Appendix F – Traffic Impact Analysis

1103 Curtner Avenue Service Station

SAN JOSE, CALIFORNIA

TRANSPORTATION IMPACT ANALYSIS

DRAFT REPORT

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1 EXECUTIVE SUMMARY

This report presents the transportation impact analysis (TIA) for the proposed gas station and convenience market located at 1103 Curtner Avenue in San Jose, California. The project proposes the construction of four fuel pumps (8 fueling positions) and a new 680 square foot convenience market on a site located in the northwest quadrant of the Lincoln Avenue/Curtner Avenue intersection. **Exhibit 1** shows the location of the project site with respect to the local road network and **Exhibit 2** shows the project site plan. The purpose of this analysis is to identify potentially significant impacts of the proposed project to the transportation system.

Scope of Work

The study evaluated project impacts at the Lincoln Avenue/Curtner Avenue intersection that included impacts to intersection operations and impacts to left turn queues. In addition, traffic operations were analyzed at the project driveway intersections with Lincoln Avenue and Curtner Avenue.

AM and PM peak hour traffic conditions at the Lincoln Avenue/Curtner Avenue intersection were analyzed for the following analysis scenarios:

1. Existing Level of Service
2. Existing + Project
3. Background Scenario: Existing + Approved Projects
4. Project Scenario: Existing + Approved Projects + Project

Using City of San Jose significance criteria, the significance of project impacts to traffic operations were evaluated. Existing pedestrian facilities, bicycle facilities and transit facilities serving the site are documented. On-site circulation and access from Lincoln Avenue and Curtner Avenue was also evaluated.

Existing Conditions

Road Network

The project is located in the northwest corner of the Lincoln Avenue/Curtner Avenue intersection.
Curtner Avenue is a 4-lane undivided arterial in the vicinity of the project and **Lincoln Avenue** in the vicinity of the project is a 4-lane divided arterial.

Bicycle Facilities

Class II bike lanes are provided on Curtner Avenue and Class III bike routes are designated on Lincoln Avenue along the project frontage.

Pedestrian Facilities

Sidewalks are provided Lincoln Avenue and Curtner Avenue along the project frontage. The Lincoln Avenue/Curtner Avenue intersection signal system includes crosswalks and pedestrian countdown signals on all legs of the intersection.

Transit Services

VTA currently operates Bus Routes 26 on Curtner Avenue and 64 on Lincoln Avenue. **Route 26** is a "regular" bus route that provides weekday and weekend service between Eastridge Mall in San Jose and the Lockheed Martin Transit Center. Stops on Curtner Avenue near the project site are located about 200 feet west of the project site for westbound service and just east of the Lincoln Avenue/Curtner Avenue intersection for eastbound service. **Route 64** is a "regular" bus route that provides weekday and weekend service between the Almaden light rail station and Mckee and White Roads. Stops on Lincoln Avenue near the project site are located just south of the Lincoln Avenue/Curtner Avenue intersection for northbound service and on the project frontage for southbound service.

The VTA light rail Curtner Avenue Station is located at the SR 87Curtner Avenue interchange, which is about 0.9 miles east of the project location.

Existing Intersection Operations

The existing AM and PM peak hour intersection turning movement volumes are shown in **Exhibit 6**. Intersection traffic operations were evaluated based on the Level of Service (LOS) concept using the TRAFFIX traffic analysis software. The results of the analysis indicate that, based on City of San Jose and VTA CMP standards, the study intersection operates at acceptable levels of service during the AM and PM peak hours.

Field Observations

Predominant traffic flow on the Lincoln Avenue is northbound during the AM peak period and southbound during the PM peak period. Predominant traffic flow on the Curtner Avenue is westbound during the AM peak period and eastbound during the PM peak period. Traffic queues of up to 10 vehicles were observed on the northbound Lincoln Avenue approach to Curtner Avenue during the morning peak hour. During the PM peak hour, vehicle queues as high as 14 vehicles per lane were observed on the southbound Lincoln Avenue approach to Curtner Avenue. During the AM peak hour, vehicle queues of 13 vehicles were observed on the westbound Curtner Avenue approach to Lincoln Avenue. During the PM peak hour, a vehicle queue of 23 vehicles was observed on the eastbound Curtner Avenue approach to Lincoln Avenue during one signal cycle. It was observed that the vehicles queued at the beginning of each green phase cleared the intersection on each approach during the AM and PM peak hours.

Existing Plus Project Conditions

Project Description

The proposed project proposes the construction of four fuel pumps (8 fueling positions) and a new 680 square foot convenience market on a site located in the northwest quadrant of the Lincoln Avenue/Curtner Avenue intersection. The project will be accessed via one 32 foot wide driveway to Lincoln Avenue and one 32 foot wide driveway to Curtner Avenue. The project site was previously developed with service station with 8 fueling positions. For this study, no credit was applied for the previous trip generation of the project site.

Project Trip Generation

The ITE trip generation rates and trip generation estimates are presented in **Exhibit 8**. The project will generate a total of 1,302 daily trips, with 82 trips during the AM peak hour (41 inbound & 41 outbound) and 108 vehicle trips during the PM peak hour (54 inbound & 54 outbound). The project will generate 652 daily external trips, with 32 external trips generated during the AM peak hour (16 inbound & 16 outbound) and 48 external trips generated during the PM peak hour (24 inbound & 24 outbound).

Project Trip Distribution

Based on the project site location and a review of the existing peak hour data, it anticipated that the area wide distribution of new external trips will be fairly evenly distributed as follows:

- o 25% to and from the north via Lincoln Avenue
- o 25% to and from the south via Lincoln Avenue
- o 25% to and from the east via Curtner Avenue
- o 25% to and from the west via Curtner Avenue

The arrival and departure patterns for the pass-by trips were derived from the existing AM and PM peak hour volumes on Lincoln Avenue and Curtner Avenue adjacent to the project site. **Exhibit 9** shows the assignment of project trips to the project driveways and to the Lincoln Avenue/Curtner Avenue intersection.

Existing Plus Project Intersection Operations

Trips generated by the proposed project were combined with the existing traffic volumes to obtain existing plus project traffic volumes, which are shown in **Exhibit 6**. According to the City of San Jose standards, the study intersection is projected to operate at an acceptable level of service under existing plus project conditions. Therefore, the project would not create significant traffic related impacts at the study intersection.

Traffic Operations at Project Driveways

The project will be accessed from one 32 foot wide driveway on Lincoln Avenue and one 32 foot wide driveway on Curtner Avenue. **Exhibit 10** shows the Existing and Existing Plus Project AM and PM peak hour traffic volumes at the project driveways.

Driveway Vehicle Queues – The 95th percentile queues for outbound movements and inbound left turn movements at the two study driveways are estimated to be less than one vehicle length during the AM and PM peak hours. The estimates of the 95th percentile vehicle queues are summarized in **Exhibit 11**.

Corner Sight Distance – The project driveways would be located on straight sections of Lincoln Avenue and Curtner Avenue. Therefore, there are no horizontal alignment conditions on these roadways that would restrict visibility between the project driveways and vehicles approaching the driveways on Lincoln Avenue and Curtner Avenue. There are no obstructions or street furniture adjacent to the project driveways that would significantly obstruct visibility looking from the project driveways toward traffic approaching on Lincoln Avenue and Curtner Avenue.

The corner sight distances provided at the project driveways would meet minimum required stopping sight distances, which for Lincoln Avenue would be 250 feet based on a 35 mph design speed for the posted speed limit of 30 mph and for Curtner Avenue would be 300 feet based on a 40 mph design speed for the posted speed limit of 35 mph.

On-Site Circulation

The project will be accessed from one 32 foot wide driveway to Lincoln Avenue and one 32 foot wide driveway to Curtner Avenue. Both driveways would be unsignalized and allow all turning movements. The previous service station was accessed via two driveways to Curtner Avenue and to Lincoln Avenue. Elimination of the two driveways closest to the Lincoln Avenue/Curtner Avenue intersection will allow for additional parking to be provided on the site.

Motorists patronizing the convenience market will park in one of the 11 on-site parking spaces and will enter and exit via either driveway. A drive aisle is provided immediately adjacent to the service station building that will allow circulation between the east and west sides of the site as an alternative to the fueling station aisles. The solid waste receptacle is located at the northwest corner of the site and would be accessed from the Curtner Avenue driveway. Adequate on-site circulation would be provided on site for customers and service vehicles.

Background and Background Plus Project Conditions

Background No Project Conditions include the sum of existing traffic and traffic generated by approved but not yet constructed or occupied projects. The City of San Jose provided the AM and PM peak hour trips for the Lincoln Avenue/Curtner Avenue intersection for the Approved Trip Inventory (ATI). The Background No Project Conditions and Background Plus Project traffic volumes are shown on **Exhibit 6**.

Background and Background Plus Project Intersection Operations

Intersection levels of service under Background No Project and Background Plus Project conditions are shown in **Exhibit 12**. Based on City of San Jose level of service standards, the study intersection is projected to operate at acceptable levels of service under Background and Background Plus Project Conditions. On the basis of the Background Conditions analysis, the project would not create significant impacts to the study intersection.

Traffic Operations at Project Driveways

Exhibit 13 shows the Background and Background Plus Project AM and PM peak hour traffic volumes at the project driveways. The 95th percentile queues for outbound movements and inbound left turn movements at the two study driveways are estimated to be less than one vehicle length during the AM and PM peak hours under Background Conditions. The estimates of the 95th percentile vehicle queues under Background Conditions are summarized in **Exhibit 11**.

Queuing Analysis

Based upon the traffic assignment shown on **Exhibit 9**, the proposed project would potentially add traffic to existing vehicle queues in the left turn lane on the southbound Lincoln Avenue approach at the at the Lincoln Avenue/Curtner Avenue intersection. The 95th percentile queue length is referred to as

the "design queue", which represents the queue that would be exceeded during 5% of the cycles. **Appendix D** includes the queuing analysis worksheets.

Southbound Lincoln Avenue Left Turn at Curtner Avenue

The project would add trips to the left turn movement from southbound Lincoln Avenue to eastbound Curtner Avenue. The left turn lane has 130 feet for vehicle storage on Lincoln Avenue. The 95th percentile vehicle queue in the left turn lane currently exceeds the available storage during both the AM and PM peak hours and this queuing condition is an existing deficiency. To address this deficiency, the southbound Lincoln Avenue left turn movement is programmed for Conditional Service, which re-displays the left turn arrow for the southbound left turn movement following the opposing through phase. The re-service allows the southbound left turn phase to appear twice during the signal cycle, both before and after the opposing through phase. This phasing improves the efficiency of the southbound left turn movement during the PM peak hour when traffic flow on Lincoln Avenue in the northbound direction is sufficiently light.

During the AM peak hour the project would add one vehicle and during the PM peak hour the project would add two vehicles to the southbound Lincoln Avenue left turn movement at Curtner Avenue. The additional project trips would not increase the 95th percentile queue for the southbound Lincoln Avenue left turn movement under Existing and Background conditions.

2 INTRODUCTION

This report presents the transportation impact analysis (TIA) for the proposed gas station and convenience market located at 1103 Curtner Avenue in San Jose, California. The project proposes the construction of four fuel pumps (8 fueling positions) and a new 680 square foot convenience market on a site located in the northwest quadrant of the Lincoln Avenue/Curtner Avenue intersection. **Exhibit 1** shows the location of the project site with respect to the local road network and **Exhibit 2** shows the project site plan. The purpose of this analysis is to identify potentially significant impacts of the proposed project to the transportation system.

Scope of Work

The transportation impact analysis adheres to the City of San Jose and the Santa Clara Valley Transportation Authority (VTA) transportation impact study guidelines, which are documented in the following documents:

1. *Traffic Impact Analysis Handbook Volume I (2009) Methodologies & Requirements*, City of San Jose,
2. *Volume II (2011) Policy & Guidelines*, City of San Jose,
3. *Transportation Impact Analysis Guidelines*, VTA.

The study evaluated project impacts at the Lincoln Avenue/Curtner Avenue intersection that included impacts to intersection operations and impacts to left turn queues. In addition, traffic operations were analyzed at the project driveway intersections with Lincoln Avenue and Curtner Avenue.

AM and PM peak hour traffic conditions at the Lincoln Avenue/Curtner Avenue intersection were analyzed for the following analysis scenarios:

5. Existing Level of Service
6. Existing + Project
7. Background Scenario: Existing + Approved Projects
8. Project Scenario: Existing + Approved Projects + Project

Using City of San Jose significance criteria, the significance of project impacts to traffic operations were evaluated.

The City of San Jose provided existing AM and PM peak hour traffic volume data for the Lincoln Avenue/Curtner Avenue intersection. In addition, the City provided a list of approved projects and trips generated by the approved projects for the Lincoln Avenue/Curtner Avenue intersection.

Existing pedestrian facilities, bicycle facilities and transit facilities serving the site are documented including existing connections to nearby commercial services, employment centers and residential areas. On-site circulation and access from Lincoln Avenue and Curtner Avenue was also evaluated.

Traffic Operation Evaluation Methodologies and LOS Standards

Intersection traffic operations were evaluated based on the Level of Service (LOS) concept. Intersection operations were evaluated using the TRAFFIX analysis software. LOS is a quantitative description of an intersection and roadway's operation, ranging from LOS A to LOS F. Level of service A represents free

flow un-congested traffic conditions. Level of service F represents highly congested traffic conditions with unacceptable delay to vehicles on the road segments and at intersections. The intermediate levels of service represent incremental levels of congestion and delay between these two extremes.

For signalized intersections, traffic operations are evaluated based on the overall average delay in seconds per vehicle. The average delay is then correlated to a level of service.

For one and two-way stop controlled intersections the delay in seconds per vehicle at the worst movement or approach is used to evaluate operations. The delay at the worst approach is then correlated to a level of service. LOS for each side street is based on the distribution of gaps in the major traffic stream and driver judgment in selecting gaps. **Appendix A** provides additional information regarding levels of service for signalized and unsignalized intersections.

The Lincoln Avenue/Curtner Avenue intersection is not a Valley Transportation Agency (VTA) Congestion Management Program (CMP) intersection. The City of San Jose has established LOS D as the general threshold for acceptable traffic operations for signalized intersections that are not covered by the policies of the Congestion Management Program (CMP).

Impact Criteria

The City of San Jose has established criteria to determine the level of significance of traffic impacts. Significant traffic impacts at signalized intersections are defined to occur when the addition of project-generated trips causes on of the following:

1. Intersection operations to deteriorate from an acceptable LOS D or better to an unacceptable LOS E or F.
2. Critical delay increase of four or more seconds and a V/C ratio increase of 0.01 or more to intersections operating at LOS E or F.
3. The V/C ratio increases by 0.01 or more at an intersection operating at an unacceptable LOS E or F when the change in critical delay is negative.

3 EXISTING CONDITIONS

This section of the report evaluates existing conditions and includes a description of the project setting.

Local Road Network

The project is located in the northwest corner of the Lincoln Avenue/Curtner Avenue intersection. The following roadways provide either local access to the project site:

Curtner Avenue is a 4-lane undivided arterial in the vicinity of the project. It extends between Camden Avenue on the west to Monterey Road on the east where it continues easterly as Tully Road. The posted speed limit on Curtner Avenue in the vicinity of the project is 35 mph.

Lincoln Avenue in the vicinity of the project is a 4-lane divided arterial. It extends between Almaden Expressway on the south and Park Avenue on the north. The posted speed limit on Lincoln Avenue in the vicinity of the project is 30 mph.

Bicycle Facilities

There are four basic types of bicycle facilities. Each type is described below:

- Bike Path (Class I) - A completely separate right-of-way designed for the exclusive use of cyclists and pedestrians, with minimal crossings for motorists.

- Bike Lane (Class II) - A lane on a regular roadway, separated from the motorized vehicle right-of-way by paint striping, designated for the exclusive or semi-exclusive use of bicycles. Bike lanes allow one-way bike travel. Through travel by motor vehicles or pedestrians is prohibited, but crossing by pedestrians and motorists is permitted.

- Bike Route (Class III) - Provides shared use of the roadway, designated by signs or permanent markings and shared with motorists.

- Cycle Track or Separated Bikeway (Class IV) - Provides a right-of-way designated exclusively for bicycle travel adjacent to a roadway and protected from vehicular traffic. Types of separation include, but are not limited to, grade separation, flexible posts, inflexible physical barriers, or on-street parking.

Class II bike lanes are provided on Curtner Avenue and Class III bike routes are designated on Lincoln Avenue along the project frontage.

Exhibit 3 shows the existing and proposed bicycle facilities within a 2,500 foot radius of the project boundaries.

Pedestrian Facilities

Pedestrian facilities in the project area include sidewalks and crosswalks. Sidewalks are provided Lincoln Avenue and Curtner Avenue along the project frontage.

The Lincoln Avenue/Curtner Avenue intersection signal system includes crosswalks and pedestrian countdown signals on all legs of the intersection.

Pedestrian conditions in the vicinity of the project site are satisfactory. Continuous sidewalks are provided on the Lincoln Avenue and Curtner Avenue for distances of at least 1,000 feet from the project site. Continuous sidewalks providing access between the project site and nearby residential developments, transit facilities, schools and other commercial land uses are present along most of the streets in the project vicinity.

Exhibit 4 shows the pedestrian sidewalks in the vicinity of the project within approximately 1,000 feet of the project site.

Transit Services

The Santa Clara Valley Transportation Authority (VTA) operates numerous transit routes and modes within Santa Clara County. VTA currently operates Bus Routes 26 on Curtner Avenue and 64 on Lincoln Avenue. The VTA light rail Curtner Avenue Station is located at the SR 87Curtner Avenue interchange, which is about 0.9 miles east of the project location. The Curtner Avenue light rail station serves the Peak Commuter Express Service between Tasman and Santa Teresa, the Alum Rock-Santa Teresa and the Ohlone/Crynoweth-Almaden light rail lines. A map of the transit routes in the vicinity of the project site is provided in **Exhibit 5**.

Route 26 is a "regular" bus route that provides weekday and weekend service between Eastridge Mall in San Jose and the Lockheed Martin Transit Center. Stops on Curtner Avenue near the project site are located about 200 feet west of the project site for westbound service and just east of the Lincoln Avenue/Curtner Avenue intersection for eastbound service. At the project site, the route operates weekdays from 5:42 am to 11:00 pm in the westbound direction and 6:21 am to 10:49 pm in the eastbound direction. The route operates Saturdays from 6:42 am to 10:10 pm in the westbound direction and 7:26 am to 9:57 pm in the eastbound direction and approximately the same times on Sunday. The route has headways of about 30 minutes on weekdays and 30 to 60 minutes on weekends.

Route 64 is a "regular" bus route that provides weekday and weekend service between the Almaden light rail station and Mckee and White Roads. Stops on Lincoln Avenue near the project site are located just south of the Lincoln Avenue/Curtner Avenue intersection for northbound service and on the project frontage for southbound service. At the project site, the route operates weekdays from 5:32 am to 10:31 pm in the northbound direction and weekends from 6:08 am to 10:51 pm in the southbound direction. The route operates Saturdays from 6:37 am to 9:32 pm in the northbound direction and weekends from 7:16 am to 10:51 pm in the southbound direction. Sunday service on Lincoln Avenue begins later and ends sooner than Saturday service. The route has headways of about 30 minutes for most of the day on weekdays and 30 to 60 minutes on weekends.

Existing Traffic Data

The evaluation of intersection operating conditions is based upon the highest one-hour traffic volumes observed during the morning and evening peak commute periods. The City of San Jose provided existing peak hour traffic volumes for the Lincoln Avenue/Curtner Avenue intersection. The existing AM and PM peak hour intersection turning movement volumes are shown in **Exhibit 6**.

Existing Intersection Operations

Intersection traffic operations were evaluated based on the Level of Service (LOS) concept using the TRAFFIX traffic analysis software. The results of the analysis indicate that, based on City of San Jose and VTA CMP standards, the study intersection operates at acceptable levels of service during the AM and PM peak hours.

Intersection levels of service for existing traffic conditions are summarized in **Exhibit 7**. The LOS calculation worksheets are included in **Appendix B**.

Field Observations

Predominant traffic flow on the Lincoln Avenue is northbound during the AM peak period and southbound during the PM peak period. Predominant traffic flow on the Curtner Avenue is westbound during the AM peak period and eastbound during the PM peak period. Traffic queues of up to 10 vehicles were observed on the northbound Lincoln Avenue approach to Curtner Avenue during the morning peak hour. During the PM peak hour, vehicle queues as high as 14 vehicles per lane were observed on the southbound Lincoln Avenue approach to Curtner Avenue. During the AM peak hour, vehicle queues of 13 vehicles were observed on the westbound Curtner Avenue approach to Lincoln Avenue. During the PM peak hour, a vehicle queue of 23 vehicles was observed on the eastbound Curtner Avenue approach to Lincoln Avenue during one signal cycle. It was observed that the vehicles queued at the beginning of each green phase cleared the intersection on each approach during the AM and PM peak hours.

4 EXISTING PLUS PROJECT CONDITIONS

This section of the report evaluates existing conditions with additional traffic generated by the proposed project. Intersection operations under Existing and Existing Plus Project traffic conditions are compared and significant project impacts are discussed.

Project Description

The proposed project proposes the construction of four fuel pumps (8 fueling positions) and a new 680 square foot convenience market on a site located in the northwest quadrant of the Lincoln Avenue/Curtner Avenue intersection. The project will be accessed via one 32 foot wide driveway to Lincoln Avenue and one 32 foot wide driveway to Curtner Avenue. **Exhibit 2** shows the project site plan.

The project site was previously developed with service station with 8 fueling positions. For this study, no credit was applied for the previous trip generation of the project site.

Project Trip Generation

Project trip generation was estimated based on the Institute of Transportation Engineers' (ITE) *Trip Generation* handbook, 9th Edition, 2012. Data in the ITE Trip Generation Handbook indicates that 85-90% of the project trips will be "pass-by" or "diverted-link" trips coming from traffic already on the adjacent street system, and only 10-15% of the total trips would be considered primary "new" single purpose trips. However, per City traffic impact study guidelines, a discount was only applied for "pass-by" trips. The ITE trip generation rates and trip generation estimates are presented in **Exhibit 8**.

The project will generate a total of 1,302 daily trips, with 82 trips during the AM peak hour (41 inbound & 41 outbound) and 108 vehicle trips during the PM peak hour (54 inbound & 54 outbound). The project will generate 652 daily external trips, with 32 external trips generated during the AM peak hour (16 inbound & 16 outbound) and 48 external trips generated during the PM peak hour (24 inbound & 24 outbound). It is noted that the project driveways will experience 100% of the total trips, but only the external trips would have a potential to impact traffic operations at the study intersection.

Project Trip Distribution

Existing AM and PM peak hour traffic volumes provided by the City indicates that the total approach volumes are relatively equal (+/-1,650 vph). However, the data demonstrate that during the AM peak hour the majority of N-S demands on Lincoln Avenue are in the NB direction (72%) while the E-W demands on Curtner Avenue are relatively close. During the PM peak hour, the majority of the N-S demands are in the SB direction (76%) while the E-W demands are slightly higher in the EB direction. Based on the project site location and a review of the existing peak hour data, it anticipated that the area wide distribution of new external trips will be fairly evenly distributed as follows:

- 25% to and from the north via Lincoln Avenue
- 25% to and from the south via Lincoln Avenue
- 25% to and from the east via Curtner Avenue
- 25% to and from the west via Curtner Avenue

The arrival and departure patterns for the pass-by trips were derived from the existing AM and PM peak hour volumes on Lincoln Avenue and Curtner Avenue adjacent to the project site. **Exhibit 9** shows the

assignment of project trips to the project driveways and to the Lincoln Avenue/Curtner Avenue intersection.

Existing Plus Project Intersection Operations

Trips generated by the proposed project were combined with the existing traffic volumes to obtain existing plus project traffic volumes, which are shown in **Exhibit 6**. Intersection levels of service for existing and existing plus project traffic conditions are summarized in **Exhibit 7**. The LOS calculation worksheets are included in **Appendix B**.

According to the City of San Jose standards, the study intersection is projected to operate at acceptable levels of service under existing plus project conditions. Therefore, the project would not create significant traffic related impacts at the study intersection.

Traffic Operations at Project Driveways

The project will be accessed from one 32 foot wide driveway on Lincoln Avenue and one 32 foot wide driveway on Curtner Avenue. The Curtner Avenue driveway would be about 115 feet west of the crosswalk across the east leg of the intersection at Lincoln Avenue and the Lincoln Avenue driveway would be about 85 feet north of the crosswalk across the north leg of the intersection at Curtner Avenue. **Exhibit 10** shows the Existing and Existing Plus Project AM and PM peak hour traffic volumes at the project driveways.

Driveway Vehicle Queues – The 95th percentile queues for outbound movements and inbound left turn movements at the two study driveways are estimated to be less than one vehicle length during the AM and PM peak hours. Queue lengths for minor movements at unsignalized intersections are a function of the capacity of the movement and the volume of traffic served during the analysis period. The estimates of the 95th percentile vehicle queues are summarized in **Exhibit 11**. Level of service calculation worksheets for the Curtner Avenue/Curtner Avenue project driveway and the Lincoln Avenue/Lincoln Avenue project driveway included in **Appendix B** include calculations of the 95th percentile queues for the minor turn movements at the project driveways.

Corner Sight Distance – The project driveways would be located on straight sections of Lincoln Avenue and Curtner Avenue. Given this condition, there are no horizontal alignment conditions on these roadways that would restrict visibility between the project driveways and vehicles approaching the driveways on Lincoln Avenue and Curtner Avenue. There are no obstructions or street furniture adjacent to the project driveways that would significantly obstruct visibility looking from the project driveways toward traffic approaching on Lincoln Avenue and Curtner Avenue.

According to Caltrans standards, corner sight distance requirements as described in Section 405.1(2) of the Caltrans Highway Design Manual are not applied to urban driveways. It is desirable, however, to provide minimum stopping sight distance along streets including intersection approaches. The minimum stopping sight distance for Lincoln Avenue would be 250 feet based on a 35 mph design speed for the posted speed limit of 30 mph. The minimum stopping sight distance for Curtner Avenue would be 300 feet based on a 40 mph design speed for the posted speed limit of 35 mph. These sight distances are currently met at the project driveways.

On-Site Circulation

The project will be accessed from one 32 foot wide driveway to Lincoln Avenue and one 32 foot wide driveway to Curtner Avenue. Both driveways would be unsignalized and allow all turning movements. The previous service station was accessed via two driveways to Curtner Avenue and to Lincoln Avenue. Elimination of the two driveways closest to the Lincoln Avenue/Curtner Avenue intersection will allow for additional parking to be provided on the site.

Motorists patronizing the convenience market will park in one of the 11 on-site parking spaces and will enter and exit via either driveway. A drive aisle is provided immediately adjacent to the service station building that will allow circulation between the east and west sides of the site as an alternative to the fueling stations. The solid waste receptacle is located at the northwest corner of the site and would be accessed from the Curtner Avenue driveway. Adequate on-site circulation would be provided on site for customers and service vehicles.

5 BACKGROUND AND BACKGROUND PLUS PROJECT CONDITIONS

This section of the report describes the analyses of the study road network under Background No Project and Background Plus Project Conditions.

This scenario represents traffic conditions with and without the proposed project. Background No Project Conditions include the sum of existing traffic and traffic generated by approved but not yet constructed or occupied projects. Background Plus Project Conditions include the sum of existing traffic, traffic generated by approved but not yet constructed or occupied projects, and traffic generated by the proposed project.

Background and Background Plus Project Traffic Volumes

The City of San Jose provided the AM and PM peak hour trips for the Lincoln Avenue/Curtner Avenue intersection for the Approved Trip Inventory (ATI). The ATI for the Lincoln Avenue/Curtner Avenue intersection represents the trips from approved, but not yet developed approved projects, that would travel through the Lincoln Avenue/Curtner Avenue intersection. The ATI trips are presented in **Appendix C**.

The trips generated by the approved but not yet built or occupied projects were combined with the existing peak hour volumes to obtain Background No Project Conditions traffic volumes. The Background No Project Conditions peak hour volumes are shown on **Exhibit 6**. The project trip assignment was combined with Background No Project Conditions traffic volumes to obtain Background Plus Project traffic volumes. These volumes are shown on **Exhibit 6**.

Background and Background Plus Project Intersection Operations

Intersection levels of service under Background No Project and Background Plus Project conditions are shown in **Exhibit 12**. The LOS calculation worksheets are included in **Appendix B**.

Based on City of San Jose level of service standards, the study intersection is projected to operate at acceptable levels of service under Background and Background Plus Project Conditions. On the basis of the Background Conditions analysis, the project would not create significant impacts to the study intersection.

Traffic Operations at Project Driveways

Exhibit 13 shows the Background and Background Plus Project AM and PM peak hour traffic volumes at the project driveways.

Driveway Vehicle Queues – The 95th percentile queues for outbound movements and inbound left turn movements at the two study driveways are estimated to be less than one vehicle length during the AM and PM peak hours under Background Conditions. The estimates of the 95th percentile vehicle queues under Background Conditions are summarized in **Exhibit 11**. Level of service calculation worksheets for the Curtner Avenue/Curtner Avenue project driveway and the Lincoln Avenue/Lincoln Avenue project driveway included in **Appendix B** include calculations of the 95th percentile queues for the minor turn movements at the project driveways.

6 QUEUING ANALYSIS

Based upon the traffic assignment shown on Exhibit 9, the proposed project would potentially add traffic to existing vehicle queues in the left turn lane on the southbound Lincoln Avenue approach at the at the Lincoln Avenue/Curtner Avenue intersection. The impact of the project to vehicle queues at this location is discussed in this section.

The 95th percentile queue length is referred to as the "design queue", which represents the queue that would be exceeded during 5% of the cycles. For example, a traffic signal with a 60-second cycle length would have 60 signal cycles in one hour and the design queue would be exceeded during 3 signal cycles in that hour.

Vehicle queuing and the adequacy of left-turn storage at the study intersection was evaluated by comparing the calculated design queue to the available queue storage. First, the average queue at each location was estimated by dividing the volume (vehicles per hour) by the number of signal cycles per hour. Then, a design queue was estimated using a Poisson probability distribution which converts the average queue into a 95th percentile design queue using the following formula:

$$P(x) = \frac{\lambda^x e^{-\lambda}}{x!}$$

Where:
P(x) = the probability of "x" vehicles queued per lane
x = number of vehicles in queue per lane
λ = average queue per lane

The 95th percentile design queue (in number of vehicles per lane) was then used to calculate the 95th percentile design queue length (in feet per lane) by multiplying the design queue by 25 feet per vehicle. The estimated 95th percentile design queue length was then compared to the available storage capacity for the particular left-turn movement. Existing and future deficiencies are identified where the design queue length exceeds the available storage capacity for a particular movement.

Appendix D includes the queuing analysis worksheets. Instances where the 95th percentile design queue exceeds the available storage are highlighted in red. Details of the queuing estimates are included and the Poisson probability calculations are included in **Appendix D.**

<u>Southbound Lincoln Avenue Left Turn at Curtner Avenue</u>

The project would add trips to the left turn movement from southbound Lincoln Avenue to eastbound Curtner Avenue. The left turn lane has 130 feet for vehicle storage on Lincoln Avenue. The 95th percentile vehicle queue in the left turn lane currently exceeds the available storage during both the AM and PM peak hours and this queuing condition is an existing deficiency. To address this deficiency, the southbound Lincoln Avenue left turn movement is programmed for Conditional Service, which re-displays the left turn arrow for the southbound left turn movement following the opposing through phase. The re-service allows the southbound left turn phase to appear twice during the signal cycle, both before and after the opposing through phase. This phasing improves the efficiency of the southbound left turn movement during the PM peak hour when traffic flow on Lincoln Avenue in the northbound direction is sufficiently light.

During the AM peak hour the project would add one vehicle and during the PM peak hour the project would add two vehicles to the southbound Lincoln Avenue left turn movement at Curtner Avenue. The additional project trips would not increase the 95th percentile queue for the southbound Lincoln Avenue left turn movement under Existing and Background conditions.

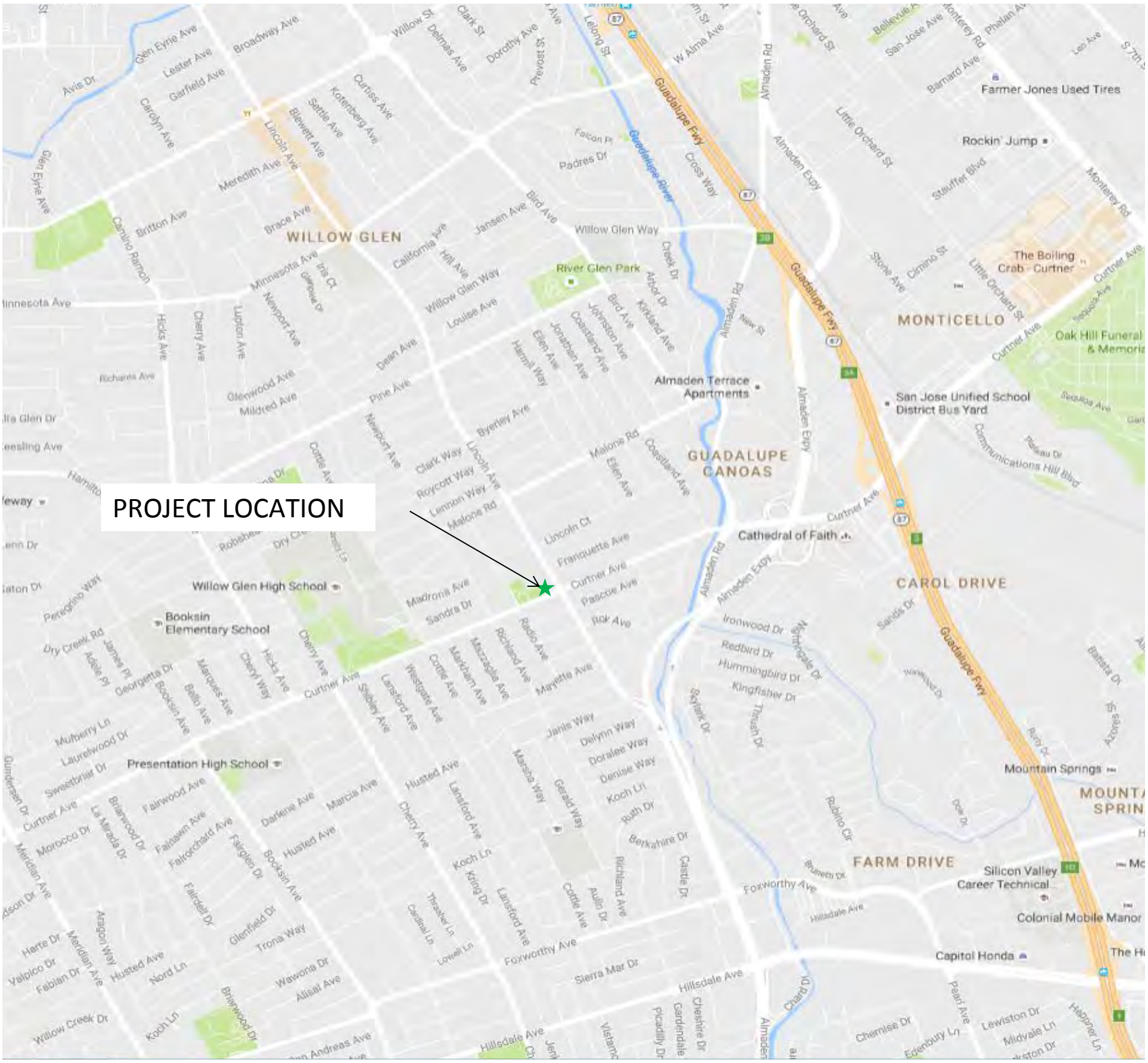
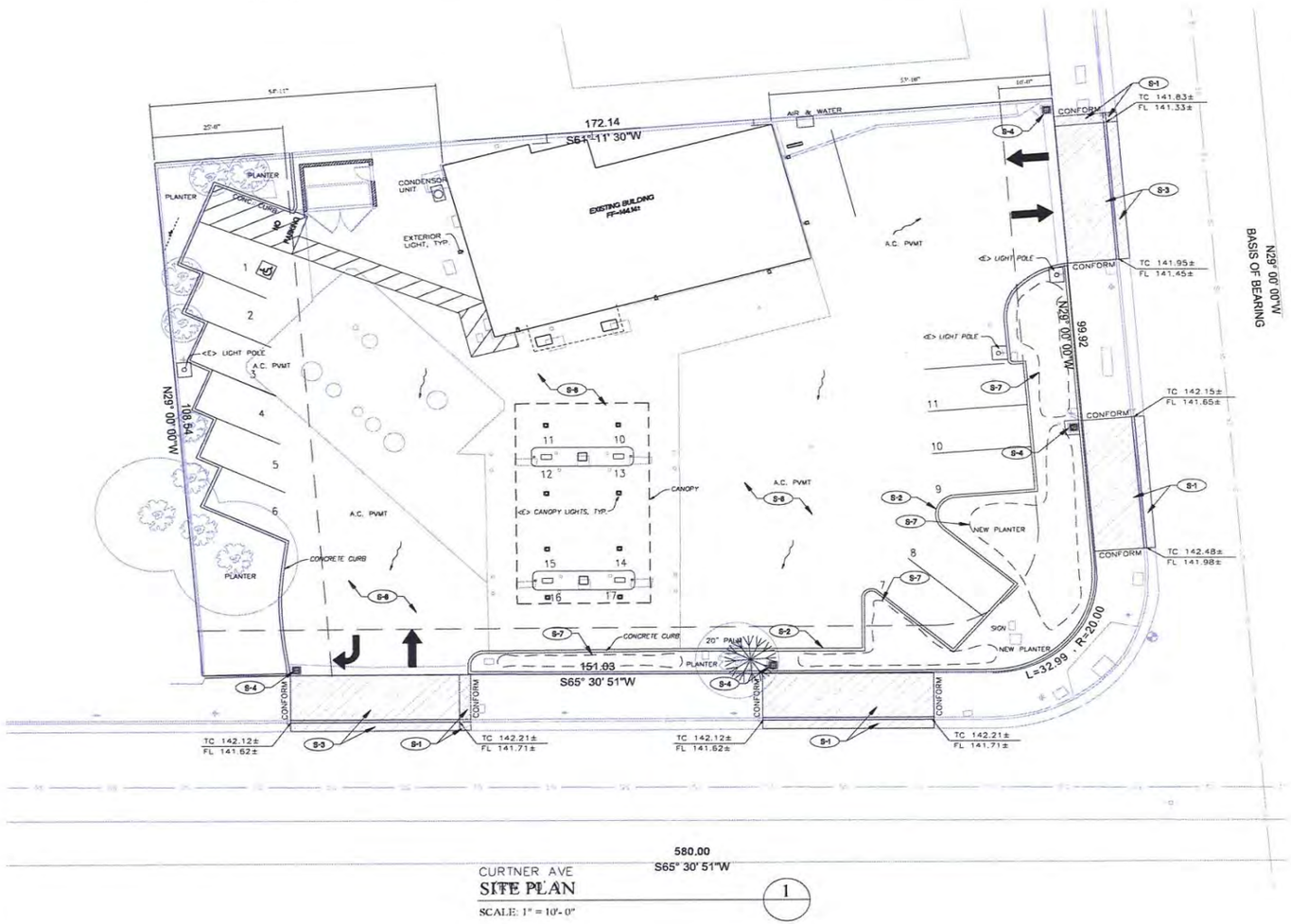


EXHIBIT 1
PROJECT LOCATION



SITE PLAN

SCALE: 1" = 10'- 0"

1

SITE PLAN NOTES

S-1 (N) CONCRETE CURB, GUTTER AND SIDEWALK PER CITY OF SAN JOSE CITY STANDARD DETAILS S-10, S-11, S-12.
S-2 (N) CONCRETE CURB, PER DETAIL 2/C5.0.
S-3 (N) CONCRETE DRIVEWAY, PER CITY OF SAN JOSE CITY STANDARD DETAIL S-14.
S-4 (E) AREA DRAIN.
S-5
S-6 (E) ASPHALT OR PORTLAND CEMENT CONCRETE.
S-7 (N) BIO-RETENTION BASIN.
S-8 (E) UTILITY BOXES TO BE ADJUSTED TO FINISH GRADE

10' 0 10' 20'
SCALE: 1"=10'

SEAL:

ACKLAND
INTERNATIONAL, INC
333 Hegenberger Road, Suite 304
Oakland, CA 94621
510.633.1791 (fax)
510.633.2431 (fax)

PROJECT NAME:
CONVENIENCE STORE
EXPANSION
1103 CURTNER AVENUE
SAN JOSE, CA

CLIENT NAME & ADDRESS:
DAVID J. ELLIOTT & ASSOCIATES
17860 CUNHA LANE
SALINAS, CA 93907

NO.	DATE	DESCRIPTION	BY
1	08/22/16	PLANNING APPLICATION	ES

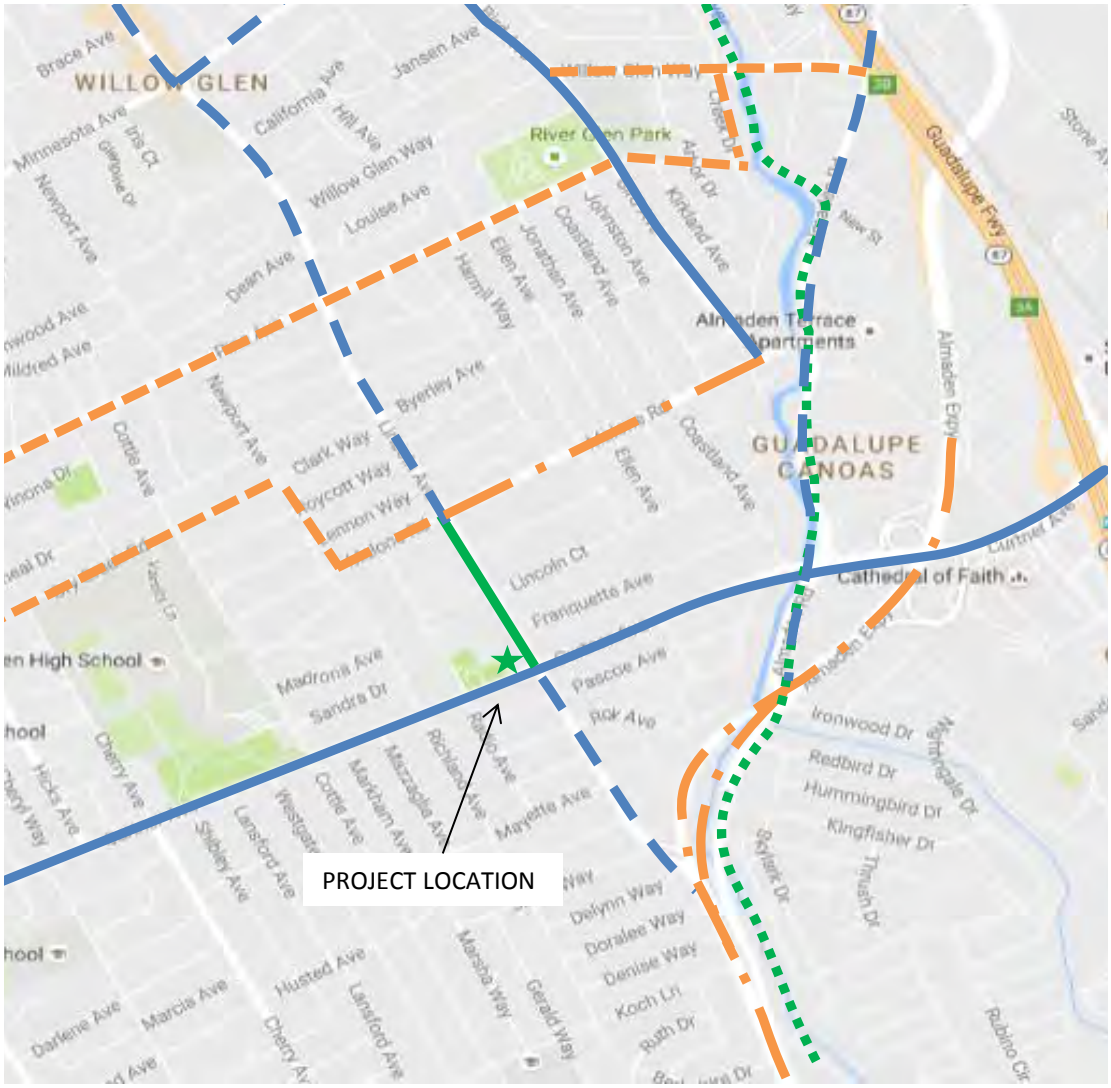
SHEET TITLE
SITE PLAN

PROJECT NO 81111
DRAWN BY: JN
CHECKED BY: ES
SCALE: AS SHOWN
DATE: 6/8/2016
SHEET NO C1.0 of 7

PERMIT #: 51500515

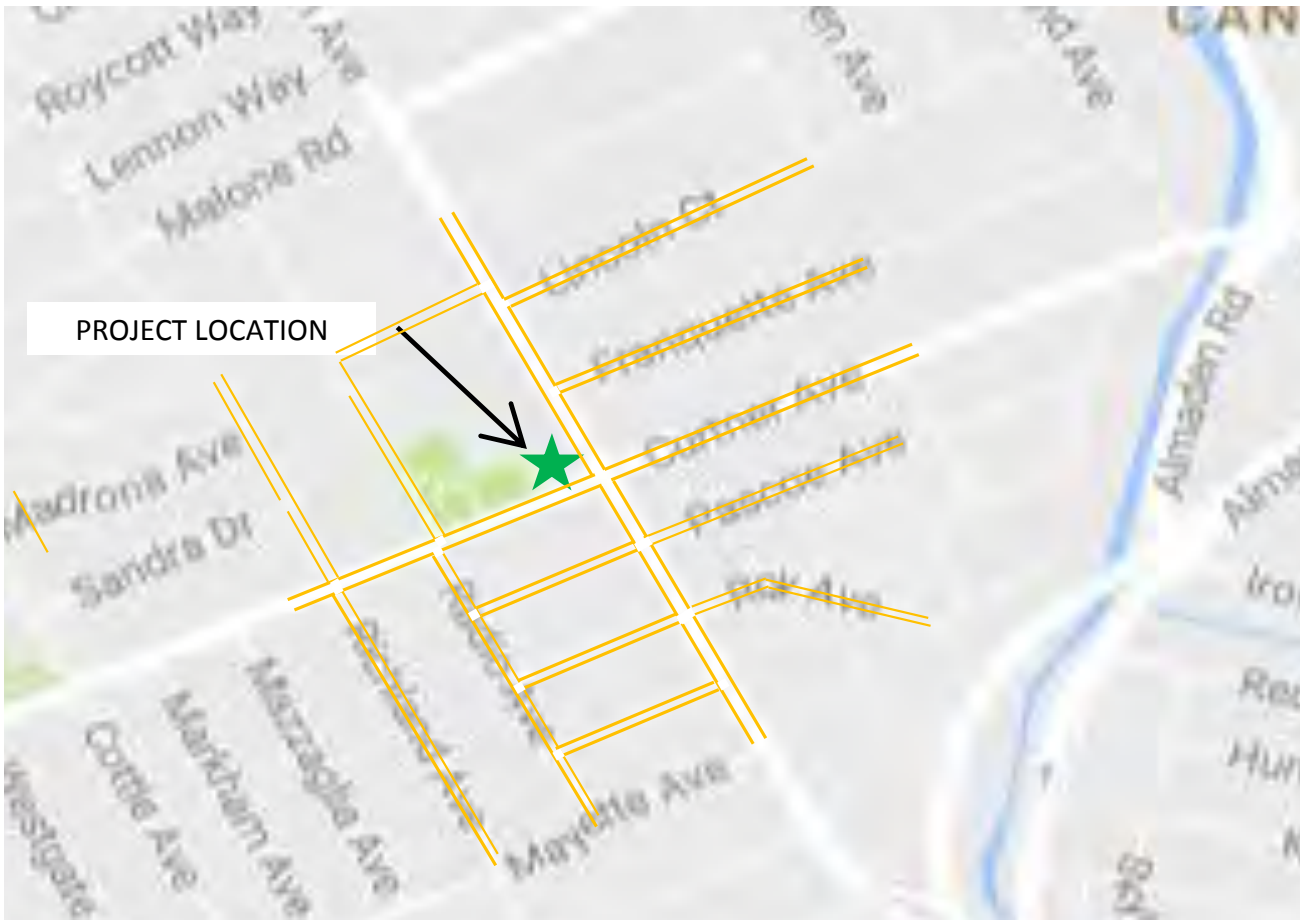
C:\Users\Jason\Google Drive\David Elliott_1103 Curtner\Civil Plans\[SITE PLAN.dwg] 11:04 PM

EXHIBIT 2
PROJECT
SITE PLAN



Source: *San Jose Bike Plan 2020* , City of San Jose, November 17, 2009

EXHIBIT 3
BICYCLE FACILITIES
IN PROJECT VICINITY



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PEDESTRIAN SIDEWALKS
IN PROJECT VICINITY

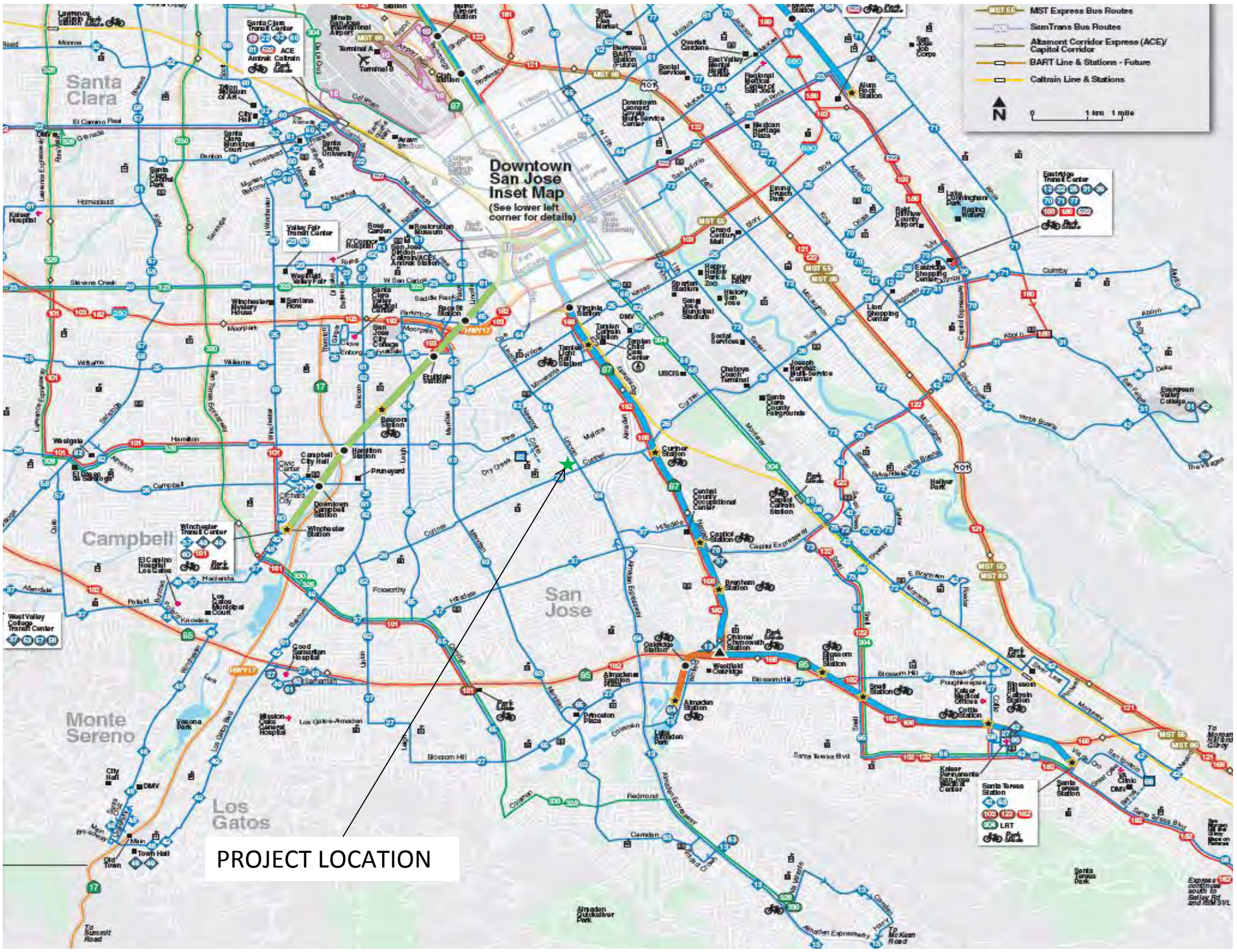

EXHIBIT 5
VTA TRANSIT ROUTES

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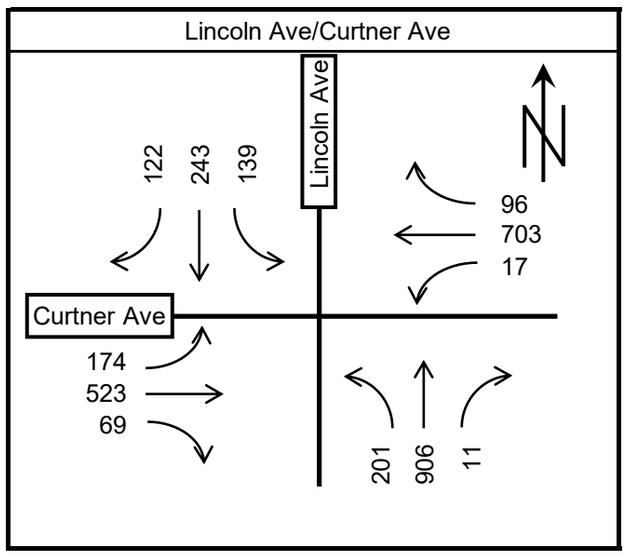
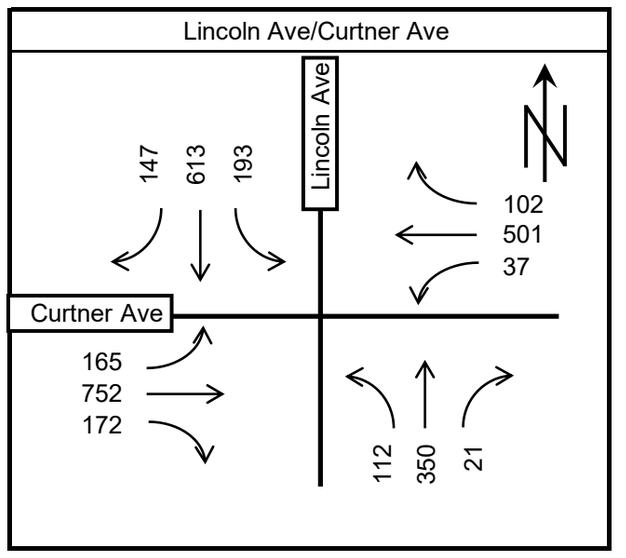
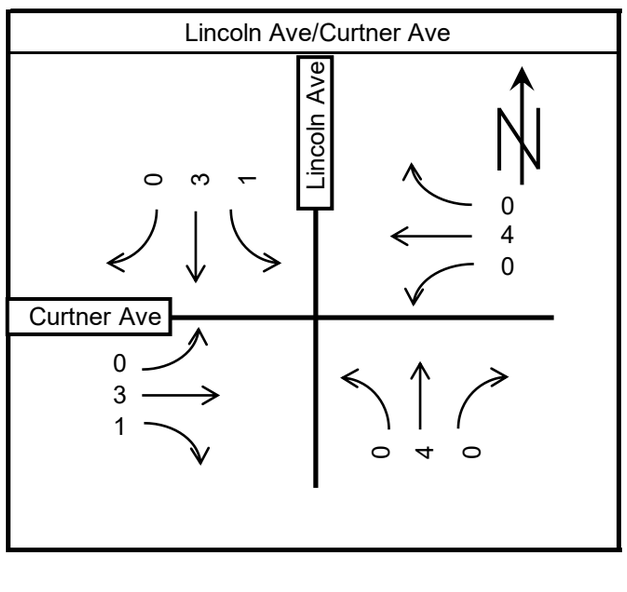
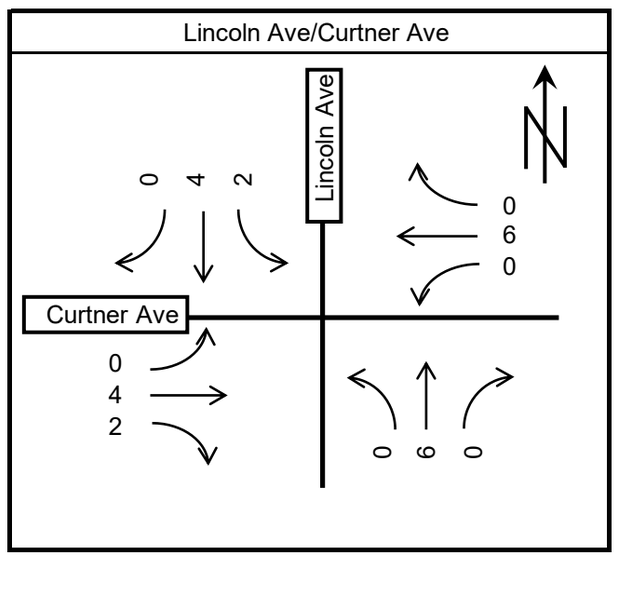
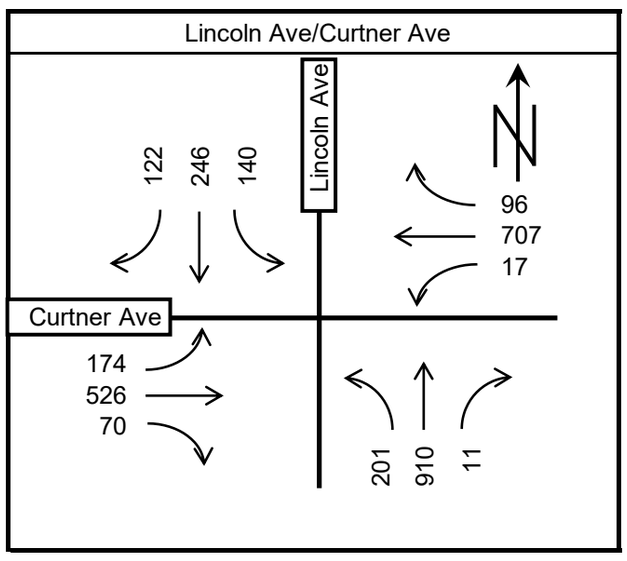
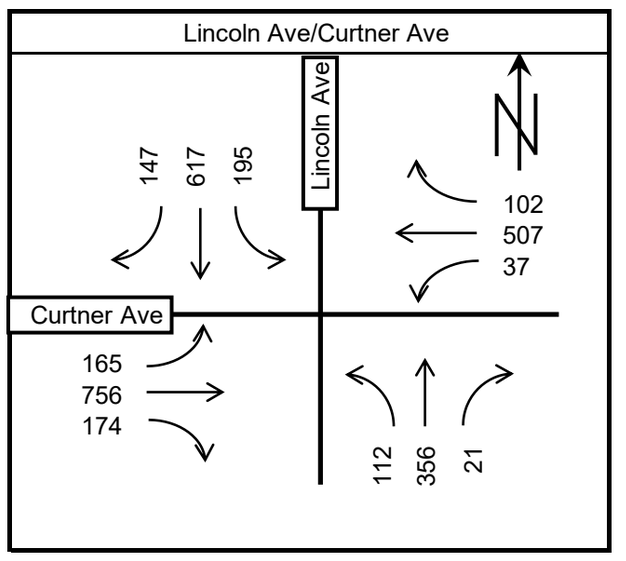
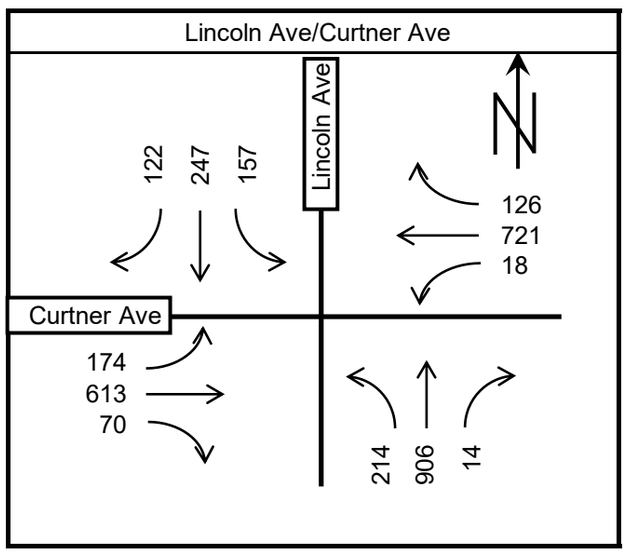
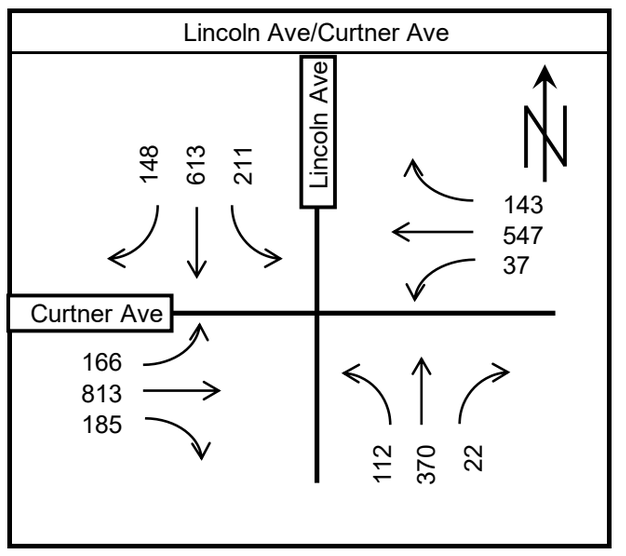
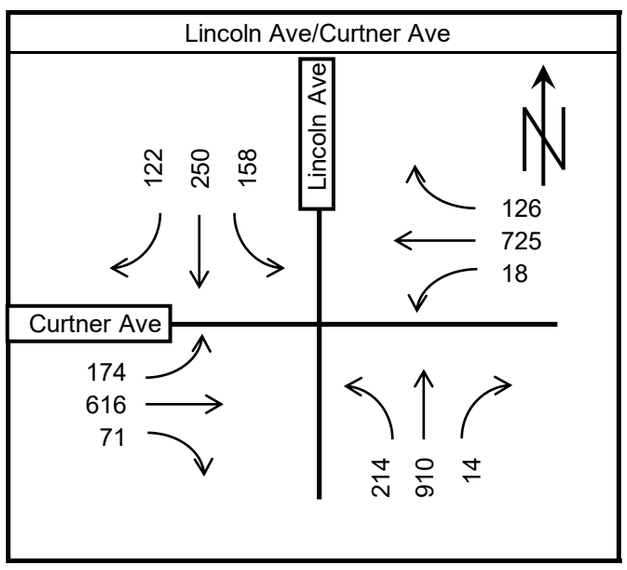
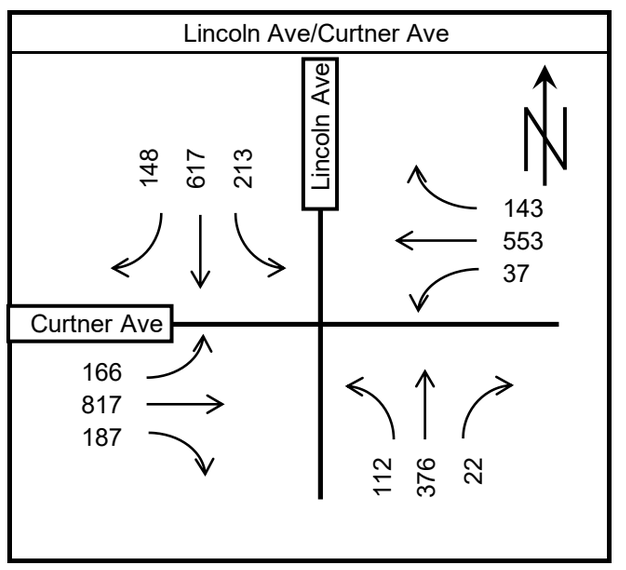
EXISTING		
PROJECT TRIPS		
EXISTING PLUS PROJECT		
BACKGROUND		
BACKGROUND PLUS PROJECT		

EXHIBIT 6
LINCOLN AVENUE/CURTNER AVENUE
AM AND PM PEAK HOUR
TRAFFIC VOLUMES

	N-S Street	E-W Street	Existing Lane Configuration	Existing Intersection Control	LOS Standard	Existing Conditions								Existing + Project Conditions									
						AM Peak Hr				PM Peak Hr				AM Peak Hr						PM Peak Hr					
																		Change					Change	
						LOS	Delay (sec)	Crit. V/C	Crit. Delay	LOS	Delay (sec)	Crit. V/C	Crit. Delay	LOS	Delay (sec)	Crit. V/C	Crit. Delay	Crit. V/C	Crit. Delay	LOS	Delay (sec)	Crit. V/C	Crit. Delay	Crit. V/C	Crit. Delay
1	Lincoln Avenue	Curtner Avenue	NB 1-L, 1-T, 1-T/R SB 1-L, 1-T, 1-T/R EB 1-L, 1-T, 1-T/R WB 1-L, 1-T, 1-T/R	Signal	**D**	**C**	**30.6**	**0.750**	**32.0**	**C**	**27.7**	**0.630**	**26.6**	**C**	**30.7**	**0.753**	**32.2**	**0.003**	**0.2**	**C**	**27.8**	**0.634**	**26.7**	**0.004**	**0.1**

NOTES:

1. L, T, R = Left, Through, Right
2. NB, SB, EB, WB = Northbound, Southbound, Eastbound, Westbound
3. Analysis performed using 2000 *Highway Capacity Manual* Methodologies
4. LOS standard for signalized City intersections is LOS D.
5. LOS highlighted in red indicates operations are below level of service standard.
6. Critical V/C, Critial Delay or side-street delay highlighted in yellow indicates a project impact.

EXHIBIT 7
EXISTING AND EXISTING PLUS PROJECT INTERSECTION LEVELS OF SERVICE

TRIP GENERATION RATES								
			AM PEAK HOUR			PM PEAK HOUR		
	Units	DAILY TRIPS	Inbound	Outbound	Trip Rate	Inbound	Outbound	Trip Rate
Service Station w/Convenience Market	per Fuel Position	162.75	50%	50%	10.16	50%	50%	13.51

PROJECT TRIP GENERATION								
			AM PEAK HOUR			PM PEAK HOUR		
	Size	DAILY TRIPS	Inbound	Outbound	Trips	Inbound	Outbound	Trips
Restaurant	8 Fuel Positions	1,302	41	41	81	54	54	108
SUBTOTAL GROSS TRIPS			41	41	81	54	54	108
Pass-By Trips (Daily:50%, AM:62%, PM:56%)		651	25	25	50	30	30	60
TOTAL NET NEW EXTERNAL TRIPS		651	16	16	31	24	24	48

Notes:
1. Trip generation rates from ITE Trip Generation, 9th Edition, 2012.

EXHIBIT 8
PROJECT
TRIP GENERATION

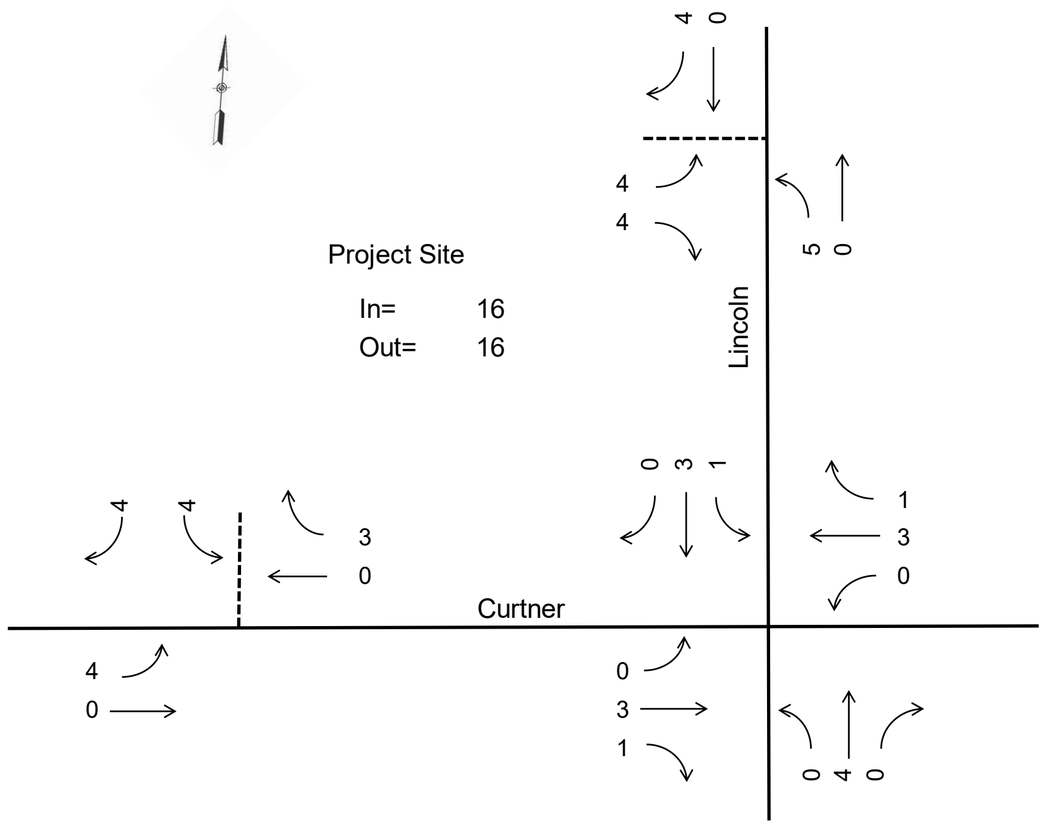
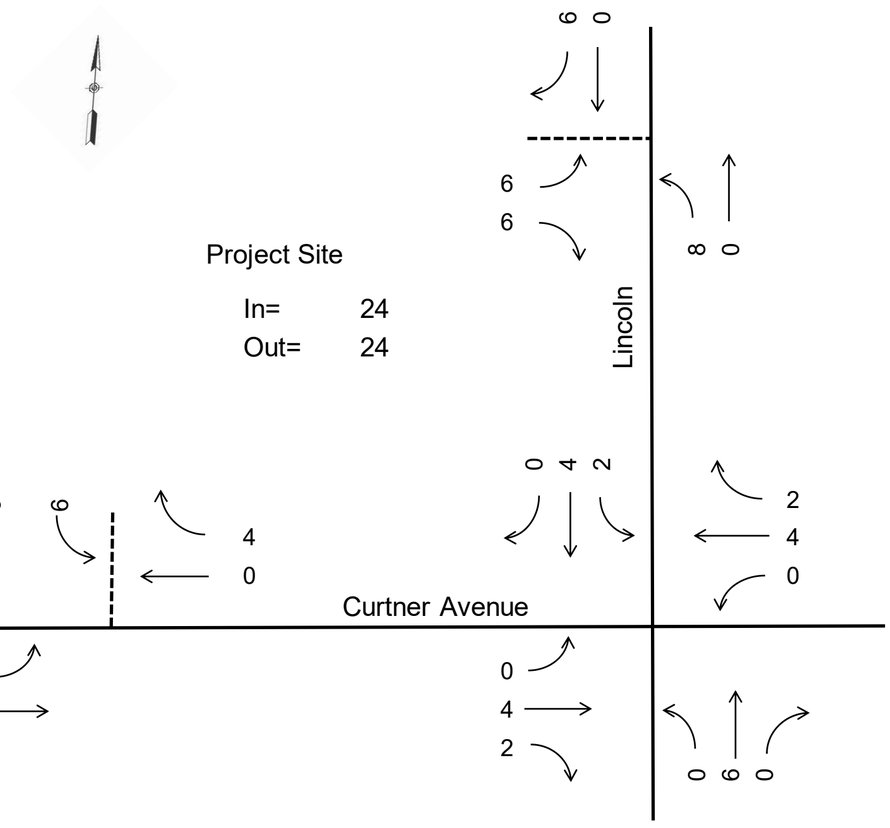
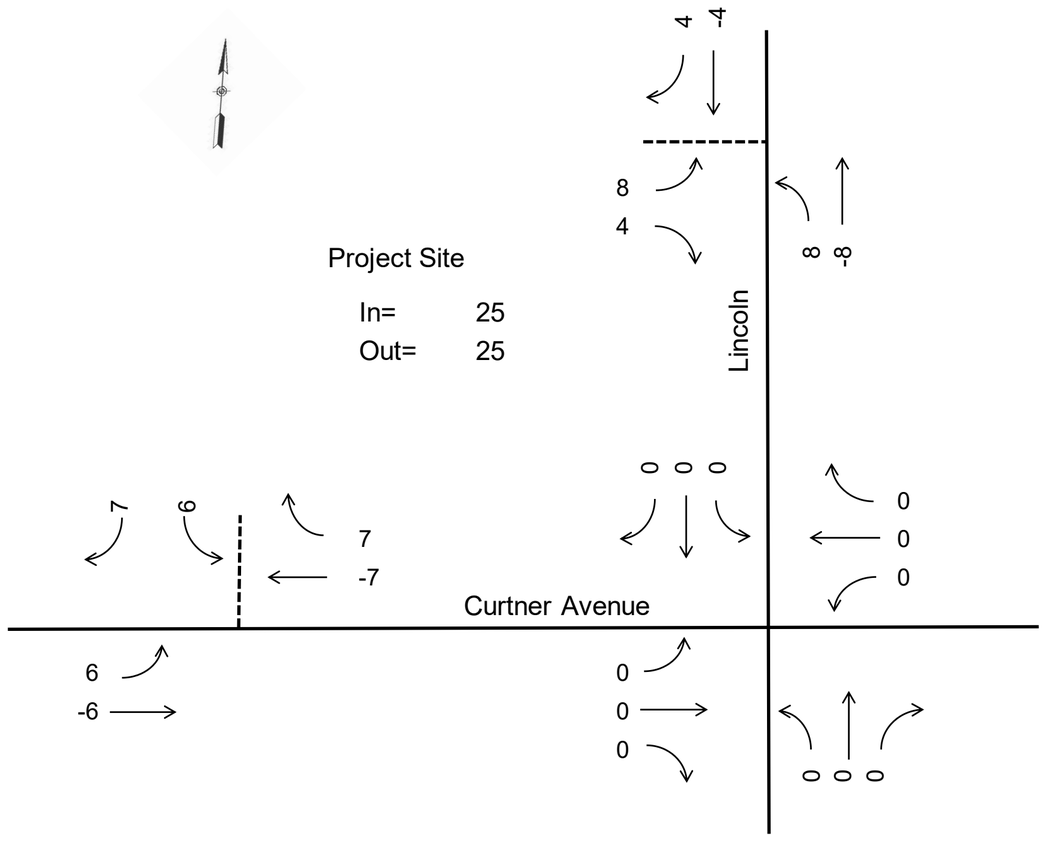
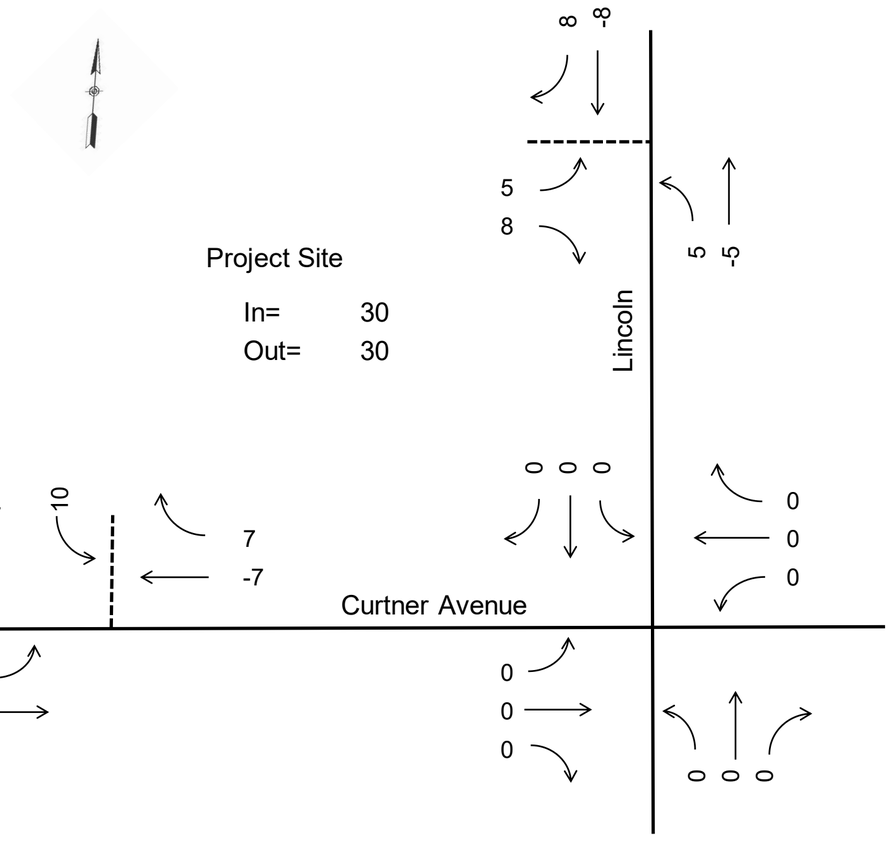
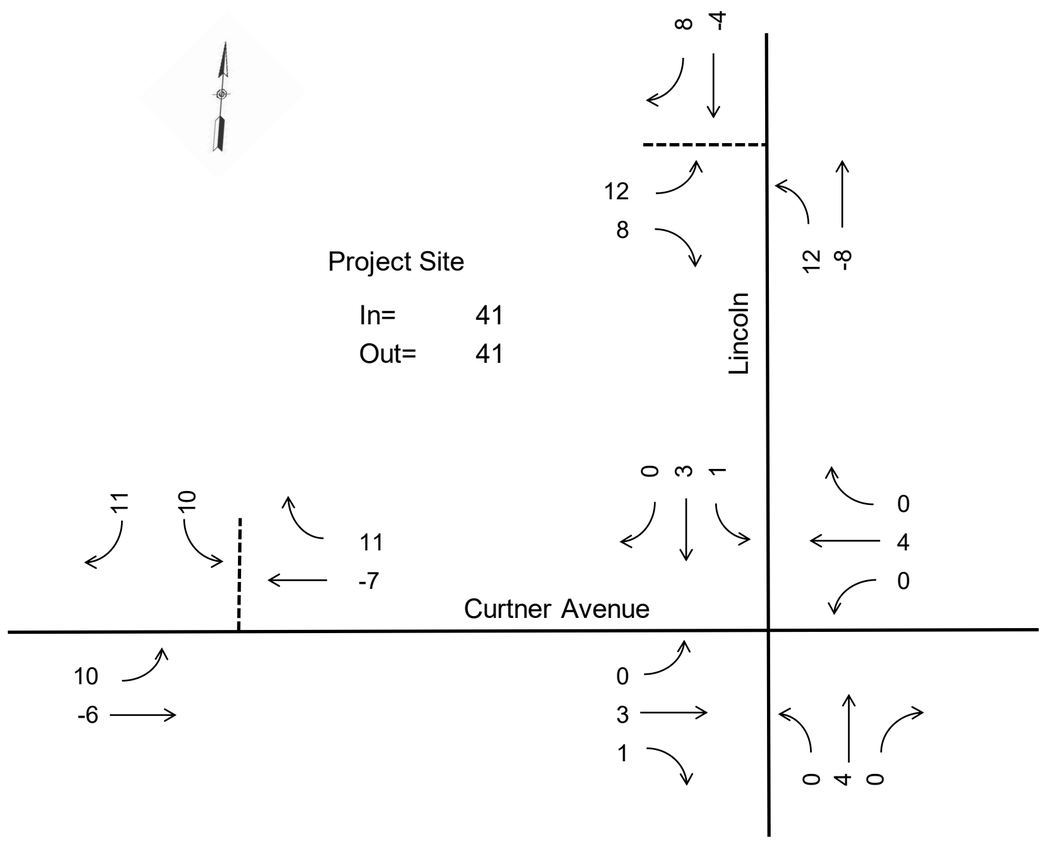
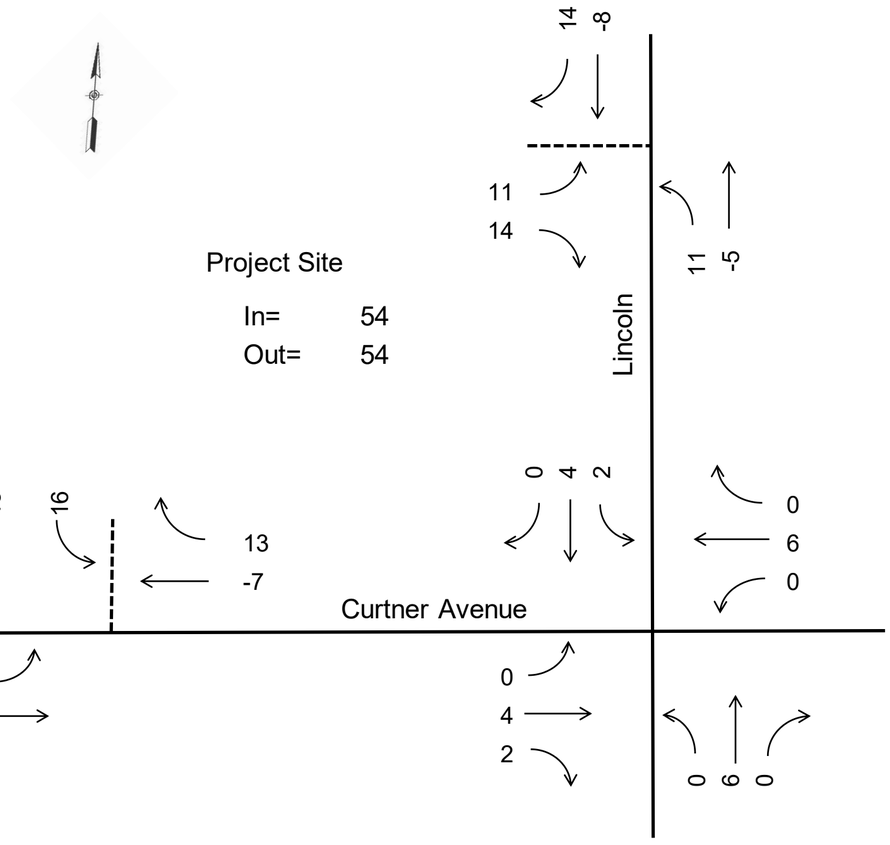
	AM PEAK HOUR	PM PEAK HOUR
EXTERNAL PROJECT TRIPS		
PASS-BY TRIPS		
TOTAL		

EXHIBIT 9
PROJECT
TRIP ASSIGNMENT

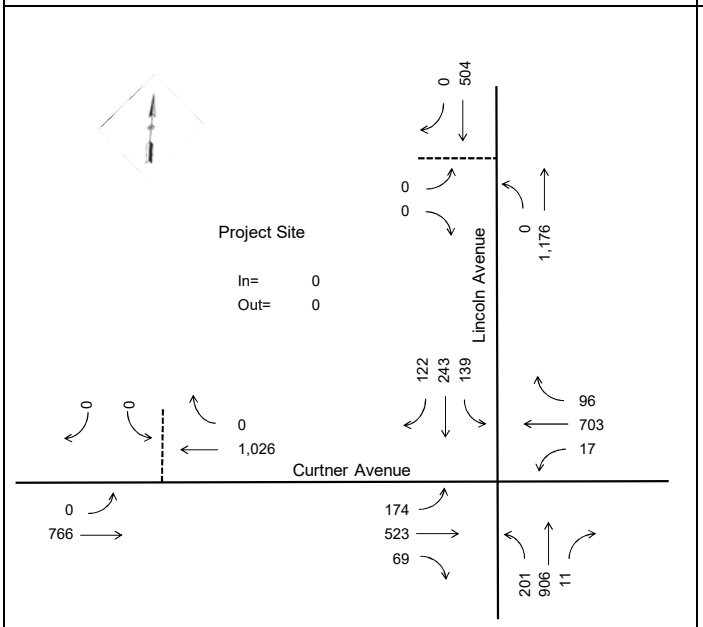
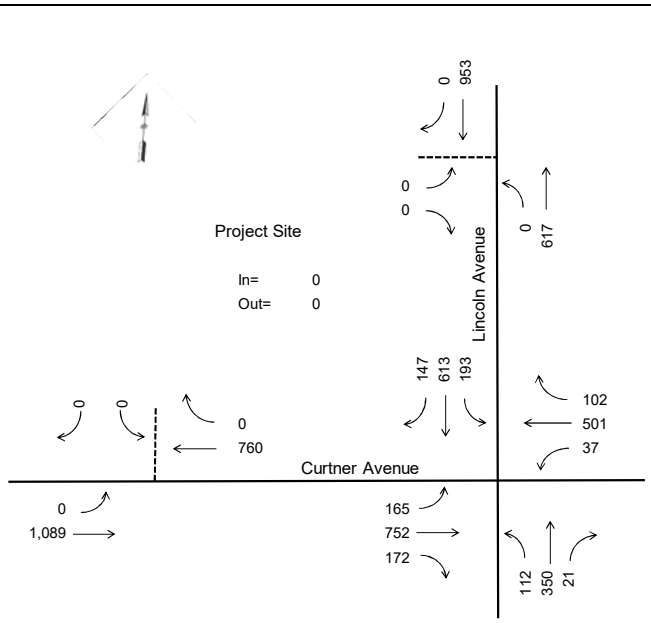
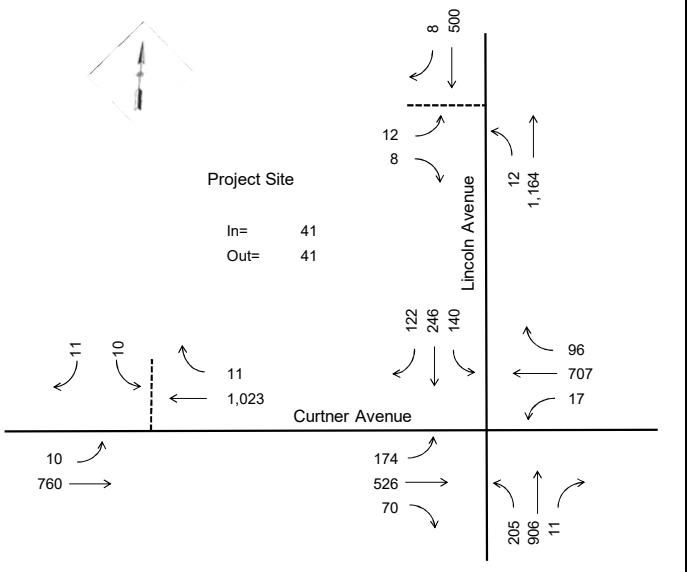
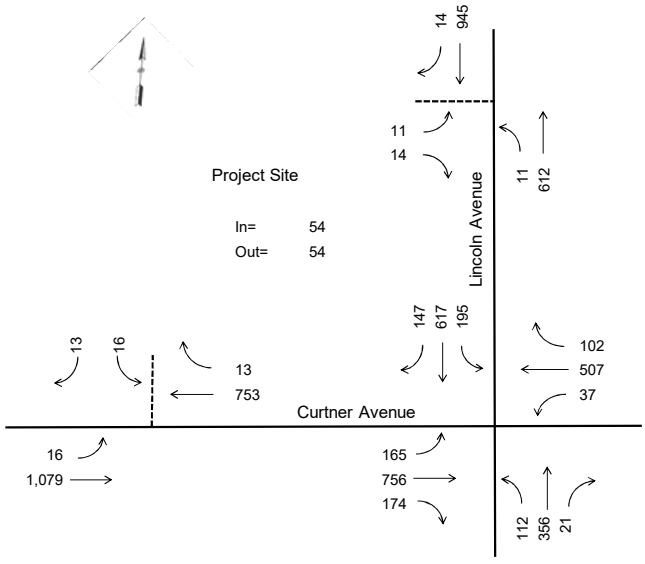
	AM PEAK HOUR	PM PEAK HOUR
EXISTING WITHOUT PROJECT		
EXISTING WITH PROJECT		

EXHIBIT 10
EXISTING PLUS PROJECT
LINCOLN AVENUE AND CURTNER AVENUE
PROJECT DRIVEWAY TRAFFIC VOLUMES

N-S Street	E-W Street	Existing Lane Configuration	Approach/Lane	VEHICLE QUEUE (No. of Vehicles)			
				Existing + Project Conditions		Background + Project Conditions	
				AM Peak Hr	PM Peak Hr	AM Peak Hr	PM Peak Hr
Lincoln Avenue	Project	NB 1-L/T, 1-T					
	Lincoln	SB 1-T, 1-T/R	EB Approach	0.2	0.3	0.2	0.3
	Driveway	EB 1-L/R	NB L Turn	0.0	0.0	0.0	0.0
Curtner Avenue	Project	SB 1-L/R					
	Curtner	EB 1-L, 2-T	SB Approach	0.3	0.4	0.4	0.5
	Driveway	WB 1-T, 1-T/R	EB L Turn	0.0	0.1	0.0	0.1

NOTES:
1. L, T, R = Left, Through, Right
2. NB, SB, EB, WB = Northbound, Southbound, Eastbound, Westbound

EXHIBIT 11
LINCOLN AVENUE AND CURTNER AVENUE
PROJECT DRIVEWAY AM AND PM PEAK HOUR
VEHICLE QUEUES

	N-S Street	E-W Street	Existing Lane Configuration	Existing Intersection Control	LOS Standard	Background Conditions								Background + Project Conditions									
						AM Peak Hr				PM Peak Hr				AM Peak Hr						PM Peak Hr					
																		Change					Change	
						LOS	Delay (sec)	Crit. V/C	Crit. Delay	LOS	Delay (sec)	Crit. V/C	Crit. Delay	LOS	Delay (sec)	Crit. V/C	Crit. Delay	Crit. V/C	Crit. Delay	LOS	Delay (sec)	Crit. V/C	Crit. Delay	Crit. V/C	Crit. Delay
1	Lincoln Avenue	Curtner Avenue	NB 1-L, 1-T, 1-T/R SB 1-L, 1-T, 1-T/R EB 1-L, 1-T, 1-T/R WB 1-L, 1-T, 1-T/R	Signal	**D**	**C**	**31.6**	**0.778**	**33.5**	**C**	**28.1**	**0.654**	**27.0**	**C**	**31.7**	**0.781**	**33.6**	**0.003**	**0.1**	**C**	**28.2**	**0.657**	**27.1**	**0.003**	**0.1**

NOTES:

1. L, T, R = Left, Through, Right
2. NB, SB, EB, WB = Northbound, Southbound, Eastbound, Westbound
3. Analysis performed using 2000 *Highway Capacity Manual* Methodologies
4. LOS standard for signalized City intersections is LOS D.
5. LOS highlighted in red indicates operations are below level of service standard.
6. Critical V/C, Critial Delay or side-street delay highlighted in yellow indicates a project impact.

EXHIBIT 12
BACKGROUND AND BACKGROUND PLUS PROJECT
INTERSECTION LEVELS OF SERVICE

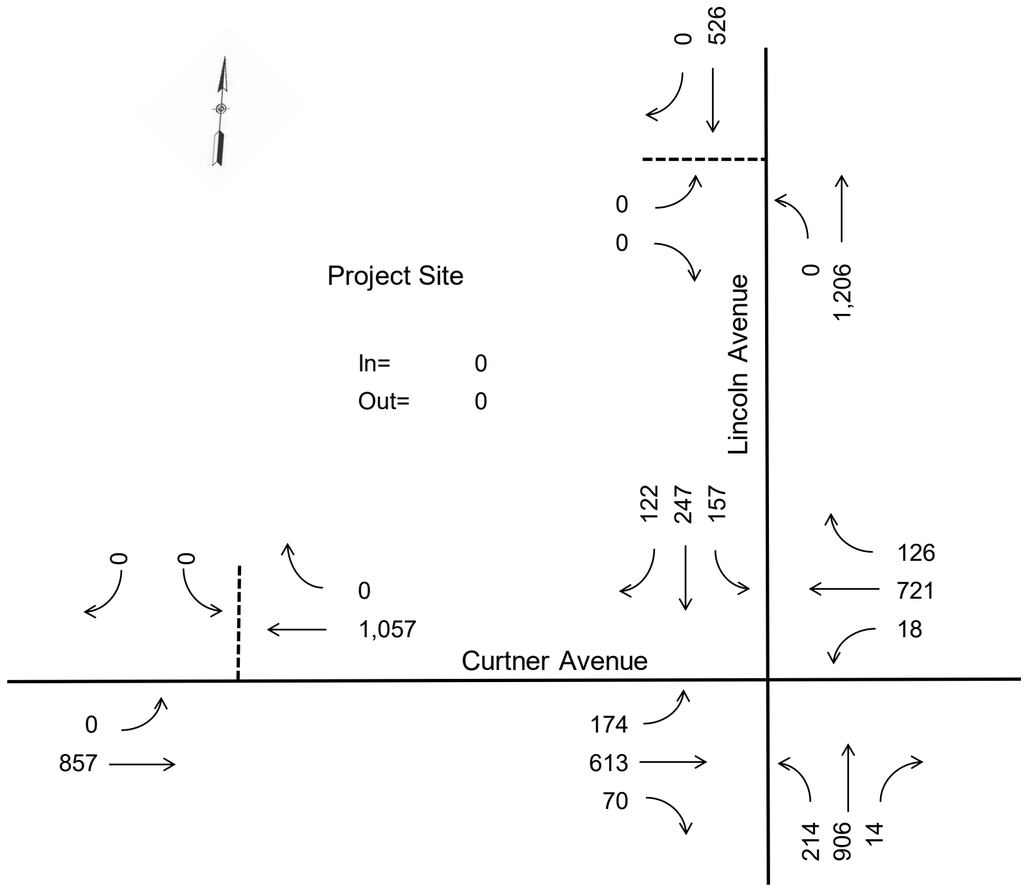
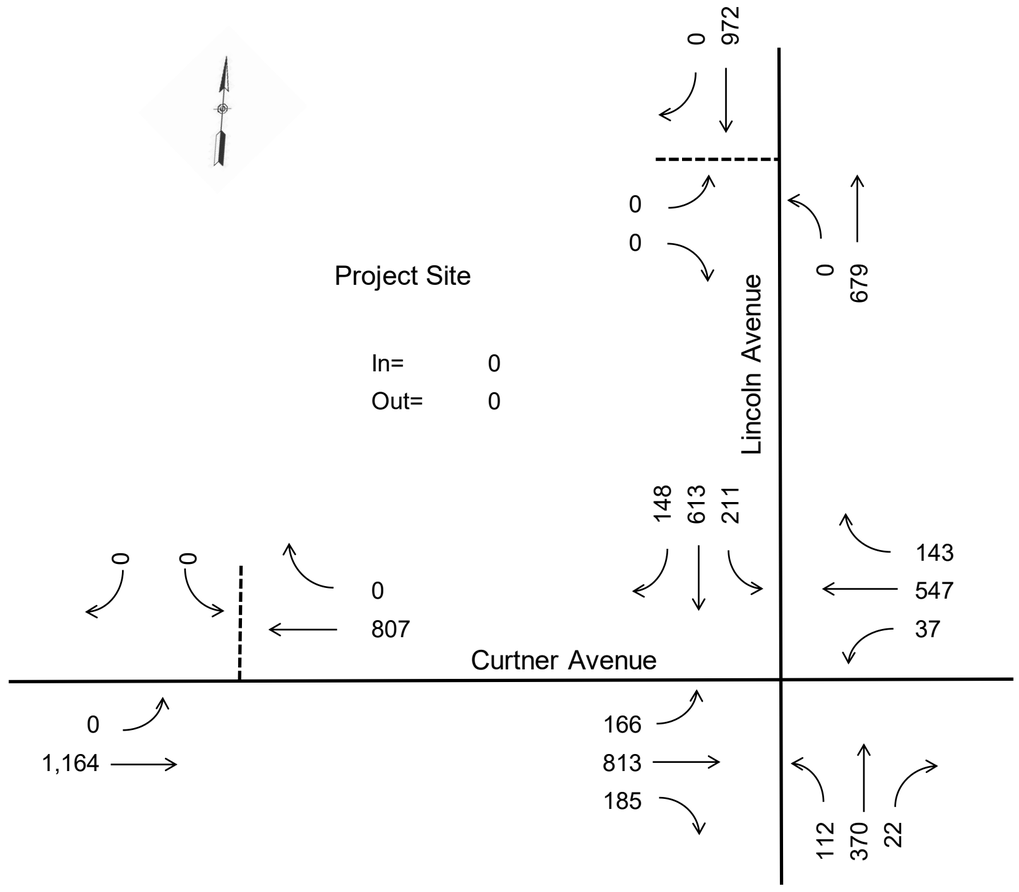
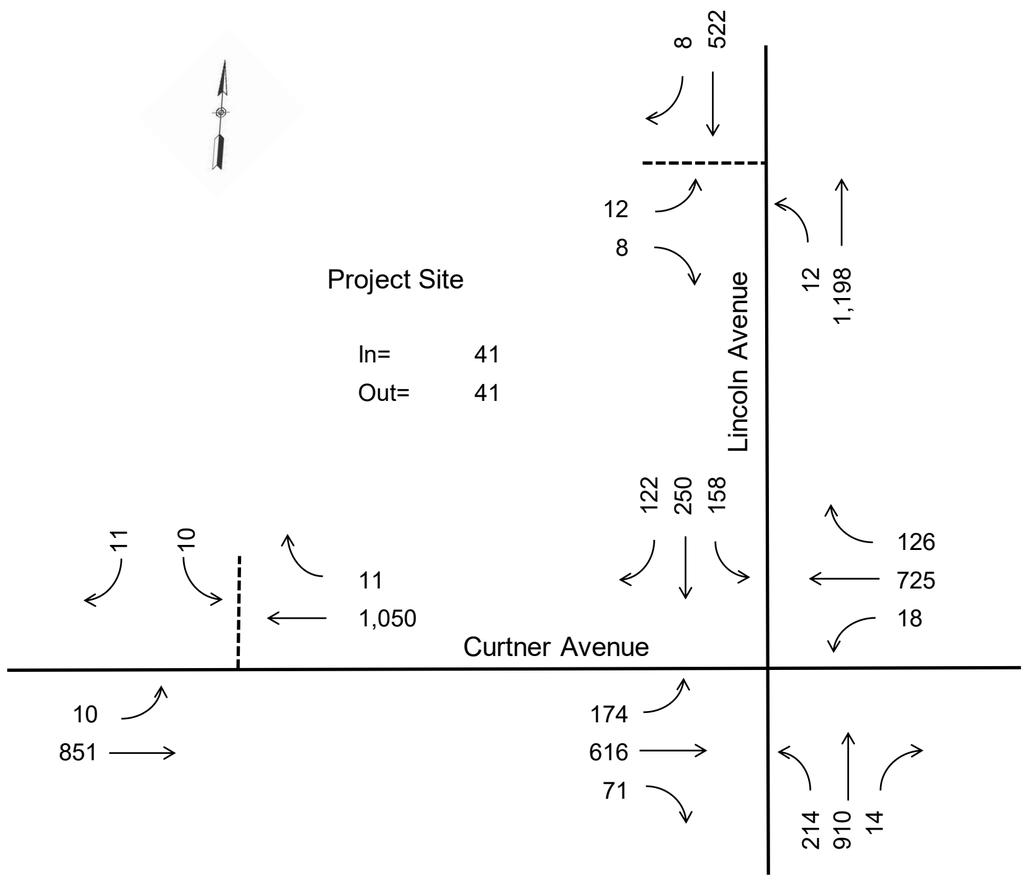
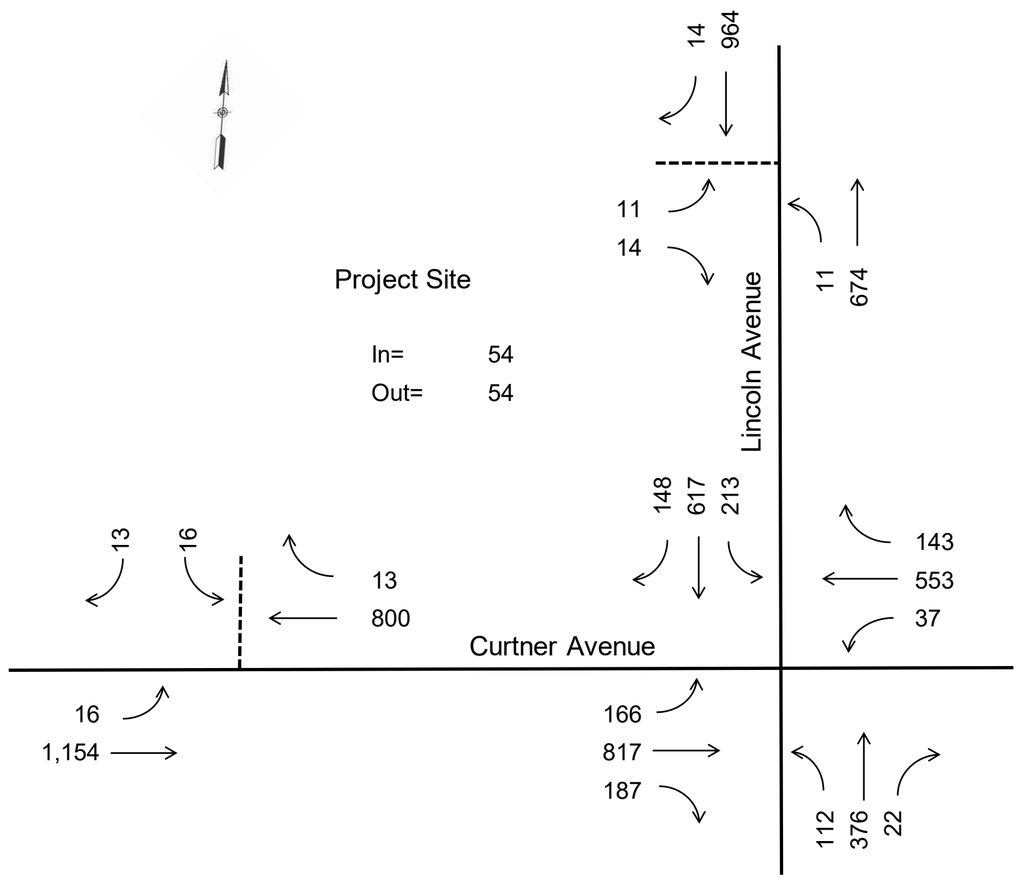
	AM PEAK HOUR	PM PEAK HOUR
BACKGROUND WITHOUT PROJECT		
BACKGROUND WITH PROJECT		

EXHIBIT 13
BACKGROUND PLUS PROJECT
LINCOLN AVENUE AND CURTNER AVENUE
PROJECT DRIVEWAY TRAFFIC VOLUMES

APPENDIX A1

LEVEL OF SERVICE (LOS) DESCRIPTION
SIGNALIZED INTERSECTIONS

Level of Service (LOS) Criteria for Signalized Intersections

(Reference Highway Capacity Manual 2000)

Level of Service	Control Delay (seconds / vehicle)
A	**<10**
B+	**>10 - 12**
B	**>12 - 18**
B-	**>18 - 20**
C+	**>20 - 23**
C	**>23 - 32**
C-	**>32 - 35**
D+	**>35 - 39**
D	**>39 - 51**
D-	**>51 - 55**
E+	**>55 - 60**
E	**>60 - 75**
E-	**>75 - 80**
F	**> 80**

The capacity of an urban street is related primarily to the signal timing and the geometric characteristics of the facility as well as to the composition of traffic on the facility. Because geometrics are a fixed characteristic of a facility, even though traffic composition may vary somewhat over time, the capacity of an intersection is generally a stable value that can be significantly improved only by initiating geometric improvements. A traffic signal allocates time among conflicting traffic movements that seek to use the same space. The way in which time is allocated significantly affects the operation and the capacity of the intersection and its approaches.

The methodology for signalized intersection is designed to consider individual intersection approaches and individual lane groups within approaches. A lane group consists of one or more lanes on an intersection approach. The outputs from application of the method described in the HCM 2000 are reported on the basis of each lane. For a given lane group at a signalized intersection, three indications are displayed: green, yellow and red. The red indication may include a short period during which all indications are red, referred to as an all-red interval and the yellow indication forms the change and clearance interval between two green phases.

The methodology for analyzing the capacity and level of service must consider a wide variety of prevailing conditions, including the amount and distribution of traffic movements, traffic composition, geometric characteristics, and details of intersection signalization. The methodology addresses the capacity, LOS, and other performance measures for lane groups and the intersection approaches and the LOS for the intersection as a whole.

Capacity is evaluated in terms of the ratio of demand flow rate to capacity (v/c ratio), whereas LOS is evaluated on the basis of control delay per vehicle (in seconds per vehicle). The methodology does not take into account the potential impact of downstream congestion on intersection operation, nor does the methodology detect and adjust for the impacts of turn-pocket overflows on through traffic and intersection operation.

APPENDIX A2

LEVEL OF SERVICE (LOS) DESCRIPTION
UNSIGNALIZED INTERSECTIONS WITH TWO-WAY STOP CONTROL (TWSC)

Level of Service (LOS) Criteria for TWSC Intersections
(Reference Highway Capacity Manual 2000)

Level of Service	Control Delay (seconds / vehicle)
A	**0 - 10**
B	**>10 - 15**
C	**>15 - 25**
D	**>25 - 35**
E	**>35 - 50**
F	**>50**

TWSC intersections are widely used and stop signs are used to control vehicle movements at such intersections. At TWSC intersections, the stop-controlled approaches are referred to as the minor street approaches; they can be either public streets or private driveways. The intersection approaches that are not controlled by stop signs are referred to as the major street approaches. A three-leg intersection is considered to be a standard type of TWSC intersection if the single minor street approach (i.e. the stem of the T configuration) is controlled by a stop sign. Three-leg intersections where two of the three approaches are controlled by stop signs are a special form of unsignalized intersection control.

At TWSC intersections, drivers on the controlled approaches are required to select gaps in the major street flow through which to execute crossing or turning maneuvers on the basis of judgement. In the presence of a queue, each driver on the controlled approach must use some time to move into the front-of-queue position and prepare to evaluate gaps in the major street flow. Capacity analysis at TWSC intersections depends on the interaction of drivers on the minor or stop-controlled approach with drivers on the major street. Both gap acceptance and empirical models have been developed to describe this interaction.

Thus, the capacity of the controlled legs is based on three factors:

- the distribution of gaps in the major street traffic stream;
- driver judgement in selecting gaps through which to execute the desired maneuvers; and
- the follow-up time required by each driver in a queue.

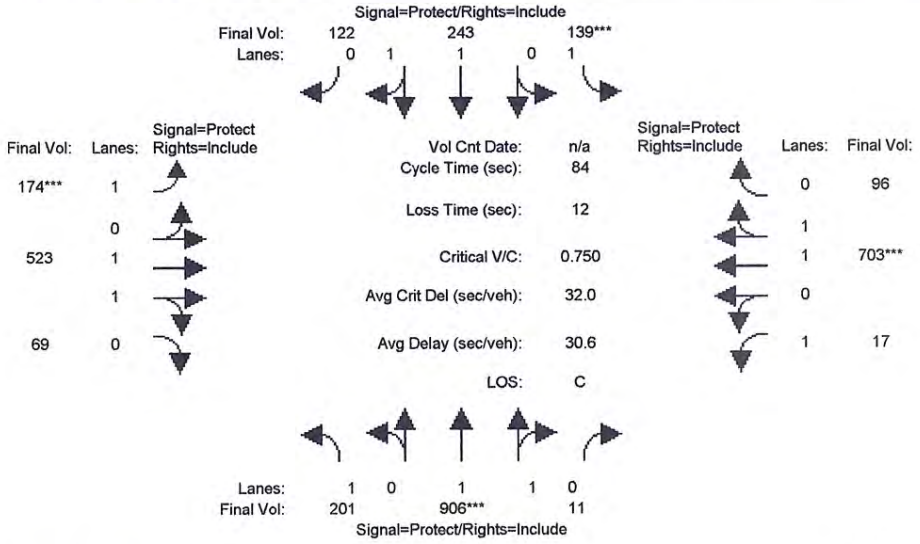
The delay experienced by a motorist is made up of a number of factors that relate to control, geometrics, traffic and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during base conditions, in the absence of incident, control, traffic or geometric delay. Average control delay for any particular minor movement is a function of the capacity of the approach and the degree of saturation and referred to as level of service.

APPENDIX B

LEVEL OF SERVICE CALCULATION WORKSHEETS

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Existing (AM)

Intersection #3435: Lincoln/Curtner

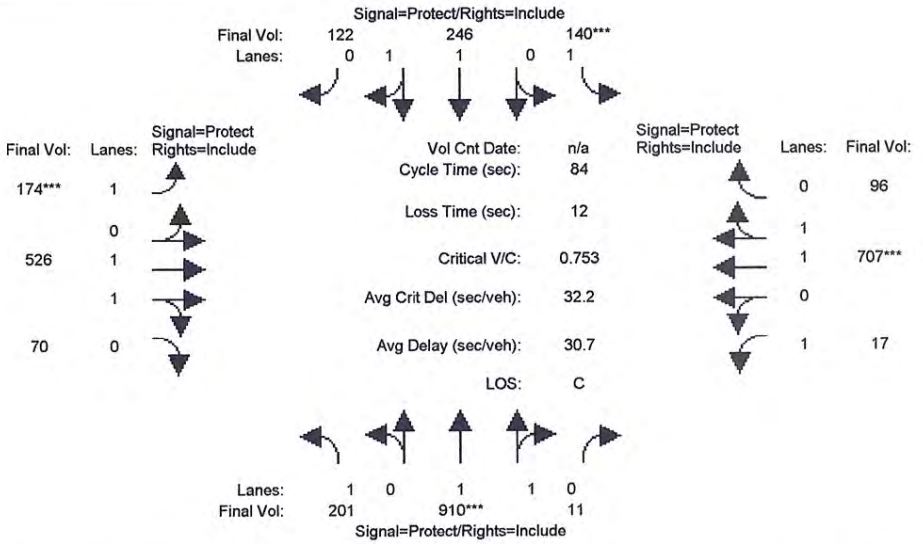


Street Name:	Lincoln						Curtner					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	201	906	11	139	243	122	174	523	69	17	703	96
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	201	906	11	139	243	122	174	523	69	17	703	96
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	201	906	11	139	243	122	174	523	69	17	703	96
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	201	906	11	139	243	122	174	523	69	17	703	96
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	201	906	11	139	243	122	174	523	69	17	703	96
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.97	0.95	0.92	0.99	0.95	0.92	0.98	0.95	0.92	0.98	0.95
Lanes:	1.00	1.98	0.02	1.00	1.31	0.69	1.00	1.76	0.24	1.00	1.75	0.25
Final Sat.:	1750	3656	44	1750	2462	1236	1750	3268	431	1750	3255	445
Capacity Analysis Module:												
Vol/Sat:	0.11	0.25	0.25	0.08	0.10	0.10	0.10	0.16	0.16	0.01	0.22	0.22
Crit Moves:		****		****			****				****	
Green Time:	18.0	27.8	27.8	8.9	18.7	18.7	11.1	23.2	23.2	12.1	24.2	24.2
Volume/Cap:	0.54	0.75	0.75	0.75	0.44	0.44	0.75	0.58	0.58	0.07	0.75	0.75
Uniform Del:	29.3	25.0	25.0	36.5	28.2	28.2	35.1	26.2	26.2	31.1	27.2	27.2
IncremntDel:	1.5	2.6	2.6	15.6	0.4	0.4	12.7	0.8	0.8	0.1	3.0	3.0
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	30.8	27.7	27.7	52.1	28.6	28.6	47.8	27.0	27.0	31.2	30.2	30.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	30.8	27.7	27.7	52.1	28.6	28.6	47.8	27.0	27.0	31.2	30.2	30.2
LOS by Move:	C	C	C	D-	C	C	D	C	C	C	C	C
HCM2kAvgQ:	6	12	12	6	5	5	7	7	7	0	11	11

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Ex+Project AM

Intersection #3435: Lincoln/Curtner

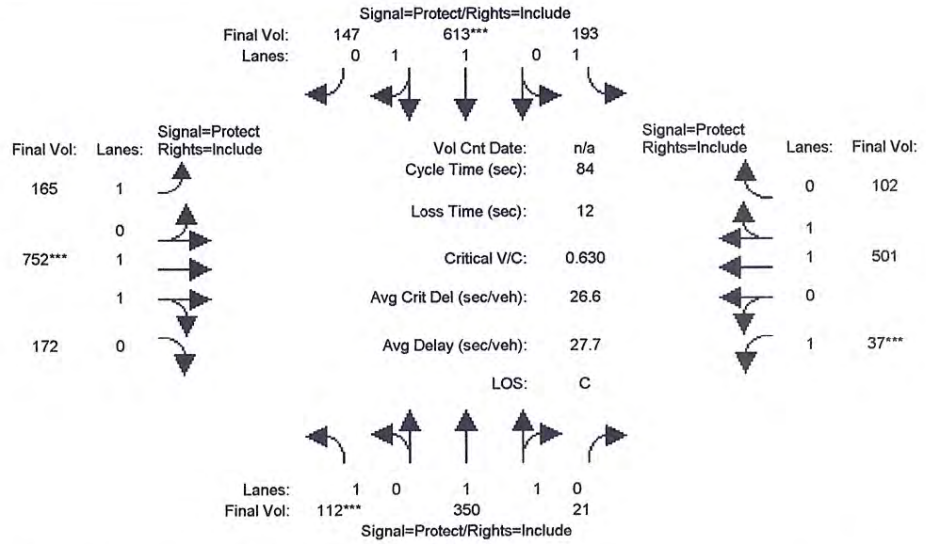


Street Name:	Lincoln						Curtner					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	201	910	11	140	246	122	174	526	70	17	707	96
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	201	910	11	140	246	122	174	526	70	17	707	96
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	201	910	11	140	246	122	174	526	70	17	707	96
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	201	910	11	140	246	122	174	526	70	17	707	96
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	201	910	11	140	246	122	174	526	70	17	707	96
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.97	0.95	0.92	0.99	0.95	0.92	0.98	0.95	0.92	0.98	0.95
Lanes:	1.00	1.98	0.02	1.00	1.32	0.68	1.00	1.76	0.24	1.00	1.75	0.25
Final Sat.:	1750	3656	44	1750	2472	1226	1750	3265	435	1750	3257	442
Capacity Analysis Module:												
Vol/Sat:	0.11	0.25	0.25	0.08	0.10	0.10	0.10	0.16	0.16	0.01	0.22	0.22
Crit Moves:		****		****			****				****	
Green Time:	18.0	27.8	27.8	8.9	18.7	18.7	11.1	23.3	23.3	12.0	24.2	24.2
Volume/Cap:	0.54	0.75	0.75	0.75	0.45	0.45	0.75	0.58	0.58	0.07	0.75	0.75
Uniform Del:	29.3	25.1	25.1	36.5	28.2	28.2	35.1	26.2	26.2	31.1	27.2	27.2
IncremntDel:	1.5	2.7	2.7	15.9	0.4	0.4	13.0	0.9	0.9	0.1	3.1	3.1
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	30.8	27.7	27.7	52.3	28.6	28.6	48.2	27.0	27.0	31.2	30.2	30.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	30.8	27.7	27.7	52.3	28.6	28.6	48.2	27.0	27.0	31.2	30.2	30.2
LOS by Move:	C	C	C	D-	C	C	D	C	C	C	C	C
HCM2kAvgQ:	6	13	13	6	5	5	7	7	7	0	11	11

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Existing (PM)

Intersection #3435: Lincoln/Curtner

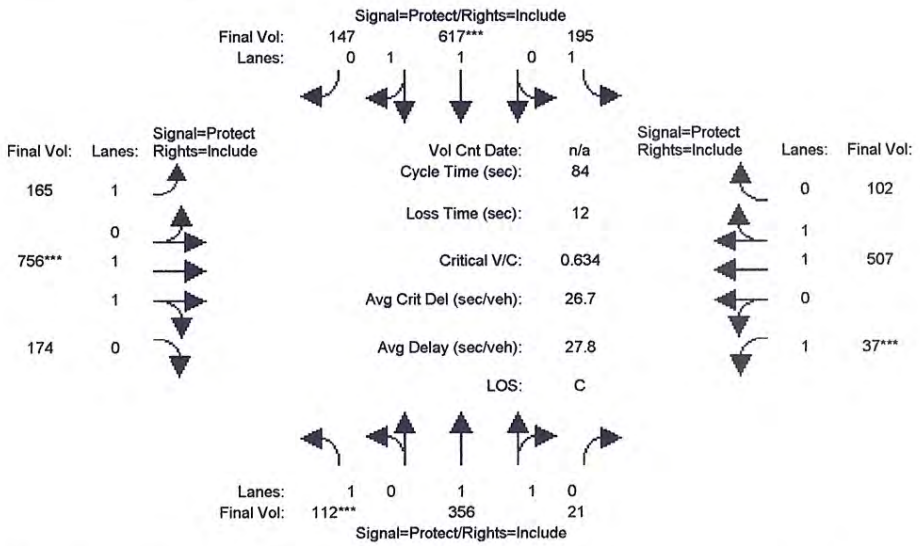


Street Name:	Lincoln						Curtner					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	112	350	21	193	613	147	165	752	172	37	501	102
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	112	350	21	193	613	147	165	752	172	37	501	102
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	112	350	21	193	613	147	165	752	172	37	501	102
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	112	350	21	193	613	147	165	752	172	37	501	102
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	112	350	21	193	613	147	165	752	172	37	501	102
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	0.98	0.95	0.92	0.98	0.95	0.92	0.98	0.95
Lanes:	1.00	1.88	0.12	1.00	1.60	0.40	1.00	1.62	0.38	1.00	1.65	0.35
Final Sat.:	1750	3490	209	1750	2984	716	1750	3011	689	1750	3074	626
Capacity Analysis Module:												
Vol/Sat:	0.06	0.10	0.10	0.11	0.21	0.21	0.09	0.25	0.25	0.02	0.16	0.16
Crit Moves:	****				****			****		****		
Green Time:	8.0	17.5	17.5	16.2	25.7	25.7	14.0	31.3	31.3	7.0	24.2	24.2
Volume/Cap:	0.67	0.48	0.48	0.57	0.67	0.67	0.56	0.67	0.67	0.25	0.56	0.56
Uniform Del:	36.7	29.2	29.2	30.7	25.4	25.4	32.2	22.1	22.1	36.1	25.4	25.4
IncremntDel:	10.2	0.5	0.5	2.3	1.6	1.6	2.6	1.3	1.3	0.9	0.7	0.7
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	46.9	29.7	29.7	33.1	27.0	27.0	34.7	23.4	23.4	37.0	26.1	26.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	46.9	29.7	29.7	33.1	27.0	27.0	34.7	23.4	23.4	37.0	26.1	26.1
LOS by Move:	D	C	C	C-	C	C	C-	C	C	D+	C	C
HCM2kAvgQ:	4	5	5	6	10	10	5	11	11	1	7	7

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Ex+Project PM

Intersection #3435: Lincoln/Curtner

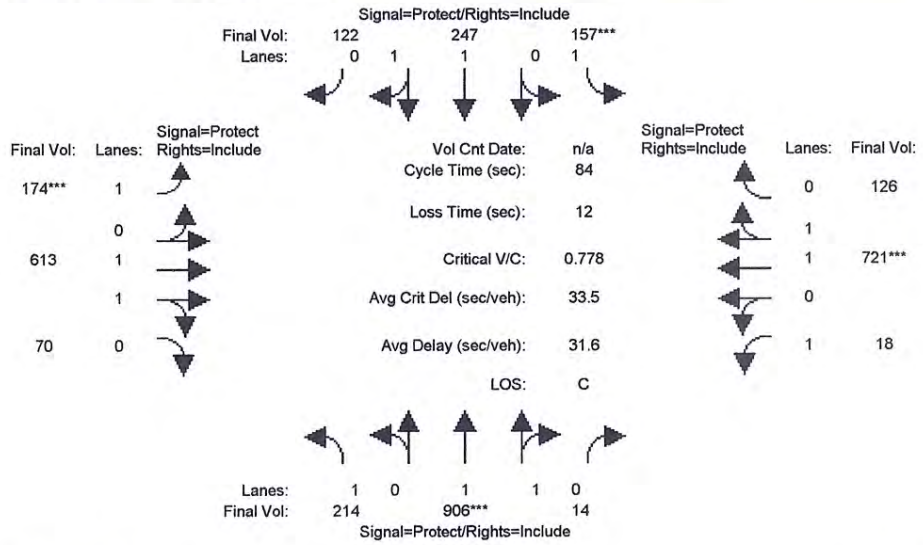


Street Name:	Lincoln						Curtner					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	112	356	21	195	617	147	165	756	174	37	507	102
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	112	356	21	195	617	147	165	756	174	37	507	102
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	112	356	21	195	617	147	165	756	174	37	507	102
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	112	356	21	195	617	147	165	756	174	37	507	102
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	112	356	21	195	617	147	165	756	174	37	507	102
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	0.98	0.95	0.92	0.98	0.95	0.92	0.98	0.95
Lanes:	1.00	1.89	0.11	1.00	1.60	0.40	1.00	1.62	0.38	1.00	1.66	0.34
Final Sat.:	1750	3494	206	1750	2988	712	1750	3007	692	1750	3080	620
Capacity Analysis Module:												
Vol/Sat:	0.06	0.10	0.10	0.11	0.21	0.21	0.09	0.25	0.25	0.02	0.16	0.16
Crit Moves:	****				****			****		****		
Green Time:	8.0	17.4	17.4	16.3	25.7	25.7	14.0	31.3	31.3	7.0	24.4	24.4
Volume/Cap:	0.67	0.49	0.49	0.57	0.67	0.67	0.57	0.67	0.67	0.25	0.57	0.57
Uniform Del:	36.8	29.4	29.4	30.7	25.5	25.5	32.2	22.1	22.1	36.1	25.3	25.3
IncremntDel:	10.5	0.5	0.5	2.4	1.6	1.6	2.6	1.3	1.3	0.9	0.7	0.7
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	47.2	29.9	29.9	33.1	27.1	27.1	34.9	23.4	23.4	37.0	26.1	26.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	47.2	29.9	29.9	33.1	27.1	27.1	34.9	23.4	23.4	37.0	26.1	26.1
LOS by Move:	D	C	C	C-	C	C	C-	C	C	D+	C	C
HCM2kAvgQ:	4	5	5	6	10	10	5	11	11	1	7	7

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Background (AM)

Intersection #3435: Lincoln/Curtner

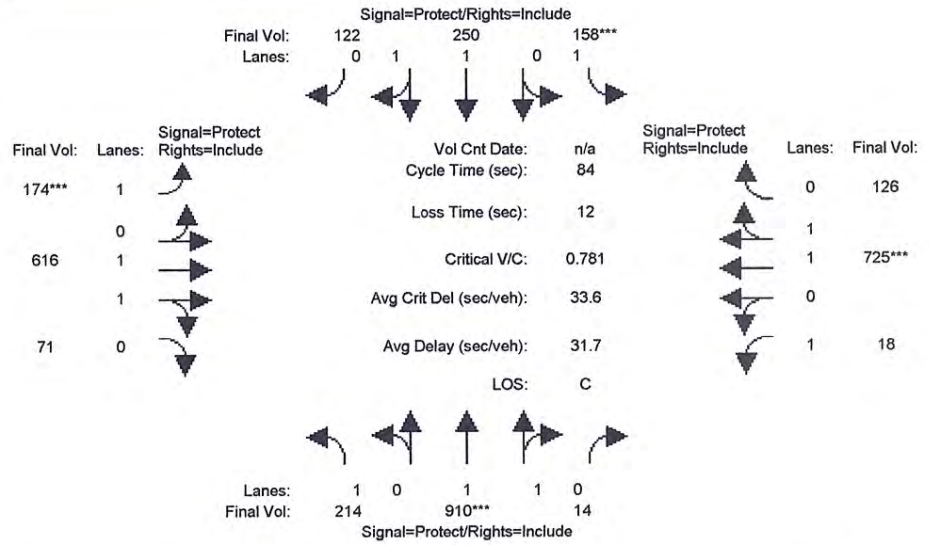


Street Name:	Lincoln						Curtner					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	214	906	14	157	247	122	174	613	70	18	721	126
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	214	906	14	157	247	122	174	613	70	18	721	126
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	214	906	14	157	247	122	174	613	70	18	721	126
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	214	906	14	157	247	122	174	613	70	18	721	126
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	214	906	14	157	247	122	174	613	70	18	721	126
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.97	0.95	0.92	0.99	0.95	0.92	0.98	0.95	0.92	0.98	0.95
Lanes:	1.00	1.97	0.03	1.00	1.32	0.68	1.00	1.79	0.21	1.00	1.69	0.31
Final Sat.:	1750	3644	56	1750	2476	1223	1750	3321	379	1750	3149	550
Capacity Analysis Module:												
Vol/Sat:	0.12	0.25	0.25	0.09	0.10	0.10	0.10	0.18	0.18	0.01	0.23	0.23
Crit Moves:		****		****			****				****	
Green Time:	18.5	26.9	26.9	9.7	18.0	18.0	10.7	24.4	24.4	11.0	24.7	24.7
Volume/Cap:	0.55	0.78	0.78	0.78	0.46	0.46	0.78	0.63	0.63	0.08	0.78	0.78
Uniform Del:	29.1	25.9	25.9	36.1	28.8	28.8	35.5	25.9	25.9	32.0	27.1	27.1
IncremntDel:	1.8	3.3	3.3	17.3	0.4	0.4	15.8	1.3	1.3	0.1	3.6	3.6
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	30.9	29.2	29.2	53.4	29.2	29.2	51.3	27.2	27.2	32.2	30.8	30.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	30.9	29.2	29.2	53.4	29.2	29.2	51.3	27.2	27.2	32.2	30.8	30.8
LOS by Move:	C	C	C	D-	C	C	D-	C	C	C-	C	C
HCM2kAvgQ:	6	13	13	6	5	5	7	9	9	0	12	12

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Bkgd+Project AM

Intersection #3435: Lincoln/Curtner

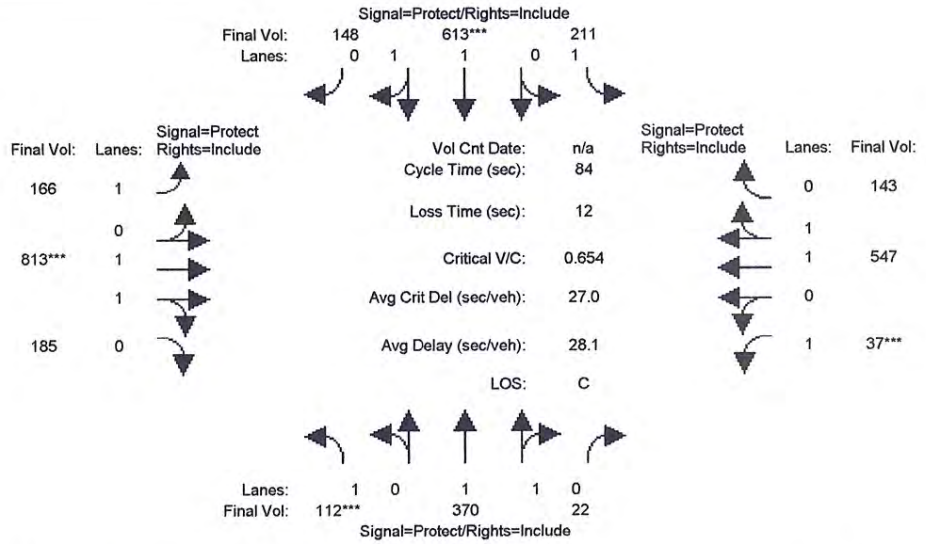


Street Name:	Lincoln						Curtner					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	214	910	14	158	250	122	174	616	71	18	725	126
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	214	910	14	158	250	122	174	616	71	18	725	126
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	214	910	14	158	250	122	174	616	71	18	725	126
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	214	910	14	158	250	122	174	616	71	18	725	126
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	214	910	14	158	250	122	174	616	71	18	725	126
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.97	0.95	0.92	0.99	0.95	0.92	0.98	0.95	0.92	0.98	0.95
Lanes:	1.00	1.97	0.03	1.00	1.33	0.67	1.00	1.79	0.21	1.00	1.70	0.30
Final Sat.:	1750	3644	56	1750	2486	1213	1750	3317	382	1750	3152	548
Capacity Analysis Module:												
Vol/Sat:	0.12	0.25	0.25	0.09	0.10	0.10	0.10	0.19	0.19	0.01	0.23	0.23
Crit Moves:		****		****			****				****	
Green Time:	18.5	26.9	26.9	9.7	18.0	18.0	10.7	24.5	24.5	11.0	24.7	24.7
Volume/Cap:	0.55	0.78	0.78	0.78	0.47	0.47	0.78	0.64	0.64	0.08	0.78	0.78
Uniform Del:	29.1	25.9	25.9	36.1	28.8	28.8	35.5	25.9	25.9	32.1	27.1	27.1
IncremntDel:	1.8	3.4	3.4	17.6	0.4	0.4	16.2	1.3	1.3	0.1	3.7	3.7
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	30.8	29.3	29.3	53.7	29.2	29.2	51.7	27.2	27.2	32.2	30.9	30.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	30.8	29.3	29.3	53.7	29.2	29.2	51.7	27.2	27.2	32.2	30.9	30.9
LOS by Move:	C	C	C	D-	C	C	D-	C	C	C-	C	C
HCM2kAvgQ:	6	13	13	6	5	5	7	9	9	0	12	12

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Background (PM)

Intersection #3435: Lincoln/Curtner

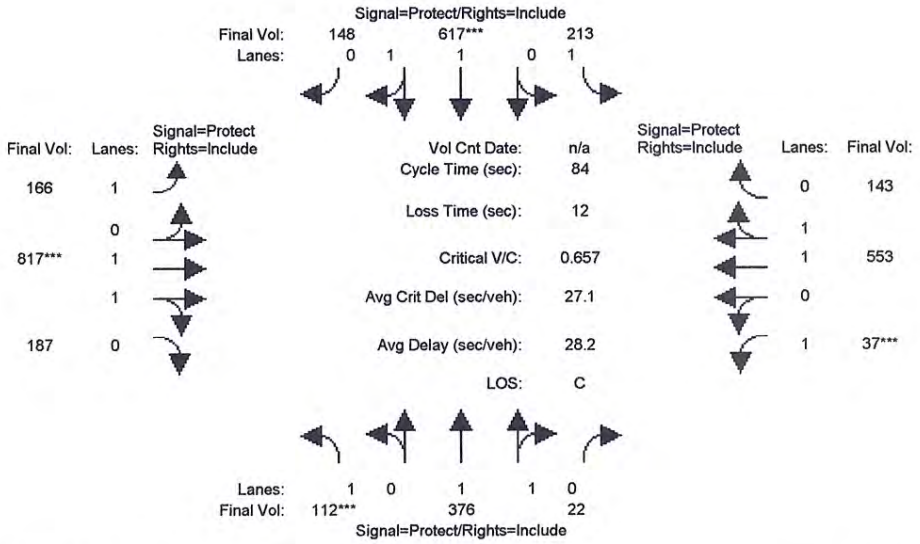


Street Name:	Lincoln						Curtner					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	112	370	22	211	613	148	166	813	185	37	547	143
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	112	370	22	211	613	148	166	813	185	37	547	143
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	112	370	22	211	613	148	166	813	185	37	547	143
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	112	370	22	211	613	148	166	813	185	37	547	143
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	112	370	22	211	613	148	166	813	185	37	547	143
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	0.98	0.95	0.92	0.98	0.95	0.92	0.98	0.95
Lanes:	1.00	1.88	0.12	1.00	1.60	0.40	1.00	1.62	0.38	1.00	1.57	0.43
Final Sat.:	1750	3492	208	1750	2980	719	1750	3014	686	1750	2933	767
Capacity Analysis Module:												
Vol/Sat:	0.06	0.11	0.11	0.12	0.21	0.21	0.09	0.27	0.27	0.02	0.19	0.19
Crit Moves:	****				****			****		****		
Green Time:	7.7	16.1	16.1	16.4	24.8	24.8	13.3	32.5	32.5	7.0	26.2	26.2
Volume/Cap:	0.70	0.55	0.55	0.62	0.70	0.70	0.60	0.70	0.70	0.25	0.60	0.60
Uniform Del:	37.0	30.7	30.7	31.0	26.3	26.3	32.9	21.6	21.6	36.1	24.5	24.5
IncremntDel:	12.6	0.9	0.9	3.5	2.0	2.0	3.6	1.5	1.5	0.9	0.9	0.9
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	49.7	31.6	31.6	34.4	28.3	28.3	36.4	23.1	23.1	37.0	25.3	25.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	49.7	31.6	31.6	34.4	28.3	28.3	36.4	23.1	23.1	37.0	25.3	25.3
LOS by Move:	D	C	C	C-	C	C	D+	C	C	D+	C	C
HCM2kAvgQ:	5	5	5	6	10	10	5	12	12	1	8	8

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Bkgd+Project PM

Intersection #3435: Lincoln/Curtner



Street Name:	Lincoln						Curtner					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	112	376	22	213	617	148	166	817	187	37	553	143
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	112	376	22	213	617	148	166	817	187	37	553	143
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	112	376	22	213	617	148	166	817	187	37	553	143
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	112	376	22	213	617	148	166	817	187	37	553	143
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	112	376	22	213	617	148	166	817	187	37	553	143
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	0.98	0.95	0.92	0.98	0.95	0.92	0.98	0.95
Lanes:	1.00	1.89	0.11	1.00	1.60	0.40	1.00	1.62	0.38	1.00	1.58	0.42
Final Sat.:	1750	3495	205	1750	2984	716	1750	3010	689	1750	2939	760
Capacity Analysis Module:												
Vol/Sat:	0.06	0.11	0.11	0.12	0.21	0.21	0.09	0.27	0.27	0.02	0.19	0.19
Crit Moves:	****				****			****		****		
Green Time:	7.7	16.1	16.1	16.4	24.8	24.8	13.3	32.5	32.5	7.0	26.3	26.3
Volume/Cap:	0.70	0.56	0.56	0.62	0.70	0.70	0.60	0.70	0.70	0.25	0.60	0.60
Uniform Del:	37.0	30.8	30.8	31.0	26.3	26.3	32.9	21.6	21.6	36.1	24.4	24.4
IncremntDel:	13.0	1.0	1.0	3.6	2.1	2.1	3.7	1.6	1.6	0.9	0.9	0.9
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	50.1	31.8	31.8	34.5	28.4	28.4	36.6	23.2	23.2	37.0	25.3	25.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.1	31.8	31.8	34.5	28.4	28.4	36.6	23.2	23.2	37.0	25.3	25.3
LOS by Move:	D	C	C	C-	C	C	D+	C	C	D+	C	C
HCM2kAvgQ:	5	6	6	6	10	10	5	12	12	1	8	8

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 Curtner/Curtner Driveway

Average Delay (sec/veh): 0.3 Worst Case Level Of Service: C[24.2]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 0 0			0 0 1! 0 0			1 0 2 0 0			0 0 1 1 0		
Volume Module:												
Base Vol:	0	0	0	10	0	11	10	760	0	0	1023	11
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	10	0	11	10	760	0	0	1023	11
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	10	0	11	10	760	0	0	1023	11
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	10	0	11	10	760	0	0	1023	11
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.8	6.5	6.9	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	1429	1809	517	1034	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	128	80	509	680	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	127	79	509	680	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.08	0.00	0.02	0.01	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	10.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	B	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	209	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	0.3	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	24.2	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	C	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			24.2			xxxxxx			xxxxxx		
ApproachLOS:	*			C			*			*		

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 Curtner/Curtner Driveway

Average Delay (sec/veh): 0.4 Worst Case Level Of Service: C[23.6]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 0 0			0 0 1! 0 0			1 0 2 0 0			0 0 1 1 0		
Volume Module:												
Base Vol:	0	0	0	16	0	13	16	1079	0	0	753	13
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	16	0	13	16	1079	0	0	753	13
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	16	0	13	16	1079	0	0	753	13
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	16	0	13	16	1079	0	0	753	13
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.8	6.5	6.9	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	1331	1871	383	766	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	148	73	621	856	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	146	72	621	856	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.11	0.00	0.02	0.02	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	9.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	223	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	0.4	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	23.6	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	C	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			23.6			xxxxxx			xxxxxx		
ApproachLOS:	*			C			*			*		

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 Curtner/Curtner Driveway

Average Delay (sec/veh): 0.3 Worst Case Level Of Service: D[26.2]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 0 0			0 0 1! 0 0			1 0 2 0 0			0 0 1 1 0		
Volume Module:												
Base Vol:	0	0	0	10	0	11	10	851	0	0	1050	11
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	10	0	11	10	851	0	0	1050	11
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	10	0	11	10	851	0	0	1050	11
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	10	0	11	10	851	0	0	1050	11
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.8	6.5	6.9	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	1501	1927	531	1061	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	115	67	498	664	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	113	66	498	664	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.09	0.00	0.02	0.02	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	10.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	B	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	191	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	0.4	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	26.2	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	D	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			26.2			xxxxxx			xxxxxx		
ApproachLOS:	*			D			*			*		

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 Curtner/Curtner Driveway

Average Delay (sec/veh): 0.5 Worst Case Level Of Service: D[26.2]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0	0 0	0	0 0	1! 0	0	1 0	2 0	0	0 0	1 1	0
Volume Module:												
Base Vol:	0	0	0	16	0	13	16	1154	0	0	800	13
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	16	0	13	16	1154	0	0	800	13
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	16	0	13	16	1154	0	0	800	13
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	16	0	13	16	1154	0	0	800	13
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.8	6.5	6.9	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	1416	1993	407	813	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	131	61	600	823	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	129	60	600	823	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.12	0.00	0.02	0.02	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	9.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	199	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	0.5	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	26.2	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	D	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			26.2			xxxxxx			xxxxxx		
ApproachLOS:	*			D			*			*		

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #2 Lincoln/Lincoln Driveway

Average Delay (sec/veh): 0.3 Worst Case Level Of Service: C[18.4]

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Uncontrolled						Uncontrolled						Stop Sign						Stop Sign					
Rights:	Include						Include						Include						Include					
Lanes:	0	1	1	0	0		0	0	1	1	0		0	0	1!	0	0		0	0	0	0	0	
Volume Module:																								
Base Vol:	12	1164		0			0	500		8			12		0		8		0		0		0	
Growth Adj:	1.00	1.00		1.00			1.00	1.00		1.00			1.00		1.00		1.00		1.00		1.00		1.00	
Initial Bse:	12	1164		0			0	500		8			12		0		8		0		0		0	
User Adj:	1.00	1.00		1.00			1.00	1.00		1.00			1.00		1.00		1.00		1.00		1.00		1.00	
PHF Adj:	1.00	1.00		1.00			1.00	1.00		1.00			1.00		1.00		1.00		1.00		1.00		1.00	
PHF Volume:	12	1164		0			0	500		8			12		0		8		0		0		0	
Reduct Vol:	0	0		0			0	0		0			0		0		0		0		0		0	
FinalVolume:	12	1164		0			0	500		8			12		0		8		0		0		0	
Critical Gap Module:																								
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx							6.8		6.5		6.9		xxxxx	xxxx	xxxxx			
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx							3.5		4.0		3.3		xxxxx	xxxx	xxxxx			
Capacity Module:																								
Cnflict Vol:	508	xxxx	xxxxx	xxxx	xxxx	xxxxx							1110		1692		254		xxxx	xxxx	xxxxx			
Potent Cap.:	1067	xxxx	xxxxx	xxxx	xxxx	xxxxx							207		94		752		xxxx	xxxx	xxxxx			
Move Cap.:	1067	xxxx	xxxxx	xxxx	xxxx	xxxxx							205		93		752		xxxx	xxxx	xxxxx			
Volume/Cap:	0.01	xxxx	xxxx	xxxx	xxxx	xxxx							0.06		0.00		0.01		xxxx	xxxx	xxxx			
Level Of Service Module:																								
2Way95thQ:	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx							xxxx		xxxx		xxxxx		xxxx	xxxx	xxxxx			
Control Del:	8.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx							xxxxx		xxxx		xxxxx		xxxxx	xxxx	xxxxx			
LOS by Move:	A	*		*		*							*		*		*		*		*			
Movement:	LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT	
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx							xxxx		289		xxxxx		xxxx	xxxx	xxxxx			
SharedQueue:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx							xxxxx		0.2		xxxxx		xxxxx	xxxx	xxxxx			
Shrd ConDel:	8.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx							xxxxx		18.4		xxxxx		xxxxx	xxxx	xxxxx			
Shared LOS:	A	*		*		*							*		C		*		*		*			
ApproachDel:	xxxxxx			xxxxxx									18.4				xxxxxx							
ApproachLOS:	*			*									C				*							

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #2 Lincoln/Lincoln Driveway

Average Delay (sec/veh): 0.4 Worst Case Level Of Service: C[20.2]

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Uncontrolled						Uncontrolled						Stop Sign						Stop Sign					
Rights:	Include						Include						Include						Include					
Lanes:	0	1	1	0	0		0	0	1	1	0		0	0	1!	0	0		0	0	0	0	0	
Volume Module:																								
Base Vol:	11	612		0			0	945		14			11		0		14		0		0		0	
Growth Adj:	1.00	1.00		1.00			1.00	1.00		1.00			1.00		1.00		1.00		1.00		1.00		1.00	
Initial Bse:	11	612		0			0	945		14			11		0		14		0		0		0	
User Adj:	1.00	1.00		1.00			1.00	1.00		1.00			1.00		1.00		1.00		1.00		1.00		1.00	
PHF Adj:	1.00	1.00		1.00			1.00	1.00		1.00			1.00		1.00		1.00		1.00		1.00		1.00	
PHF Volume:	11	612		0			0	945		14			11		0		14		0		0		0	
Reduct Vol:	0	0		0			0	0		0			0		0		0		0		0		0	
FinalVolume:	11	612		0			0	945		14			11		0		14		0		0		0	
Critical Gap Module:																								
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx							6.8		6.5		6.9		xxxxx	xxxx	xxxxx			
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx							3.5		4.0		3.3		xxxxx	xxxx	xxxxx			
Capacity Module:																								
Cnflict Vol:	959	xxxx	xxxxx	xxxx	xxxx	xxxxx							1280		1586		480		xxxx	xxxx	xxxxx			
Potent Cap.:	725	xxxx	xxxxx	xxxx	xxxx	xxxxx							160		109		538		xxxx	xxxx	xxxxx			
Move Cap.:	725	xxxx	xxxxx	xxxx	xxxx	xxxxx							158		108		538		xxxx	xxxx	xxxxx			
Volume/Cap:	0.02	xxxx	xxxx	xxxx	xxxx	xxxx							0.07		0.00		0.03		xxxx	xxxx	xxxx			
Level Of Service Module:																								
2Way95thQ:	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx							xxxx		xxxx		xxxxx		xxxx	xxxx	xxxxx			
Control Del:	10.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx							xxxxx		xxxx		xxxxx		xxxxx	xxxx	xxxxx			
LOS by Move:	B	*		*		*							*		*		*		*		*			
Movement:	LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT	
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx							xxxx		262		xxxxx		xxxx	xxxx	xxxxx			
SharedQueue:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx							xxxxx		0.3		xxxxx		xxxxx	xxxx	xxxxx			
Shrd ConDel:	10.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx							xxxxx		20.2		xxxxx		xxxxx	xxxx	xxxxx			
Shared LOS:	B	*		*		*							*		C		*		*		*			
ApproachDel:	xxxxxx			xxxxxx									20.2						xxxxxx					
ApproachLOS:	*			*									C						*					

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #2 Lincoln/Lincoln Driveway

Average Delay (sec/veh): 0.3 Worst Case Level Of Service: C[19.2]

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Uncontrolled						Uncontrolled						Stop Sign						Stop Sign					
Rights:	Include						Include						Include						Include					
Lanes:	0	1	1	0	0		0	0	1	1	0		0	0	1!	0	0		0	0	0	0	0	
Volume Module:																								
Base Vol:	12	1198		0			0		522		8		12		0		8		0		0		0	
Growth Adj:	1.00	1.00		1.00			1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Initial Bse:	12	1198		0			0		522		8		12		0		8		0		0		0	
User Adj:	1.00	1.00		1.00			1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
PHF Adj:	1.00	1.00		1.00			1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
PHF Volume:	12	1198		0			0		522		8		12		0		8		0		0		0	
Reduct Vol:	0	0		0			0		0		0		0		0		0		0		0		0	
FinalVolume:	12	1198		0			0		522		8		12		0		8		0		0		0	
Critical Gap Module:																								
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx							6.8		6.5		6.9		xxxxx	xxxx	xxxxx			
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx							3.5		4.0		3.3		xxxxx	xxxx	xxxxx			
Capacity Module:																								
Cnflict Vol:	530	xxxx	xxxxx	xxxx	xxxx	xxxxx							1149		1748		265		xxxx	xxxx	xxxxx			
Potent Cap.:	1048	xxxx	xxxxx	xxxx	xxxx	xxxxx							195		87		739		xxxx	xxxx	xxxxx			
Move Cap.:	1048	xxxx	xxxxx	xxxx	xxxx	xxxxx							193		86		739		xxxx	xxxx	xxxxx			
Volume/Cap:	0.01	xxxx	xxxx	xxxx	xxxx	xxxx							0.06		0.00		0.01		xxxx	xxxx	xxxx			
Level Of Service Module:																								
2Way95thQ:	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx							xxxx	xxxx	xxxxx				xxxx	xxxx	xxxxx			
Control Del:	8.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx							xxxxx	xxxx	xxxxx				xxxxx	xxxx	xxxxx			
LOS by Move:	A	*	*	*	*	*							*	*	*				*	*	*			
Movement:	LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT	
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx							xxxx	274	xxxxx				xxxx	xxxx	xxxxx			
SharedQueue:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx							xxxxx	0.2	xxxxx				xxxxx	xxxx	xxxxx			
Shrd ConDel:	8.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx							xxxxx	19.2	xxxxx				xxxxx	xxxx	xxxxx			
Shared LOS:	A	*	*	*	*	*							*	C	*				*	*	*			
ApproachDel:	xxxxxx			xxxxxx									19.2						xxxxxx					
ApproachLOS:	*			*									C						*					

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #2 Lincoln/Lincoln Driveway

Average Delay (sec/veh): 0.4 Worst Case Level Of Service: C[21.2]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 1	1 0	0	0 0	1 1	0	0 0	1! 0	0	0 0	0 0	0
Volume Module:												
Base Vol:	11	674	0	0	964	14	11	0	14	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	11	674	0	0	964	14	11	0	14	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	11	674	0	0	964	14	11	0	14	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	11	674	0	0	964	14	11	0	14	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.8	6.5	6.9	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	978	xxxx	xxxxx	xxxx	xxxx	xxxxx	1330	1667	489	xxxx	xxxx	xxxxx
Potent Cap.:	714	xxxx	xxxxx	xxxx	xxxx	xxxxx	149	97	530	xxxx	xxxx	xxxxx
Move Cap.:	714	xxxx	xxxxx	xxxx	xxxx	xxxxx	147	96	530	xxxx	xxxx	xxxxx
Volume/Cap:	0.02	xxxx	xxxx	xxxx	xxxx	xxxx	0.07	0.00	0.03	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	10.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	B	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	247	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.3	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	10.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	21.2	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	B	*	*	*	*	*	*	C	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			21.2			xxxxxx		
ApproachLOS:	*			*			C			*		

Note: Queue reported is the number of cars per lane.

APPENDIX C

CITY OF SAN JOSE APPROVED TRIP INVENTORY

Intersection of: CURTNER/LINCOLN

Traffix Node Number: 3435

Permit No. / Description / Location	M09 NBL	M08 NBT	M07 NBR	M03 SBL	M02 SBT	M01 SBR	M12 EBL	M11 EBT	M10 EBR	M06 WBL	M05 WBT	M04 WBR
PDC02-066 GOBLE LANE GOBLE LN & MONTEREY RD (SW/C)	0	0	0	0	0	0	0	9	0	0	17	0
PDC13-009 (IND) COMMUNICATION HILL	9	0	2	12	3	0	0	51	1	1	1	19
PDC13-009 (RES) COMMUNICATIONS HILL	4	0	1	6	1	0	0	29	0	0	0	11
PDC13-009 (RET) COMMUNICATIONS HILL	0	0	0	0	0	0	0	1	0	0	0	0
TOTAL:	**13**	**0**	**3**	**18**	**4**	**0**	**0**	**90**	**1**	**1**	**18**	**30**

	LEFT	THRU	RIGHT
NORTH	18	4	0
EAST	1	18	30
SOUTH	13	0	3
WEST	0	90	1

Permit No. / Description / Location	M09 NBL	M08 NBT	M07 NBR	M03 SBL	M02 SBT	M01 SBR	M12 EBL	M11 EBT	M10 EBR	M06 WBL	M05 WBT	M04 WBR
PDC02-066 GOBLE LANE GOBLE LN & MONTEREY RD (SW/C)	0	0	0	0	0	0	0	18	0	0	9	0
PDC13-009 (IND) COMMUNICATION HILL	0	12	1	11	0	1	1	26	8	0	22	24
PDC13-009 (RES) COMMUNICATIONS HILL	0	7	0	7	0	0	0	17	5	0	14	16
PDC13-009 (RET) COMMUNICATIONS HILL	0	1	0	0	0	0	0	0	0	0	1	1
TOTAL:	**0**	**20**	**1**	**18**	**0**	**1**	**1**	**61**	**13**	**0**	**46**	**41**

	LEFT	THRU	RIGHT
NORTH	18	0	1
EAST	0	46	41
SOUTH	0	20	1
WEST	1	61	13

APPENDIX D

QUEUING ANALYSIS WORKSHEETS

APPENDIX D1
Vehicle Queuing Analysis Summary

#1. Lincoln Avenue/Curtner Avenue AM Peak Hour				
	Ex	Ex+Proj	Back	Back+Proj
	SB L	SB L	SB L	SB L
Cycle Length (sec)	84	84	84	84
Lanes	1	1	1	1
Total Volume (vph)	139	140	157	158
Volume Per Lane (vphpl)	139	140	157	158
Average Queue (veh/ln)	3.2	3.3	3.7	3.7
Average Queue (ft/ln)	75	75	100	100
95th % Queue (veh/ln)	6	6	7	7
95th % Queue (ft/ln)	150	150	175	175
Storage (ft/ln)	130	130	130	130
Adequate for 95% Queue?	No	No	No	No

#1. Lincoln Avenue/Curtner Avenue PM Peak Hour				
	Ex	Ex+Proj	Back	Back+Proj
	SB L	SB L	SB L	SB L
Cycle Length (sec)	84	84	84	84
Lanes	1	1	1	1
Total Volume (vph)	193	195	211	213
Volume Per Lane (vphpl)	193	195	211	213
Average Queue (veh/ln)	4.5	4.6	4.9	5.0
Average Queue (ft/ln)	125	125	125	125
95th % Queue (veh/ln)	8	8	9	9
95th % Queue (ft/ln)	200	200	225	225
Storage (ft/ln)	130	130	130	130
Adequate for 95% Queue?	No	No	No	No

APPENDIX D2

SOUTHBOUND LEFT TURN AM PEAK HOUR QUEUE CALCULATION

Intersection: #1. Lincoln Avenue/Curtner Avenue
Period: AM Peak Hour

Scenario:	Ex	Ex+Proj	Back	Back+Proj
Movement:	SB L	SB L	SB L	SB L
Avg. Queue/Ln (veh)	3.2	3.3	3.7	3.7
95th % Queue/Ln (veh)	6	6	7	7

0.95	Probability	Number of Queued Vehicles	Probability	Number of Queued Vehicles	Probability	Number of Queued Vehicles	Probability	Number of Queued Vehicles
	0.0390	0	0.0381	0	0.0256	0	0.0251	0
	0.1656	1	0.1627	1	0.1196	1	0.1174	1
	0.3709	2	0.3662	2	0.2917	2	0.2877	2
	0.5929	3	0.5877	3	0.5018	3	0.4969	3
	0.7729	4	0.7686	4	0.6943	4	0.6898	4
	0.8896	5	0.8869	5	0.8353	5	0.8320	5
	0.9527	6	0.9512	6	0.9214	6	0.9194	6
	0.9819	7	0.9812	7	0.9664	7	0.9654	7
	0.9938	8	0.9935	8	0.9871	8	0.9866	8
	0.9981	9	0.9980	9	0.9955	9	0.9953	9
	0.9994	10	0.9994	10	0.9985	10	0.9985	10
	0.9999	11	0.9998	11	0.9996	11	0.9995	11
	1.0000	12	1.0000	12	0.9999	12	0.9999	12
	1.0000	13	1.0000	13	1.0000	13	1.0000	13
	1.0000	14	1.0000	14	1.0000	14	1.0000	14
	1.0000	15	1.0000	15	1.0000	15	1.0000	15
	1.0000	16	1.0000	16	1.0000	16	1.0000	16
	1.0000	17	1.0000	17	1.0000	17	1.0000	17
	1.0000	18	1.0000	18	1.0000	18	1.0000	18
	1.0000	19	1.0000	19	1.0000	19	1.0000	19
	1.0000	20	1.0000	20	1.0000	20	1.0000	20
	1.0000	21	1.0000	21	1.0000	21	1.0000	21
	1.0000	22	1.0000	22	1.0000	22	1.0000	22
	1.0000	23	1.0000	23	1.0000	23	1.0000	23
	1.0000	24	1.0000	24	1.0000	24	1.0000	24
	1.0000	25	1.0000	25	1.0000	25	1.0000	25

APPENDIX D3

SOUTHBOUND LEFT TURN PM PEAK HOUR QUEUE CALCULATION

Intersection: #1. Lincoln Avenue/Curtner Avenue

Period: PM Peak Hour

Scenario:	Ex	Ex+Proj	Back	Back+Proj
Movement:	NB L	NB L	NB L	NB L
Avg. Queue/Ln (veh)	2.6	2.7	2.6	2.7
95th % Queue/Ln (veh)	6	6	6	6

0.95	Probability	Number of Queued Vehicles	Probability	Number of Queued Vehicles	Probability	Number of Queued Vehicles	Probability	Number of Queued Vehicles
	0.0733	0	0.0668	0	0.0733	0	0.0668	0
	0.2648	1	0.2475	1	0.2648	1	0.2475	1
	0.5151	2	0.4920	2	0.5151	2	0.4920	2
	0.7331	3	0.7126	3	0.7331	3	0.7126	3
	0.8755	4	0.8619	4	0.8755	4	0.8619	4
	0.9500	5	0.9427	5	0.9500	5	0.9427	5
	0.9824	6	0.9792	6	0.9824	6	0.9792	6
	0.9945	7	0.9933	7	0.9945	7	0.9933	7
	0.9985	8	0.9981	8	0.9985	8	0.9981	8
	0.9996	9	0.9995	9	0.9996	9	0.9995	9
	0.9999	10	0.9999	10	0.9999	10	0.9999	10
	1.0000	11	1.0000	11	1.0000	11	1.0000	11
	1.0000	12	1.0000	12	1.0000	12	1.0000	12
	1.0000	13	1.0000	13	1.0000	13	1.0000	13
	1.0000	14	1.0000	14	1.0000	14	1.0000	14
	1.0000	15	1.0000	15	1.0000	15	1.0000	15
	1.0000	16	1.0000	16	1.0000	16	1.0000	16
	1.0000	17	1.0000	17	1.0000	17	1.0000	17
	1.0000	18	1.0000	18	1.0000	18	1.0000	18
	1.0000	19	1.0000	19	1.0000	19	1.0000	19
	1.0000	20	1.0000	20	1.0000	20	1.0000	20
	1.0000	21	1.0000	21	1.0000	21	1.0000	21
	1.0000	22	1.0000	22	1.0000	22	1.0000	22
	1.0000	23	1.0000	23	1.0000	23	1.0000	23
	1.0000	24	1.0000	24	1.0000	24	1.0000	24
	1.0000	25	1.0000	25	1.0000	25	1.0000	25
	1.0000	26	1.0000	26	1.0000	26	1.0000	26
	1.0000	27	1.0000	27	1.0000	27	1.0000	27
	1.0000	28	1.0000	28	1.0000	28	1.0000	28
	1.0000	29	1.0000	29	1.0000	29	1.0000	29
	1.0000	30	1.0000	30	1.0000	30	1.0000	30
	1.0000	31	1.0000	31	1.0000	31	1.0000	31
	1.0000	32	1.0000	32	1.0000	32	1.0000	32
	1.0000	33	1.0000	33	1.0000	33	1.0000	33
	1.0000	34	1.0000	34	1.0000	34	1.0000	34
	1.0000	35	1.0000	35	1.0000	35	1.0000	35
	1.0000	36	1.0000	36	1.0000	36	1.0000	36
	1.0000	37	1.0000	37	1.0000	37	1.0000	37
	1.0000	38	1.0000	38	1.0000	38	1.0000	38
	1.0000	39	1.0000	39	1.0000	39	1.0000	39
	1.0000	40	1.0000	40	1.0000	40	1.0000	40

CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

Memorandum

TO: Edward Schreiner

FROM: Joe Dyke
Public Works

SUBJECT: SEE BELOW

DATE: 01/30/17

Approved

Date 1-31-17

SUBJECT: **1103 CURTNER AVENUE GAS STATION**
PW NO. 3-18195 (CP11-041)

We have completed the review of the traffic analysis for the subject project. The project consists of a new gas station with 4 fuel pumps (8 fueling positions) and a new 680 square foot convenience market. The proposed development is located at northwest corner of Curtner Avenue and Lincoln Avenue. The proposed development is projected to add 32 a.m. peak hour trips and 48 p.m. net peak hour trips.

ANALYSIS

Project traffic impacts and transportation level of service (LOS) have been calculated using Traffix and the City of San Jose and the Santa Clara County Congestion Management Program (CMP) approved software.

ACCESS

Vehicular Access: Vehicular access to the site will be provided via two (2) full access driveways along the project frontages; one (1) along Lincoln Avenue and one (1) along Curtner Avenue.

City of San Jose Methodology: One (1) signalized intersection was analyzed for the AM and PM peak commute hours using TRAFFIX and conforming to the City of San Jose Level-Of-Service (LOS) Policy impact criteria. The results indicate that the studied intersections will not have a significant impact with the addition of project traffic.

On-Site Circulation: The analysis examined the project site plan in order to evaluate the circulation of on-site vehicles, refueling trucks, delivery trucks and emergency vehicles. The project will be accessed from one 32 foot wide driveway to Lincoln Avenue and one 32 foot wide driveway to Curtner Avenue and would be closing two (2) existing driveways closest to the intersection on both Curtner Avenue and Lincoln Avenue. Elimination of the two driveways closest to the Lincoln Avenue/Curtner Avenue intersection will allow for additional parking to be provided on the site and would result in traffic congestion in close proximity to the signalized intersection.

Vehicles for the convenience market will park in one of the eleven on-site parking spaces and will enter and exit via either driveway. A drive aisle is provided immediately adjacent to-the service station building that allows circulation between the east and west sides of the site as an alternative to the fueling station aisles. The solid waste receptacle is located at the northwest corner of the site and would be accessed from the Curtner Avenue driveway. Adequate on-site circulation would be provided on site for customers and service vehicles.

Left-turn Storage Analysis: Left-turn lane storage analyses was performed at the southbound Lincoln Avenue to eastbound Curtner Avenue. The left turn pocket has 130 feet for vehicle storage on Lincoln Avenue and the vehicle queue currently exceeds the available storage during the AM and PM peak hours. The southbound Lincoln Avenue left turn movement is programmed for Conditional Service, which redisplays the left turn arrow for the southbound left turn movement following the opposing through phase. This allows the southbound left turn phase to appear twice during the signal cycle, both before and after the opposing through phase. This phasing improves the efficiency of the southbound left turn movement during the PM peak hour when traffic flow on Lincoln Avenue in the northbound direction is sufficiently light.

The analysis concluded that the project would add one vehicle during the AM peak and two vehicles during the PM Peak to the average queue length and will not be required to lengthen any left-turn storage pockets.

Sight Distance Analysis: A site distance analysis was performed at the project driveways. The analysis indicated that the project will provide adequate visibility for vehicles entering and exiting both driveways.

Project conditions:

a) Close the southerly driveway on Lincoln Avenue and the easterly driveway on Curtner Avenue.
b) Reconstruct the northerly driveway on Lincoln Avenue and the westerly driveway on Curtner Avenue with 32' wide ADA compliant driveways per City Standard Detail R-6.

RECOMMENDATION:

With the inclusion of the above conditions, the subject project will be in conformance with both the City of San Jose Transportation Level of Service Policy (Council Policy 5-3) and the Santa Clara County Congestion Management Program. Therefore, a determination for a negative declaration can be made with respect to traffic impacts.

If you have any questions, please call me or Keith Gaxiola at extension 5161.

Joe Dyke
Project Engineer
Development Services Division

NM:JD:km
C: Karen Mack
Florin Lapustea, DOT
Dan Takacs