts or an increase in the severity of impacts, either long term or during construction.

It is anticipated that the overall construction timeframe for the proposed parking structure would be approximately nine months. Construction of the proposed parking structure could occur concurrently with other development activities on the Westfield UTC shopping center site that may also be underway in 2021. Per the MOU, SANDAG is committed to coordinating closely with Westfield UTC to minimize adverse effects of the on-going construction projects, including phasing the various elements of the construction process. Therefore, cumulatively considerable impacts during construction would not occur. As such, the impact determinations regarding cumulative impacts from the Final SEIS/SEIR remain unchanged.

2.9 Mandatory Findings of CEQA Significance

Under Section 15065(a) of the CEQA Guidelines, a CEQA finding of significance is required if certain conditions would occur as a result of a project. This Addendum discloses environmental impacts, the level of CEQA significance prior to mitigation, project requirements that are otherwise required by law or are incorporated as part of the project description, feasible mitigation measures, and the level of CEQA significance

after the incorporation of mitigation measures. This section discusses whether the project would result in any conditions that trigger mandatory findings of significance under CEQA.

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 an endangered, rare or threatened species; or eliminate important examples of the major periods of California history or prehistory?

No. The proposed parking structure would be located entirely within the Westfield UTC shopping center parking lot and would not result in new or more severe impacts to biological resources compared to the Final SEIS/SEIR. The proposed parking structure would have no impact on biological resources and, as stated in Section 2.3, the proposed parking structure would have less-than-significant impacts on archaeological and paleontological resources during construction.

Does the project have the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals?

No. The proposed parking structure would not result in long-term significant impacts to elements of the built or natural environment. A joint-use parking structure was originally envisioned in the Draft SEIS/SEIR. The Final SEIS/SEIR assumed that 260 transit parking spaces would be provided by acquisition of parking spaces from the Westfield UTC shopping center. The proposed parking structure does not affect the long-term gains identified in the Final SEIS/SEIR, including the provision of an improved transit network; increased access to regional and local activity centers, including a reduction in the number of transfers; improved transit reliability with more passengers riding in exclusive rights-of-way; increased transit ridership; better support for the region's goals for livability, sustainability, and equity; and increased jobs and economic activity through expanded transit services.

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.)

No. Section 4.21.2 of the Final SEIS/SEIR identified cumulative impacts resulting from localized traffic impacts and short-term cumulative impacts on the transportation system. Additionally, the Final SEIS/SEIR identified cumulative impacts during construction in the following areas:

- Community and neighborhoods
- Socioeconomic and fiscal
- Air quality
- Paleontological resources

As stated in Section 2.8 of this Addendum, the proposed parking structure would not result in cumulative impacts, either long term or during construction. As indicated in the introduction to Section 2.0, the proposed parking structure would not change the impact conclusions related to community and neighborhoods or socioeconomic and fiscal and therefore there is no change to cumulative impacts for these topics. Construction activities associated with the proposed parking structure would not change the equipment or methods used for construction, nor would the intensity, duration, or nature of the work change substantially from that analyzed in the Final SEIS/SEIR such that a new air quality impact may result. While there is potential for paleontological resources to be discovered during excavation, the nature of construction does not pose a greater potential for such discovery beyond what was analyzed in the Final SEIS/SEIR. In addition, Mitigation Measure CON18: Paleontological Resources Monitoring and Mitigation Plan would apply.

Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?

No. The proposed parking structure would not result in new significant impacts or increase the severity of significant impacts identified in the Final SEIS/SEIR.

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3.0 SUMMARY OF ENVIRONMENTAL FINDINGS

Based on the evaluation presented in this Addendum, SANDAG determined that the construction and operation of a parking structure at the UTC Transit Center would not materially affect the analysis and conclusions in the Final SEIS/SEIR. Conclusions remain unchanged regarding long-term, construction, and cumulative impacts. Avoidance and minimization measures also remain unchanged. Construction activities associated with the proposed parking structure would be consistent with construction activities analyzed in the Draft and Final SEIS/SEIR and would not require any new or modified mitigation measures to avoid potentially significant impacts. There has been no change in circumstances that would affect the conclusions and determinations made in the Final SEIS/SEIR. Thus, in accordance with CEQA Section 15162, a subsequent or supplemental EIR is not required.

Conclusion: No change in impacts compared to Final SEIS/SEIR

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4.0 REFERENCES

San Diego Association of Governments (SANDAG). 2013. *Mid-Coast Corridor Transit Project Draft Supplemental Environmental Impact Statement and Subsequent Environmental Impact Report.*

San Diego Association of Governments (SANDAG). 2014a. *Mid-Coast Corridor Transit Project Final Supplemental Environmental Impact Statement and Subsequent Environmental Impact Report.*

San Diego Association of Governments (SANDAG). 2014b. *Mid-Coast Corridor Transit Project Geotechnical, Geologic and Seismic Impacts Technical Report.*

San Diego Association of Governments (SANDAG). 2015. *Memorandum of Understanding Between San Diego Association of Governments, San Diego Metropolitan Transit System and UTC Venture LLC Regarding the University Towne Center Bus Transit Center and Mid-Coast Light Rail Transit Project.* October 26, 2015.

San Diego Association of Governments (SANDAG). 2016. *Mid-Coast Corridor Transit Project Paleontological Resources Monitoring and Mitigation Plan.*

San Diego Association of Governments (SANDAG). 2017. *Mid-Coast Corridor Transit Project Cultural Resources Discovery Plan.*

San Diego Association of Governments (SANDAG). 2020. *Mid-Coast Corridor Transit Project Supplemental Traffic Analysis for the UTC Parking Structure*.

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MID-COAST CORRIDOR
TRANSIT PROJECT

Appendix A
Traffic Study

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MID-COAST CORRIDOR
TRANSIT PROJECT

Traffic Study Technical Memorandum

September 22, 2020

Prepared by

SANDAG

MID-COAST CORRIDOR
TRANSIT PROJECT

Traffic Study
Technical Memorandum
September 22, 2020

Prepared by:
The San Diego Association of Governments (SANDAG)

SANDAG

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Project Background

The San Diego Association of Governments (SANDAG) and the Federal Transit Administration completed the *Mid-Coast Corridor Transit Project Final Supplemental Environmental Impact Statement/Subsequent Environmental Impact Report* (SEIS/SEIR) in the fall of 2014. In the Draft SEIS/SEIR, 260 transit parking spaces were proposed at the University Towne Centre (UTC) Transit Center station that would be provided in a joint-use parking structure at the Westfield UTC shopping center. The parking structure would be constructed by Westfield as part of the planned expansion of the shopping center with transit parking spaces constructed as an additional level on the parking structure. The Final SEIS/SEIR assumed that the 260 transit parking spaces would be provided by acquisition of parking spaces from the Westfield UTC shopping center. Access to the parking structure was assumed from the intersection of Genesee Avenue and Esplanade Court/UTC Driveway only.

Since completion of the Final SEIS/SEIR, SANDAG has continued coordination with representatives of the Westfield UTC shopping center. As part of this coordination, the Westfield UTC shopping center requested that SANDAG construct a parking structure to provide transit parking in lieu of the purchase of existing shopping center parking spaces. Based on the revised location of the proposed parking structure, access is now assumed to be via three existing driveways to the Westfield UTC shopping center: La Jolla Village Drive at Executive Drive, Genesee Avenue at Esplanade Court/UTC Driveway, and Nobel Drive at Lombard Place. Specifically, it is assumed motorists would use the first driveway they encounter on their path of travel to the parking structure.

Purpose

Based on the modified parking access assumptions, a supplemental traffic analysis was conducted to assess whether new significant traffic impacts would be generated as a result of this change. Additionally, other related traffic assumptions that could have changed since approval of the Final SEIS/SEIR were also reviewed and adjusted for this supplemental analysis. These included the following:

- Existing Counts
- Baseline to Horizon Year Growth Factors
- Assumed Intersection Geometries

The purpose of this memorandum is to provide a summary of the approach and findings of this supplement traffic analysis.

Summary of Findings

Analysis of both the Existing (2019) + Project Condition and the Horizon Year (2035) + Project Condition revealed that the project, with modification to the parking access at the Westfield UTC shopping center, would not result in any new significant traffic impacts.

Methodology and Assumptions

Analysis Scenarios Studied

The following scenarios were analyzed in the Final SEIS/SEIR:

1. Existing Conditions (2010) Without Project (Mid-Coast Corridor Transit Project)
2. Existing Conditions (2010) With Project
3. Horizon Year (2030) Without Project
4. Horizon Year (2030) With Project

To adequately assess whether new traffic impacts were generated as part of the modified access assumptions, the forecast analysis years were updated to accommodate current conditions. As a result, the following scenarios were analyzed:

1. Existing Conditions (2019) Without Project (Mid-Coast Corridor Transit Project)
2. Existing Conditions (2019) With Project
3. Horizon Year (2035) Without Project
4. Horizon Year (2035) With Project

Project Trip Generation

The same methodology used in the Final SEIS/SEIR was used to analyze the updated project trip generation and project distribution as it relates to vehicle trips to and from the proposed parking structure. To adequately assess whether new traffic impacts were generated as part of the modified access assumptions, the forecast analysis years were updated to accommodate current conditions by using Existing Conditions (2019) and Horizon Year (2035). Consistent with the project trip generation analysis used in the Final SEIS/SEIR, the updated analysis used the annual volume growth rate identified in the Final SEIS/SEIR by applying the growth rate on a per-year basis to grow project trips from 2010 to 2035 to represent the anticipated project trips in the new Horizon Year (2035). To be conservative, the 2035 project trips were also used in the Existing Conditions (2019) scenario. The tables that generate this calculation are provided in Attachment 1.

Project Trip Distribution

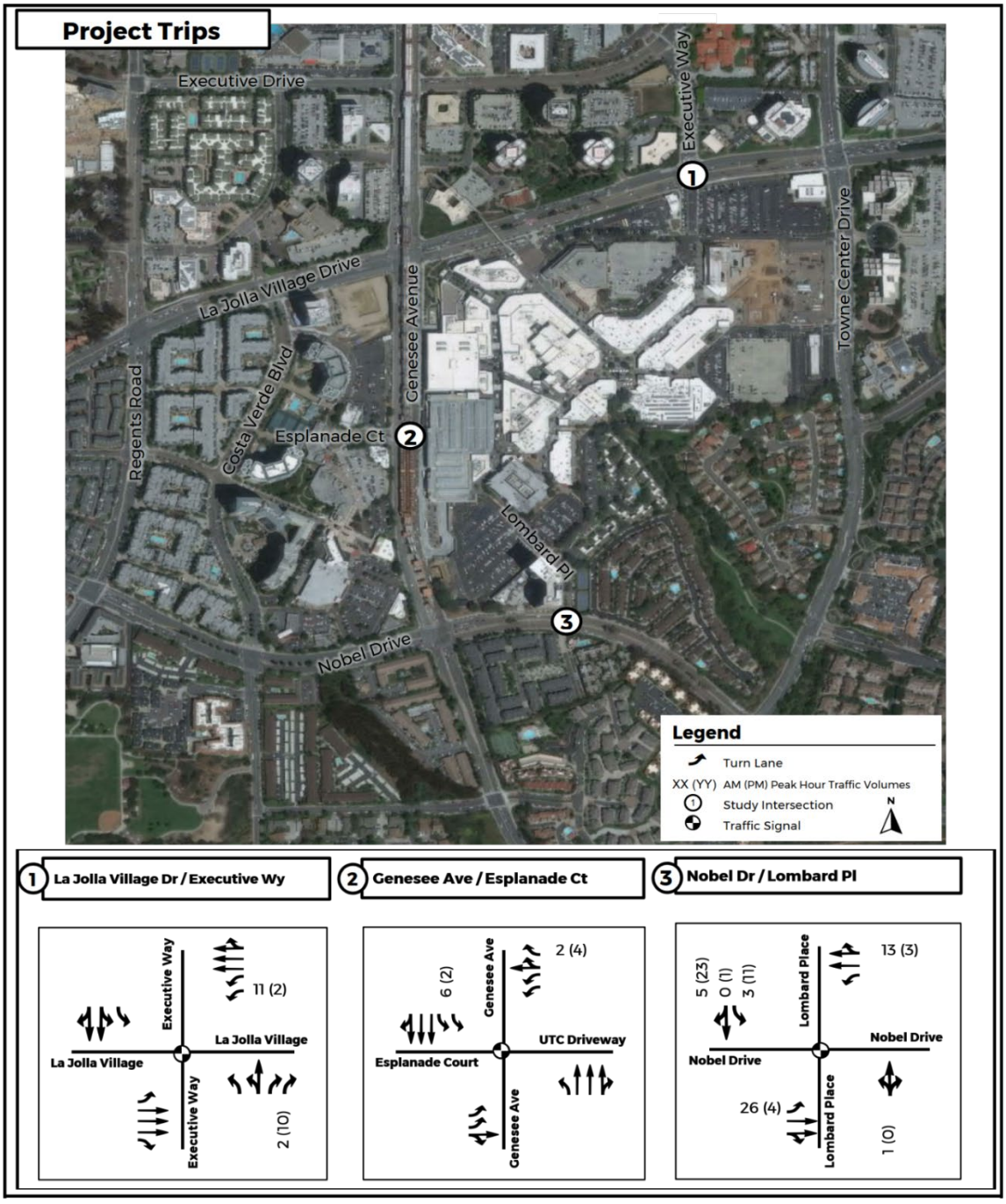
Access to station parking has been refined to provide access via the three existing driveways to the Westfield UTC shopping center: La Jolla Village Drive at Executive Drive, Genesee Avenue at Esplanade Court, and Nobel Drive at Lombard Place because this station is anticipated to attract motorists arriving from various locations.

With additional access points available, it is reasonable to assume that drivers would use the first driveway encountered from their origination point to access the parking garage. The project trips were distributed accordingly based on that approach. Figures presenting the redistribution of these project trips are provided in Attachment 2.

Study Area

The extent of the study area analyzed followed the guidelines set forth in the City of San Diego Traffic Impact Study Guidelines. Based on these guidelines, the intersections in the study area and associated project trips are shown in Figure 1.

Figure 1. Study Interesections and Project Trips



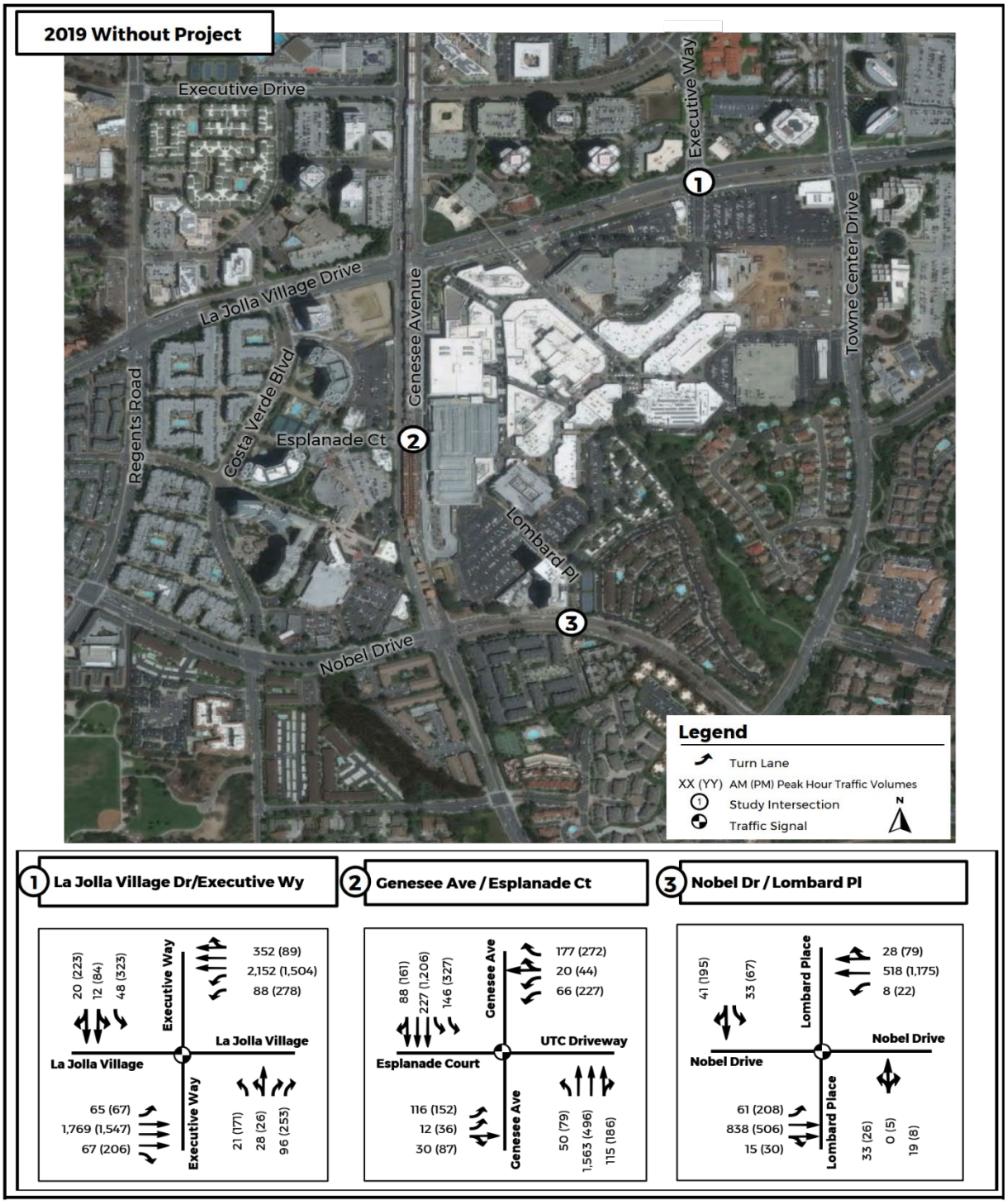
Source: SANDAG 2020

Data Collection and Volume Development

While the baseline year of analysis was 2019, counts were unable to be collected in 2018 or 2019 due to existing construction for the project. However, in 2016, prior to construction, the University Community Plan (UCP) was updated. The study conducted for the update of the UCP included collection of traffic counts in 2015, volume growth to 2035, and intersection level-of-service (LOS) analysis. As such, the project team collected data from the UCP traffic study to develop traffic volumes for the analysis scenario year 2019 and for the Horizon Year 2035. For the Horizon Year 2035, volumes were used directly from the UCP. For the scenario year 2019, an annual growth rate was derived from the 2015 counts and the 2035 volumes. This annual growth rate was then applied to the 2015 counts to derive the scenario volumes.

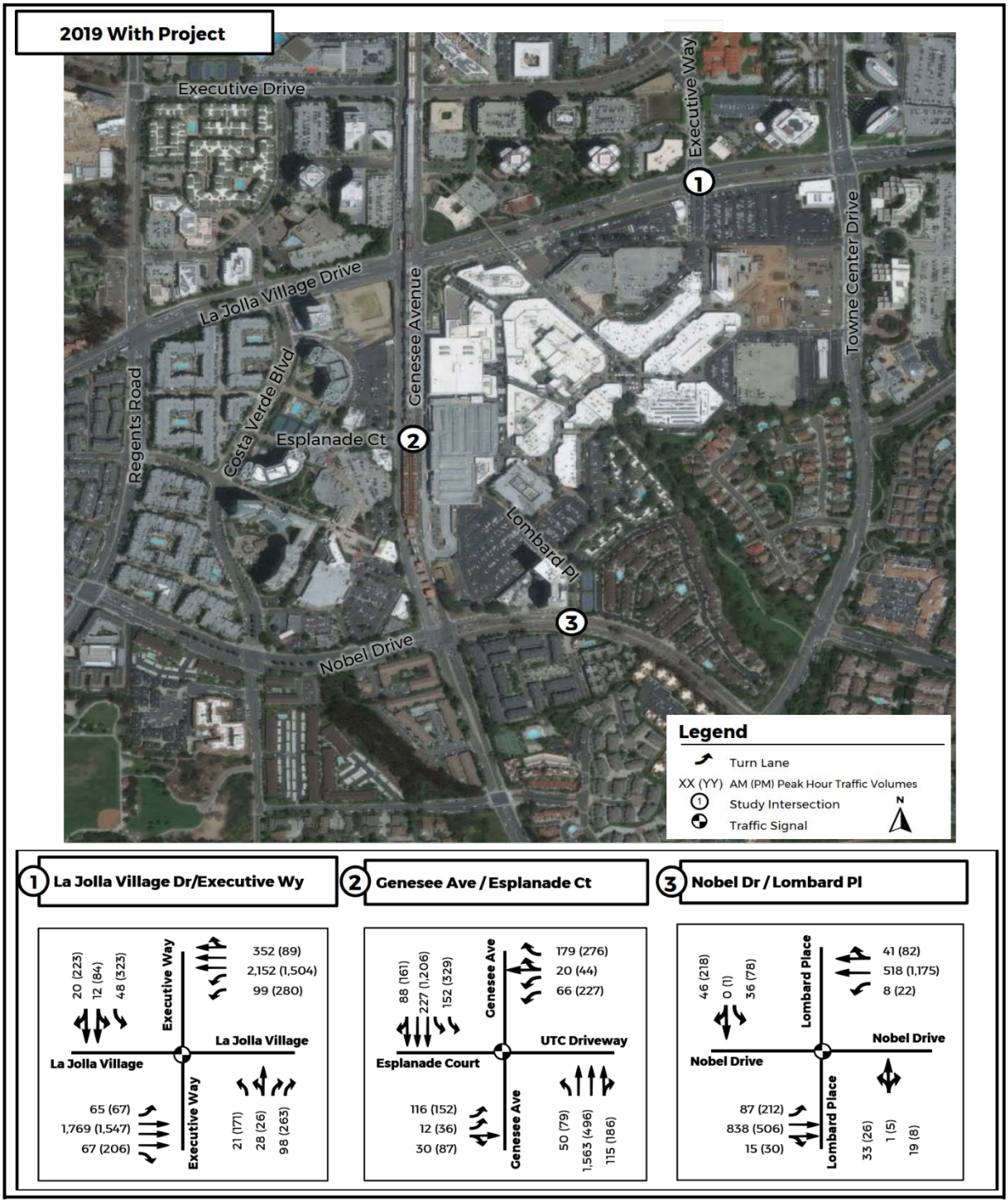
Additionally, intersection configurations at the project driveways were reviewed from the UCP traffic analysis and were determined to be consistent with the pavement delineation plans for the project. Figure 1 through Figure 5 show the volumes and intersection configurations for the three driveways within the study area for each analysis scenario. For further information on the data collected, as well as the development of these volumes, refer to Attachment 3.

Figure 2. Existing Condtions (2019) Without Project



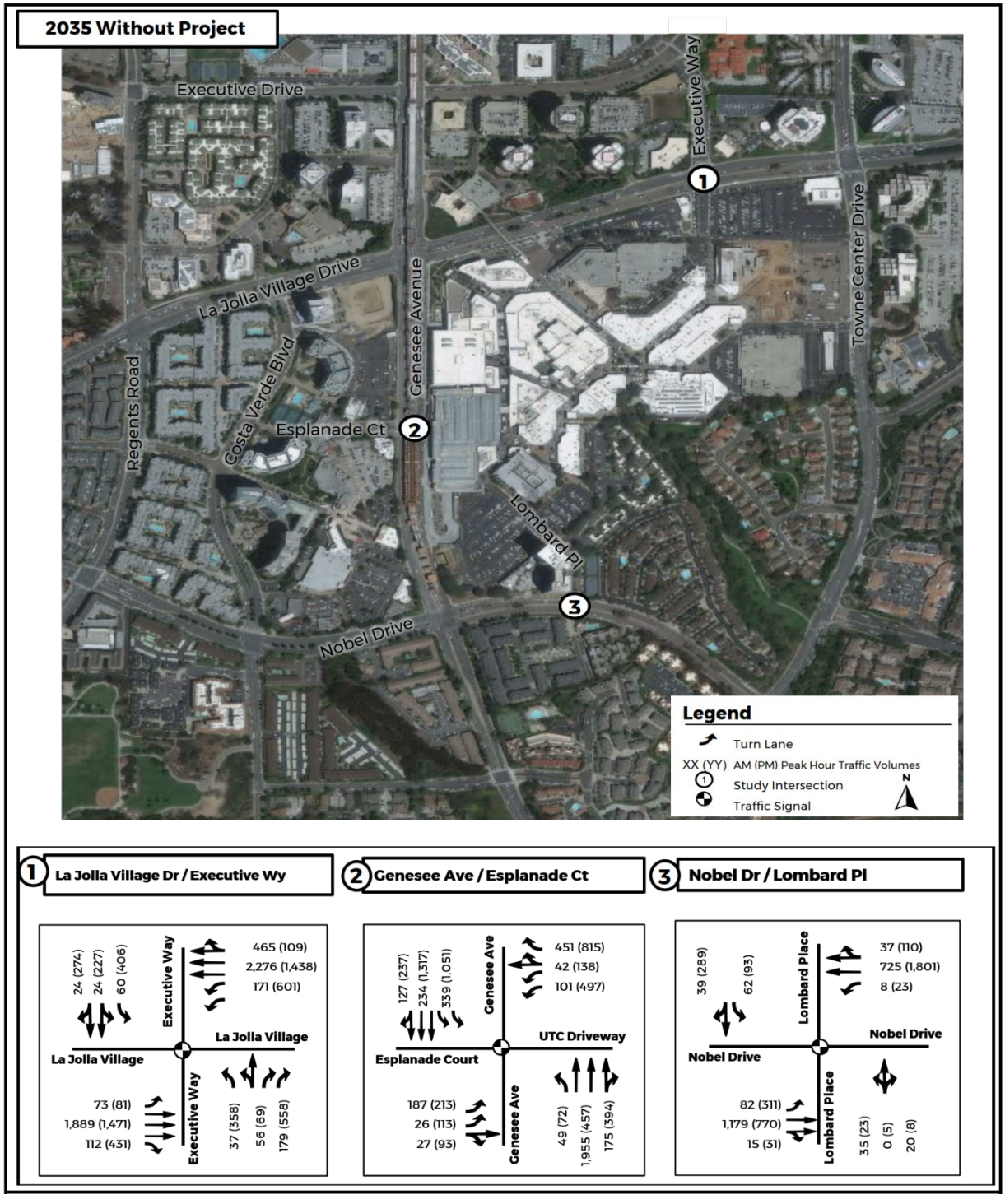
Source: SANDAG, 2020

Figure 3. Existing Conditions (2019) With Project



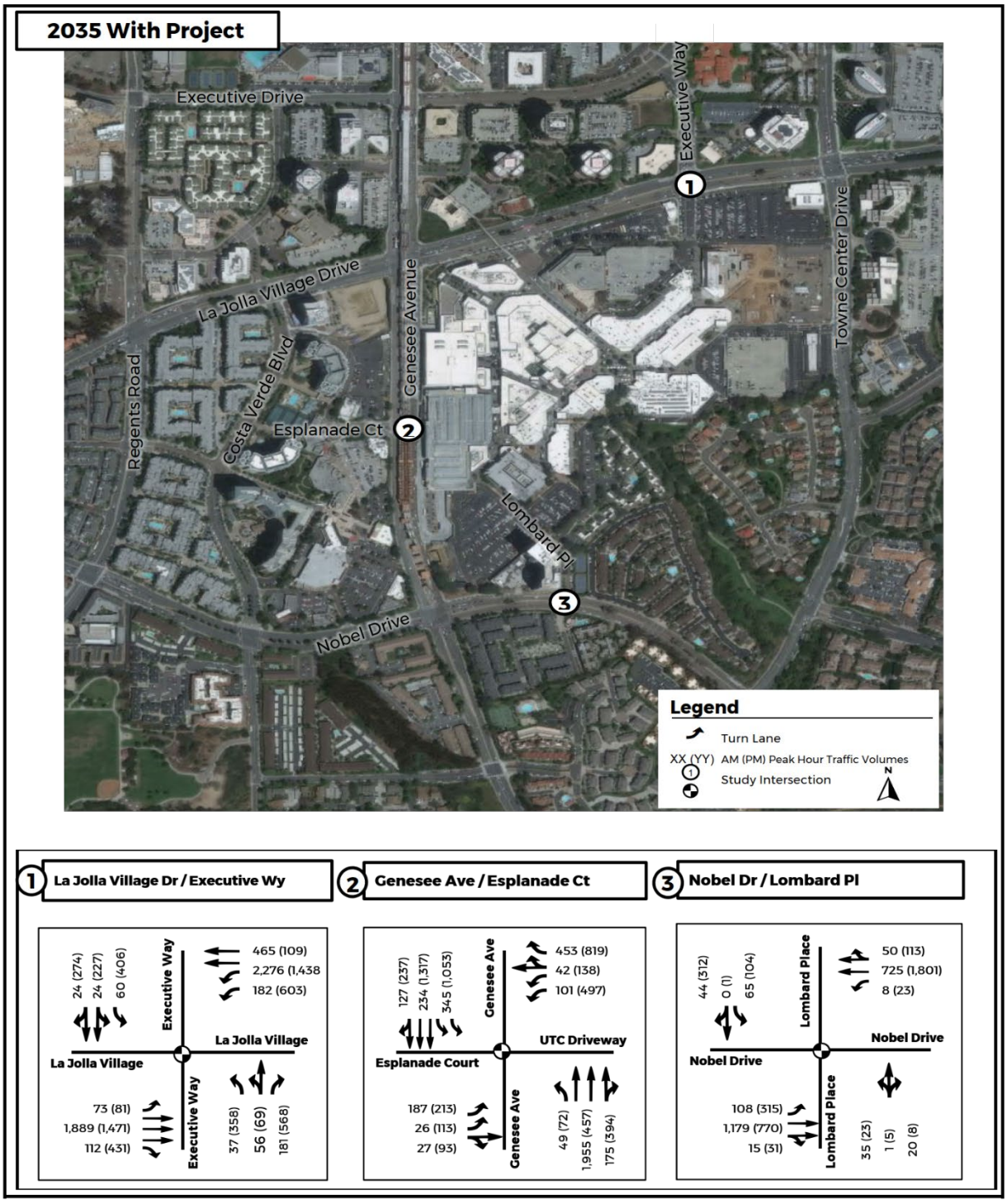
Source: SANDAG, 2020

Figure 4. Horizon Year (2035) Without Project



Source: SANDAG, 2020

Figure 5. Horizon Year (2035) With Project



Source: SANDAG, 2020

Intersection Operations and Level-of-Service Thresholds

To gauge the traffic operational performance, a qualitative measure known as LOS is used to describe user experience within a traffic stream in terms of speed, freedom to maneuver, delay, and comfort. Letter grades "A" through "F" are assigned to different traffic conditions based on delay for intersection calculations.

In accordance with the City of San Diego's guidelines, and to maintain consistency with the Final SEIS/SIER, the LOS analysis of study intersections was performed using the methodology described in the Highway Capacity Manual (HCM) 2000 for signalized intersections. AM and PM peak-hour intersection LOS analyses were conducted using the Synchro computer program version 10.0. The key input assumptions for the analyses are shown in Table 1.

Table 1. Intersection Analysis Assumptions for Existing Conditions

Parameter	Source
Peak Hour Factor	2019: *Based on 2015 counts from the UCP* 2035: *0.95*
Saturation Flow	Utilized default rates from Synchro
Intersection Geometry	University Community Plan Update Traffic Analysis
Signal Phasing	Existing Timing Plans verified against University Community Plan Update Traffic Analysis
Signal Timing	Use existing timing plans for base inputs (Min Green, Clearance Interval, etc.) Synchro Optimize Feature for Splits

Source: SANDAG 2020
Notes: UCP = University Community Plan

The HCM LOS thresholds for signalized intersections are shown in Table 2. Note that a lower boundary is defined for LOS "F" but no upper boundary is defined. In cases where the forecast delay is greater than 180 seconds, drivers would tend to divert to other routes, change their time of travel, select an alternate destination, or change their behavior in ways that are not well represented in the HCM methodology. As such, delays over 180 seconds are not considered meaningful.

Table 2. Level-of-Service Thresholds for Signalized Intersections

Level of Service	Average Control Delay for Signalized Intersections (seconds/vehicle)
A	≤ 10
B	> 10 to 20
C	> 20 to 35
D	> 35 to 55
E	> 55 to 80
F	> 80

Source: HCM 2000

To determine if a project contributes enough traffic to a transportation facility to consider mitigation measures, a level of significance threshold is used. Table 3 identifies the levels of significance for intersection operations per the City of San Diego Traffic Impact Study Guidelines. If the project causes a change greater than the level shown, the project owner is considered to be responsible for all or part of the improvements required to mitigate site traffic to the previous level for the facility prior to the project's impacts.

Table 3. Significant Impact Thresholds (City of San Diego)

Level of Service With Project	Allowable Increase in Delay Due To Project Impacts
E	2 seconds
F	1 second

Source: City of San Diego 1998

Results

The following two subsections summarize the results for the Existing Conditions (2019) and Horizon Year (2035) scenarios for both with and without the project. In both analysis scenarios, the redistribution of traffic would not result in new significant impacts. The Synchro results are included in Attachment 4.

Existing Conditions (2019) Scenario

In the Existing Conditions (2019) scenario, all three analyzed intersections meet acceptable LOS for the AM and PM peak hour. The lowest LOS threshold observed is "D" in the PM peak hour for the following driveways:

- Executive Way and La Jolla Village Drive
- Genesee Avenue and Esplanade Court

Summary results for Existing Conditions with and without the project are provided in Table 4.

Table 4. Existing Conditions (2019) Conditions – Results Summary

Intersection	Existing Conditions (2019) Conditions		Without Project		With Project		Δ Delay	Sig?
	Control Type	Method	Delay	LOS	Delay	LOS		
AM Peak Hour								
1. Executive Wy and La Jolla Village Dr	TS	HCM 2000	24.8	C	25.8	C	1.0	No
2. Genesee Ave and Esplanade Ct	TS	HCM 2000	19.3	B	19.4	B	0.1	No
3. Lombard St and Nobel Dr	TS	HCM 2000	9.1	A	9.5	A	0.4	No
PM Peak Hour								
1. Executive Wy and La Jolla Village Dr	TS	HCM 2000	43.3	*D*	43.4	*D*	0.1	No
2. Genesee Ave and Esplanade Ct	TS	HCM 2000	42.5	*D*	42.8	*D*	0.3	No
3. Lombard St and Nobel Dr	TS	HCM 2000	17.7	B	18.5	B	0.8	No

Source: SANDAG, 2020
Notes: HCM = Highway Capacity Model; LOS = Level of Service; Sig = Significant; TS = Traffic Signal

Horizon Year (2035) Scenario

In the Horizon Year (2035) scenario, all three analyzed intersections meet acceptable LOS for the AM and PM peak hour except for the following intersection in the PM peak hour:

- Genesee Avenue and Esplanade Court

The intersection of Genesee Avenue and Esplanade Court would operate at LOS "F" during the PM peak hour under both the Horizon Year 2035 Without Project and Horizon Year 2035 With Project scenarios. A LOS of "D" is also observed at all intersections/driveways in the study area. However, the change in delay between the with project and without project scenarios does not exceed the thresholds defined in Table 3. Therefore, the impact is not considered significant.

The remainder of the study intersections would operate at acceptable LOS under the AM and PM peak hours. A summary of the results for both the with project and without project scenarios is provided in Table 5.

Table 5. Horizon Year (2035) Conditions – Results Summary

Intersection	Horizon Year (2035) Conditions		Without Project		With Project		Δ Delay	Sig?
	Control Type	Method	Delay	LOS	Delay	LOS		
AM Peak Hour								
1. Executive Wy and La Jolla Village Dr	TS	HCM 2000	45.7	*D*	45.9	*D*	0.2	No
2. Genesee Ave and Esplanade Ct	TS	HCM 2000	37.1	*D*	37.5	*D*	0.4	No
3. Lombard St and Nobel Dr	TS	HCM 2000	9.0	A	10.2	B	1.2	No
PM Peak Hour								
1. Executive Wy and La Jolla Village Dr	TS	HCM 2000	54.1	*D*	54.3	*D*	0.2	No
2. Genesee Ave and Esplanade Ct	TS	HCM 2000	90.0	*F*	90.5	*F*	0.5	No
3. Lombard St and Nobel Dr	TS	HCM 2000	39.9	*D*	43.1	*D*	3.2	No

Source: SANDAG, 2020
Notes: HCM = Highway Capacity Model; LOS = Level of Service; Sig = Significant; TS = Traffic Signal

Conclusion

Based on the analysis described in this memorandum and the supporting attachments, no new significant impacts were identified. Therefore, no additional mitigation is required for the project.

Attachments:

1 Mid-Coast Corridor Transit Project Trip Growth
2 Mid-Coast Corridor Transit Project Trip Redistribution
3 Existing Conditions and Horizon Year Volume Development
4 Existing Conditions and Horizon Year Synchro Results

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Attachment 1:

Mid-Coast Corridor Transit Project Trip Growth

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SEIS/SEIR

Existing (2010 No Build) - AM Peak

Intersection	Northbound			Southbound			Eastbound			Westbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
Genesee Ave and Regents Rd	302	0	67	0	0	0	3	574	134	138	1601	0	2819
Genesee Ave and Eastgate Mall	117	1272	334	168	398	80	33	155	40	47	134	348	3126
Genesee Ave and Executive Dr	50	1687	330	76	377	28	32	78	51	19	44	99	2871
Genesee Ave and Executive Sq	194	2026	161	12	409	22	24	4	50	10	3	9	2924
Genesee Ave and La Jolla Village Dr	227	1307	188	213	180	82	454	1130	112	116	789	622	5420
Genesee Ave and Esplanade Ct	66	1539	115	62	242	106	133	8	40	49	11	51	2422

Existing (2010 No Build) - PM Peak

Intersection	Northbound			Southbound			Eastbound			Westbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
Genesee Ave and Regents Rd	156	0	53	0	0	0	8	1382	299	44	864	0	2806
Genesee Ave and Eastgate Mall	39	519	71	317	1041	41	25	113	62	160	216	309	2913
Genesee Ave and Executive Dr	30	454	49	62	1293	57	35	51	86	195	181	144	2637
Genesee Ave and Executive Sq	26	485	64	22	1523	14	38	18	170	115	6	24	2505
Genesee Ave and La Jolla Village Dr	187	236	185	415	1145	242	134	787	269	354	1459	203	5616
Genesee Ave and Esplanade Ct	57	288	199	224	1404	216	122	31	91	250	31	184	3097

SEIS/SEIR

Existing (2010 + Project) - AM Peak

Intersection	Northbound			Southbound			Eastbound			Westbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
Genesee Ave and Regents Rd	302	0	67	0	0	0	3	574	134	138	1601	0	2819
Genesee Ave and Eastgate Mall	117	1272	334	168	398	80	33	155	40	47	134	348	3126
Genesee Ave and Executive Dr	50	1687	330	76	377	28	32	78	53	19	44	99	2873
Genesee Ave and Executive Sq	194	2026	161	12	411	22	24	4	51	10	3	9	2927
Genesee Ave and La Jolla Village Dr	228	1308	190	213	183	82	454	1130	115	127	789	622	5441
Genesee Ave and Esplanade Ct	66	1539	154	79	242	106	133	8	40	57	11	54	2489

Existing (2010 + Project) - PM Peak

Intersection	Northbound			Southbound			Eastbound			Westbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
Genesee Ave and Regents Rd	156	0	53	0	0	0	8	1382	299	44	864	0	2806
Genesee Ave and Eastgate Mall	39	519	71	317	1041	41	25	113	62	160	216	309	2913
Genesee Ave and Executive Dr	31	454	49	62	1293	57	35	51	86	195	181	144	2638
Genesee Ave and Executive Sq	27	486	64	22	1523	14	38	18	170	115	6	24	2507
Genesee Ave and La Jolla Village Dr	189	238	194	415	1146	242	134	787	269	356	1459	203	5632
Genesee Ave and Esplanade Ct	57	288	205	227	1404	216	122	31	91	282	31	198	3152

SEIS/SEIR Calculated Difference

2010 Project Trips - AM Peak

Intersection	Northbound			Southbound			Eastbound			Westbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Genesee Ave and Regents Rd	0	0	0	0	0	0	0	0	0	0	0	0	0
Genesee Ave and Eastgate Mall	0	0	0	0	0	0	0	0	0	0	0	0	0
Genesee Ave and Executive Dr	0	0	0	0	0	0	0	0	2	0	0	0	2
Genesee Ave and Executive Sq	0	0	0	0	2	0	0	0	1	0	0	0	3
Genesee Ave and La Jolla Village Dr	1	1	2	0	3	0	0	0	3	11	0	0	21
Genesee Ave and Esplanade Ct	0	0	39	17	0	0	0	0	0	8	0	3	67

2010 Project Trips - PM Peak

Intersection	Northbound			Southbound			Eastbound			Westbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Genesee Ave and Regents Rd	0	0	0	0	0	0	0	0	0	0	0	0	0
Genesee Ave and Eastgate Mall	0	0	0	0	0	0	0	0	0	0	0	0	0
Genesee Ave and Executive Dr	1	0	0	0	0	0	0	0	0	0	0	0	1
Genesee Ave and Executive Sq	1	1	0	0	0	0	0	0	0	0	0	0	2
Genesee Ave and La Jolla Village Dr	2	2	9	0	1	0	0	0	0	2	0	0	16
Genesee Ave and Esplanade Ct	0	0	6	3	0	0	0	0	0	32	0	14	55

SEIS/SEIR

2030 No Build - AM Peak

Intersection	Northbound			Southbound			Eastbound			Westbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
Genesee Ave and Regents Rd	655	0	220	0	0	0	5	580	255	415	1650	0	3780
Genesee Ave and Eastgate Mall	215	1840	360	200	655	100	50	200	120	125	160	390	4415
Genesee Ave and Executive Dr	60	1780	350	100	530	60	50	110	70	20	50	150	3330
Genesee Ave and Executive Sq	340	2100	380	50	500	60	30	10	70	20	10	20	3590
Genesee Ave and La Jolla Village Dr	310	1700	350	220	250	90	560	1600	160	190	1000	710	7140
Genesee Ave and Esplanade Ct	130	1970	250	120	300	170	200	20	80	90	20	180	3530

2030 No Build - PM Peak

Intersection	Northbound			Southbound			Eastbound			Westbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
Genesee Ave and Regents Rd	320	0	180	0	0	0	10	1600	550	200	930	0	3790
Genesee Ave and Eastgate Mall	130	900	160	420	1400	100	40	160	100	200	260	390	4260
Genesee Ave and Executive Dr	80	720	70	100	1500	80	60	80	130	260	250	180	3510
Genesee Ave and Executive Sq	70	700	110	40	1850	30	50	30	250	250	20	70	3470
Genesee Ave and La Jolla Village Dr	300	440	250	590	1480	250	180	990	400	560	1780	280	7500
Genesee Ave and Esplanade Ct	180	320	550	370	1900	480	300	100	160	410	150	460	5380

SEIS/SEIR Calculated Difference

Base Volume Growth per year (2010 to 2035) - AM Peak

Intersection	Northbound			Southbound			Eastbound			Westbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Genesee Ave and Regents Rd	18	0	8	0	0	0	0	0	6	14	2	0
Genesee Ave and Eastgate Mall	5	28	1	2	13	1	1	2	4	4	1	2
Genesee Ave and Executive Dr	1	5	1	1	8	2	1	2	1	0	0	3
Genesee Ave and Executive Sq	7	4	11	2	5	2	0	0	1	1	0	1
Genesee Ave and La Jolla Village Dr	4	20	8	0	4	0	5	24	2	4	11	4
Genesee Ave and Esplanade Ct	3	22	7	3	3	3	3	1	2	2	0	6

Base Volume Growth per year (2010 to 2035) - PM Peak

Intersection	Northbound			Southbound			Eastbound			Westbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Genesee Ave and Regents Rd	8	0	6	0	0	0	0	11	13	8	3	0
Genesee Ave and Eastgate Mall	5	19	4	5	18	3	1	2	2	2	2	4
Genesee Ave and Executive Dr	3	13	1	2	10	1	1	1	2	3	3	2
Genesee Ave and Executive Sq	2	11	2	1	16	1	1	1	4	7	1	2
Genesee Ave and La Jolla Village Dr	6	10	3	9	17	0	2	10	7	10	16	4
Genesee Ave and Esplanade Ct	6	2	18	7	25	13	9	3	3	8	6	14

SEIS/SEIR Calculated Difference

Project Trip Growth per year (2010 to 2035) - AM Peak

Intersection	Northbound			Southbound			Eastbound			Westbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Genesee Ave and Regents Rd	0	0	0	0	0	0	0	0	0	0	0	0
Genesee Ave and Eastgate Mall	0	0	0	0	0	0	0	0	0	0	0	0
Genesee Ave and Executive Dr	0	0	0	0	0	0	0	0	0	0	0	0
Genesee Ave and Executive Sq	0	0	0	0	0	0	0	0	0	0	0	0
Genesee Ave and La Jolla Village Dr	0	0	0	0	0	0	0	0	0	0	0	0
Genesee Ave and Esplanade Ct	0	0	0.05	0	0	0	0	0	0	0	0	0.05

Annual Growth (2010 to 2035) - PM Peak

Intersection	Northbound			Southbound			Eastbound			Westbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Genesee Ave and Regents Rd	0	0	0	0	0	0	0	0	0	0	0	0
Genesee Ave and Eastgate Mall	0	0	0	0	0	0	0	0	0	0	0	0
Genesee Ave and Executive Dr	0	0	0	0	0	0	0	0	0	0	0	0
Genesee Ave and Executive Sq	0	0	0	0	0	0	0	0	0	0	0	0
Genesee Ave and La Jolla Village Dr	0	0	0.05	0	0	0	0	0	0	0	0	0
Genesee Ave and Esplanade Ct	0	0	0.05	0	0	0	0	0	0	0.1	0	0

SEIS/SEIR Calculated Difference + Growth (25 years)

2035 Project Trips - AM Peak

Intersection	Northbound			Southbound			Eastbound			Westbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
Genesee Ave and Regents Rd	0	0	0	0	0	0	0	0	0	0	0	0	0
Genesee Ave and Eastgate Mall	0	0	0	0	0	0	0	0	0	0	0	0	0
La Jolla Village Dr and Executive Wy	0					0		2			11		
Genesee Ave and Executive Dr	0	1	0	0	0	0	0	0	2	0	0	0	3
Genesee Ave and Executive Sq	0	1	0	0	2	0	0	0	1	0	0	0	4
Genesee Ave and La Jolla Village Dr	1	1	2	0	3	0	0	0	3	11	0	0	21
Genesee Ave and Esplanade Ct	0	0	40	17	0	0	0	0	0	8	0	4	69
Genesee Ave and Nobel		14		3	3	2	12					14	48
Genesee Ave and Decoro		13		0	3		0					1	17
Nobel and Costa Verde			1	2				9			2		14
Lombard Pl	1							3			13		17
Town Centre Drive	2					4	1	2			7		16

2035 Project Trips - PM Peak

Intersection	Northbound			Southbound			Eastbound			Westbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
Genesee Ave and Regents Rd	0	0	0	0	0	0	0	0	0	0	0	0	0
Genesee Ave and Eastgate Mall	0	0	0	0	0	0	0	0	0	0	0	0	0
La Jolla Village Dr and Executive Wy	0					0	1	7	2		2		
Genesee Ave and Executive Dr	1	0	0	0	1	0	0	0	0	0	0	0	2
Genesee Ave and Executive Sq	1	1	0	0	1	0	0	0	0	0	0	0	3
Genesee Ave and La Jolla Village Dr	2	2	10	0	1	0	0	0	1	2	0	0	18
Genesee Ave and Esplanade Ct	0	0	7	4	0	0	0	0	0	35	0	14	60
Genesee Ave and Nobel		3		12	12	11	1					3	42
Genesee Ave and Decoro		3			12		0					0	15
Nobel and Costa Verde							0	1		1	9	1	12
Lombard Pl							0	11	1		3		15
Town Centre Drive						1	4	6	1		2		14

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Attachment 2:

Mid-Coast Corridor Transit Project Trip Redistribution

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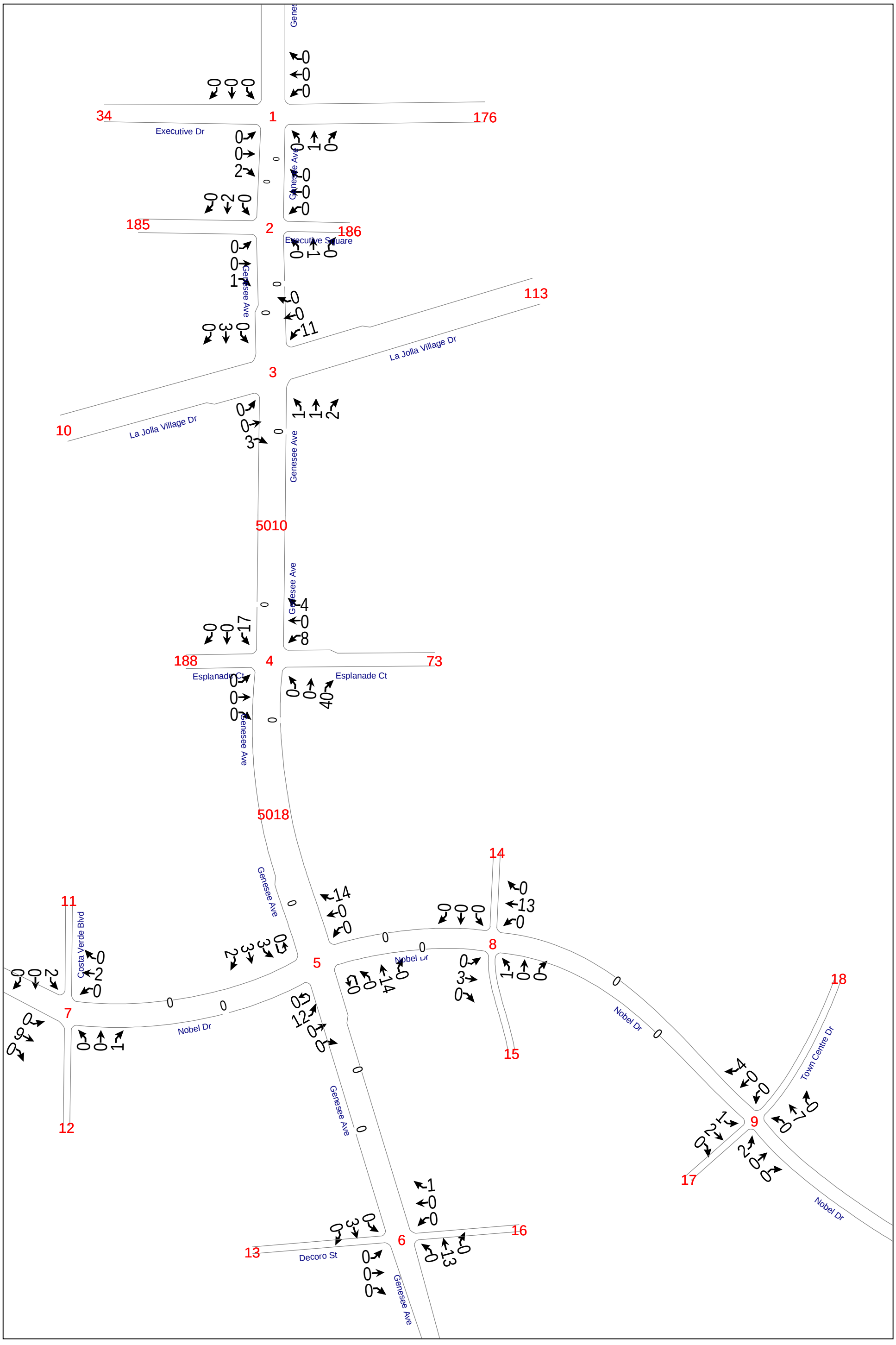
2035 Mid-Coast Corridor Transit Project

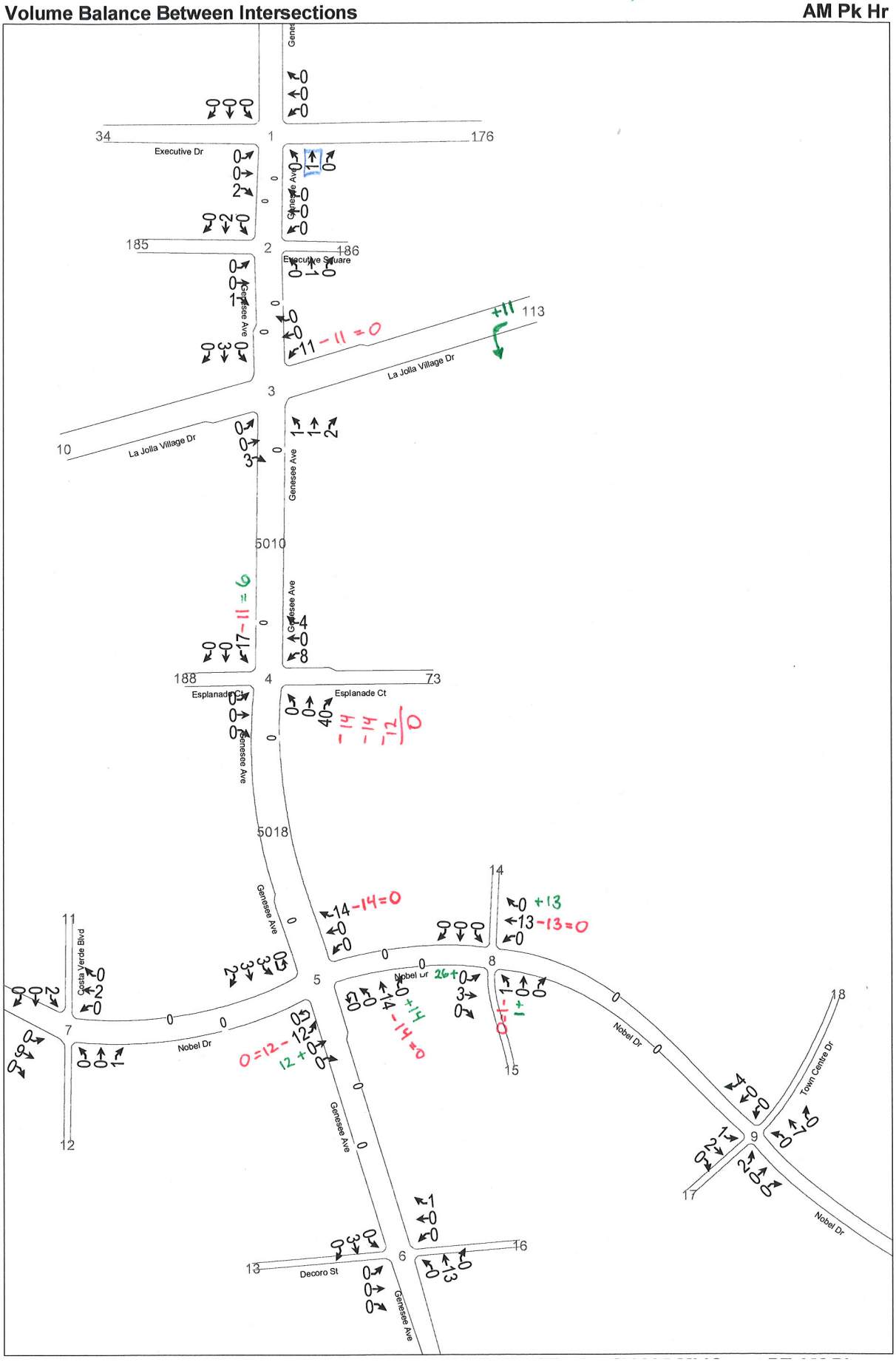
Volume Balance Between Intersections

AM Pk Hr



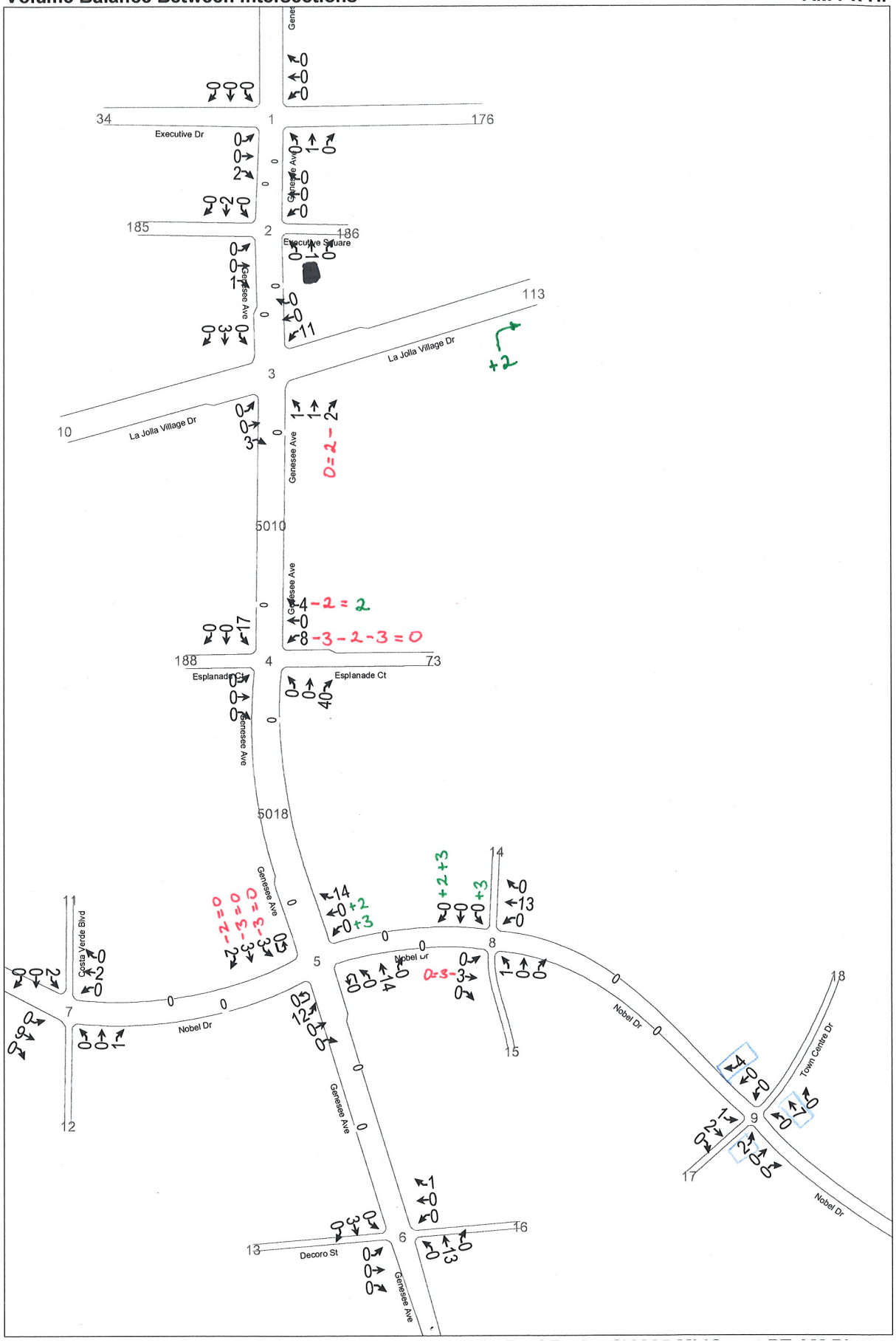
2035 Mid-Coast Corridor Transit Project Inbound AM Trips

Volume Balance Between Intersections **AM Pk Hr**



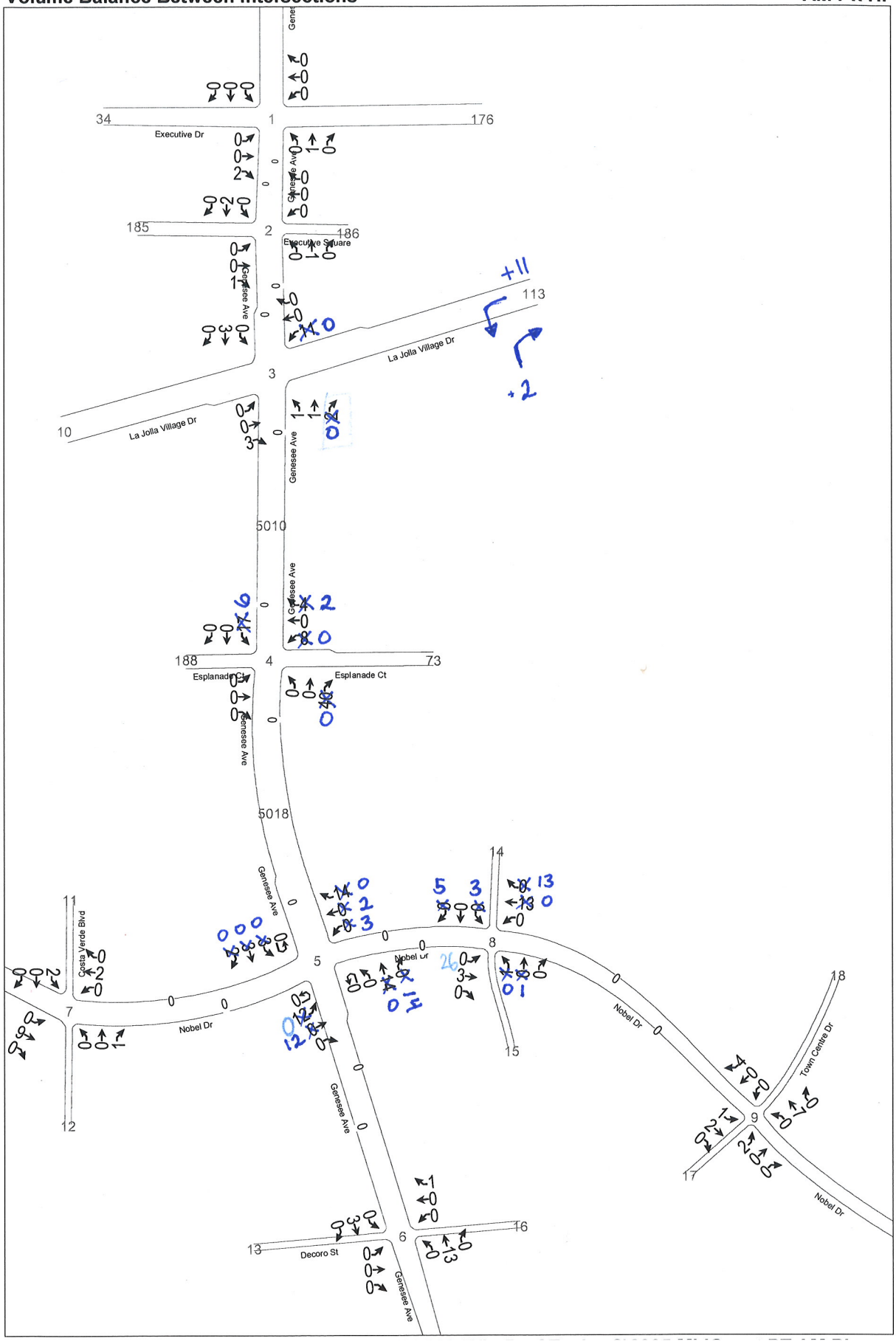
2035 Mid-Coast Corridor Transit Project Outbound AM Trips

Volume Balance Between Intersections **AM Pk Hr**



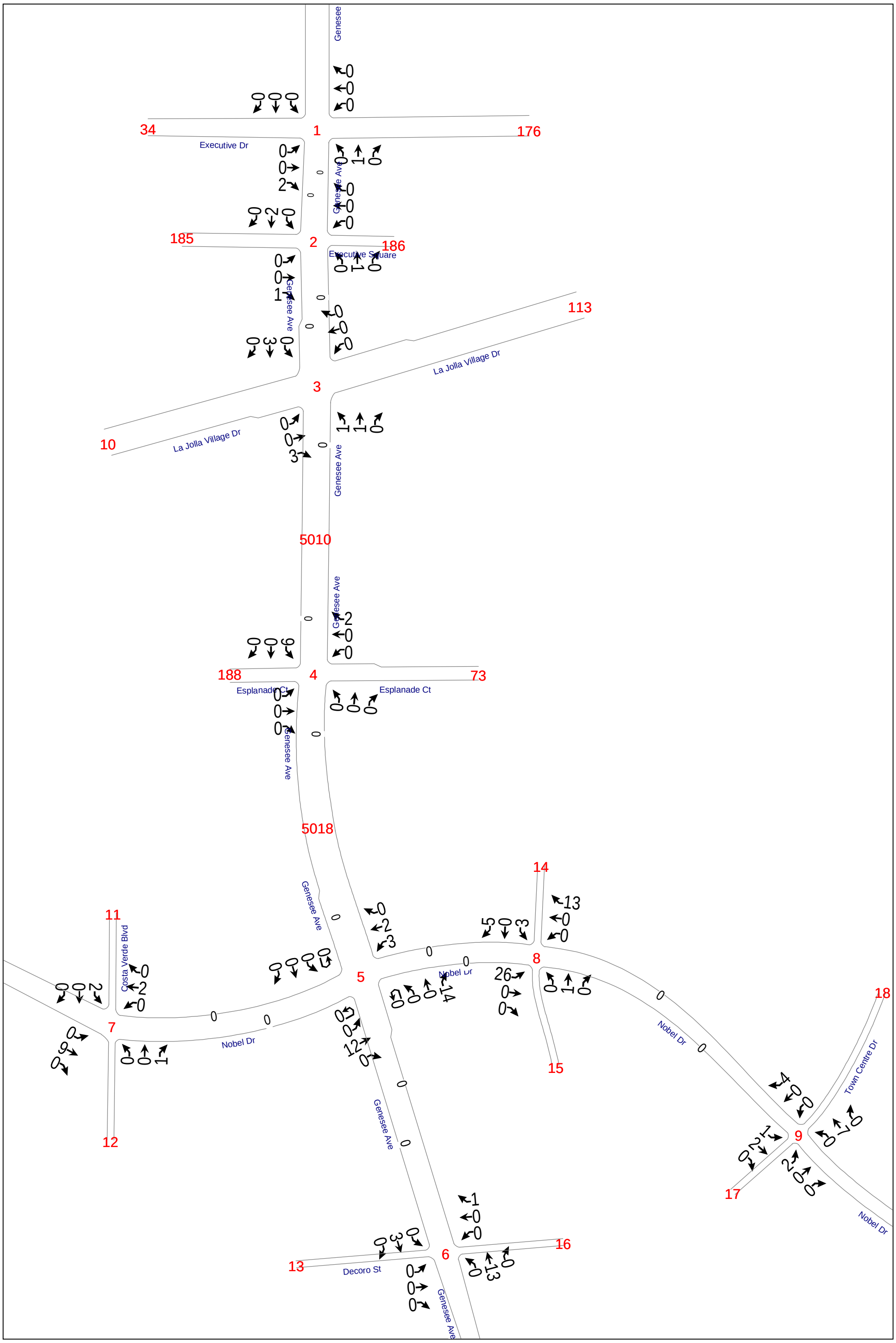
2035 Mid-Coast Corridor Transit Project Inbound and Outbound AM Trips

Volume Balance Between Intersections **AM Pk Hr**



2035 Redistributed Project Trips
Volume Balance Between Intersections

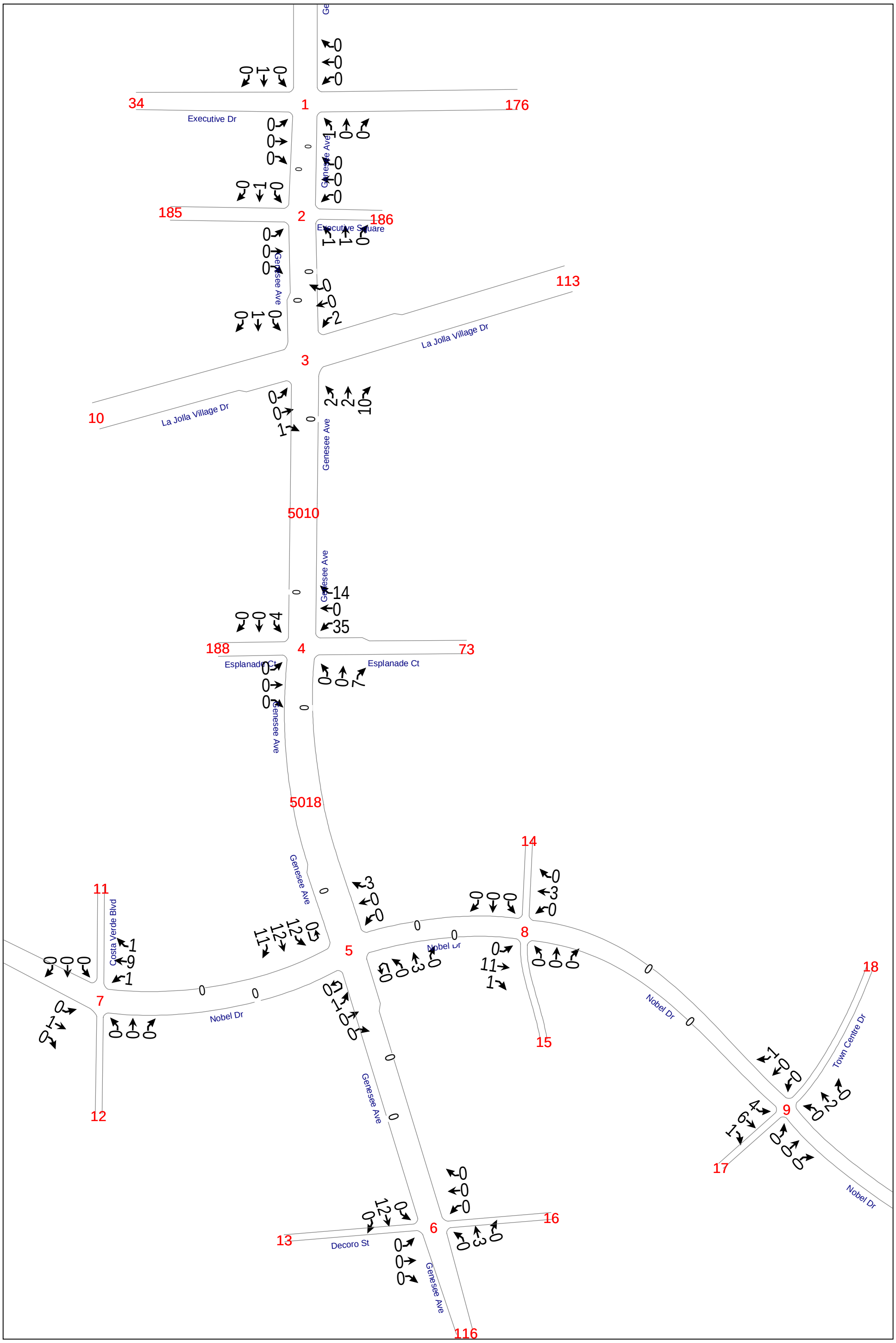
AM Pk Hr



2035 Mid-Coast Corridor Transit Project PM Trips

Volume Balance Between Intersections

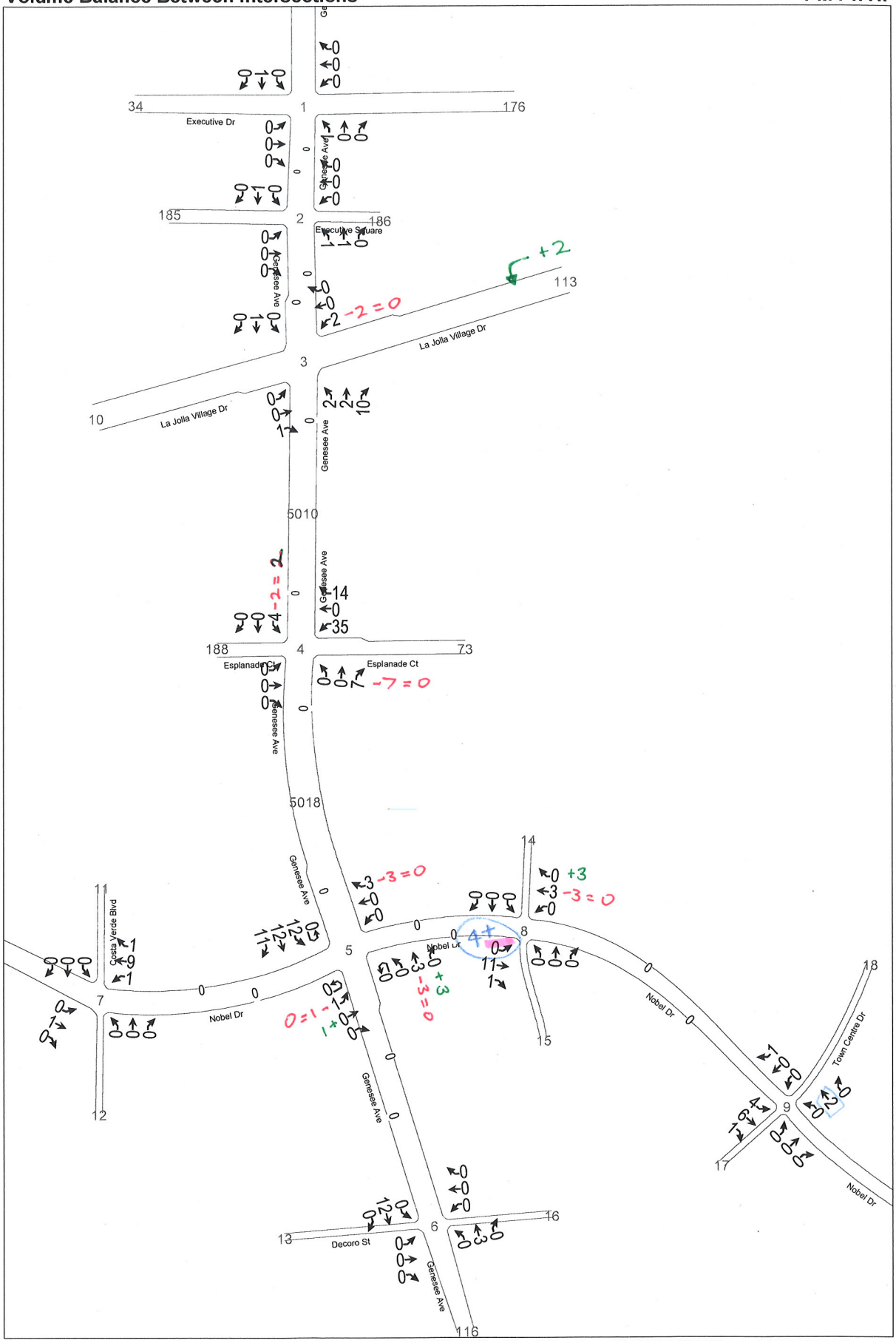
PM Pk Hr



2035 Mid-Coast Corridor Transit Project Inbound PM Trips

Volume Balance Between Intersections

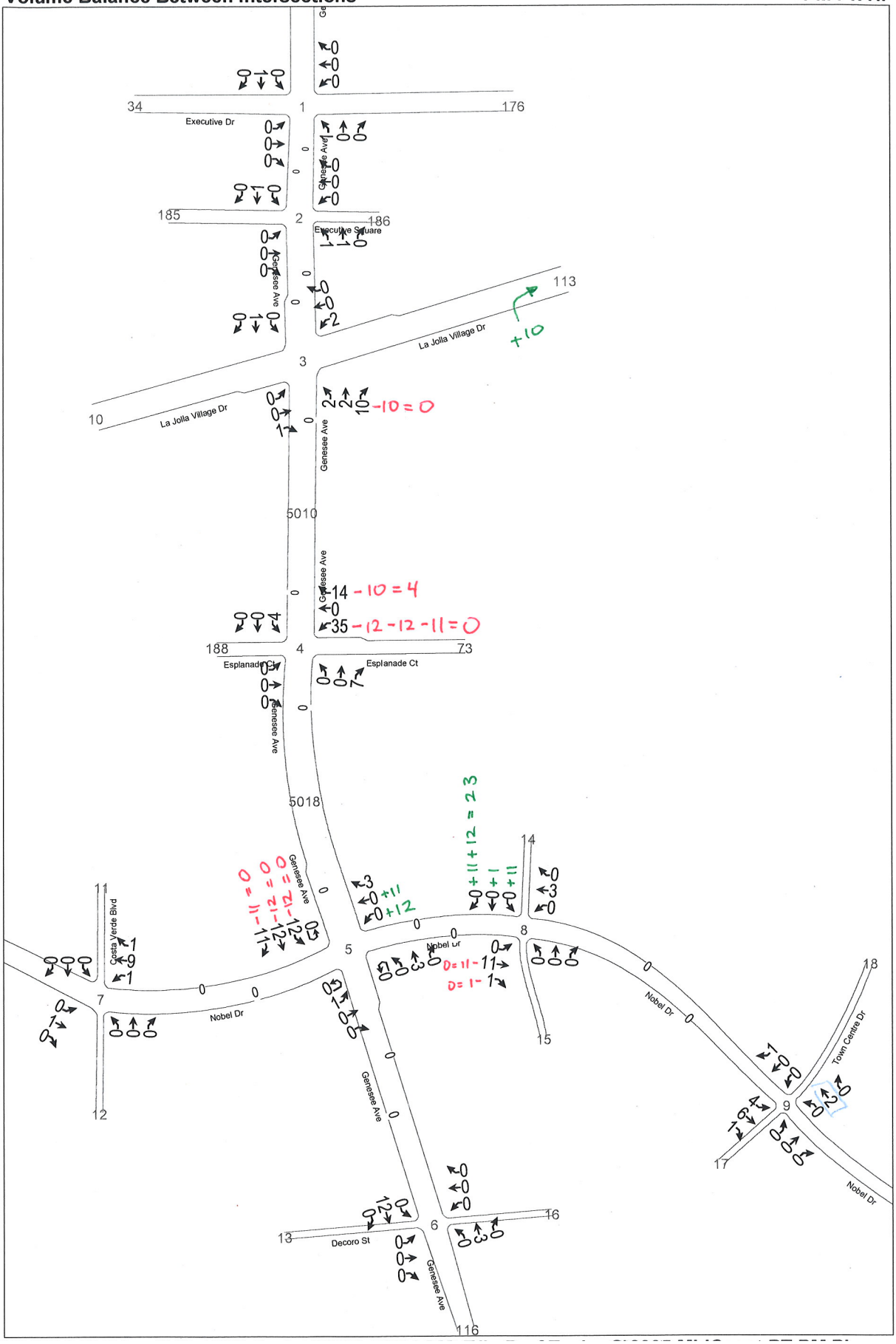
PM Pk Hr



2035 Mid-Coast Corridor Transit Project Outbound PM Trips

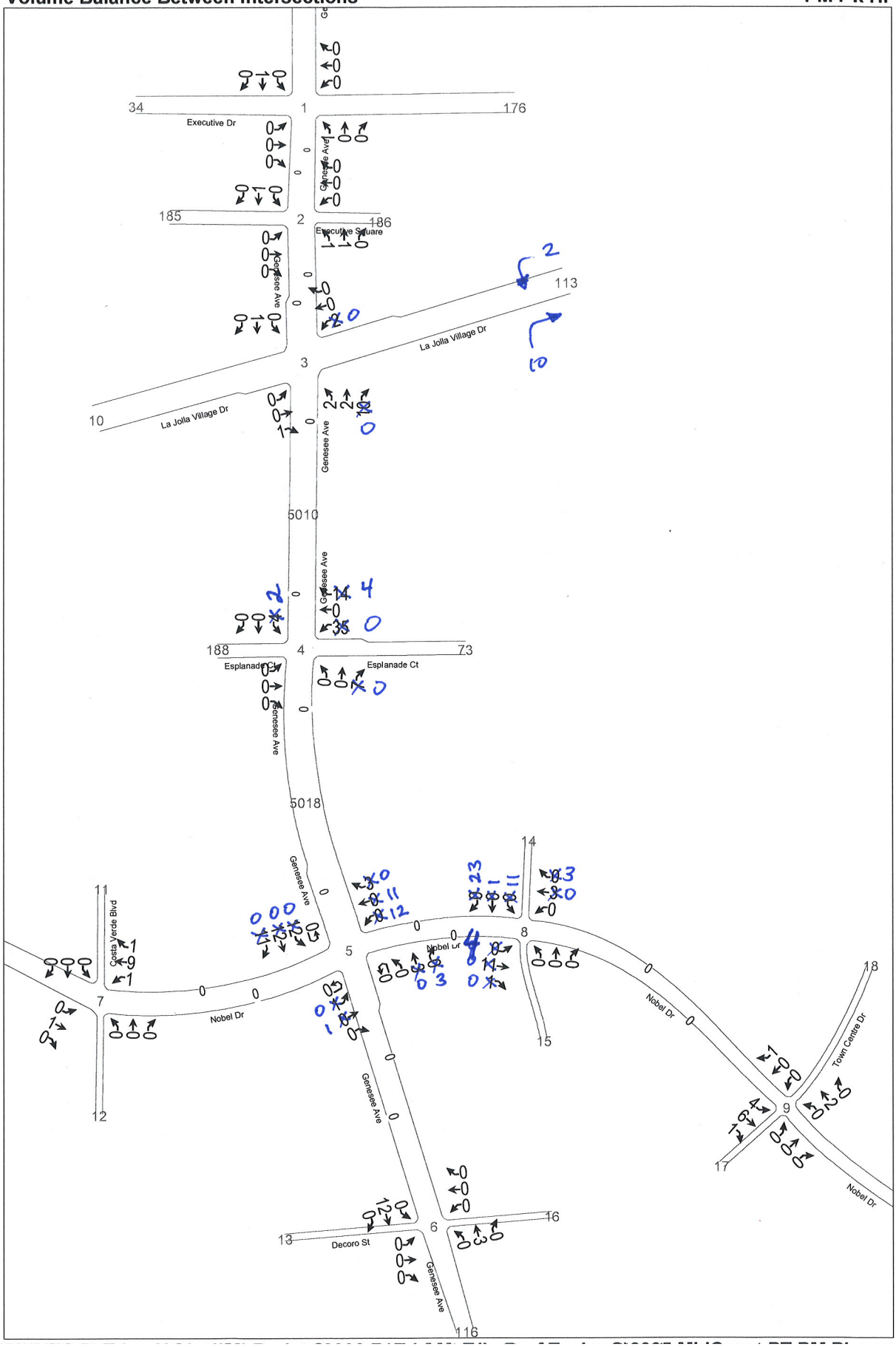
Volume Balance Between Intersections

PM Pk Hr



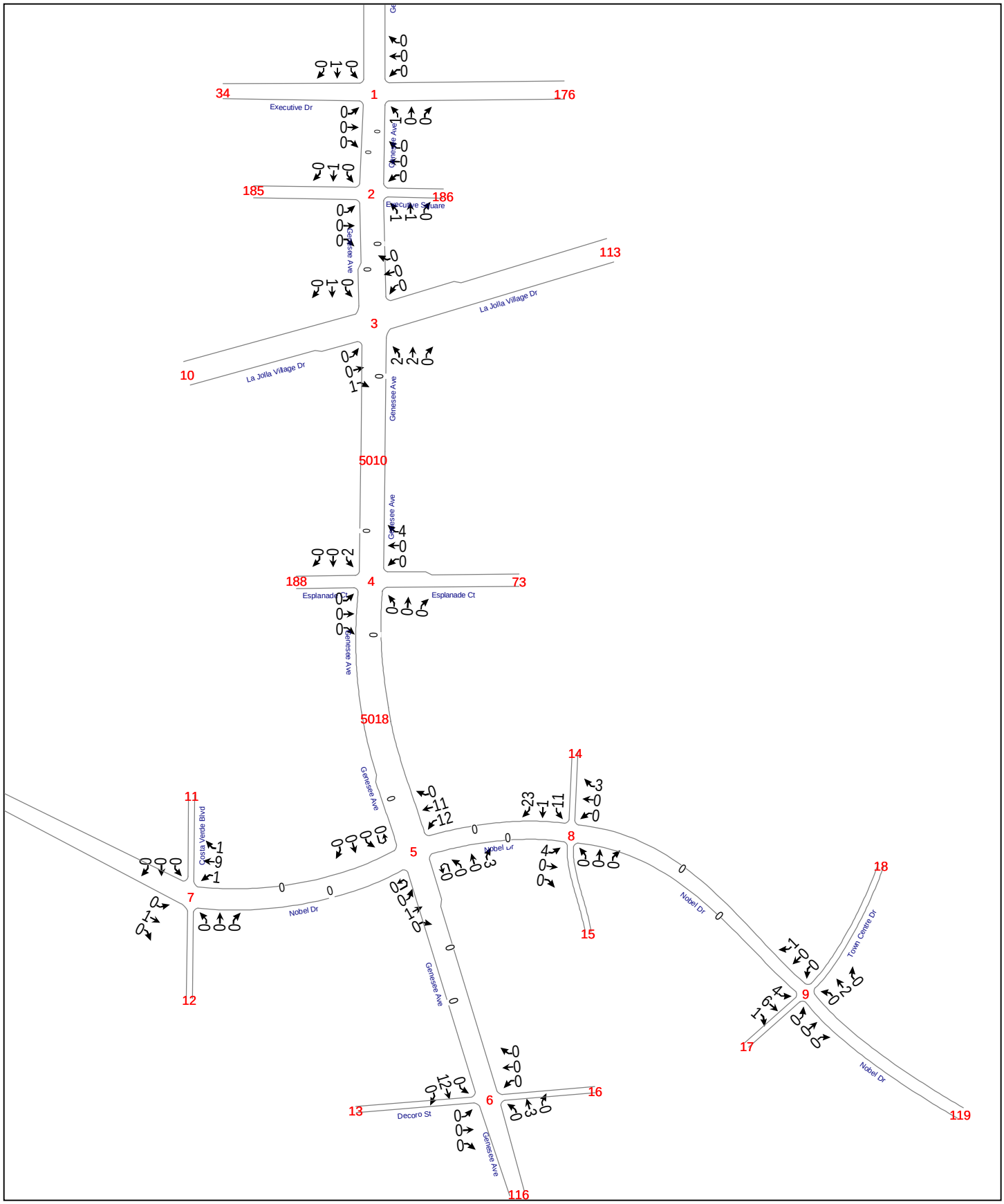
2035 Mid-Coast Corridor Transit Project Inbound and Outbound PM Trips

Volume Balance Between Intersections **PM Pk Hr**



2035 Redistributed Project Trips
Volume Balance Between Intersections

PM Pk Hr



Attachment 3:

Existing Conditions and Horizon Year Volume Development

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RAW Existing Conditions Intersection Counts

AM Peak Hour

INTID	MAIN STREET	CROSS STREET	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL	Date	Peak Hour	PHF	SBU	WBU	NBU	EBU
1	LA JOLLA VILLAGE DRIVE	EXECUTIVE WAY	19	9	44	323	2120	55	75	20	17	55	1738	61	5/5/2015	7:15 - 8:15 AM	0.88	0	12	0	1
2	GENESEE AVENUE	ESPLANADE COURT / UTC DRIVEWAY	78	224	96	108	14	57	100	1464	49	30	8	93	5/12/2015	8:00 - 9:00 AM	0.91	0	0	1	5
3	NOBEL DRIVE	LOMBARD PLACE	41	0	25	25	464	7	18	0	32	14	752	55	10/21/2015	7:15 - 8:15 AM	0.9	0	0	0	0

PM Peak Hour

INTID	MAIN STREET	CROSS STREET	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL	Date	Peak Hour	PHF	SBU	WBU	NBU	EBU
1	LA JOLLA VILLAGE DRIVE	EXECUTIVE WAY	220	76	318	87	1507	251	236	23	156	194	1551	63	5/5/2015	4:15 - 5:15 PM	0.83	0	10	0	3
2	GENESEE AVENUE	ESPLANADE COURT / UTC DRIVEWAY	157	1031	280	243	39	181	170	487	71	74	31	147	5/12/2015	5:00 - 6:00 PM	0.88	8	0	2	1
3	NOBEL DRIVE	LOMBARD PLACE	190	0	65	77	1142	21	7	5	21	29	492	202	10/21/2015	4:45 - 5:45 PM	0.95	0	0	0	0

ALTERNATIVE C

Horizon Year (2035) UCP Developed Volumes

AM Peak Hour

INTID	MAIN STREET	CROSS STREET	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
1	GENESEE AVENUE	EXECUTIVE DRIVE	73	1891	112	171	2287	465	37	56	179	60	24	24
2	GENESEE AVENUE	ESPLANADE COURT / UTC DRIVEWAY	187	26	27	109	42	455	49	1955	215	355	233	126
3	NOBEL DRIVE	LOMBARD PLACE	82	1182	15	8	737	37	36	0	20	62	0	39

PM Peak Hour

INTID	MAIN STREET	CROSS STREET	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
1	GENESEE AVENUE	EXECUTIVE DRIVE	82	1478	433	601	1440	109	358	69	558	406	227	274
2	GENESEE AVENUE	ESPLANADE COURT / UTC DRIVEWAY	213	113	80	460	138	829	71	449	394	1055	1127	237
3	NOBEL DRIVE	LOMBARD PLACE	311	781	32	23	1804	110	23	5	8	93	0	289

GROWTH RATES (2016 - 2035)

AM PEAK HOUR

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	1.00	1.80	5.20	0.80	0.75	0.25	0.55	7.55	2.85	5.20	7.80	7.10
2	-0.05	24.55	3.75	12.15	0.5	2.45	4.45	0.9	-0.15	2.2	1.4	17.15
3	0.15	0	0.1	1.85	0	-0.1	1.35	21.35	0.05	0.05	13.05	0.6

PM PEAK HOUR

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	10.1	2.3	16.1	4.4	7.55	2.7	0.75	-4	11.85	17	-3.45	1.1
2	-0.05	-1.5	11.2	38.15	14.3	4	3.25	4.1	0.95	15.8	4.95	28.6
3	0.1	0	0.05	1.4	0	4.95	5.45	13.9	0.1	0.1	32.95	1.65

Turning Movement Count
60 Minute Counts

AM PEAK HOUR

DATE	TIME	INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
4/27/2018	1700	1	21	28	96	48	12	20	65	1769	67	88	2152	352	
4/27/2018	1700	2	50	1563	115	146	227	88	116	12	30	66	20	177	
4/27/2018	1700	3	33		19	33		41	61	838	15	8	518	28	

Turning Movement Count
60 Minute Counts

PM PEAK HOUR

DATE	TIME	INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
4/27/2018	1700	1	171	26	253	323	84	223	67	1547	206	278	1504	89	
4/27/2018	1700	2	79	496	186	327	1206	161	152	36	87	227	44	272	
4/27/2018	1700	3	26	5	8	67		195	208	506	30	22	1175	79	

2019 W/O Project Volumes

Post Volume Balance

Copied in From VB Synchro File 2019 W/O Project Volumes

Turning Movement Count
60 Minute Counts

AM PEAK HOUR

DATE	TIME	INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
4/27/2018	1700	1	21	28	96	48	12	20	65	1769	67	88	2152	352	
4/27/2018	1700	2	50	1563	115	145	226	88	116	12	30	66	20	177	
4/27/2018	1700	3	33	0	19	33	0	41	61	838	15	8	517	28	

Turning Movement Count
60 Minute Counts

PM PEAK HOUR

DATE	TIME	INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
4/27/2018	1700	1	171	26	253	323	84	223	67	1547	206	278	1504	89	
4/27/2018	1700	2	77	486	182	327	1046	161	152	36	75	197	44	272	
4/27/2018	1700	3	26	5	8	67	0	195	208	506	30	22	1175	79	

2019 Grown Volumes (Trip Subtraction for SEIS/SEIR Midcoast already conducted in 2035 before developing growth rates)

Pre Volume Balance

Turning Movement Count
60 Minute Counts

AM PEAK HOUR

DATE	TIME	INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
4/27/2018	1700	1	0	0	0	0	0	0	0	0	0	0	0	0	
4/27/2018	1700	2	0	0	0	1	1	0	0	0	0	0	0	0	
4/27/2018	1700	3	0	0	0	0	0	0	0	0	0	0	1	0	

Turning Movement Count
60 Minute Counts

PM PEAK HOUR

DATE	TIME	INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
4/27/2018	1700	1	0	0	0	0	0	0	0	0	0	0	0	0	
4/27/2018	1700	2	2	10	4	0	160	0	0	0	12	30	0	0	
4/27/2018	1700	3	0	0	0	0	0	0	0	0	0	0	0	0	

2035 AMPM UCP minus 2035 SEIS/SEIR Project Trips

VOLUME BALANCE

Turning Movement Count
60 Minute Counts

AM PEAK HOUR

DATE	TIME	INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
4/27/2018	1700	1	21	28	98	48	12	20	65	1769	67	99	2152	352
4/27/2018	1700	2	50	1563	115	152	227	88	116	12	30	66	20	179
4/27/2018	1700	3	33	1	19	36	0	46	87	838	15	8	518	41

Turning Movement Count
60 Minute Counts

PM PEAK HOUR

DATE	TIME	INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
4/27/2018	1700	1	171	26	263	323	84	223	67	1547	206	280	1504	89
4/27/2018	1700	2	79	496	186	329	1206	161	152	36	87	227	44	276
4/27/2018	1700	3	26	5	8	78	1	218	212	506	30	22	1175	82

2019 WP Project Volumes

W/O Balanced + Redistributed Project Trips

2019 W/Project

Turning Movement Count
60 Minute Counts

AM PEAK HOUR

DATE	TIME	INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
4/27/2018	1700	1	21	28	96	48	12	20	65	1769	67	88	2152	352
4/27/2018	1700	2	50	1563	115	146	227	88	116	12	30	66	20	177
4/27/2018	1700	3	33	0	19	33	0	41	61	838	15	8	518	28

Turning Movement Count
60 Minute Counts

PM PEAK HOUR

DATE	TIME	INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
4/27/2018	1700	1	171	26	253	323	84	223	67	1547	206	278	1504	89
4/27/2018	1700	2	79	496	186	327	1206	161	152	36	87	227	44	272
4/27/2018	1700	3	26	5	8	67	0	195	208	506	30	22	1175	79

2019 WO Project Volumes

2019 W/O Project

Turning Movement Count
60 Minute Counts

AM PEAK HOUR

DATE	TIME	INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
4/27/2018	1700	1	0		2			0		0		11	0	
4/27/2018	1700	2				6								2
4/27/2018	1700	3		1		3		5	26					13

Turning Movement Count
60 Minute Counts

PM PEAK HOUR

DATE	TIME	INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
4/27/2018	1700	1	0		10			0	0	0	0	2	0	
4/27/2018	1700	2				2								4
4/27/2018	1700	3				11	1	23	4					3

2019 Redistributed Proejct Trips (same as 2035 to be conservative)

Redistributed 2019 Project Trips

Turning Movement Count
60 Minute Counts

AM PEAK HOUR

DATE	TIME	INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
4/27/2018	1700	1	37	56	179	60	24	24	73	1889	112	171	2276	465	
4/27/2018	1700	2	49	1955	175	339	234	127	187	26	27	101	42	451	
4/27/2018	1700	3	35		20	62		39	82	1179	15	8	725	37	

Turning Movement Count
60 Minute Counts

PM PEAK HOUR

DATE	TIME	INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
4/27/2018	1700	1	358	69	558	406	227	274	81	1471	431	601	1438	109	
4/27/2018	1700	2	72	457	394	1051	1317	237	213	113	93	497	138	815	
4/27/2018	1700	3	23	5	8	93		289	311	770	31	23	1801	110	

2035 AMPM UCP minus 2035 SEIS/SEIR Project Trips

Post Volume Balance

Copied in From VB Synchro File 2035 W/O Project Volumes

Turning Movement Count
60 Minute Counts

AM PEAK HOUR

DATE	TIME	INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
4/27/2018	1700	1	37	56	179	60	24	24	73	1889	112	171	2276	465	
4/27/2018	1700	2	49	1955	175	338	233	126	187	26	27	101	42	451	
4/27/2018	1700	3	35	0	20	62	0	39	82	1179	15	8	724	37	

Turning Movement Count
60 Minute Counts

PM PEAK HOUR

DATE	TIME	INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
4/27/2018	1700	1	358	69	558	406	227	274	81	1471	431	601	1438	109	
4/27/2018	1700	2	71	449	387	1051	1127	237	213	113	80	425	138	815	
4/27/2018	1700	3	23	5	8	93	0	289	311	770	31	23	1801	110	

2035 AMPM UCP minus 2035 SEIS/SEIR Project Trips

Pre Volume Balance

Turning Movement Count
60 Minute Counts

AM PEAK HOUR

DATE	TIME	INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
4/27/2018	1700	1	0	0	0	0	0	0	0	0	0	0	0	0	
4/27/2018	1700	2	0	0	0	1	1	1	0	0	0	0	0	0	
4/27/2018	1700	3	0	0	0	0	0	0	0	0	0	0	1	0	

Turning Movement Count
60 Minute Counts

PM PEAK HOUR

DATE	TIME	INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
4/27/2018	1700	1	0	0	0	0	0	0	0	0	0	0	0	0	
4/27/2018	1700	2	1	8	7	0	190	0	0	0	13	72	0	0	
4/27/2018	1700	3	0	0	0	0	0	0	0	0	0	0	0	0	

2035 AMPM UCP minus 2035 SEIS/SEIR Project Trips

VOLUME BALANCE

Turning Movement Count
60 Minute Counts

AM PEAK HOUR

DATE	TIME	INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
4/27/2018	1700	1	37	56	181	60	24	24	73	1889	112	182	2276	465	
4/27/2018	1700	2	49	1955	175	345	234	127	187	26	27	101	42	453	
4/27/2018	1700	3	35	1	20	65	0	44	108	1179	15	8	725	50	

Turning Movement Count
60 Minute Counts

PM PEAK HOUR

DATE	TIME	INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
4/27/2018	1700	1	358	69	568	406	227	274	81	1471	431	603	1438	109	
4/27/2018	1700	2	72	457	394	1053	1317	237	213	113	93	497	138	819	
4/27/2018	1700	3	23	5	8	104	1	312	315	770	31	23	1801	113	

2035 AMPM UCP minus 2035 SEIS/SEIR Project Trips plus 2035 Redistributed Project Trips

W/O Balanced + Redistributed Project Trips

2035 W/ PROJECT VOLUMES

Turning Movement Count
60 Minute Counts

AM PEAK HOUR

DATE	TIME	INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
4/27/2018	1700	1	37	56	179	60	24	24	73	1889	112	171	2276	465	
4/27/2018	1700	2	49	1955	175	339	234	127	187	26	27	101	42	451	
4/27/2018	1700	3	35	0	20	62	0	39	82	1179	15	8	725	37	

Turning Movement Count
60 Minute Counts

PM PEAK HOUR

DATE	TIME	INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
4/27/2018	1700	1	358	69	558	406	227	274	81	1471	431	601	1438	109	
4/27/2018	1700	2	72	457	394	1051	1317	237	213	113	93	497	138	815	
4/27/2018	1700	3	23	5	8	93	0	289	311	770	31	23	1801	110	

2035 AMPM UCP minus 2035 SEIS/SEIR Project Trips BALANCED

2035 W/O Project

Turning Movement Count
60 Minute Counts

AM PEAK HOUR

DATE	TIME	INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
4/27/2018	1700	1	0		2				0		0		11	0	
4/27/2018	1700	2					6								2
4/27/2018	1700	3		1			3		5	26					13

Turning Movement Count
60 Minute Counts

PM PEAK HOUR

DATE	TIME	INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
4/27/2018	1700	1	0		10				0	0	0	0	2	0	
4/27/2018	1700	2					2								4
4/27/2018	1700	3					11	1	23	4					3

2035 Redistributed Proejct Trips

Redistributed 2035 Project Trips

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Attachment 4:

Existing Conditions and Horizon Year Synchro PDF Results

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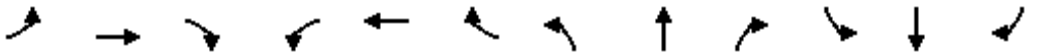
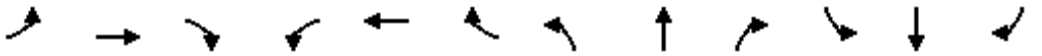


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	1769	67	88	2152	352	21	28	96	48	12	20
Future Volume (vph)	65	1769	67	88	2152	352	21	28	96	48	12	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.95	0.95	0.88	0.91	0.91	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	0.98	
Satd. Flow (prot)	1770	5085	1583	3433	4978		1681	1764	2787	1610	3133	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	0.98	
Satd. Flow (perm)	1770	5085	1583	3433	4978		1681	1764	2787	1610	3133	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	71	1923	73	96	2339	383	23	30	104	52	13	22
RTOR Reduction (vph)	0	0	31	0	18	0	0	0	88	0	21	0
Lane Group Flow (vph)	71	1923	42	96	2704	0	21	32	16	30	36	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4						2			
Actuated Green, G (s)	5.0	58.4	58.4	4.7	58.1		16.0	16.0	16.0	6.2	6.2	
Effective Green, g (s)	5.0	58.4	58.4	4.7	58.1		16.0	16.0	16.0	6.2	6.2	
Actuated g/C Ratio	0.05	0.58	0.58	0.05	0.57		0.16	0.16	0.16	0.06	0.06	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	87	2931	912	159	2855		265	278	440	98	191	
v/s Ratio Prot	c0.04	0.38		0.03	c0.54		0.01	c0.02		c0.02	0.01	
v/s Ratio Perm			0.03						0.01			
v/c Ratio	0.82	0.66	0.05	0.60	0.95		0.08	0.12	0.04	0.31	0.19	
Uniform Delay, d1	47.7	14.6	9.3	47.4	20.2		36.4	36.6	36.1	45.5	45.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	42.3	0.5	0.0	6.3	7.7		0.6	0.8	0.2	1.8	0.5	
Delay (s)	90.0	15.1	9.4	53.7	27.9		37.0	37.4	36.3	47.3	45.7	
Level of Service	F	B	A	D	C		D	D	D	D	D	
Approach Delay (s)		17.5			28.8			36.6			46.2	
Approach LOS		B			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	24.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	101.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	68.7%	ICU Level of Service	C
Analysis Period (min)	15		

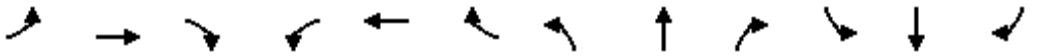
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	116	12	30	66	20	177	50	1563	115	146	227	88
Future Volume (vph)	116	12	30	66	20	177	50	1563	115	146	227	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		4.9	4.9	4.9	4.4	5.7		4.4	5.6	
Lane Util. Factor	0.97	1.00		0.97	0.95	0.95	1.00	0.91		0.97	0.91	
Frpb, ped/bikes	1.00	1.00		1.00	0.98	0.98	1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.89		1.00	0.88	0.85	1.00	0.99		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3433	1661		3433	1529	1471	1770	5024		3433	4775	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3433	1661		3433	1529	1471	1770	5024		3433	4775	
Peak-hour factor, PHF	0.89	0.89	0.89	0.90	0.90	0.90	0.96	0.96	0.96	0.85	0.85	0.85
Adj. Flow (vph)	130	13	34	73	22	197	52	1628	120	172	267	104
RTOR Reduction (vph)	0	32	0	0	81	99	0	5	0	0	44	0
Lane Group Flow (vph)	130	15	0	73	30	9	52	1743	0	172	327	0
Confl. Peds. (#/hr)	20					20	20		20	20		20
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	6	6
Turn Type	Split	NA		Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases						3						
Actuated Green, G (s)	4.7	4.7		6.5	6.5	6.5	3.5	38.2		6.0	40.8	
Effective Green, g (s)	4.7	4.7		6.5	6.5	6.5	3.5	38.2		6.0	40.8	
Actuated g/C Ratio	0.06	0.06		0.09	0.09	0.09	0.05	0.51		0.08	0.54	
Clearance Time (s)	4.9	4.9		4.9	4.9	4.9	4.4	5.7		4.4	5.6	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	5.4		2.0	5.8	
Lane Grp Cap (vph)	214	103		296	131	126	82	2548		273	2587	
v/s Ratio Prot	c0.04	0.01		c0.02	0.02		0.03	c0.35		c0.05	0.07	
v/s Ratio Perm						0.01						
v/c Ratio	0.61	0.15		0.25	0.23	0.07	0.63	0.68		0.63	0.13	
Uniform Delay, d1	34.4	33.4		32.1	32.1	31.6	35.3	14.0		33.6	8.5	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.3	0.2		0.2	0.3	0.1	11.2	1.1		3.5	0.1	
Delay (s)	37.7	33.6		32.3	32.4	31.7	46.5	15.1		37.0	8.5	
Level of Service	D	C		C	C	C	D	B		D	A	
Approach Delay (s)		36.6			32.1			16.0			17.6	
Approach LOS		D			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	19.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	75.3	Sum of lost time (s)	19.9
Intersection Capacity Utilization	71.4%	ICU Level of Service	C
Analysis Period (min)	15		

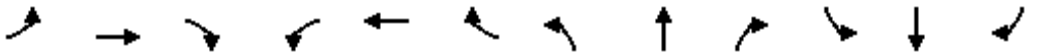
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	838	15	8	518	28	33	0	19	33	0	41
Future Volume (vph)	61	838	15	8	518	28	33	0	19	33	0	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.0		4.4	4.9			4.9		4.9	4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99			0.95		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00			0.97		0.95	1.00	
Satd. Flow (prot)	1770	3530		1770	3512			1716		1770	1583	
Flt Permitted	0.95	1.00		0.95	1.00			0.96		1.00	1.00	
Satd. Flow (perm)	1770	3530		1770	3512			1699		1863	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	66	911	16	9	563	30	36	0	21	36	0	45
RTOR Reduction (vph)	0	2	0	0	6	0	0	51	0	0	41	0
Lane Group Flow (vph)	66	925	0	9	587	0	0	6	0	36	4	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	1.7	16.6		0.5	15.5			3.4		3.4	3.4	
Effective Green, g (s)	1.7	16.6		0.5	15.5			3.4		3.4	3.4	
Actuated g/C Ratio	0.05	0.48		0.01	0.45			0.10		0.10	0.10	
Clearance Time (s)	4.4	5.0		4.4	4.9			4.9		4.9	4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	86	1683		25	1564			165		182	154	
v/s Ratio Prot	c0.04	c0.26		0.01	0.17						0.00	
v/s Ratio Perm								0.00		c0.02		
v/c Ratio	0.77	0.55		0.36	0.38			0.03		0.20	0.03	
Uniform Delay, d1	16.4	6.5		17.0	6.4			14.2		14.4	14.2	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	32.8	0.4		8.7	0.2			0.1		0.5	0.1	
Delay (s)	49.2	6.8		25.6	6.6			14.3		15.0	14.3	
Level of Service	D	A		C	A			B		B	B	
Approach Delay (s)		9.6			6.9			14.3			14.6	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	9.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	34.8	Sum of lost time (s)	14.3
Intersection Capacity Utilization	48.5%	ICU Level of Service	A
Analysis Period (min)	15		

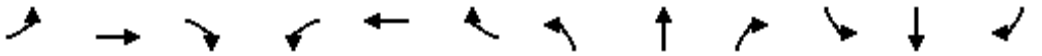
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	1547	206	278	1504	89	171	26	253	323	84	223
Future Volume (vph)	67	1547	206	278	1504	89	171	26	253	323	84	223
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.95	0.95	0.88	0.91	0.91	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.92	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00	0.95	0.99	
Satd. Flow (prot)	1770	5085	1583	3433	5043		1681	1706	2787	1610	3076	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00	0.95	0.99	
Satd. Flow (perm)	1770	5085	1583	3433	5043		1681	1706	2787	1610	3076	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	73	1682	224	302	1635	97	186	28	275	351	91	242
RTOR Reduction (vph)	0	0	151	0	8	0	0	0	190	0	174	0
Lane Group Flow (vph)	73	1682	73	302	1724	0	106	108	85	235	275	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4						2			
Actuated Green, G (s)	3.2	25.9	25.9	7.0	29.7		16.0	16.0	16.0	14.8	14.8	
Effective Green, g (s)	3.2	25.9	25.9	7.0	29.7		16.0	16.0	16.0	14.8	14.8	
Actuated g/C Ratio	0.04	0.32	0.32	0.09	0.37		0.20	0.20	0.20	0.19	0.19	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	71	1652	514	301	1879		337	342	559	298	571	
v/s Ratio Prot	0.04	c0.33		c0.09	c0.34		0.06	c0.06		c0.15	0.09	
v/s Ratio Perm			0.05						0.03			
v/c Ratio	1.03	1.02	0.14	1.00	0.92		0.31	0.32	0.15	0.79	0.48	
Uniform Delay, d1	38.2	26.9	19.0	36.4	23.8		27.2	27.2	26.3	31.0	29.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	114.8	26.8	0.1	52.7	7.6		2.4	2.4	0.6	12.9	0.6	
Delay (s)	153.1	53.7	19.2	89.1	31.4		29.6	29.6	26.8	43.9	29.7	
Level of Service	F	D	B	F	C		C	C	C	D	C	
Approach Delay (s)		53.5			40.0			28.0			34.5	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	43.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	79.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	69.2%	ICU Level of Service	C
Analysis Period (min)	15		

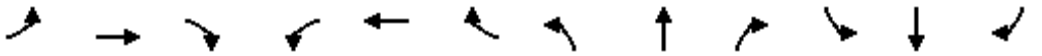
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	152	36	87	227	44	272	79	496	186	327	1206	161
Future Volume (vph)	152	36	87	227	44	272	79	496	186	327	1206	161
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		4.9	4.9	4.9	4.4	5.7		4.4	5.6	
Lane Util. Factor	0.97	1.00		0.97	0.95	0.95	1.00	0.91		0.97	0.91	
Frpb, ped/bikes	1.00	1.00		1.00	0.98	0.98	1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.89		1.00	0.89	0.85	1.00	0.96		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3433	1664		3433	1551	1470	1770	4844		3433	4931	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3433	1664		3433	1551	1470	1770	4844		3433	4931	
Peak-hour factor, PHF	0.89	0.89	0.89	0.90	0.90	0.90	0.96	0.96	0.96	0.85	0.85	0.85
Adj. Flow (vph)	171	40	98	252	49	302	82	517	194	385	1419	189
RTOR Reduction (vph)	0	79	0	0	112	149	0	49	0	0	12	0
Lane Group Flow (vph)	171	59	0	252	67	23	82	662	0	385	1596	0
Confl. Peds. (#/hr)	20					20	20		20	20		20
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	6	6
Turn Type	Split	NA		Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases						3						
Actuated Green, G (s)	4.1	4.1		10.5	10.5	10.5	6.0	36.4		6.6	37.1	
Effective Green, g (s)	4.1	4.1		10.5	10.5	10.5	6.0	36.4		6.6	37.1	
Actuated g/C Ratio	0.05	0.05		0.14	0.14	0.14	0.08	0.47		0.09	0.48	
Clearance Time (s)	4.9	4.9		4.9	4.9	4.9	4.4	5.7		4.4	5.6	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	5.4		2.0	5.8	
Lane Grp Cap (vph)	181	88		465	210	199	137	2275		292	2360	
v/s Ratio Prot	c0.05	0.04		c0.07	0.04		0.05	0.14		c0.11	c0.32	
v/s Ratio Perm						0.02						
v/c Ratio	0.94	0.67		0.54	0.32	0.12	0.60	0.29		1.32	0.68	
Uniform Delay, d1	36.6	36.0		31.3	30.3	29.4	34.6	12.6		35.5	15.6	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	50.2	14.9		0.7	0.3	0.1	4.6	0.2		165.4	1.2	
Delay (s)	86.8	50.9		32.0	30.6	29.5	39.2	12.8		200.9	16.7	
Level of Service	F	D		C	C	C	D	B		F	B	
Approach Delay (s)		70.8			30.9			15.5			52.3	
Approach LOS		E			C			B			D	

Intersection Summary				
HCM 2000 Control Delay	42.5	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.75			
Actuated Cycle Length (s)	77.5	Sum of lost time (s)	19.9	
Intersection Capacity Utilization	74.7%	ICU Level of Service	D	
Analysis Period (min)	15			

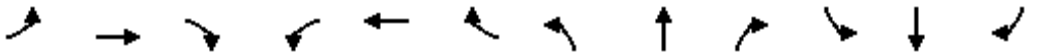
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	208	506	30	22	1175	79	26	5	8	67	0	195
Future Volume (vph)	208	506	30	22	1175	79	26	5	8	67	0	195
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.0		4.4	4.9			4.9		4.9	4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99			0.97		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00			0.97		0.95	1.00	
Satd. Flow (prot)	1770	3509		1770	3506			1751		1770	1583	
Flt Permitted	0.95	1.00		0.95	1.00			0.48		0.73	1.00	
Satd. Flow (perm)	1770	3509		1770	3506			867		1359	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	226	550	33	24	1277	86	28	5	9	73	0	212
RTOR Reduction (vph)	0	4	0	0	6	0	0	8	0	0	184	0
Lane Group Flow (vph)	226	579	0	24	1357	0	0	34	0	73	28	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	11.3	42.6		2.0	33.4			9.1		9.1	9.1	
Effective Green, g (s)	11.3	42.6		2.0	33.4			9.1		9.1	9.1	
Actuated g/C Ratio	0.17	0.63		0.03	0.49			0.13		0.13	0.13	
Clearance Time (s)	4.4	5.0		4.4	4.9			4.9		4.9	4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	294	2198		52	1722			116		181	211	
v/s Ratio Prot	c0.13	0.16		0.01	c0.39						0.02	
v/s Ratio Perm								0.04		c0.05		
v/c Ratio	0.77	0.26		0.46	0.79			0.29		0.40	0.13	
Uniform Delay, d1	27.1	5.7		32.5	14.4			26.6		27.0	26.0	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	11.4	0.1		6.4	2.5			1.4		1.5	0.3	
Delay (s)	38.5	5.7		38.8	16.8			28.0		28.4	26.3	
Level of Service	D	A		D	B			C		C	C	
Approach Delay (s)		14.9			17.2			28.0			26.8	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	17.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	68.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	77.8%	ICU Level of Service	D
Analysis Period (min)	15		

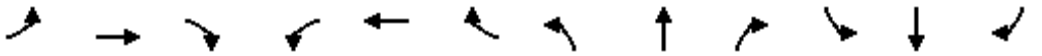
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	1769	67	99	2152	352	21	28	98	48	12	20
Future Volume (vph)	65	1769	67	99	2152	352	21	28	98	48	12	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.95	0.95	0.88	0.91	0.91	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	0.98	
Satd. Flow (prot)	1770	5085	1583	3433	4978		1681	1764	2787	1610	3133	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	0.98	
Satd. Flow (perm)	1770	5085	1583	3433	4978		1681	1764	2787	1610	3133	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	71	1923	73	108	2339	383	23	30	107	52	13	22
RTOR Reduction (vph)	0	0	33	0	18	0	0	0	90	0	21	0
Lane Group Flow (vph)	71	1923	40	108	2704	0	21	32	17	30	36	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4						2			
Actuated Green, G (s)	5.0	55.3	55.3	6.9	57.2		16.0	16.0	16.0	6.2	6.2	
Effective Green, g (s)	5.0	55.3	55.3	6.9	57.2		16.0	16.0	16.0	6.2	6.2	
Actuated g/C Ratio	0.05	0.55	0.55	0.07	0.57		0.16	0.16	0.16	0.06	0.06	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	88	2800	871	235	2836		267	281	444	99	193	
v/s Ratio Prot	c0.04	0.38		0.03	c0.54		0.01	c0.02		c0.02	0.01	
v/s Ratio Perm			0.03						0.01			
v/c Ratio	0.81	0.69	0.05	0.46	0.95		0.08	0.11	0.04	0.30	0.19	
Uniform Delay, d1	47.2	16.3	10.4	45.0	20.3		35.9	36.1	35.7	45.0	44.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	39.8	0.7	0.0	1.4	8.5		0.6	0.8	0.2	1.7	0.5	
Delay (s)	87.1	17.0	10.4	46.4	28.8		36.5	37.0	35.9	46.8	45.2	
Level of Service	F	B	B	D	C		D	D	D	D	D	
Approach Delay (s)		19.2			29.5			36.2			45.7	
Approach LOS		B			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	25.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	100.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	68.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	116	12	30	66	20	179	50	1563	115	152	227	88
Future Volume (vph)	116	12	30	66	20	179	50	1563	115	152	227	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		4.9	4.9	4.9	4.4	5.7		4.4	5.6	
Lane Util. Factor	0.97	1.00		0.97	0.95	0.95	1.00	0.91		0.97	0.91	
Frpb, ped/bikes	1.00	1.00		1.00	0.98	0.98	1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.89		1.00	0.88	0.85	1.00	0.99		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3433	1661		3433	1528	1471	1770	5024		3433	4775	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3433	1661		3433	1528	1471	1770	5024		3433	4775	
Peak-hour factor, PHF	0.89	0.89	0.89	0.90	0.90	0.90	0.96	0.96	0.96	0.85	0.85	0.85
Adj. Flow (vph)	130	13	34	73	22	199	52	1628	120	179	267	104
RTOR Reduction (vph)	0	32	0	0	82	99	0	5	0	0	44	0
Lane Group Flow (vph)	130	15	0	73	30	10	52	1743	0	179	327	0
Confl. Peds. (#/hr)	20					20	20		20	20		20
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	6	6
Turn Type	Split	NA		Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases						3						
Actuated Green, G (s)	4.7	4.7		6.6	6.6	6.6	3.6	38.1		6.2	40.8	
Effective Green, g (s)	4.7	4.7		6.6	6.6	6.6	3.6	38.1		6.2	40.8	
Actuated g/C Ratio	0.06	0.06		0.09	0.09	0.09	0.05	0.50		0.08	0.54	
Clearance Time (s)	4.9	4.9		4.9	4.9	4.9	4.4	5.7		4.4	5.6	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	5.4		2.0	5.8	
Lane Grp Cap (vph)	213	103		300	133	128	84	2535		281	2580	
v/s Ratio Prot	c0.04	0.01		c0.02	0.02		0.03	c0.35		c0.05	c0.07	
v/s Ratio Perm						0.01						
v/c Ratio	0.61	0.15		0.24	0.22	0.07	0.62	0.69		0.64	0.13	
Uniform Delay, d1	34.5	33.5		32.1	32.1	31.6	35.3	14.2		33.6	8.6	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.6	0.2		0.2	0.3	0.1	9.2	1.1		3.5	0.1	
Delay (s)	38.1	33.7		32.3	32.4	31.7	44.5	15.3		37.0	8.6	
Level of Service	D	C		C	C	C	D	B		D	A	
Approach Delay (s)		37.0			32.1			16.1			17.9	
Approach LOS		D			C			B			B	

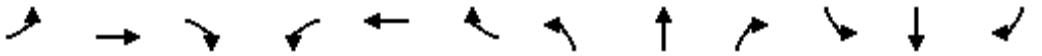
Intersection Summary			
HCM 2000 Control Delay	19.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	75.5	Sum of lost time (s)	19.9
Intersection Capacity Utilization	71.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	87	838	15	8	518	41	33	1	19	36	0	46
Future Volume (vph)	87	838	15	8	518	41	33	1	19	36	0	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.4	5.0		5.4	4.9			4.9		4.9	4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99			0.95		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00			0.97		0.95	1.00	
Satd. Flow (prot)	1770	3530		1770	3500			1718		1770	1583	
Flt Permitted	0.95	1.00		0.95	1.00			0.78		0.91	1.00	
Satd. Flow (perm)	1770	3530		1770	3500			1384		1693	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	95	911	16	9	563	45	36	1	21	39	0	50
RTOR Reduction (vph)	0	1	0	0	8	0	0	19	0	0	45	0
Lane Group Flow (vph)	95	926	0	9	600	0	0	39	0	39	5	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	3.8	28.3		0.7	25.3			4.4		4.4	4.4	
Effective Green, g (s)	3.8	28.3		0.7	25.3			4.4		4.4	4.4	
Actuated g/C Ratio	0.08	0.58		0.01	0.52			0.09		0.09	0.09	
Clearance Time (s)	5.4	5.0		5.4	4.9			4.9		4.9	4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	138	2051		25	1818			125		152	143	
v/s Ratio Prot	c0.05	c0.26		0.01	0.17						0.00	
v/s Ratio Perm								c0.03		0.02		
v/c Ratio	0.69	0.45		0.36	0.33			0.31		0.26	0.03	
Uniform Delay, d1	21.9	5.8		23.8	6.8			20.7		20.6	20.2	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	13.4	0.7		8.7	0.1			1.4		0.9	0.1	
Delay (s)	35.2	6.5		32.4	6.9			22.2		21.5	20.3	
Level of Service	D	A		C	A			C		C	C	
Approach Delay (s)		9.2			7.3			22.2			20.8	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	9.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	48.7	Sum of lost time (s)	15.3
Intersection Capacity Utilization	49.4%	ICU Level of Service	A
Analysis Period (min)	15		

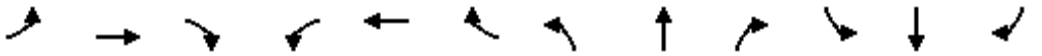
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	1547	206	280	1504	89	171	26	263	323	84	223
Future Volume (vph)	67	1547	206	280	1504	89	171	26	263	323	84	223
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.95	0.95	0.88	0.91	0.91	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.92	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00	0.95	0.99	
Satd. Flow (prot)	1770	5085	1583	3433	5043		1681	1706	2787	1610	3076	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00	0.95	0.99	
Satd. Flow (perm)	1770	5085	1583	3433	5043		1681	1706	2787	1610	3076	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	73	1682	224	304	1635	97	186	28	286	351	91	242
RTOR Reduction (vph)	0	0	151	0	8	0	0	0	190	0	174	0
Lane Group Flow (vph)	73	1682	73	304	1724	0	106	108	96	235	275	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4						2			
Actuated Green, G (s)	3.2	25.9	25.9	7.0	29.7		16.0	16.0	16.0	14.8	14.8	
Effective Green, g (s)	3.2	25.9	25.9	7.0	29.7		16.0	16.0	16.0	14.8	14.8	
Actuated g/C Ratio	0.04	0.32	0.32	0.09	0.37		0.20	0.20	0.20	0.19	0.19	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	71	1652	514	301	1879		337	342	559	298	571	
v/s Ratio Prot	0.04	c0.33		c0.09	c0.34		0.06	c0.06		c0.15	0.09	
v/s Ratio Perm			0.05						0.03			
v/c Ratio	1.03	1.02	0.14	1.01	0.92		0.31	0.32	0.17	0.79	0.48	
Uniform Delay, d1	38.2	26.9	19.0	36.4	23.8		27.2	27.2	26.4	31.0	29.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	114.8	26.8	0.1	54.4	7.6		2.4	2.4	0.7	12.9	0.6	
Delay (s)	153.1	53.7	19.2	90.8	31.4		29.6	29.6	27.0	43.9	29.7	
Level of Service	F	D	B	F	C		C	C	C	D	C	
Approach Delay (s)		53.5			40.3			28.1			34.5	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	43.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	79.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	69.2%	ICU Level of Service	C
Analysis Period (min)	15		

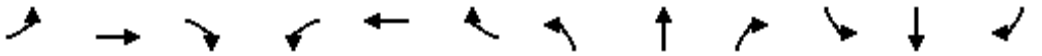
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	152	36	87	227	44	276	79	496	186	329	1206	161
Future Volume (vph)	152	36	87	227	44	276	79	496	186	329	1206	161
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		4.9	4.9	4.9	4.4	5.7		4.4	5.6	
Lane Util. Factor	0.97	1.00		0.97	0.95	0.95	1.00	0.91		0.97	0.91	
Frpb, ped/bikes	1.00	1.00		1.00	0.98	0.98	1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.89		1.00	0.89	0.85	1.00	0.96		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3433	1664		3433	1550	1470	1770	4844		3433	4931	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3433	1664		3433	1550	1470	1770	4844		3433	4931	
Peak-hour factor, PHF	0.89	0.89	0.89	0.90	0.90	0.90	0.96	0.96	0.96	0.85	0.85	0.85
Adj. Flow (vph)	171	40	98	252	49	307	82	517	194	387	1419	189
RTOR Reduction (vph)	0	79	0	0	114	151	0	49	0	0	12	0
Lane Group Flow (vph)	171	59	0	252	67	24	82	662	0	387	1596	0
Confl. Peds. (#/hr)	20					20	20		20	20		20
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	6	6
Turn Type	Split	NA		Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases						3						
Actuated Green, G (s)	4.1	4.1		10.5	10.5	10.5	6.0	36.4		6.6	37.1	
Effective Green, g (s)	4.1	4.1		10.5	10.5	10.5	6.0	36.4		6.6	37.1	
Actuated g/C Ratio	0.05	0.05		0.14	0.14	0.14	0.08	0.47		0.09	0.48	
Clearance Time (s)	4.9	4.9		4.9	4.9	4.9	4.4	5.7		4.4	5.6	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	5.4		2.0	5.8	
Lane Grp Cap (vph)	181	88		465	210	199	137	2275		292	2360	
v/s Ratio Prot	c0.05	0.04		c0.07	0.04		0.05	0.14		c0.11	c0.32	
v/s Ratio Perm						0.02						
v/c Ratio	0.94	0.67		0.54	0.32	0.12	0.60	0.29		1.33	0.68	
Uniform Delay, d1	36.6	36.0		31.3	30.3	29.4	34.6	12.6		35.5	15.6	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	50.2	14.9		0.7	0.3	0.1	4.6	0.2		168.3	1.2	
Delay (s)	86.8	50.9		32.0	30.6	29.5	39.2	12.8		203.7	16.7	
Level of Service	F	D		C	C	C	D	B		F	B	
Approach Delay (s)		70.8			30.8			15.5			53.0	
Approach LOS		E			C			B			D	

Intersection Summary				
HCM 2000 Control Delay	42.8	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.75			
Actuated Cycle Length (s)	77.5	Sum of lost time (s)	19.9	
Intersection Capacity Utilization	74.7%	ICU Level of Service	D	
Analysis Period (min)	15			

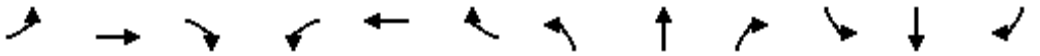
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	212	506	30	22	1175	82	26	5	8	78	1	218
Future Volume (vph)	212	506	30	22	1175	82	26	5	8	78	1	218
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.0		4.4	4.9			4.9		4.9	4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99			0.97		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00			0.97		0.95	1.00	
Satd. Flow (prot)	1770	3509		1770	3505			1751		1770	1585	
Flt Permitted	0.95	1.00		0.95	1.00			0.43		0.73	1.00	
Satd. Flow (perm)	1770	3509		1770	3505			775		1359	1585	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	230	550	33	24	1277	89	28	5	9	85	1	237
RTOR Reduction (vph)	0	5	0	0	6	0	0	8	0	0	183	0
Lane Group Flow (vph)	230	578	0	24	1360	0	0	34	0	85	55	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	11.3	42.8		2.0	33.6			9.6		9.6	9.6	
Effective Green, g (s)	11.3	42.8		2.0	33.6			9.6		9.6	9.6	
Actuated g/C Ratio	0.16	0.62		0.03	0.49			0.14		0.14	0.14	
Clearance Time (s)	4.4	5.0		4.4	4.9			4.9		4.9	4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	291	2186		51	1714			108		189	221	
v/s Ratio Prot	c0.13	0.16		0.01	c0.39						0.03	
v/s Ratio Perm								0.04		c0.06		
v/c Ratio	0.79	0.26		0.47	0.79			0.32		0.45	0.25	
Uniform Delay, d1	27.6	5.8		32.8	14.7			26.6		27.1	26.3	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	13.6	0.1		6.7	2.6			1.7		1.7	0.6	
Delay (s)	41.1	5.9		39.5	17.3			28.3		28.8	26.9	
Level of Service	D	A		D	B			C		C	C	
Approach Delay (s)		15.9			17.6			28.3			27.4	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	18.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	68.7	Sum of lost time (s)	14.3
Intersection Capacity Utilization	79.6%	ICU Level of Service	D
Analysis Period (min)	15		

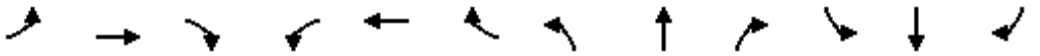
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	73	1889	112	171	2276	465	37	56	179	60	24	24
Future Volume (vph)	73	1889	112	171	2276	465	37	56	179	60	24	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.95	0.95	0.88	0.91	0.91	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	0.98	
Satd. Flow (prot)	1770	5085	1583	3433	4956		1681	1764	2787	1610	3168	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	0.98	
Satd. Flow (perm)	1770	5085	1583	3433	4956		1681	1764	2787	1610	3168	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	77	1988	118	180	2396	489	39	59	188	63	25	25
RTOR Reduction (vph)	0	0	57	0	26	0	0	0	163	0	22	0
Lane Group Flow (vph)	77	1988	61	180	2859	0	35	63	25	38	53	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4						2			
Actuated Green, G (s)	6.0	61.7	61.7	10.3	66.0		16.0	16.0	16.0	16.0	16.0	
Effective Green, g (s)	6.0	61.7	61.7	10.3	66.0		16.0	16.0	16.0	16.0	16.0	
Actuated g/C Ratio	0.05	0.51	0.51	0.09	0.55		0.13	0.13	0.13	0.13	0.13	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	88	2614	813	294	2725		224	235	371	214	422	
v/s Ratio Prot	c0.04	0.39		0.05	c0.58		0.02	c0.04		c0.02	0.02	
v/s Ratio Perm			0.04						0.01			
v/c Ratio	0.88	0.76	0.07	0.61	1.05		0.16	0.27	0.07	0.18	0.13	
Uniform Delay, d1	56.6	23.3	14.7	52.9	27.0		46.0	46.7	45.5	46.2	45.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	56.5	1.3	0.0	3.7	31.9		1.5	2.8	0.4	1.8	0.6	
Delay (s)	113.2	24.6	14.8	56.7	58.9		47.5	49.5	45.8	48.0	46.5	
Level of Service	F	C	B	E	E		D	D	D	D	D	
Approach Delay (s)		27.2			58.8			46.8			47.0	
Approach LOS		C			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	45.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	77.6%	ICU Level of Service	D
Analysis Period (min)	15		

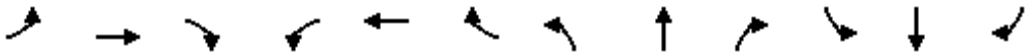
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	187	26	27	101	42	451	49	1955	175	339	234	127
Future Volume (vph)	187	26	27	101	42	451	49	1955	175	339	234	127
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		4.9	4.9	4.9	4.4	6.0		4.4	5.7	
Lane Util. Factor	0.97	1.00		0.97	0.95	0.95	1.00	0.91		0.97	0.91	
Frpb, ped/bikes	1.00	1.00		1.00	0.98	0.98	1.00	1.00		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.92		1.00	0.88	0.85	1.00	0.99		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3433	1720		3433	1517	1467	1770	5011		3433	4699	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3433	1720		3433	1517	1467	1770	5011		3433	4699	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	197	27	28	106	44	475	52	2058	184	357	246	134
RTOR Reduction (vph)	0	26	0	0	126	133	0	11	0	0	60	0
Lane Group Flow (vph)	197	29	0	106	137	123	52	2231	0	357	320	0
Confl. Peds. (#/hr)	20					20	20		20	20		20
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	6	6
Turn Type	Split	NA		Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases						8						
Actuated Green, G (s)	6.5	6.5		10.0	10.0	10.0	4.1	43.2		10.7	50.1	
Effective Green, g (s)	6.5	6.5		10.0	10.0	10.0	4.1	43.2		10.7	50.1	
Actuated g/C Ratio	0.07	0.07		0.11	0.11	0.11	0.05	0.48		0.12	0.55	
Clearance Time (s)	4.9	4.9		4.9	4.9	4.9	4.4	6.0		4.4	5.7	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	5.4		2.0	5.8	
Lane Grp Cap (vph)	246	123		378	167	161	80	2389		405	2598	
v/s Ratio Prot	c0.06	0.02		0.03	c0.09		0.03	c0.45		c0.10	0.07	
v/s Ratio Perm						0.08						
v/c Ratio	0.80	0.24		0.28	0.82	0.77	0.65	0.93		0.88	0.12	
Uniform Delay, d1	41.4	39.7		37.0	39.4	39.2	42.5	22.4		39.3	9.7	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	16.0	0.4		0.1	24.6	17.6	13.5	8.3		19.1	0.1	
Delay (s)	57.4	40.1		37.1	64.0	56.8	56.0	30.7		58.4	9.8	
Level of Service	E	D		D	E	E	E	C		E	A	
Approach Delay (s)		53.6			56.5			31.2			33.4	
Approach LOS		D			E			C			C	

Intersection Summary			
HCM 2000 Control Delay	37.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	90.6	Sum of lost time (s)	20.2
Intersection Capacity Utilization	97.8%	ICU Level of Service	F
Analysis Period (min)	15		

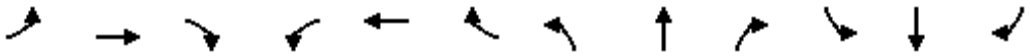
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	82	1179	15	8	725	37	35	0	20	62	0	39
Future Volume (vph)	82	1179	15	8	725	37	35	0	20	62	0	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.0		4.4	4.9			4.9		4.9	4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99			0.95		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00			0.97		0.95	1.00	
Satd. Flow (prot)	1770	3532		1770	3513			1717		1770	1583	
Flt Permitted	0.95	1.00		0.95	1.00			0.78		0.93	1.00	
Satd. Flow (perm)	1770	3532		1770	3513			1386		1733	1583	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	86	1241	16	8	763	39	37	0	21	65	0	41
RTOR Reduction (vph)	0	1	0	0	4	0	0	52	0	0	37	0
Lane Group Flow (vph)	86	1256	0	8	798	0	0	6	0	65	4	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	3.1	25.6		0.5	23.1			4.3		4.3	4.3	
Effective Green, g (s)	3.1	25.6		0.5	23.1			4.3		4.3	4.3	
Actuated g/C Ratio	0.07	0.57		0.01	0.52			0.10		0.10	0.10	
Clearance Time (s)	4.4	5.0		4.4	4.9			4.9		4.9	4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	122	2022		19	1815			133		166	152	
v/s Ratio Prot	c0.05	c0.36		0.00	0.23						0.00	
v/s Ratio Perm								0.00		c0.04		
v/c Ratio	0.70	0.62		0.42	0.44			0.04		0.39	0.03	
Uniform Delay, d1	20.4	6.3		22.0	6.8			18.3		19.0	18.3	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	16.9	0.6		14.4	0.2			0.1		1.5	0.1	
Delay (s)	37.2	6.9		36.3	6.9			18.5		20.5	18.4	
Level of Service	D	A		D	A			B		C	B	
Approach Delay (s)		8.9			7.2			18.5			19.7	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	9.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	44.7	Sum of lost time (s)	14.3
Intersection Capacity Utilization	58.1%	ICU Level of Service	B
Analysis Period (min)	15		

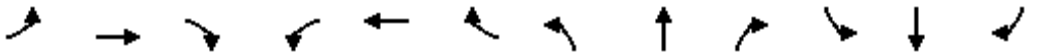
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	81	1471	431	601	1438	109	358	69	558	406	227	274
Future Volume (vph)	81	1471	431	601	1438	109	358	69	558	406	227	274
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.95	0.95	0.88	0.91	0.91	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.93	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00	0.95	0.99	
Satd. Flow (prot)	1770	5085	1583	3433	5031		1681	1711	2787	1610	3132	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00	0.95	0.99	
Satd. Flow (perm)	1770	5085	1583	3433	5031		1681	1711	2787	1610	3132	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	85	1548	454	633	1514	115	377	73	587	427	239	288
RTOR Reduction (vph)	0	0	320	0	9	0	0	0	347	0	135	0
Lane Group Flow (vph)	85	1548	134	633	1620	0	222	228	240	325	494	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4						2			
Actuated Green, G (s)	5.6	26.8	26.8	15.0	36.2		16.0	16.0	16.0	17.0	17.0	
Effective Green, g (s)	5.6	26.8	26.8	15.0	36.2		16.0	16.0	16.0	17.0	17.0	
Actuated g/C Ratio	0.06	0.30	0.30	0.17	0.40		0.18	0.18	0.18	0.19	0.19	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	109	1500	467	567	2005		296	301	491	301	586	
v/s Ratio Prot	0.05	c0.30		c0.18	0.32		0.13	c0.13		c0.20	0.16	
v/s Ratio Perm			0.08						0.09			
v/c Ratio	0.78	1.03	0.29	1.12	0.81		0.75	0.76	0.49	1.08	0.84	
Uniform Delay, d1	42.0	32.0	24.6	37.9	24.2		35.5	35.6	33.7	36.9	35.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	28.9	31.9	0.3	73.9	2.5		16.0	16.3	3.5	74.8	13.8	
Delay (s)	70.9	63.9	25.0	111.8	26.7		51.5	51.8	37.2	111.7	49.4	
Level of Service	E	E	C	F	C		D	D	D	F	D	
Approach Delay (s)		55.7			50.5			43.5			70.6	
Approach LOS		E			D			D			E	

Intersection Summary			
HCM 2000 Control Delay	54.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	90.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	88.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	213	113	93	497	138	815	72	457	394	1051	1317	237
Future Volume (vph)	213	113	93	497	138	815	72	457	394	1051	1317	237
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		4.9	4.9	4.9	4.4	6.0		4.4	5.7	
Lane Util. Factor	0.97	1.00		0.97	0.95	0.95	1.00	0.91		0.97	0.91	
Frpb, ped/bikes	1.00	1.00		1.00	0.98	0.97	1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.93		1.00	0.89	0.85	1.00	0.93		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3433	1737		3433	1547	1461	1770	4661		3433	4887	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3433	1737		3433	1547	1461	1770	4661		3433	4887	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	224	119	98	523	145	858	76	481	415	1106	1386	249
RTOR Reduction (vph)	0	30	0	0	96	392	0	129	0	0	21	0
Lane Group Flow (vph)	224	187	0	523	418	97	76	767	0	1106	1614	0
Confl. Peds. (#/hr)	20					20	20		20	20		20
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	6	6
Turn Type	Split	NA		Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases						8						
Actuated Green, G (s)	10.3	10.3		23.9	23.9	23.9	5.2	35.9		30.3	61.3	
Effective Green, g (s)	10.3	10.3		23.9	23.9	23.9	5.2	35.9		30.3	61.3	
Actuated g/C Ratio	0.09	0.09		0.20	0.20	0.20	0.04	0.30		0.25	0.51	
Clearance Time (s)	4.9	4.9		4.9	4.9	4.9	4.4	6.0		4.4	5.7	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	5.4		2.0	5.8	
Lane Grp Cap (vph)	293	148		680	306	289	76	1387		862	2484	
v/s Ratio Prot	0.07	c0.11		0.15	c0.27		0.04	0.16		c0.32	c0.33	
v/s Ratio Perm						0.07						
v/c Ratio	0.76	1.26		0.77	1.37	0.34	1.00	0.55		1.28	0.65	
Uniform Delay, d1	54.0	55.1		45.7	48.3	41.5	57.7	35.6		45.1	21.8	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	10.2	161.0		4.7	184.0	0.3	103.2	1.6		136.2	1.3	
Delay (s)	64.2	216.1		50.5	232.4	41.8	160.9	37.2		181.4	23.1	
Level of Service	E	F		D	F	D	F	D		F	C	
Approach Delay (s)		138.9			109.0			46.9			87.0	
Approach LOS		F			F			D			F	

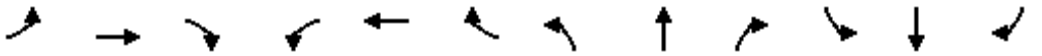
Intersection Summary			
HCM 2000 Control Delay	90.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	120.6	Sum of lost time (s)	20.2
Intersection Capacity Utilization	112.4%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	311	770	31	23	1801	110	23	5	8	93	0	289
Future Volume (vph)	311	770	31	23	1801	110	23	5	8	93	0	289
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.0		4.4	4.9			4.9		4.9	4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99			0.97		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00			0.97		0.95	1.00	
Satd. Flow (prot)	1770	3518		1770	3509			1752		1770	1583	
Flt Permitted	0.95	1.00		0.95	1.00			0.22		0.79	1.00	
Satd. Flow (perm)	1770	3518		1770	3509			390		1477	1583	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	327	811	33	24	1896	116	24	5	8	98	0	304
RTOR Reduction (vph)	0	1	0	0	2	0	0	7	0	0	224	0
Lane Group Flow (vph)	327	843	0	24	2010	0	0	30	0	98	80	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	27.6	105.8		3.8	82.1			15.3		15.3	15.3	
Effective Green, g (s)	27.6	105.8		3.8	82.1			15.3		15.3	15.3	
Actuated g/C Ratio	0.20	0.76		0.03	0.59			0.11		0.11	0.11	
Clearance Time (s)	4.4	5.0		4.4	4.9			4.9		4.9	4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	350	2673		48	2069			42		162	173	
v/s Ratio Prot	c0.18	0.24		0.01	c0.57						0.05	
v/s Ratio Perm								c0.08		0.07		
v/c Ratio	0.93	0.32		0.50	0.97			0.71		0.60	0.46	
Uniform Delay, d1	54.9	5.3		66.8	27.4			59.8		59.1	58.1	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	31.5	0.1		8.0	13.6			43.8		6.2	1.9	
Delay (s)	86.4	5.3		74.7	41.0			103.6		65.3	60.0	
Level of Service	F	A		E	D			F		E	E	
Approach Delay (s)		28.0			41.4			103.6			61.3	
Approach LOS		C			D			F			E	

Intersection Summary			
HCM 2000 Control Delay	39.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	139.2	Sum of lost time (s)	14.3
Intersection Capacity Utilization	104.1%	ICU Level of Service	G
Analysis Period (min)	15		

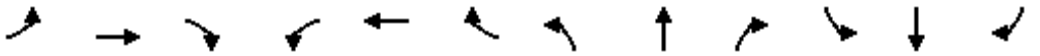
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	73	1889	112	182	2276	465	37	56	181	60	24	24
Future Volume (vph)	73	1889	112	182	2276	465	37	56	181	60	24	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.95	0.95	0.88	0.91	0.91	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	0.98	
Satd. Flow (prot)	1770	5085	1583	3433	4956		1681	1764	2787	1610	3168	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	0.98	
Satd. Flow (perm)	1770	5085	1583	3433	4956		1681	1764	2787	1610	3168	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	77	1988	118	192	2396	489	39	59	191	63	25	25
RTOR Reduction (vph)	0	0	58	0	26	0	0	0	166	0	22	0
Lane Group Flow (vph)	77	1988	60	192	2859	0	35	63	25	38	53	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4						2			
Actuated Green, G (s)	6.0	61.5	61.5	10.5	66.0		16.0	16.0	16.0	16.0	16.0	
Effective Green, g (s)	6.0	61.5	61.5	10.5	66.0		16.0	16.0	16.0	16.0	16.0	
Actuated g/C Ratio	0.05	0.51	0.51	0.09	0.55		0.13	0.13	0.13	0.13	0.13	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	88	2606	811	300	2725		224	235	371	214	422	
v/s Ratio Prot	c0.04	0.39		0.06	c0.58		0.02	c0.04		c0.02	0.02	
v/s Ratio Perm			0.04						0.01			
v/c Ratio	0.88	0.76	0.07	0.64	1.05		0.16	0.27	0.07	0.18	0.13	
Uniform Delay, d1	56.6	23.4	14.8	52.9	27.0		46.0	46.7	45.5	46.2	45.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	56.5	1.4	0.0	4.6	31.9		1.5	2.8	0.4	1.8	0.6	
Delay (s)	113.2	24.8	14.9	57.5	58.9		47.5	49.5	45.8	48.0	46.5	
Level of Service	F	C	B	E	E		D	D	D	D	D	
Approach Delay (s)		27.4			58.9			46.8			47.0	
Approach LOS		C			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	45.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	77.6%	ICU Level of Service	D
Analysis Period (min)	15		

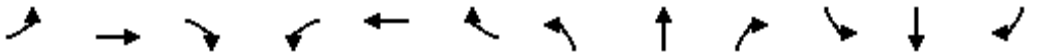
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	187	26	27	101	42	453	49	1955	175	345	234	127
Future Volume (vph)	187	26	27	101	42	453	49	1955	175	345	234	127
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		4.9	4.9	4.9	4.4	6.0		4.4	5.7	
Lane Util. Factor	0.97	1.00		0.97	0.95	0.95	1.00	0.91		0.97	0.91	
Frpb, ped/bikes	1.00	1.00		1.00	0.98	0.98	1.00	1.00		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.92		1.00	0.88	0.85	1.00	0.99		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3433	1720		3433	1517	1467	1770	5011		3433	4699	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3433	1720		3433	1517	1467	1770	5011		3433	4699	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	197	27	28	106	44	477	52	2058	184	363	246	134
RTOR Reduction (vph)	0	26	0	0	126	133	0	11	0	0	60	0
Lane Group Flow (vph)	197	29	0	106	137	125	52	2231	0	363	320	0
Confl. Peds. (#/hr)	20					20	20		20	20		20
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	6	6
Turn Type	Split	NA		Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases						8						
Actuated Green, G (s)	6.5	6.5		10.0	10.0	10.0	4.1	43.2		10.8	50.2	
Effective Green, g (s)	6.5	6.5		10.0	10.0	10.0	4.1	43.2		10.8	50.2	
Actuated g/C Ratio	0.07	0.07		0.11	0.11	0.11	0.05	0.48		0.12	0.55	
Clearance Time (s)	4.9	4.9		4.9	4.9	4.9	4.4	6.0		4.4	5.7	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	5.4		2.0	5.8	
Lane Grp Cap (vph)	246	123		378	167	161	80	2386		408	2600	
v/s Ratio Prot	c0.06	0.02		0.03	c0.09		0.03	c0.45		c0.11	0.07	
v/s Ratio Perm						0.09						
v/c Ratio	0.80	0.24		0.28	0.82	0.78	0.65	0.94		0.89	0.12	
Uniform Delay, d1	41.5	39.8		37.0	39.5	39.3	42.6	22.4		39.4	9.7	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	16.0	0.4		0.1	24.6	19.2	13.5	8.4		19.9	0.1	
Delay (s)	57.4	40.1		37.2	64.0	58.4	56.1	30.9		59.3	9.8	
Level of Service	E	D		D	E	E	E	C		E	A	
Approach Delay (s)		53.7			57.2			31.4			34.0	
Approach LOS		D			E			C			C	

Intersection Summary			
HCM 2000 Control Delay	37.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	90.7	Sum of lost time (s)	20.2
Intersection Capacity Utilization	98.0%	ICU Level of Service	F
Analysis Period (min)	15		

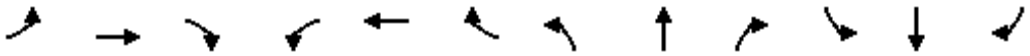
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	108	1179	15	8	725	50	35	1	20	65	0	44
Future Volume (vph)	108	1179	15	8	725	50	35	1	20	65	0	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.0		4.4	4.9			4.9		4.9	4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99			0.95		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00			0.97		0.95	1.00	
Satd. Flow (prot)	1770	3532		1770	3505			1719		1770	1583	
Flt Permitted	0.95	1.00		0.95	1.00			0.78		0.72	1.00	
Satd. Flow (perm)	1770	3532		1770	3505			1387		1338	1583	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	114	1241	16	8	763	53	37	1	21	68	0	46
RTOR Reduction (vph)	0	1	0	0	5	0	0	18	0	0	40	0
Lane Group Flow (vph)	114	1256	0	8	811	0	0	41	0	68	6	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	4.7	26.0		0.6	22.0			6.1		6.1	6.1	
Effective Green, g (s)	4.7	26.0		0.6	22.0			6.1		6.1	6.1	
Actuated g/C Ratio	0.10	0.55		0.01	0.47			0.13		0.13	0.13	
Clearance Time (s)	4.4	5.0		4.4	4.9			4.9		4.9	4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	177	1953		22	1640			180		173	205	
v/s Ratio Prot	c0.06	c0.36		0.00	0.23						0.00	
v/s Ratio Perm								0.03		c0.05		
v/c Ratio	0.64	0.64		0.36	0.49			0.23		0.39	0.03	
Uniform Delay, d1	20.3	7.3		23.0	8.7			18.3		18.8	17.9	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	7.8	0.7		9.9	0.2			0.6		1.5	0.1	
Delay (s)	28.1	8.0		33.0	8.9			19.0		20.2	17.9	
Level of Service	C	A		C	A			B		C	B	
Approach Delay (s)		9.7			9.1			19.0			19.3	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	10.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	47.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	58.2%	ICU Level of Service	B
Analysis Period (min)	15		

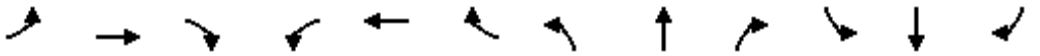
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	81	1471	431	603	1438	109	358	69	568	406	227	274
Future Volume (vph)	81	1471	431	603	1438	109	358	69	568	406	227	274
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.95	0.95	0.88	0.91	0.91	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.93	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00	0.95	0.99	
Satd. Flow (prot)	1770	5085	1583	3433	5031		1681	1711	2787	1610	3132	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00	0.95	0.99	
Satd. Flow (perm)	1770	5085	1583	3433	5031		1681	1711	2787	1610	3132	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	85	1548	454	635	1514	115	377	73	598	427	239	288
RTOR Reduction (vph)	0	0	320	0	9	0	0	0	347	0	135	0
Lane Group Flow (vph)	85	1548	134	635	1620	0	222	228	251	325	494	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4						2			
Actuated Green, G (s)	5.6	26.8	26.8	15.0	36.2		16.0	16.0	16.0	17.0	17.0	
Effective Green, g (s)	5.6	26.8	26.8	15.0	36.2		16.0	16.0	16.0	17.0	17.0	
Actuated g/C Ratio	0.06	0.30	0.30	0.17	0.40		0.18	0.18	0.18	0.19	0.19	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	109	1500	467	567	2005		296	301	491	301	586	
v/s Ratio Prot	0.05	c0.30		c0.18	0.32		0.13	c0.13		c0.20	0.16	
v/s Ratio Perm			0.08						0.09			
v/c Ratio	0.78	1.03	0.29	1.12	0.81		0.75	0.76	0.51	1.08	0.84	
Uniform Delay, d1	42.0	32.0	24.6	37.9	24.2		35.5	35.6	33.9	36.9	35.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	28.9	31.9	0.3	75.2	2.5		16.0	16.3	3.8	74.8	13.8	
Delay (s)	70.9	63.9	25.0	113.1	26.7		51.5	51.8	37.6	111.7	49.4	
Level of Service	E	E	C	F	C		D	D	D	F	D	
Approach Delay (s)		55.7			51.0			43.7			70.6	
Approach LOS		E			D			D			E	

Intersection Summary			
HCM 2000 Control Delay	54.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	90.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	88.6%	ICU Level of Service	E
Analysis Period (min)	15		

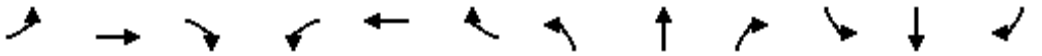
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	213	113	93	497	138	819	72	457	394	1053	1317	237
Future Volume (vph)	213	113	93	497	138	819	72	457	394	1053	1317	237
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		4.9	4.9	4.9	4.4	6.0		4.4	5.7	
Lane Util. Factor	0.97	1.00		0.97	0.95	0.95	1.00	0.91		0.97	0.91	
Frpb, ped/bikes	1.00	1.00		1.00	0.98	0.97	1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.93		1.00	0.89	0.85	1.00	0.93		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3433	1737		3433	1546	1461	1770	4661		3433	4887	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3433	1737		3433	1546	1461	1770	4661		3433	4887	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	224	119	98	523	145	862	76	481	415	1108	1386	249
RTOR Reduction (vph)	0	30	0	0	97	394	0	129	0	0	21	0
Lane Group Flow (vph)	224	187	0	523	419	97	76	767	0	1108	1614	0
Confl. Peds. (#/hr)	20					20	20		20	20		20
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	6	6
Turn Type	Split	NA		Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases						8						
Actuated Green, G (s)	10.3	10.3		23.9	23.9	23.9	5.2	35.9		30.3	61.3	
Effective Green, g (s)	10.3	10.3		23.9	23.9	23.9	5.2	35.9		30.3	61.3	
Actuated g/C Ratio	0.09	0.09		0.20	0.20	0.20	0.04	0.30		0.25	0.51	
Clearance Time (s)	4.9	4.9		4.9	4.9	4.9	4.4	6.0		4.4	5.7	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	5.4		2.0	5.8	
Lane Grp Cap (vph)	293	148		680	306	289	76	1387		862	2484	
v/s Ratio Prot	0.07	c0.11		0.15	c0.27		0.04	0.16		c0.32	c0.33	
v/s Ratio Perm						0.07						
v/c Ratio	0.76	1.26		0.77	1.37	0.34	1.00	0.55		1.29	0.65	
Uniform Delay, d1	54.0	55.1		45.7	48.3	41.5	57.7	35.6		45.1	21.8	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	10.2	161.0		4.7	185.7	0.3	103.2	1.6		137.2	1.3	
Delay (s)	64.2	216.1		50.5	234.0	41.8	160.9	37.2		182.4	23.1	
Level of Service	E	F		D	F	D	F	D		F	C	
Approach Delay (s)		138.9			109.6			46.9			87.4	
Approach LOS		F			F			D			F	

Intersection Summary			
HCM 2000 Control Delay	90.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	120.6	Sum of lost time (s)	20.2
Intersection Capacity Utilization	112.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	315	770	31	23	1801	113	23	5	8	104	1	312
Future Volume (vph)	315	770	31	23	1801	113	23	5	8	104	1	312
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.0		4.4	4.9			4.9		4.9	4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99			0.97		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00			0.97		0.95	1.00	
Satd. Flow (prot)	1770	3518		1770	3508			1752		1770	1584	
Flt Permitted	0.95	1.00		0.95	1.00			0.20		0.79	1.00	
Satd. Flow (perm)	1770	3518		1770	3508			357		1468	1584	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	332	811	33	24	1896	119	24	5	8	109	1	328
RTOR Reduction (vph)	0	1	0	0	3	0	0	7	0	0	222	0
Lane Group Flow (vph)	332	843	0	24	2012	0	0	30	0	109	107	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	27.7	105.9		3.7	82.0			16.7		16.7	16.7	
Effective Green, g (s)	27.7	105.9		3.7	82.0			16.7		16.7	16.7	
Actuated g/C Ratio	0.20	0.75		0.03	0.58			0.12		0.12	0.12	
Clearance Time (s)	4.4	5.0		4.4	4.9			4.9		4.9	4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	348	2649		46	2045			42		174	188	
v/s Ratio Prot	c0.19	0.24		0.01	c0.57						0.07	
v/s Ratio Perm								c0.08		0.07		
v/c Ratio	0.95	0.32		0.52	0.98			0.71		0.63	0.57	
Uniform Delay, d1	55.8	5.6		67.6	28.7			59.6		59.0	58.5	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	36.0	0.1		10.3	16.1			44.0		6.9	3.9	
Delay (s)	91.8	5.7		77.8	44.8			103.7		65.8	62.5	
Level of Service	F	A		E	D			F		E	E	
Approach Delay (s)		30.0			45.2			103.7			63.3	
Approach LOS		C			D			F			E	

Intersection Summary			
HCM 2000 Control Delay	43.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	140.6	Sum of lost time (s)	14.3
Intersection Capacity Utilization	104.4%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group