

Land Research and Technology Park Plan

Impact Study

Woodland

RS

The plan shows a network of roads (Road A, Road B, Road C, Road D, Road E, Road F, Road G) and a proposed future interchange configuration. The plan is color-coded by land use type: yellow for LDR, pink for HDR, light green for MDR, light blue for RTP, light purple for VCMU, light orange for VCMDR, light green for VCLDR, and light green for OS. The plan also shows a proposed future interchange configuration and a proposed future interchange configuration.

Key features include:

- Proposed Future Interchange Configuration
- Land Use Types: LDR, HDR, MDR, RTP, VCMU, VCMDR, VCLDR, OS
- Roads: Road A, Road B, Road C, Road D, Road E, Road F, Road G
- Proposed Future Interchange Configuration

Woodland Research and Technology Park Specific Plan Transportation Impact Study

Prepared for:
City of Woodland

April 2, 2021

RS17-3589

FEHR  PEERS

Table of Contents

1. Introduction	1
1.1 Purpose	2
1.2 Project Description.....	2
1.3 LOS Evaluation Scenarios	2
1.4 Analysis Methodology	3
2. Environmental Setting.....	4
2.1 General Plan EIR Setting	4
2.2 Updates to General Plan EIR Setting	4
2.3 Specific Plan Area Setting	4
3. Regulatory Framework	6
3.1 Federal Plans, Policies, Regulations and Laws	6
3.2 State Plans, Policies, Regulations and Laws.....	6
3.2.1 Senate Bill 743.....	6
3.3 Regional Plans and Programs.....	7
3.3.1 Sacramento Area Council of Governments.....	7
3.3.2 SACOG 2020 MTP/SCS.....	7
3.4 Local Plans, Policies, Regulations, and Ordinances	8
3.4.1 City of Woodland General Plan	8
3.4.2 City of Woodland Major Projects Financing Plan	9
3.4.3 City of Woodland Engineering Standards.....	10
3.4.4 Yolo County Transportation District.....	10
4. Existing Conditions.....	11
4.1 Project Study Area.....	11
4.2 Roadway Network	11
4.3 Traffic Data Collection	12
4.4 Study Periods	12
4.5 Level of Service Definitions	13
4.6 Existing Roadway Conditions	15
4.6.1 Existing Road Segment Operations.....	15
4.6.2 Existing Intersection Operations.....	15
4.6.3 Existing Signal Warrant Analysis.....	17
4.7 Transit System	18
4.8 Bicycle Facilities.....	18
4.9 Pedestrian Facilities	19
4.10 Rail System	19

5. Project Travel Characteristics	26
5.1 Trip Generation	26
5.2 Trip Distribution.....	26
6. Environmental Impacts and Mitigation Measures	27
6.1 Methodology.....	27
6.2 Thresholds of Significance	27
6.2.1 Local Roadway Network.....	28
6.2.2 Transit System	28
6.2.3 Bicycle and Pedestrian Facilities	29
6.3 Impact Analysis	29
6.3.1 Local Roadway Network.....	29
6.3.2 Transit System	30
6.3.3 Bicycle Facilities	30
6.3.4 Pedestrian Facilities	31
6.3.5 Construction Traffic	31
7. Cumulative Conditions	33
7.1.1 Cumulative Freeway Conditions	34
7.1.2 Cumulative Intersection Conditions	36
8. Roadway System Level of Service.....	40
8.1 Methodology.....	40
8.2 LOS Policy	40
8.3 LOS Analysis	41
8.3.1 Existing Plus Project Traffic Conditions	41
8.3.2 Existing Plus Approved Plus Project Traffic Conditions	47
8.5 Roadway System Improvement Projects	55
8.5.1 Description of Improvement Projects.....	55
8.5.3 Existing Plus Project Conditions with Improvements	62
8.5.5 Existing Plus Approved Plus Project Conditions with Improvements.....	64

Appendices

Appendix A: Existing Turn Movement Counts

Appendix B: Level of Service Calculations

List of Figures

Figure 1: Study Area	20
Figure 2: Project Site Plan.....	21
Figure 3: Study Intersections	22
Figure 4: Peak Hour Volumes – Existing Conditions.....	23
Figure 5: Transit Facilities	24
Figure 6: Bicycle Facilities.....	25
Figure 7: Peak Hour Volumes and Lane Configurations – Cumulative (2050) Conditions	39
Figure 8: Peak Hour Volumes – Existing plus Project.....	66
Figure 9: Approved Development Projects.....	67
Figure 10: Peak Hour Volumes - Existing plus Approved Conditions.....	68
Figure 11: Peak Hour Volumes - Existing plus Approved plus Project Conditions	69

List of Tables

Table 1: Level of Service Definitions – Intersections	14
Table 2: Peak Hour Road Segment Capacities by Functional Classification and LOS	14
Table 3: Existing Road Segment LOS – PM Peak Hour	15
Table 4: Peak Hour Intersection LOS – Existing Conditions.....	16
Table 5: Peak Hour Freeway Operations – Cumulative Conditions	36
Table 6: Peak Hour Intersection Operations – Cumulative Conditions	38
Table 7: Existing plus Project Road Segment LOS - PM Peak Hour	42
Table 8: Peak Hour Intersection LOS – Existing plus Project Conditions	44
Table 9: Existing plus Approved plus Project Road Segment LOS - PM Peak Hour	49
Table 10: Peak Hour Intersection LOS – Existing plus Approved plus Project Conditions	52
Table 11: Peak Hour LOS – Existing plus Project Conditions (with Improvements)	62
Table 12: Peak Hour LOS – Existing plus Approved plus Project Conditions (with Improvements).....	64



1. Introduction

This study describes the existing transportation system near the Specific Plan (i.e., project) site and evaluates the potential impacts on the system associated with implementation of the project. Roadway, transit, bicycle, and pedestrian components of the overall transportation system are included in the analysis. Level of Service (LOS) is evaluated for General Plan consistency and to identify feasible improvements to meet the General Plan Vehicle LOS Standard. Vehicle LOS is not used to make CEQA impact determinations, rather to identify potential improvement projects that may be included in conditions of approval for the project entitlements. The traffic analysis focuses on a specific project study area for transportation and circulation, which is defined in Section 4, “Existing Conditions,” below.

The proposed land use program and transportation network for the Woodland Research and Technology Park (WRTP) Specific Plan are consistent with the City of Woodland General Plan 2035 (General Plan). The WRTP Specific Plan includes a Comprehensive Transportation Demand Management/Vehicle Miles Traveled Reduction (“TDM/VMT Program”) element that requires the project “achieve a 10 percent reduction in Plan Area VMT per capita compared to baseline conditions by 2035” as required for new development in General Plan Policy 3.A.4 (Reduce Vehicle Miles Traveled (VMT)) as well as “financing strategies, sources, and mechanisms to ensure short-term and long-term funding for implementation and monitoring of the TDM/VMT measures”. The City of Woodland General Plan 2035 EIR notes the City’s intent to make full use of the streamlining allowed under Public Resources Code 21083.3 and CEQA Guidelines 15183 to analyze impacts of projects that could be accommodated under the plan, and limit later project-level analysis to site-specific issues. The transportation network described in the WRTP Specific Plan is consistent with the planned Citywide Circulation Diagram (Figure 3-2) in the General Plan Transportation and Circulation Element as follows. The General Plan Citywide Circulation Diagram shows planned arterial and collector streets for the South Growth Area (SP-1) in which the WRTP is located. This includes Parkland Avenue (a new east-west principal arterial between East Street and Pioneer Avenue), a new North-South Road designated as Road B in the WRTP Specific Plan (a new north-south minor arterial between CR 25A and Parkland Avenue), an extension of Marston Road (east-west collector street, new segment between Parkland Avenue and Road B), and widening of CR 25A (east-west minor arterial, widening between Road B and SR 113). Planned bikeways shown on Figure 3-3 in the General Plan Transportation and Circulation Element include Class I and II facilities on portions of Parkland Avenue, CR 25A, and Road B as well as a Class I bicycle facility on Marston Road. All of these streets and bicycle facilities are included in the WRTP Specific Plan, as show on the network alignment and street cross-sections. Chapter 2 of the WRTP Specific Plan EIR provides a detailed description of how the WRTP Specific Plan is consistent with the land uses and development densities established by the General Plan. As a project that is consistent with the General Plan land use program and circulation element, and includes a TDM/VMT Program and funding to achieve the 10 percent



VTM reduction required for new projects in General Plan Policy 3.A.4, the project CEQA evaluation is not required to provide a VMT analysis.

1.1 Purpose

This study summarizes the results of traffic analysis prepared for the proposed Woodland Research and Technology Park project in the City of Woodland. The project or Specific Plan area is bounded on the west by State Route (SR) 113, on the south by the city urban limit line just south of County Road (CR) 25A, on the east by Harry Lorenzo Avenue, and on the north by Farmer's Central Road. This analysis examines the transportation impacts to roadway, transit, bicycle, and pedestrian systems that would result from the addition of vehicle traffic generated by the proposed project.

1.2 Project Description

The property is approximately 350 acres with approximately 300 acres proposed for development. The developed acreage would include approximately 2,200,000 square feet of commercial uses and 1,600 residential uses. The commercial uses include approximately 1,400,000 square feet of business park uses, 300,000 square feet of light industrial uses, 300,000 square feet of retail uses, and 200 hotel rooms (200,000 square feet). For the purposes of this study, the residential uses are assumed to include approximately 1,100 single family units and 500 multi-family units. Access to the project would be provided by three new north-south roads that would connect to CR 25A including Road A, Road B, and Road D. CR 25A would be widened from two to four lanes from SR 113 to just east of Road B. Road B would extend continuously as a four-lane street through the site in a north-south alignment and connect to an extension of Parkland Avenue near the northern edge of the business park uses. At the project's eastern edge, Marston Road would be extended to the west into the project site to Road B. This traffic analysis considers impacts associated with the full build-out of the described project.

1.3 LOS Evaluation Scenarios

For the LOS evaluation in Section 8, the following scenarios are analyzed:

1. Existing Conditions – represents conditions in October and November of 2017.
2. Existing plus Project Conditions – represents existing conditions with proposed project implementation.
3. Existing plus Approved Conditions – represents conditions for an interim scenario, which includes approved projects, without proposed project implementation.



4. Existing plus Approved plus Project Conditions - represents conditions for an interim scenario, which includes approved projects, and proposed project implementation.
5. Cumulative Plus Project Conditions – represents conditions for a cumulative scenario, which includes reasonably foreseeable land uses, planned transportation improvement projects, and proposed project build-out.

1.4 Analysis Methodology

The impact analysis pertains to roadway, transit, bicycle, and pedestrian components of the transportation system. The specific methodology for roadway system impact analysis is described below. The impact analysis on transit, bicycle, and pedestrian systems of the proposed project was evaluated for consistency with existing and planned service and facilities as well as consistency with related policies of the City of Woodland and the YCTD.

The proposed land use program for the Woodland Research and Technology Park Specific Plan, which includes approximately 1,672 residential units and 2.2 million square feet of commercial uses, is similar to the land use alternatives in the Woodland General Plan and Climate Action Plan (CAP) 2035¹. The transportation assessment in the 2035 General Plan and CAP EIR, certified in 2018, evaluated 203 road segments (including 14 freeway segments on I-5 and SR 113) as well as five intersections. These road segments and intersections were evaluated for two land use alternatives: an East Alternative and a South Alternative. No significant impacts were identified for either alternative for the I-5 or SR 113 freeway segments. Unacceptable LOS conditions, based on the prior 2002 General Plan LOS C threshold, were identified for six local roads for the East Alternative and for four local roads for the South Alternative. All but one of those road segments were projected to operate at LOS D (the revised minimum LOS threshold in the 2035 General Plan) conditions with build-out of the General Plan land use alternatives. The segment of East Gum from Bourn Drive to Pioneer Avenue was projected to operate at LOS E conditions.

Although the project is similar to the land use alternatives in the Woodland General Plan 2035 adopted in 2018, this transportation impact study includes additional focused cumulative analysis in Section 7 of this document. The freeway analysis conducted in the 2035 General Plan and CAP EIR is updated for 2050 cumulative conditions for two segments of SR 113, immediately adjacent to the CR 25A interchange that borders the project. An LOS review is conducted for 2050 cumulative conditions for 21 intersections.

¹ SP-1A land use, Tables 3.7-3 and 3.7-4, pages 3-19 and 3-20, *2035 General Plan and CAP Public Review Draft Environmental Impact Report*, City of Woodland, September 2016.



2. Environmental Setting

This section provides a brief summary of the environmental setting in the 2035 General Plan and CAP EIR, changes that have occurred since that document was prepared, and the setting of the Specific Plan Area as it pertains to potentially significant impacts of the project. A description of existing transportation conditions is provided in Section 4.

2.1 General Plan EIR Setting

The Environmental Setting for Transportation and Circulation is described on pages 4.13-1 through 4.13-6 of the 2035 General Plan and CAP EIR. The Transportation and Circulation setting describes the roadway system functional classifications, with the number of through travel lanes on roadways and freeways shown in Exhibit 4.13-1. A description of key elements of the regional roadway system – I-5, SR 113, and SR 16 – is provided. The setting provides a general description of pedestrian facilities including existing sidewalk coverage by roadway functional classification. Bikeway classifications are described and shown on Exhibit 4.13-3. Existing bus service provided by YoloBus is described and routes shown on Exhibits 4.13-4A and 4.13-4B.

2.2 Updates to General Plan EIR Setting

Most of the transportation network and services described in the setting of the 2035 General Plan and CAP EIR remain unchanged. The following is a summary of changes to the transportation network since 2013.

- Roadway Network – several roads have been extended as planned in the Spring Lake Specific Plan area including Farmer’s Central Road, Marston Road, and Parkland Avenue.
- YoloBus Bus Routes – Route 209 (County Fair Mall Transit Center to Spring Lake community) has been eliminated, and new service provided on new Routes 45X (Spring Lake Express), 46 (Spring Lake Express) and 243 (Woodland/UC Davis Commute).

2.3 Specific Plan Area Setting

The 2035 General Plan and CAP EIR evaluates Level of Service for over 150 road segments, with a focused LOS analysis of six intersections. The study intersections are located along Main Street and County Road 102, all located some distance from the project. This Transportation Impact Study provides an evaluation of additional study intersections – primarily bounded by East Street, Main Street, CR 102, and CR 25A – that were not addressed in the 2035 General Plan and CAP EIR.



The project transportation network improvements and project land use are consistent with the 2050 Build-Out Alternative in the 2035 General Plan and CAP EIR. As such, this Transportation Impact Study references the analysis conducted in the 2035 General Plan and CAP EIR, and provides additional focused cumulative analysis to complement the General Plan and CAP EIR assessment.



3. Regulatory Framework

The 2035 General Plan CAP EIR summarizes the federal, State, regional, and local regulatory framework related to transportation and circulation issues on pages 4.13-6 through 4.13-8. Those aspects of the existing regulatory framework that are relevant to potential impacts of the Specific Plan are briefly highlighted below. Please see Section 4.13 of the 2035 General Plan and CAP EIR for more detail.

3.1 Federal Plans, Policies, Regulations and Laws

No federal plans, policies, regulations, or laws related to transportation and circulation are applicable to Woodland Research and Technology Park Specific Plan project.

3.2 State Plans, Policies, Regulations and Laws

3.2.1 Senate Bill 743

With the passage of SB 743 (September 27, 2013) and the subsequent adoption of revised *California Environmental Quality Act (CEQA) Guidelines* in 2019, level of service (LOS) can no longer be used as a criterion for identifying significant transportation impacts for most projects under CEQA. LOS measures the average amount of delay experienced by vehicle drivers at an intersection during the most congested time of day, while the new CEQA metric (Vehicle Miles Traveled or VMT) measures the total number of daily miles traveled by vehicles on the roadway network and thereby the impacts on the environment from those miles traveled.

In other words, SB 743 changes the focus of transportation impact analysis in CEQA from measuring impacts *to* drivers, to measuring the impact *of* driving. Land use projects with one or more of the following characteristics would have lesser VMT impacts:

- Higher land use densities
- Mix of project uses
- Support of a citywide jobs-housing balance (i.e., provide housing in a job rich area, or vice versa)
- Proximity to the core of a region
- Proximity to high quality transit service
- Located in highly walkable or bikeable areas



This shift in transportation impact criteria is expected to better align transportation impact analysis and mitigation outcomes with the State's goals to reduce GHG emissions, encourage infill development, and improve public health through more active transportation. Specific to SB 743, Section 15064.3(c) of the revised Guidelines states that, "a lead agency may elect to be governed by the provisions of this section immediately. Beginning on July 1, 2020, the provisions of this section shall apply statewide." However, CEQA Statute Section 21099(b)(2) states that, "upon certification of the guidelines by the Secretary of the Natural Resources Agency pursuant to this section, automobile delay, as described solely by level of service or similar measures of vehicular capacity or traffic congestion, shall not be considered a significant impact on the environment pursuant to this division, except in locations specifically identified in the Guidelines."

Although the State's Office of Planning and Research provides recommendations for adopting new VMT analysis guidelines, lead agencies have the final say in designing their methodology. Lead agencies must select their preferred method of estimating and forecasting VMT, their preferred significance thresholds for baseline and cumulative conditions, and the mitigation strategies they consider feasible. Lead agencies must prove that their selected analysis methodology aligns with SB 743's goals to promote infill development, reduce GHGs, and reduce VMT.

As a project that is consistent with the General Plan land use program and circulation element, and includes a TDM/VMT Program and funding to achieve the 10 percent VMT reduction required for new projects in General Plan Policy 3.A.4, the project CEQA evaluation is not required to provide a VMT analysis.

3.3 Regional Plans and Programs

3.3.1 Sacramento Area Council of Governments

The Sacramento Area Council of Governments (SACOG) is an association of local governments in the six-county Sacramento Region. Its members include the counties of Sacramento, El Dorado, Placer, Sutter, Yolo, and Yuba as well as 22 cities. SACOG provides transportation planning and funding for the region, and serves as a forum for the study and resolution of regional issues. In addition to preparing the region's long-range transportation plan, SACOG assists in planning for transit, bicycle networks, clean air, and airport land uses.

3.3.2 SACOG 2020 MTP/SCS

The 2020 Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) (SACOG 2020) is a federally mandated long-range fiscally constrained transportation plan for the six-county area. To receive federal funding, transportation projects nominated by cities, counties, and agencies must be consistent with the MTP/SCS.



The Metropolitan Transportation Improvement Program (MTIP) is a list of transportation projects that receive federal funds, require a federal action, or are regionally significant. The 2019-2022 MTIP adopted by SACOG covers four years of programming: federal fiscal years (FFY) 2019 through 2022. The document also identifies prior year funding and estimated future funding (beyond the four program years) for projects for information. SACOG submits this document to Caltrans and amends the program on a quarterly cycle.

3.4 Local Plans, Policies, Regulations, and Ordinances

3.4.1 City of Woodland General Plan

The City of Woodland General Plan 2035 was adopted on May 16, 2017. It sets forth overarching goals and objectives related to transportation and circulation in the context of planned land use within the City. The General Plan guides the development of new roads and roadway modifications to serve long-term needs of Woodland through the year 2035. The General Plan also provides direction for multimodal implementation.

All of the study intersections are evaluated in Section 8 for consistency with the City of Woodland level of service (LOS) standards. As noted earlier, this LOS analysis is not used as the basis for determining CEQA impacts. The City of Woodland General Plan identifies LOS D conditions as the AM and PM peak hour threshold service level throughout the City, except at certain locations explained below.

- LOS E is acceptable at all freeway ramp terminal intersections except Pioneer Avenue/E. Main Street/I-5 SB On-Ramp and E. Main Street/I-5 NB Off-Ramp
- LOS E is also acceptable on E. Gum Avenue between Bourn Drive and Pioneer Avenue
- LOS F is acceptable in the downtown core (Main Street from 6th Street to Cleveland Street) and on Maxwell Avenue between Farnham Avenue and County Road 102
- LOS C is acceptable on Kentucky Avenue between County Road 98 and East Street

In addition to intersection LOS standards, the City's General Plan also contains a policy regarding reduction of vehicle-miles traveled (VMT). The policy states that new development projects must achieve a 10 percent reduction in VMT per service population compared to the "General Plan 2035 VMT performance."

Relevant transportation goal and policy statements from the Transportation and Circulation Element of the General Plan are provided below.



- Goal 3.A - Multimodal Transportation System. Develop and maintain a multi-modal transportation system that provides for the efficient movement of people and goods, supports vibrant neighborhoods and districts, and reduces air pollution and greenhouse gas emissions.
- Goal 3.B - Complete Streets. Provide complete streets that accommodate driving, walking, bicycling, and public transit and that are designed to enable safe, attractive, comfortable access and travel for users of all ages and abilities.
- Goal 3.C - Roadway Functional Classification and Street Typology. Provide an efficient, interconnected street system that identifies which modes of travel should be accommodated on each street based on its unique geographic setting, adjacent land uses, and functional classification.
- Goal 3.D - Residential Streets. Protect residential areas from high-volume and high-speed traffic and its effects, and promote bicycling and walking on residential streets.
- Goal 3.E - Comprehensive Pedestrian System. Provide a comprehensive, and integrated pedestrian system that encourages walking and creates an enjoyable way to experience Woodland.
- Goal 3.F - Comprehensive Bicycle System. Provide a comprehensive and integrated bicycle system that facilitates bicycling as a viable mode of travel for short trips, commute trips, and recreation.
 - General Plan policy 3.F.1 states that the planned bicycle routes in the General Plan (Figure 3-3) are the most up-to-date.
- Goal 3.G - Effective Transit System. Promote a transit system that serves as a viable alternative to the automobile for those without access to a vehicle and those that choose to live and work in areas where land use density and intensity are supportive of transit.
- Goal 3.H - Managed Parking. Provide the minimum amount of parking necessary to serve existing and new development throughout the city while balancing competing community values.
- Goal 3.I - Safe and Efficient Movement of Goods. Plan and maintain a transportation system that provides for the safe and efficient movement of goods.

3.4.2 City of Woodland Major Projects Financing Plan

The City's Major Project Financing Plan (MPFP) was most recently updated in 2019. This Plan describes the major public infrastructure projects that are programmed to occur through 2035 and identifies the cost, timing, and funding sources for each project. The MPFP is the basis for development impact fees that are



levied by the City to fund new development's fair share of future infrastructure costs. The City's impact fees are applicable to the project, in addition to any mitigation identified in this transportation impact study.

3.4.3 City of Woodland Engineering Standards

The City's Engineering Standards document was updated in 2016. This document establishes requirements and mandatory guidance in development, design, construction, and operation of public facilities. Developers are required to ensure that all applicable City requirements are met.

3.4.4 Yolo County Transportation District

The Yolo County Transportation District (YCTD) provides public transit service (Yolobus) in the City of Woodland. The 2006 Short Range Transit Plan (SRTP) sets the stage for implementing short-term service improvements while establishing a long-term transit vision. The SRTP does not identify any short-term transit enhancements near the project site.

YCTD completed the Woodland Transit Study in 2016. The intent of the study was to evaluate the specific needs for transit services within Woodland, as well as to develop plans for improvements and service revisions for Yolobus services which specifically serve Woodland. This study recommended development of a Downtown Transit Center in Woodland, and the City of Woodland and YCTD are proceeding with planning for the new center.

YCTD initiated a Comprehensive Operational Analysis (COA) in 2019, but no documents have yet been released that describe any planned change in service.



4. Existing Conditions

This section describes the existing environmental setting, which is the baseline scenario upon which project-specific impacts are evaluated. The baseline for this study represents conditions based on data collection and field observations conducted in October 2017. The environmental setting for transportation includes baseline descriptions for roadway, bicycle, pedestrian, and transit facilities.

4.1 Project Study Area

The study area was developed based on consideration the following factors: the project's expected travel characteristics (including number of vehicle trips and directionality of those trips), primary travel routes to/from the project vicinity, and a project-area assignment using a modified version of SACOG's SACMET regional travel demand forecasting model. **Figure 1** shows the location and extent of the project location relative to the rest of the City of Woodland. **Figure 2** shows the project site plan. **Figure 3** shows the study intersections selected for analysis. The study area for intersections is bounded by East Street to the west, East Main Street to the north, County Road 102 to the east, and County Road 25A to the south. This study also addresses bicycle, pedestrian, and transit facilities near the project.

4.2 Roadway Network

The following major roadways would provide access to the proposed project site.

- Interstate 5 (I-5) is a four-lane north-south freeway facility that provides a major linkage between the City of Woodland and the Sacramento region. I-5 is also a major interstate that links northern California with southern California, Oregon and Washington. Near the project, I-5 has a roughly east-west orientation. Near the study area, access to I-5 is provided at CR 102, E. Main Street, and State Route 113.
- State Route 113 (SR 113) is a four-lane north-south freeway between I-5 and I-80. SR 113 is a key transportation corridor between the City of Woodland and the City of Davis. North of the I-5, SR 113 becomes a two-lane undivided highway. Access to SR 113 is provided at County Road 25A and Gibson Road near the study area.
- County Road 102 (CR 102) is a north-south principal arterial that links Woodland with Davis to the south and Knights Landing to the north. CR 102 is a two-lane facility from Heritage Parkway to East Gibson Road, and a four lane facility from East Gibson Road to East Main Street.
- E. Main Street is a four-lane east-west arterial through the study area that divides the City of Woodland from its more industrial land uses in the northeast part of the City. From East Street to



County Road 102, East Main Street is designated as a principal arterial. Main Street also provides connectivity between commercial uses along Interstate 5, downtown Woodland, and residential neighborhoods east of State Route 113.

- East Gibson Road is a four-lane, east-west principal arterial along the segment between East Street and CR 102. West of East Street, Gibson Road is designated as a minor arterial. East Gibson Road connects the Spring Lake Community and the Southeast Area Specific Plan (north of East Gibson Road) with the balance of Woodland located west of SR 113.
- Pioneer Avenue is a four-lane, north-south minor arterial that serves the Spring Lake community, residential neighborhoods between Spring Lake and East Main Street, and the industrial area north of E. Main Street.
- County Road 25A is an east-west two-lane road running from County Road 98 to Harry Lorenzo Avenue. It is designated as a minor arterial from East Street to CR 102.
- East Street is a north-south two-lane road from CR 25A north to just south of Gibson Road, where it transitions to a four-lane road. It is classified as a principal arterial from County Road 25A to Gibson Road.
- Harry Lorenzo Avenue (formerly County Road 101) is designated a north-south collector road from East Gibson Road to Parkland Avenue, South of Farmer's Central Road, it forms the east boundary of the project site.
- Marston Road is an east-west collector road that currently connects Harry Lorenzo Avenue to Miekle Avenue.
- Parkland Avenue is a four-lane principal arterial that currently connects Pioneer Avenue to Marston Road.

4.3 Traffic Data Collection

Peak hour intersection and roadway segment counts were collected in October and November, 2017. During all counts, weather conditions generally dry, no unusual traffic patterns were observed, and Pioneer High School and Woodland Community College were in session. **Figure 4** shows existing intersection counts.

4.4 Study Periods

Study intersections are evaluated for weekday AM and PM peak hour conditions, as these time periods represent the greatest level of activity when combining existing traffic, traffic generated by reasonably foreseeable land uses, and traffic generated by implementation of the proposed project.



4.5 Level of Service Definitions

This study analyzes traffic operating conditions using level of service (LOS). Vehicle LOS is a qualitative measure of traffic flow from the perspective of motorists and are an indication of the comfort and convenience associated with driving. The LOS analysis uses procedures identified in the *2010 Highway Capacity Manual* (HCM) published by the Transportation Research Board of the National Academies of Science. The HCM defines six levels of service ranging from LOS A (representing free-flow vehicular traffic conditions with little to no congestion) to LOS F (oversaturated conditions where traffic demand exceeds capacity resulting in long queues and delays).

The LOS at signalized intersections is based on the average delay experienced by all motorists traveling through the intersection. At unsignalized intersections, the LOS is based on the movement with the greatest average delay. **Table 1** presents the delay range for each LOS category for signalized and unsignalized intersections as presented in 2010 HCM.

This study used the SimTraffic microsimulation model software at all study intersections. This was especially key at the Pioneer Avenue/E. Main Street and County Road 102/E. Main Street intersections given that these intersections are affected by traffic conditions at the adjacent SR 113 and I-5 interchanges. The SimTraffic software considers the effects of signal coordination, vehicle queue spillbacks between intersections, and variation in driver and vehicle types.

Table 2 shows maximum road segment capacities by functional classification and Level of Service. The road segment capacities were derived for the City of Woodland Street Master Plan. They were developed specifically for the Street Master Plan using procedures and methodology contained in the Highway Capacity Manual (HCM), Transportation Research Board (2003). Separate capacity estimates are identified for LOS "A" through "F" according to the City of Woodland's four roadway functional classifications: (1) principal arterials; (2) minor arterials; (3) collectors; and (4) local streets. These capacities are used to perform peak hour traffic operations analysis for the study road segments.



Table 1: Level of Service Definitions – Intersections

Level of Service	Description (at Signalized Intersections)	Average Control Delay ¹	
		Signalized	Unsignalized
A	Volume-to-capacity ratio is low and either progression is exceptionally favorable or cycle length is very short. Most vehicles arrive during the green phase and travel through the intersection without stopping.	≤ 10	< 10.0
B	Volume-to-capacity ratio is low and either progression is highly favorable or the cycle length is short. More vehicles stop than with LOS A.	> 10 to 20	> 10.0 to 15.0
C	Progression is favorable or the cycle length is moderate. Individual cycle failures (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may begin to appear at this level. The number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.	> 20 to 35	> 15.0 to 25.0
D	Volume-to-capacity ratio is high and either progression is ineffective or the cycle length is long. Many vehicles stop and individual cycle failures are noticeable.	> 35 to 55	> 25.0 to 35.0
E	Volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long. Individual cycle failures are frequent.	> 55 to 80	> 35.0 to 50.0
F	Volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.	> 80	> 50.0

Notes: ¹Average control delay presented in seconds per vehicle. Delay values are rounded to the nearest second.

Source: *Highway Capacity Manual* (Transportation Research Board, 2010).

Table 2: Peak Hour Road Segment Capacities by Functional Classification and LOS

Functional Classification	Lanes	Maximum Road Segment Capacity by LOS Value			
		B	C	D	E
Principal Arterial	2	-	1,280	2,080	2,320
	4	-	2,450	4,390	4,780
	6	-	4,100	6,730	7,250
Minor Arterial	2	-	1,090	1,890	2,170
	4	-	2,270	4,000	4,450
Collector	2	630	920	1,040	1,110
	4	1,370	1,960	2,140	2,280
Local Street	2	-	450	600	660

Source: *City of Woodland Street Master Plan Update*, Table 1, September 2009, Fehr & Peers.



4.6 Existing Roadway Conditions

The following section provides information on existing conditions for study road segments and intersections as well as the results of a peak hour signal warrant analysis for unsignalized intersections.

4.6.1 Existing Road Segment Operations

A total of 10 road segments, four of which are existing and six planned, are evaluated. **Table 3** shows weekday PM peak hour LOS for the four existing study road segments. All of the road segments in the study area have a threshold of LOS D. The capacity and PM peak hour values shown in the table below are vehicles per hour in both directions. The following is a summary of those results.

- The four existing roadway segments all operate at LOS C conditions

Table 3: Existing Road Segment LOS – PM Peak Hour

Roadway	Segment	Classification	Lanes	Capacity	Volume	LOS
CR 25A	East St. to SR 113 SB Ramps	Minor Arterial	2	2,170	519	C
CR 25A	East of SR 113 NB Ramps	Minor Arterial	2	2,170	201	C
Pioneer Ave	Gibson Rd to Farmer's Central Rd	Minor Arterial	4	4,450	811	C
Heritage Pkwy	Campos Ave to CR 102	Principal Arterial	2	2,320	296	C

Source: Fehr & Peers, 2018.

4.6.2 Existing Intersection Operations

Table 4 summarizes existing weekday AM and PM peak hour traffic operations analysis results at the study intersections (refer to Appendix B for detailed calculation sheets). The following is a summary of the results of the analysis.

- The intersection of East Main Street/SR 113 NB Ramps operates at LOS E during the PM peak hour and the intersections of East Main Street/Pioneer Avenue/I-5 SB On-Ramp and East Main Street/I-5 NB Off-Ramp operate at LOS E during the AM peak hour. Those are acceptable conditions based on the General Plan LOS threshold.
- All other intersections operate at or below LOS D conditions



Table 4: Peak Hour Intersection LOS – Existing Conditions

Intersection	Traffic Control	LOS Threshold	Peak Hour	Existing Conditions	
				Delay	LOS
1. East Street/E. Main Street	Signal	D	AM	15	B
			PM	20	C
2. E. Main Street/SR 113 SB Ramps-Industrial Way	Signal	E	AM	26	C
			PM	34	C
3. E. Main Street/SR 113 NB Ramps	Signal	E	AM	13	B
			PM	59	E
4. E. Main Street/Pioneer Avenue/I-5 SB On-Ramp	Signal	E	AM	59	E
			PM	43	D
5. E. Main Street/I-5 NB Off-Ramp	Signal	E	AM	55	E
			PM	11	B
6. County Road 102-Hays Lane/I-5 NB Ramps	Signal	E	AM	17	B
			PM	22	C
7. County Road 102/I-5 SB Ramps	Signal	E	AM	5	A
			PM	7	A
8. East Street/Gibson Road	Signal	D	AM	20	B
			PM	20	B
9. E. Gibson Road/Matmor Road	Signal	D	AM	26	C
			PM	24	C
10. E. Gibson Road/SR 113 SB Ramps	Signal	E	AM	11	B
			PM	12	B
11. E. Gibson Road/SR 113 NB Ramps	Signal	E	AM	11	B
			PM	10	B
12. E. Gibson Road/Harry Lorenzo Avenue-Bourn Drive	SSSC	D	AM	7 (26)	A (D)
			PM	9 (11)	A (B)
13. E. Gibson Road/Pioneer Avenue	Signal	D	AM	41	D
			PM	36	D
14. E. Gibson Road-County Road 24/County Road 102 ³	Signal	D	AM	19	B
			PM	32	C
15. East Street/County Road 24A-Sports Park Drive	Signal	D	AM	9	A
			PM	12	B
16. Farmers Central Road/Parkland Avenue-Pioneer Ave	AWSC	D	AM	10	A
			PM	11	B
17. E. Heritage Parkway/Parkland Avenue	Signal	D	AM	9	A



Table 4: Peak Hour Intersection LOS – Existing Conditions

Intersection	Traffic Control	LOS Threshold	Peak Hour	Existing Conditions	
				Delay	LOS
18. E. Heritage Parkway/County Road 102	Signal	D	PM	8	A
			AM	9	A
			PM	10	B
19. Parkland Avenue/Marston Drive	RB	D	AM	4	A
			PM	4	A
20. CR 25A/East St	AWSC	D	AM	12	B
			PM	8	A
21. CR 25A/SR 113 SB Ramps	SSSC	E	AM	6 (17)	A (C)
			PM	2 (4)	A (A)
22. CR 25A/SR 113 NB Ramps	SSSC	E	AM	2 (6)	A (A)
			PM	4 (6)	A (A)

Notes:

RB=roundabout. AWSC=All-way Stop Control. SSSC = Side-Street Stop Control.

Bold text indicates intersection would not meet General Plan LOS goals.

1. For signalized and all-way stop-way stop controlled intersections, the overall average intersection control delay is reported in seconds.

2. For side-street stop controlled intersections, the average control delay and total delay for the worst movement are presented.

3. HCM 2000 methodology is used for the intersection of East Gibson Road/County Road 24/County Road 102 (#14) because of non-NEMA signal timings.

Source: Fehr & Peers, 2018.

4.6.3 Existing Signal Warrant Analysis

The California Manual on Uniform Traffic Control Devices (MUTCD) contains a number of guidelines, called warrants, to determine whether the installation of a traffic signal at a particular location is appropriate. The peak-hour signal warrant, one of nine warrants, was evaluated for both the AM and PM peak hours at all unsignalized study intersections. Where the posted speed limit is greater than 40 miles per hour, the “rural” peak hour warrant analysis is applied.

The signal warrant analysis presented in this transportation assessment is intended to examine the general correlation between the planned level of future development and the need to install new traffic signals. It estimates future development-generated traffic compared against one of nine standard traffic signal warrants recommended in the MUTCD. This analysis should not serve as the only basis for deciding whether and when to install a signal. To reach such a decision, the full set of warrants should be investigated based on field-measured, rather than forecast, traffic data and a thorough study of traffic and roadway conditions by an experienced engineer. Furthermore, the decision to install a signal should not be based solely upon



one or two warrants, since the installation of traffic signals when not justified can lead to an increase in certain types of collisions. Prior to implementation, evaluation of the full set of warrants should be undertaken based on the latest traffic counts and collision data to make a determination that a traffic signal is warranted.

The following is a summary of the peak hour signal warrant analysis for existing conditions for the stop-controlled study intersections. As noted above, evaluation of the full set of traffic signal warrants should be performed prior to requiring implementation of a traffic signal.

- The following stop-controlled intersection meets the peak hour signal warrant criteria:
 - East Gibson Road/Harry Lorenzo Avenue-Bourn Drive – met during AM peak hour
- The remaining stop-controlled intersections do not meet the peak hour signal warrant criteria

4.7 Transit System

The Yolo County Transportation District (YCTD) provides public transit service (Yolobus) in the City of Woodland. Local bus routes operate along several major roadways, including Main Street, Gibson Road, East Street, Cottonwood Street, Pioneer Avenue, Gum Avenue, Beamer Street, and others. Regional service is provided between Woodland, Davis, West Sacramento, Sacramento, and the Sacramento International Airport via Routes 42A and 42B. There are also commuter or express service buses that provide service to Davis or downtown Sacramento. All Yolobus buses are equipped with bike racks to help facilitate the use of transit and bicycling for longer distance trips.

Figure 5 shows existing transit routes in and near the study area. Buses do not currently run adjacent to the project site. The nearest bus routes are Route 45X and Route 46 (Spring Lake Express), which provide one morning and one afternoon commute trip each between Woodland and downtown Sacramento. The nearest stop to the project site is at Farmer's Central Road and Pioneer Avenue.

4.8 Bicycle Facilities

The 2002 Bikeway Master Plan adopted by the City of Woodland identified existing and planned bikeway facilities. An updated facilities map can be seen in the 2035 General Plan. **Figure 6** shows existing bikeways in and near the study area, in accordance with the following definitions.

- Class I Bikeway – Dedicated bike paths within an exclusive right of way
- Class II Bikeway – Striped bike lanes on roadways



- Class III Bikeway – Bike routes shared either with motor vehicles on street or with pedestrians on sidewalks

Class I paths are located on several streets in the Spring Lake Community including on both sides of Heritage Parkway, the south side of Gibson Road between Pioneer Avenue and CR 102, the west side of CR 102 from East Gibson Road south to CR 25A, the east side of Pioneer Avenue from Farmer's Central Road to Gibson Road, the north side of Farmer's Central Road from Pioneer Avenue to CR 102, and the south side of Marston Road. A north-south greenbelt path parallels Mickle Avenue between Ortiz Avenue and Marston Road.

Class II bike lanes are located along East Heritage Parkway, Gibson Road, and County Road 102 as well as on Farmer's Central Road from Pioneer Avenue to Mickle Avenue.

Class III bike routes are located along on East Street from Sport Park Drive to Main Street.

4.9 Pedestrian Facilities

The project site is currently used for agriculture purposes and there are no sidewalks. There are currently approximately eight foot shoulders, but no sidewalks on the CR 25A overpass of SR 113.

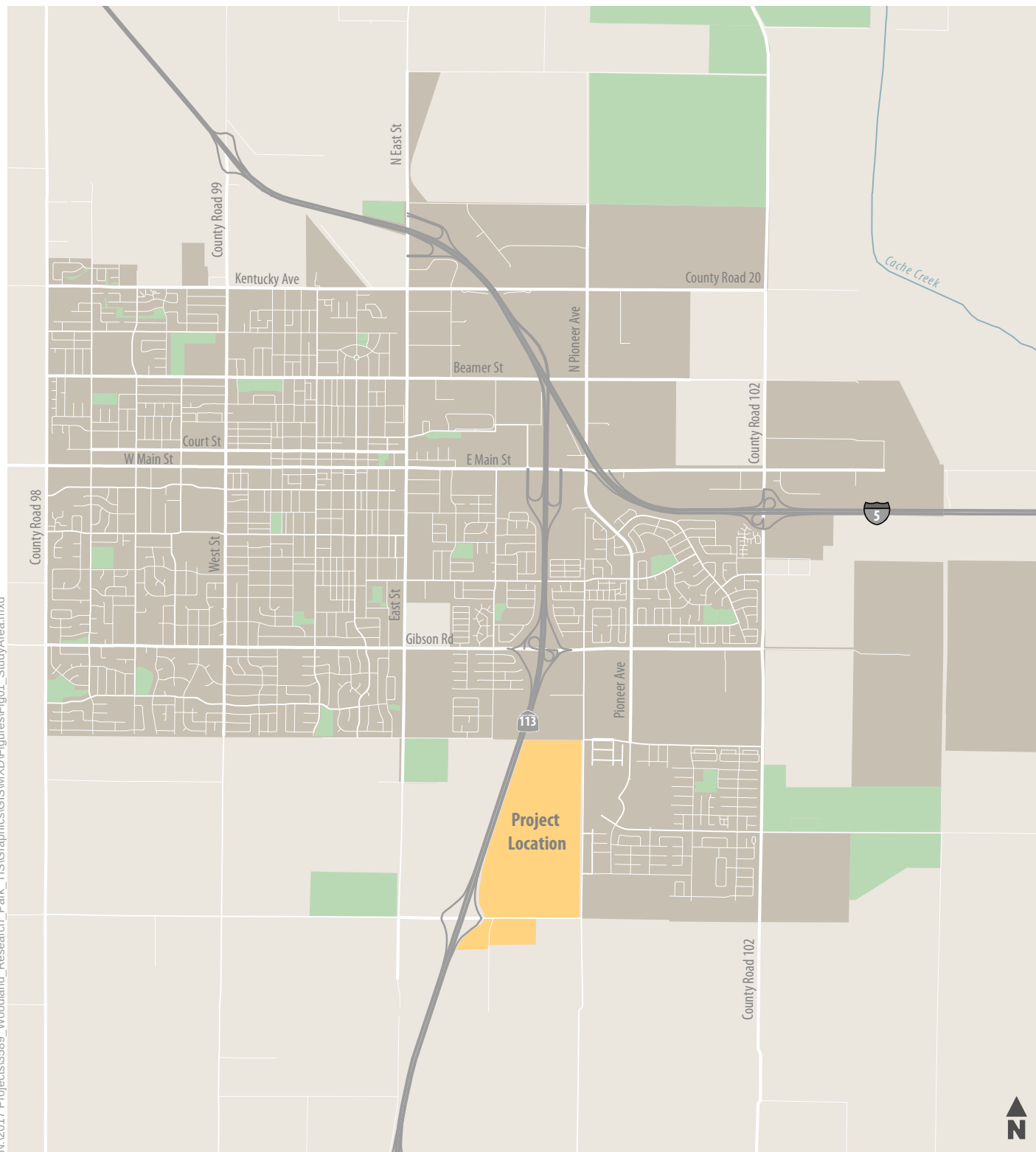
The closest sidewalk is along a developed section of Harry Lorenzo Avenue from Marston Road to approximately ¼ mile north of Marston Road. Sidewalks are also provided along other nearby streets in the Spring Lake community including Marston Road, Parkland Avenue, and East Heritage Parkway.

4.10 Rail System

In the project study area, the California Northern Railroad (CFNR) rail line is located on the west side of East Street and the Sierra Northern Railway (SERA) is located along the north side of East Main Street. Rail activity is relatively low along both these lines. Advanced pavement markings and signs, gates, and warning lights are present at at-grade street crossings of these rail lines.

The nearest at-grade rail crossing to the project is on the west leg of the East Street/CR 25A intersection. Additional crossings are located along the East Street Corridor at CR 24A, Gibson Road, and East Main Streets. Along the East Main Street Corridor, at-grade rail crossings are located at Industrial Way/SB SR 113 Ramps, Pioneer Avenue, and CR 102.

N:\2017 Projects\3589_Woodland_Research_Park_TIS\Graphics\GIS\MXD\Figures\Fig01_StudyArea.mxd



City of Woodland City Limits



Figure 1
Study Area

LDR	LOW DENSITY RESIDENTIAL
MDR	MEDIUM DENSITY RESIDENTIAL
HDR	HIGH DENSITY RESIDENTIAL
HDR/CCO	HIGH DENSITY RESIDENTIAL WITH COMMUNITY COMMERCIAL OVERLAY
VCMU	VILLAGE CENTER MIXED USE
RTP	RESEARCH AND TECHNOLOGY PARK
RTP/TO	RESEARCH AND TECHNOLOGY PARK WITH TRANSITIONAL OVERLAY
RTP/CCO	RESEARCH AND TECHNOLOGY PARK WITH COMMUNITY COMMERCIAL OVERLAY
RTP/RFO	RESEARCH AND TECHNOLOGY PARK WITH RESEARCH FLEX OVERLAY
HC	HIGHWAY COMMERCIAL
OS	GREENBELTS AND OPEN SPACE
VCOS	VILLAGE CENTER OPEN SPACE
PP	PEDESTRIAN PROMENADE - HARDSCAPE TBD

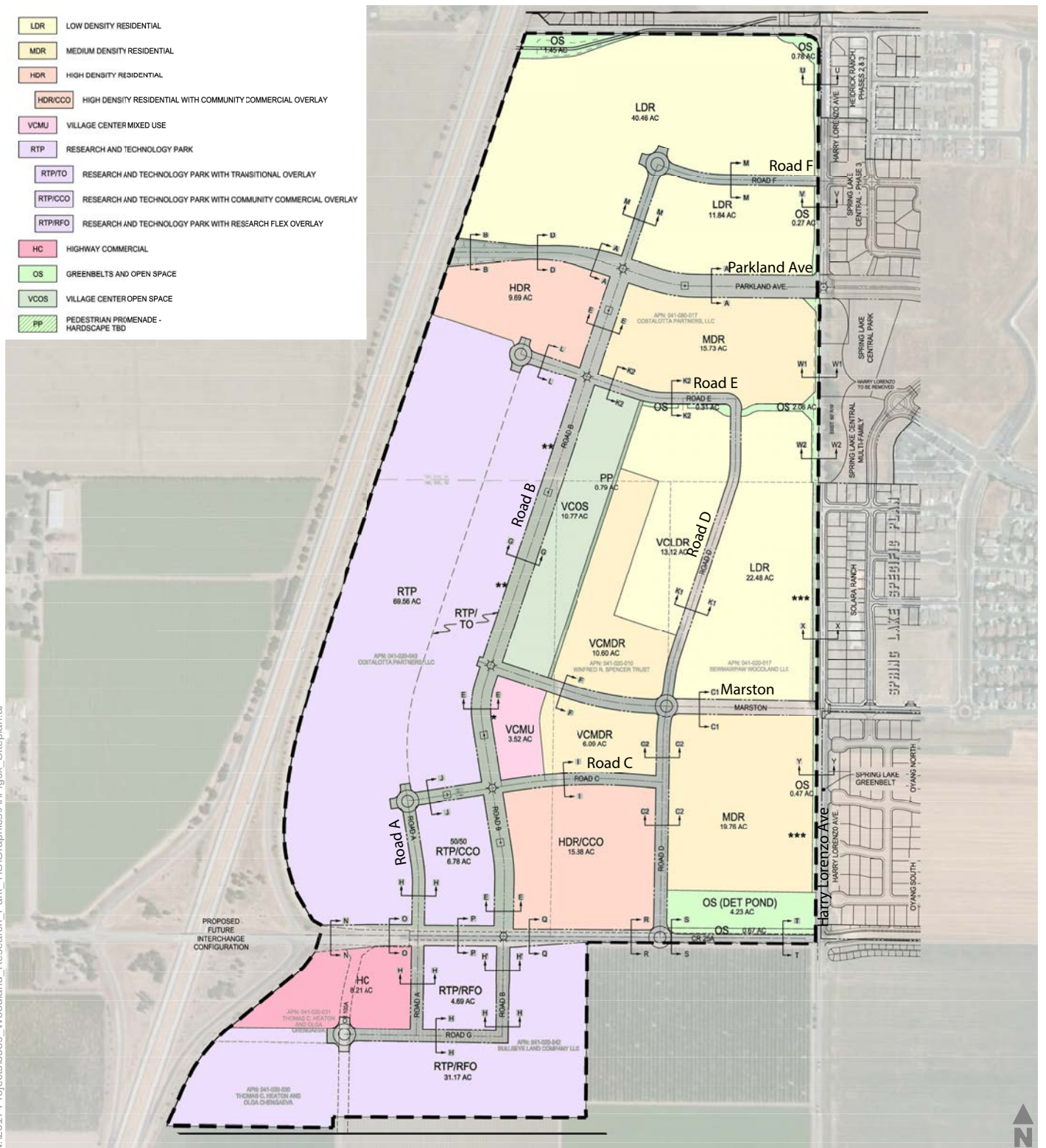
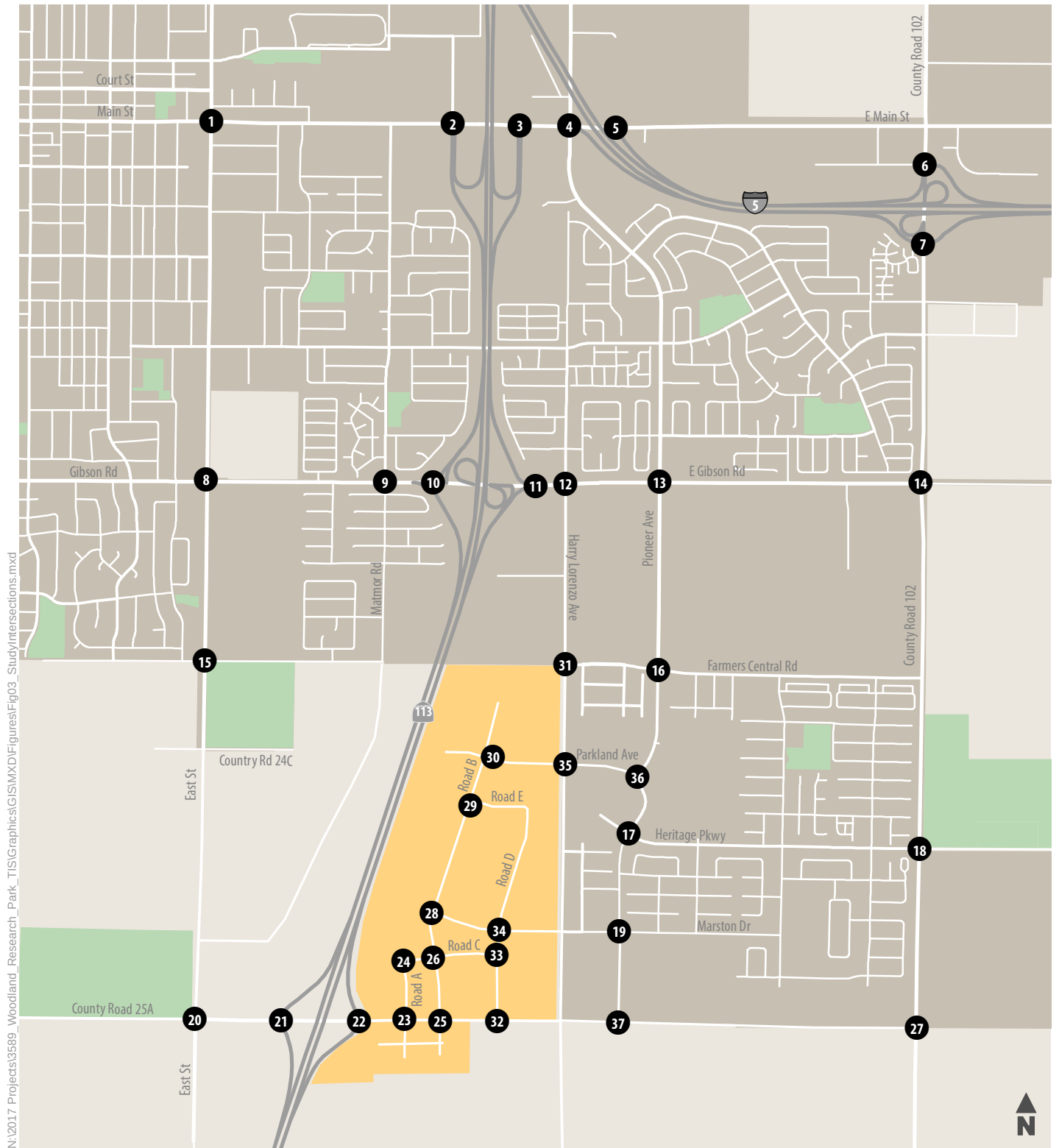


Figure 2
Project Site Plan



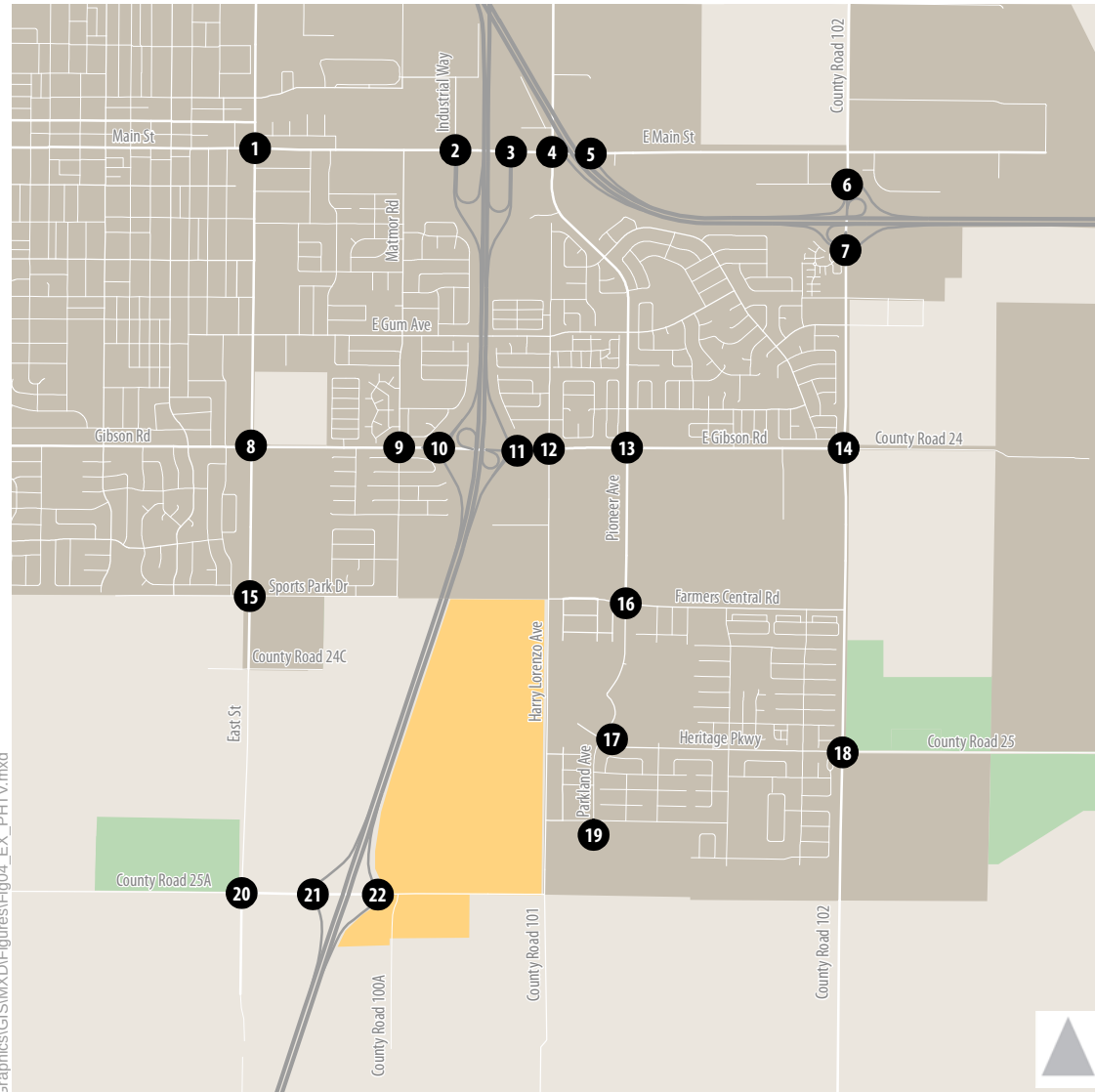
- 1 Study Intersection
- Project Location
- City of Woodland City Limits

Figure 3

Study Intersections



N:\2017 Projects\35598_Woodland_Research_Park_TIS\Graphics\GISMXD\Figures\Fig04_EX_PHTV.mxd



- 1 Study Intersection
- Project Location
- City of Woodland City Limits
- Turn Lane
- AM (PM) Peak Hour Traffic Volume
- Traffic Signal
- Stop Sign

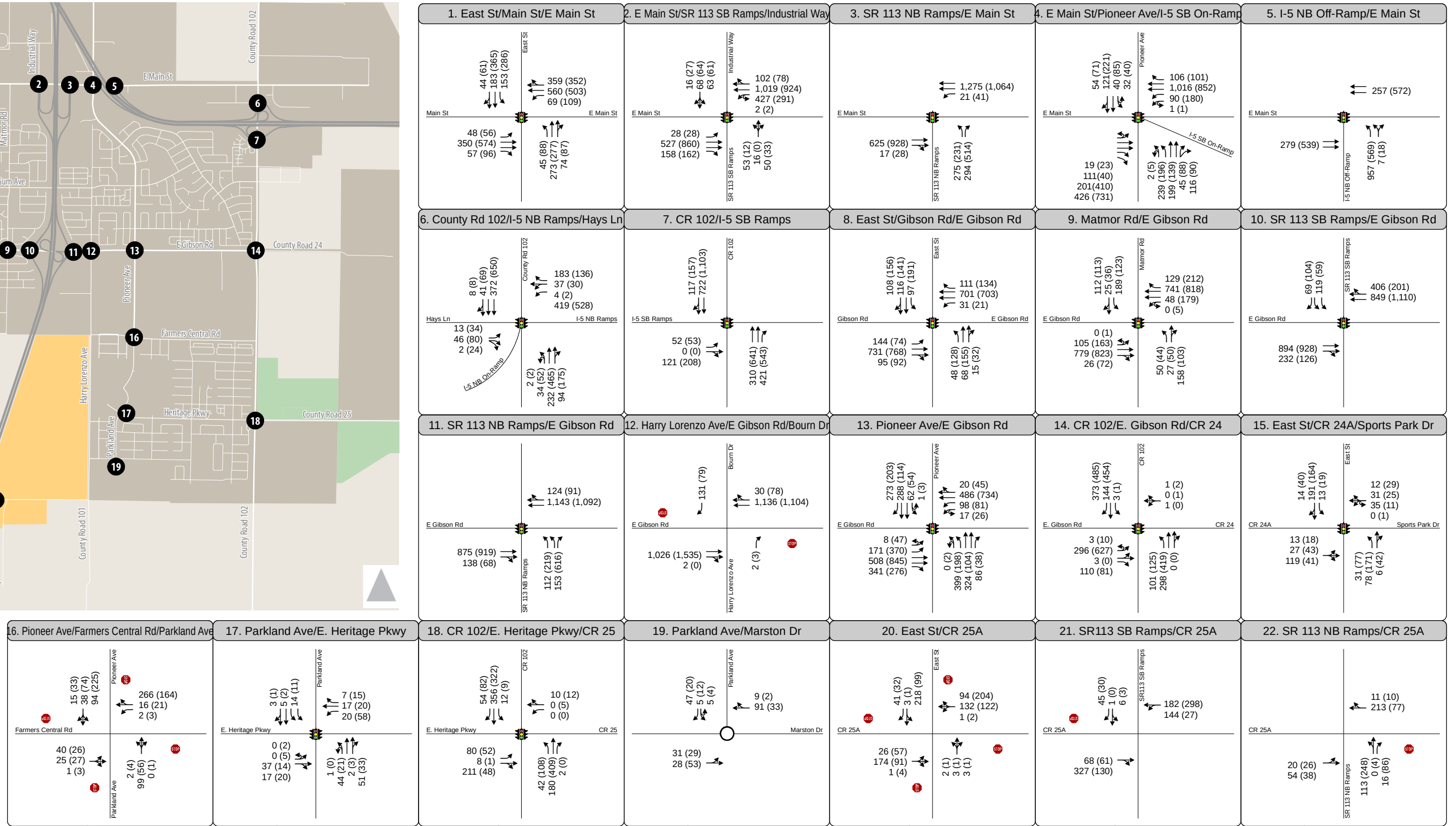
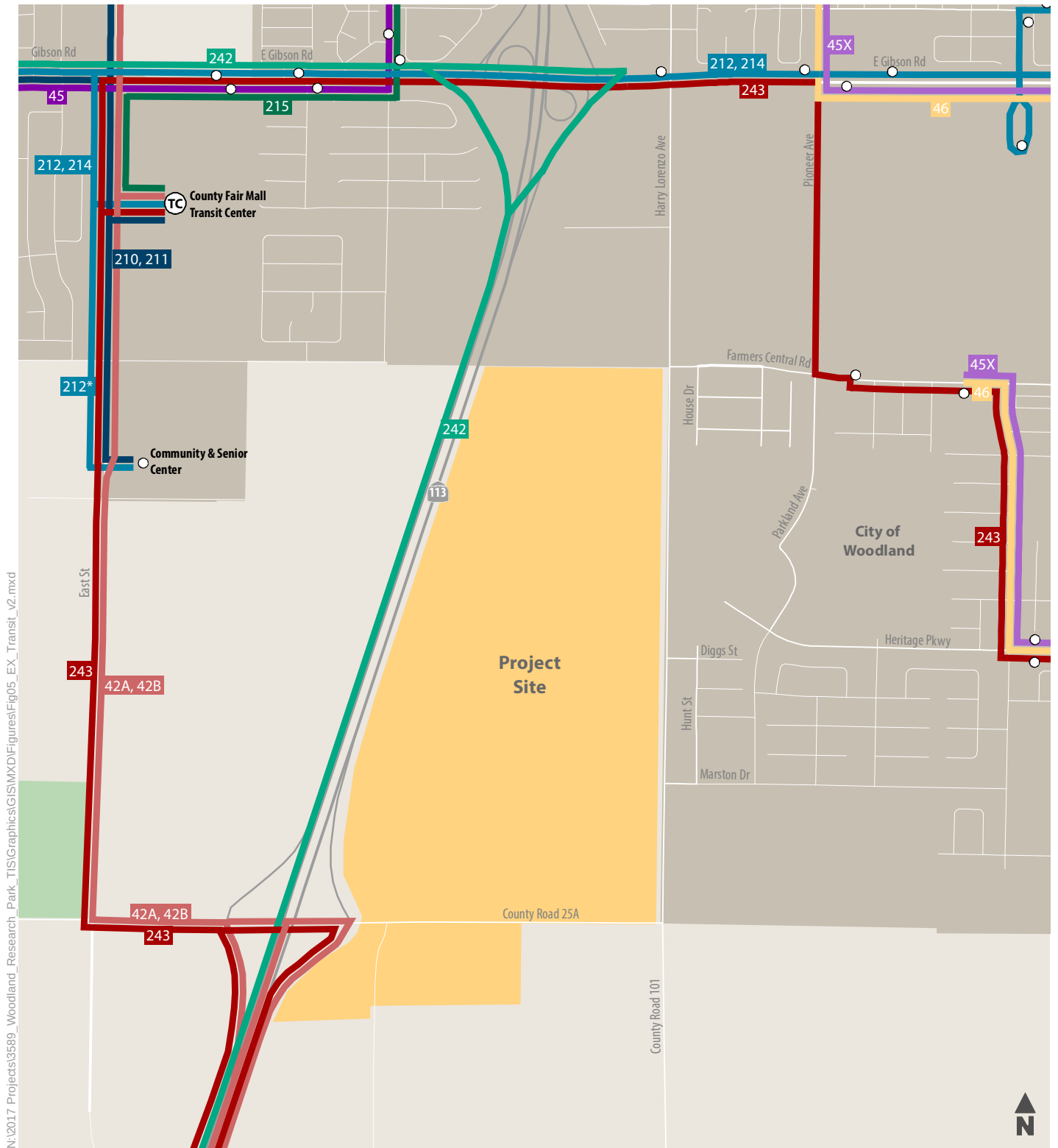


Figure 4
Peak Hour Traffic Volumes
and Lane Configurations -
Existing Conditions



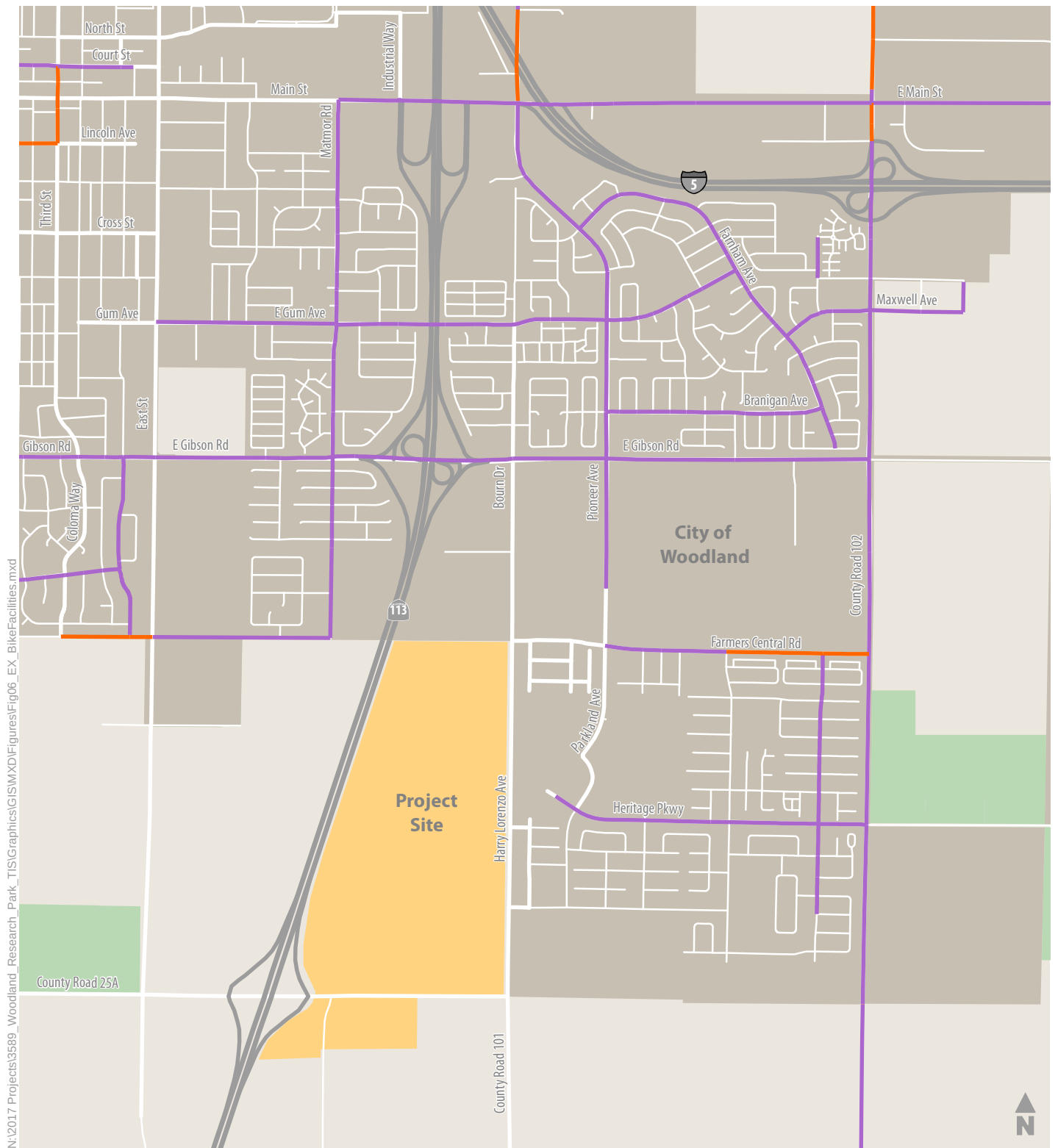


TC	Transit Center	210, 211	242	45
O	Bus Stop	212, 214	243	45X
		215	42A, 42B	46

Note: (*) Only route 212 (not 214) stops at the Community & Senior Center.

Figure 05
Transit Service





- Existing Bicycle Facilities
- Class II Bike Lane
 - Class III Bike Route

Figure 6
Bicycle Facilities





5. Project Travel Characteristics

This chapter presents the methods used to estimate the amount of traffic generated by the proposed development and how it will be distributed to the roadway system.

Travel forecasts for all the study scenarios were prepared using the new City of Woodland citywide travel model developed for the 2035 General Plan and CAP EIR. The travel model tiers off the SACOG regional travel model, with network and land use details for the six county SACOG planning area.

5.1 Trip Generation

The purpose of this vehicle trip generation forecast is to identify the number of new vehicle trips entering and exiting the project site for various purposes (e.g., residential, employee, and visitor trips) during a selected time period. The proposed project includes a mix of land uses including business park, light industrial, retail, hotel, and residential uses.

As noted above, the travel forecasts prepared for all the future study scenarios were developed using the new City of Woodland citywide travel model. As the city model pivots off the SACOG regional travel model, the external vehicle trips generated by the project area and assigned to the network are based on the person trip rates, mode share, and trip assignment rates and procedures developed by SACOG.

The most common methodology for developing trip generation forecasts for development projects is the application of trip rates in the Institute of Transportation Engineers' (ITE) Trip Generation manual. These trip rates are based on data collected primarily at suburban, single-use, freestanding sites. These defining characteristics limit their applicability to mixed-use development projects such as the proposed project. The citywide travel model is a better tool for identifying internal trip making and the appropriate mode share.

The project would generate a total of approximately 49,700 daily trips, 4,040 trips during the AM peak hour, and 4,440 trips during the PM peak hour. These trip totals include both internal and external trips.

5.2 Trip Distribution

The assignment of both approved and project trips, for all future scenarios, was done using the new City of Woodland citywide travel model developed for the 2035 General Plan and CAP EIR. The travel model tiers off the SACOG regional travel model, with network and land use details for the six county SACOG planning area.



6. Environmental Impacts and Mitigation Measures

This section provides a description of the methodology applied for the impact assessment, thresholds of significance, local roadway network assessment, transit impact assessment, bicycle impact assessment, and pedestrian impact assessment.

6.1 Methodology

The 2035 General Plan and CAP EIR addresses impacts of development of the City's planning area including this Specific Plan Area. The following analysis focuses on project-specific significant effects of the Specific Plan that are peculiar to the Specific Plan or the Site that were not addressed in the 2035 General Plan and CAP EIR, consistent with Section 15183(b) of the CEQA Guidelines.

According to Section 15183(b): "In approving a project meeting the requirements of this section, a public agency shall limit its examination of environmental effects to those which the agency determines, in an initial study or other analysis:

1. Are peculiar to the project or the parcel on which the project would be located,
2. Were not analyzed as significant effects in a prior EIR on the zoning action, general plan or community plan with which the plan is consistent,
3. Are potentially significant off-site impacts and cumulative impacts which were not discussed in the prior EIR prepared for the general plan, community plan or zoning action, or
4. Are previously identified significant effects which, as a result of substantial new information which was not known at the time the EIR was certified, are determined to have a more severe adverse impact than discussed in the prior EIR."

6.2 Thresholds of Significance

In accordance with CEQA, the effects of a project are evaluated to determine if they will result in a significant adverse impact on the environment. For the purposes of this analysis, an impact is considered significant if implementation of the project would have any of the effects described below.



The standards of significance in this analysis are based upon the current practice of the appropriate regulatory agencies. For most areas related to transportation and circulation, policies from the City of Woodland General Plan 2035 have been used.

This study includes a Roadway System Level of Service assessment in Section 8, not for CEQA impact determination, but for General Plan policy consistency purposes. To this end, the project would be responsible for achieving VMT reductions required in the General Plan as well as contributing to planned roadway capacity expansion within the framework (i.e., functional classification and number of future through travel lanes) identified in the General Plan.

6.2.1 Local Roadway Network

An impact to the roadway system would be considered significant if implementation of the proposed project would trigger any of the following conditions.

- Create inconsistencies with the road system policies or standards of plans adopted by the City of Woodland, Yolo County, the YCTD, or Caltrans, including the Congestion Management Plan
- Add substantial vehicle trips to a roadway facility that does not meet applicable design standards
- Create conflicts between modes (e.g., vehicles and bicycles)

A Roadway System LOS assessment is provided in Section 8.

6.2.2 Transit System

An impact to the transit system would be considered significant if the proposed project would trigger any of the following conditions.

- Create demand for public transit services above that which is provided, or planned to be provided by the YCTD
- Disrupt existing YCTD transit services or facilities
- Interfere with planned YCTD transit services or facilities
- Create an inconsistency with the transit policies or standards of plans adopted by the City of Woodland, Yolo County, the YCTD, or Caltrans



6.2.3 Bicycle and Pedestrian Facilities

An impact to the bicycle or pedestrian system would be considered significant if the proposed project would trigger any of the following conditions.

- Disrupt existing bicycle or pedestrian facilities
- Interfere with planned bicycle or pedestrian facilities
- Create an inconsistency with the bikeway or pedestrian policies or standards of plans adopted by the City of Woodland, Yolo County, the YCTD, or Caltrans

6.3 Impact Analysis

The section addresses potential transportation impacts related to local roadway network, transit services, bicycle facilities, pedestrian facilities, and construction traffic.

6.3.1 Local Roadway Network

Road system policies documented in the City of Woodland 2035 General Plan and CAP include developing a multi-modal transportation system (Goal 3.A) and providing complete streets (Goal 3.B). Roadway functional classification and street typology are described in Goal 3.C. Other key policies address protecting residential streets (Goal 3.D), providing a comprehensive pedestrian system (3.E) and bicycle system (3.F), promoting an effective transit system (3.G), and maintaining the safe and efficient movement of goods (3.I).

The proposed road network for the project is consistent with the functional classification and street typology identified in the General Plan based on proposed street cross-sections for CR 25A, Parkland Avenue, Road B and Marston Avenue. In the vicinity of the project, Parkland Avenue is designated as a two-lane principal arterial in the General Plan. CR 25A and Road B are designated as minor arterials, and Marston Avenue is designated as a collector. Goal 3.B (Complete Streets) in the General Plan calls for the provision of “complete streets that accommodate driving, walking, bicycling, and public transit that are designed to enable safe, attractive, comfortable access and travel for users of all ages and abilities”. The proposed cross-sections for CR 25A, Parkland Avenue, and Road B include provision of a combination of on-street and off-street bicycle facilities. The proposed cross-section for Marston Avenue includes provision of an off-street bike path. All street cross-sections include new pedestrian facilities.

The General Plan calls for new development to provide interconnected street networks with walkable blocks that allow and encourage active multimodal transportation. The proposed road network would provide an interconnected street network when complete. A phasing plan for the road network is not provided, though,



so an assessment of the adequacy of individual phases of the project is not provided in this evaluation. To determine impacts to the roadway system, analysis is completed as though the entire project is built out at one time. However, this project would be built in several phases over a period of many years, as has been the case with the adjacent Spring Lake community. As a result, the situation shown in the Existing plus Project conditions analysis would not occur for several years after the initial construction of the project. In addition to build-out of the project land use, the project's proposed road network improvements include roadway and traffic control improvements that would be constructed by the project within the project site and at its gateway intersections. This includes Road A, Road B, Road D, and an extension of Marston Road as well as other internal streets. The project would also remove the segment of Harry Lorenzo Avenue from Parkland Avenue to CR 25A, except for a 1,000 foot segment from Marston Road to approximately 1,000 feet north of Marston Road that serves fronting residential units.

The Land Use Plan Layout and street cross-sections for the Woodland Research and Technology Park include all the roadway network facilities as identified in the 2035 General Plan.

Project impacts to the local roadway network are considered **less-than-significant**. No mitigations are required.

6.3.2 Transit System

The mix and density of land uses, and the total residential and employment population of the Specific Plan area at build-out, would result in a substantial demand for transit service. The proposed project would increase demand for public transit service to an area that is not currently served by Yolobus. The proposed project does not identify specific transit facilities (such as sheltered transit stops or pullouts). The increase in demand for public transit service in an area not currently served by a public transit system would not conflict with any relevant policy or lead to any adverse physical environmental effect. However, the W RTP would be required to contribute toward operating and maintenance requirements for public transit.

The operating and maintenance requirements of public transit service are funded mainly through a portion of sales tax revenue that is returned to each county through the Transportation Development Act for the purpose of providing transit service. Therefore, the proposed project would contribute towards operating and maintenance requirements for public transit in the same way as previously approved developments.

Project impacts to the transit system are considered **less-than-significant**. No mitigations are required.

6.3.3 Bicycle Facilities

The 2035 General Plan shows the following planned bicycle facilities both within and immediately adjacent to the project site.



- Class II bike lane on CR 25A between East Street and Road B
- Class I path and Class II bike lane along CR 25A between Road B and CR 102
- Class I path and Class II bike lane on Parkland Avenue from Road B to Pioneer Avenue
- Class II bike lane on Road B from CR 25A to Parkland Avenue
- Class I path on Marston Road
- Class I path along Harry Lorenzo Avenue right-of-way between Parkland Avenue and CR 25A

Draft street cross-sections for the Woodland Research and Technology Park include all of the bicycle facilities as identified in the 2035 General Plan. Project impacts to bicycle facilities are considered **less-than-significant**. No mitigations are required.

6.3.4 Pedestrian Facilities

The proposed project identifies sidewalks on all streets within the project site, on the north side of CR 25A (southern project boundary), and on both sides of Parkland Avenue. Sidewalks and paths on streets within the project site range from 4.5 to 10 feet in width. Project impacts to pedestrian facilities are considered **less-than-significant**. No mitigations are required.

6.3.5 Construction Traffic

Construction of the proposed project, including site preparation and construction, and delivery activities, would generate employee trips and a variety of construction-related vehicles. Construction activities would include disruptions to the transportation network near the project site, including the possibility of temporary lane closures, street closures, sidewalk closures, and bikeway closures. This may impact the movement of agricultural vehicles and equipment during construction. Bicycle and transit access may also be disrupted. These activities could result in degraded roadway conditions.

IMPACT 1 – Construction Traffic

The effect of construction traffic generated by the proposed project is considered a **significant impact**.

Mitigation Measure 1: Construction Traffic Control Plan. Prior to any construction activities for the proposed project, the applicant shall prepare a detailed Construction Traffic Control Plan and submit it for review and approval by the City Department of Public Works. The applicant and the City shall consult with Caltrans, Yolobus, and local emergency service providers for their input prior to approving the Plan. The plan shall ensure that acceptable operating conditions on local roadways and freeway facilities are maintained during construction. At a minimum, the plan shall include:

- The number of truck trips, time, and day of street closures



- Time of day of arrival and departure of trucks
- Limitations on the size and type of trucks, provision of a staging area with a limitation on the number of trucks that can be waiting
- Provision of a truck circulation pattern
- Provision of a driveway access plan so that safe vehicular, pedestrian, and bicycle movements are maintained (e.g., steel plates, minimum distances of open trenches, and private vehicle pick up and drop off areas)
- Maintain safe and efficient access routes for emergency vehicles
- Maintain safe and efficient access routes for farming equipment and vehicles
- Manual traffic control when necessary
- Proper advance warning and posted signage concerning street closures
- Provisions for pedestrian safety

A copy of the construction traffic control plan shall be submitted to local emergency response agencies and these agencies shall be notified at least 14 days before the commencement of construction that would partially or fully obstruct roadways.

Mitigation Measure 3 would reduce the construction traffic impacts to a less-than-significant level.

Significance after Mitigation: Less than significant



7. Cumulative Conditions

The purpose of the following cumulative assessment is to provide additional focused analysis to complement analysis conducted for the Woodland 2035 General Plan and CAP EIR. The freeway analysis conducted in the 2035 General Plan and CAP EIR is updated in this section for 2050 cumulative conditions for two segments of SR 113, immediately adjacent to the CR 25A interchange that borders the project. An LOS analysis is provided for 2050 cumulative conditions for 21 intersections.

The 2035 General Plan and CAP EIR evaluated cumulative conditions for an East Alternative and a South Alternative. The proposed land use and roadway circulation network for the Woodland Research and Technology Park project is consistent with the analysis conducted for the South Alternative. As such, analysis of cumulative roadway and intersection conditions was not conducted for this study.

The following is a summary of the transportation-related impact analysis described in the 2035 General Plan and CAP EIR.

- Roadway LOS impacts were identified as less than significant for the South Alternative. Four road segments were identified as operating at LOS D conditions under 2035, including County Road 102 from East Gibson Road to Farmers Central Road.
- Mitigation Measure 4.13-1c recommended modified language to Policy 3.A.4 Reduce Vehicle Miles Traveled (VMT). The revised language requires new development projects to achieve a 10 percent reduction in VMT per capita or service population compared to general plan 2035 VMT performance, or a 10 percent reduction compared to baseline conditions for similar land uses.
- A potentially significant freeway LOS impact was identified for I-5 east of County Road 102. Mitigation Measure 4.13-1b, which called for modification of the City's Vehicle LOS standard, and other vehicle trip reduction policies were identified to mitigate the freeway LOS impact.
- A potentially significant impact to LOS on CMP network roadways was identified for CR 102 from East Gibson Road to Farmers Central Road. Mitigation 4-13-3b called for modification of the circulation diagram to designate this segment of CR 102 as a 4-lane principal arterial.
- Impacts were identified as less than significant for air traffic patterns, traffic hazards, emergency access, public transit, bicycle facilities, and pedestrian facilities.

The 2035 General Plan identifies the following functional classifications and future lane designations for key roadways in the study area.

- East Main Street (East Street to CR 102): 4 lane principal arterial
- East Gibson Road (East Street to CR 102): 4 lane principal arterial



- Parkland Avenue (East Street to Pioneer Avenue): 2 lane principal arterial
- East Heritage Parkway (Parkland Avenue to CR 102): 2 lane principal arterial
- CR 25A (East Street to Road B): 4 lane minor arterial
- CR 25A (Road B to CR 102): 2 lane minor arterial
- East Street (Main Street to Gibson Road): 4 lane minor arterial
- East Street (Gibson Road to Sports Park Drive): 4 lane principal arterial
- East Street (Sports Park Drive to East Street): 2 lane principal arterial
- Road B (Parkland Avenue to CR 25A): 2 lane minor arterial
- Pioneer Avenue (Main Street to Parkland Avenue): 4 lane minor arterial
- CR 102 (Main Street to Farmers Central Road): 4 lane principal arterial
- CR 102 (Farmers Central Road to CR 25A): 2 lane principal arterial
- Harry Lorenzo Avenue (Gibson Road to Parkland Avenue): 2 lane collector

7.1.1 Cumulative Freeway Conditions

The purpose of the following freeway assessment is to determine whether segments of State Route 113 adjacent to the Specific Plan area would operate at acceptable LOS D or better operations under cumulative conditions.

The travel forecasts for cumulative freeway and intersections conditions presented in this and the following section were developed for year 2050 conditions. The cumulative (Year 2050) buildout intersection turning movement were developed using the travel demand model that was developed for the Woodland 2035 General Plan and CAP EIR. Near the study area, the buildout year model includes buildout of Specific Plan Areas 1A, 1B, and 1C, as well as the construction of the Parkland Avenue overcrossing of SR 113. Elsewhere in the City, the model also includes Specific Plan Areas 2, 3a, and 3b. The projected growth in AM and PM Peak Hour model turning movement forecasts, between the 2050 buildout year model and the 2017 base year model, were added to existing 2017 traffic counts to obtain buildout year intersection and freeway segment forecasts.

The cumulative forecasts include build-out of the Woodland Research and Technology Park Specific Plan area including 1,600 residential units (1,148 single family and 452 multi-family units) and about 2.16 million square feet of commercial uses (including approximately 1.4 million square feet of business park uses, 342,000 square feet of light industrial uses, 224,000 square feet of retail uses, and 200 hotel rooms). A total of 4,843 employees are assumed to occupy the 2.16 million square feet of commercial uses in the Specific Plan area at build-out.

The land use included in the cumulative forecasts for build-out of Specific Plan Areas 1B and 1C, on the west side of SR 113, are as follows.



- Specific Plan Area 1B: 1,500 residential units (1,125 single family and 375 multi-family units) and 1,172,123 square feet of commercial uses
- Specific Plan Area 1C: 388 single family dwelling units

The following roadway improvements are included in version of the 2050 citywide travel model used to develop forecasts for Cumulative conditions.

- SACOG 2020 MTP/SCS project list including the following:
 - I-5/SR 113 Connector Phase 2 Improvement (NB I-5 to SB SR 113 connection)
 - County Road 102 – widen to four lanes from East Gibson Road to Farmers Central Road, East Main Street to Kentucky Avenue
 - County Road 25A – new 2 lane arterial from Parkland Avenue to County Road 102
 - County Road 25A – widen to 4 lanes from East Street to SR 113 interchange
 - Parkland Avenue – new 2 lane arterial from Pioneer Avenue to East Street
 - Matmor Road Extension – new 2 lane collector from Sports Park Drive to SP1 E-W Road
 - Marston Road Extension – new 2 lane collector from Parkland Avenue to Road B
- 2035 Woodland General Plan network build-out including the following:
 - Build-out of the Spring Lake street network
 - Parkland Avenue overpass of SR 113
- Woodland Research and Technology Park Specific Plan network build-out

Table 5 summarizes the freeway segment density and LOS results for the cumulative buildout analysis. Detailed calculations are included in Appendix B. As shown, all freeway segments would operate at LOS D or better conditions during both AM and PM peak hours. In the peak direction of travel, two of the three study segments would operate at LOS D on southbound SR 113 during the AM peak hour and on northbound SR 113 during the PM peak hour.

The SR 113 freeway segments shown in **Table 5** would operate at acceptable conditions for the cumulative scenario.



Table 5: Peak Hour Freeway Operations – Cumulative Conditions

Segment	Segment Type	LOS / Density (pc/mi/ln ¹)	
		AM Peak Hr	PM Peak Hr
Northbound			
County Road 27 to County Road 25A	Basic	B / 17.8	D / 28.1
SR 113 Off-Ramp to County Road 25A	Diverge	C / 24.2	D / 34.4
County Road 25A to E. Gibson Road	Basic	B / 13.5	C / 20.1
Southbound			
E. Gibson Road to County Road 25A	Basic	C / 18.7	B / 15.2
SR 113 On-Ramp at County Road 25A	Merge	D / 30.5	C / 22.5
County Road 27 to County Road 25A	Basic	D / 28.4	B / 17.6

Notes: ¹pc/mi/ln = passenger car per mile per lane.

Source: Fehr & Peers, 2018.

7.1.2 Cumulative Intersection Conditions

The purpose of the following intersection assessment is to determine whether intersections adjacent to the Specific Plan area would operate at LOS D or better operations under cumulative conditions, assuming implementation of proposed Woodland Research and Technology Park Specific Plan roadway improvements and mitigations identified for Existing plus Project and Existing plus Approved plus Project scenarios.

An evaluation of cumulative LOS conditions indicate that six of the 21 intersections would not meet General Plan LOS goals. Additional capacity improvements that would improve intersection operations to acceptable LOS D conditions or better could be provided at three of those seven intersections as identified below.

- SR 113 NB Ramps/E. Gibson Road – addition of a 2nd right turn lane on the northbound off-ramp
 - Implementation – add improvement measure to MPFP
- East Street/County Road 25A – widening northbound leg (one left turn lane, one through lane, and one exclusive right lane lane), southbound leg (2 left turn lanes, one through lane, and one exclusive right turn lane), eastbound leg (one left turn lane, one combined through/right lane), and westbound leg (one left turn lane, one through lane, and one exclusive right turn lane)
 - Implementation – these improvements would be required to serve Specific Plan Areas 1B and 1C, and would be addressed in future environmental and entitlement evaluations for those projects assumed in the cumulative scenario
- East Street/Gibson Road – addition of exclusive northbound right turn lane



- Implementation - this improvement would be required to serve Specific Plan Areas 1B and 1C, and would be addressed in future environmental and entitlement evaluations for those projects assumed in the cumulative scenario

Capacity improvements at E. Gibson Road/County Road 102, as identified below, would improve intersection operations to acceptable LOS D conditions during the AM peak hour only.

- County Road 102/E. Gibson Road – widening to westbound leg (left turn lane, through only lane, and through/right lanes) and east leg (addition of 2nd left turn lane)
 - Implementation – these improvements would be required to provide access to a planned future business park on the east side of CR 102, and would be addressed in future environmental and entitlement evaluations for that future project assumed in the cumulative scenario

Table 6 summarizes the cumulative buildout conditions levels of service (LOS) at the study intersections with the improvement measures and mitigation measures described above. Table 12 shows that eighteen (18) of the twenty-one (21) intersections, (86 percent) would meet General Plan LOS D goal based on the volumes and intersection geometrics shown in **Figure 7**.

The following intersections would not meet the General Plan LOS D goal, which is not mandatory, with the proposed geometrics under cumulative conditions. Additional widening of the roadway at these locations would be inconsistent with the General Plan policies that prioritize VMT reduction over widening roadways beyond the General Plan circulation diagram designations to achieve LOS reduction.

- E. Gibson Road/Harry Lorenzo Avenue-Bourn Drive during the AM peak hour (LOS E)
- E. Gibson Road/Pioneer Avenue during the AM peak hour (LOS E)
- E. Gibson Road/County Road 24/County Road 102 during the PM peak hour (LOS F)



Table 6: Peak Hour Intersection Operations – Cumulative Conditions

Intersection	Control Type ¹	LOS / Average Delay ^{1, 2, 3}	
		AM Peak Hr	PM Peak Hr
E. Gibson Road/SR 113 NB Ramps	Signal	B / 13	C / 29
E. Gibson Road/Harry Lorenzo Avenue-Bourn Drive	Signal	E / 76	D / 50
E. Gibson Road/Pioneer Avenue	Signal	E / 58	D / 49
E. Gibson Road-County Road 24/County Road 102 ³	Signal	D / 38	F / 82
East Street/County Road 24C	Signal	B / 10	C / 27
Parkland Avenue/Matmor Road	RB	B / 12	B / 13
Road B/Road F/Parkland Ave	Signal	D / 54	D / 43
Parkland Avenue/Pioneer Avenue ³	Signal	C / 35	C / 31
Road B/Road E	Signal	C / 26	C / 23
Road B/Marston Drive	Signal	C / 21	C / 20
Road D/Marston Drive	RB	A / 5	A / 5
Road B/Road C	Signal	C / 23	C / 24
County Road 25A/East St	Signal	C / 23	C / 22
County Road 25A/SR 113 SB Ramps	Signal Option	A / 10	B / 11
	RB Option	C / 23	A / 7
County Road 25A/SR 113 NB Ramps	Signal Option	B / 20	B / 18
	RB Option	B / 13	A / 7
County Road 25A/Road A	SSSC	A (D) / 5 (31)	A (B) / 3 (11)
County Road 25A/ Road B	Signal	C / 30	C / 32
County Road 25A/Road D	RB	B / 13	B / 11
County Road 25A/Parkland Avenue	RB	B / 11	B / 11
County Road 102/County Road 25A	Signal	B / 11	A / 10
East Street/Gibson Road	Signal	C / 33	D / 47

Notes:

¹ LOS = Level of Service. SSSC = Side-Street Stop Control. RB = Roundabout.

Bold indicates that intersection would not meet General Plan LOS goals.

² For signalized, roundabout, and all-way stop controlled intersections, average intersection delay is reported in seconds per vehicle for all approaches. For side-street stop controlled intersections, the delay and LOS is reported for the highest delay movement and for the entire intersection (shown in parentheses).

³ The HCM 2010 methodology in Synchro does not provide delay or LOS when signal timing includes a pedestrian-only phase or non-NEMA standard phasing. Thus, the results for intersections are based on HCM 2000 methodology.

Source: Fehr & Peers, 2020.

N:\2017 Projects\3588_Woodland_Research_Park_TIS\Graphics\GIS\MXD\Figures\Sep2018\Fig11_Cumulative_PHTV.mxd

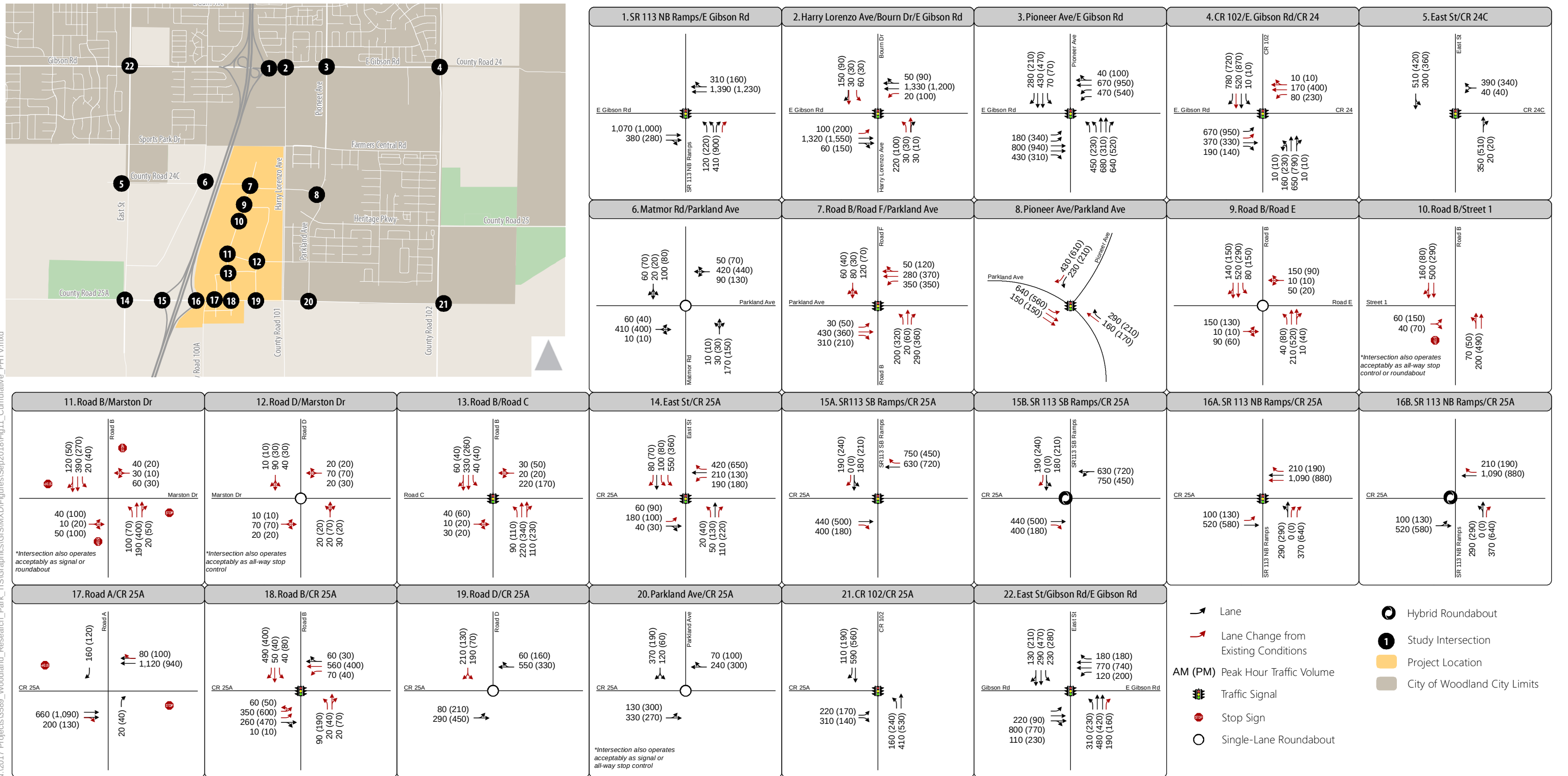


Figure 7
Peak Hour Traffic Volumes
and Lane Configurations -
Cumulative Build-Out Conditions





8. Roadway System Level of Service

The purpose of the following section is to evaluate Vehicle Level of Service (LOS) for near-term conditions for General Plan consistency and to identify feasible improvements to meet the General Plan Vehicle LOS Standard. This information is not used to make CEQA impact determinations, rather to identify potential improvement projects that may be included in conditions of approval for the project entitlements.

8.1 Methodology

The following Roadway System LOS assessment addresses peak hour operations at 10 road segments and 36 intersections for the following scenarios.

1. Existing plus Project Conditions
2. Existing plus Approved Conditions
3. Existing plus Approved plus Project Conditions

8.2 LOS Policy

The 2035 General Plan and CAP EIR includes the following Vehicle LOS Standard, identified as Policy 3.A.1.

Vehicle Level of Service (LOS) Standard. Strive to develop and manage the roadway system to maintain LOS D or better as defined in the latest edition of the Highway Capacity Manual (Transportation Research Board) during weekday AM and PM peak hour conditions with the following exceptions described below and mapped on Figure 3-1.

- A. LOS C – Kentucky Ave from East Street to County Road 98. This level of service is required to accommodate the mix of commercial/industrial truck traffic with residential driveways.
- B. LOS E – Freeway ramp terminal intersections and E. Gum Avenue from Bourn Drive to Pioneer Avenue.
- C. LOS F - LOS F is allowed for the following roadway segments where the City finds that the improvements or other measures required to achieve the LOS standard are unacceptable because of their impact on other community values.
 - Main Street from 6th St to Cleveland St
 - Maxwell Ave from Farnham Ave to County Road 102



As noted previously, the General Plan LOS goal is not mandatory and other community values are considered in determining whether improvements or other measures are recommended to address future conditions that do not meet the LOS thresholds.

8.3 LOS Analysis

8.3.1 Existing Plus Project Traffic Conditions

This discussion presents LOS conditions on the surrounding transportation system under Existing plus Project conditions. Existing plus Project conditions are defined as Existing conditions with completion of the project. The following assessment assumes the entire project is built out at one time. However, this project would be built in several phases over a period of many years, as has been the case with the adjacent Spring Lake community. As a result, the situation shown in the Existing plus Project conditions analysis would not occur for several years after the initial construction of the project. In addition to build-out of the project land use, the Existing plus Project conditions also include roadway and traffic control improvements that would be constructed by the project within the project site and at its gateway intersections. This includes Road A, Road B, Road D, and an extension of Marston Road as well as other internal streets. The project would also remove the segment of Harry Lorenzo Avenue from Parkland Avenue to CR 25A with the exception of a 1,000 foot segment from Marston Road to approximately 1,000 feet north of Marston Road that serves fronting residential units. No other off-site roadway improvements are assumed for this scenario.

The Existing plus Project forecasts do not include build-out of the remainder of the Spring Lake community. That remaining development, along with other approved projects, are reflected in the Existing plus Approved plus Project conditions described in the subsequent portion of this section.

8.3.1.1 Existing Plus Project Road Segment Operations

Under Existing Plus Project conditions, 9 of the 10 study road segments are in place and evaluated. **Table 7** shows weekday PM peak hour LOS for those nine road segments. All the road segments in the study area have a threshold of LOS D. The capacity and PM peak hour values shown in the table below are vehicles per hour in both directions. The following is a summary of those results.

- CR 25A, between the SR 113 northbound ramps and Road A, would operate at LOS E conditions, which does not meet the General Plan Vehicle LOS standard. The project applicant has indicated that they will widen CR 25A to four lanes as a project cost, when triggered, which would provide acceptable LOS conditions.
- All other roadway segments would operate at LOS D or better conditions



Table 7: Existing plus Project Road Segment LOS - PM Peak Hour

Roadway	Segment	Classification	Lanes	Capacity	Existing		Existing plus Project	
					Volume	LOS	Volume	LOS
CR 25A	East St to SR 113 SB Ramps	Minor Arterial	2	2,170	519	C	910	C
CR 25A	SR 113 NB Ramps to Road A	Minor Arterial	2	2,170	201	C	2,020	E
CR 25A	Road A to Road B	Minor Arterial	2	2,170	-	-	1,820	D
CR 25A	Road B to Road D	Minor Arterial	2	2,170	-	-	590	C
Road B	CR 25A to Road C	Minor Arterial	2	2,170	-	-	1,180	C
Road B	Road E to Parkland Ave	Minor Arterial	4	4,450	-	-	990	C
Pioneer Ave	Gibson Rd to Farmer's Central Rd	Minor Arterial	4	4,450	811	C	1,390	C
Heritage Pkwy	Campos Ave to CR 102	Principal Arterial	2	2,320	296	C	480	C
Harry Lorenzo Ave	Gibson Rd to Farmer's Central Rd	Collector	2	1,110	-	-	370	B

Bold indicates that road segment would not meet General Plan LOS goals.
Source: Fehr & Peers, 2020.

8.3.1.2 Existing plus Project Intersection Operations

Figure 8 shows peak hour volumes for Existing plus Project conditions. **Table 8** provides a summary of LOS results for Existing plus Project conditions, compared with Existing conditions results, which are also presented in **Table 5**. The following is a summary of intersection conditions.

- 29 of 36 intersections operate at acceptable LOS during the AM peak hour
- 31 of 36 intersections operate at acceptable LOS during the PM peak hour
- General Plan Vehicle LOS standards are not met at nine intersections under Existing plus Project conditions during one or both peak hours

The locations where the General Plan Vehicle LOS standards would not be met for Existing plus Project conditions are described below.

Road Segment:

1. CR 25A from SR 113 NB Ramps to Road A (PM peak hour)



Intersections:

2. East Main Street/SR 113 NB Ramps (PM peak hour)
3. East Main Street/I-5 NB Off-ramp (AM peak hour)
4. East Gibson Road/Harry Lorenzo Avenue-Bourn Drive (AM peak hour)
5. East Gibson Road/County Road 102 (PM peak hour)
6. Farmer's Central Road/Pioneer Avenue (AM and PM peak hours)
7. CR 25A/SR 113 SB Ramps (AM and PM peak hours)
8. CR 25A/SR 113 NB Ramps (AM and PM peak hours)
9. CR 25A/Road A (AM peak hour)
10. CR 25A/Road B (AM peak hour)

8.3.1.3 Existing plus Project Peak Hour Signal Warrants

The MUTCD contains a number of guidelines, called warrants, to determine whether the installation of a traffic signal at a particular location is appropriate. The peak-hour signal warrant, one of nine warrants, was evaluated for unsignalized intersections under Existing plus Project conditions. The results of the peak hour signal warrant assessment for the stop-controlled study intersections are summarized as follows. Evaluation of the full set of traffic signal warrants, based on existing conditions at the time an intersection improvement is triggered, should be performed prior to implementation of a traffic signal.

- East Gibson Road/Harry Lorenzo Avenue-Bourn Drive – met during AM peak hour
- Farmer's Central Road/Pioneer Avenue – met during both peak hours
- CR 25A/East Street – met during PM peak hour
- CR 25A/SR 113 SB Ramps – met during both peak hours
- CR 25A/SR 113 NB Ramps – met during both peak hours
- CR 25A/Road A – met during both peak hours



Table 8: Peak Hour Intersection LOS – Existing plus Project Conditions

Intersection	Traffic Control	LOS Threshold	Peak Hour	Existing		Existing plus Project	
				Delay	LOS	Delay	LOS
1. East Street/E. Main Street	Signal	D	AM	15	B	17	B
			PM	20	C	20	B
2. E. Main Street/SR 113 SB Ramps-Industrial Way	Signal	E	AM	26	C	44	D
			PM	34	C	70	E
3. E. Main Street/SR 113 NB Ramps	Signal	E	AM	13	B	35	D
			PM	59	E	148	F
4. E. Main Street/Pioneer Avenue/I-5 SB On-Ramp	Signal	E	AM	59	E	63	E
			PM	43	D	43	D
5. E. Main Street/I-5 NB Off-Ramp	Signal	E	AM	55	E	>150	F
			PM	11	B	15	B
6. County Road 102-Hays Lane/I-5 NB Ramps	Signal	E	AM	17	B	19	B
			PM	22	C	25	C
7. County Road 102/I-5 SB Ramps	Signal	E	AM	5	A	5	A
			PM	7	A	8	A
8. East Street/Gibson Road	Signal	D	AM	20	B	22	C
			PM	20	B	23	C
9. E. Gibson Road/Matmor Road	Signal	D	AM	26	C	43	D
			PM	24	C	28	C
10. E. Gibson Road/SR 113 SB Ramps	Signal	E	AM	11	B	11	B
			PM	12	B	13	B
11. E. Gibson Road/SR 113 NB Ramps	Signal	E	AM	11	B	12	B
			PM	10	B	14	B
12. E. Gibson Road/Harry Lorenzo Avenue-Bourn Drive	SSSC	D	AM	7 (26)	A (D)	13 (48)	B (E)
			PM	9 (11)	A (B)	12 (20)	A (C)
13. E. Gibson Road/Pioneer Avenue	Signal	D	AM	41	D	54	D
			PM	36	D	43	D
14. E. Gibson Road-County Road 24/County Road 102 ³	Signal	D	AM	19	B	27	C
			PM	32	C	70	E
15. East Street/County Road 24A-Sports Park Drive	Signal	D	AM	9	A	10	A
			PM	12	B	14	B
16. Farmers Central Road/Parkland Avenue-Pioneer Ave	AWSC	D	AM	10	A	43	E
			PM	11	B	97	F



Table 8: Peak Hour Intersection LOS – Existing plus Project Conditions

Intersection	Traffic Control	LOS Threshold	Peak Hour	Existing		Existing plus Project	
				Delay	LOS	Delay	LOS
17. E. Heritage Parkway/Parkland Avenue ³	Signal	D	AM	9	A	15	B
			PM	8	A	14	B
18. E. Heritage Parkway/County Road 102	Signal	D	AM	9	A	10	B
			PM	10	B	12	B
19. Parkland Avenue/Marston Drive	RB	D	AM	4	A	6	A
			PM	4	A	6	A
20. CR 25A/East St	AWSC	D	AM	12	B	13	B
			PM	8	A	9	A
21. CR 25A/SR 113 SB Ramps	SSSC	E	AM	6 (17)	A (C)	80 (>150)	F (F)
			PM	2 (4)	A (A)	55 (>150)	F (F)
22. CR 25A/SR 113 NB Ramps	SSSC	E	AM	2 (6)	A (A)	126 (>150)	F (F)
			PM	4 (7)	A (A)	83 (>150)	F (F)
23. CR 25A/Road A	SSSC	D	AM	-	-	64 (>150)	F (F)
			PM	-	-	5 (23)	A (C)
24. Road A/Road C	RB	D	AM	-	-	5	A
			PM	-	-	5	A
25. CR 25A/Road B	Signal	D	AM	-	-	>150	F
			PM	-	-	54	D
26. Road B/Road C	Signal	D	AM	-	-	26	C
			PM	-	-	23	C
27. CR 102/CR 25A	SSSC	D	AM	-	-	N/A	N/A
			PM	-	-	N/A	N/A
28. Road B/Marston Drive	Signal	D	AM	-	-	21	C
			PM	-	-	20	C
29. Road B/Road E	Signal	D	AM	-	-	26	C
			PM	-	-	22	C
30. Road B/Road F/Parkland Avenue	Signal	D	AM	-	-	35	C
			PM	-	-	27	C
31. Harry Lorenzo Ave/Farmer's Central Rd	RB	D	AM	-	-	6	A



Table 8: Peak Hour Intersection LOS – Existing plus Project Conditions

Intersection	Traffic Control	LOS Threshold	Peak Hour	Existing		Existing plus Project	
				Delay	LOS	Delay	LOS
32. CR 25A/Road D	RB	D	PM	-	-	5	A
			AM	-	-	7	A
			PM	-	-	6	A
33. Road D/Road C	SSSC	D	AM	-	-	3 (13)	A (B)
			PM	-	-	4 (15)	A (B)
34. Road D/Marston Drive	RB	D	AM	-	-	6	A
			PM	-	-	6	A
35. Parkland Ave/Harry Lorenzo Ave	Signal	D	AM	-	-	14	B
			PM	-	-	13	B
36. Parkland Ave/Pioneer Ave	Signal	D	AM	-	-	13	B
			PM	-	-	13	B

Notes:

RB=roundabout. AWSC=All-way Stop Control. SSSC = Side-Street Stop Control.

Bold indicates that intersection would not meet General Plan LOS goals.

1. For signalized and all-way stop-way stop controlled intersections, the overall average intersection control delay is reported in seconds.

2. For side-street stop controlled intersections, the average control delay and total delay for the worst movement are presented.

3. HCM 2000 methodology is used for the intersection of East Gibson Road/County Road 24/County Road 102 (#14) because of non-NEMA signal timings.

Source: Fehr & Peers, 2020.



8.3.2 Existing Plus Approved Plus Project Traffic Conditions

This discussion presents LOS conditions on the surrounding transportation system under Existing plus Approved Project conditions. Existing plus Approved plus Project conditions are defined as Existing conditions with completion of previously approved development plus net new traffic generated by the project.

Projections of added traffic for Existing plus Approved conditions were based on adding new traffic generated by background projects in the vicinity of the site. This includes build out of the remainder of the Spring Lake Specific Plan, the Hilton Home Suites Hotel on Main Street, and three new projects adjacent to the I-5/CR 102 interchange (i.e., Hoblit Auto Dealership, the Woodland Motors Auto Dealership, and a new 125 room hotel). The locations of these projects are shown on **Figure 9**.

Travel forecasts for both the Existing plus Approved conditions and the Existing plus Approved plus Project conditions were developed using the citywide travel model developed for the General Plan Update. The most significant of the background projects within the City of Woodland is the completion of the Spring Lake community. It is anticipated that it would take approximately ten years for all remaining units to be completed and occupied. The forecasts for these two scenarios also include background land use growth in communities outside the City of Woodland. This was accomplished by adding the increment of growth for communities outside Woodland to the year 2030 based on a straight-line increment of growth as identified in the SACOG MTP/SCS.

The following roadway improvements are included in the Existing plus Approved conditions.

- Build-out of remaining Spring Lake Specific Plan roadway improvements
 - Pioneer Avenue Widening – High School to Parkland Avenue
 - Parkland Avenue Extension – Marston Road to CR 25A
 - Patriot Drive – Harry Lorenzo Avenue to Pioneer Avenue
 - Galvin Way – Harry Lorenzo Avenue to Mickle Avenue
 - Parkland Avenue – Harry Lorenzo Avenue to Pioneer Avenue
 - CR 25A – Harry Lorenzo Avenue to CR 102
 - Mickle Avenue – Marston Road to CR 25A



- Promenade – Marston Road to CR 25A
- Banks Drive – Parkland Avenue to Promenade
- Traffic Signal at intersection of Pioneer Avenue/Farmers Central Road
- Roundabout at intersection of CR 25A/Parkland Avenue
- Kentucky Avenue Widening Project – College Street to East Street

In addition to build-out of the project land use, the Existing plus Approved plus Project conditions also include roadway and traffic control improvements that would be constructed by the project within the project site and at its gateway intersections. This includes Road A, Road B, Road D, and an extension of Marston Road as well as other internal streets. The roadway improvements described above for Existing plus Approved conditions are also assumed for Existing plus Approved plus Project conditions.

8.3.2.1 Existing Plus Approved Plus Project Road Segment Operations

Under Existing plus Approved plus Project conditions, all 10 study road segments are in place and evaluated. **Table 9** shows weekday PM peak hour LOS for those ten road segments. All the road segments in the study area have a threshold of LOS D. The capacity and PM peak hour values shown in the table below are vehicles per hour in both directions. The following is a summary of those results.

- The two-lane segment of CR 25A, between the SR 113 NB Ramps and Road A, would operate at LOS F conditions, which does not meet the General Plan Vehicle LOS standard. The project applicant has indicated that they will widen CR 25A to four lanes as a project cost, when triggered, which would provide acceptable LOS conditions.
- The two-lane segment of CR 25A, between Road A and Road B, would operate at LOS E conditions, which does not meet the General Plan Vehicle LOS standard. The project applicant has indicated that they will widen CR 25A to four lanes as a project cost, when triggered, which would provide acceptable LOS conditions.
- The eight remaining road segments would operate at LOS D or better conditions



Table 9: Existing plus Approved plus Project Road Segment LOS - PM Peak Hour

Roadway	Segment	Classification	Lanes	Capacity	Existing plus Approved		Existing plus Approved plus Project	
					Volume	LOS	Volume	LOS
CR 25A	East St to SR 113 SB Ramps	Minor Arterial	2	2,170	780	C	1,160	D
CR 25A	SR 113 NB Ramps to Road A	Minor Arterial	2	2,170	610	C	2,310	F
CR 25A	Road A to Road B	Minor Arterial	2	2,170	610	C	2,110	E
CR 25A	Road B to Road D	Minor Arterial	2	2,170	610	C	890	C
CR 25A	Road D to CR 102	Minor Arterial	2	2,170	300	C	900	C
Road B	CR 25A to Road C	Minor Arterial	4	4,450	-	-	1,360	C
Road B	Road E to Parkland Ave	Minor Arterial	4	4,450	-	-	980	C
Pioneer Ave	Gibson Rd to Farmer's Central Rd	Minor Arterial	4	4,450	1,840	C	2,590	D
Heritage Pkwy	Campos Ave to CR 102	Principal Arterial	2	2,320	500	C	490	C
Harry Lorenzo Ave	Gibson Rd to Farmer's Central Rd	Collector	2	1,110	200	B	290	B

Bold indicates that road segment would not meet General Plan LOS goals.

Source: Fehr & Peers, 2020.

8.3.2.2 Existing Plus Approved Plus Project Intersection Operations

Figure 10 shows peak hour volumes for Existing plus Approved conditions. **Figure 11** shows peak hour volumes for Existing plus Approved plus Project conditions. Table 10 provides a summary of LOS results for Existing plus Approved plus Project conditions, compared with Existing plus Approved conditions results. The following is a summary of intersection conditions.

- 28 of 37 intersections operate at acceptable LOS during the AM peak hour
- 29 of 37 intersections operate at acceptable LOS during the PM peak hour
- Twelve intersections do not meet General Plan Vehicle LOS standards under Existing plus Approved plus Project conditions during one or both peak hours. At ten of the twelve intersections, the General Plan Vehicle LOS standards would also not be met under Existing plus Approved conditions.



The locations where the General Plan Vehicle LOS standards would not be met for Existing plus Approved plus Project conditions are described below.

Road Segments:

1. CR 25A from SR 113 NB Ramps to Road A (PM peak hour)
2. CR 25A from Road A to Road B (PM peak hour)

Intersections:

3. East Main Street/SR 113 SB Ramps (PM peak hour)
4. East Main Street/SR 113 NB Ramps (PM peak hour)
5. East Main Street/Pioneer Avenue/I-5 SB On-ramp (AM peak hour)
6. East Main Street/I-5 NB Off-ramp (AM and PM peak hours)
7. East Gibson Road/Matmor Road (AM peak hour)
8. East Gibson Road/Harry Lorenzo Avenue-Bourn Drive (AM peak hour)
9. East Gibson Road/Pioneer Avenue (AM peak hour)
10. East Gibson Road/County Road 102 (PM peak hour)
11. CR 25A/SR 113 SB Ramps (AM and PM peak hours)
12. CR 25A/SR 113 NB Ramps (AM and PM peak hours)
13. CR 25A/Road A (AM peak hour)
14. CR 25A/Road B (AM and PM peak hours)
15. CR 25A/CR 102 (PM peak hour)

8.3.2.3 Existing Plus Approved Plus Project Peak Hour Signal Warrants

The MUTCD contains a number of guidelines, called warrants, to determine whether the installation of a traffic signal at a particular location is appropriate. The peak-hour signal warrant, one of nine warrants, was evaluated for unsignalized intersections under Existing plus Approved plus Project conditions. The results of the peak hour signal warrant assessment for the stop-controlled study intersections are summarized as follows. Evaluation of the full set of traffic signal warrants, based on existing conditions at the time an intersection improvement is triggered, should be performed prior to requiring implementation of a traffic signal.

- East Gibson Road/Harry Lorenzo Avenue-Bourn Drive– met during AM peak hour
- Farmer’s Central Road/Parkland Avenue – met during both peak hours
- CR 25A/East Street – met during both peak hours



- CR 25A/SR 113 SB Ramps – met during both peak hours
- CR 25A/SR 113 NB Ramps – met during both peak hours
- CR 25A/Road A – met during both peak hours
- CR 102/CR 25A – met during both peak hours
- Pioneer Avenue/Parkland Avenue – met during both peak hours



Table 10: Peak Hour Intersection LOS – Existing plus Approved plus Project Conditions

Intersection	Traffic Control	LOS Threshold	Peak Hour	Existing plus Approved		Existing plus Approved plus Project	
				Delay	LOS	Delay	LOS
1. East Street/E. Main Street	Signal	D	AM	17	B	17	B
			PM	20	C	21	C
2. E. Main Street/SR 113 SB Ramps-Industrial Way	Signal	E	AM	47	D	47	D
			PM	92	F	98	F
3. E. Main Street/SR 113 NB Ramps	Signal	E	AM	42	D	60	E
			PM	142	F	>150	F
4. E. Main Street/Pioneer Avenue/I-5 SB On-Ramp	Signal	E	AM	80	F	102	F
			PM	69	E	78	E
5. E. Main Street/I-5 NB Off-Ramp	Signal	E	AM	>150	F	>150	F
			PM	92	F	>150	F
6. County Road 102-Hays Lane/I-5 NB Ramps	Signal	E	AM	18	B	23	C
			PM	26	C	29	C
7. County Road 102/I-5 SB Ramps	Signal	E	AM	6	A	7	A
			PM	8	A	9	A
8. East Street/Gibson Road	Signal	D	AM	23	C	23	C
			PM	26	C	27	C
9. E. Gibson Road/Matmor Road	Signal	D	AM	49	D	83	F
			PM	29	C	32	C
10. E. Gibson Road/SR 113 SB Ramps	Signal	E	AM	11	B	12	B
			PM	12	B	12	B
11. E. Gibson Road/SR 113 NB Ramps	Signal	E	AM	11	B	12	B
			PM	18	B	21	C
12. E. Gibson Road/Harry Lorenzo Avenue-Bourn Drive	SSSC	D	AM	12 (70)	B (F)	13 (65)	B (F)
			PM	14 (19)	B (C)	15 (20)	B (C)
13. E. Gibson Road/Pioneer Avenue	Signal	D	AM	61	E	71	E
			PM	46	D	53	D
14. E. Gibson Road-County Road 24/County Road 102 ³	Signal	D	AM	24	C	26	C
			PM	69	E	93	F
15. East Street/County Road 24A-Sports Park Drive	Signal	D	AM	10	B	10	A
			PM	14	B	14	B



Table 10: Peak Hour Intersection LOS – Existing plus Approved plus Project Conditions

Intersection	Traffic Control	LOS Threshold	Peak Hour	Existing plus Approved		Existing plus Approved plus Project	
				Delay	LOS	Delay	LOS
16. Farmers Central Road/Parkland Avenue-Pioneer Ave	Signal	D	AM	8	A	17	B
			PM	7	A	53	D
17. E. Heritage Parkway/Parkland Avenue ³	Signal	D	AM	17	B	19	B
			PM	17	B	18	B
18. E. Heritage Parkway/County Road 102	Signal	D	AM	9	A	10	A
			PM	12	B	12	B
19. Parkland Avenue/Marston Drive	RB	D	AM	10	B	11	B
			PM	8	A	9	A
20. CR 25A/East St	AWSC	D	AM	13	B	16	C
			PM	13	B	12	B
21. CR 25A/SR 113 SB Ramps	SSSC	E	AM	89 (>150)	F (F)	78 (>150)	F (F)
			PM	4 (11)	A (B)	42 (>150)	E (F)
22. CR 25A/SR 113 NB Ramps	SSSC	E	AM	>150 (>150)	F (F)	126 (>150)	F (F)
			PM	19 (30)	C (D)	79 (>150)	F (F)
23. CR 25A/Road A	SSSC	D	AM	-	-	74 (>150)	F (F)
			PM	-	-	5 (21)	A (C)
24. Road A/Road C	RB	D	AM	-	-	5	A
			PM	-	-	5	A
25. CR 25A/Road B	Signal	D	AM	-	-	>150	F
			PM	-	-	61	E
26. Road B/Road C	Signal	D	AM	-	-	24	C
			PM	-	-	24	C
27. CR 102/CR 25A	SSSC	D	AM	6 (22)	A (C)	8 (31)	A (D)
			PM	3 (38)	A (E)	5 (63)	A (F)
28. Road B/Marston Drive	Signal	D	AM	-	-	21	C
			PM	-	-	20	C
29. Road B/Road E	Signal	D	AM	-	-	26	C
			PM	-	-	22	C



Table 10: Peak Hour Intersection LOS – Existing plus Approved plus Project Conditions

Intersection	Traffic Control	LOS Threshold	Peak Hour	Existing plus Approved		Existing plus Approved plus Project	
				Delay	LOS	Delay	LOS
30. Road B/Road F/Parkland Avenue	Signal	D	AM	-	-	33	C
			PM	-	-	29	C
31. Harry Lorenzo Ave/Farmer's Central Rd	RB	D	AM	-	-	4	A
			PM	-	-	4	A
32. CR 25A/Road D	RB	D	AM	-	-	13	B
			PM	-	-	10	B
33. Road D/Road C	SSSC	D	AM	-	-	4 (11)	A (B)
			PM	-	-	5 (12)	A (B)
34. Road D/Marston Drive	RB	D	AM	-	-	5	A
			PM	-	-	5	A
35. Parkland Ave/Harry Lorenzo Ave	Signal	D	AM	-	-	9	A
			PM	-	-	8	A
36. Parkland Ave/Pioneer Ave	Signal	D	AM	10	A	20	C
			PM	10	A	21	C
37. CR 25A/Parkland Ave	RB	D	AM	9	A	10	B
			PM	7	A	10	A

Notes:

RB=roundabout. AWSC=All-way Stop Control. SSSC = Side-Street Stop Control.

Bold indicates that intersection would not meet General Plan LOS goals.

1. For signalized and all-way stop-way stop controlled intersections, the overall average intersection control delay is reported in seconds.

2. For side-street stop controlled intersections, the average control delay and total delay for the worst movement are presented.

3. HCM 2000 methodology is used for the intersection of East Gibson Road/County Road 24/County Road 102 (#14) because of non-NEMA signal timings.

Source: Fehr & Peers, 2020.



8.5 Roadway System Improvement Projects

8.5.1 Description of Improvement Projects

This section provides a description of road system improvement requirements designed to meet the General Plan Goals and Policies in the Transportation and Circulation Element. This includes Goal 3.A (Multimodal Transportation System) and Goal 3.B (Complete Streets). Goal 3.A includes the vehicle LOS standard, and many of the following improvements are designed to achieve LOS standards at intersections based on forecasts of land use growth. Goal 3.B calls for providing complete streets that can accommodate driving, walking, bicycling, and public transit and that are designed to enable safe, attractive, and comfortable access and travel for users of all ages and abilities.

The General Plan Transportation and Circulation Element prioritizes VMT reduction over LOS goals. Where conflicts exist, VMT reduction is given priority in determining whether additional roadway widening is desirable to achieve LOS goals. Examples include the eastern portions of segments of East Main Street and East Gibson Road, from Matmor Road to CR 102, where LOS conditions would exceed LOS standards in the future. For East Main Street, congestion levels east of Matmor Road are largely a function of freeway traffic that uses East Main Street to either gain access or connect between I-5 and State Route 113. As described in more detail in the following section, the I-5/SR 113 Connector Phase 2 project that would result in significantly improved conditions at the intersection is programmed for completion by 2035. Widening East Main Street or intersections along the segment, in advance of the construction of the connector, could reduce congestion levels with a significant corridor investment but would result in increased VMT and a wider roadway that would not be needed after the connector is in place. Conditions along East Gibson Road are also projected to exceed LOS standards in the future. Widening East Gibson Road from four to six lanes would be inconsistent with General Plan policies including VMT reduction goals and, as such, is not recommended in the following section.

FOCUSED TRAFFIC STUDY REQUIREMENT TO VERIFY TIMING FOR IMPROVEMENTS:

Due to the project scale and its extended buildout, and the uncertainty over the timing of each project phase, the establishment of an ongoing management and monitoring program is the best way to establish the need for implementation of individual improvement measures. The following measure will require the project applicant to conduct focused traffic studies with each phase of development, submit the study to the City and, if General Plan LOS standards would not be met, the project applicant or the City shall construct the required improvements.

Conduct Focused Traffic Studies with Each Development Phase as Determined by City of Woodland. In conjunction with the submittal of development plans for individual project phase



(as determined by City of Woodland), the project applicant shall submit a focused traffic study to determine if any of the identified intersection, roadway, interchange, and/or external roadway improvements are required to maintain General Plan LOS goals. The focused traffic study shall address the impact of adding the individual phase of development to existing plus other approved/pending development projects. The traffic study shall use the current version of the citywide travel model or other model, and current traffic operations analysis methodology, as designated by City staff at the time of the study. If operations do not meet General Plan LOS goals, the project applicant shall construct any triggered improvements if they are a project cost, construct any triggered improvements if they are a fair share responsibility of the project and get reimbursed at a later date, or pay its fair share if implementation of improvements are the responsibility of another project prior to the issuance of the first certificate of occupancy for the first building in that phase.

ROAD SEGMENT IMPROVEMENT PROJECTS:

1. **Road B Road Segment Improvements – from Marston Drive to Road E.** The Land Use Plan Layout map that shows the proposed roadway network for the project identifies traffic signal control at the intersections of Road B/Marston Drive and Road B/Road E, intersections that frame two corners of the 10 plus acre park on the east side of Road B. The segment of Road B between these two signalized intersections would be approximately 0.34 miles, or 1,800 feet, in length. The Land Use Plan Layout also includes notes indicating that mid-block pedestrian crossings would be provided along this segment for pedestrians crossing between the business park uses on the west side of Road B to the park and residential uses on the east side of Road B. While not shown at a specific location on the Land Use Plan Layout map, it is anticipated that at least one vehicle driveway will be located along this segment given its length. Given the designation of Road B as a minor arterial in the General Plan, and its planned four lane cross-section, only one full-access driveway should be provided along this segment of Road B, and it should be located at approximately the mid-point of the segment and controlled by a traffic signal to be consistent with traffic controls planned at other intersections along Road B between CR 25A and Parkland Avenue. Any mid-block pedestrian crossings installed along Road B in this segment should include enhanced crosswalk markings, appropriate pedestrian refuge areas, appropriate traffic control devices, curb extension (or bulb-out) improvements in the parking zone in advance of the crosswalks to provide adequate visibility, and lighting improvements for pedestrian safety. These improvements would be consistent with the General Plan policy to provide complete streets designed to enable safe, attractive, and comfortable access and travel for users of all ages and abilities.



INTERSECTION IMPROVEMENT PROJECTS:

The following intersection improvements shall include appropriate pedestrian, bicycle, and/or transit improvements to serve users of all ages and abilities consistent with the General Plan complete street policy.

- 2. East Main Street/SR 113 SB Ramps Intersection Improvements.** The I-5/SR 113 Connector Phase 2 project would construct a northbound I-5 to southbound SR 113 freeway to freeway connection. Implementation of this improvement would shift a significant share of the westbound left turn movement at this intersection to the freeway to freeway connector, thus resulting in significantly improved conditions at the intersection. This improvement, which is included in the project list for SACOG's 2020 MTP/SCS, is identified as programmed and scheduled for completion by 2035. As state funding has yet to be formally programmed for full construction of the project, its implementation is not fully certain by 2035.

Interim Improvement Measure 2A: Signal Timing Modifications – East Main Street from SR 113 SB Ramps to I-5 NB Ramps. Given that implementation of the Phase 2 connector is not scheduled to occur for 15 years, an interim mitigation measure is identified. Signal timing modifications would be made as needed at all signals along East Main Street from the SR 113 SB ramps intersection to the I-5 NB Ramp intersection to reflect changes in traffic volumes with the addition of traffic generated by approved development projects and the project. Signal timing modifications to these four intersections would need to be implemented by Caltrans, who controls the signal timing and has made recent changes to improve operations.

Interim Improvement Measure 2B: MPFP Project for East Main Street/SR 113 SB Ramps Intersection. This interim measure would involve implementation of the MPFP project at this intersection, if the City determines it is triggered and feasible, which would involve widening the approaches to provide an exclusive eastbound right turn or an exclusive northbound right turn lane.

- 3. East Main Street/SR 113 NB Ramp Intersection Improvements.** As described for intersection improvement #2, the I-5/SR 113 Connector Phase 2 project would construct a freeway to freeway connection that would shift a significant share of the westbound through movement at the intersection to the freeway to freeway connector, thus resulting in significantly improved conditions at the intersection. This improvement, which is included in the project list for SACOG's 2020 MTP/SCS, is identified as programmed and scheduled for completion by 2035. As state funding has yet to be formally programmed for full construction of the project, its implementation is not fully certain by 2035.

Interim Improvement Measure 2A would make signal timing modifications at all signals along East Main Street from the SR 113 SB ramps intersection to the I-5 NB Ramp intersection.



Implementation of improvements at three intersections along this segment of East Main Street is included in the MPFP.

4. **East Main Street/Pioneer Avenue/I-5 SB On-Ramp Intersection Improvements.** As described for intersection improvement #2, the I-5/SR 113 Connector Phase 2 project would construct a freeway to freeway connection that would shift a significant share of the westbound through movement at the intersection to the freeway to freeway connector, thus resulting in significantly improved conditions at the intersection. This improvement, which is included in the project list for SACOG's 2020 MTP/SCS, is identified as programmed and scheduled for completion by 2035. As state funding has yet to be formally programmed for full construction of the project, its implementation is not fully certain by 2035.

Interim Improvement Measure 2A would make signal timing modifications at all signals along East Main Street from the SR 113 SB ramps intersection to the I-5 NB Ramp intersection. Implementation of improvements at this intersection is included in the MPFP. Signal timing modifications to these four intersections would need to be implemented by Caltrans, who controls the signal timing and has made recent changes to improve operations.

Interim Mitigation Measure 4A would involve implementation of the MPFP project at this intersection, if the City determines it is triggered and feasible, which would involve widening the southbound approach to provide an additional southbound exclusive left turn lane and a southbound exclusive right turn lane. In addition to the MPFP improvements, this mitigation measure would restripe the northbound approach as 2 left turn lanes, 1 through lane, and 2 right turn lanes (1 right turn lane to eastbound East Main Street and 1 right turn lane onto the I-5 southbound on-ramp), if the City determines this improvements is triggered and feasible.

5. **East Main Street/I-5 NB Off-Ramp Intersection Improvements.** As described for intersection improvement #2, the I-5/SR 113 Connector Phase 2 project would construct a freeway to freeway connection that would shift a significant share of the northbound left turn movement at the intersection to the freeway to freeway connector, thus resulting in significantly improved conditions at the intersection. This improvement, which is included in the project list for SACOG's 2020 MTP/SCS, is identified as programmed and scheduled for completion by 2035. As state funding has yet to be formally programmed for full construction of the project, its implementation is not fully certain by 2035.

Interim Improvement Measure 2A would make signal timing modifications at all signals along East Main Street from the SR 113 SB ramps intersection to the I-5 NB Ramp intersection. Implementation of improvements at this intersection is included in the MPFP. Signal timing



modifications to these four intersections would need to be implemented by Caltrans, who controls the signal timing and has made recent changes to improve operations.

Interim Mitigation Measure 5A: MPFP Project for East Main Street/I-5 NB Off-Ramp Intersection. This interim measure would involve implementation of the MPFP project at this intersection, if the City determines it is triggered and feasible, which would involve widening the northbound off-ramp to provide an exclusive northbound right turn lane.

- 6. East Gibson Road/Harry Lorenzo Avenue-Bourn Drive Intersection Improvements.** The East Gibson Road/Harry Lorenzo Avenue-Bourn Drive intersection shall be modified to provide full access on all approaches and a traffic signal shall be installed. The eastbound and westbound legs of the intersection shall be widened to provide left turn pockets with a 300-foot storage length. The south leg of the intersection shall be widened to provide an exclusive northbound left turn lane and a shared northbound through/right lane. The north leg of the intersection shall be widened to provide an exclusive southbound left turn lane and a shared southbound through/right turn lane. No additional feasible measures are available to further reduce delays at the intersection.

Improvements are also planned at the adjacent intersection of East Gibson Road/SR 113 NB ramps intersection. The interchange improvements include squaring off the northbound off-ramp and providing two northbound right turn lanes. These improvements shall be in place prior to implementing the East Gibson Road/Harry Lorenzo Avenue-Bourn Drive intersection improvements described above.

The traffic signal improvements at East Gibson Road/Harry Lorenzo Avenue-Bourn Drive shall also include emergency vehicle detection as well as interconnect to adjacent traffic signals on East Gibson Road at the NB SR 113 ramps and Pioneer Avenue to allow for green indications for fire department vehicles exiting the future fire station at the northwest corner of the intersection to access East Gibson Road. To clear queues of vehicles and allow fire vehicles to proceed along East Gibson Road without delays, green indications would be provided at traffic signals in the southbound direction for Bourn Drive, the eastbound direction at the East Gibson Road/Pioneer Avenue intersection, and the westbound direction at the East Gibson Road/SR 113 NB Ramp intersection when emergency vehicle detection is activated.

Implementation of this improvement measure would allow all movements at the intersection. Currently, left turn movements are prohibited. As a result, a share of traffic that would use Pioneer Avenue in the future would shift to Harry Lorenzo Avenue and Bourn Drive to use the new signalized intersection.



This project is included in the MPFP. No additional feasible mitigation measures are available at this location. This project would provide access to East Gibson Road from the planned fire station that will be constructed on the northwest corner of the intersection, which is a public benefit.

- 7. East Gibson Road/County Road 102 Intersection Improvements.** The East Gibson Road/County 102 intersection shall be widened on the south leg to provide a second through lane from East Gibson Road to the south a distance of approximately 1,200 feet, followed by a lane reduction transition from two lanes to one lane. The north leg of the intersection shall be restriped to provide two southbound through lanes. The signal timing shall be optimized for this new lane configuration. This project is included in the MPFP.
- 8. Farmers Central Road/Parkland Avenue/Pioneer Avenue Intersection Improvements.** This intersection is currently all-way stop controlled. The installation of a traffic signal was previously identified as the planned ultimate traffic control at this intersection and is fully funded by the Spring Lake Specific Plan development. As such, this project is already fully funded.
- 9. CR 25A/SR 113 SB Ramps Intersection Improvements.** The intersection shall be widened to provide a single lane roundabout, right turn bypass lanes for the southbound (i.e., off-ramp) and eastbound CR 25A approaches, and widening of the on-ramp and off-ramp to two lanes. This project is partially funded by the MPFP and the remaining costs shall be shared between the Woodland Research and Technology Park project and the Spring Lake Specific Plan project.
- 10. CR 25A/SR 113 NB Ramps Intersection Improvements.** The intersection shall be widened to provide a single lane roundabout, right turn bypass lanes for the northbound (i.e., off-ramp) and westbound CR 25A approaches, and widening of the on-ramp and off-ramp to two lanes. This project is partially funded by the MPFP and the remaining costs shall be shared between the Woodland Research and Technology Park project and the Spring Lake Specific Plan project.
- 11. CR 25A/Road B Intersection Improvements.** The CR 25A/Road B intersection shall be widened on the west leg to provide two eastbound left turn lanes and one shared eastbound through/right lane. The north leg of the intersection shall provide one southbound left turn lane, one southbound through only lane, and one southbound right turn lane. The south leg of the intersection shall provide one northbound left turn lane and one northbound through/right lane. The east leg of the intersection shall provide one westbound left turn lane, one westbound through only lane, and one shared westbound through/right lane. This improvement measure is a direct project cost.



12. CR 25A/CR 102 Intersection Improvements. A traffic signal shall be installed at the CR 25A/CR 102 intersection. This improvement is currently identified in the CIP for the Master Plan Remainder Area (MPRA) in which the proposed project is located.



8.5.3 Existing Plus Project Conditions with Improvements

Table 11 provides a summary of traffic operations at all study intersections and road segments both without and with the improvement projects described above.

Table 11: Peak Hour LOS – Existing plus Project Conditions (with Improvements)

Road Segment/ Intersection	Traffic Control	LOS Threshold	Peak Hour	Existing		Existing plus Project		Existing plus Project (with Improvement)		Meets GP LOS Standard
				Delay	LOS	Delay	LOS	Delay	LOS	
CR 25A from SR 113 NB Ramps to Road A	-	D	PM	-	C	-	E	-	C	√
3. E. Main Street/ SR 113 NB Ramps	Signal	E	AM	13	B	35	D	21	C	√
			PM	59	E	148	F	65	E	
5. E. Main Street/ I-5 NB Off-Ramp	Signal	E	AM	55	E	>150	F	47	D	√
			PM	11	B	15	B	15	B	
12. E. Gibson Road/ Harry Lorenzo Avenue- Bourn Drive	SSSC	D	AM	7 (26)	A (D)	13 (48)	B (E)	57	E	No
			PM	9 (11)	A (B)	12 (20)	A (C)	55	E	
14. E. Gibson Road- County Road 24/ County Road 102 ³	Signal	D	AM	19	B	27	C	25	C	√
			PM	32	C	70	E	39	D	
16. Farmers Central Road/Parkland Avenue-Pioneer Ave	AWSC	D	AM	10	A	43	E	22	C	√
			PM	11	B	97	F	25	C	
21. CR 25A/ SR 113 SB Ramps	SSSC	E	AM	6 (17)	A (C)	80 (>150)	F (F)	6	A	√
			PM	2 (4)	A (A)	55 (>150)	F (F)	6	A	
22. CR 25A/ SR 113 NB Ramps	SSSC	E	AM	2 (6)	A (A)	126 (>150)	F (F)	7	A	√
			PM	4 (7)	A (A)	83 (>150)	F (F)	7	A	
23. CR 25A/Road A	SSSC	D	AM	-	-	64 (>150)	F (F)	3 (12)	A (B)	√
			PM	-	-	5 (23)	A (C)	2 (8)	A (A)	
25. CR 25A/Road B	Signal	D	AM	-	-	>150	F	26	C	√
			PM	-	-	54	D	30	C	

Notes:



AWSC=All-way Stop Control. SSSC = Side-Street Stop Control.

Bold text indicates intersection would not meet General Plan LOS goals.

1. For signalized and all-way stop-way stop controlled intersections, the overall average intersection control delay is reported in seconds.
 2. For side-street stop controlled intersections, the average control delay and total delay for the worst movement are presented.
 3. HCM 2000 methodology is used for the intersection of East Gibson Road/County Road 24/County Road 102 (#14) because of non-NEMA signal timings.
- Source: Fehr & Peers, 2020.

No additional near-term improvement measures are feasible and/or effective at the following intersection to meet General Plan LOS standards under Existing plus Project conditions.

- East Gibson Road/Harry Lorenzo Avenue-Bourn Drive



8.5.5 Existing Plus Approved Plus Project Conditions with Improvements

Table 12 provides a summary of traffic operations at all study intersections and road segments both without and with the improvement projects described above.

Table 12: Peak Hour LOS – Existing plus Approved plus Project Conditions (with Improvements)

Road Segment/ Intersection	Traffic Control	LOS Threshold	Peak Hour	Existing plus Approved		Existing plus Approved plus Project		Existing plus Approved plus Project (with Improvement)		Meets GP LOS Standard
				Delay	LOS	Delay	LOS	Delay	LOS	
CR 25A from SR 113 NB Ramps to Road A	-	D	PM	-	C	-	F	-	D	√
CR 25 from Road A to Road B	-	D	PM	-	C	-	E	-	C	√
2. E. Main Street/ SR 113 SB Ramps- Industrial Way	Signal	E	AM	47	D	47	D	42	D	√
			PM	92	F	98	F	68	E	
3. E. Main Street/ SR 113 NB Ramps	Signal	E	AM	42	D	60	E	33	C	No
			PM	142	F	>150	F	>150	F	
4. E. Main Street/ Pioneer Avenue/ I-5 SB On-Ramp	Signal	E	AM	80	F	102	F	85	F	No
			PM	69	E	78	E	61	E	
5. E. Main Street/ I-5 NB Off-Ramp	Signal	E	AM	>150	F	>150	F	>150	F	No
			PM	92	F	>150	F	>150	F	
9. E. Gibson Road/ Matmor Road	Signal	D	AM	49	D	83	F	No feasible measures		No
			PM	29	C	32	C			
12. E. Gibson Road/Harry Lorenzo Avenue/Bourn Drive	SSSC	D	AM	12 (70)	B (F)	13 (65)	B (F)	89	F	No
			PM	14 (19)	B (C)	15 (20)	B (C)	54	D	
13. E. Gibson Road/ Pioneer Avenue	Signal	D	AM	61	E	71	E	66	E	No
			PM	46	D	53	D	41	D	
14. E. Gibson Road- County Road 24/ County Road 102 ³	Signal	D	AM	24	C	26	C	22	C	√
			PM	69	E	93	F	43	D	
21. CR 25A/ SR 113 SB Ramps	SSSC	E	AM	89 (>150)	F (F)	78 (>150)	F (F)	27	D	√



Table 12: Peak Hour LOS – Existing plus Approved plus Project Conditions (with Improvements)

Road Segment/ Intersection	Traffic Control	LOS Threshold	Peak Hour	Existing plus Approved		Existing plus Approved plus Project		Existing plus Approved plus Project (with Improvement)		Meets GP LOS Standard
				Delay	LOS	Delay	LOS	Delay	LOS	
			PM	4 (11)	A (B)	42 (> 150)	E (F)	8	A	
22. CR 25A/ SR 113 NB Ramps	SSSC	E	AM	> 150 (> 150)	F (F)	126 (> 150)	F (F)	13	B	√
			PM	19 (30)	C (D)	79 (> 150)	F (F)	7	A	
23. CR 25A/Road A	SSSC	D	AM	-	-	74 (> 150)	F (F)	7 (67)	A (F)	No
			PM	-	-	5 (21)	A (C)	3 (11)	A (B)	
25. CR 25A/Road B	Signal	D	AM	-	-	> 150	F	35	C	√
			PM	-	-	61	E	30	C	
27. CR 102/CR 25A	SSSC	D	AM	6 (22)	A (C)	8 (31)	A (D)	10	A	√
			PM	3 (38)	A (E)	5 (63)	A (F)	9	A	

Notes:

AWSC=All-way Stop Control. SSSC = Side-Street Stop Control.

Bold text indicates intersection would not meet General Plan LOS goals.

1. For signalized and all-way stop-way stop controlled intersections, the overall average intersection control delay is reported in seconds.

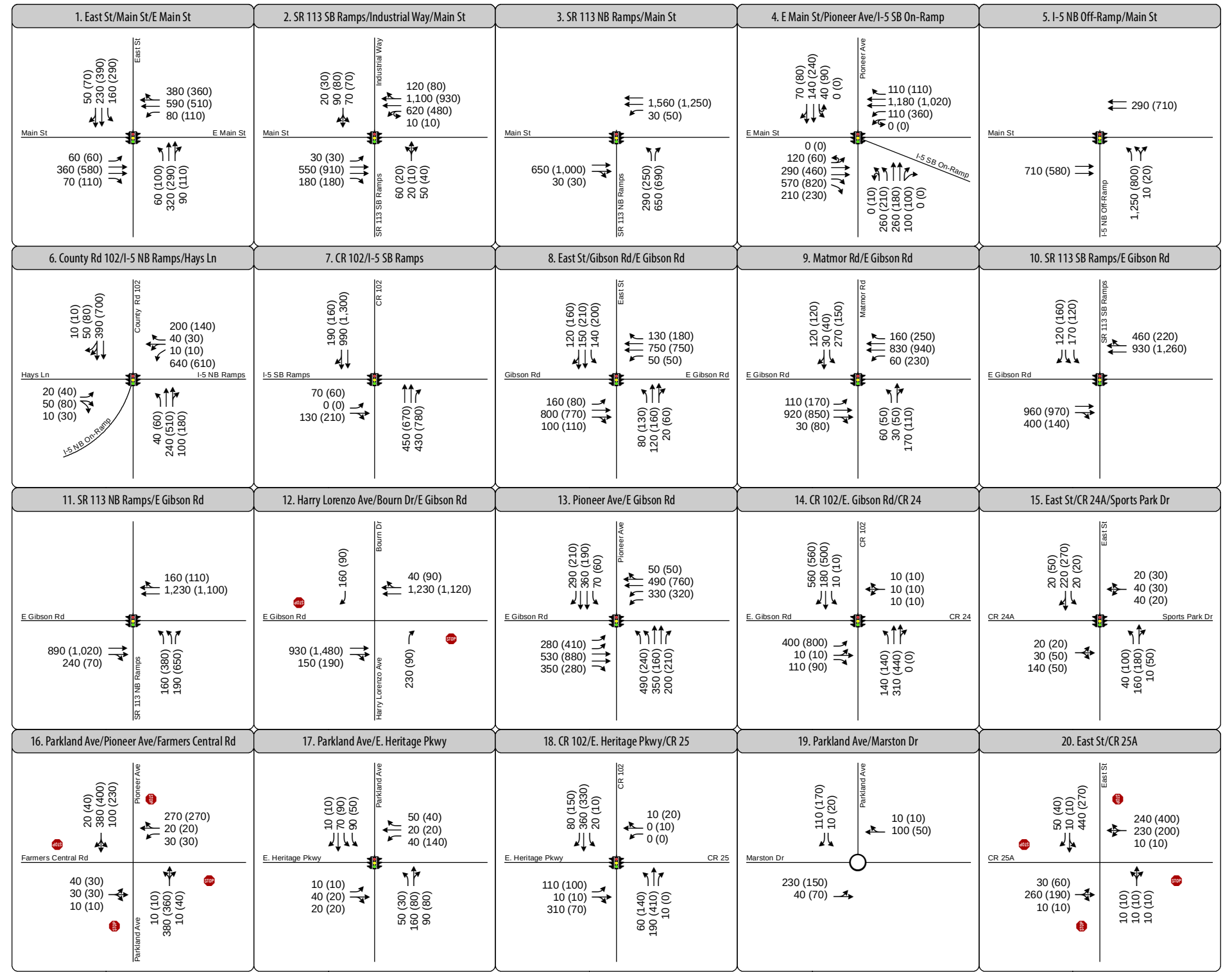
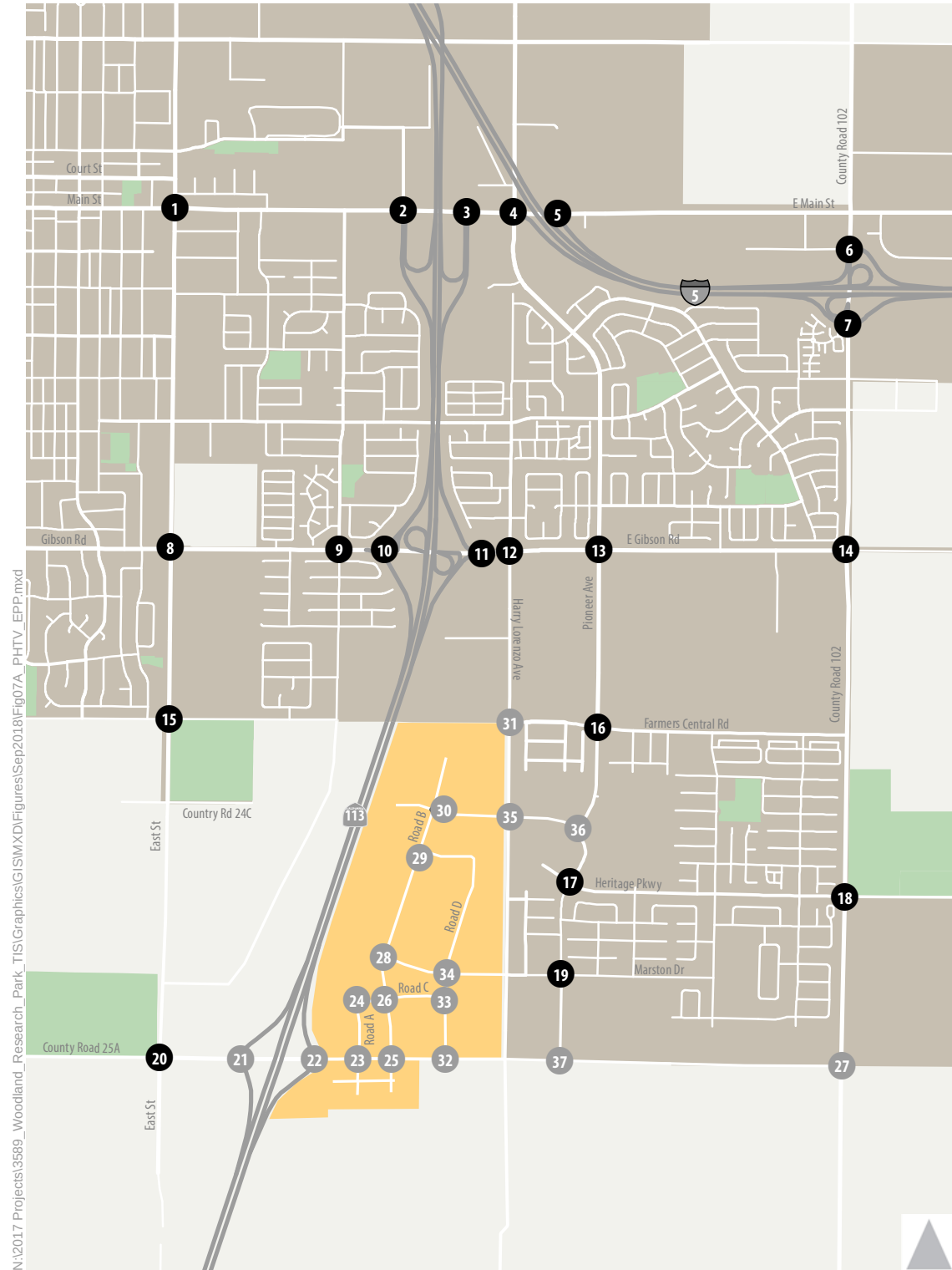
2. For side-street stop controlled intersections, the average control delay and total delay for the worst movement are presented.

3. HCM 2000 methodology is used for the intersection of East Gibson Road/County Road 24/County Road 102 (#14) because of non-NEMA signal timings.

Source: Fehr & Peers, 2020.

No additional near-term improvement measures are feasible and/or effective at the following intersections to meet General Plan LOS standards under Existing plus Approved plus Project conditions.

- East Main Street/SR 113 NB Ramps
- East Main Street/Pioneer Avenue/I-5 SB On-Ramp
- East Main Street/I-5 NB Off-ramp
- East Gibson Road/Matmor Avenue
- East Gibson Road/Harry Lorenzo Avenue-Bourn Drive
- East Gibson Road/Pioneer Avenue
- CR 25A/Road A



- 1** Study Intersection
- 21** Study Intersection (Shown on Page B)
- Project Location
- City of Woodland City Limits

- Turn Lane
- Traffic Signal
- Roundabout
- Stop Sign

AM (PM) Peak Hour Traffic Volume

Figure 8A

Peak Hour Traffic Volumes
and Lane Configurations -
Existing Plus Project Conditions



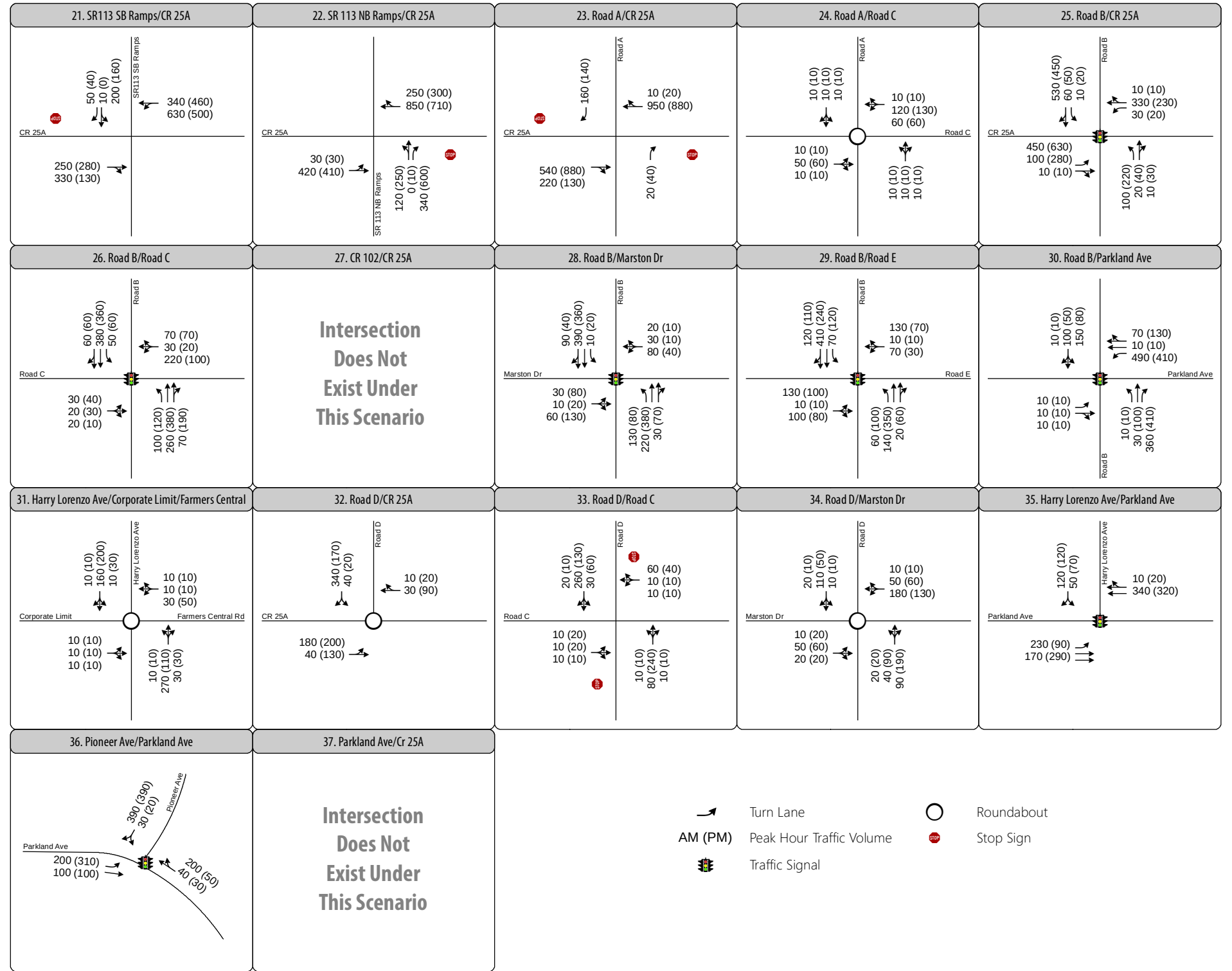
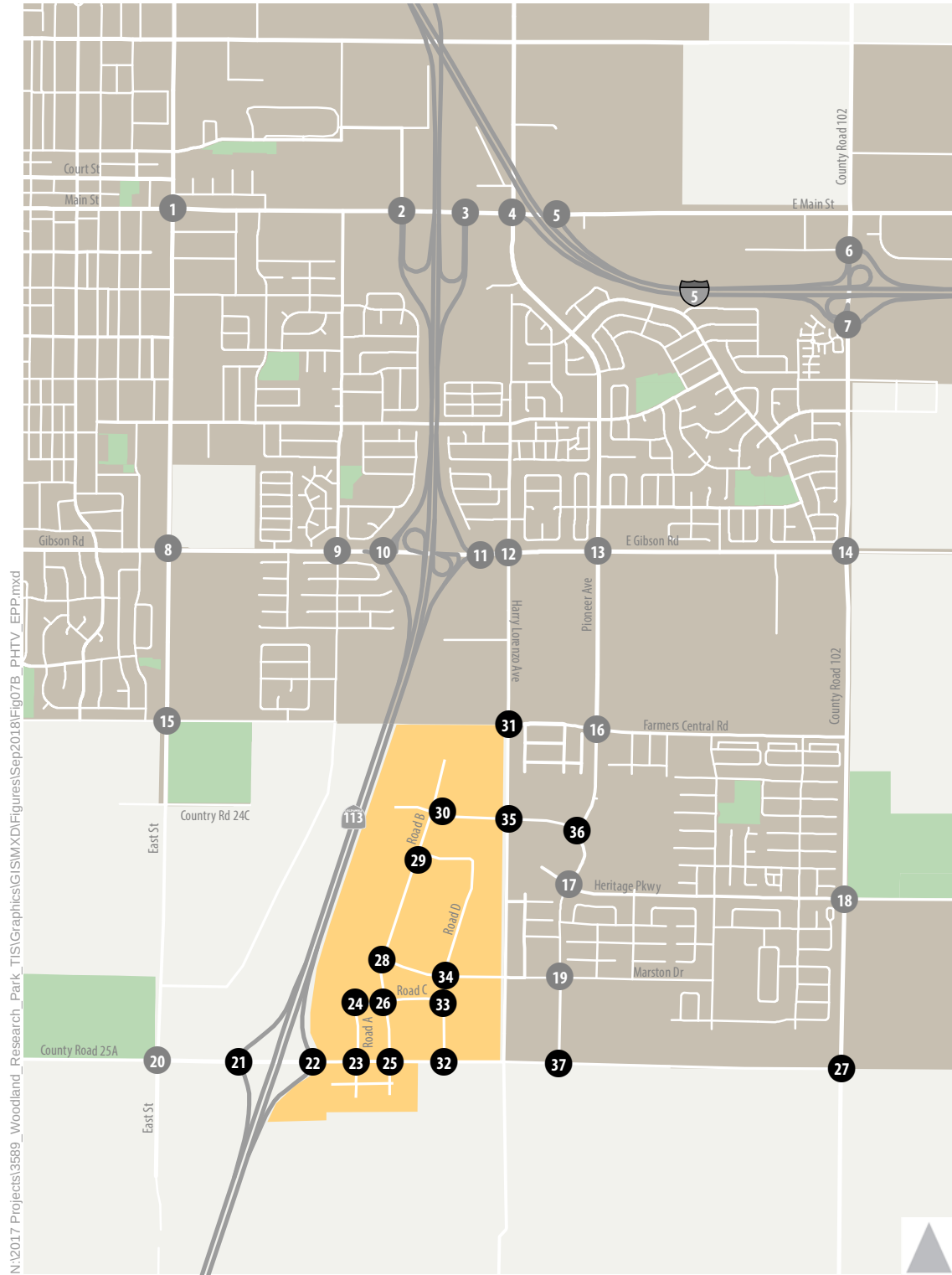


Figure 8B
Peak Hour Traffic Volumes
and Lane Configurations -
Existing Plus Project Conditions



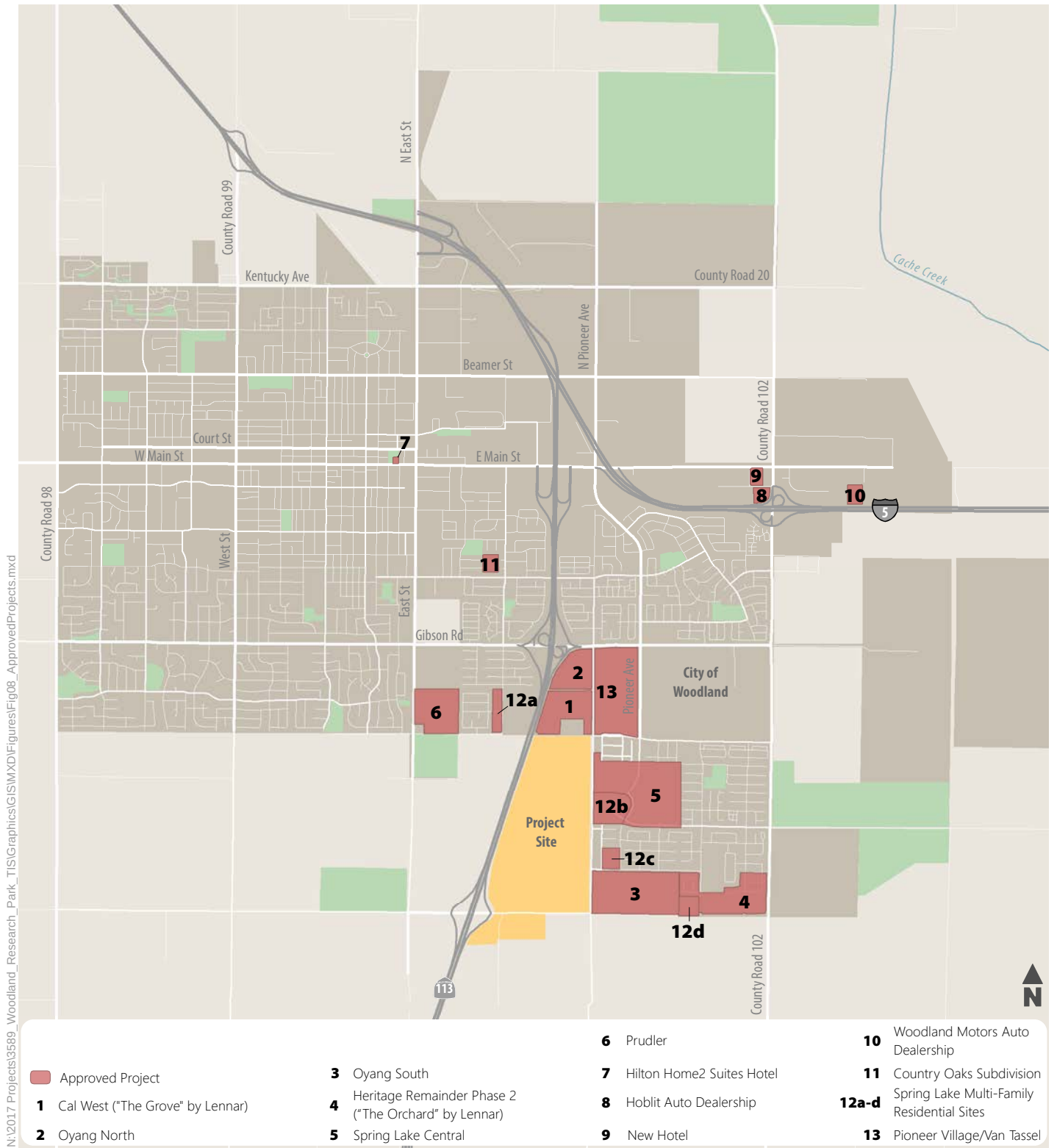
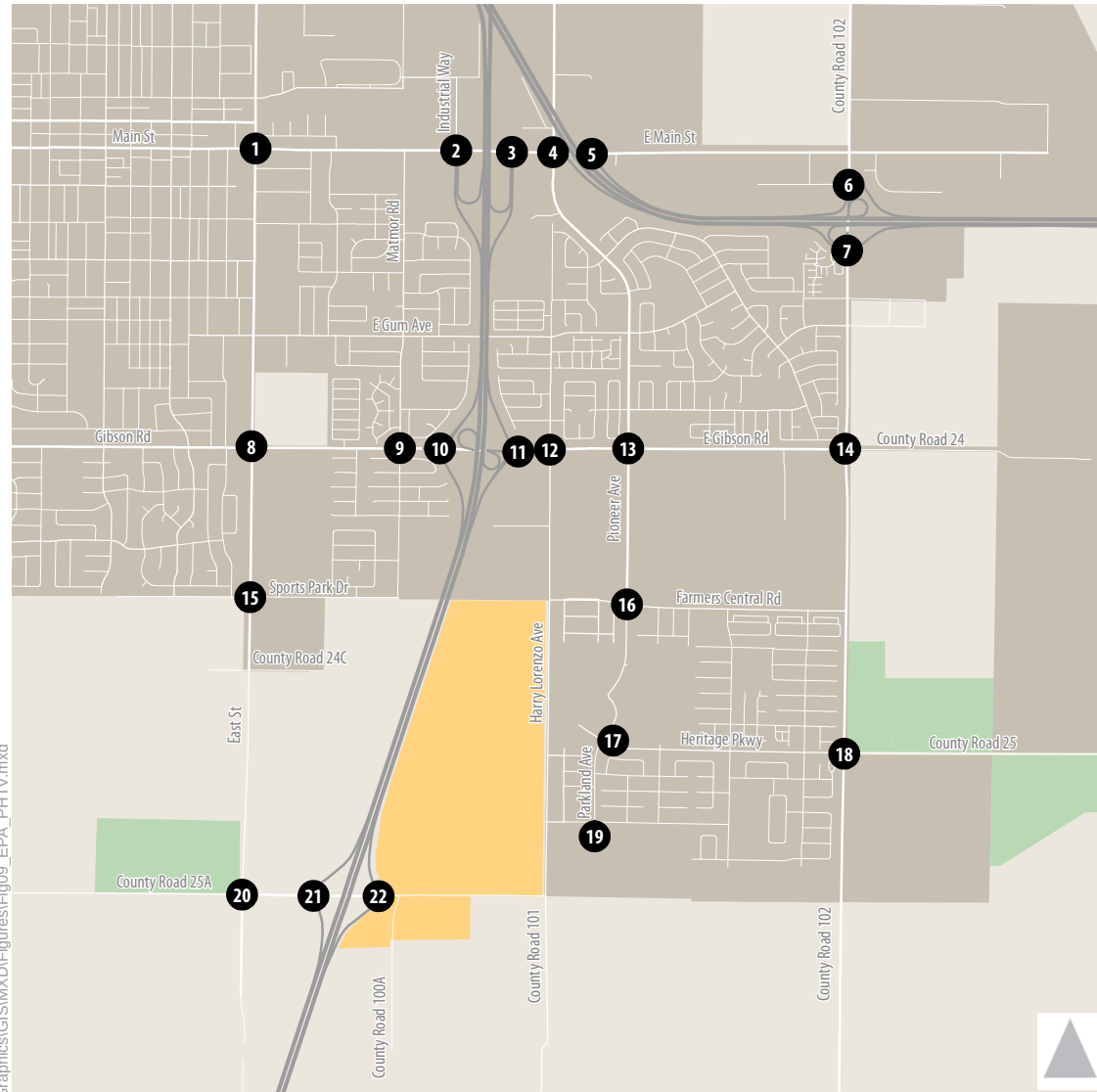


Figure 9
Approved Projects



N:\2017 Projects\35598_Woodland_Research_Park_TIS\Graphics\GISMXD\Figures\Fig09_EPA_PHTV.mxd



- 1 Study Intersection
- Project Location
- City of Woodland City Limits
- Turn Lane
- AM (PM) Peak Hour Traffic Volume
- Traffic Signal
- Stop Sign

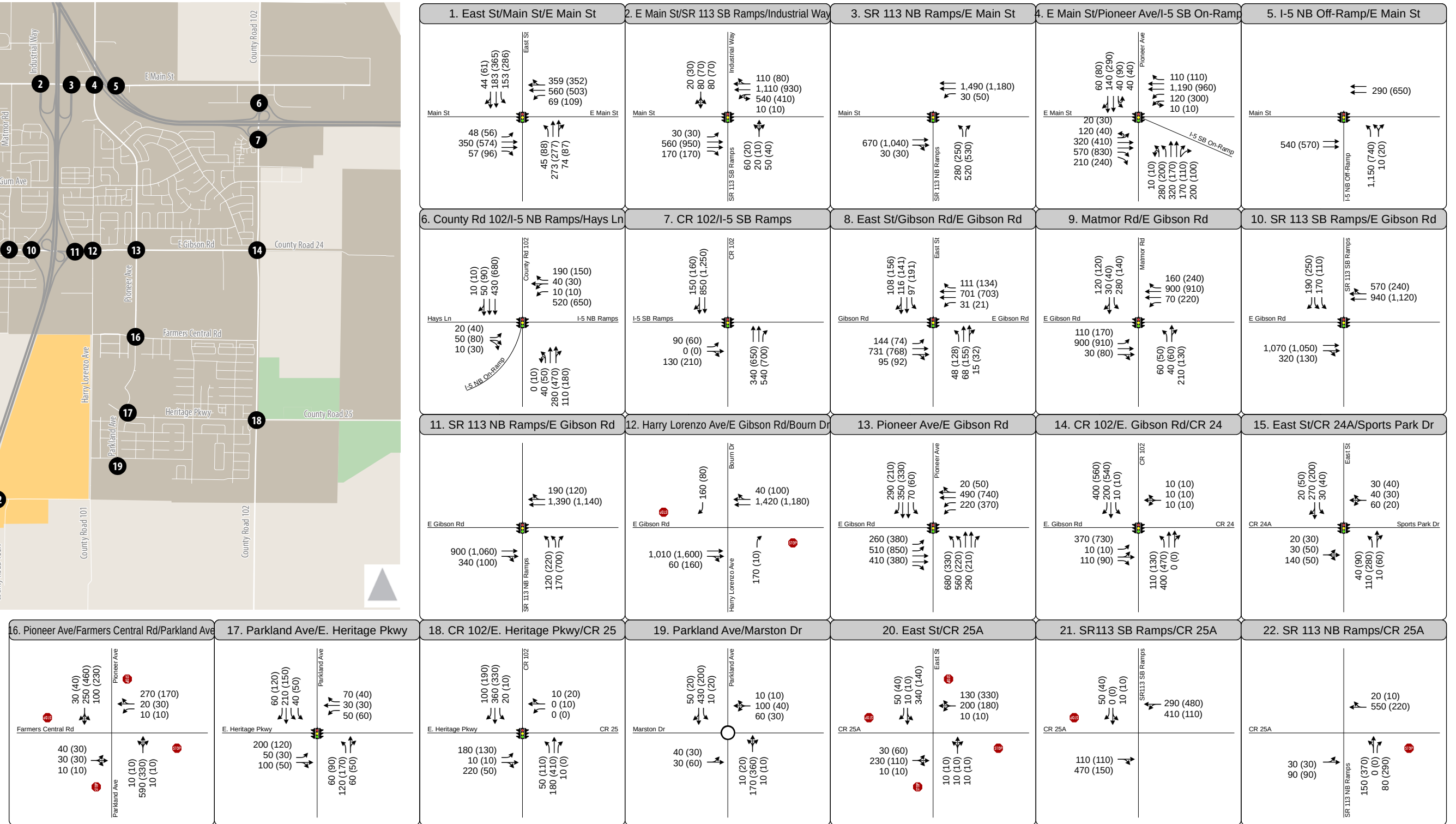
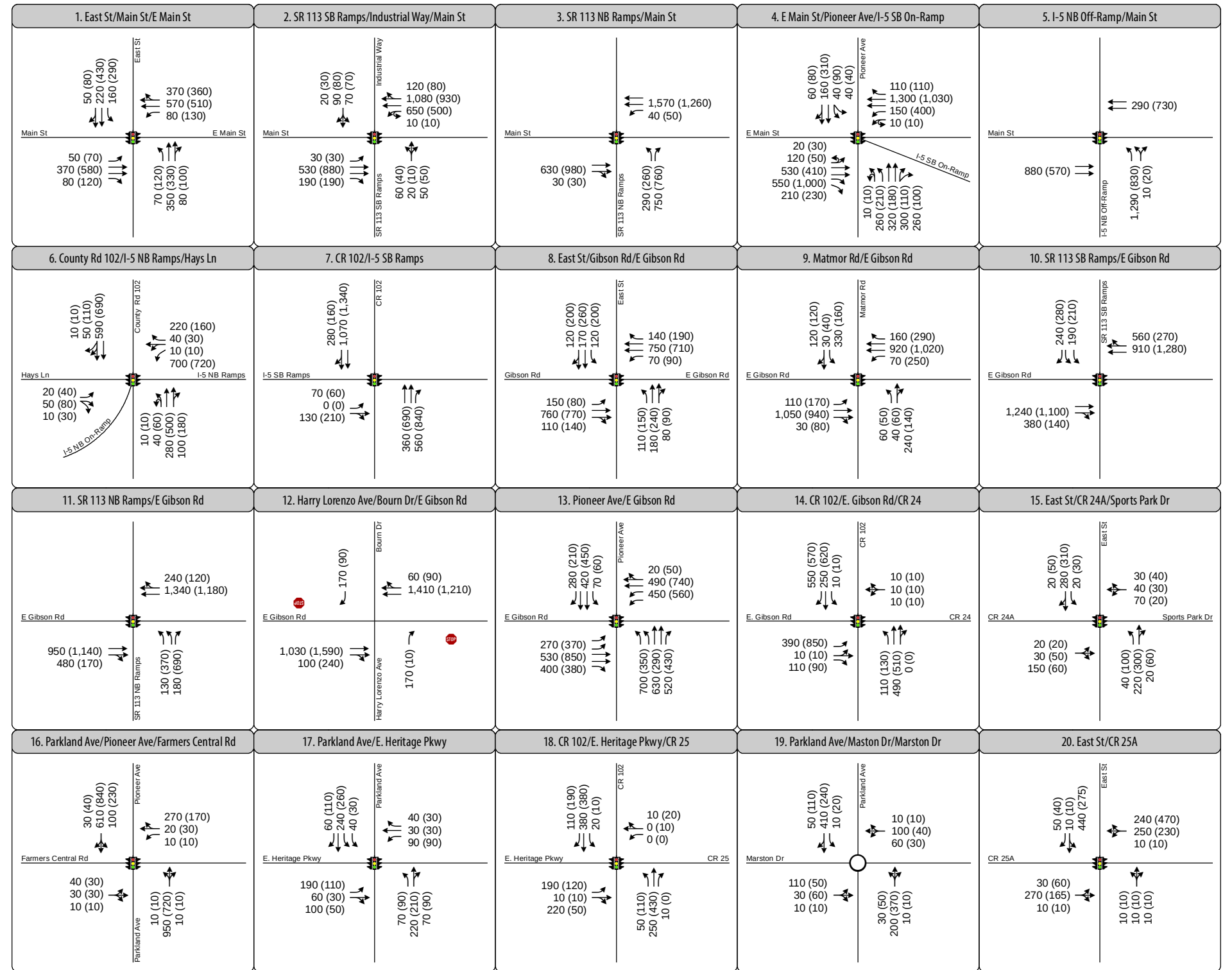
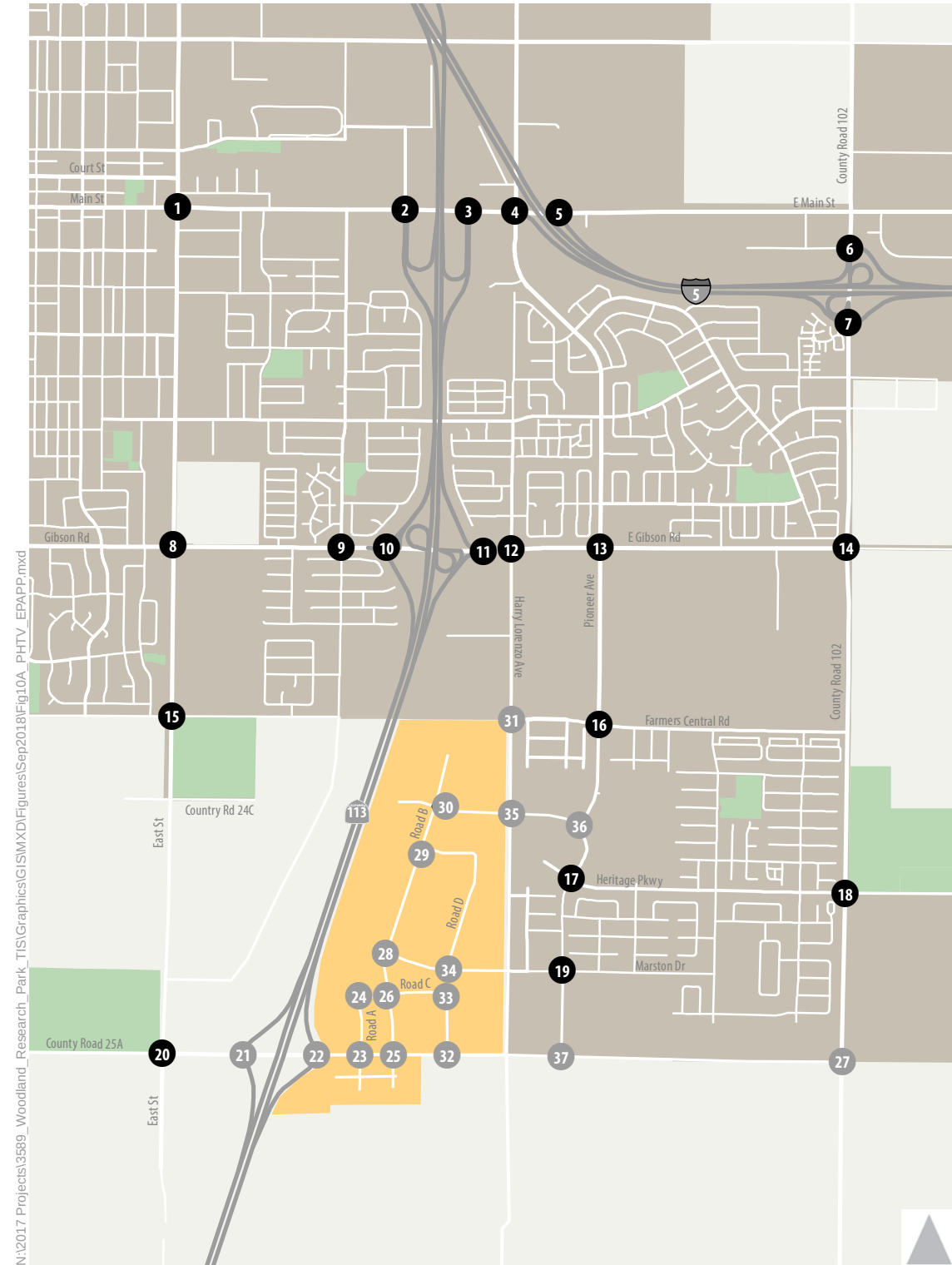


Figure 10
Peak Hour Traffic Volumes
and Lane Configurations -
Existing Plus Approved Conditions





- 1 Study Intersection
- 21 Study Intersection (Shown on Page B)
- Project Location
- City of Woodland City Limits

- Turn Lane
- Peak Hour Traffic Volume
- Traffic Signal
- Roundabout
- Stop Sign

Figure 11A
Peak Hour Traffic Volumes
and Lane Configurations -
Existing Plus Approved Plus Project Conditions



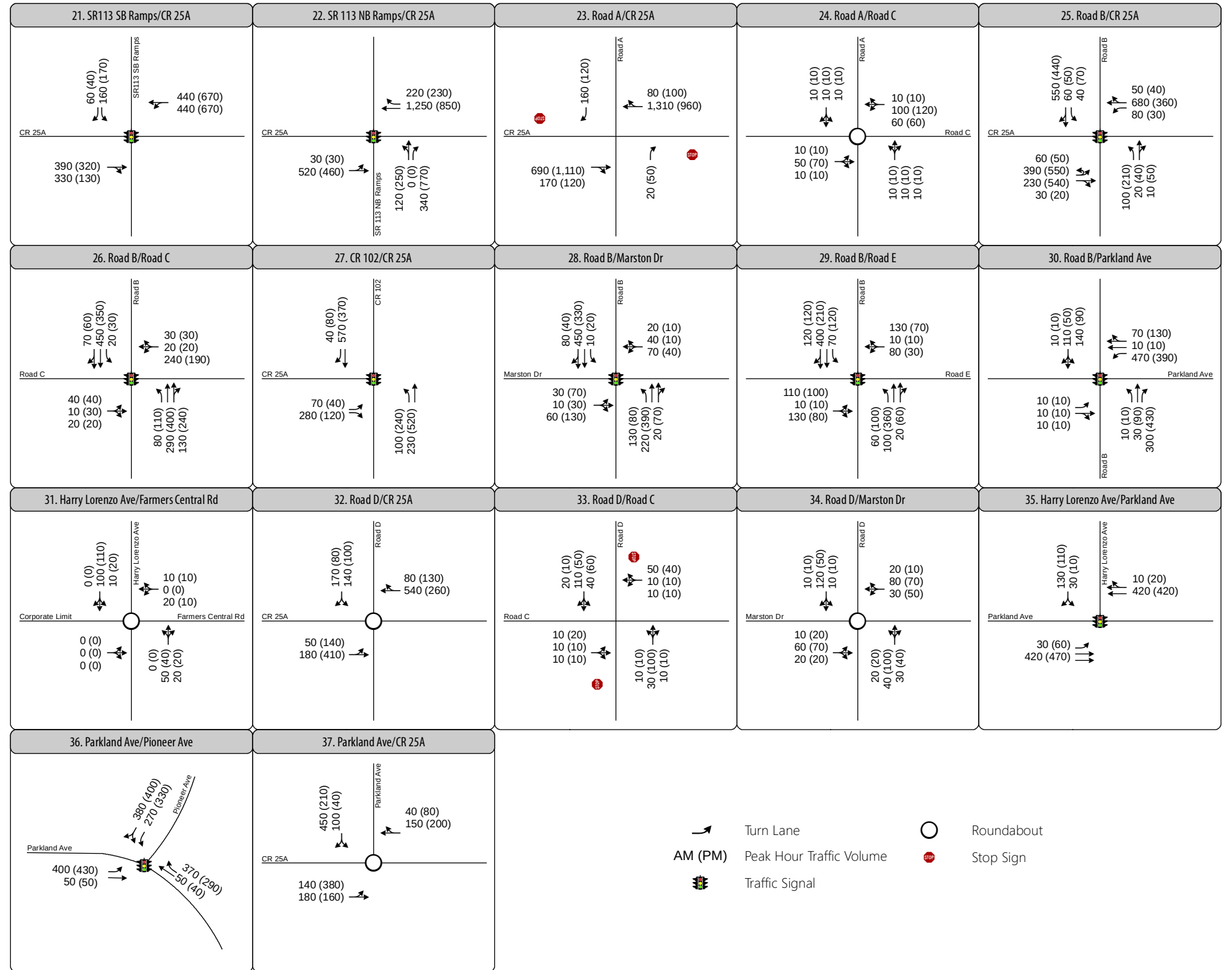
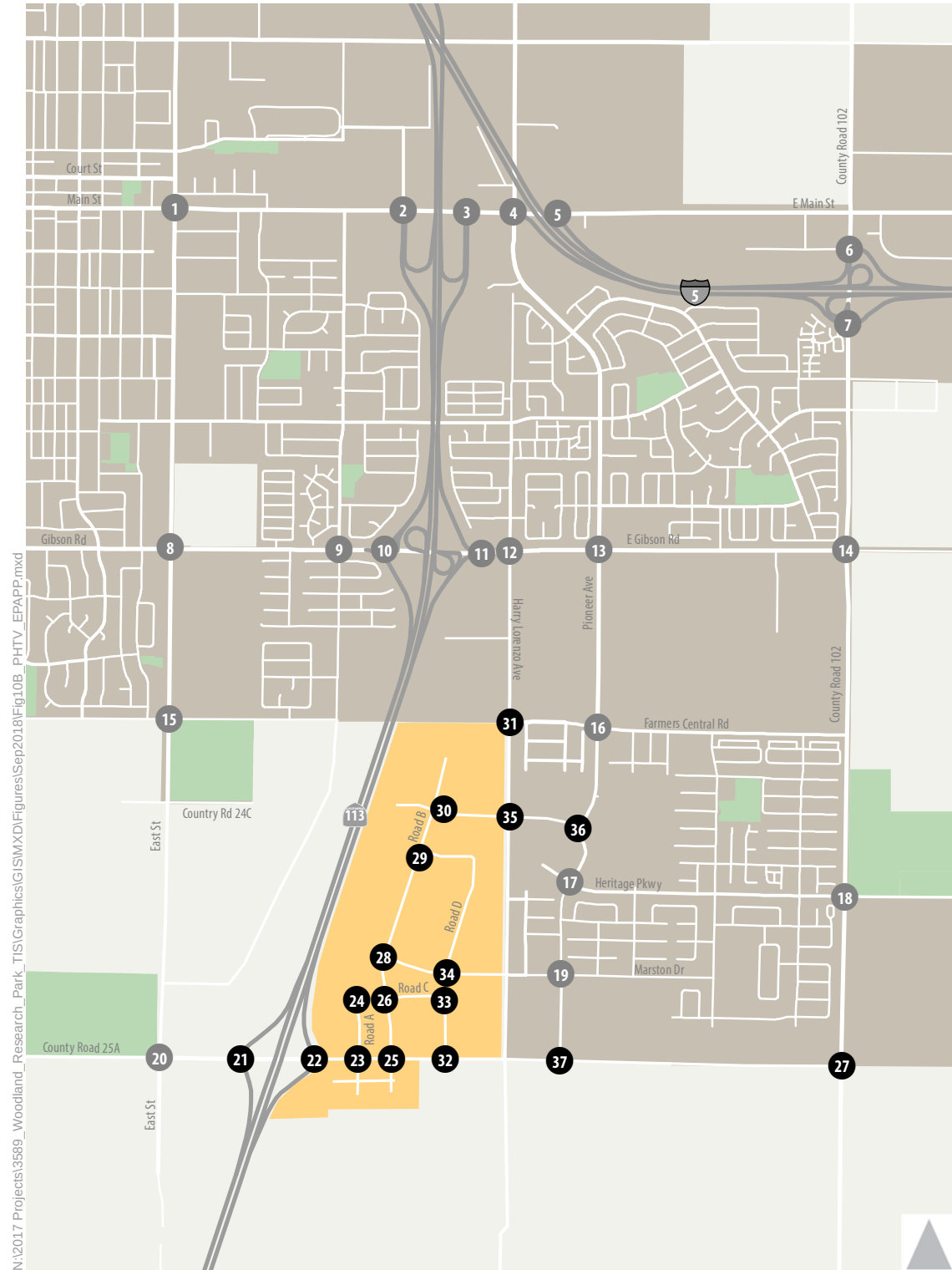


Figure 11B
Peak Hour Traffic Volumes
and Lane Configurations -
Existing Plus Approved Plus Project Conditions



APPENDIX A

EXISTING TURN MOVEMENT COUNTS

ALL TRAFFIC DATA

(916) 771-8700

orders@atdtraffic.com

File Name : 17-07762-034

Date : 09/28/2017

Unshifted Count = All Vehicles & Uturns

	East St Southbound					Main St Westbound					East St Northbound					Main St Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
7:00	48	39	7	0	94	6	68	49	0	123	7	35	24	0	66	12	55	5	0	72	355	0
7:15	33	43	12	0	88	7	76	63	0	146	6	49	18	0	73	6	54	7	0	67	374	0
7:30	21	49	16	0	86	13	97	71	0	181	6	74	22	0	102	6	73	12	0	91	460	0
7:45	22	53	13	0	88	16	161	118	0	295	9	75	11	0	95	11	96	16	0	123	601	0
Total	124	184	48	0	356	42	402	301	0	745	28	233	75	0	336	35	278	40	0	353	1790	0
8:00	33	45	6	0	84	19	130	96	0	245	14	69	28	0	111	10	83	14	0	107	547	0
8:15	34	48	12	0	94	15	126	86	0	227	13	85	16	0	114	19	92	14	0	125	560	0
8:30	64	37	13	0	114	19	143	59	0	221	9	44	19	0	72	8	79	13	0	100	507	0
8:45	53	39	6	0	98	10	161	80	0	251	6	55	22	0	83	12	73	11	0	96	528	0
Total	184	169	37	0	390	63	560	321	0	944	42	253	85	0	380	49	327	52	0	428	2142	0
16:00	69	85	10	0	164	14	133	79	0	226	21	71	38	0	130	13	161	24	0	198	718	0
16:15	63	75	7	0	145	36	157	96	0	289	15	63	26	0	104	15	135	19	0	169	707	0
16:30	73	80	14	0	167	21	118	75	0	214	28	55	22	0	105	15	129	22	0	166	652	0
16:45	69	93	19	0	181	24	110	88	0	222	23	79	24	0	126	14	115	19	0	148	677	0
Total	274	333	50	0	657	95	518	338	0	951	87	268	110	0	465	57	540	84	0	681	2754	0
17:00	81	117	21	0	219	28	118	93	0	239	22	80	15	0	117	12	195	36	0	243	818	0
17:15	70	101	8	0	179	25	113	79	0	217	17	73	18	0	108	8	120	21	0	149	653	0
17:30	73	74	6	0	153	31	118	79	0	228	27	73	18	0	118	7	109	25	0	141	640	0
17:45	75	96	8	0	179	29	113	74	0	216	23	69	15	0	107	14	128	25	0	167	669	0
Total	299	388	43	0	730	113	462	325	0	900	89	295	66	0	450	41	552	107	0	700	2780	0
Grand Total	881	1074	178	0	2133	313	1942	1285	0	3540	246	1049	336	0	1631	182	1697	283	0	2162	9466	0
Apprch %	41.3%	50.4%	8.3%	0.0%		8.8%	54.9%	36.3%	0.0%		15.1%	64.3%	20.6%	0.0%		8.4%	78.5%	13.1%	0.0%			
Total %	9.3%	11.3%	1.9%	0.0%	22.5%	3.3%	20.5%	13.6%	0.0%	37.4%	2.6%	11.1%	3.5%	0.0%	17.2%	1.9%	17.9%	3.0%	0.0%	22.8%	100.0%	

AM PEAK HOUR	East St Southbound					Main St Westbound					East St Northbound					Main St Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	22	53	13	0	88	16	161	118	0	295	9	75	11	0	95	11	96	16	0	123	601
8:00	33	45	6	0	84	19	130	96	0	245	14	69	28	0	111	10	83	14	0	107	547
8:15	34	48	12	0	94	15	126	86	0	227	13	85	16	0	114	19	92	14	0	125	560
8:30	64	37	13	0	114	19	143	59	0	221	9	44	19	0	72	8	79	13	0	100	507
Total Volume	153	183	44	0	380	69	560	359	0	988	45	273	74	0	392	48	350	57	0	455	2215
% App Total	40.3%	48.2%	11.6%	0.0%		7.0%	56.7%	36.3%	0.0%		11.5%	69.6%	18.9%	0.0%		10.5%	76.9%	12.5%	0.0%		
PHF	.598	.863	.846	.000	.833	.908	.870	.761	.000	.837	.804	.803	.661	.000	.860	.632	.911	.891	.000	.910	.921

PM PEAK HOUR	East St Southbound					Main St Westbound					East St Northbound					Main St Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:15 to 17:15																					
Peak Hour For Entire Intersection Begins at 16:15																					
16:15	63	75	7	0	145	36	157	96	0	289	15	63	26	0	104	15	135	19	0	169	707
16:30	73	80	14	0	167	21	118	75	0	214	28	55	22	0	105	15	129	22	0	166	652
16:45	69	93	19	0	181	24	110	88	0	222	23	79	24	0	126	14	115	19	0	148	677
17:00	81	117	21	0	219	28	118	93	0	239	22	80	15	0	117	12	195	36	0	243	818
Total Volume	286	365	61	0	712	109	503	352	0	964	88	277	87	0	452	56	574	96	0	726	2854
% App Total	40.2%	51.3%	8.6%	0.0%		11.3%	52.2%	36.5%	0.0%		19.5%	61.3%	19.2%	0.0%		7.7%	79.1%	13.2%	0.0%		
PHF	.883	.780	.726	.000	.813	.757	.801	.917	.000	.834	.786	.866	.837	.000	.897	.933	.736	.667	.000	.747	.872

ALL TRAFFIC DATA

(916) 771-8700

orders@atdtraffic.com

File Name : 17-07762-038

Date : 09/26/2017

Unshifted Count = All Vehicles & Uturns

	SR 113 SB Ramps Southbound					E Main St Westbound					SR 113 SB Ramps Northbound					E Main St Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
7:00	27	12	14	0	53	74	134	30	0	238	7	3	10	0	20	3	122	28	0	153	464	0
7:15	33	25	10	0	68	81	161	18	0	260	2	2	5	0	9	7	126	41	0	174	511	0
7:30	17	28	4	0	49	93	245	25	1	364	12	4	13	0	29	6	118	45	0	169	611	1
7:45	12	14	1	0	27	108	307	28	0	443	14	3	16	0	33	9	144	45	0	198	701	0
Total	89	79	29	0	197	356	847	101	1	1305	35	12	44	0	91	25	510	159	0	694	2287	1
8:00	13	13	4	0	30	111	219	23	1	354	11	3	10	0	24	7	127	35	0	169	577	1
8:15	20	13	7	0	40	111	237	25	0	373	16	6	10	0	32	6	128	33	0	167	612	0
8:30	9	8	3	0	20	109	239	20	0	368	10	3	9	0	22	4	138	34	0	176	586	0
8:45	17	12	3	0	32	93	204	25	1	323	8	5	20	0	33	3	138	30	0	171	559	1
Total	59	46	17	0	122	424	899	93	2	1418	45	17	49	0	111	20	531	132	0	683	2334	2
16:00	24	13	10	0	47	54	249	19	0	322	3	1	3	0	7	6	212	28	0	246	622	0
16:15	11	12	8	0	31	76	230	30	1	337	3	1	11	0	15	9	202	30	0	241	624	1
16:30	16	18	7	0	41	65	217	19	1	302	4	1	7	0	12	6	191	35	0	232	587	1
16:45	16	8	9	0	33	75	216	22	1	314	1	0	8	0	9	3	225	33	0	261	617	1
Total	67	51	34	0	152	270	912	90	3	1275	11	3	29	0	43	24	830	126	0	980	2450	3
17:00	23	27	9	0	59	62	214	16	0	292	4	0	9	0	13	10	224	55	0	289	653	0
17:15	9	21	4	0	34	76	244	19	0	339	5	0	6	0	11	6	205	32	0	243	627	0
17:30	12	8	5	0	25	70	224	19	1	314	2	0	10	0	12	9	193	42	0	244	595	1
17:45	9	8	6	0	23	59	255	27	2	343	3	0	6	0	9	7	200	37	0	244	619	2
Total	53	64	24	0	141	267	937	81	3	1288	14	0	31	0	45	32	822	166	0	1020	2494	3
Grand Total	268	240	104	0	612	1317	3595	365	9	5286	105	32	153	0	290	101	2693	583	0	3377	9565	9
Apprch %	43.8%	39.2%	17.0%	0.0%		24.9%	68.0%	6.9%	0.2%		36.2%	11.0%	52.8%	0.0%		3.0%	79.7%	17.3%	0.0%			
Total %	2.8%	2.5%	1.1%	0.0%	6.4%	13.8%	37.6%	3.8%	0.1%	55.3%	1.1%	0.3%	1.6%	0.0%	3.0%	1.1%	28.2%	6.1%	0.0%	35.3%	100.0%	

AM PEAK HOUR	SR 113 SB Ramps Southbound					E Main St Westbound					SR 113 SB Ramps Northbound					E Main St Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	17	28	4	0	49	93	245	25	1	364	12	4	13	0	29	6	118	45	0	169	611
7:45	12	14	1	0	27	108	307	28	0	443	14	3	16	0	33	9	144	45	0	198	701
8:00	13	13	4	0	30	111	219	23	1	354	11	3	10	0	24	7	127	35	0	169	577
8:15	20	13	7	0	40	111	237	25	0	373	16	6	10	0	32	6	128	33	0	167	612
Total Volume	62	68	16	0	146	423	1008	101	2	1534	53	16	49	0	118	28	517	158	0	703	2501
% App Total	42.5%	46.6%	11.0%	0.0%		27.6%	65.7%	6.6%	0.1%		44.9%	13.6%	41.5%	0.0%		4.0%	73.5%	22.5%	0.0%		
PHF	.775	.607	.571	.000	.745	.953	.821	.902	.500	.866	.828	.667	.766	.000	.894	.778	.898	.878	.000	.888	.892

PM PEAK HOUR	SR 113 SB Ramps Southbound					E Main St Westbound					SR 113 SB Ramps Northbound					E Main St Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	23	27	9	0	59	62	214	16	0	292	4	0	9	0	13	10	224	55	0	289	653
17:15	9	21	4	0	34	76	244	19	0	339	5	0	6	0	11	6	205	32	0	243	627
17:30	12	8	5	0	25	70	224	19	1	314	2	0	10	0	12	9	193	42	0	244	595
17:45	9	8	6	0	23	59	255	27	2	343	3	0	6	0	9	7	200	37	0	244	619
Total Volume	53	64	24	0	141	267	937	81	3	1288	14	0	31	0	45	32	822	166	0	1020	2494
% App Total	37.6%	45.4%	17.0%	0.0%		20.7%	72.7%	6.3%	0.2%		31.1%	0.0%	68.9%	0.0%		3.1%	80.6%	16.3%	0.0%		
PHF	.576	.593	.667	.000	.597	.878	.919	.750	.375	.939	.700	.000	.775	.000	.865	.800	.917	.755	.000	.882	.955

ALL TRAFFIC DATA

(916) 771-8700

orders@atdtraffic.com

File Name : 17-07762-039

Date : 09/26/2017

Unshifted Count = All Vehicles & Uturns

	SR 113 NB Ramps Southbound					E Main St Westbound					SR 113 NB Ramps Northbound					E Main St Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
7:00	0	0	0	0	0	6	187	0	0	193	33	0	56	0	89	0	149	7	0	156	438	0
7:15	0	0	0	0	0	8	239	0	0	247	30	0	57	0	87	0	157	8	0	165	499	0
7:30	0	0	0	0	0	6	307	0	0	313	72	0	76	0	148	0	133	4	0	137	598	0
7:45	0	0	0	0	0	4	359	0	0	363	83	0	79	0	162	0	189	3	0	192	717	0
Total	0	0	0	0	0	24	1092	0	0	1116	218	0	268	0	486	0	628	22	0	650	2252	0
8:00	0	0	0	0	0	3	297	0	0	300	54	0	74	0	128	0	146	4	0	150	578	0
8:15	0	0	0	0	0	8	312	0	0	320	66	0	65	0	131	0	155	6	2	163	614	2
8:30	0	0	0	0	0	5	306	0	0	311	64	0	52	0	116	0	160	11	0	171	598	0
8:45	0	0	0	0	0	8	244	0	0	252	70	0	42	0	112	0	167	7	1	175	539	1
Total	0	0	0	0	0	24	1159	0	0	1183	254	0	233	0	487	0	628	28	3	659	2329	3
16:00	0	0	0	0	0	7	278	0	0	285	59	0	98	0	157	0	217	4	0	221	663	0
16:15	0	0	0	0	0	4	300	0	0	304	44	0	119	0	163	0	226	8	0	234	701	0
16:30	0	0	0	0	0	14	262	0	0	276	46	0	129	0	175	0	215	4	1	220	671	1
16:45	0	0	0	0	0	8	254	0	0	262	69	0	135	0	204	0	245	7	0	252	718	0
Total	0	0	0	0	0	33	1094	0	0	1127	218	0	481	0	699	0	903	23	1	927	2753	1
17:00	0	0	0	0	0	7	250	0	0	257	46	0	106	0	152	0	235	8	0	243	652	0
17:15	0	0	0	0	0	12	282	0	0	294	65	0	135	0	200	0	237	5	0	242	736	0
17:30	0	0	0	0	0	14	278	0	0	292	51	0	138	0	189	0	211	8	0	219	700	0
17:45	0	0	0	0	0	4	274	0	0	278	51	0	101	0	152	0	219	5	0	224	654	0
Total	0	0	0	0	0	37	1084	0	0	1121	213	0	480	0	693	0	902	26	0	928	2742	0
Grand Total	0	0	0	0	0	118	4429	0	0	4547	903	0	1462	0	2365	0	3061	99	4	3164	10076	4
Apprch %	0.0%	0.0%	0.0%	0.0%		2.6%	97.4%	0.0%	0.0%		38.2%	0.0%	61.8%	0.0%		0.0%	96.7%	3.1%	0.1%			
Total %	0.0%	0.0%	0.0%	0.0%	0.0%	1.2%	44.0%	0.0%	0.0%	45.1%	9.0%	0.0%	14.5%	0.0%	23.5%	0.0%	30.4%	1.0%	0.0%	31.4%	100.0%	

AM PEAK HOUR	SR 113 NB Ramps Southbound					E Main St Westbound					SR 113 NB Ramps Northbound					E Main St Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	0	0	0	0	0	6	307	0	0	313	72	0	76	0	148	0	133	4	0	137	598
7:45	0	0	0	0	0	4	359	0	0	363	83	0	79	0	162	0	189	3	0	192	717
8:00	0	0	0	0	0	3	297	0	0	300	54	0	74	0	128	0	146	4	0	150	578
8:15	0	0	0	0	0	8	312	0	0	320	66	0	65	0	131	0	155	6	2	163	614
Total Volume	0	0	0	0	0	21	1275	0	0	1296	275	0	294	0	569	0	623	17	2	642	2507
% App Total	0.0%	0.0%	0.0%	0.0%		1.6%	98.4%	0.0%	0.0%		48.3%	0.0%	51.7%	0.0%		0.0%	97.0%	2.6%	0.3%		
PHF	.000	.000	.000	.000	.000	.656	.888	.000	.000	.893	.828	.000	.930	.000	.878	.000	.824	.708	.250	.836	.874

PM PEAK HOUR	SR 113 NB Ramps Southbound					E Main St Westbound					SR 113 NB Ramps Northbound					E Main St Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:45 to 17:45																					
Peak Hour For Entire Intersection Begins at 16:45																					
16:45	0	0	0	0	0	8	254	0	0	262	69	0	135	0	204	0	245	7	0	252	718
17:00	0	0	0	0	0	7	250	0	0	257	46	0	106	0	152	0	235	8	0	243	652
17:15	0	0	0	0	0	12	282	0	0	294	65	0	135	0	200	0	237	5	0	242	736
17:30	0	0	0	0	0	14	278	0	0	292	51	0	138	0	189	0	211	8	0	219	700
Total Volume	0	0	0	0	0	41	1064	0	0	1105	231	0	514	0	745	0	928	28	0	956	2806
% App Total	0.0%	0.0%	0.0%	0.0%		3.7%	96.3%	0.0%	0.0%		31.0%	0.0%	69.0%	0.0%		0.0%	97.1%	2.9%	0.0%		
PHF	.000	.000	.000	.000	.000	.732	.943	.000	.000	.940	.837	.000	.931	.000	.913	.000	.947	.875	.000	.948	.953

ALL TRAFFIC DATA

(916) 771-8700

orders@atdtraffic.com

File Name : 17-07762-035

Date : 09/26/2017

Unshifted Count = All Vehicles & Uturns

	Pioneer Ave /I-5 SB On Ramp Southbound					E Main St Westbound					Pioneer Ave /I-5 SB On Ramp Northbound					E Main St Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
7:00	3	25	14	0	42	14	157	36	0	207	33	19	13	0	65	20	44	31	4	99	413	4
7:15	3	22	10	0	35	18	194	21	1	234	42	30	8	1	81	11	40	39	5	95	445	7
7:30	10	39	16	0	65	25	256	25	1	307	50	32	10	1	93	22	42	45	6	115	580	8
7:45	5	33	12	0	50	18	234	25	0	277	80	67	15	0	162	44	58	57	5	164	653	5
Total	21	119	52	0	192	75	841	107	2	1025	205	148	46	2	401	97	184	172	20	473	2091	24
8:00	9	25	12	0	46	29	264	21	0	314	47	53	11	0	111	25	45	60	5	135	606	5
8:15	8	24	14	0	46	18	262	35	0	315	62	47	9	1	119	20	56	46	3	125	605	4
8:30	8	34	9	0	51	27	225	21	0	273	55	46	24	0	125	17	62	39	6	124	573	6
8:45	7	27	9	0	43	24	203	14	0	241	50	31	28	1	110	19	57	39	9	124	518	10
Total	32	110	44	0	186	98	954	91	0	1143	214	177	72	2	465	81	220	184	23	508	2302	25
16:00	22	42	24	1	89	50	199	27	2	278	60	27	26	0	113	7	104	45	8	164	644	11
16:15	18	47	14	0	79	42	230	24	0	296	50	38	29	0	117	9	97	58	6	170	662	6
16:30	9	62	19	0	90	45	207	24	0	276	43	24	24	1	92	18	94	55	9	176	634	10
16:45	8	31	13	0	52	47	212	31	1	291	45	39	18	2	104	17	106	54	6	183	630	9
Total	57	182	70	1	310	184	848	106	3	1141	198	128	97	3	426	51	401	212	29	693	2570	36
17:00	13	96	28	0	137	44	181	22	0	247	53	25	18	1	97	10	100	63	8	181	662	9
17:15	11	53	16	0	80	47	229	22	0	298	53	31	22	1	107	8	110	47	5	170	655	6
17:30	8	41	14	0	63	42	230	26	0	298	45	44	30	1	120	5	92	60	4	161	642	5
17:45	4	41	10	0	55	41	208	23	1	273	60	30	30	0	120	10	78	58	6	152	600	7
Total	36	231	68	0	335	174	848	93	1	1116	211	130	100	3	444	33	380	228	23	664	2559	27
Grand Total	146	642	234	1	1023	531	3491	397	6	4425	828	583	315	10	1736	262	1185	796	95	2338	9522	112
Apprch %	14.3%	62.8%	22.9%	0.1%		12.0%	78.9%	9.0%	0.1%		47.7%	33.6%	18.1%	0.6%		11.2%	50.7%	34.0%	4.1%			
Total %	1.5%	6.7%	2.5%	0.0%	10.7%	5.6%	36.7%	4.2%	0.1%	46.5%	8.7%	6.1%	3.3%	0.1%	18.2%	2.8%	12.4%	8.4%	1.0%	24.6%	100.0%	

AM PEAK HOUR	Pioneer Ave /I-5 SB On Ramp Southbound					E Main St Westbound					Pioneer Ave /I-5 SB On Ramp Northbound					E Main St Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	10	39	16	0	65	25	256	25	1	307	50	32	10	1	93	22	42	45	6	115	580
7:45	5	33	12	0	50	18	234	25	0	277	80	67	15	0	162	44	58	57	5	164	653
8:00	9	25	12	0	46	29	264	21	0	314	47	53	11	0	111	25	45	60	5	135	606
8:15	8	24	14	0	46	18	262	35	0	315	62	47	9	1	119	20	56	46	3	125	605
Total Volume	32	121	54	0	207	90	1016	106	1	1213	239	199	45	2	485	111	201	208	19	539	2444
% App Total	15.5%	58.5%	26.1%	0.0%		7.4%	83.8%	8.7%	0.1%		49.3%	41.0%	9.3%	0.4%		20.6%	37.3%	38.6%	3.5%		
PHF	.800	.776	.844	.000	.796	.776	.962	.757	.250	.963	.747	.743	.750	.500	.748	.631	.866	.867	.792	.822	.936

PM PEAK HOUR	Pioneer Ave /I-5 SB On Ramp Southbound					E Main St Westbound					Pioneer Ave /I-5 SB On Ramp Northbound					E Main St Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:45 to 17:45																					
Peak Hour For Entire Intersection Begins at 16:45																					
16:45	8	31	13	0	52	47	212	31	1	291	45	39	18	2	104	17	106	54	6	183	630
17:00	13	96	28	0	137	44	181	22	0	247	53	25	18	1	97	10	100	63	8	181	662
17:15	11	53	16	0	80	47	229	22	0	298	53	31	22	1	107	8	110	47	5	170	655
17:30	8	41	14	0	63	42	230	26	0	298	45	44	30	1	120	5	92	60	4	161	642
Total Volume	40	221	71	0	332	180	852	101	1	1134	196	139	88	5	428	40	408	224	23	695	2589
% App Total	12.0%	66.6%	21.4%	0.0%		15.9%	75.1%	8.9%	0.1%		45.8%	32.5%	20.6%	1.2%		5.8%	58.7%	32.2%	3.3%		
PHF	.769	.576	.634	.000	.606	.957	.926	.815	.250	.951	.925	.790	.733	.625	.892	.588	.927	.889	.719	.949	.978

ALL TRAFFIC DATA

(916) 771-8700

orders@atdtraffic.com

File Name : 17-07762-040

Date : 09/26/2017

Unshifted Count = All Vehicles & Uturns

	I-5 NB Off Ramp Southbound					E Main St Westbound					I-5 NB Off Ramp Northbound					E Main St Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
7:00	0	0	0	0	0	0	52	0	0	52	151	0	3	0	154	0	58	0	0	58	264	0
7:15	0	0	0	0	0	0	54	0	0	54	183	0	5	0	188	0	50	0	1	51	293	1
7:30	0	0	0	0	0	0	66	0	0	66	235	0	0	0	235	0	62	0	0	62	363	0
7:45	0	0	0	0	0	0	63	0	0	63	256	0	4	0	260	0	80	0	0	80	403	0
Total	0	0	0	0	0	0	235	0	0	235	825	0	12	0	837	0	250	0	1	251	1323	1
8:00	0	0	0	0	0	0	60	0	0	60	239	0	2	0	241	0	67	0	0	67	368	0
8:15	0	0	0	0	0	0	66	0	0	66	221	0	1	0	222	0	70	0	0	70	358	0
8:30	0	0	0	0	0	0	72	0	0	72	209	0	1	0	210	0	96	0	0	96	378	0
8:45	0	0	0	0	0	0	68	0	0	68	172	0	5	0	177	0	93	0	0	93	338	0
Total	0	0	0	0	0	0	266	0	0	266	841	0	9	0	850	0	326	0	0	326	1442	0
16:00	0	0	0	0	0	0	158	0	0	158	113	0	2	0	115	0	148	0	0	148	421	0
16:15	0	0	0	0	0	0	149	0	0	149	143	0	9	0	152	0	143	0	0	143	444	0
16:30	0	0	0	0	0	0	153	0	0	153	130	0	5	0	135	0	127	0	0	127	415	0
16:45	0	0	0	0	0	0	128	0	0	128	154	0	7	0	161	0	121	0	0	121	410	0
Total	0	0	0	0	0	0	588	0	0	588	540	0	23	0	563	0	539	0	0	539	1690	0
17:00	0	0	0	0	0	0	143	0	0	143	113	0	3	0	116	0	143	0	0	143	402	0
17:15	0	0	0	0	0	0	132	0	0	132	153	0	6	0	159	0	142	0	0	142	433	0
17:30	0	0	0	0	0	0	159	0	0	159	140	0	2	0	142	0	133	0	0	133	434	0
17:45	0	0	0	0	0	0	146	0	0	146	131	0	2	0	133	0	110	0	0	110	389	0
Total	0	0	0	0	0	0	580	0	0	580	537	0	13	0	550	0	528	0	0	528	1658	0
Grand Total	0	0	0	0	0	0	1669	0	0	1669	2743	0	57	0	2800	0	1643	0	1	1644	6113	1
Apprch %	0.0%	0.0%	0.0%	0.0%		0.0%	100.0%	0.0%	0.0%		98.0%	0.0%	2.0%	0.0%		0.0%	99.9%	0.0%	0.1%			
Total %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	27.3%	0.0%	0.0%	27.3%	44.9%	0.0%	0.9%	0.0%	45.8%	0.0%	26.9%	0.0%	0.0%	26.9%	100.0%	

AM PEAK HOUR	I-5 NB Off Ramp Southbound					E Main St Westbound					I-5 NB Off Ramp Northbound					E Main St Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	0	0	0	0	0	0	63	0	0	63	256	0	4	0	260	0	80	0	0	80	403
8:00	0	0	0	0	0	0	60	0	0	60	239	0	2	0	241	0	67	0	0	67	368
8:15	0	0	0	0	0	0	66	0	0	66	221	0	1	0	222	0	70	0	0	70	358
8:30	0	0	0	0	0	0	72	0	0	72	209	0	1	0	210	0	96	0	0	96	378
Total Volume	0	0	0	0	0	0	261	0	0	261	925	0	8	0	933	0	313	0	0	313	1507
% App Total	0.0%	0.0%	0.0%	0.0%		0.0%	100.0%	0.0%	0.0%		99.1%	0.0%	0.9%	0.0%		0.0%	100.0%	0.0%	0.0%		
PHF	.000	.000	.000	.000	.000	.000	.906	.000	.000	.906	.903	.000	.500	.000	.897	.000	.815	.000	.000	.815	.935

PM PEAK HOUR	I-5 NB Off Ramp Southbound					E Main St Westbound					I-5 NB Off Ramp Northbound					E Main St Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:00 to 17:00																					
Peak Hour For Entire Intersection Begins at 16:00																					
16:00	0	0	0	0	0	0	158	0	0	158	113	0	2	0	115	0	148	0	0	148	421
16:15	0	0	0	0	0	0	149	0	0	149	143	0	9	0	152	0	143	0	0	143	444
16:30	0	0	0	0	0	0	153	0	0	153	130	0	5	0	135	0	127	0	0	127	415
16:45	0	0	0	0	0	0	128	0	0	128	154	0	7	0	161	0	121	0	0	121	410
Total Volume	0	0	0	0	0	0	588	0	0	588	540	0	23	0	563	0	539	0	0	539	1690
% App Total	0.0%	0.0%	0.0%	0.0%		0.0%	100.0%	0.0%	0.0%		95.9%	0.0%	4.1%	0.0%		0.0%	100.0%	0.0%	0.0%		
PHF	.000	.000	.000	.000	.000	.000	.930	.000	.000	.930	.877	.000	.639	.000	.874	.000	.910	.000	.000	.910	.952

ALL TRAFFIC DATA

(916) 771-8700

orders@atdtraffic.com

File Name : 17-07762-036

Date : 09/26/2017

Unshifted Count = All Vehicles & Uturns

	CR 102 Southbound					I-5 NB Ramps Westbound					CR 102 Northbound					I-5 NB Ramps Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
7:00	0	72	2	0	74	61	13	39	0	113	10	44	16	0	70	8	0	10	0	18	275	0
7:15	0	90	1	0	91	84	8	45	0	137	11	49	21	0	81	3	0	10	0	13	322	0
7:30	0	95	3	0	98	116	16	47	0	179	5	49	19	1	74	3	0	11	0	14	365	1
7:45	0	115	4	0	119	122	7	47	0	176	10	74	38	1	123	1	0	14	0	15	433	1
Total	0	372	10	0	382	383	44	178	0	605	36	216	94	2	348	15	0	45	0	60	1395	2
8:00	0	72	0	0	72	97	6	44	0	147	8	60	16	0	84	6	0	11	0	17	320	0
8:15	0	67	1	0	68	113	10	39	0	162	6	60	21	0	87	2	0	12	0	14	331	0
8:30	0	84	1	0	85	92	9	36	0	137	9	58	16	1	84	3	0	8	0	11	317	1
8:45	0	82	2	0	84	93	10	38	0	141	14	84	25	0	123	5	0	15	0	20	368	0
Total	0	305	4	0	309	395	35	157	0	587	37	262	78	1	378	16	0	46	0	62	1336	1
16:00	0	161	2	0	163	121	12	25	0	158	14	128	41	0	183	4	0	31	0	35	539	0
16:15	0	145	4	0	149	136	11	33	0	180	8	122	47	0	177	6	0	19	0	25	531	0
16:30	0	179	3	0	182	139	10	36	0	185	14	103	42	2	161	6	0	22	0	28	556	2
16:45	0	146	1	0	147	131	7	24	0	162	15	110	54	0	179	9	0	20	0	29	517	0
Total	0	631	10	0	641	527	40	118	0	685	51	463	184	2	700	25	0	92	0	117	2143	2
17:00	0	156	0	0	156	119	7	42	0	168	12	112	37	0	161	10	0	19	0	29	514	0
17:15	0	169	4	0	173	139	6	34	0	179	11	140	42	0	193	9	0	19	0	28	573	0
17:30	0	150	3	0	153	150	9	34	0	193	12	114	31	0	157	5	0	6	0	11	514	0
17:45	0	159	6	0	165	151	7	35	0	193	9	118	33	0	160	4	0	11	0	15	533	0
Total	0	634	13	0	647	559	29	145	0	733	44	484	143	0	671	28	0	55	0	83	2134	0
Grand Total	0	1942	37	0	1979	1864	148	598	0	2610	168	1425	499	5	2097	84	0	238	0	322	7008	5
Apprch %	0.0%	98.1%	1.9%	0.0%		71.4%	5.7%	22.9%	0.0%		8.0%	68.0%	23.8%	0.2%		26.1%	0.0%	73.9%	0.0%			
Total %	0.0%	27.7%	0.5%	0.0%	28.2%	26.6%	2.1%	8.5%	0.0%	37.2%	2.4%	20.3%	7.1%	0.1%	29.9%	1.2%	0.0%	3.4%	0.0%	4.6%	100.0%	

AM PEAK HOUR	CR 102 Southbound					I-5 NB Ramps Westbound					CR 102 Northbound					I-5 NB Ramps Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	0	95	3	0	98	116	16	47	0	179	5	49	19	1	74	3	0	11	0	14	365
7:45	0	115	4	0	119	122	7	47	0	176	10	74	38	1	123	1	0	14	0	15	433
8:00	0	72	0	0	72	97	6	44	0	147	8	60	16	0	84	6	0	11	0	17	320
8:15	0	67	1	0	68	113	10	39	0	162	6	60	21	0	87	2	0	12	0	14	331
Total Volume	0	349	8	0	357	448	39	177	0	664	29	243	94	2	368	12	0	48	0	60	1449
% App Total	0.0%	97.8%	2.2%	0.0%		67.5%	5.9%	26.7%	0.0%		7.9%	66.0%	25.5%	0.5%		20.0%	0.0%	80.0%	0.0%		
PHF	.000	.759	.500	.000	.750	.918	.609	.941	.000	.927	.725	.821	.618	.500	.748	.500	.000	.857	.000	.882	.837

PM PEAK HOUR	CR 102 Southbound					I-5 NB Ramps Westbound					CR 102 Northbound					I-5 NB Ramps Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	0	179	3	0	182	139	10	36	0	185	14	103	42	2	161	6	0	22	0	28	556
16:45	0	146	1	0	147	131	7	24	0	162	15	110	54	0	179	9	0	20	0	29	517
17:00	0	156	0	0	156	119	7	42	0	168	12	112	37	0	161	10	0	19	0	29	514
17:15	0	169	4	0	173	139	6	34	0	179	11	140	42	0	193	9	0	19	0	28	573
Total Volume	0	650	8	0	658	528	30	136	0	694	52	465	175	2	694	34	0	80	0	114	2160
% App Total	0.0%	98.8%	1.2%	0.0%		76.1%	4.3%	19.6%	0.0%		7.5%	67.0%	25.2%	0.3%		29.8%	0.0%	70.2%	0.0%		
PHF	.000	.908	.500	.000	.904	.950	.750	.810	.000	.938	.867	.830	.810	.250	.899	.850	.000	.909	.000	.983	.942

ALL TRAFFIC DATA

(916) 771-8700

orders@atdtraffic.com

File Name : 17-07762-037

Date : 09/26/2017

Unshifted Count = All Vehicles & Uturns

	CR 102 Southbound					I-5 SB Ramps Westbound					CR 102 Northbound					I-5 SB Ramps Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
7:00	0	111	33	0	144	0	0	0	0	0	0	62	128	0	190	12	0	14	0	26	360	0
7:15	0	151	29	0	180	0	0	0	0	0	0	69	131	0	200	12	0	20	0	32	412	0
7:30	0	181	32	0	213	0	0	0	0	0	0	64	106	0	170	14	0	32	0	46	429	0
7:45	0	206	26	0	232	0	0	0	0	0	0	102	85	0	187	18	0	44	0	62	481	0
Total	0	649	120	0	769	0	0	0	0	0	0	297	450	0	747	56	0	110	0	166	1682	0
8:00	0	149	24	0	173	0	0	0	0	0	0	73	99	0	172	8	0	25	0	33	378	0
8:15	0	158	25	0	183	0	0	0	0	0	0	82	97	0	179	7	0	31	0	38	400	0
8:30	0	150	20	0	170	0	0	0	0	0	0	75	90	1	166	7	0	22	0	29	365	1
8:45	0	153	27	0	180	0	0	0	0	0	0	112	86	0	198	11	1	36	0	48	426	0
Total	0	610	96	0	706	0	0	0	0	0	0	342	372	1	715	33	1	114	0	148	1569	1
16:00	0	254	27	0	281	0	0	0	0	0	0	168	138	0	306	13	0	34	0	47	634	0
16:15	0	248	34	0	282	0	0	0	0	0	0	163	108	0	271	16	1	56	0	73	626	0
16:30	0	267	42	0	309	0	0	0	0	0	0	146	142	0	288	9	0	49	0	58	655	0
16:45	0	262	36	0	298	0	0	0	0	0	0	167	123	0	290	14	0	65	0	79	667	0
Total	0	1031	139	0	1170	0	0	0	0	0	0	644	511	0	1155	52	1	204	0	257	2582	0
17:00	0	225	35	0	260	0	0	0	0	0	0	150	125	0	275	13	0	47	0	60	595	0
17:15	0	279	34	0	313	0	0	0	0	0	0	176	153	0	329	17	0	47	0	64	706	0
17:30	0	267	31	0	298	0	0	0	0	0	0	147	141	0	288	11	0	52	0	63	649	0
17:45	0	263	29	0	292	0	0	0	0	0	0	149	97	0	246	16	0	47	0	63	601	0
Total	0	1034	129	0	1163	0	0	0	0	0	0	622	516	0	1138	57	0	193	0	250	2551	0
Grand Total	0	3324	484	0	3808	0	0	0	0	0	0	1905	1849	1	3755	198	2	621	0	821	8384	1
Apprch %	0.0%	87.3%	12.7%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	50.7%	49.2%	0.0%		24.1%	0.2%	75.6%	0.0%			
Total %	0.0%	39.6%	5.8%	0.0%	45.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	22.7%	22.1%	0.0%	44.8%	2.4%	0.0%	7.4%	0.0%	9.8%	100.0%	

AM PEAK HOUR	CR 102 Southbound					I-5 SB Ramps Westbound					CR 102 Northbound					I-5 SB Ramps Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:15 to 08:15																					
Peak Hour For Entire Intersection Begins at 07:15																					
7:15	0	151	29	0	180	0	0	0	0	0	0	69	131	0	200	12	0	20	0	32	412
7:30	0	181	32	0	213	0	0	0	0	0	0	64	106	0	170	14	0	32	0	46	429
7:45	0	206	26	0	232	0	0	0	0	0	0	102	85	0	187	18	0	44	0	62	481
8:00	0	149	24	0	173	0	0	0	0	0	0	73	99	0	172	8	0	25	0	33	378
Total Volume	0	687	111	0	798	0	0	0	0	0	0	308	421	0	729	52	0	121	0	173	1700
% App Total	0.0%	86.1%	13.9%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	42.2%	57.8%	0.0%		30.1%	0.0%	69.9%	0.0%		
PHF	.000	.834	.867	.000	.860	.000	.000	.000	.000	.000	.000	.755	.803	.000	.911	.722	.000	.688	.000	.698	.884

PM PEAK HOUR	CR 102 Southbound					I-5 SB Ramps Westbound					CR 102 Northbound					I-5 SB Ramps Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	0	267	42	0	309	0	0	0	0	0	0	146	142	0	288	9	0	49	0	58	655
16:45	0	262	36	0	298	0	0	0	0	0	0	167	123	0	290	14	0	65	0	79	667
17:00	0	225	35	0	260	0	0	0	0	0	0	150	125	0	275	13	0	47	0	60	595
17:15	0	279	34	0	313	0	0	0	0	0	0	176	153	0	329	17	0	47	0	64	706
Total Volume	0	1033	147	0	1180	0	0	0	0	0	0	639	543	0	1182	53	0	208	0	261	2623
% App Total	0.0%	87.5%	12.5%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	54.1%	45.9%	0.0%		20.3%	0.0%	79.7%	0.0%		
PHF	.000	.926	.875	.000	.942	.000	.000	.000	.000	.000	.000	.908	.887	.000	.898	.779	.000	.800	.000	.826	.929

ALL TRAFFIC DATA

(916) 771-8700

orders@atdtraffic.com

File Name : 17-07762-031

Date : 09/28/2017

Unshifted Count = All Vehicles & Uturns

	East St Southbound					Gibson Rd Westbound					East St Northbound					Gibson Rd Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
7:00	11	16	14	0	41	0	92	17	0	109	8	12	4	0	24	22	120	6	0	148	322	0
7:15	12	16	16	0	44	2	108	17	0	127	9	10	1	0	20	20	144	11	0	175	366	0
7:30	27	30	23	0	80	4	152	21	0	177	13	13	2	0	28	32	221	17	0	270	555	0
7:45	18	29	23	0	70	13	250	37	0	300	14	19	6	0	39	41	204	27	0	272	681	0
Total	68	91	76	0	235	19	602	92	0	713	44	54	13	0	111	115	689	61	0	865	1924	0
8:00	22	28	37	0	87	5	180	23	0	208	10	19	5	0	34	36	163	28	0	227	556	0
8:15	30	29	25	0	84	9	119	30	0	158	11	17	2	0	30	35	143	23	0	201	473	0
8:30	23	35	27	0	85	7	77	23	0	107	12	20	2	0	34	17	125	6	0	148	374	0
8:45	30	21	24	0	75	7	106	23	0	136	16	15	6	0	37	28	142	22	0	192	440	0
Total	105	113	113	0	331	28	482	99	0	609	49	71	15	0	135	116	573	79	0	768	1843	0
16:00	37	35	34	0	106	4	161	36	0	201	17	32	3	0	52	26	184	17	0	227	586	0
16:15	37	19	37	0	93	5	139	40	0	184	27	21	5	0	53	20	178	10	0	208	538	0
16:30	47	25	33	0	105	5	171	25	0	201	23	37	3	0	63	29	200	19	0	248	617	0
16:45	39	37	23	0	99	5	158	32	0	195	35	32	7	0	74	23	169	26	0	218	586	0
Total	160	116	127	0	403	19	629	133	0	781	102	122	18	0	242	98	731	72	0	901	2327	0
17:00	53	34	46	0	133	5	158	35	0	198	32	46	9	0	87	18	192	25	0	235	653	0
17:15	49	35	46	0	130	4	202	24	0	230	35	43	8	0	86	15	213	21	0	249	695	0
17:30	44	30	33	0	107	3	187	47	0	237	27	28	11	0	66	23	195	22	0	240	650	0
17:45	45	42	31	0	118	9	156	28	0	193	34	38	4	0	76	18	168	24	0	210	597	0
Total	191	141	156	0	488	21	703	134	0	858	128	155	32	0	315	74	768	92	0	934	2595	0
Grand Total	524	461	472	0	1457	87	2416	458	0	2961	323	402	78	0	803	403	2761	304	0	3468	8689	0
Apprch %	36.0%	31.6%	32.4%	0.0%		2.9%	81.6%	15.5%	0.0%		40.2%	50.1%	9.7%	0.0%		11.6%	79.6%	8.8%	0.0%			
Total %	6.0%	5.3%	5.4%	0.0%	16.8%	1.0%	27.8%	5.3%	0.0%	34.1%	3.7%	4.6%	0.9%	0.0%	9.2%	4.6%	31.8%	3.5%	0.0%	39.9%	100.0%	

AM PEAK HOUR	East St Southbound					Gibson Rd Westbound					East St Northbound					Gibson Rd Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	27	30	23	0	80	4	152	21	0	177	13	13	2	0	28	32	221	17	0	270	555
7:45	18	29	23	0	70	13	250	37	0	300	14	19	6	0	39	41	204	27	0	272	681
8:00	22	28	37	0	87	5	180	23	0	208	10	19	5	0	34	36	163	28	0	227	556
8:15	30	29	25	0	84	9	119	30	0	158	11	17	2	0	30	35	143	23	0	201	473
Total Volume	97	116	108	0	321	31	701	111	0	843	48	68	15	0	131	144	731	95	0	970	2265
% App Total	30.2%	36.1%	33.6%	0.0%		3.7%	83.2%	13.2%	0.0%		36.6%	51.9%	11.5%	0.0%		14.8%	75.4%	9.8%	0.0%		
PHF	.808	.967	.730	.000	.922	.596	.701	.750	.000	.703	.857	.895	.625	.000	.840	.878	.827	.848	.000	.892	.831

PM PEAK HOUR	East St Southbound					Gibson Rd Westbound					East St Northbound					Gibson Rd Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	53	34	46	0	133	5	158	35	0	198	32	46	9	0	87	18	192	25	0	235	653
17:15	49	35	46	0	130	4	202	24	0	230	35	43	8	0	86	15	213	21	0	249	695
17:30	44	30	33	0	107	3	187	47	0	237	27	28	11	0	66	23	195	22	0	240	650
17:45	45	42	31	0	118	9	156	28	0	193	34	38	4	0	76	18	168	24	0	210	597
Total Volume	191	141	156	0	488	21	703	134	0	858	128	155	32	0	315	74	768	92	0	934	2595
% App Total	39.1%	28.9%	32.0%	0.0%		2.4%	81.9%	15.6%	0.0%		40.6%	49.2%	10.2%	0.0%		7.9%	82.2%	9.9%	0.0%		
PHF	.901	.839	.848	.000	.917	.583	.870	.713	.000	.905	.914	.842	.727	.000	.905	.804	.901	.920	.000	.938	.933

ALL TRAFFIC DATA

(916) 771-8700

orders@atdtraffic.com

File Name : 17-07762-027

Date : 09/28/2017

Unshifted Count = All Vehicles & Uturns

	Matmor Rd Southbound					E Gibson Rd Westbound					Matmor Rd Northbound					E Gibson Rd Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
7:00	30	5	16	0	51	7	80	18	0	105	8	5	33	0	46	22	123	2	0	147	349	0
7:15	47	2	22	0	71	8	99	20	1	128	5	4	27	0	36	15	147	2	0	164	399	1
7:30	57	3	30	0	90	8	179	28	0	215	14	4	53	0	71	20	230	4	0	254	630	0
7:45	43	8	37	0	88	15	277	41	0	333	12	5	40	0	57	26	219	10	0	255	733	0
Total	177	18	105	0	300	38	635	107	1	781	39	18	153	0	210	83	719	18	0	820	2111	1
8:00	39	5	25	0	69	10	165	34	0	209	10	11	34	0	55	36	141	7	0	184	517	0
8:15	39	9	20	0	68	14	105	24	0	143	14	7	21	0	42	23	142	5	0	170	423	0
8:30	27	3	18	0	48	11	106	16	2	135	6	1	22	0	29	11	141	5	0	157	369	2
8:45	24	2	16	0	42	9	116	18	0	143	4	6	17	0	27	19	155	9	0	183	395	0
Total	129	19	79	0	227	44	492	92	2	630	34	25	94	0	153	89	579	26	0	694	1704	2
16:00	14	5	24	0	43	19	189	44	1	253	8	3	18	0	29	37	167	12	0	216	541	1
16:15	19	6	24	0	49	31	170	33	2	236	12	10	16	0	38	35	193	14	0	242	565	2
16:30	21	10	24	0	55	25	200	50	0	275	8	10	25	0	43	33	179	18	0	230	603	0
16:45	27	4	27	0	58	34	202	58	2	296	8	13	17	0	38	32	181	16	1	230	622	3
Total	81	25	99	0	205	109	761	185	5	1060	36	36	76	0	148	137	720	60	1	918	2331	6
17:00	25	9	23	0	57	41	201	53	0	295	10	14	29	0	53	42	192	19	0	253	658	0
17:15	32	14	27	0	73	55	208	50	1	314	12	9	31	0	52	52	220	21	0	293	732	1
17:30	34	9	36	0	79	46	192	47	2	287	14	14	22	0	50	37	196	16	0	249	665	2
17:45	25	9	28	0	62	37	198	36	0	271	11	9	22	0	42	36	169	19	0	224	599	0
Total	116	41	114	0	271	179	799	186	3	1167	47	46	104	0	197	167	777	75	0	1019	2654	3
Grand Total	503	103	397	0	1003	370	2687	570	11	3638	156	125	427	0	708	476	2795	179	1	3451	8800	12
Apprch %	50.1%	10.3%	39.6%	0.0%		10.2%	73.9%	15.7%	0.3%		22.0%	17.7%	60.3%	0.0%		13.8%	81.0%	5.2%	0.0%			
Total %	5.7%	1.2%	4.5%	0.0%	11.4%	4.2%	30.5%	6.5%	0.1%	41.3%	1.8%	1.4%	4.9%	0.0%	8.0%	5.4%	31.8%	2.0%	0.0%	39.2%	100.0%	

AM PEAK HOUR	Matmor Rd Southbound					E Gibson Rd Westbound					Matmor Rd Northbound					E Gibson Rd Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	57	3	30	0	90	8	179	28	0	215	14	4	53	0	71	20	230	4	0	254	630
7:45	43	8	37	0	88	15	277	41	0	333	12	5	40	0	57	26	219	10	0	255	733
8:00	39	5	25	0	69	10	165	34	0	209	10	11	34	0	55	36	141	7	0	184	517
8:15	39	9	20	0	68	14	105	24	0	143	14	7	21	0	42	23	142	5	0	170	423
Total Volume	178	25	112	0	315	47	726	127	0	900	50	27	148	0	225	105	732	26	0	863	2303
% App Total	56.5%	7.9%	35.6%	0.0%		5.2%	80.7%	14.1%	0.0%		22.2%	12.0%	65.8%	0.0%		12.2%	84.8%	3.0%	0.0%		
PHF	.781	.694	.757	.000	.875	.783	.655	.774	.000	.676	.893	.614	.698	.000	.792	.729	.796	.650	.000	.846	.785

PM PEAK HOUR	Matmor Rd Southbound					E Gibson Rd Westbound					Matmor Rd Northbound					E Gibson Rd Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:45 to 17:45																					
Peak Hour For Entire Intersection Begins at 16:45																					
16:45	27	4	27	0	58	34	202	58	2	296	8	13	17	0	38	32	181	16	1	230	622
17:00	25	9	23	0	57	41	201	53	0	295	10	14	29	0	53	42	192	19	0	253	658
17:15	32	14	27	0	73	55	208	50	1	314	12	9	31	0	52	52	220	21	0	293	732
17:30	34	9	36	0	79	46	192	47	2	287	14	14	22	0	50	37	196	16	0	249	665
Total Volume	118	36	113	0	267	176	803	208	5	1192	44	50	99	0	193	163	789	72	1	1025	2677
% App Total	44.2%	13.5%	42.3%	0.0%		14.8%	67.4%	17.4%	0.4%		22.8%	25.9%	51.3%	0.0%		15.9%	77.0%	7.0%	0.1%		
PHF	.868	.643	.785	.000	.845	.800	.965	.897	.625	.949	.786	.893	.798	.000	.910	.784	.897	.857	.250	.875	.914

ALL TRAFFIC DATA

(916) 771-8700

orders@atdtraffic.com

File Name : 17-07762-030

Date : 09/28/2017

Unshifted Count = All Vehicles & Uturns

	SR 113 SB Ramps Southbound					E Gibson Rd Westbound					SR 113 SB Ramps Northbound					E Gibson Rd Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
7:00	8	0	19	0	27	0	95	59	0	154	0	0	0	0	0	0	141	48	0	189	370	0
7:15	29	0	21	0	50	0	99	80	0	179	0	0	0	0	0	0	165	47	0	212	441	0
7:30	46	0	27	0	73	0	212	88	0	300	0	0	0	0	0	0	289	54	0	343	716	0
7:45	37	0	17	0	54	0	302	122	0	424	0	0	0	0	0	0	246	66	0	312	790	0
Total	120	0	84	0	204	0	708	349	0	1057	0	0	0	0	0	0	841	215	0	1056	2317	0
8:00	12	0	12	0	24	0	203	93	0	296	0	0	0	0	0	0	155	58	0	213	533	0
8:15	18	0	13	0	31	0	126	100	0	226	0	0	0	0	0	0	159	54	0	213	470	0
8:30	21	0	15	0	36	0	116	65	0	181	0	0	0	0	0	0	153	36	0	189	406	0
8:45	19	0	19	0	38	0	135	54	0	189	0	0	0	0	0	0	154	38	0	192	419	0
Total	70	0	59	0	129	0	580	312	0	892	0	0	0	0	0	0	621	186	0	807	1828	0
16:00	8	0	25	0	33	0	224	42	0	266	0	0	0	0	0	0	172	28	0	200	499	0
16:15	14	0	16	0	30	0	220	52	0	272	0	0	0	0	0	0	192	31	0	223	525	0
16:30	15	0	41	0	56	0	229	45	0	274	0	0	0	0	0	0	200	25	0	225	555	0
16:45	16	0	34	0	50	0	271	38	0	309	0	0	0	0	0	0	190	30	0	220	579	0
Total	53	0	116	0	169	0	944	177	0	1121	0	0	0	0	0	0	754	114	0	868	2158	0
17:00	19	0	21	0	40	0	270	65	0	335	0	0	0	0	0	0	217	39	0	256	631	0
17:15	9	0	28	0	37	0	299	59	0	358	0	0	0	0	0	0	261	28	0	289	684	0
17:30	13	0	21	0	34	0	268	39	0	307	0	0	0	0	0	0	230	29	0	259	600	0
17:45	20	0	23	0	43	0	245	35	0	280	0	0	0	0	0	0	190	31	0	221	544	0
Total	61	0	93	0	154	0	1082	198	0	1280	0	0	0	0	0	0	898	127	0	1025	2459	0
Grand Total	304	0	352	0	656	0	3314	1036	0	4350	0	0	0	0	0	0	3114	642	0	3756	8762	0
Apprch %	46.3%	0.0%	53.7%	0.0%		0.0%	76.2%	23.8%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	82.9%	17.1%	0.0%			
Total %	3.5%	0.0%	4.0%	0.0%	7.5%	0.0%	37.8%	11.8%	0.0%	49.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	35.5%	7.3%	0.0%	42.9%	100.0%	

AM PEAK HOUR	SR 113 SB Ramps Southbound					E Gibson Rd Westbound					SR 113 SB Ramps Northbound					E Gibson Rd Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	46	0	27	0	73	0	212	88	0	300	0	0	0	0	0	0	289	54	0	343	716
7:45	37	0	17	0	54	0	302	122	0	424	0	0	0	0	0	0	246	66	0	312	790
8:00	12	0	12	0	24	0	203	93	0	296	0	0	0	0	0	0	155	58	0	213	533
8:15	18	0	13	0	31	0	126	100	0	226	0	0	0	0	0	0	159	54	0	213	470
Total Volume	113	0	69	0	182	0	843	403	0	1246	0	0	0	0	0	0	849	232	0	1081	2509
% App Total	62.1%	0.0%	37.9%	0.0%		0.0%	67.7%	32.3%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	78.5%	21.5%	0.0%		
PHF	.614	.000	.639	.000	.623	.000	.698	.826	.000	.735	.000	.000	.000	.000	.000	.000	.734	.879	.000	.788	.794

PM PEAK HOUR	SR 113 SB Ramps Southbound					E Gibson Rd Westbound					SR 113 SB Ramps Northbound					E Gibson Rd Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:45 to 17:45																					
Peak Hour For Entire Intersection Begins at 16:45																					
16:45	16	0	34	0	50	0	271	38	0	309	0	0	0	0	0	0	190	30	0	220	579
17:00	19	0	21	0	40	0	270	65	0	335	0	0	0	0	0	0	217	39	0	256	631
17:15	9	0	28	0	37	0	299	59	0	358	0	0	0	0	0	0	261	28	0	289	684
17:30	13	0	21	0	34	0	268	39	0	307	0	0	0	0	0	0	230	29	0	259	600
Total Volume	57	0	104	0	161	0	1108	201	0	1309	0	0	0	0	0	0	898	126	0	1024	2494
% App Total	35.4%	0.0%	64.6%	0.0%		0.0%	84.6%	15.4%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	87.7%	12.3%	0.0%		
PHF	.750	.000	.765	.000	.805	.000	.926	.773	.000	.914	.000	.000	.000	.000	.000	.000	.860	.808	.000	.886	.912

ALL TRAFFIC DATA

(916) 771-8700

orders@atdtraffic.com

File Name : 17-07762-033

Date : 10/03/2017

Unshifted Count = All Vehicles & Uturns

	SR 113 NB Ramps Southbound					Gibson Rd Westbound					SR 113 NB Ramps Northbound					Gibson Rd Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
7:00	0	0	0	0	0	0	151	22	0	173	10	0	18	0	28	0	109	33	0	142	343	0
7:15	0	0	0	0	0	0	181	18	0	199	24	0	27	0	51	0	146	19	0	165	415	0
7:30	0	0	0	0	0	0	281	38	0	319	27	0	34	0	61	0	303	40	0	343	723	0
7:45	0	0	0	0	0	0	366	49	0	415	31	0	44	0	75	0	236	35	0	271	761	0
Total	0	0	0	0	0	0	979	127	0	1106	92	0	123	0	215	0	794	127	0	921	2242	0
8:00	0	0	0	0	0	0	293	16	0	309	35	0	37	0	72	0	156	36	0	192	573	0
8:15	0	0	0	0	0	0	190	20	0	210	19	0	36	0	55	0	167	27	0	194	459	0
8:30	0	0	0	0	0	0	144	11	0	155	26	0	60	0	86	0	155	19	0	174	415	0
8:45	0	0	0	0	0	0	180	14	0	194	29	0	55	0	84	0	179	13	0	192	470	0
Total	0	0	0	0	0	0	807	61	0	868	109	0	188	0	297	0	657	95	0	752	1917	0
16:00	0	0	0	0	0	0	215	20	0	235	37	0	107	0	144	0	155	27	0	182	561	0
16:15	0	0	0	0	0	0	217	17	0	234	61	0	104	0	165	0	195	19	0	214	613	0
16:30	0	0	0	0	0	0	231	18	0	249	35	0	108	0	143	0	213	11	0	224	616	0
16:45	0	0	0	0	0	0	241	26	0	267	61	0	122	0	183	0	190	11	0	201	651	0
Total	0	0	0	0	0	0	904	81	0	985	194	0	441	0	635	0	753	68	0	821	2441	0
17:00	0	0	0	0	0	0	278	20	0	298	40	0	149	0	189	0	237	18	0	255	742	0
17:15	0	0	0	0	0	0	274	23	0	297	70	0	181	0	251	0	240	16	0	256	804	0
17:30	0	0	0	0	0	0	273	20	0	293	48	0	130	0	178	0	202	23	0	225	696	0
17:45	0	0	0	0	0	0	237	23	0	260	53	0	106	0	159	0	186	23	0	209	628	0
Total	0	0	0	0	0	0	1062	86	0	1148	211	0	566	0	777	0	865	80	0	945	2870	0
Grand Total	0	0	0	0	0	0	3752	355	0	4107	606	0	1318	0	1924	0	3069	370	0	3439	9470	0
Apprch %	0.0%	0.0%	0.0%	0.0%		0.0%	91.4%	8.6%	0.0%		31.5%	0.0%	68.5%	0.0%		0.0%	89.2%	10.8%	0.0%			
Total %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	39.6%	3.7%	0.0%	43.4%	6.4%	0.0%	13.9%	0.0%	20.3%	0.0%	32.4%	3.9%	0.0%	36.3%	100.0%	

AM PEAK HOUR	SR 113 NB Ramps Southbound					Gibson Rd Westbound					SR 113 NB Ramps Northbound					Gibson Rd Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	0	0	0	0	0	0	281	38	0	319	27	0	34	0	61	0	303	40	0	343	723
7:45	0	0	0	0	0	0	366	49	0	415	31	0	44	0	75	0	236	35	0	271	761
8:00	0	0	0	0	0	0	293	16	0	309	35	0	37	0	72	0	156	36	0	192	573
8:15	0	0	0	0	0	0	190	20	0	210	19	0	36	0	55	0	167	27	0	194	459
Total Volume	0	0	0	0	0	0	1130	123	0	1253	112	0	151	0	263	0	862	138	0	1000	2516
% App Total	0.0%	0.0%	0.0%	0.0%		0.0%	90.2%	9.8%	0.0%		42.6%	0.0%	57.4%	0.0%		0.0%	86.2%	13.8%	0.0%		
PHF	.000	.000	.000	.000	.000	.000	.772	.628	.000	.755	.800	.000	.858	.000	.877	.000	.711	.863	.000	.729	.827

PM PEAK HOUR	SR 113 NB Ramps Southbound					Gibson Rd Westbound					SR 113 NB Ramps Northbound					Gibson Rd Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:45 to 17:45																					
Peak Hour For Entire Intersection Begins at 16:45																					
16:45	0	0	0	0	0	0	241	26	0	267	61	0	122	0	183	0	190	11	0	201	651
17:00	0	0	0	0	0	0	278	20	0	298	40	0	149	0	189	0	237	18	0	255	742
17:15	0	0	0	0	0	0	274	23	0	297	70	0	181	0	251	0	240	16	0	256	804
17:30	0	0	0	0	0	0	273	20	0	293	48	0	130	0	178	0	202	23	0	225	696
Total Volume	0	0	0	0	0	0	1066	89	0	1155	219	0	582	0	801	0	869	68	0	937	2893
% App Total	0.0%	0.0%	0.0%	0.0%		0.0%	92.3%	7.7%	0.0%		27.3%	0.0%	72.7%	0.0%		0.0%	92.7%	7.3%	0.0%		
PHF	.000	.000	.000	.000	.000	.000	.959	.856	.000	.969	.782	.000	.804	.000	.798	.000	.905	.739	.000	.915	.900

ALL TRAFFIC DATA

(916) 771-8700

orders@atdtraffic.com

File Name : 17-07763-001

Date : 09/28/2017

Unshifted Count = All Vehicles & Uturns

	Bourn Dr - Harry Lorenzo Ave Southbound					E Gibson Rd Westbound					Bourn Dr - Harry Lorenzo Ave Northbound					E Gibson Rd Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
7:00	0	0	29	0	29	0	141	4	0	145	0	0	0	0	0	0	126	0	0	126	300	0
7:15	0	0	21	0	21	0	152	4	0	156	0	0	1	0	1	0	189	0	0	189	367	0
7:30	0	0	33	0	33	0	288	5	0	293	0	0	0	0	0	0	338	1	0	339	665	0
7:45	0	0	47	0	47	0	393	16	0	409	0	0	2	0	2	0	312	0	0	312	770	0
Total	0	0	130	0	130	0	974	29	0	1003	0	0	3	0	3	0	965	1	0	966	2102	0
8:00	0	0	28	0	28	0	264	6	0	270	0	0	0	0	0	0	177	0	0	177	475	0
8:15	0	0	23	0	23	0	191	3	0	194	0	0	0	0	0	0	185	1	0	186	403	0
8:30	0	0	17	0	17	0	149	9	0	158	0	0	0	0	0	0	203	1	0	204	379	0
8:45	0	0	23	0	23	0	153	5	0	158	0	0	2	0	2	0	233	0	0	233	416	0
Total	0	0	91	0	91	0	757	23	0	780	0	0	2	0	2	0	798	2	0	800	1673	0
16:00	0	0	10	0	10	0	236	12	0	248	0	0	3	0	3	0	256	2	0	258	519	0
16:15	0	0	8	0	8	0	216	14	0	230	0	0	0	0	0	0	314	1	0	315	553	0
16:30	0	0	12	0	12	0	252	17	0	269	0	0	1	0	1	0	335	0	0	335	617	0
16:45	0	0	16	0	16	0	242	15	0	257	0	0	2	0	2	0	345	0	0	345	620	0
Total	0	0	46	0	46	0	946	58	0	1004	0	0	6	0	6	0	1250	3	0	1253	2309	0
17:00	0	0	20	0	20	0	302	16	0	318	0	0	0	0	0	0	365	0	0	365	703	0
17:15	0	0	24	0	24	0	292	19	0	311	0	0	0	0	0	0	391	0	0	391	726	0
17:30	0	0	19	0	19	0	268	28	0	296	0	0	1	0	1	0	434	0	0	434	750	0
17:45	0	0	26	0	26	0	236	18	0	254	0	0	0	0	0	0	302	0	0	302	582	0
Total	0	0	89	0	89	0	1098	81	0	1179	0	0	1	0	1	0	1492	0	0	1492	2761	0
Grand Total	0	0	356	0	356	0	3775	191	0	3966	0	0	12	0	12	0	4505	6	0	4511	8845	0
Apprch %	0.0%	0.0%	100.0%	0.0%		0.0%	95.2%	4.8%	0.0%		0.0%	0.0%	100.0%	0.0%		0.0%	99.9%	0.1%	0.0%			
Total %	0.0%	0.0%	4.0%	0.0%	4.0%	0.0%	42.7%	2.2%	0.0%	44.8%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	50.9%	0.1%	0.0%	51.0%	100.0%	

AM PEAK HOUR	Bourn Dr - Harry Lorenzo Ave Southbound					E Gibson Rd Westbound					Bourn Dr - Harry Lorenzo Ave Northbound					E Gibson Rd Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	0	0	33	0	33	0	288	5	0	293	0	0	0	0	0	0	338	1	0	339	665
7:45	0	0	47	0	47	0	393	16	0	409	0	0	2	0	2	0	312	0	0	312	770
8:00	0	0	28	0	28	0	264	6	0	270	0	0	0	0	0	0	177	0	0	177	475
8:15	0	0	23	0	23	0	191	3	0	194	0	0	0	0	0	0	185	1	0	186	403
Total Volume	0	0	131	0	131	0	1136	30	0	1166	0	0	2	0	2	0	1012	2	0	1014	2313
% App Total	0.0%	0.0%	100.0%	0.0%		0.0%	97.4%	2.6%	0.0%		0.0%	0.0%	100.0%	0.0%		0.0%	99.8%	0.2%	0.0%		
PHF	.000	.000	.697	.000	.697	.000	.723	.469	.000	.713	.000	.000	.250	.000	.250	.000	.749	.500	.000	.748	.751

PM PEAK HOUR	Bourn Dr - Harry Lorenzo Ave Southbound					E Gibson Rd Westbound					Bourn Dr - Harry Lorenzo Ave Northbound					E Gibson Rd Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:45 to 17:45																					
Peak Hour For Entire Intersection Begins at 16:45																					
16:45	0	0	16	0	16	0	242	15	0	257	0	0	2	0	2	0	345	0	0	345	620
17:00	0	0	20	0	20	0	302	16	0	318	0	0	0	0	0	0	365	0	0	365	703
17:15	0	0	24	0	24	0	292	19	0	311	0	0	0	0	0	0	391	0	0	391	726
17:30	0	0	19	0	19	0	268	28	0	296	0	0	1	0	1	0	434	0	0	434	750
Total Volume	0	0	79	0	79	0	1104	78	0	1182	0	0	3	0	3	0	1535	0	0	1535	2799
% App Total	0.0%	0.0%	100.0%	0.0%		0.0%	93.4%	6.6%	0.0%		0.0%	0.0%	100.0%	0.0%		0.0%	100.0%	0.0%	0.0%		
PHF	.000	.000	.823	.000	.823	.000	.914	.696	.000	.929	.000	.000	.375	.000	.375	.000	.884	.000	.000	.884	.933

ALL TRAFFIC DATA

(916) 771-8700

orders@atdtraffic.com

File Name : 17-07762-041

Date : 09/28/2017

Unshifted Count = All Vehicles & Uturns

	Pioneer Ave Southbound					Gibson Rd Westbound					Pioneer Ave Northbound					Gibson Rd Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
7:00	9	10	37	1	57	6	76	3	5	90	34	19	4	0	57	21	86	21	0	128	332	6
7:15	7	35	44	0	86	17	80	3	3	103	42	27	8	0	77	30	79	64	3	176	442	6
7:30	19	118	49	1	187	42	114	5	3	164	126	76	26	0	228	34	145	143	0	322	901	4
7:45	21	125	92	0	238	43	177	4	4	228	156	149	40	0	345	40	163	130	3	336	1147	7
Total	56	288	222	2	568	108	447	15	15	585	358	271	78	0	707	125	473	358	6	962	2822	23
8:00	10	22	75	0	107	11	89	6	6	112	77	67	18	0	162	55	88	35	4	182	563	10
8:15	12	23	54	0	89	2	102	5	4	113	37	32	2	0	71	42	112	33	1	188	461	5
8:30	16	13	38	1	68	6	96	2	2	106	23	44	7	0	74	43	130	27	5	205	453	8
8:45	23	30	36	0	89	7	99	9	7	122	24	15	9	0	48	38	168	20	1	227	486	8
Total	61	88	203	1	353	26	386	22	19	453	161	158	36	0	355	178	498	115	11	802	1963	31
16:00	10	24	51	0	85	17	149	13	7	186	32	32	9	0	73	70	136	41	6	253	597	13
16:15	15	26	45	0	86	18	151	9	3	181	32	35	9	0	76	84	175	49	8	316	659	11
16:30	9	16	47	0	72	10	171	14	10	205	45	23	10	0	78	94	201	38	12	345	700	22
16:45	11	24	39	1	75	15	151	8	5	179	49	22	7	1	79	71	203	63	8	345	678	15
Total	45	90	182	1	318	60	622	44	25	751	158	112	35	1	306	319	715	191	34	1259	2634	61
17:00	18	30	54	1	103	23	202	15	7	247	52	21	10	0	83	92	191	72	6	361	794	14
17:15	19	29	51	0	99	23	206	11	6	246	43	43	14	1	101	99	227	73	14	413	859	21
17:30	6	31	55	1	93	20	163	11	8	202	51	18	7	0	76	107	223	68	18	416	787	27
17:45	8	50	34	0	92	22	141	6	4	173	65	46	12	1	124	74	162	63	6	305	694	11
Total	51	140	194	2	387	88	712	43	25	868	211	128	43	2	384	372	803	276	44	1495	3134	73
Grand Total	213	606	801	6	1626	282	2167	124	84	2657	888	669	192	3	1752	994	2489	940	95	4518	10553	188
Apprch %	13.1%	37.3%	49.3%	0.4%		10.6%	81.6%	4.7%	3.2%		50.7%	38.2%	11.0%	0.2%		22.0%	55.1%	20.8%	2.1%			
Total %	2.0%	5.7%	7.6%	0.1%	15.4%	2.7%	20.5%	1.2%	0.8%	25.2%	8.4%	6.3%	1.8%	0.0%	16.6%	9.4%	23.6%	8.9%	0.9%	42.8%	100.0%	

AM PEAK HOUR	Pioneer Ave Southbound					Gibson Rd Westbound					Pioneer Ave Northbound					Gibson Rd Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	19	118	49	1	187	42	114	5	3	164	126	76	26	0	228	34	145	143	0	322	901
7:45	21	125	92	0	238	43	177	4	4	228	156	149	40	0	345	40	163	130	3	336	1147
8:00	10	22	75	0	107	11	89	6	6	112	77	67	18	0	162	55	88	35	4	182	563
8:15	12	23	54	0	89	2	102	5	4	113	37	32	2	0	71	42	112	33	1	188	461
Total Volume	62	288	270	1	621	98	482	20	17	617	396	324	86	0	806	171	508	341	8	1028	3072
% App Total	10.0%	46.4%	43.5%	0.2%		15.9%	78.1%	3.2%	2.8%		49.1%	40.2%	10.7%	0.0%		16.6%	49.4%	33.2%	0.8%		
PHF	.738	.576	.734	.250	.652	.570	.681	.833	.708	.677	.635	.544	.538	.000	.584	.777	.779	.596	.500	.765	.670

PM PEAK HOUR	Pioneer Ave Southbound					Gibson Rd Westbound					Pioneer Ave Northbound					Gibson Rd Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	18	30	54	1	103	23	202	15	7	247	52	21	10	0	83	92	191	72	6	361	794
17:15	19	29	51	0	99	23	206	11	6	246	43	43	14	1	101	99	227	73	14	413	859
17:30	6	31	55	1	93	20	163	11	8	202	51	18	7	0	76	107	223	68	18	416	787
17:45	8	50	34	0	92	22	141	6	4	173	65	46	12	1	124	74	162	63	6	305	694
Total Volume	51	140	194	2	387	88	712	43	25	868	211	128	43	2	384	372	803	276	44	1495	3134
% App Total	13.2%	36.2%	50.1%	0.5%		10.1%	82.0%	5.0%	2.9%		54.9%	33.3%	11.2%	0.5%		24.9%	53.7%	18.5%	2.9%		
PHF	.671	.700	.882	.500	.939	.957	.864	.717	.781	.879	.812	.696	.768	.500	.774	.869	.884	.945	.611	.898	.912

ALL TRAFFIC DATA

(916) 771-8700

orders@atdtraffic.com

File Name : 17-07762-032

Date : 09/26/2017

Unshifted Count = All Vehicles & Uturns

	CR 102 Southbound					E Gibson Westbound					CR 102 Northbound					E Gibson Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
7:00	4	55	51	0	110	0	0	0	0	0	4	75	0	0	79	66	1	18	0	85	274	0
7:15	0	63	82	0	145	0	0	0	0	0	10	80	0	0	90	65	0	18	0	83	318	0
7:30	1	94	104	0	199	0	0	0	0	0	21	80	0	0	101	62	0	23	1	86	386	1
7:45	1	114	106	0	221	1	0	0	0	1	42	77	0	0	119	79	1	43	1	124	465	1
Total	6	326	343	0	675	1	0	0	0	1	77	312	0	0	389	272	2	102	2	378	1443	2
8:00	1	66	83	0	150	0	0	0	0	0	19	77	0	0	96	77	0	21	1	99	345	1
8:15	0	70	80	0	150	0	0	1	0	1	19	64	0	0	83	78	2	23	0	103	337	0
8:30	1	55	78	0	134	0	1	0	0	1	14	74	0	1	89	43	0	14	0	57	281	1
8:45	0	82	99	0	181	0	1	0	0	1	29	68	0	0	97	87	0	17	2	106	385	2
Total	2	273	340	0	615	0	2	1	0	3	81	283	0	1	365	285	2	75	3	365	1348	4
16:00	0	100	118	0	218	0	1	1	0	2	34	111	0	0	145	142	0	13	2	157	522	2
16:15	0	100	96	0	196	1	0	0	0	1	25	108	0	0	133	123	0	18	6	147	477	6
16:30	0	100	112	0	212	0	0	1	0	1	26	85	0	0	111	155	0	25	2	182	506	2
16:45	1	117	115	0	233	0	0	2	0	2	34	109	0	0	143	136	0	11	3	150	528	3
Total	1	417	441	0	859	1	1	4	0	6	119	413	0	0	532	556	0	67	13	636	2033	13
17:00	0	108	108	0	216	0	1	0	0	1	21	100	0	0	121	161	0	21	5	187	525	5
17:15	0	119	139	0	258	0	0	0	0	0	46	102	0	0	148	179	0	26	1	206	612	1
17:30	0	110	123	0	233	0	0	0	0	0	24	108	0	0	132	151	0	23	1	175	540	1
17:45	0	110	121	0	231	0	0	0	0	0	23	90	0	0	113	112	0	10	2	124	468	2
Total	0	447	491	0	938	0	1	0	0	1	114	400	0	0	514	603	0	80	9	692	2145	9
Grand Total	9	1463	1615	0	3087	2	4	5	0	11	391	1408	0	1	1800	1716	4	324	27	2071	6969	28
Apprch %	0.3%	47.4%	52.3%	0.0%		18.2%	36.4%	45.5%	0.0%		21.7%	78.2%	0.0%	0.1%		82.9%	0.2%	15.6%	1.3%			
Total %	0.1%	21.0%	23.2%	0.0%	44.3%	0.0%	0.1%	0.1%	0.0%	0.2%	5.6%	20.2%	0.0%	0.0%	25.8%	24.6%	0.1%	4.6%	0.4%	29.7%	100.0%	

AM PEAK HOUR	CR 102 Southbound					E Gibson Westbound					CR 102 Northbound					E Gibson Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	1	94	104	0	199	0	0	0	0	0	21	80	0	0	101	62	0	23	1	86	386
7:45	1	114	106	0	221	1	0	0	0	1	42	77	0	0	119	79	1	43	1	124	465
8:00	1	66	83	0	150	0	0	0	0	0	19	77	0	0	96	77	0	21	1	99	345
8:15	0	70	80	0	150	0	0	1	0	1	19	64	0	0	83	78	2	23	0	103	337
Total Volume	3	344	373	0	720	1	0	1	0	2	101	298	0	0	399	296	3	110	3	412	1533
% App Total	0.4%	47.8%	51.8%	0.0%		50.0%	0.0%	50.0%	0.0%		25.3%	74.7%	0.0%	0.0%		71.8%	0.7%	26.7%	0.7%		
PHF	.750	.754	.880	.000	.814	.250	.000	.250	.000	.500	.601	.931	.000	.000	.838	.937	.375	.640	.750	.831	.824

PM PEAK HOUR	CR 102 Southbound					E Gibson Westbound					CR 102 Northbound					E Gibson Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:45 to 17:45																					
Peak Hour For Entire Intersection Begins at 16:45																					
16:45	1	117	115	0	233	0	0	2	0	2	34	109	0	0	143	136	0	11	3	150	528
17:00	0	108	108	0	216	0	1	0	0	1	21	100	0	0	121	161	0	21	5	187	525
17:15	0	119	139	0	258	0	0	0	0	0	46	102	0	0	148	179	0	26	1	206	612
17:30	0	110	123	0	233	0	0	0	0	0	24	108	0	0	132	151	0	23	1	175	540
Total Volume	1	454	485	0	940	0	1	2	0	3	125	419	0	0	544	627	0	81	10	718	2205
% App Total	0.1%	48.3%	51.6%	0.0%		0.0%	33.3%	66.7%	0.0%		23.0%	77.0%	0.0%	0.0%		87.3%	0.0%	11.3%	1.4%		
PHF	.250	.954	.872	.000	.911	.000	.250	.250	.000	.375	.679	.961	.000	.000	.919	.876	.000	.779	.500	.871	.901

ALL TRAFFIC DATA

(916) 771-8700

orders@atdtraffic.com

File Name : 17-07762-028

Date : 09/28/2017

Unshifted Count = All Vehicles & Uturns

	East St Southbound					CR 24A Westbound					East St Northbound					CR 24A Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
7:00	3	19	5	0	27	4	5	3	0	12	2	12	1	0	15	3	2	18	0	23	77	0
7:15	2	19	1	0	22	6	3	5	0	14	3	10	2	0	15	4	5	11	0	20	71	0
7:30	3	35	3	0	41	5	11	5	0	21	10	11	0	0	21	2	10	38	0	50	133	0
7:45	2	54	5	0	61	9	11	3	0	23	11	27	1	0	39	7	9	38	0	54	177	0
Total	10	127	14	0	151	24	30	16	0	70	26	60	4	0	90	16	26	105	0	147	458	0
8:00	1	54	4	0	59	14	7	2	0	23	5	22	3	0	30	3	4	22	0	29	141	0
8:15	7	48	2	0	57	7	2	2	0	11	5	18	2	0	25	1	4	21	0	26	119	0
8:30	6	38	5	0	49	1	6	1	0	8	6	25	4	0	35	1	5	21	0	27	119	0
8:45	3	29	2	0	34	3	5	1	0	9	3	18	3	0	24	1	4	11	0	16	83	0
Total	17	169	13	0	199	25	20	6	0	51	19	83	12	0	114	6	17	75	0	98	462	0
16:00	4	40	10	0	54	1	3	4	0	8	11	26	6	0	43	6	4	3	0	13	118	0
16:15	3	22	4	0	29	0	8	1	0	9	10	33	3	0	46	5	5	5	0	15	99	0
16:30	6	25	8	0	39	0	9	3	0	12	16	28	8	0	52	4	5	7	0	16	119	0
16:45	5	51	9	0	65	4	3	6	0	13	13	38	9	0	60	5	6	7	0	18	156	0
Total	18	138	31	0	187	5	23	14	0	42	50	125	26	0	201	20	20	22	0	62	492	0
17:00	4	34	16	0	54	2	8	11	1	22	18	49	12	0	79	7	15	11	0	33	188	1
17:15	6	43	7	0	56	3	7	3	0	13	27	45	13	0	85	1	16	12	0	29	183	0
17:30	4	36	8	0	48	2	7	9	0	18	19	39	8	0	66	5	6	11	0	22	154	0
17:45	14	45	5	0	64	1	4	4	0	9	11	45	7	0	63	2	7	10	0	19	155	0
Total	28	158	36	0	222	8	26	27	1	62	75	178	40	0	293	15	44	44	0	103	680	1
Grand Total	73	592	94	0	759	62	99	63	1	225	170	446	82	0	698	57	107	246	0	410	2092	1
Apprch %	9.6%	78.0%	12.4%	0.0%		27.6%	44.0%	28.0%	0.4%		24.4%	63.9%	11.7%	0.0%		13.9%	26.1%	60.0%	0.0%			
Total %	3.5%	28.3%	4.5%	0.0%	36.3%	3.0%	4.7%	3.0%	0.0%	10.8%	8.1%	21.3%	3.9%	0.0%	33.4%	2.7%	5.1%	11.8%	0.0%	19.6%	100.0%	

AM PEAK HOUR	East St Southbound					CR 24A Westbound					East St Northbound					CR 24A Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	3	35	3	0	41	5	11	5	0	21	10	11	0	0	21	2	10	38	0	50	133
7:45	2	54	5	0	61	9	11	3	0	23	11	27	1	0	39	7	9	38	0	54	177
8:00	1	54	4	0	59	14	7	2	0	23	5	22	3	0	30	3	4	22	0	29	141
8:15	7	48	2	0	57	7	2	2	0	11	5	18	2	0	25	1	4	21	0	26	119
Total Volume	13	191	14	0	218	35	31	12	0	78	31	78	6	0	115	13	27	119	0	159	570
% App Total	6.0%	87.6%	6.4%	0.0%		44.9%	39.7%	15.4%	0.0%		27.0%	67.8%	5.2%	0.0%		8.2%	17.0%	74.8%	0.0%		
PHF	.464	.884	.700	.000	.893	.625	.705	.600	.000	.848	.705	.722	.500	.000	.737	.464	.675	.783	.000	.736	.805

PM PEAK HOUR	East St Southbound					CR 24A Westbound					East St Northbound					CR 24A Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:45 to 17:45																					
Peak Hour For Entire Intersection Begins at 16:45																					
16:45	5	51	9	0	65	4	3	6	0	13	13	38	9	0	60	5	6	7	0	18	156
17:00	4	34	16	0	54	2	8	11	1	22	18	49	12	0	79	7	15	11	0	33	188
17:15	6	43	7	0	56	3	7	3	0	13	27	45	13	0	85	1	16	12	0	29	183
17:30	4	36	8	0	48	2	7	9	0	18	19	39	8	0	66	5	6	11	0	22	154
Total Volume	19	164	40	0	223	11	25	29	1	66	77	171	42	0	290	18	43	41	0	102	681
% App Total	8.5%	73.5%	17.9%	0.0%		16.7%	37.9%	43.9%	1.5%		26.6%	59.0%	14.5%	0.0%		17.6%	42.2%	40.2%	0.0%		
PHF	.792	.804	.625	.000	.858	.688	.781	.659	.250	.750	.713	.872	.808	.000	.853	.643	.672	.854	.000	.773	.906

ALL TRAFFIC DATA

(916) 771-8700

orders@atdtraffic.com

File Name : 17-07762-029

Date : 09/28/2017

Unshifted Count = All Vehicles & Uturns

	Pioneer Ave Southbound					Farmers Central Rd Westbound					Pioneer Ave Northbound					Farmers Central Rd Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
7:00	13	3	5	0	21	0	7	27	0	34	0	10	1	0	11	6	4	1	0	11	77	0
7:15	15	7	3	0	25	0	4	31	0	35	0	9	0	0	9	10	5	2	0	17	86	0
7:30	17	8	7	0	32	0	3	68	0	71	0	20	0	0	20	7	3	0	0	10	133	0
7:45	18	9	3	0	30	1	5	101	0	107	1	35	0	0	36	21	9	1	0	31	204	0
Total	63	27	18	0	108	1	19	227	0	247	1	74	1	0	76	44	21	4	0	69	500	0
8:00	31	10	3	0	44	1	3	56	0	60	0	26	0	0	26	7	7	0	0	14	144	0
8:15	28	11	2	0	41	0	5	41	0	46	1	18	0	0	19	5	6	0	0	11	117	0
8:30	26	9	8	0	43	0	3	46	0	49	1	13	0	0	14	7	7	3	0	17	123	0
8:45	38	10	2	0	50	0	1	22	0	23	2	14	0	0	16	5	1	1	0	7	96	0
Total	123	40	15	0	178	1	12	165	0	178	4	71	0	0	75	24	21	4	0	49	480	0
16:00	41	14	14	0	69	0	1	25	0	26	0	15	0	0	15	6	4	0	0	10	120	0
16:15	41	14	8	1	64	1	2	30	0	33	0	10	1	0	11	10	2	0	0	12	120	1
16:30	29	19	7	0	55	0	9	39	0	48	0	13	0	0	13	7	1	0	0	8	124	0
16:45	43	23	9	0	75	0	3	31	0	34	1	16	1	0	18	5	6	2	0	13	140	0
Total	154	70	38	1	263	1	15	125	0	141	1	54	2	0	57	28	13	2	0	43	504	1
17:00	65	22	5	0	92	1	7	31	0	39	1	13	0	0	14	3	3	1	0	7	152	0
17:15	59	22	14	0	95	1	5	53	0	59	3	8	0	0	11	6	5	0	0	11	176	0
17:30	50	16	5	0	71	0	4	34	0	38	0	19	1	0	20	8	12	1	0	21	150	0
17:45	51	14	9	0	74	1	5	46	0	52	0	16	0	0	16	9	7	1	0	17	159	0
Total	225	74	33	0	332	3	21	164	0	188	4	56	1	0	61	26	27	3	0	56	637	0
Grand Total	565	211	104	1	881	6	67	681	0	754	10	255	4	0	269	122	82	13	0	217	2121	1
Apprch %	64.1%	24.0%	11.8%	0.1%		0.8%	8.9%	90.3%	0.0%		3.7%	94.8%	1.5%	0.0%		56.2%	37.8%	6.0%	0.0%			
Total %	26.6%	9.9%	4.9%	0.0%	41.5%	0.3%	3.2%	32.1%	0.0%	35.5%	0.5%	12.0%	0.2%	0.0%	12.7%	5.8%	3.9%	0.6%	0.0%	10.2%	100.0%	

AM PEAK HOUR	Pioneer Ave Southbound					Farmers Central Rd Westbound					Pioneer Ave Northbound					Farmers Central Rd Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	17	8	7	0	32	0	3	68	0	71	0	20	0	0	20	7	3	0	0	10	133
7:45	18	9	3	0	30	1	5	101	0	107	1	35	0	0	36	21	9	1	0	31	204
8:00	31	10	3	0	44	1	3	56	0	60	0	26	0	0	26	7	7	0	0	14	144
8:15	28	11	2	0	41	0	5	41	0	46	1	18	0	0	19	5	6	0	0	11	117
Total Volume	94	38	15	0	147	2	16	266	0	284	2	99	0	0	101	40	25	1	0	66	598
% App Total	63.9%	25.9%	10.2%	0.0%		0.7%	5.6%	93.7%	0.0%		2.0%	98.0%	0.0%	0.0%		60.6%	37.9%	1.5%	0.0%		
PHF	.758	.864	.536	.000	.835	.500	.800	.658	.000	.664	.500	.707	.000	.000	.701	.476	.694	.250	.000	.532	.733

PM PEAK HOUR	Pioneer Ave Southbound					Farmers Central Rd Westbound					Pioneer Ave Northbound					Farmers Central Rd Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	65	22	5	0	92	1	7	31	0	39	1	13	0	0	14	3	3	1	0	7	152
17:15	59	22	14	0	95	1	5	53	0	59	3	8	0	0	11	6	5	0	0	11	176
17:30	50	16	5	0	71	0	4	34	0	38	0	19	1	0	20	8	12	1	0	21	150
17:45	51	14	9	0	74	1	5	46	0	52	0	16	0	0	16	9	7	1	0	17	159
Total Volume	225	74	33	0	332	3	21	164	0	188	4	56	1	0	61	26	27	3	0	56	637
% App Total	67.8%	22.3%	9.9%	0.0%		1.6%	11.2%	87.2%	0.0%		6.6%	91.8%	1.6%	0.0%		46.4%	48.2%	5.4%	0.0%		
PHF	.865	.841	.589	.000	.874	.750	.750	.774	.000	.797	.333	.737	.250	.000	.763	.722	.563	.750	.000	.667	.905

ALL TRAFFIC DATA

(916) 771-8700

orders@atdtraffic.com

File Name : 17-07763-002

Date : 09/28/2017

Unshifted Count = All Vehicles & Uturns

	Parkland Ave Southbound					E Heritage Pkwy Westbound					Parkland Ave Northbound					E Heritage Pkwy Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
7:00	0	0	0	0	0	2	1	0	0	3	2	0	12	0	14	0	1	3	0	4	21	0
7:15	0	1	2	0	3	6	1	2	0	9	3	0	8	0	11	0	4	3	0	7	30	0
7:30	4	3	1	0	8	5	0	3	0	8	14	1	10	0	25	0	6	1	0	7	48	0
7:45	2	1	2	0	5	3	5	3	0	11	15	0	20	1	36	0	15	7	0	22	74	1
Total	6	5	5	0	16	16	7	8	0	31	34	1	50	1	86	0	26	14	0	40	173	1
8:00	6	1	0	0	7	5	6	0	0	11	11	0	13	0	24	0	7	3	0	10	52	0
8:15	2	0	0	0	2	7	6	1	0	14	4	1	8	0	13	0	9	6	0	15	44	0
8:30	3	2	0	0	5	7	2	1	0	10	7	1	6	1	15	1	6	3	0	10	40	1
8:45	2	1	0	0	3	3	4	2	0	9	3	1	7	0	11	1	5	3	0	9	32	0
Total	13	4	0	0	17	22	18	4	0	44	25	3	34	1	63	2	27	15	0	44	168	1
16:00	0	1	1	0	2	11	3	2	0	16	5	1	6	0	12	0	5	7	0	12	42	0
16:15	3	0	0	0	3	9	3	3	0	15	0	1	3	0	4	1	4	0	0	5	27	0
16:30	0	3	0	0	3	14	0	2	0	16	3	3	8	0	14	0	4	4	1	9	42	1
16:45	5	1	0	0	6	13	6	7	0	26	5	0	10	0	15	1	2	5	0	8	55	0
Total	8	5	1	0	14	47	12	14	0	73	13	5	27	0	45	2	15	16	1	34	166	1
17:00	2	0	0	0	2	18	2	4	0	24	2	1	8	0	11	0	3	5	1	9	46	1
17:15	2	1	1	0	4	13	7	3	0	23	6	1	7	0	14	2	3	3	1	9	50	1
17:30	2	0	0	0	2	14	5	1	0	20	8	1	8	0	17	2	6	7	0	15	54	0
17:45	4	1	0	0	5	10	4	2	0	16	4	1	9	0	14	0	4	4	0	8	43	0
Total	10	2	1	0	13	55	18	10	0	83	20	4	32	0	56	4	16	19	2	41	193	2
Grand Total	37	16	7	0	60	140	55	36	0	231	92	13	143	2	250	8	84	64	3	159	700	5
Apprch %	61.7%	26.7%	11.7%	0.0%		60.6%	23.8%	15.6%	0.0%		36.8%	5.2%	57.2%	0.8%		5.0%	52.8%	40.3%	1.9%			
Total %	5.3%	2.3%	1.0%	0.0%	8.6%	20.0%	7.9%	5.1%	0.0%	33.0%	13.1%	1.9%	20.4%	0.3%	35.7%	1.1%	12.0%	9.1%	0.4%	22.7%	100.0%	

AM PEAK HOUR	Parkland Ave Southbound					E Heritage Pkwy Westbound					Parkland Ave Northbound					E Heritage Pkwy Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	4	3	1	0	8	5	0	3	0	8	14	1	10	0	25	0	6	1	0	7	48
7:45	2	1	2	0	5	3	5	3	0	11	15	0	20	1	36	0	15	7	0	22	74
8:00	6	1	0	0	7	5	6	0	0	11	11	0	13	0	24	0	7	3	0	10	52
8:15	2	0	0	0	2	7	6	1	0	14	4	1	8	0	13	0	9	6	0	15	44
Total Volume	14	5	3	0	22	20	17	7	0	44	44	2	51	1	98	0	37	17	0	54	218
% App Total	63.6%	22.7%	13.6%	0.0%		45.5%	38.6%	15.9%	0.0%		44.9%	2.0%	52.0%	1.0%		0.0%	68.5%	31.5%	0.0%		
PHF	.583	.417	.375	.000	.688	.714	.708	.583	.000	.786	.733	.500	.638	.250	.681	.000	.617	.607	.000	.614	.736

PM PEAK HOUR	Parkland Ave Southbound					E Heritage Pkwy Westbound					Parkland Ave Northbound					E Heritage Pkwy Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:45 to 17:45																					
Peak Hour For Entire Intersection Begins at 16:45																					
16:45	5	1	0	0	6	13	6	7	0	26	5	0	10	0	15	1	2	5	0	8	55
17:00	2	0	0	0	2	18	2	4	0	24	2	1	8	0	11	0	3	5	1	9	46
17:15	2	1	1	0	4	13	7	3	0	23	6	1	7	0	14	2	3	3	1	9	50
17:30	2	0	0	0	2	14	5	1	0	20	8	1	8	0	17	2	6	7	0	15	54
Total Volume	11	2	1	0	14	58	20	15	0	93	21	3	33	0	57	5	14	20	2	41	205
% App Total	78.6%	14.3%	7.1%	0.0%		62.4%	21.5%	16.1%	0.0%		36.8%	5.3%	57.9%	0.0%		12.2%	34.1%	48.8%	4.9%		
PHF	.550	.500	.250	.000	.583	.806	.714	.536	.000	.894	.656	.750	.825	.000	.838	.625	.583	.714	.500	.683	.932

ALL TRAFFIC DATA

(916) 771-8700

orders@atdtraffic.com

File Name : 17-07763-003

Date : 09/28/2017

Unshifted Count = All Vehicles & Uturns

	Co Rd 102 Southbound					E Heritage Pkwy Westbound					Co Rd 102 Northbound					E Heritage Pkwy Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
7:00	4	61	11	0	76	0	0	2	0	2	3	33	1	0	37	21	0	21	0	42	157	0
7:15	0	65	12	0	77	0	0	1	0	1	6	39	0	0	45	27	0	35	0	62	185	0
7:30	4	82	11	0	97	0	0	1	0	1	5	46	1	0	52	27	0	41	0	68	218	0
7:45	5	112	12	0	129	0	0	2	0	2	5	64	0	0	69	20	3	69	0	92	292	0
Total	13	320	46	0	379	0	0	6	0	6	19	182	2	0	203	95	3	166	0	264	852	0
8:00	2	85	13	0	100	0	0	2	0	2	19	35	1	0	55	17	4	68	0	89	246	0
8:15	1	77	18	0	96	0	0	5	0	5	13	35	0	0	48	16	1	33	0	50	199	0
8:30	2	61	10	0	73	0	0	0	0	0	15	54	0	0	69	22	0	16	0	38	180	0
8:45	3	68	14	0	85	1	0	1	0	2	5	53	0	0	58	20	1	14	0	35	180	0
Total	8	291	55	0	354	1	0	8	0	9	52	177	1	0	230	75	6	131	0	212	805	0
16:00	1	70	16	0	87	1	2	1	0	4	17	100	0	0	117	13	0	11	0	24	232	0
16:15	3	71	18	0	92	0	0	4	0	4	18	105	0	0	123	11	0	14	0	25	244	0
16:30	2	70	17	1	90	1	0	0	0	1	27	103	0	0	130	14	0	12	0	26	247	1
16:45	2	73	21	0	96	0	0	5	0	5	21	102	0	0	123	12	0	15	0	27	251	0
Total	8	284	72	1	365	2	2	10	0	14	83	410	0	0	493	50	0	52	0	102	974	1
17:00	4	82	21	0	107	0	1	3	0	4	26	97	0	0	123	13	0	9	0	22	256	0
17:15	0	84	18	0	102	0	2	2	0	4	34	118	0	0	152	15	0	9	0	24	282	0
17:30	3	83	22	0	108	0	2	2	0	4	27	92	0	0	119	12	1	15	0	28	259	0
17:45	3	56	18	0	77	0	0	1	0	1	28	91	0	0	119	17	0	13	0	30	227	0
Total	10	305	79	0	394	0	5	8	0	13	115	398	0	0	513	57	1	46	0	104	1024	0
Grand Total	39	1200	252	1	1492	3	7	32	0	42	269	1167	3	0	1439	277	10	395	0	682	3655	1
Apprch %	2.6%	80.4%	16.9%	0.1%		7.1%	16.7%	76.2%	0.0%		18.7%	81.1%	0.2%	0.0%		40.6%	1.5%	57.9%	0.0%			
Total %	1.1%	32.8%	6.9%	0.0%	40.8%	0.1%	0.2%	0.9%	0.0%	1.1%	7.4%	31.9%	0.1%	0.0%	39.4%	7.6%	0.3%	10.8%	0.0%	18.7%	100.0%	

AM PEAK HOUR	Co Rd 102 Southbound					E Heritage Pkwy Westbound					Co Rd 102 Northbound					E Heritage Pkwy Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	4	82	11	0	97	0	0	1	0	1	5	46	1	0	52	27	0	41	0	68	218
7:45	5	112	12	0	129	0	0	2	0	2	5	64	0	0	69	20	3	69	0	92	292
8:00	2	85	13	0	100	0	0	2	0	2	19	35	1	0	55	17	4	68	0	89	246
8:15	1	77	18	0	96	0	0	5	0	5	13	35	0	0	48	16	1	33	0	50	199
Total Volume	12	356	54	0	422	0	0	10	0	10	42	180	2	0	224	80	8	211	0	299	955
% App Total	2.8%	84.4%	12.8%	0.0%		0.0%	0.0%	100.0%	0.0%		18.8%	80.4%	0.9%	0.0%		26.8%	2.7%	70.6%	0.0%		
PHF	.600	.795	.750	.000	.818	.000	.000	.500	.000	.500	.553	.703	.500	.000	.812	.741	.500	.764	.000	.813	.818

PM PEAK HOUR	Co Rd 102 Southbound					E Heritage Pkwy Westbound					Co Rd 102 Northbound					E Heritage Pkwy Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:45 to 17:45																					
Peak Hour For Entire Intersection Begins at 16:45																					
16:45	2	73	21	0	96	0	0	5	0	5	21	102	0	0	123	12	0	15	0	27	251
17:00	4	82	21	0	107	0	1	3	0	4	26	97	0	0	123	13	0	9	0	22	256
17:15	0	84	18	0	102	0	2	2	0	4	34	118	0	0	152	15	0	9	0	24	282
17:30	3	83	22	0	108	0	2	2	0	4	27	92	0	0	119	12	1	15	0	28	259
Total Volume	9	322	82	0	413	0	5	12	0	17	108	409	0	0	517	52	1	48	0	101	1048
% App Total	2.2%	78.0%	19.9%	0.0%		0.0%	29.4%	70.6%	0.0%		20.9%	79.1%	0.0%	0.0%		51.5%	1.0%	47.5%	0.0%		
PHF	.563	.958	.932	.000	.956	.000	.625	.600	.000	.850	.794	.867	.000	.000	.850	.867	.250	.800	.000	.902	.929

ALL TRAFFIC DATA

(916) 771-8700

orders@atdtraffic.com

File Name : 17-07763-004

Date : 09/28/2017

Unshifted Count = All Vehicles & Uturns

	Parkland Ave Southbound					Marston Rd Westbound					Parkland Ave Northbound					Marston Rd Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
7:00	0	0	2	2	4	0	7	0	0	7	0	0	0	0	0	1	2	0	0	3	14	2
7:15	0	0	6	1	7	0	12	0	0	12	0	0	0	0	0	3	3	0	0	6	25	1
7:30	0	0	10	1	11	0	16	2	0	18	0	0	0	0	0	2	2	0	0	4	33	1
7:45	1	0	22	2	25	0	37	3	0	40	0	0	0	0	0	14	3	0	0	17	82	2
Total	1	0	40	6	47	0	72	5	0	77	0	0	0	0	0	20	10	0	0	30	154	6
8:00	2	0	13	1	16	0	27	3	0	30	0	0	0	0	0	2	6	0	0	8	54	1
8:15	1	0	6	1	8	0	18	1	0	19	0	0	0	0	0	9	6	0	0	15	42	1
8:30	1	0	6	1	8	0	9	2	0	11	0	0	0	0	0	6	13	0	0	19	38	1
8:45	3	0	3	2	8	0	5	1	0	6	0	0	0	0	0	4	5	0	0	9	23	2
Total	7	0	28	5	40	0	59	7	0	66	0	0	0	0	0	21	30	0	0	51	157	5
16:00	2	0	5	3	10	0	2	0	0	2	0	0	0	0	0	5	11	0	0	16	28	3
16:15	1	0	0	0	1	0	2	1	0	3	0	0	0	0	0	2	13	0	0	15	19	0
16:30	0	0	1	2	3	0	2	1	0	3	0	0	0	0	0	6	11	0	0	17	23	2
16:45	2	0	5	1	8	0	11	0	0	11	0	0	0	0	0	7	11	0	0	18	37	1
Total	5	0	11	6	22	0	17	2	0	19	0	0	0	0	0	20	46	0	0	66	107	6
17:00	2	0	2	1	5	0	10	0	0	10	0	0	0	0	0	6	13	0	0	19	34	1
17:15	4	0	9	2	15	0	7	2	0	9	0	0	0	0	0	5	13	0	0	18	42	2
17:30	4	0	4	0	8	0	5	0	0	5	0	0	0	0	0	11	16	0	0	27	40	0
17:45	3	0	2	0	5	0	10	0	0	10	0	0	0	0	0	7	7	0	0	14	29	0
Total	13	0	17	3	33	0	32	2	0	34	0	0	0	0	0	29	49	0	0	78	145	3
Grand Total	26	0	96	20	142	0	180	16	0	196	0	0	0	0	0	90	135	0	0	225	563	20
Apprch %	18.3%	0.0%	67.6%	14.1%		0.0%	91.8%	8.2%	0.0%		0.0%	0.0%	0.0%	0.0%		40.0%	60.0%	0.0%	0.0%			
Total %	4.6%	0.0%	17.1%	3.6%	25.2%	0.0%	32.0%	2.8%	0.0%	34.8%	0.0%	0.0%	0.0%	0.0%	0.0%	16.0%	24.0%	0.0%	0.0%	40.0%	100.0%	

AM PEAK HOUR	Parkland Ave Southbound					Marston Rd Westbound					Parkland Ave Northbound					Marston Rd Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	1	0	22	2	25	0	37	3	0	40	0	0	0	0	0	14	3	0	0	17	82
8:00	2	0	13	1	16	0	27	3	0	30	0	0	0	0	0	2	6	0	0	8	54
8:15	1	0	6	1	8	0	18	1	0	19	0	0	0	0	0	9	6	0	0	15	42
8:30	1	0	6	1	8	0	9	2	0	11	0	0	0	0	0	6	13	0	0	19	38
Total Volume	5	0	47	5	57	0	91	9	0	100	0	0	0	0	0	31	28	0	0	59	216
% App Total	8.8%	0.0%	82.5%	8.8%		0.0%	91.0%	9.0%	0.0%		0.0%	0.0%	0.0%	0.0%		52.5%	47.5%	0.0%	0.0%		
PHF	.625	.000	.534	.625	.570	.000	.615	.750	.000	.625	.000	.000	.000	.000	.000	.554	.538	.000	.000	.776	.659

PM PEAK HOUR	Parkland Ave Southbound					Marston Rd Westbound					Parkland Ave Northbound					Marston Rd Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:45 to 17:45																					
Peak Hour For Entire Intersection Begins at 16:45																					
16:45	2	0	5	1	8	0	11	0	0	11	0	0	0	0	0	7	11	0	0	18	37
17:00	2	0	2	1	5	0	10	0	0	10	0	0	0	0	0	6	13	0	0	19	34
17:15	4	0	9	2	15	0	7	2	0	9	0	0	0	0	0	5	13	0	0	18	42
17:30	4	0	4	0	8	0	5	0	0	5	0	0	0	0	0	11	16	0	0	27	40
Total Volume	12	0	20	4	36	0	33	2	0	35	0	0	0	0	0	29	53	0	0	82	153
% App Total	33.3%	0.0%	55.6%	11.1%		0.0%	94.3%	5.7%	0.0%		0.0%	0.0%	0.0%	0.0%		35.4%	64.6%	0.0%	0.0%		
PHF	.750	.000	.556	.500	.600	.000	.750	.250	.000	.795	.000	.000	.000	.000	.000	.659	.828	.000	.000	.759	.911

ALL TRAFFIC DATA

(916) 771-8700

orders@atdtraffic.com

File Name : 17-07763-005

Date : 09/28/2017

Unshifted Count = All Vehicles & Uturns

	East St Southbound					Co Rd 25A Westbound					East St Northbound					Co Rd 25A Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
7:00	33	1	6	0	40	0	16	10	0	26	0	1	0	0	1	1	17	1	0	19	86	0
7:15	31	0	5	0	36	0	19	16	0	35	0	0	1	0	1	2	30	0	0	32	104	0
7:30	63	0	7	0	70	1	17	18	0	36	1	0	0	0	1	1	32	0	0	33	140	0
7:45	64	1	13	0	78	0	32	28	0	60	0	1	1	0	2	8	49	0	0	57	197	0
Total	191	2	31	0	224	1	84	72	0	157	1	2	2	0	5	12	128	1	0	141	527	0
8:00	52	1	11	0	64	0	45	19	0	64	1	1	0	0	2	5	43	1	0	49	179	0
8:15	39	1	10	0	50	0	35	29	0	64	0	1	2	0	3	12	49	0	0	61	178	0
8:30	34	0	6	0	40	0	19	26	0	45	0	0	0	0	0	6	38	0	0	44	129	0
8:45	28	1	3	0	32	0	9	17	0	26	0	0	0	0	0	4	22	0	0	26	84	0
Total	153	3	30	0	186	0	108	91	0	199	1	2	2	0	5	27	152	1	0	180	570	0
16:00	28	1	7	0	36	0	20	34	0	54	0	1	0	0	1	7	24	0	0	31	122	0
16:15	15	0	6	0	21	0	19	37	0	56	0	0	1	0	1	5	21	0	0	26	104	0
16:30	20	0	4	0	24	1	20	23	0	44	0	0	0	0	0	17	18	0	0	35	103	0
16:45	22	0	13	0	35	0	31	37	0	68	0	0	1	0	1	15	13	0	0	28	132	0
Total	85	1	30	0	116	1	90	131	0	222	0	1	2	0	3	44	76	0	0	120	461	0
17:00	25	0	4	0	29	0	44	49	0	93	0	0	0	0	0	18	25	0	0	43	165	0
17:15	26	1	10	0	37	0	31	63	0	94	0	1	0	0	1	14	26	0	0	40	172	0
17:30	17	0	13	0	30	2	24	46	0	72	0	0	1	0	1	13	18	3	0	34	137	0
17:45	29	0	5	0	34	0	22	45	0	67	1	0	0	0	1	12	20	1	0	33	135	0
Total	97	1	32	0	130	2	121	203	0	326	1	1	1	0	3	57	89	4	0	150	609	0
Grand Total	526	7	123	0	656	4	403	497	0	904	3	6	7	0	16	140	445	6	0	591	2167	0
Apprch %	80.2%	1.1%	18.8%	0.0%		0.4%	44.6%	55.0%	0.0%		18.8%	37.5%	43.8%	0.0%		23.7%	75.3%	1.0%	0.0%			
Total %	24.3%	0.3%	5.7%	0.0%	30.3%	0.2%	18.6%	22.9%	0.0%	41.7%	0.1%	0.3%	0.3%	0.0%	0.7%	6.5%	20.5%	0.3%	0.0%	27.3%	100.0%	

AM PEAK HOUR	East St Southbound					Co Rd 25A Westbound					East St Northbound					Co Rd 25A Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	63	0	7	0	70	1	17	18	0	36	1	0	0	0	1	1	32	0	0	33	140
7:45	64	1	13	0	78	0	32	28	0	60	0	1	1	0	2	8	49	0	0	57	197
8:00	52	1	11	0	64	0	45	19	0	64	1	1	0	0	2	5	43	1	0	49	179
8:15	39	1	10	0	50	0	35	29	0	64	0	1	2	0	3	12	49	0	0	61	178
Total Volume	218	3	41	0	262	1	129	94	0	224	2	3	3	0	8	26	173	1	0	200	694
% App Total	83.2%	1.1%	15.6%	0.0%		0.4%	57.6%	42.0%	0.0%		25.0%	37.5%	37.5%	0.0%		13.0%	86.5%	0.5%	0.0%		
PHF	.852	.750	.788	.000	.840	.250	.717	.810	.000	.875	.500	.750	.375	.000	.667	.542	.883	.250	.000	.820	.881

PM PEAK HOUR	East St Southbound					Co Rd 25A Westbound					East St Northbound					Co Rd 25A Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	25	0	4	0	29	0	44	49	0	93	0	0	0	0	0	18	25	0	0	43	165
17:15	26	1	10	0	37	0	31	63	0	94	0	1	0	0	1	14	26	0	0	40	172
17:30	17	0	13	0	30	2	24	46	0	72	0	0	1	0	1	13	18	3	0	34	137
17:45	29	0	5	0	34	0	22	45	0	67	1	0	0	0	1	12	20	1	0	33	135
Total Volume	97	1	32	0	130	2	121	203	0	326	1	1	1	0	3	57	89	4	0	150	609
% App Total	74.6%	0.8%	24.6%	0.0%		0.6%	37.1%	62.3%	0.0%		33.3%	33.3%	33.3%	0.0%		38.0%	59.3%	2.7%	0.0%		
PHF	.836	.250	.615	.000	.878	.250	.688	.806	.000	.867	.250	.250	.250	.000	.750	.792	.856	.333	.000	.872	.885

ALL TRAFFIC DATA

(916) 771-8700

orders@atdtraffic.com

File Name : 17-07763-006

Date : 09/28/2017

Unshifted Count = All Vehicles & Uturns

	SR 113 SB Ramps Southbound					Co Rd 25A Westbound					SR 113 SB Ramps Northbound					Co Rd 25A Eastbound					Total	Uturns Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
7:00	0	0	8	0	8	15	19	0	0	34	0	0	0	0	0	0	5	47	0	52	94	0
7:15	1	0	4	0	5	10	30	0	0	40	0	0	0	0	0	0	15	47	0	62	107	0
7:30	0	1	3	0	4	31	36	0	0	67	0	0	0	0	0	0	15	78	0	93	164	0
7:45	3	0	15	0	18	54	46	0	0	100	0	0	0	0	0	0	20	103	0	123	241	0
Total	4	1	30	0	35	110	131	0	0	241	0	0	0	0	0	0	55	275	0	330	606	0
8:00	1	0	13	0	14	37	49	0	0	86	0	0	0	0	0	0	14	74	0	88	188	0
8:15	2	0	14	0	16	22	51	0	0	73	0	0	0	0	0	0	19	72	0	91	180	0
8:30	1	0	3	0	4	15	41	0	0	56	0	0	0	0	0	0	20	55	0	75	135	0
8:45	1	0	4	0	5	9	21	0	0	30	0	0	0	0	0	0	14	38	0	52	87	0
Total	5	0	34	0	39	83	162	0	0	245	0	0	0	0	0	0	67	239	0	306	590	0
16:00	0	0	5	0	5	2	53	0	0	55	0	0	0	0	0	0	17	33	0	50	110	0
16:15	2	0	0	0	2	2	57	0	0	59	0	0	0	0	0	0	18	23	0	41	102	0
16:30	1	0	3	0	4	3	45	0	0	48	0	0	0	0	0	0	9	31	0	40	92	0
16:45	4	1	4	0	9	8	63	0	0	71	0	0	0	0	0	0	9	28	0	37	117	0
Total	7	1	12	0	20	15	218	0	0	233	0	0	0	0	0	0	53	115	0	168	421	0
17:00	1	0	8	0	9	6	83	0	0	89	0	0	0	0	0	0	16	35	0	51	149	0
17:15	0	0	6	0	6	6	93	0	0	99	0	0	0	0	0	0	21	37	0	58	163	0
17:30	2	0	9	0	11	7	61	0	0	68	0	0	0	0	0	0	14	22	0	36	115	0
17:45	0	0	7	0	7	8	61	0	0	69	0	0	0	0	0	0	10	36	0	46	122	0
Total	3	0	30	0	33	27	298	0	0	325	0	0	0	0	0	0	61	130	0	191	549	0
Grand Total	19	2	106	0	127	235	809	0	0	1044	0	0	0	0	0	0	236	759	0	995	2166	0
Apprch %	15.0%	1.6%	83.5%	0.0%		22.5%	77.5%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	23.7%	76.3%	0.0%			
Total %	0.9%	0.1%	4.9%	0.0%	5.9%	10.8%	37.3%	0.0%	0.0%	48.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	10.9%	35.0%	0.0%	45.9%	100.0%	

AM PEAK HOUR	SR 113 SB Ramps Southbound					Co Rd 25A Westbound					SR 113 SB Ramps Northbound					Co Rd 25A Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	0	1	3	0	4	31	36	0	0	67	0	0	0	0	0	0	15	78	0	93	164
7:45	3	0	15	0	18	54	46	0	0	100	0	0	0	0	0	0	20	103	0	123	241
8:00	1	0	13	0	14	37	49	0	0	86	0	0	0	0	0	0	14	74	0	88	188
8:15	2	0	14	0	16	22	51	0	0	73	0	0	0	0	0	0	19	72	0	91	180
Total Volume	6	1	45	0	52	144	182	0	0	326	0	0	0	0	0	0	68	327	0	395	773
% App Total	11.5%	1.9%	86.5%	0.0%		44.2%	55.8%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	17.2%	82.8%	0.0%		
PHF	.500	.250	.750	.000	.722	.667	.892	.000	.000	.815	.000	.000	.000	.000	.000	.000	.850	.794	.000	.803	.802

PM PEAK HOUR	SR 113 SB Ramps Southbound					Co Rd 25A Westbound					SR 113 SB Ramps Northbound					Co Rd 25A Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	1	0	8	0	9	6	83	0	0	89	0	0	0	0	0	0	16	35	0	51	149
17:15	0	0	6	0	6	6	93	0	0	99	0	0	0	0	0	0	21	37	0	58	163
17:30	2	0	9	0	11	7	61	0	0	68	0	0	0	0	0	0	14	22	0	36	115
17:45	0	0	7	0	7	8	61	0	0	69	0	0	0	0	0	0	10	36	0	46	122
Total Volume	3	0	30	0	33	27	298	0	0	325	0	0	0	0	0	0	61	130	0	191	549
% App Total	9.1%	0.0%	90.9%	0.0%		8.3%	91.7%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	31.9%	68.1%	0.0%		
PHF	.375	.000	.833	.000	.750	.844	.801	.000	.000	.821	.000	.000	.000	.000	.000	.000	.726	.878	.000	.823	.842

ALL TRAFFIC DATA

(916) 771-8700

orders@atdtraffic.com

File Name : 17-07763-007

Date : 09/28/2017

Unshifted Count = All Vehicles & Uturns

	SR 113 NB Ramps Southbound					Co Rd 25A Westbound					SR 113 NB Ramps Northbound					Co Rd 25A Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
7:00	0	0	0	0	0	0	21	3	0	24	14	0	4	0	18	2	3	0	0	5	47	0
7:15	0	0	0	0	0	0	17	0	0	17	23	0	4	0	27	3	12	0	0	15	59	0
7:30	0	0	0	0	0	0	45	2	0	47	22	0	3	0	25	5	9	0	0	14	86	0
7:45	0	0	0	0	0	0	70	8	0	78	30	0	5	0	35	5	19	0	0	24	137	0
Total	0	0	0	0	0	0	153	13	0	166	89	0	16	0	105	15	43	0	0	58	329	0
8:00	0	0	0	0	0	0	64	1	0	65	25	0	4	0	29	4	11	0	0	15	109	0
8:15	0	0	0	0	0	0	34	0	0	34	36	0	4	0	40	6	15	0	0	21	95	0
8:30	0	0	0	0	0	0	22	0	0	22	34	0	8	0	42	8	13	0	0	21	85	0
8:45	0	0	0	0	0	0	10	1	0	11	19	0	1	0	20	8	7	0	0	15	46	0
Total	0	0	0	0	0	0	130	2	0	132	114	0	17	0	131	26	46	0	0	72	335	0
16:00	0	0	0	0	0	0	8	0	0	8	48	0	17	0	65	6	9	0	0	15	88	0
16:15	0	0	0	0	0	0	5	1	0	6	55	1	11	0	67	11	11	0	0	22	95	0
16:30	0	0	0	0	0	0	8	0	0	8	42	2	14	0	58	6	3	0	0	9	75	0
16:45	0	0	0	0	0	0	18	2	0	20	53	0	17	0	70	4	9	0	0	13	103	0
Total	0	0	0	0	0	0	39	3	0	42	198	3	59	0	260	27	32	0	0	59	361	0
17:00	0	0	0	0	0	0	19	5	0	24	66	2	15	0	83	4	12	0	0	16	123	0
17:15	0	0	0	0	0	0	22	2	0	24	81	0	25	0	106	10	12	0	0	22	152	0
17:30	0	0	0	0	0	0	15	0	0	15	50	1	31	0	82	8	7	0	0	15	112	0
17:45	0	0	0	0	0	0	20	3	0	23	47	1	15	0	63	3	5	0	0	8	94	0
Total	0	0	0	0	0	0	76	10	0	86	244	4	86	0	334	25	36	0	0	61	481	0
Grand Total	0	0	0	0	0	0	398	28	0	426	645	7	178	0	830	93	157	0	0	250	1506	0
Apprch %	0.0%	0.0%	0.0%	0.0%		0.0%	93.4%	6.6%	0.0%		77.7%	0.8%	21.4%	0.0%		37.2%	62.8%	0.0%	0.0%			
Total %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	26.4%	1.9%	0.0%	28.3%	42.8%	0.5%	11.8%	0.0%	55.1%	6.2%	10.4%	0.0%	0.0%	16.6%	100.0%	

AM PEAK HOUR	SR 113 NB Ramps Southbound					Co Rd 25A Westbound					SR 113 NB Ramps Northbound					Co Rd 25A Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	0	0	0	0	0	0	45	2	0	47	22	0	3	0	25	5	9	0	0	14	86
7:45	0	0	0	0	0	0	70	8	0	78	30	0	5	0	35	5	19	0	0	24	137
8:00	0	0	0	0	0	0	64	1	0	65	25	0	4	0	29	4	11	0	0	15	109
8:15	0	0	0	0	0	0	34	0	0	34	36	0	4	0	40	6	15	0	0	21	95
Total Volume	0	0	0	0	0	0	213	11	0	224	113	0	16	0	129	20	54	0	0	74	427
% App Total	0.0%	0.0%	0.0%	0.0%		0.0%	95.1%	4.9%	0.0%		87.6%	0.0%	12.4%	0.0%		27.0%	73.0%	0.0%	0.0%		
PHF	.000	.000	.000	.000	.000	.000	.761	.344	.000	.718	.785	.000	.800	.000	.806	.833	.711	.000	.000	.771	.779

PM PEAK HOUR	SR 113 NB Ramps Southbound					Co Rd 25A Westbound					SR 113 NB Ramps Northbound					Co Rd 25A Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:45 to 17:45																					
Peak Hour For Entire Intersection Begins at 16:45																					
16:45	0	0	0	0	0	0	18	2	0	20	53	0	17	0	70	4	9	0	0	13	103
17:00	0	0	0	0	0	0	19	5	0	24	66	2	15	0	83	4	12	0	0	16	123
17:15	0	0	0	0	0	0	22	2	0	24	81	0	25	0	106	10	12	0	0	22	152
17:30	0	0	0	0	0	0	15	0	0	15	50	1	31	0	82	8	7	0	0	15	112
Total Volume	0	0	0	0	0	0	74	9	0	83	250	3	88	0	341	26	40	0	0	66	490
% App Total	0.0%	0.0%	0.0%	0.0%		0.0%	89.2%	10.8%	0.0%		73.3%	0.9%	25.8%	0.0%		39.4%	60.6%	0.0%	0.0%		
PHF	.000	.000	.000	.000	.000	.000	.841	.450	.000	.865	.772	.375	.710	.000	.804	.650	.833	.000	.000	.750	.806

PEMS Data

VOLUME

SR 113 South of Main St

Day: Tuesday
Date: 9/26/2017

City: Woodland
Project #:

DAILY TOTALS										NB		SB		EB				WB				Total			
										18,184		25,160										0		0	
AM Period		NB		SB		EB		WB		TOTAL		PM Period				NB		SB		EB		WB		TOTAL	
00:00	0.00	125		162						287	1086	12:00	12.00	209		326								535	
00:15	0.25	125		147						272		12:15	12.25	204		300								504	
00:30	0.50	125		142						267		12:30	12.50	195		296								491	
00:45	0.75	122	497	138	589					260	992	12:45	12.75	228	836	282	1204							510	2040
01:00	1.00	116		126						242		13:00	13.00	208		313								521	
01:15	1.25	118		136						254		13:15	13.25	198		297								495	
01:30	1.50	122		134						256	2028	13:30	13.50	204		312								516	
01:45	1.75	118	474	122	518					240		13:45	13.75	205	815	291	1213							496	2028
02:00	2.00	120		126						246		14:00	14.00	196		309								505	
02:15	2.25	121		124						245	1000	14:15	14.25	236		317								553	
02:30	2.50	120		134						254		14:30	14.50	229		310								539	
02:45	2.75	120	481	135	519					255		14:45	14.75	206	867	321	1257							527	2124
03:00	3.00	124		140						264	1108	15:00	15.00	248		336								584	
03:15	3.25	126		151						277		15:15	15.25	263		308								571	
03:30	3.50	122		156						278		15:30	15.50	298		343								641	
03:45	3.75	125	497	164	611					289	1332	15:45	15.75	319	1128	327	1314							646	2442
04:00	4.00	122		164						286		16:00	16.00	287		317								604	
04:15	4.25	133		180						313		16:15	16.25	321		310								631	
04:30	4.50	148		209						357	2585	16:30	16.50	349		313								662	
04:45	4.75	156	559	220	773					376		16:45	16.75	364	1321	324	1264							688	2585
05:00	5.00	134		228						362		17:00	17.00	365		330								695	
05:15	5.25	136		266						402	1642	17:15	17.25	399		392								791	
05:30	5.50	144		302						446		17:30	17.50	330		309								639	
05:45	5.75	143	557	289	1085					432		17:45	17.75	285	1379	299	1330							584	2709
06:00	6.00	154		270						424	1929	18:00	18.00	276		292								568	
06:15	6.25	159		281						440		18:15	18.25	227		293								520	
06:30	6.50	165		338						503		18:30	18.50	215		276								491	
06:45	6.75	198	676	364	1253					562	2598	18:45	18.75	224	942	256	1117							480	2059
07:00	7.00	184		355						539		19:00	19.00	179		250								429	
07:15	7.25	192		389						581		19:15	19.25	190		243								433	
07:30	7.50	255		452						707	1714	19:30	19.50	186		241								427	
07:45	7.75	282	913	489	1685					771		19:45	19.75	174	729	251	985							425	1714
08:00	8.00	208		471						679		20:00	20.00	172		229								401	
08:15	8.25	233		431						664	2558	20:15	20.25	154		230								384	
08:30	8.50	214		385						599		20:30	20.50	162		238								400	
08:45	8.75	218	873	398	1685					616		20:45	20.75	161	649	215	912							376	1561
09:00	9.00	184		337						521	2057	21:00	21.00	156		218								374	
09:15	9.25	183		301						484		21:15	21.25	157		205								362	
09:30	9.50	186		334						520		21:30	21.50	152		171								323	
09:45	9.75	183	736	349	1321					532	2009	21:45	21.75	149	614	202	796							351	1410
10:00	10.00	207		297						504		22:00	22.00	147		173								320	
10:15	10.25	177		310						487		22:15	22.25	145		177								322	
10:30	10.50	177		321						498	1283	22:30	22.50	133		191							324		
10:45	10.75	192	753	328	1256					520		22:45	22.75	148	573	169	710							317	1283
11:00	11.00	186		293						479		23:00	23.00	128		168								296	
11:15	11.25	210		308						518	1954	23:15	23.25	136		158							294		
11:30	11.50	185		281						466		23:30	23.50	133		139							272		
11:45	11.75	210	791	281	1163					491		23:45	23.75	127	524	135	600							262	1124
TOTALS		7807		12458						20265	TOTALS		10377		12702						23079				
SPLIT %		38.5%		61.5%						46.8%	SPLIT %		45.0%		55.0%						53.2%				

DAILY TOTALS										NB		SB		EB				WB				Total
																						43,344
										18,184		25,160		0				0				

AM Peak Hour	07:30	07:30		07:30	PM Peak Hour	16:30	16:30		16:30
AM Pk Volume	978	1843		2821	PM Pk Volume	1477	1359		2836
Pk Hr Factor	0.867	0.942		0.915	Pk Hr Factor	0.925	0.867		0.896
7 - 9 Volume	1786	3370	0	0	5156	4 - 6 Volume	2700	2594	0 0 5294
7 - 9 Peak Hour	07:30	07:30		07:30	4 - 6 Peak Hour	16:30	16:30		16:30
7 - 9 Pk Volume	978	1843	0	0	2821	4 - 6 Pk Volume	1477	1359	0 0 2836
Pk Hr Factor	0.867	0.942	0.000	0.000	0.915	Pk Hr Factor	0.925	0.867	0.000 0.000 0.896

PEMS Data

VOLUME

SR 113 South of Main St

Day: Wednesday

Date: 9/27/2017

City: Woodland

Project #:

DAILY TOTALS										NB		SB		EB						WB		Total		
										17,978		25,135								0		0		43,113
AM Period		NB		SB		EB		WB		TOTAL		PM Period			NB		SB		EB		WB		TOTAL	
00:00	0.00	124		149						273		12:00	12.00	194		305						499		
00:15	0.25	133		146						279		12:15	12.25	187		271						458		
00:30	0.50	129		133						262		12:30	12.50	193		290						483		
00:45	0.75	133	519	123	551					256	1070	12:45	12.75	198	772	283	1149					481	1921	
01:00	1.00	124		131						255		13:00	13.00	200		302						502		
01:15	1.25	125		134						259		13:15	13.25	213		288						501		
01:30	1.50	124		134						258		13:30	13.50	196		288						484		
01:45	1.75	124	497	134	533					258	1030	13:45	13.75	220	829	312	1190					532	2019	
02:00	2.00	119		124						243		14:00	14.00	222		318						540		
02:15	2.25	123		136						259		14:15	14.25	233		306						539		
02:30	2.50	123		133						256		14:30	14.50	196		312						508		
02:45	2.75	120	485	142	535					262	1020	14:45	14.75	241	892	292	1228					533	2120	
03:00	3.00	118		138						256		15:00	15.00	237		320						557		
03:15	3.25	125		146						271		15:15	15.25	268		330						598		
03:30	3.50	127		157						284		15:30	15.50	279		349						628		
03:45	3.75	130	500	172	613					302	1113	15:45	15.75	315	1099	302	1301					617	2400	
04:00	4.00	130		163						293		16:00	16.00	313		295						608		
04:15	4.25	127		197						324		16:15	16.25	356		293						649		
04:30	4.50	137		210						347		16:30	16.50	317		339						656		
04:45	4.75	136	530	206	776					342	1306	16:45	16.75	351	1337	363	1290					714	2627	
05:00	5.00	135		249						384		17:00	17.00	381		351						732		
05:15	5.25	135		246						381		17:15	17.25	382		362						744		
05:30	5.50	140		288						428		17:30	17.50	322		300						622		
05:45	5.75	155	565	267	1050					422	1615	17:45	17.75	291	1376	293	1306					584	2682	
06:00	6.00	151		251						402		18:00	18.00	258		315						573		
06:15	6.25	153		304						457		18:15	18.25	278		280						558		
06:30	6.50	178		369						547		18:30	18.50	227		279						506		
06:45	6.75	224	706	366	1290					590	1996	18:45	18.75	209	972	295	1169					504	2141	
07:00	7.00	181		379						560		19:00	19.00	189		230						419		
07:15	7.25	174		396						570		19:15	19.25	209		245						454		
07:30	7.50	224		448						672		19:30	19.50	180		236						416		
07:45	7.75	266	845	444	1667					710	2512	19:45	19.75	182	760	251	962					433	1722	
08:00	8.00	199		468						667		20:00	20.00	174		231						405		
08:15	8.25	204		454						658		20:15	20.25	179		238						417		
08:30	8.50	201		441						642		20:30	20.50	175		219						394		
08:45	8.75	202	806	378	1741					580	2547	20:45	20.75	157	685	236	924					393	1609	
09:00	9.00	186		328						514		21:00	21.00	166		226						392		
09:15	9.25	190		347						537		21:15	21.25	155		177						332		
09:30	9.50	206		359						565		21:30	21.50	148		202						350		
09:45	9.75	204	786	322	1356					526	2142	21:45	21.75	149	618	186	791					335	1409	
10:00	10.00	136		340						476		22:00	22.00	140		171						311		
10:15	10.25	127		316						443		22:15	22.25	144		172						316		
10:30	10.50	129		316						445		22:30	22.50	137		165						302		
10:45	10.75	146	538	306	1278					452	1816	22:45	22.75	134	555	160	668					294	1223	
11:00	11.00	185		293						478		23:00	23.00	133		153						286		
11:15	11.25	198		287						485		23:15	23.25	127		146						273		
11:30	11.50	210		289						499		23:30	23.50	129		146						275		
11:45	11.75	200	793	300	1169					500	1962	23:45	23.75	124	513	153	598					277	1111	
TOTALS		7570		12559						20129		TOTALS		10408		12576						22984		
SPLIT %		37.6%		62.4%						46.7%		SPLIT %		45.3%		54.7%						53.3%		

DAILY TOTALS	NB	SB	EB		WB		Total
	17,978	25,135	0		0		43,113

AM Peak Hour	07:30	07:30			07:30	PM Peak Hour	16:45	16:30			16:30
AM Pk Volume	893	1814			2707	PM Pk Volume	1436	1415			2846
Pk Hr Factor	0.839	0.969			0.953	Pk Hr Factor	0.940	0.975			0.956
7 - 9 Volume	1651	3408	0	0	5059	4 - 6 Volume	2713	2596	0	0	5309
7 - 9 Peak Hour	07:30	07:30			07:30	4 - 6 Peak Hour	16:45	16:30			16:30
7 - 9 Pk Volume	893	1814	0	0	2707	4 - 6 Pk Volume	1436	1415	0	0	2846
Pk Hr Factor	0.839	0.969	0.000	0.000	0.953	Pk Hr Factor	0.940	0.975	0.000	0.000	0.956

PEMS Data

VOLUME

SR 113 South of Main St

Day: Thursday

Date: 9/28/2017

City: Woodland

Project #:

DAILY TOTALS										NB		SB		EB				WB				Total	
										18,534		25,469		0				0				44,003	
AM Period		NB		SB		EB		WB		TOTAL		PM Period		NB		SB		EB		WB		TOTAL	
00:00	0.00	123		145						268		12:00	12.00	220		282						502	
00:15	0.25	127		131						258		12:15	12.25	211		318						529	
00:30	0.50	122		128						250		12:30	12.50	220		298						518	
00:45	0.75	125	497	132	536					257	1033	12:45	12.75	210	861	292	1190					502	2051
01:00	1.00	127		124						251		13:00	13.00	210		316						526	
01:15	1.25	123		132						255		13:15	13.25	201		305						506	
01:30	1.50	126		136						262		13:30	13.50	225		325						550	
01:45	1.75	126	502	132	524					258	1026	13:45	13.75	229	865	285	1231					514	2096
02:00	2.00	118		122						240		14:00	14.00	215		295						510	
02:15	2.25	124		139						263		14:15	14.25	240		314						554	
02:30	2.50	121		135						256		14:30	14.50	219		293						512	
02:45	2.75	128	491	134	530					262	1021	14:45	14.75	258	932	348	1250					606	2182
03:00	3.00	124		148						272		15:00	15.00	235		322						557	
03:15	3.25	125		149						274		15:15	15.25	256		344						600	
03:30	3.50	124		163						287		15:30	15.50	280		339						619	
03:45	3.75	128	501	153	613					281	1114	15:45	15.75	312	1083	316	1321					628	2404
04:00	4.00	126		171						297		16:00	16.00	277		311						588	
04:15	4.25	132		184						316		16:15	16.25	337		313						650	
04:30	4.50	136		203						339		16:30	16.50	327		334						661	
04:45	4.75	139	533	228	786					367	1319	16:45	16.75	374	1315	316	1274					690	2589
05:00	5.00	139		253						392		17:00	17.00	378		347						725	
05:15	5.25	137		255						392		17:15	17.25	399		352						751	
05:30	5.50	141		304						445		17:30	17.50	371		319						690	
05:45	5.75	146	563	292	1104					438	1667	17:45	17.75	294	1442	309	1327					603	2769
06:00	6.00	158		251						409		18:00	18.00	276		297						573	
06:15	6.25	157		317						474		18:15	18.25	274		269						543	
06:30	6.50	172		352						524		18:30	18.50	251		279						530	
06:45	6.75	225	712	362	1282					587	1994	18:45	18.75	221	1022	281	1126					502	2148
07:00	7.00	182		359						541		19:00	19.00	213		278						491	
07:15	7.25	191		399						590		19:15	19.25	205		268						473	
07:30	7.50	224		464						688		19:30	19.50	198		236						434	
07:45	7.75	259	856	487	1709					746	2565	19:45	19.75	189	805	262	1044					451	1849
08:00	8.00	223		449						672		20:00	20.00	178		217						395	
08:15	8.25	218		463						681		20:15	20.25	179		230						409	
08:30	8.50	215		390						605		20:30	20.50	151		229						380	
08:45	8.75	212	868	396	1698					608	2566	20:45	20.75	168	676	250	926					418	1602
09:00	9.00	180		346						526		21:00	21.00	158		215						373	
09:15	9.25	177		321						498		21:15	21.25	163		194						357	
09:30	9.50	170		358						528		21:30	21.50	145		223						368	
09:45	9.75	188	715	343	1368					531	2083	21:45	21.75	145	611	206	838					351	1449
10:00	10.00	199		301						500		22:00	22.00	143		173						316	
10:15	10.25	196		335						531		22:15	22.25	147		219						366	
10:30	10.50	209		282						491		22:30	22.50	143		169						312	
10:45	10.75	187	791	315	1233					502	2024	22:45	22.75	130	563	156	717					286	1280
11:00	11.00	198		275						473		23:00	23.00	136		152						288	
11:15	11.25	193		290						483		23:15	23.25	135		173						308	
11:30	11.50	195		324						519		23:30	23.50	136		139						275	
11:45	11.75	207	793	331	1220					538	2013	23:45	23.75	130	537	158	622					288	1159
TOTALS		7822		12603						20425		TOTALS		10712		12866						23578	
SPLIT %		38.3%		61.7%						46.4%		SPLIT %		45.4%		54.6%						53.6%	

DAILY TOTALS										NB		SB		EB				WB				Total	
										18,534		25,469		0				0				44,003	

AM Peak Hour	07:30	07:30			07:30	PM Peak Hour	16:45	14:45			16:45
AM Pk Volume	924	1863			2787	PM Pk Volume	1522	1353			2856
Pk Hr Factor	0.892	0.956			0.934	Pk Hr Factor	0.954	0.972			0.951
7 - 9 Volume	1724	3407	0	0	5131	4 - 6 Volume	2757	2601	0	0	5358
7 - 9 Peak Hour	07:30	07:30			07:30	4 - 6 Peak Hour	16:45	16:30			16:45
7 - 9 Pk Volume	924	1863	0	0	2787	4 - 6 Pk Volume	1522	1349	0	0	2856
Pk Hr Factor	0.892	0.956	0.000	0.000	0.934	Pk Hr Factor	0.954	0.958	0.000	0.000	0.951

PEMS Data

VOLUME

SR 113 Gibson Rd to CR 25A

Day: Tuesday
Date: 9/26/2017

City: Woodland
Project #:

DAILY TOTALS										NB	SB	EB										WB	Total	
										4,358	26,891											0		
AM Period		NB		SB		EB		WB		TOTAL		PM Period			NB		SB		EB		WB		TOTAL	
00:00	0.00	5		78						83		12:00	12.00	59		403						462		
00:15	0.25	9		65						74		12:15	12.25	66		402						468		
00:30	0.50	7		58						65		12:30	12.50	59		407						466		
00:45	0.75	3	24	47	248					50	272	12:45	12.75	70	254	423	1635					493	1889	
01:00	1.00	6		43						49		13:00	13.00	56		406						462		
01:15	1.25	6		41						47		13:15	13.25	43		395						438		
01:30	1.50	4		37						41		13:30	13.50	51		408						459		
01:45	1.75	4	20	30	151					34	171	13:45	13.75	66	216	418	1627					484	1843	
02:00	2.00	5		31						36		14:00	14.00	64		405						469		
02:15	2.25	9		26						35		14:15	14.25	80		416						496		
02:30	2.50	10		30						40		14:30	14.50	61		432						493		
02:45	2.75	6	30	31	118					37	148	14:45	14.75	54	259	449	1702					503	1961	
03:00	3.00	4		32						36		15:00	15.00	80		430						510		
03:15	3.25	12		40						52		15:15	15.25	88		443						531		
03:30	3.50	6		44						50		15:30	15.50	86		463						549		
03:45	3.75	10	32	45	161					55	193	15:45	15.75	105	359	448	1784					553	2143	
04:00	4.00	4		54						58		16:00	16.00	84		453						537		
04:15	4.25	16		60						76		16:15	16.25	98		433						531		
04:30	4.50	15		89						104		16:30	16.50	88		460						548		
04:45	4.75	22	57	101	304					123	361	16:45	16.75	103	373	424	1770					527	2143	
05:00	5.00	18		112						130		17:00	17.00	95		427						522		
05:15	5.25	29		160						189		17:15	17.25	108		418						526		
05:30	5.50	34		231						265		17:30	17.50	103		389						492		
05:45	5.75	23	104	264	767					287	871	17:45	17.75	78	384	399	1633					477	2017	
06:00	6.00	36		309						345		18:00	18.00	74		380						454		
06:15	6.25	34		370						404		18:15	18.25	49		375						424		
06:30	6.50	51		407						458		18:30	18.50	63		356						419		
06:45	6.75	80	201	422	1508					502	1709	18:45	18.75	59	245	341	1452					400	1697	
07:00	7.00	63		428						491		19:00	19.00	43		322						365		
07:15	7.25	58		440						498		19:15	19.25	36		289						325		
07:30	7.50	102		468						570		19:30	19.50	52		280						332		
07:45	7.75	119	342	438	1774					557	2116	19:45	19.75	60	191	257	1148					317	1339	
08:00	8.00	86		396						482		20:00	20.00	42		253						295		
08:15	8.25	85		398						483		20:15	20.25	40		256						296		
08:30	8.50	68		402						470		20:30	20.50	30		238						268		
08:45	8.75	60	299	402	1598					462	1897	20:45	20.75	35	147	238	985					273	1132	
09:00	9.00	46		386						432		21:00	21.00	32		227						259		
09:15	9.25	50		386						436		21:15	21.25	31		230						261		
09:30	9.50	54		379						433		21:30	21.50	28		216						244		
09:45	9.75	50	200	382	1533					432	1733	21:45	21.75	17	108	199	872					216	980	
10:00	10.00	59		374						433		22:00	22.00	18		177						195		
10:15	10.25	48		382						430		22:15	22.25	16		167						183		
10:30	10.50	36		379						415		22:30	22.50	12		167						179		
10:45	10.75	46	189	385	1520					431	1709	22:45	22.75	17	63	140	651					157	714	
11:00	11.00	48		378						426		23:00	23.00	8		123						131		
11:15	11.25	49		388						437		23:15	23.25	14		109						123		
11:30	11.50	50		394						444		23:30	23.50	12		95						107		
11:45	11.75	71	218	376	1536					447	1754	23:45	23.75	9	43	87	414					96	457	
TOTALS		1716		11218						12934		TOTALS		2642		15673						18315		
SPLIT %		13.3%		86.7%						41.4%		SPLIT %		14.4%		85.6%						58.6%		

DAILY TOTALS										NB	SB											EB	WB	Total
										4,358	26,891											0	0	31,249

AM Peak Hour	07:30	07:00		07:00	PM Peak Hour	16:45	15:15		15:15
AM Pk Volume	392	1774		2116	PM Pk Volume	409	1807		2170
Pk Hr Factor	0.824	0.948		0.928	Pk Hr Factor	0.947	0.976		0.981
7 - 9 Volume	641	3372	0	0	4013	4 - 6 Volume	757	3403	004160
7 - 9 Peak Hour	07:30	07:00		07:00	4 - 6 Peak Hour	16:45	16:00		16:00
7 - 9 Pk Volume	392	1774	0	0	2116	4 - 6 Pk Volume	409	1770	002143
Pk Hr Factor	0.824	0.948	0.000	0.000	0.928	Pk Hr Factor	0.947	0.962	0.0000.0000.978

PEMS Data

VOLUME

SR 113 Gibson Rd to CR 25A

Day: Wednesday

Date: 9/27/2017

City: Woodland

Project #:

DAILY TOTALS										NB	SB	EB								WB	Total			
										4,339	27,362									0			0	31,701
AM Period		NB		SB		EB		WB		TOTAL		PM Period			NB		SB		EB		WB		TOTAL	
00:00	0.00	7		77						84		12:00	12.00	49		392						441		
00:15	0.25	10		67						77		12:15	12.25	62		390						452		
00:30	0.50	9		59						68		12:30	12.50	55		387						442		
00:45	0.75	20	46	50	253					70	299	12:45	12.75	47	213	406	1575					453	1788	
01:00	1.00	4		42						46		13:00	13.00	71		397						468		
01:15	1.25	10		41						51		13:15	13.25	64		410						474		
01:30	1.50	9		38						47		13:30	13.50	53		389						442		
01:45	1.75	7	30	36	157					43	187	13:45	13.75	61	249	401	1597					462	1846	
02:00	2.00	3		35						38		14:00	14.00	64		411						475		
02:15	2.25	10		30						40		14:15	14.25	73		420						493		
02:30	2.50	6		29						35		14:30	14.50	55		445						500		
02:45	2.75	6	25	30	124					36	149	14:45	14.75	73	265	433	1709					506	1974	
03:00	3.00	10		29						39		15:00	15.00	65		437						502		
03:15	3.25	13		36						49		15:15	15.25	81		449						530		
03:30	3.50	7		44						51		15:30	15.50	68		483						551		
03:45	3.75	11	41	46	155					57	196	15:45	15.75	87	301	473	1842					560	2143	
04:00	4.00	19		42						61		16:00	16.00	90		492						582		
04:15	4.25	11		59						70		16:15	16.25	104		475						579		
04:30	4.50	9		82						91		16:30	16.50	99		501						600		
04:45	4.75	17	56	102	285					119	341	16:45	16.75	102	395	472	1940					574	2335	
05:00	5.00	13		105						118		17:00	17.00	112		449						561		
05:15	5.25	23		156						179		17:15	17.25	115		413						528		
05:30	5.50	28		217						245		17:30	17.50	96		417						513		
05:45	5.75	32	96	259	737					291	833	17:45	17.75	90	413	411	1690					501	2103	
06:00	6.00	43		288						331		18:00	18.00	87		414						501		
06:15	6.25	28		358						386		18:15	18.25	82		375						457		
06:30	6.50	48		392						440		18:30	18.50	76		351						427		
06:45	6.75	87	206	422	1460					509	1666	18:45	18.75	69	314	358	1498					427	1812	
07:00	7.00	54		435						489		19:00	19.00	56		340						396		
07:15	7.25	55		463						518		19:15	19.25	59		330						389		
07:30	7.50	87		464						551		19:30	19.50	34		293						327		
07:45	7.75	123	319	469	1831					592	2150	19:45	19.75	33	182	291	1254					324	1436	
08:00	8.00	81		391						472		20:00	20.00	48		268						316		
08:15	8.25	53		386						439		20:15	20.25	46		278						324		
08:30	8.50	49		395						444		20:30	20.50	35		244						279		
08:45	8.75	64	247	404	1576					468	1823	20:45	20.75	30	159	249	1039					279	1198	
09:00	9.00	49		369						418		21:00	21.00	35		251						286		
09:15	9.25	49		374						423		21:15	21.25	25		236						261		
09:30	9.50	48		379						427		21:30	21.50	30		227						257		
09:45	9.75	51	197	386	1508					437	1705	21:45	21.75	21	111	207	921					228	1032	
10:00	10.00	40		377						417		22:00	22.00	21		199						220		
10:15	10.25	35		382						417		22:15	22.25	15		182						197		
10:30	10.50	39		379						418		22:30	22.50	17		165						182		
10:45	10.75	37	151	386	1524					423	1675	22:45	22.75	7	60	143	689					150	749	
11:00	11.00	46		378						424		23:00	23.00	9		128						137		
11:15	11.25	60		392						452		23:15	23.25	6		113						119		
11:30	11.50	58		395						453		23:30	23.50	12		103						115		
11:45	11.75	66	230	398	1563					464	1793	23:45	23.75	6	33	91	435					97	468	
TOTALS		1644		11173				12817		TOTALS		2695		16189								18884		
SPLIT %		12.8%		87.2%				40.4%		SPLIT %		14.3%		85.7%								59.6%		

DAILY TOTALS										NB	SB	EB								WB									Total
										4,339	27,362	0								0									31,701

AM Peak Hour	07:15	07:00		07:00	PM Peak Hour	16:30	15:45		16:00
AM Pk Volume	346	1831		2150	PM Pk Volume	428	1941		2335
Pk Hr Factor	0.703	0.976		0.908	Pk Hr Factor	0.930	0.969		0.973
7 - 9 Volume	566	3407	0	0	3973	4 - 6 Volume	808	3630	004438
7 - 9 Peak Hour	07:15	07:00		07:00	4 - 6 Peak Hour	16:30	16:00		16:00
7 - 9 Pk Volume	346	1831	0	0	2150	4 - 6 Pk Volume	428	1940	002335
Pk Hr Factor	0.703	0.976	0.000	0.000	0.908	Pk Hr Factor	0.930	0.968	0.0000.0000.973

PEMS Data

VOLUME

SR 113 Gibson Rd to CR 25A

Day: Thursday
Date: 9/28/2017

City: Woodland
Project #:

DAILY TOTALS										NB	SB	EB										WB	Total	
										4,304	28,054											0	0	32,358
AM Period		NB		SB		EB		WB		TOTAL		PM Period			NB		SB		EB		WB		TOTAL	
00:00	0.00	5		87						92		12:00	12.00	58		395							453	
00:15	0.25	5		69						74		12:15	12.25	52		411							463	
00:30	0.50	6		59						65		12:30	12.50	58		402							460	
00:45	0.75	6	22	54	269					60	291	12:45	12.75	51	219	410	1618						461	1837
01:00	1.00	8		46						54		13:00	13.00	63		398							461	
01:15	1.25	8		45						53		13:15	13.25	48		386							434	
01:30	1.50	7		40						47		13:30	13.50	53		408							461	
01:45	1.75	5	28	43	174					48	202	13:45	13.75	58	222	412	1604						470	1826
02:00	2.00	3		36						39		14:00	14.00	62		414							476	
02:15	2.25	16		34						50		14:15	14.25	71		426							497	
02:30	2.50	4		31						35		14:30	14.50	56		448							504	
02:45	2.75	14	37	33	134					47	171	14:45	14.75	82	271	459	1747						541	2018
03:00	3.00	6		38						44		15:00	15.00	67		476							543	
03:15	3.25	9		37						46		15:15	15.25	90		529							619	
03:30	3.50	8		43						51		15:30	15.50	83		540							623	
03:45	3.75	11	34	45	163					56	197	15:45	15.75	99	339	493	2038						592	2377
04:00	4.00	11		49						60		16:00	16.00	82		471							553	
04:15	4.25	8		64						72		16:15	16.25	106		447							553	
04:30	4.50	12		90						102		16:30	16.50	88		487							575	
04:45	4.75	23	54	111	314					134	368	16:45	16.75	109	385	417	1822						526	2207
05:00	5.00	16		106						122		17:00	17.00	114		434							548	
05:15	5.25	24		156						180		17:15	17.25	110		427							537	
05:30	5.50	36		229						265		17:30	17.50	100		427							527	
05:45	5.75	24	100	280	771					304	871	17:45	17.75	65	389	430	1718						495	2107
06:00	6.00	37		303						340		18:00	18.00	71		413							484	
06:15	6.25	42		392						434		18:15	18.25	84		400							484	
06:30	6.50	52		415						467		18:30	18.50	52		381							433	
06:45	6.75	84	215	424	1534					508	1749	18:45	18.75	58	265	368	1562						426	1827
07:00	7.00	75		450						525		19:00	19.00	48		344							392	
07:15	7.25	54		499						553		19:15	19.25	47		319							366	
07:30	7.50	88		468						556		19:30	19.50	67		311							378	
07:45	7.75	113	330	438	1855					551	2185	19:45	19.75	39	201	293	1267						332	1468
08:00	8.00	77		404						481		20:00	20.00	42		269							311	
08:15	8.25	62		402						464		20:15	20.25	31		297							328	
08:30	8.50	58		416						474		20:30	20.50	23		262							285	
08:45	8.75	66	263	407	1629					473	1892	20:45	20.75	33	129	252	1080						285	1209
09:00	9.00	47		368						415		21:00	21.00	29		245							274	
09:15	9.25	33		374						407		21:15	21.25	26		241							267	
09:30	9.50	45		386						431		21:30	21.50	31		224							255	
09:45	9.75	35	160	381	1509					416	1669	21:45	21.75	23	109	219	929						242	1038
10:00	10.00	57		385						442		22:00	22.00	17		200							217	
10:15	10.25	45		398						443		22:15	22.25	20		192							212	
10:30	10.50	45		396						441		22:30	22.50	16		178							194	
10:45	10.75	46	193	388	1567					434	1760	22:45	22.75	14	67	151	721						165	788
11:00	11.00	51		372						423		23:00	23.00	19		143							162	
11:15	11.25	62		397						459		23:15	23.25	17		126							143	
11:30	11.50	51		399						450		23:30	23.50	8		106							114	
11:45	11.75	55	219	393	1561					448	1780	23:45	23.75	9	53	93	468						102	521
TOTALS		1655		11480						13135		TOTALS		2649		16574						19223		
SPLIT %		12.6%		87.4%						40.6%		SPLIT %		13.8%		86.2%						59.4%		

DAILY TOTALS										NB	SB											EB	WB	Total
										4,304	28,054											0	0	32,358

AM Peak Hour	07:30	07:00			07:00	PM Peak Hour	16:45	15:00			15:15
AM Pk Volume	340	1855			2185	PM Pk Volume	433	2038			2387
Pk Hr Factor	0.752	0.929			0.982	Pk Hr Factor	0.950	0.944			0.958
7 - 9 Volume	593	3484	0	0	4077	4 - 6 Volume	774	3540	0	0	4314
7 - 9 Peak Hour	07:30	07:00			07:00	4 - 6 Peak Hour	16:45	16:00			16:00
7 - 9 Pk Volume	340	1855	0	0	2185	4 - 6 Pk Volume	433	1822	0	0	2207
Pk Hr Factor	0.752	0.929	0.000	0.000	0.982	Pk Hr Factor	0.950	0.935	0.000	0.000	0.960

PEMS Data

VOLUME

SR 113 CR 25A to CR 27

Day: Tuesday
Date: 9/26/2017

City: Woodland
Project #:

DAILY TOTALS										NB		SB		EB				WB				Total			
										17,483		16,595										0		0	
AM Period		NB		SB		EB		WB		TOTAL		PM Period				NB		SB		EB		WB		TOTAL	
00:00	0.00	39		40						79		12:00	12.00	259		244								503	
00:15	0.25	31		31						62		12:15	12.25	227		211								438	
00:30	0.50	38		36						74		12:30	12.50	210		218								428	
00:45	0.75	26	134	29	136					55	270	12:45	12.75	253	949	192	865							445	1814
01:00	1.00	24		27						51		13:00	13.00	241		217								458	
01:15	1.25	17		27						44		13:15	13.25	227		205								432	
01:30	1.50	18		27						45		13:30	13.50	241		213								454	
01:45	1.75	22	81	18	99					40	180	13:45	13.75	231	940	209	844							440	1784
02:00	2.00	18		18						36		14:00	14.00	247		204								451	
02:15	2.25	24		20						44		14:15	14.25	294		247								541	
02:30	2.50	23		37						60		14:30	14.50	292		230								522	
02:45	2.75	28	93	29	104					57	197	14:45	14.75	261	1094	235	916							496	2010
03:00	3.00	24		37						61		15:00	15.00	316		256								572	
03:15	3.25	29		38						67		15:15	15.25	365		251								616	
03:30	3.50	18		52						70		15:30	15.50	405		237								642	
03:45	3.75	33	104	52	179					85	283	15:45	15.75	444	1530	243	987							687	2517
04:00	4.00	37		49						86		16:00	16.00	402		236								638	
04:15	4.25	52		72						124		16:15	16.25	471		228								699	
04:30	4.50	82		130						212		16:30	16.50	500		243								743	
04:45	4.75	89	260	116	367					205	627	16:45	16.75	537	1910	247	954							784	2864
05:00	5.00	59		131						190		17:00	17.00	511		278								789	
05:15	5.25	55		182						237		17:15	17.25	605		298								903	
05:30	5.50	78		237						315		17:30	17.50	474		237								711	
05:45	5.75	79	271	200	750					279	1021	17:45	17.75	401	1991	214	1027							615	3018
06:00	6.00	88		188						276		18:00	18.00	365		225								590	
06:15	6.25	103		196						299		18:15	18.25	322		183								505	
06:30	6.50	148		286						434		18:30	18.50	243		166								409	
06:45	6.75	160	499	332	1002					492	1501	18:45	18.75	258	1188	140	714							398	1902
07:00	7.00	142		304						446		19:00	19.00	192		158								350	
07:15	7.25	175		361						536		19:15	19.25	211		139								350	
07:30	7.50	264		466						730		19:30	19.50	213		135								348	
07:45	7.75	328	909	511	1642					839	2551	19:45	19.75	152	768	131	563							283	1331
08:00	8.00	210		470						680		20:00	20.00	137		122								259	
08:15	8.25	257		415						672		20:15	20.25	138		102								240	
08:30	8.50	260		365						625		20:30	20.50	142		126								268	
08:45	8.75	237	964	335	1585					572	2549	20:45	20.75	121	538	109	459							230	997
09:00	9.00	166		284						450		21:00	21.00	117		105								222	
09:15	9.25	178		219						397		21:15	21.25	115		88								203	
09:30	9.50	185		245						430		21:30	21.50	110		62								172	
09:45	9.75	177	706	239	987					416	1693	21:45	21.75	106	448	82	337							188	785
10:00	10.00	205		201						406		22:00	22.00	96		66								162	
10:15	10.25	176		205						381		22:15	22.25	95		65								160	
10:30	10.50	175		236						411		22:30	22.50	52		75								127	
10:45	10.75	205	761	229	871					434	1632	22:45	22.75	73	316	57	263							130	579
11:00	11.00	174		189						363		23:00	23.00	53		54								107	
11:15	11.25	235		220						455		23:15	23.25	52		43								95	
11:30	11.50	183		185						368		23:30	23.50	50		27								77	
11:45	11.75	250	842	192	786					442	1628	23:45	23.75	32	187	34	158							66	345
TOTALS		5624		8508						14132		TOTALS		11859		8087								19946	
SPLIT %		39.8%		60.2%						41.5%		SPLIT %		59.5%		40.5%								58.5%	

DAILY TOTALS	NB	SB	EB		WB		Total
	17,483	16,595	0		0		34,078

AM Peak Hour	07:30	07:30			07:30	PM Peak Hour	16:30	16:30			16:30
AM Pk Volume	1059	1862			2921	PM Pk Volume	2153	1066			3219
Pk Hr Factor	0.807	0.911			0.870	Pk Hr Factor	0.890	0.894			0.891
7 - 9 Volume	1873	3227	0	0	5100	4 - 6 Volume	3901	1981	0	0	5882
7 - 9 Peak Hour	07:30	07:30			07:30	4 - 6 Peak Hour	16:30	16:30			16:30
7 - 9 Pk Volume	1059	1862	0	0	2921	4 - 6 Pk Volume	2153	1066	0	0	3219
Pk Hr Factor	0.807	0.911	0.000	0.000	0.870	Pk Hr Factor	0.890	0.894	0.000	0.000	0.891

PEMS Data

VOLUME

SR 113 CR 25A to CR 27

Day: Wednesday
Date: 9/27/2017

City: Woodland
Project #:

DAILY TOTALS										NB		SB		EB				WB				Total		
										17,005		16,459										0		0
AM Period		NB		SB		EB		WB		TOTAL		PM Period			NB		SB		EB		WB		TOTAL	
00:00	0.00	34		37						71		12:00	12.00	228		204						432		
00:15	0.25	46		31						77		12:15	12.25	207		162						369		
00:30	0.50	33		27						60		12:30	12.50	217		202						419		
00:45	0.75	21	134	14	109					35	243	12:45	12.75	228	880	175	743					403	1623	
01:00	1.00	29		19						48		13:00	13.00	215		207						422		
01:15	1.25	18		17						35		13:15	13.25	257		212						469		
01:30	1.50	24		22						46		13:30	13.50	225		181						406		
01:45	1.75	30	101	19	77					49	178	13:45	13.75	275	972	233	833					508	1805	
02:00	2.00	8		14						22		14:00	14.00	264		224						488		
02:15	2.25	22		22						44		14:15	14.25	293		233						526		
02:30	2.50	20		21						41		14:30	14.50	256		244						500		
02:45	2.75	20	70	23	80					43	150	14:45	14.75	316	1129	204	905					520	2034	
03:00	3.00	17		25						42		15:00	15.00	300		227						527		
03:15	3.25	23		31						54		15:15	15.25	355		240						595		
03:30	3.50	29		42						71		15:30	15.50	392		276						668		
03:45	3.75	32	101	58	156					90	257	15:45	15.75	445	1492	236	979					681	2471	
04:00	4.00	52		49						101		16:00	16.00	423		215						638		
04:15	4.25	46		76						122		16:15	16.25	504		223						727		
04:30	4.50	72		95						167		16:30	16.50	474		266						740		
04:45	4.75	59	229	90	310					149	539	16:45	16.75	498	1899	303	1007					801	2906	
05:00	5.00	60		136						196		17:00	17.00	539		303						842		
05:15	5.25	67		147						214		17:15	17.25	572		299						871		
05:30	5.50	79		192						271		17:30	17.50	456		209						665		
05:45	5.75	84	290	196	671					280	961	17:45	17.75	404	1971	187	998					591	2969	
06:00	6.00	77		169						246		18:00	18.00	365		208						573		
06:15	6.25	108		231						339		18:15	18.25	390		191						581		
06:30	6.50	148		305						453		18:30	18.50	284		178						462		
06:45	6.75	184	517	323	1028					507	1545	18:45	18.75	257	1296	202	779					459	2075	
07:00	7.00	153		339						492		19:00	19.00	213		143						356		
07:15	7.25	171		370						541		19:15	19.25	246		125						371		
07:30	7.50	233		440						673		19:30	19.50	199		124						323		
07:45	7.75	297	854	491	1640					788	2494	19:45	19.75	176	834	135	527					311	1361	
08:00	8.00	195		453						648		20:00	20.00	175		112						287		
08:15	8.25	216		451						667		20:15	20.25	178		119						297		
08:30	8.50	234		407						641		20:30	20.50	155		116						271		
08:45	8.75	212	857	345	1656					557	2513	20:45	20.75	126	634	112	459					238	1093	
09:00	9.00	185		273						458		21:00	21.00	136		108						244		
09:15	9.25	212		293						505		21:15	21.25	133		62						195		
09:30	9.50	228		279						507		21:30	21.50	95		79						174		
09:45	9.75	226	851	236	1081					462	1932	21:45	21.75	109	473	68	317					177	790	
10:00	10.00	28		279						307		22:00	22.00	95		70						165		
10:15	10.25	2		221						223		22:15	22.25	96		52						148		
10:30	10.50	3		234						237		22:30	22.50	63		50						113		
10:45	10.75	77	110	215	949					292	1059	22:45	22.75	55	309	50	222					105	531	
11:00	11.00	192		202						394		23:00	23.00	49		46						95		
11:15	11.25	207		186						393		23:15	23.25	45		32						77		
11:30	11.50	230		191						421		23:30	23.50	38		39						77		
11:45	11.75	210	839	198	777					408	1616	23:45	23.75	31	163	39	156					70	319	
TOTALS		4953		8534						13487		TOTALS		12052		7925						19977		
SPLIT %		36.7%		63.3%						40.3%		SPLIT %			60.3%		39.7%						59.7%	

DAILY TOTALS	NB	SB	EB		WB		Total
	17,005	16,459	0		0		33,464

AM Peak Hour	07:45	07:30			07:30	PM Peak Hour	16:30	16:30			16:30
AM Pk Volume	942	1835			2776	PM Pk Volume	2083	1171			3254
Pk Hr Factor	0.793	0.934			0.881	Pk Hr Factor	0.910	0.966			0.934
7 - 9 Volume	1711	3296	0	0	5007	4 - 6 Volume	3870	2005	0	0	5875
7 - 9 Peak Hour	07:45	07:30			07:30	4 - 6 Peak Hour	16:30	16:30			16:30
7 - 9 Pk Volume	942	1835	0	0	2776	4 - 6 Pk Volume	2083	1171	0	0	3254
Pk Hr Factor	0.793	0.934	0.000	0.000	0.881	Pk Hr Factor	0.910	0.966	0.000	0.000	0.934

PEMS Data

VOLUME

SR 113 CR 25A to CR 27

Day: Thursday
Date: 9/28/2017

City: Woodland
Project #:

DAILY TOTALS										NB		SB		EB				WB				Total		
										18,248		17,057										0		0
AM Period		NB		SB		EB		WB		TOTAL		PM Period			NB		SB		EB		WB		TOTAL	
00:00	0.00	26		26						52		12:00	12.00	273		202						475		
00:15	0.25	45		15						60		12:15	12.25	241		237						478		
00:30	0.50	23		16						39		12:30	12.50	260		214						474		
00:45	0.75	26	120	21	78					47	198	12:45	12.75	242	1016	216	869					458	1885	
01:00	1.00	24		12						36		13:00	13.00	257		213						470		
01:15	1.25	24		22						46		13:15	13.25	224		205						429		
01:30	1.50	28		20						48		13:30	13.50	251		230						481		
01:45	1.75	32	108	23	77					55	185	13:45	13.75	282	1014	210	858					492	1872	
02:00	2.00	14		23						37		14:00	14.00	275		224						499		
02:15	2.25	34		25						59		14:15	14.25	305		222						527		
02:30	2.50	16		23						39		14:30	14.50	270		207						477		
02:45	2.75	35	99	20	91					55	190	14:45	14.75	316	1166	248	901					564	2067	
03:00	3.00	24		32						56		15:00	15.00	283		258						541		
03:15	3.25	29		33						62		15:15	15.25	355		261						616		
03:30	3.50	32		49						81		15:30	15.50	385		266						651		
03:45	3.75	38	123	38	152					76	275	15:45	15.75	447	1470	234	1019					681	2489	
04:00	4.00	39		52						91		16:00	16.00	372		243						615		
04:15	4.25	54		80						134		16:15	16.25	465		232						697		
04:30	4.50	69		100						169		16:30	16.50	460		283						743		
04:45	4.75	56	218	120	352					176	570	16:45	16.75	524	1821	252	1010					776	2831	
05:00	5.00	68		138						206		17:00	17.00	535		291						826		
05:15	5.25	65		145						210		17:15	17.25	600		287						887		
05:30	5.50	81		222						303		17:30	17.50	502		243						745		
05:45	5.75	97	311	211	716					308	1027	17:45	17.75	417	2054	237	1058					654	3112	
06:00	6.00	86		156						242		18:00	18.00	402		224						626		
06:15	6.25	99		250						349		18:15	18.25	363		159						522		
06:30	6.50	138		301						439		18:30	18.50	343		186						529		
06:45	6.75	204	527	314	1021					518	1548	18:45	18.75	278	1386	178	747					456	2133	
07:00	7.00	139		297						436		19:00	19.00	269		186						455		
07:15	7.25	191		391						582		19:15	19.25	239		152						391		
07:30	7.50	228		427						655		19:30	19.50	206		124						330		
07:45	7.75	275	833	532	1647					807	2480	19:45	19.75	195	909	163	625					358	1534	
08:00	8.00	231		474						705		20:00	20.00	175		135						310		
08:15	8.25	243		447						690		20:15	20.25	192		119						311		
08:30	8.50	274		348						622		20:30	20.50	135		127						262		
08:45	8.75	226	974	350	1619					576	2593	20:45	20.75	136	638	146	527					282	1165	
09:00	9.00	168		267						435		21:00	21.00	121		114						235		
09:15	9.25	179		262						441		21:15	21.25	141		83						224		
09:30	9.50	172		276						448		21:30	21.50	107		106						213		
09:45	9.75	195	714	272	1077					467	1791	21:45	21.75	102	471	89	392					191	863	
10:00	10.00	188		217						405		22:00	22.00	97		75						172		
10:15	10.25	220		258						478		22:15	22.25	102		106						208		
10:30	10.50	230		194						424		22:30	22.50	82		88						170		
10:45	10.75	195	833	224	893					419	1726	22:45	22.75	63	344	53	322					116	666	
11:00	11.00	211		186						397		23:00	23.00	64		45						109		
11:15	11.25	212		178						390		23:15	23.25	53		56						109		
11:30	11.50	206		222						428		23:30	23.50	56		47						103		
11:45	11.75	253	882	231	817					484	1699	23:45	23.75	44	217	41	189					85	406	
TOTALS		5742		8540						14282		TOTALS		12506		8517						21023		
SPLIT %		40.2%		59.8%						40.5%		SPLIT %		59.5%		40.5%						59.5%		

DAILY TOTALS	NB	SB	EB		WB		Total
	18,248	17,057	0		0		35,305

AM Peak Hour	11:45	07:30			07:30	PM Peak Hour	16:45	16:30			16:45
AM Pk Volume	1027	1880			2857	PM Pk Volume	2161	1113			3234
Pk Hr Factor	0.940	0.883			0.885	Pk Hr Factor	0.900	0.956			0.911
7 - 9 Volume	1807	3266	0	0	5073	4 - 6 Volume	3875	2068	0	0	5943
7 - 9 Peak Hour	07:45	07:30			07:30	4 - 6 Peak Hour	16:45	16:30			16:45
7 - 9 Pk Volume	1023	1880	0	0	2857	4 - 6 Pk Volume	2161	1113	0	0	3234
Pk Hr Factor	0.930	0.883	0.000	0.000	0.885	Pk Hr Factor	0.900	0.956	0.000	0.000	0.911

APPENDIX B

LEVEL OF SERVICE CALCULATIONS

HCM 2010 Signalized Intersection Summary

1: East St & Main St/E Main St

Existing Conditions
Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	350	57	69	560	359	45	273	74	153	183	44
Future Volume (veh/h)	48	350	57	69	560	359	45	273	74	153	183	44
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		1.00
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	52	380	21	75	609	322	49	297	58	166	199	32
Adj No. of Lanes	1	2	1	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	62	1185	521	93	783	414	58	474	91	213	759	120
Arrive On Green	0.04	0.34	0.34	0.05	0.36	0.36	0.03	0.16	0.16	0.12	0.25	0.25
Sat Flow, veh/h	1757	3505	1542	1757	2200	1163	1757	2925	563	1757	3030	480
Grp Volume(v), veh/h	52	380	21	75	485	446	49	176	179	166	114	117
Grp Sat Flow(s),veh/h/ln	1757	1752	1542	1757	1752	1611	1757	1752	1735	1757	1752	1757
Q Serve(g_s), s	1.3	3.5	0.4	1.8	10.8	10.8	1.2	4.1	4.2	4.0	2.3	2.3
Cycle Q Clear(g_c), s	1.3	3.5	0.4	1.8	10.8	10.8	1.2	4.1	4.2	4.0	2.3	2.3
Prop In Lane	1.00		1.00	1.00		0.72	1.00		0.32	1.00		0.27
Lane Grp Cap(c), veh/h	62	1185	521	93	623	573	58	284	281	213	439	440
V/C Ratio(X)	0.84	0.32	0.04	0.81	0.78	0.78	0.84	0.62	0.64	0.78	0.26	0.27
Avail Cap(c_a), veh/h	805	3212	1413	805	1606	1476	966	1606	1590	966	1606	1610
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.9	10.7	9.7	20.5	12.5	12.5	21.0	17.0	17.1	18.6	13.1	13.1
Incr Delay (d2), s/veh	10.5	0.1	0.0	6.1	0.8	0.9	11.4	0.8	0.9	2.3	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	1.7	0.2	1.0	5.3	4.8	0.8	2.0	2.1	2.1	1.1	1.2
LnGrp Delay(d),s/veh	31.4	10.8	9.7	26.5	13.3	13.4	32.4	17.9	18.0	20.9	13.2	13.3
LnGrp LOS	C	B	A	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		453			1006			404			397	
Approach Delay, s/veh		13.1			14.3			19.7			16.4	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	4.5	19.6	4.4	15.0	5.3	18.9	8.3	11.2				
Change Period (Y+Rc), s	3.0	4.1	3.0	4.1	3.0	4.1	3.0	4.1				
Max Green Setting (Gmax), s	20.0	40.0	24.0	40.0	20.0	40.0	24.0	40.0				
Max Q Clear Time (g_c+I1), s	3.3	12.8	3.2	4.3	3.8	5.5	6.0	6.2				
Green Ext Time (p_c), s	0.0	2.5	0.0	0.6	0.0	1.3	0.1	1.0				
Intersection Summary												
HCM 2010 Ctrl Delay				15.4								
HCM 2010 LOS				B								

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing Conditions
AM Peak Hour

Intersection 2

Industrial Way-SR 113 SB Off-Ramp/Main Street

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	53	54	101.3%	22.6	3.4	C
	Through	16	15	95.6%	21.8	10.3	C
	Right Turn	50	47	93.8%	11.0	3.2	B
	Subtotal	119	116	97.4%	18.2	3.1	B
SB	Left Turn	63	61	97.3%	24.7	4.6	C
	Through	68	69	100.7%	25.2	5.2	C
	Right Turn	16	16	101.9%	21.9	7.6	C
	Subtotal	147	146	99.4%	24.2	3.5	C
EB	Left Turn	28	26	93.2%	34.2	8.5	C
	Through	527	542	102.9%	21.5	3.2	C
	Right Turn	158	160	100.9%	17.1	4.6	B
	Subtotal	713	728	102.1%	21.0	3.4	C
WB	Left Turn	429	430	100.2%	68.6	30.0	E
	Through	1,019	1,022	100.3%	13.1	3.3	B
	Right Turn	102	101	99.1%	11.1	1.9	B
	Subtotal	1,550	1,553	100.2%	28.6	9.1	C
Total		2,529	2,543	100.6%	25.7	6.3	C

Intersection 3

SR 113 NB Ramps/Main Street

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	275	267	96.9%	16.6	2.1	B
	Through						
	Right Turn	294	296	100.6%	9.3	1.7	A
	Subtotal	569	562	98.8%	12.6	1.8	B
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	625	636	101.8%	13.1	2.3	B
	Right Turn	17	17	98.2%	12.3	5.3	B
	Subtotal	642	653	101.7%	13.0	2.4	B
WB	Left Turn	21	21	101.4%	28.7	8.6	C
	Through	1,275	1,289	101.1%	13.2	1.2	B
	Right Turn						
	Subtotal	1,296	1,311	101.1%	13.5	1.2	B
Total		2,507	2,526	100.7%	13.2	1.4	B

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing Conditions
AM Peak Hour

Intersection 4

Pioneer Avenue/Main Street

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	241	245	101.8%	41.0	4.4	D
	Through	199	194	97.2%	30.6	2.6	C
	Right Turn	161	155	96.0%	21.5	3.8	C
	Subtotal	601	593	98.7%	32.3	2.0	C
SB	Left Turn	72	73	101.8%	46.3	10.9	D
	Through	121	121	100.2%	35.5	8.1	D
	Right Turn	54	54	99.8%	18.5	7.2	B
	Subtotal	247	248	100.6%	35.5	6.3	D
EB	Left Turn	130	139	106.9%	45.6	6.8	D
	Through	627	633	100.9%	25.3	5.0	C
	Right Turn	208	207	99.5%	26.2	6.6	C
	Subtotal	965	979	101.4%	28.6	5.0	C
NW	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	91	91	99.9%	77.5	7.3	E
	Through	1,016	1,021	100.5%	74.2	8.3	E
	Right Turn	106	106	99.9%	51.2	6.2	D
	Subtotal	1,213	1,218	100.4%	72.4	8.3	E
Total		3,026	3,038	100.4%	59.0	5.4	E

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing Conditions
AM Peak Hour

Intersection 5

Interstate-5 NB Off-Ramp/Main Street

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	957	967	101.0%	73.3	25.4	E
	Through						
	Right Turn	7	8	107.1%	40.0	30.3	D
	Subtotal	964	974	101.1%	73.2	25.5	E
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	279	276	99.0%	18.2	2.3	B
	Right Turn						
	Subtotal	279	276	99.0%	18.2	2.3	B
WB	Left Turn						
	Through	257	247	96.1%	23.0	2.7	C
	Right Turn						
	Subtotal	257	247	96.1%	23.0	2.7	C
Total		1,500	1,498	99.8%	55.3	17.2	E

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing Conditions
AM Peak Hour

Intersection 6 CR 102/Hays Lane-I-5 NB Ramps Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	36	38	105.6%	30.2	5.3	C
	Through	232	228	98.1%	13.1	2.4	B
	Right Turn	94	93	98.8%	2.8	0.3	A
	Subtotal	362	358	99.0%	12.4	2.1	B
SB	Left Turn						
	Through	413	401	97.1%	19.6	3.7	B
	Right Turn	8	9	110.0%	7.0	5.4	A
	Subtotal	421	410	97.3%	19.3	3.6	B
EB	Left Turn	13	15	111.5%	24.1	9.3	C
	Through						
	Right Turn	48	45	94.4%	24.4	6.3	C
	Subtotal	61	60	98.0%	24.0	4.7	C
WB	Left Turn	423	436	103.2%	17.9	2.3	B
	Through	37	36	97.3%	21.9	4.0	C
	Right Turn	183	179	97.5%	16.3	2.6	B
	Subtotal	643	651	101.2%	17.7	1.7	B
Total		1,487	1,479	99.4%	17.1	1.5	B

Intersection 7 CR 102/I-5 SB Ramps Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	310	310	100.0%	3.1	0.6	A
	Right Turn	421	420	99.7%	3.8	0.3	A
	Subtotal	731	730	99.8%	3.5	0.2	A
SB	Left Turn						
	Through	722	722	100.0%	5.5	0.5	A
	Right Turn	117	112	95.8%	5.8	0.6	A
	Subtotal	839	834	99.4%	5.6	0.5	A
EB	Left Turn	52	50	95.8%	7.8	1.6	A
	Through						
	Right Turn	121	120	98.9%	4.4	1.3	A
	Subtotal	173	170	98.0%	5.4	0.7	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		1,743	1,733	99.4%	4.7	0.3	A

HCM 2010 Signalized Intersection Summary

8: East St & Gibson Rd/E Gibson Rd

Existing Conditions
Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	144	731	95	31	701	111	48	68	15	97	116	108
Future Volume (veh/h)	144	731	95	31	701	111	48	68	15	97	116	108
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		1.00
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1845	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	173	881	107	37	845	53	58	82	1	117	140	7
Adj No. of Lanes	1	2	0	1	2	1	1	2	0	1	2	0
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	296	1236	150	147	1082	475	197	449	5	270	572	28
Arrive On Green	0.17	0.39	0.39	0.08	0.31	0.31	0.11	0.13	0.13	0.15	0.17	0.17
Sat Flow, veh/h	1757	3139	381	1757	3505	1538	1757	3545	43	1757	3398	169
Grp Volume(v), veh/h	173	492	496	37	845	53	58	40	43	117	72	75
Grp Sat Flow(s),veh/h/ln	1757	1752	1768	1757	1752	1538	1757	1752	1836	1757	1752	1815
Q Serve(g_s), s	5.6	14.6	14.6	1.2	13.6	1.5	1.9	1.3	1.3	3.7	2.2	2.2
Cycle Q Clear(g_c), s	5.6	14.6	14.6	1.2	13.6	1.5	1.9	1.3	1.3	3.7	2.2	2.2
Prop In Lane	1.00		0.22	1.00		1.00	1.00		0.02	1.00		0.09
Lane Grp Cap(c), veh/h	296	690	696	147	1082	475	197	222	232	270	295	305
V/C Ratio(X)	0.58	0.71	0.71	0.25	0.78	0.11	0.29	0.18	0.18	0.43	0.24	0.25
Avail Cap(c_a), veh/h	795	1132	1143	568	2265	994	568	1132	1186	795	1132	1172
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.7	15.8	15.8	26.5	19.5	15.3	25.2	24.2	24.2	23.7	22.3	22.3
Incr Delay (d2), s/veh	0.7	0.5	0.5	0.3	0.5	0.0	0.3	0.1	0.1	0.4	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	7.1	7.1	0.6	6.6	0.6	0.9	0.6	0.7	1.9	1.1	1.1
LnGrp Delay(d),s/veh	24.4	16.3	16.3	26.9	20.0	15.4	25.5	24.3	24.3	24.1	22.5	22.5
LnGrp LOS	C	B	B	C	B	B	C	C	C	C	C	C
Approach Vol, veh/h	1161			935			141			264		
Approach Delay, s/veh	17.5			20.0			24.8			23.2		
Approach LOS	B			B			C			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.5	12.7	8.2	28.5	9.9	15.3	13.4	23.2				
Change Period (Y+Rc), s	3.0	4.9	3.0	4.1	3.0	4.9	3.0	4.1				
Max Green Setting (Gmax), s	20.0	40.0	20.0	40.0	20.0	40.0	28.0	40.0				
Max Q Clear Time (g_c+I), s	15.7	3.3	3.2	16.6	3.9	4.2	7.6	15.6				
Green Ext Time (p_c), s	0.0	0.2	0.0	3.1	0.0	0.5	0.2	3.1				
Intersection Summary												
HCM 2010 Ctrl Delay	19.5											
HCM 2010 LOS	B											

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing Conditions
AM Peak Hour

Intersection 9 Matmor Rd/E Gibson Rd-I-5 NB Ramps Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	50	47	94.2%	29.7	8.1	C
	Through	27	25	91.9%	29.2	7.3	C
	Right Turn	158	162	102.4%	17.3	3.3	B
	Subtotal	235	234	99.4%	20.8	3.4	C
SB	Left Turn	189	186	98.3%	48.7	20.3	D
	Through	25	27	108.4%	36.8	17.4	D
	Right Turn	112	111	98.8%	21.4	12.8	C
	Subtotal	326	323	99.2%	37.7	17.5	D
EB	Left Turn	105	106	100.5%	37.6	6.7	D
	Through	779	785	100.7%	23.2	2.1	C
	Right Turn	26	23	88.5%	19.7	5.0	B
	Subtotal	910	913	100.4%	24.8	2.1	C
WB	Left Turn	48	51	106.3%	44.6	7.6	D
	Through	741	751	101.3%	27.2	4.7	C
	Right Turn	129	136	105.5%	7.5	1.3	A
	Subtotal	918	938	102.2%	25.0	3.9	C
Total		2,389	2,408	100.8%	26.2	3.5	C

Intersection 10 SR 113 SB Ramps/E Gibson Rd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	119	116	97.5%	18.0	2.1	B
	Through						
	Right Turn	69	72	104.1%	0.9	0.2	A
	Subtotal	188	188	99.9%	11.7	1.5	B
EB	Left Turn						
	Through	894	905	101.2%	13.6	2.0	B
	Right Turn	232	225	97.0%	8.1	2.1	A
	Subtotal	1,126	1,130	100.4%	12.5	1.9	B
WB	Left Turn						
	Through	849	859	101.2%	11.2	3.0	B
	Right Turn	406	411	101.3%	6.2	0.6	A
	Subtotal	1,255	1,270	101.2%	9.6	2.2	A
Total		2,569	2,588	100.8%	11.1	1.7	B

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing Conditions
AM Peak Hour

Intersection 11 SR 113 NB Ramps/E Gibson Rd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	112	109	97.1%	17.5	3.4	B
	Through						
	Right Turn	153	150	98.2%	1.3	0.2	A
	Subtotal	265	259	97.7%	7.9	2.2	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	875	881	100.7%	8.5	1.3	A
	Right Turn	138	139	101.0%	6.2	0.7	A
	Subtotal	1,013	1,021	100.8%	8.2	1.2	A
WB	Left Turn						
	Through	1,143	1,159	101.4%	13.4	1.1	B
	Right Turn	124	130	104.8%	10.2	0.7	B
	Subtotal	1,267	1,289	101.7%	13.1	1.0	B
Total		2,545	2,569	100.9%	10.6	0.9	B

Intersection 12 Bourn Dr-Harry Lorenzo Ave/E Gibson Rd Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn	2	2	120.0%	6.2	6.0	A
	Subtotal	2	2	120.0%	6.2	6.0	A
SB	Left Turn						
	Through						
	Right Turn	131	129	98.7%	26.0	5.7	D
	Subtotal	131	129	98.7%	26.0	5.7	D
EB	Left Turn						
	Through	1,026	1,030	100.4%	4.6	0.7	A
	Right Turn	2	3	145.0%	0.7	1.3	A
	Subtotal	1,028	1,033	100.5%	4.6	0.7	A
WB	Left Turn						
	Through	1,136	1,160	102.1%	6.7	0.5	A
	Right Turn	30	32	105.0%	5.5	1.3	A
	Subtotal	1,166	1,191	102.2%	6.7	0.5	A
Total		2,327	2,356	101.3%	6.9	0.4	A

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing Conditions
AM Peak Hour

Intersection 13

Pioneer Ave/E Gibson Rd

Signal

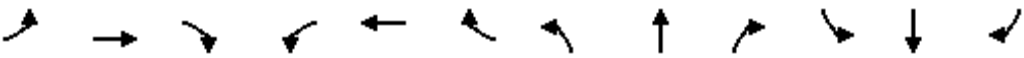
Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	399	404	101.3%	69.2	13.3	E
	Through	324	317	97.9%	25.1	2.7	C
	Right Turn	86	87	100.7%	7.2	2.1	A
	Subtotal	809	808	99.9%	44.9	7.0	D
SB	Left Turn	63	61	96.8%	46.0	6.3	D
	Through	288	295	102.3%	33.3	4.6	C
	Right Turn	273	282	103.3%	55.5	22.3	E
	Subtotal	624	638	102.2%	44.2	8.4	D
EB	Left Turn	179	176	98.4%	52.1	4.3	D
	Through	508	517	101.8%	38.9	3.5	D
	Right Turn	341	343	100.6%	25.2	9.3	C
	Subtotal	1,028	1,036	100.8%	36.7	4.5	D
WB	Left Turn	115	115	99.7%	47.6	4.2	D
	Through	486	498	102.5%	38.1	4.8	D
	Right Turn	20	18	91.0%	28.7	8.9	C
	Subtotal	621	631	101.6%	39.5	4.2	D
Total		3,082	3,113	101.0%	41.0	1.6	D

HCM Signalized Intersection Capacity Analysis

14: CR 102 & E. Gibson Rd/CR 24

Existing Conditions

Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	299	3	110	1	0	1	101	298	0	3	144	373
Future Volume (vph)	299	3	110	1	0	1	101	298	0	3	144	373
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	5.2	5.2		3.7		3.0	5.2		3.0	5.2	5.2
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	0.95		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85		0.93		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1649	1655	1553		1662		1736	3471		1736	1827	1531
Flt Permitted	0.95	0.95	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1649	1655	1553		1662		1736	3471		1736	1827	1531
Peak-hour factor, PHF	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	365	4	134	1	0	1	123	363	0	4	176	455
RTOR Reduction (vph)	0	0	107	0	2	0	0	0	0	0	0	344
Lane Group Flow (vph)	186	183	27	0	0	0	123	363	0	4	176	111
Confl. Bikes (#/hr)												2
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	2	2		6	6		3	8		7	4	
Permitted Phases			2									4
Actuated Green, G (s)	13.0	13.0	13.0		1.6		9.6	31.0		1.6	15.7	15.7
Effective Green, g (s)	13.0	13.0	13.0		1.6		9.6	31.0		1.6	15.7	15.7
Actuated g/C Ratio	0.20	0.20	0.20		0.02		0.15	0.48		0.02	0.24	0.24
Clearance Time (s)	5.2	5.2	5.2		3.7		3.0	5.2		3.0	5.2	5.2
Vehicle Extension (s)	1.0	1.0	1.0		1.0		1.0	1.5		1.0	1.5	1.5
Lane Grp Cap (vph)	333	334	313		41		259	1673		43	446	373
v/s Ratio Prot	c0.11	0.11			c0.00		c0.07	c0.10		0.00	c0.10	
v/s Ratio Perm			0.02									0.07
v/c Ratio	0.56	0.55	0.09		0.00		0.47	0.22		0.09	0.39	0.30
Uniform Delay, d1	23.1	23.0	20.8		30.6		25.0	9.6		30.6	20.3	19.8
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.2	1.0	0.0		0.0		0.5	0.0		0.3	0.2	0.2
Delay (s)	24.2	24.0	20.9		30.6		25.5	9.7		31.0	20.5	20.0
Level of Service	C	C	C		C		C	A		C	C	B
Approach Delay (s)		23.3			30.6			13.7			20.2	
Approach LOS		C			C			B			C	
Intersection Summary												
HCM 2000 Control Delay			19.2									HCM 2000 Level of Service B
HCM 2000 Volume to Capacity ratio			0.43									
Actuated Cycle Length (s)			64.3									Sum of lost time (s) 19.1
Intersection Capacity Utilization			59.1%									ICU Level of Service B
Analysis Period (min)			15									
c Critical Lane Group												

HCM 2010 Signalized Intersection Summary

15: East St & CR 24A/Sports Park Dr

Existing Conditions
Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	27	119	35	31	12	31	78	6	13	191	14
Future Volume (veh/h)	13	27	119	35	31	12	31	78	6	13	191	14
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	0.99		1.00	1.00		1.00	1.00		0.99
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1900	1827	1900	1900	1827	1900	1827	1827	1900	1827	1827	1900
Adj Flow Rate, veh/h	16	33	5	43	38	5	38	96	2	16	236	12
Adj No. of Lanes	0	1	0	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	260	183	24	342	128	14	114	428	9	59	358	18
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.07	0.24	0.24	0.03	0.21	0.21
Sat Flow, veh/h	355	1159	154	668	813	91	1740	1783	37	1740	1723	88
Grp Volume(v), veh/h	54	0	0	86	0	0	38	0	98	16	0	248
Grp Sat Flow(s),veh/h/ln	1668	0	0	1572	0	0	1740	0	1820	1740	0	1811
Q Serve(g_s), s	0.0	0.0	0.0	0.4	0.0	0.0	0.5	0.0	1.0	0.2	0.0	2.9
Cycle Q Clear(g_c), s	0.6	0.0	0.0	1.0	0.0	0.0	0.5	0.0	1.0	0.2	0.0	2.9
Prop In Lane	0.30		0.09	0.50		0.06	1.00		0.02	1.00		0.05
Lane Grp Cap(c), veh/h	468	0	0	485	0	0	114	0	437	59	0	377
V/C Ratio(X)	0.12	0.00	0.00	0.18	0.00	0.00	0.33	0.00	0.22	0.27	0.00	0.66
Avail Cap(c_a), veh/h	1980	0	0	1911	0	0	1521	0	2387	1521	0	2374
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.4	0.0	0.0	8.5	0.0	0.0	10.2	0.0	7.0	10.8	0.0	8.3
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	0.0	0.6	0.0	0.1	0.9	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	0.5	0.0	0.0	0.2	0.0	0.5	0.1	0.0	1.5
LnGrp Delay(d),s/veh	8.4	0.0	0.0	8.6	0.0	0.0	10.8	0.0	7.1	11.7	0.0	9.0
LnGrp LOS	A			A			B		A	B		A
Approach Vol, veh/h	54			86			136			264		
Approach Delay, s/veh	8.4			8.6			8.1			9.2		
Approach LOS	A			A			A			A		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		8.0	4.5	10.4		8.0	3.8	11.1				
Change Period (Y+Rc), s		4.4	3.0	* 5.6		* 4.4	3.0	5.6				
Max Green Setting (Gmax), s		25.0	20.0	* 30		* 25	20.0	30.0				
Max Q Clear Time (g_c+I1), s		2.6	2.5	4.9		3.0	2.2	3.0				
Green Ext Time (p_c), s		0.1	0.0	0.4		0.1	0.0	0.1				
Intersection Summary												
HCM 2010 Ctrl Delay	8.8											
HCM 2010 LOS	A											
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection

Intersection Delay, s/veh 9.8

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕			↕			↕	
Traffic Vol, veh/h	40	25	1	2	16	266	2	99	0	94	38	15
Future Vol, veh/h	40	25	1	2	16	266	2	99	0	94	38	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	43	27	1	2	17	289	2	108	0	102	41	16
Number of Lanes	0	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	8.9	10.4	9.1	9.6
HCM LOS	A	B	A	A

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	2%	61%	100%	0%	64%
Vol Thru, %	98%	38%	0%	6%	26%
Vol Right, %	0%	2%	0%	94%	10%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	101	66	2	282	147
LT Vol	2	40	2	0	94
Through Vol	99	25	0	16	38
RT Vol	0	1	0	266	15
Lane Flow Rate	110	72	2	307	160
Geometry Grp	2	5	7	7	2
Degree of Util (X)	0.155	0.104	0.004	0.395	0.225
Departure Headway (Hd)	5.076	5.226	5.813	4.645	5.067
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	702	681	614	772	703
Service Time	3.147	3.299	3.565	2.396	3.133
HCM Lane V/C Ratio	0.157	0.106	0.003	0.398	0.228
HCM Control Delay	9.1	8.9	8.6	10.4	9.6
HCM Lane LOS	A	A	A	B	A
HCM 95th-tile Q	0.5	0.3	0	1.9	0.9

HCM 2010 Signalized Intersection Summary

17: Parkland Ave & E. Heritage Pkwy

Existing Conditions
Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	37	17	20	17	7	45	2	51	14	5	3
Future Volume (veh/h)	0	37	17	20	17	7	45	2	51	14	5	3
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	0	50	0	27	23	0	61	3	0	19	7	0
Adj No. of Lanes	1	1	0	1	1	1	1	2	0	2	2	0
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	8	161	0	162	585	497	306	436	0	210	41	0
Arrive On Green	0.00	0.08	0.00	0.09	0.31	0.00	0.17	0.12	0.00	0.06	0.01	0.00
Sat Flow, veh/h	1810	1900	0	1810	1900	1615	1810	3705	0	3510	3705	0
Grp Volume(v), veh/h	0	50	0	27	23	0	61	3	0	19	7	0
Grp Sat Flow(s),veh/h/ln	1810	1900	0	1810	1900	1615	1810	1805	0	1755	1805	0
Q Serve(g_s), s	0.0	0.6	0.0	0.3	0.2	0.0	0.7	0.0	0.0	0.1	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.6	0.0	0.3	0.2	0.0	0.7	0.0	0.0	0.1	0.0	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	8	161	0	162	585	497	306	436	0	210	41	0
V/C Ratio(X)	0.00	0.31	0.00	0.17	0.04	0.00	0.20	0.01	0.00	0.09	0.17	0.00
Avail Cap(c_a), veh/h	1610	2113	0	1610	2113	1796	1610	4015	0	3123	4015	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	9.7	0.0	9.5	5.4	0.0	8.0	8.7	0.0	10.0	11.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.2	0.0	0.0	0.1	0.0	0.0	0.1	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.3	0.0	0.2	0.1	0.0	0.3	0.0	0.0	0.1	0.0	0.0
LnGrp Delay(d),s/veh	0.0	10.1	0.0	9.6	5.5	0.0	8.1	8.7	0.0	10.1	11.7	0.0
LnGrp LOS		B		A	A		A	A		B	B	
Approach Vol, veh/h		50			50			64			26	
Approach Delay, s/veh		10.1			7.7			8.2			10.5	
Approach LOS		B			A			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.0	6.3	6.8	4.4	0.0	11.3	4.3	6.8				
Change Period (Y+Rc), s	3.0	* 4.4	3.0	4.1	3.0	4.4	3.0	4.1				
Max Green Setting (Gmax), s	20.0	* 25	20.0	25.0	20.0	25.0	20.0	25.0				
Max Q Clear Time (g_c+I), s	12.3	2.6	2.7	2.0	0.0	2.2	2.1	2.0				
Green Ext Time (p_c), s	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			8.9									
HCM 2010 LOS			A									
Notes												

User approved pedestrian interval to be less than phase max green.

User approved ignoring U-Turning movement.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary

18: CR 102 & E. Heritage Pkwy/CR 25

Existing Conditions
Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	8	211	0	0	10	42	180	2	12	356	54
Future Volume (veh/h)	80	8	211	0	0	10	42	180	2	12	356	54
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1845	1845	1845	1845
Adj Flow Rate, veh/h	98	10	16	0	0	0	51	220	1	15	434	16
Adj No. of Lanes	1	1	0	1	1	0	1	1	1	1	1	1
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	116	21	34	8	9	0	65	648	539	21	602	500
Arrive On Green	0.07	0.03	0.03	0.00	0.00	0.00	0.04	0.35	0.35	0.01	0.33	0.33
Sat Flow, veh/h	1757	640	1024	1757	1845	0	1757	1845	1535	1757	1845	1531
Grp Volume(v), veh/h	98	0	26	0	0	0	51	220	1	15	434	16
Grp Sat Flow(s),veh/h/ln	1757	0	1664	1757	1845	0	1757	1845	1535	1757	1845	1531
Q Serve(g_s), s	1.2	0.0	0.3	0.0	0.0	0.0	0.6	1.8	0.0	0.2	4.3	0.1
Cycle Q Clear(g_c), s	1.2	0.0	0.3	0.0	0.0	0.0	0.6	1.8	0.0	0.2	4.3	0.1
Prop In Lane	1.00		0.62	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	116	0	56	8	9	0	65	648	539	21	602	500
V/C Ratio(X)	0.85	0.00	0.47	0.00	0.00	0.00	0.79	0.34	0.00	0.71	0.72	0.03
Avail Cap(c_a), veh/h	1261	0	1991	1261	2208	0	1682	2649	2204	1682	2649	2198
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.7	0.0	9.9	0.0	0.0	0.0	10.0	5.0	4.4	10.3	6.2	4.8
Incr Delay (d2), s/veh	6.2	0.0	2.2	0.0	0.0	0.0	7.7	0.1	0.0	15.2	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.2	0.0	0.0	0.0	0.4	0.9	0.0	0.2	2.3	0.1
LnGrp Delay(d),s/veh	15.9	0.0	12.1	0.0	0.0	0.0	17.7	5.1	4.4	25.5	6.8	4.8
LnGrp LOS	B		B				B	A	A	C	A	A
Approach Vol, veh/h	124					0		272		465		
Approach Delay, s/veh	15.1					0.0		7.5		7.3		
Approach LOS	B							A		A		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	0.0	4.8	3.8	12.3	4.4	0.4	3.3	12.8				
Change Period (Y+Rc), s	3.0	4.1	3.0	5.5	3.0	4.1	3.0	5.5				
Max Green Setting (Gmax), s	15.0	25.0	20.0	30.0	15.0	25.0	20.0	30.0				
Max Q Clear Time (g_c+I), s	10.0	2.3	2.6	6.3	3.2	0.0	2.2	3.8				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.5				
Intersection Summary												
HCM 2010 Ctrl Delay			8.5									
HCM 2010 LOS			A									

Intersection			
Intersection Delay, s/veh	4.4		
Intersection LOS	A		
Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	89	152	86
Demand Flow Rate, veh/h	89	153	87
Vehicles Circulating, veh/h	15	47	139
Vehicles Exiting, veh/h	211	57	61
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	2
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	3.9	4.6	4.5
Approach LOS	A	A	A
Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	89	153	87
Cap Entry Lane, veh/h	1113	1078	983
Entry HV Adj Factor	0.995	0.991	0.989
Flow Entry, veh/h	89	152	86
Cap Entry, veh/h	1108	1068	972
V/C Ratio	0.080	0.142	0.089
Control Delay, s/veh	3.9	4.6	4.5
LOS	A	A	A
95th %tile Queue, veh	0	0	0

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing Conditions
AM Peak Hour

Intersection 20

East St/CR 25A

All-way Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	2	1	60.0%	1.1	1.8	A
	Through	3	4	126.7%	6.3	3.4	A
	Right Turn	3	4	130.0%	1.7	1.9	A
	Subtotal	8	9	111.3%	5.8	1.7	A
SB	Left Turn	218	220	100.9%	8.0	1.1	A
	Through	3	3	103.3%	6.3	5.3	A
	Right Turn	41	39	94.6%	4.8	0.7	A
	Subtotal	262	262	100.0%	7.6	0.9	A
EB	Left Turn	26	23	89.6%	7.2	2.1	A
	Through	174	170	97.8%	10.1	0.6	B
	Right Turn	1	2	170.0%	1.0	2.3	A
	Subtotal	201	195	97.1%	9.8	0.7	A
WB	Left Turn	1	0	30.0%	7.8	1.7	A
	Through	132	136	103.3%	19.3	2.6	C
	Right Turn	94	100	106.2%	14.1	2.4	B
	Subtotal	227	237	104.2%	17.1	2.5	C
Total		698	703	100.6%	11.5	1.0	B

Intersection 21

SR 113 SB Ramps/CR 25A

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	6	6	95.0%	17.2	19.8	C
	Through	1	1	130.0%	9.1	16.0	A
	Right Turn	45	43	95.8%	3.5	1.6	A
	Subtotal	52	50	96.3%	5.8	2.0	A
EB	Left Turn						
	Through	68	65	96.0%	6.6	1.0	A
	Right Turn	327	329	100.6%	3.8	0.4	A
	Subtotal	395	394	99.8%	4.3	0.5	A
WB	Left Turn	144	138	95.8%	9.8	1.9	A
	Through	182	194	106.8%	7.1	1.6	A
	Right Turn						
	Subtotal	326	332	101.9%	8.2	1.8	A
Total		773	777	100.5%	6.0	0.8	A

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing Conditions
AM Peak Hour

Intersection 22

SR 113 NB Ramps/CR 25A

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	113	116	102.7%	5.5	0.7	A
	Through						
	Right Turn	16	17	107.5%	3.4	1.0	A
	Subtotal	129	133	103.3%	5.2	0.6	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	20	18	91.5%	2.7	1.0	A
	Through	54	53	98.1%	1.9	0.5	A
	Right Turn						
	Subtotal	74	71	96.4%	2.2	0.4	A
WB	Left Turn						
	Through	213	215	101.0%	0.7	0.2	A
	Right Turn	11	10	90.9%	0.1	0.2	A
	Subtotal	224	225	100.5%	0.6	0.2	A
Total		427	430	100.6%	2.4	0.3	A

HCM 2010 Signalized Intersection Summary

1: East St & E Main St

Existing Conditions
Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	574	96	109	503	352	88	277	87	286	365	61
Future Volume (veh/h)	56	574	96	109	503	352	88	277	87	286	365	61
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		0.98
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	64	660	42	125	578	310	101	318	70	329	420	59
Adj No. of Lanes	1	2	1	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	81	1004	440	160	726	389	130	453	98	381	931	130
Arrive On Green	0.05	0.28	0.28	0.09	0.33	0.33	0.07	0.16	0.16	0.22	0.30	0.30
Sat Flow, veh/h	1774	3539	1550	1774	2209	1184	1774	2886	626	1774	3111	434
Grp Volume(v), veh/h	64	660	42	125	463	425	101	193	195	329	238	241
Grp Sat Flow(s),veh/h/ln	1774	1770	1550	1774	1770	1624	1774	1770	1742	1774	1770	1776
Q Serve(g_s), s	2.0	9.2	1.1	3.9	13.3	13.3	3.1	5.8	5.9	10.0	6.1	6.2
Cycle Q Clear(g_c), s	2.0	9.2	1.1	3.9	13.3	13.3	3.1	5.8	5.9	10.0	6.1	6.2
Prop In Lane	1.00		1.00	1.00		0.73	1.00		0.36	1.00		0.24
Lane Grp Cap(c), veh/h	81	1004	440	160	582	534	130	278	274	381	529	531
V/C Ratio(X)	0.79	0.66	0.10	0.78	0.80	0.80	0.78	0.70	0.71	0.86	0.45	0.45
Avail Cap(c_a), veh/h	761	2530	1108	761	1265	1161	634	1265	1246	634	1265	1270
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.4	17.6	14.8	24.9	17.1	17.1	25.5	22.3	22.4	21.2	15.9	15.9
Incr Delay (d2), s/veh	6.4	0.3	0.0	3.1	1.0	1.0	3.8	1.2	1.3	3.2	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	4.5	0.5	2.0	6.6	6.1	1.7	2.9	3.0	5.2	3.0	3.1
LnGrp Delay(d),s/veh	32.9	17.9	14.8	28.0	18.0	18.1	29.3	23.5	23.7	24.4	16.1	16.1
LnGrp LOS	C	B	B	C	B	B	C	C	C	C	B	B
Approach Vol, veh/h		766			1013			489			808	
Approach Delay, s/veh		19.0			19.3			24.7			19.5	
Approach LOS		B			B			C			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.0	12.9	8.1	20.0	7.1	20.8	5.5	22.5				
Change Period (Y+Rc), s	3.0	4.1	3.0	4.1	3.0	4.1	3.0	4.1				
Max Green Setting (Gmax), s	20.0	40.0	24.0	40.0	20.0	40.0	24.0	40.0				
Max Q Clear Time (g_c+I1), s	12.0	7.9	5.9	11.2	5.1	8.2	4.0	15.3				
Green Ext Time (p_c), s	0.1	0.9	0.0	2.3	0.0	1.3	0.0	2.9				
Intersection Summary												
HCM 2010 Ctrl Delay				20.1								
HCM 2010 LOS				C								

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing Conditions
PM Peak Hour

Intersection 2

Industrial Way-SR 113 SB Off-Ramp/Main Street

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	12	9	78.3%	20.7	14.5	C
	Through						
	Right Turn	33	32	97.3%	18.3	8.5	B
	Subtotal	45	42	92.2%	19.3	7.1	B
SB	Left Turn	61	64	105.6%	32.4	5.6	C
	Through	64	67	105.2%	32.5	7.1	C
	Right Turn	27	26	97.0%	22.1	6.4	C
	Subtotal	152	158	103.9%	30.7	5.3	C
EB	Left Turn	28	29	105.0%	39.6	11.8	D
	Through	860	864	100.4%	55.3	29.8	E
	Right Turn	162	163	100.4%	55.8	36.5	E
	Subtotal	1,050	1,056	100.5%	54.9	30.1	D
WB	Left Turn	293	292	99.6%	42.6	11.9	D
	Through	924	916	99.1%	11.6	2.9	B
	Right Turn	78	82	105.3%	8.7	3.0	A
	Subtotal	1,295	1,290	99.6%	18.3	2.9	B
Total		2,542	2,545	100.1%	33.8	12.6	C

Intersection 3

SR 113 NB Ramps/Main Street

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	231	237	102.6%	36.8	2.9	D
	Through						
	Right Turn	514	492	95.6%	132.6	64.2	F
	Subtotal	745	729	97.8%	99.6	41.8	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	928	911	98.2%	85.6	19.2	F
	Right Turn	28	28	99.3%	102.7	27.9	F
	Subtotal	956	939	98.2%	86.1	19.4	F
WB	Left Turn	41	38	92.9%	28.2	7.3	C
	Through	1,064	1,051	98.8%	8.9	1.9	A
	Right Turn						
	Subtotal	1,105	1,089	98.6%	9.6	1.7	A
Total		2,806	2,757	98.2%	59.4	13.8	E

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing Conditions
PM Peak Hour

Intersection 4

Pioneer Avenue/Main Street

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	201	199	99.0%	39.8	5.4	D
	Through	139	140	100.8%	28.0	4.2	C
	Right Turn	178	176	99.0%	29.4	3.8	C
	Subtotal	518	515	99.5%	33.2	2.6	C
SB	Left Turn	125	123	98.5%	44.4	7.8	D
	Through	221	219	99.3%	35.0	4.4	D
	Right Turn	71	72	101.3%	17.6	4.6	B
	Subtotal	417	414	99.4%	34.7	3.1	C
EB	Left Turn	63	63	100.6%	48.5	9.9	D
	Through	1,141	1,113	97.5%	46.6	3.9	D
	Right Turn	224	209	93.2%	52.5	5.4	D
	Subtotal	1,428	1,385	97.0%	47.6	3.6	D
NW	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	181	177	97.7%	42.9	4.1	D
	Through	852	836	98.2%	23.5	2.1	C
	Right Turn	101	102	100.8%	8.8	1.3	A
	Subtotal	1,134	1,115	98.3%	25.3	2.3	C
Total		3,497	3,430	98.1%	42.9	2.4	D

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing Conditions
PM Peak Hour

Intersection 5

Interstate-5 NB Off-Ramp/Main Street

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	569	568	99.7%	12.3	1.2	B
	Through						
	Right Turn	18	19	107.8%	10.2	3.2	B
	Subtotal	587	587	100.0%	12.3	1.2	B
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	539	536	99.4%	12.0	2.4	B
	Right Turn						
	Subtotal	539	536	99.4%	12.0	2.4	B
WB	Left Turn						
	Through	572	556	97.2%	9.3	1.3	A
	Right Turn						
	Subtotal	572	556	97.2%	9.3	1.3	A
Total		1,698	1,678	98.8%	11.2	0.9	B

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing Conditions
PM Peak Hour

Intersection 6 CR 102/Hays Lane-I-5 NB Ramps Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	54	47	87.6%	37.4	6.0	D
	Through	465	478	102.8%	17.3	1.8	B
	Right Turn	175	173	98.8%	3.8	0.4	A
	Subtotal	694	698	100.6%	15.2	1.5	B
SB	Left Turn						
	Through	719	712	99.0%	25.8	2.4	C
	Right Turn	8	9	106.3%	12.1	7.3	B
	Subtotal	727	720	99.1%	25.6	2.4	C
EB	Left Turn	34	33	96.8%	29.9	9.7	C
	Through						
	Right Turn	104	105	101.2%	28.2	5.7	C
	Subtotal	138	138	100.1%	28.8	5.5	C
WB	Left Turn	530	541	102.1%	23.9	1.7	C
	Through	30	30	100.0%	26.5	5.2	C
	Right Turn	136	135	99.3%	19.1	3.7	B
	Subtotal	696	706	101.4%	23.1	1.6	C
Total		2,255	2,263	100.3%	21.8	1.3	C

Intersection 7 CR 102/I-5 SB Ramps Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	641	642	100.1%	4.5	0.8	A
	Right Turn	543	535	98.5%	4.8	0.6	A
	Subtotal	1,184	1,176	99.4%	4.7	0.6	A
SB	Left Turn						
	Through	1,103	1,107	100.3%	9.4	1.2	A
	Right Turn	157	152	97.0%	7.9	0.5	A
	Subtotal	1,260	1,259	99.9%	9.2	1.1	A
EB	Left Turn	53	55	103.2%	9.9	2.3	A
	Through						
	Right Turn	208	205	98.6%	7.9	0.7	A
	Subtotal	261	260	99.5%	8.3	0.9	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		2,705	2,695	99.6%	7.1	0.7	A

HCM 2010 Signalized Intersection Summary

8: East St & E Gibson Rd

Existing Conditions
Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	768	92	21	703	134	128	155	32	191	141	156
Future Volume (veh/h)	74	768	92	21	703	134	128	155	32	191	141	156
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		0.99
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1881	1881	1900	1881	1881	1881	1881	1881	1900	1881	1881	1900
Adj Flow Rate, veh/h	80	826	94	23	756	73	138	167	20	205	152	20
Adj No. of Lanes	1	2	0	1	2	1	1	2	0	1	2	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	242	1148	131	105	997	438	295	512	60	317	545	71
Arrive On Green	0.13	0.36	0.36	0.06	0.28	0.28	0.16	0.16	0.16	0.18	0.17	0.17
Sat Flow, veh/h	1792	3229	367	1792	3574	1571	1792	3215	380	1792	3178	412
Grp Volume(v), veh/h	80	457	463	23	756	73	138	92	95	205	84	88
Grp Sat Flow(s),veh/h/ln	1792	1787	1809	1792	1787	1571	1792	1787	1808	1792	1787	1803
Q Serve(g_s), s	2.4	13.3	13.3	0.7	11.6	2.1	4.2	2.7	2.8	6.4	2.5	2.5
Cycle Q Clear(g_c), s	2.4	13.3	13.3	0.7	11.6	2.1	4.2	2.7	2.8	6.4	2.5	2.5
Prop In Lane	1.00		0.20	1.00		1.00	1.00		0.21	1.00		0.23
Lane Grp Cap(c), veh/h	242	635	643	105	997	438	295	284	288	317	306	309
V/C Ratio(X)	0.33	0.72	0.72	0.22	0.76	0.17	0.47	0.32	0.33	0.65	0.28	0.28
Avail Cap(c_a), veh/h	835	1190	1205	597	2381	1046	597	1190	1204	835	1190	1201
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.5	16.8	16.8	27.0	19.8	16.4	22.7	22.4	22.4	23.0	21.6	21.7
Incr Delay (d2), s/veh	0.3	0.6	0.6	0.4	0.5	0.1	0.4	0.2	0.2	0.8	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	6.6	6.7	0.4	5.7	0.9	2.1	1.4	1.4	3.2	1.2	1.3
LnGrp Delay(d),s/veh	23.8	17.3	17.3	27.4	20.3	16.4	23.1	22.6	22.7	23.8	21.8	21.8
LnGrp LOS	C	B	B	C	C	B	C	C	C	C	C	C
Approach Vol, veh/h	1000			852			325			377		
Approach Delay, s/veh	17.9			20.1			22.8			22.9		
Approach LOS	B			C			C			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.6	14.5	6.5	25.5	12.9	15.2	11.1	20.9				
Change Period (Y+Rc), s	3.0	4.9	3.0	4.1	3.0	4.9	3.0	4.1				
Max Green Setting (Gmax), s	28.0	40.0	20.0	40.0	20.0	40.0	28.0	40.0				
Max Q Clear Time (g_c+I), s	19.4	4.8	2.7	15.3	6.2	4.5	4.4	13.6				
Green Ext Time (p_c), s	0.1	0.6	0.0	2.8	0.0	0.6	0.1	2.7				
Intersection Summary												
HCM 2010 Ctrl Delay	20.0											
HCM 2010 LOS	B											

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing Conditions
PM Peak Hour

Intersection 9 Matmor Rd/E Gibson Rd-I-5 NB Ramps Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	44	45	102.5%	28.1	3.1	C
	Through	50	51	101.0%	25.3	6.4	C
	Right Turn	103	101	98.1%	16.1	3.8	B
	Subtotal	197	197	99.8%	20.9	3.1	C
SB	Left Turn	123	122	99.4%	34.5	7.9	C
	Through	36	33	92.5%	23.0	8.6	C
	Right Turn	113	116	102.9%	13.3	6.0	B
	Subtotal	272	272	100.0%	24.0	6.3	C
EB	Left Turn	164	167	102.1%	34.0	4.2	C
	Through	823	811	98.5%	23.1	2.2	C
	Right Turn	72	69	96.0%	16.8	2.3	B
	Subtotal	1,059	1,047	98.9%	24.4	2.4	C
WB	Left Turn	184	188	102.0%	43.4	3.8	D
	Through	818	806	98.6%	24.4	3.5	C
	Right Turn	212	206	97.3%	9.5	1.5	A
	Subtotal	1,214	1,200	98.9%	24.9	2.1	C
Total		2,742	2,716	99.0%	24.3	1.5	C

Intersection 10 SR 113 SB Ramps/E Gibson Rd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	59	55	93.1%	16.8	3.4	B
	Through						
	Right Turn	104	108	103.7%	0.5	0.2	A
	Subtotal	163	163	99.8%	6.0	1.8	A
EB	Left Turn						
	Through	928	910	98.0%	13.5	2.4	B
	Right Turn	126	128	101.9%	6.2	0.9	A
	Subtotal	1,054	1,038	98.5%	12.6	2.3	B
WB	Left Turn						
	Through	1,110	1,091	98.3%	12.8	2.1	B
	Right Turn	201	205	102.1%	6.1	0.9	A
	Subtotal	1,311	1,296	98.9%	11.7	1.8	B
Total		2,528	2,497	98.8%	11.7	1.5	B

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing Conditions
PM Peak Hour

Intersection 11 SR 113 NB Ramps/E Gibson Rd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	219	212	96.7%	18.6	1.4	B
	Through						
	Right Turn	616	621	100.9%	4.7	2.4	A
	Subtotal	835	833	99.8%	8.2	1.9	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	919	894	97.3%	9.1	1.2	A
	Right Turn	68	65	96.2%	5.2	0.9	A
	Subtotal	987	960	97.2%	8.8	1.2	A
WB	Left Turn						
	Through	1,092	1,087	99.5%	13.3	1.5	B
	Right Turn	91	96	105.3%	9.7	1.0	A
	Subtotal	1,183	1,182	99.9%	13.0	1.4	B
Total		3,005	2,975	99.0%	10.3	0.6	B

Intersection 12 Bourn Dr-Harry Lorenzo Ave/E Gibson Rd Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn	3	2	80.0%	6.2	7.8	A
	Subtotal	3	2	80.0%	6.2	7.8	A
SB	Left Turn						
	Through						
	Right Turn	79	80	100.9%	11.4	3.9	B
	Subtotal	79	80	100.9%	11.4	3.9	B
EB	Left Turn						
	Through	1,535	1,518	98.9%	10.2	1.7	B
	Right Turn						
	Subtotal	1,535	1,518	98.9%	10.2	1.7	B
WB	Left Turn						
	Through	1,104	1,103	99.9%	6.6	0.7	A
	Right Turn	78	80	102.1%	6.1	1.3	A
	Subtotal	1,182	1,183	100.1%	6.6	0.7	A
Total		2,799	2,783	99.4%	8.7	0.9	A

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing Conditions
PM Peak Hour

Intersection 13

Pioneer Ave/E Gibson Rd

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	200	199	99.6%	38.5	6.8	D
	Through	104	105	100.7%	24.2	4.8	C
	Right Turn	38	37	96.8%	7.8	3.5	A
	Subtotal	342	341	99.6%	30.9	5.3	C
SB	Left Turn	57	54	95.4%	37.6	8.3	D
	Through	114	110	96.4%	30.0	4.6	C
	Right Turn	203	203	99.9%	16.5	3.0	B
	Subtotal	374	367	98.1%	23.2	3.1	C
EB	Left Turn	417	409	98.0%	51.7	3.6	D
	Through	845	842	99.7%	39.7	5.1	D
	Right Turn	276	272	98.7%	18.8	2.3	B
	Subtotal	1,538	1,523	99.1%	38.8	3.6	D
WB	Left Turn	107	100	93.1%	40.9	4.8	D
	Through	734	738	100.5%	40.1	9.8	D
	Right Turn	45	51	113.1%	32.6	10.8	C
	Subtotal	886	888	100.2%	39.7	9.0	D
Total		3,140	3,119	99.3%	36.3	4.5	D

HCM Signalized Intersection Capacity Analysis

14: E. Gibson Rd/CR 24 & CR 102

Existing Conditions

Timing Plan: PM Peak Hour

												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	10	627	0	81	0	1	2	125	419	0	1	454
Future Volume (vph)	10	627	0	81	0	1	2	125	419	0	1	454
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.2	5.2	5.2		3.7		3.0	5.2		3.0	5.2
Lane Util. Factor		0.95	0.95	1.00		1.00		1.00	0.95		1.00	1.00
Frpb, ped/bikes		1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00
Flpb, ped/bikes		1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00
Frt		1.00	1.00	0.85		0.91		1.00	1.00		1.00	1.00
Flt Protected		0.95	0.95	1.00		1.00		0.95	1.00		0.95	1.00
Satd. Flow (prot)		1698	1698	1599		1712		1787	3574		1787	1881
Flt Permitted		0.95	0.95	1.00		1.00		0.95	1.00		0.95	1.00
Satd. Flow (perm)		1698	1698	1599		1712		1787	3574		1787	1881
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	11	697	0	90	0	1	2	139	466	0	1	504
RTOR Reduction (vph)	0	0	0	68	0	2	0	0	0	0	0	0
Lane Group Flow (vph)	0	353	355	22	0	1	0	139	466	0	1	504
Confl. Bikes (#/hr)										1		
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Split	Split	NA	Perm		NA		Prot	NA		Prot	NA
Protected Phases	2	2	2		6	6		3	8		7	4
Permitted Phases				2								
Actuated Green, G (s)		23.2	23.2	23.2		1.9		13.1	51.4		1.9	33.1
Effective Green, g (s)		23.2	23.2	23.2		1.9		13.1	51.4		1.9	33.1
Actuated g/C Ratio		0.24	0.24	0.24		0.02		0.14	0.54		0.02	0.35
Clearance Time (s)		5.2	5.2	5.2		3.7		3.0	5.2		3.0	5.2
Vehicle Extension (s)		1.0	1.0	1.0		1.0		1.0	1.5		1.0	1.5
Lane Grp Cap (vph)		412	412	388		34		245	1923		35	651
v/s Ratio Prot		0.21	c0.21			c0.00		c0.08	c0.13		0.00	c0.27
v/s Ratio Perm				0.01								
v/c Ratio		0.86	0.86	0.06		0.03		0.57	0.24		0.03	0.77
Uniform Delay, d1		34.6	34.6	27.7		45.9		38.5	11.7		45.9	27.9
Progression Factor		1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2		15.4	16.2	0.0		0.1		1.8	0.0		0.1	5.2
Delay (s)		50.0	50.8	27.8		46.0		40.3	11.7		46.0	33.1
Level of Service		D	D	C		D		D	B		D	C
Approach Delay (s)			47.8			46.0			18.3			28.6
Approach LOS			D			D			B			C
Intersection Summary												
HCM 2000 Control Delay			32.3									C
HCM 2000 Volume to Capacity ratio			0.72									
Actuated Cycle Length (s)			95.5									19.1
Intersection Capacity Utilization			76.3%									D
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

14: E. Gibson Rd/CR 24 & CR 102

Existing Conditions
Timing Plan: PM Peak Hour

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	485
Future Volume (vph)	485
Ideal Flow (vphpl)	1900
Total Lost time (s)	5.2
Lane Util. Factor	1.00
Frpb, ped/bikes	1.00
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1599
Flt Permitted	1.00
Satd. Flow (perm)	1599
Peak-hour factor, PHF	0.90
Adj. Flow (vph)	539
RTOR Reduction (vph)	294
Lane Group Flow (vph)	245
Confl. Bikes (#/hr)	
Heavy Vehicles (%)	1%
Turn Type	Perm
Protected Phases	
Permitted Phases	4
Actuated Green, G (s)	33.1
Effective Green, g (s)	33.1
Actuated g/C Ratio	0.35
Clearance Time (s)	5.2
Vehicle Extension (s)	1.5
Lane Grp Cap (vph)	554
v/s Ratio Prot	
v/s Ratio Perm	0.15
v/c Ratio	0.44
Uniform Delay, d1	24.1
Progression Factor	1.00
Incremental Delay, d2	0.2
Delay (s)	24.3
Level of Service	C
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM 2010 Signalized Intersection Summary

15: East St & CR 24A/Sports Park Dr

Existing Conditions
Timing Plan: PM Peak Hour

													
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Volume (veh/h)	18	43	41	1	11	25	29	77	171	42	19	164	40
Future Volume (veh/h)	18	43	41	1	11	25	29	77	171	42	19	164	40
Number	5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99		1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1900	1863	1900		1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	20	47	21		12	27	0	85	188	38	21	180	35
Adj No. of Lanes	0	1	0		0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.91	0.91	0.91		0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h	45	106	47		31	70	0	209	361	73	76	250	49
Arrive On Green	0.11	0.11	0.11		0.06	0.06	0.00	0.12	0.24	0.24	0.04	0.17	0.17
Sat Flow, veh/h	400	941	421		564	1270	0	1774	1504	304	1774	1512	294
Grp Volume(v), veh/h	88	0	0		39	0	0	85	0	226	21	0	215
Grp Sat Flow(s),veh/h/ln	1762	0	0		1835	0	0	1774	0	1808	1774	0	1806
Q Serve(g_s), s	1.4	0.0	0.0		0.6	0.0	0.0	1.4	0.0	3.3	0.3	0.0	3.4
Cycle Q Clear(g_c), s	1.4	0.0	0.0		0.6	0.0	0.0	1.4	0.0	3.3	0.3	0.0	3.4
Prop In Lane	0.23		0.24		0.31		0.00	1.00		0.17	1.00		0.16
Lane Grp Cap(c), veh/h	198	0	0		102	0	0	209	0	434	76	0	298
V/C Ratio(X)	0.44	0.00	0.00		0.38	0.00	0.00	0.41	0.00	0.52	0.28	0.00	0.72
Avail Cap(c_a), veh/h	1448	0	0		1508	0	0	1166	0	1783	1166	0	1781
HCM Platoon Ratio	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00		1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.6	0.0	0.0		13.9	0.0	0.0	12.4	0.0	10.0	14.1	0.0	12.0
Incr Delay (d2), s/veh	0.6	0.0	0.0		0.9	0.0	0.0	0.5	0.0	0.4	0.7	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.0		0.3	0.0	0.0	0.7	0.0	1.7	0.2	0.0	1.8
LnGrp Delay(d),s/veh	13.2	0.0	0.0		14.7	0.0	0.0	12.9	0.0	10.4	14.8	0.0	13.3
LnGrp LOS	B				B			B		B	B		B
Approach Vol, veh/h	88						39			311			236
Approach Delay, s/veh	13.2						14.7			11.1			13.4
Approach LOS	B						B			B			B
Timer	1	2	3	4	5	6	7	8					
Assigned Phs	2		3	4	6		7	8					
Phs Duration (G+Y+Rc), s	7.8		6.6	10.6	5.4		4.3	12.9					
Change Period (Y+Rc), s	4.4		3.0	* 5.6	3.7		3.0	5.6					
Max Green Setting (Gmax), s	25.0		20.0	* 30	25.0		20.0	30.0					
Max Q Clear Time (g_c+I1), s	3.4		3.4	5.4	2.6		2.3	5.3					
Green Ext Time (p_c), s	0.1		0.0	0.4	0.0		0.0	0.4					
Intersection Summary													
HCM 2010 Ctrl Delay	12.4												
HCM 2010 LOS	B												
Notes													

User approved ignoring U-Turning movement.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection

Intersection Delay, s/veh 10.9

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕			↕			↕	
Traffic Vol, veh/h	26	27	3	3	21	164	4	56	1	225	74	33
Future Vol, veh/h	26	27	3	3	21	164	4	56	1	225	74	33
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	29	30	3	3	23	182	4	62	1	250	82	37
Number of Lanes	0	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	9.1	9.8	8.7	12.3
HCM LOS	A	A	A	B

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	7%	46%	100%	0%	68%
Vol Thru, %	92%	48%	0%	11%	22%
Vol Right, %	2%	5%	0%	89%	10%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	61	56	3	185	332
LT Vol	4	26	3	0	225
Through Vol	56	27	0	21	74
RT Vol	1	3	0	164	33
Lane Flow Rate	68	62	3	206	369
Geometry Grp	2	5	7	7	2
Degree of Util (X)	0.095	0.094	0.006	0.286	0.486
Departure Headway (Hd)	5.047	5.415	6.138	5.006	4.741
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	702	655	580	711	756
Service Time	3.132	3.504	3.91	2.777	2.801
HCM Lane V/C Ratio	0.097	0.095	0.005	0.29	0.488
HCM Control Delay	8.7	9.1	8.9	9.8	12.3
HCM Lane LOS	A	A	A	A	B
HCM 95th-tile Q	0.3	0.3	0	1.2	2.7

HCM 2010 Signalized Intersection Summary

17: Parkland Ave & E. Heritage Pkwy

Existing Conditions
Timing Plan: PM Peak Hour

													
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↑		↔	↑	↔	↔	↑↓		↔	↑↓	
Traffic Volume (veh/h)	2	5	14	20	58	20	15	21	3	33	11	2	1
Future Volume (veh/h)	2	5	14	20	58	20	15	21	3	33	11	2	1
Number		7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh		0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Adj Sat Flow, veh/h/ln		1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h		5	15	2	62	22	0	23	3	0	12	2	0
Adj No. of Lanes		1	1	0	1	1	1	1	2	0	2	2	0
Peak Hour Factor		0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %		0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h		30	56	8	315	365	310	141	155	0	147	25	0
Arrive On Green		0.02	0.03	0.03	0.17	0.19	0.00	0.08	0.04	0.00	0.04	0.01	0.00
Sat Flow, veh/h		1810	1642	219	1810	1900	1615	1810	3705	0	3510	3705	0
Grp Volume(v), veh/h		5	0	17	62	22	0	23	3	0	12	2	0
Grp Sat Flow(s),veh/h/ln		1810	0	1861	1810	1900	1615	1810	1805	0	1755	1805	0
Q Serve(g_s), s		0.1	0.0	0.2	0.6	0.2	0.0	0.2	0.0	0.0	0.1	0.0	0.0
Cycle Q Clear(g_c), s		0.1	0.0	0.2	0.6	0.2	0.0	0.2	0.0	0.0	0.1	0.0	0.0
Prop In Lane		1.00		0.12	1.00		1.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h		30	0	64	315	365	310	141	155	0	147	25	0
V/C Ratio(X)		0.17	0.00	0.27	0.20	0.06	0.00	0.16	0.02	0.00	0.08	0.08	0.00
Avail Cap(c_a), veh/h		1764	0	2267	1764	2315	1968	1764	4399	0	3422	4399	0
HCM Platoon Ratio		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh		10.0	0.0	9.7	7.2	6.8	0.0	8.8	9.4	0.0	9.4	10.1	0.0
Incr Delay (d2), s/veh		1.0	0.0	0.8	0.1	0.0	0.0	0.2	0.0	0.0	0.1	0.5	0.0
Initial Q Delay(d3),s/veh		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		0.0	0.0	0.1	0.3	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),s/veh		10.9	0.0	10.5	7.4	6.8	0.0	9.0	9.4	0.0	9.5	10.6	0.0
LnGrp LOS		B		B	A	A		A	A		A	B	
Approach Vol, veh/h			22			84			26			14	
Approach Delay, s/veh			10.6			7.2			9.1			9.7	
Approach LOS			B			A			A			A	
Timer	1	2	3	4	5	6	7	8					
Assigned Phs	1	2	3	4	5	6	7	8					
Phs Duration (G+Y+Rc), s	3.9	5.3	6.6	4.8	4.6	4.5	3.3	8.0					
Change Period (Y+Rc), s	3.0	* 4.4	3.0	4.1	3.0	4.4	3.0	4.1					
Max Green Setting (Gmax), s	20.0	* 25	20.0	25.0	20.0	25.0	20.0	25.0					
Max Q Clear Time (g_c+I), s	12.1	2.0	2.6	2.2	2.2	2.0	2.1	2.2					
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
Intersection Summary													
HCM 2010 Ctrl Delay			8.3										
HCM 2010 LOS			A										
Notes													

User approved pedestrian interval to be less than phase max green.

User approved ignoring U-Turning movement.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary

18: CR 102 & E. Heritage Pkwy

Existing Conditions
Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	1	48	0	5	12	108	409	0	9	322	82
Future Volume (veh/h)	52	1	48	0	5	12	108	409	0	9	322	82
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1881	1881	1900	1881	1881	1900	1881	1881	1881	1881	1881	1881
Adj Flow Rate, veh/h	56	1	4	0	5	0	116	440	0	10	346	31
Adj No. of Lanes	1	1	0	1	1	0	1	1	1	1	1	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	69	53	214	7	13	0	144	620	527	14	484	403
Arrive On Green	0.04	0.16	0.16	0.00	0.01	0.00	0.08	0.33	0.00	0.01	0.26	0.26
Sat Flow, veh/h	1792	326	1304	1792	1881	0	1792	1881	1599	1792	1881	1565
Grp Volume(v), veh/h	56	0	5	0	5	0	116	440	0	10	346	31
Grp Sat Flow(s),veh/h/ln	1792	0	1631	1792	1881	0	1792	1881	1599	1792	1881	1565
Q Serve(g_s), s	0.8	0.0	0.1	0.0	0.1	0.0	1.6	5.2	0.0	0.1	4.2	0.4
Cycle Q Clear(g_c), s	0.8	0.0	0.1	0.0	0.1	0.0	1.6	5.2	0.0	0.1	4.2	0.4
Prop In Lane	1.00		0.80	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	69	0	267	7	13	0	144	620	527	14	484	403
V/C Ratio(X)	0.81	0.00	0.02	0.00	0.39	0.00	0.81	0.71	0.00	0.69	0.71	0.08
Avail Cap(c_a), veh/h	1063	0	1612	1063	1860	0	1417	2232	1897	1417	2232	1856
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.1	0.0	8.9	0.0	12.5	0.0	11.4	7.4	0.0	12.5	8.5	7.1
Incr Delay (d2), s/veh	8.1	0.0	0.0	0.0	7.0	0.0	4.0	0.6	0.0	19.8	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	0.0	0.1	0.0	0.9	2.7	0.0	0.1	2.2	0.2
LnGrp Delay(d),s/veh	20.2	0.0	8.9	0.0	19.5	0.0	15.4	8.0	0.0	32.3	9.3	7.1
LnGrp LOS	C		A		B		B	A		C	A	A
Approach Vol, veh/h	61			5			556			387		
Approach Delay, s/veh	19.3			19.5			9.5			9.7		
Approach LOS	B			B			A			A		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	0.0	8.2	5.0	12.0	4.0	4.3	3.2	13.8				
Change Period (Y+Rc), s	3.0	4.1	3.0	5.5	3.0	4.1	3.0	5.5				
Max Green Setting (Gmax), s	15.0	25.0	20.0	30.0	15.0	25.0	20.0	30.0				
Max Q Clear Time (g_c+I), s	10.0	2.1	3.6	6.2	2.8	2.1	2.1	7.2				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.8	0.0	0.0	0.0	1.0				
Intersection Summary												
HCM 2010 Ctrl Delay	10.2											
HCM 2010 LOS	B											

Intersection			
Intersection Delay, s/veh	3.8		
Intersection LOS	A		
Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	90	38	39
Demand Flow Rate, veh/h	90	38	39
Vehicles Circulating, veh/h	17	36	36
Vehicles Exiting, veh/h	58	71	38
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	1
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	3.9	3.6	3.6
Approach LOS	A	A	A
Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	90	38	39
Cap Entry Lane, veh/h	1111	1090	1090
Entry HV Adj Factor	1.000	1.000	1.000
Flow Entry, veh/h	90	38	39
Cap Entry, veh/h	1111	1090	1090
V/C Ratio	0.081	0.035	0.036
Control Delay, s/veh	3.9	3.6	3.6
LOS	A	A	A
95th %tile Queue, veh	0	0	0

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing Conditions
PM Peak Hour

Intersection 20

East St/CR 25A

All-way Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	1	1	80.0%	0.6	1.2	A
	Through	1	1	80.0%	0.0	0.0	A
	Right Turn	1	2	190.0%	0.7	0.9	A
	Subtotal	3	4	116.7%	1.3	1.2	A
SB	Left Turn	99	99	100.3%	4.7	0.5	A
	Through	1	0	40.0%	0.7	2.2	A
	Right Turn	32	33	101.9%	3.2	0.6	A
	Subtotal	132	132	100.2%	4.3	0.4	A
EB	Left Turn	57	54	94.9%	5.1	0.6	A
	Through	91	89	97.9%	8.6	0.3	A
	Right Turn	4	5	135.0%	3.9	2.5	A
	Subtotal	152	149	97.8%	7.2	0.2	A
WB	Left Turn	2	2	85.0%	3.3	2.7	A
	Through	122	119	97.5%	11.9	0.5	B
	Right Turn	204	205	100.3%	7.5	0.7	A
	Subtotal	328	325	99.2%	9.1	0.6	A
Total		615	610	99.2%	7.5	0.3	A

Intersection 21

SR 113 SB Ramps/CR 25A

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	3	3	83.3%	3.1	3.8	A
	Through						
	Right Turn	30	29	96.3%	2.7	0.8	A
	Subtotal	33	31	95.2%	2.9	0.8	A
EB	Left Turn						
	Through	61	59	96.7%	3.6	0.9	A
	Right Turn	130	131	100.5%	2.4	0.2	A
	Subtotal	191	190	99.3%	2.8	0.3	A
WB	Left Turn	27	25	93.0%	2.0	0.7	A
	Through	298	298	100.1%	1.4	0.2	A
	Right Turn						
	Subtotal	325	323	99.5%	1.4	0.2	A
Total		549	544	99.2%	2.0	0.2	A

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing Conditions
PM Peak Hour

Intersection 22

SR 113 NB Ramps/CR 25A

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	248	242	97.7%	6.1	0.6	A
	Through	4	3	75.0%	6.7	4.0	A
	Right Turn	86	85	99.2%	5.6	0.4	A
	Subtotal	338	331	97.8%	6.0	0.5	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	26	23	89.2%	1.6	0.5	A
	Through	38	40	104.7%	1.1	0.5	A
	Right Turn						
	Subtotal	64	63	98.4%	1.3	0.4	A
WB	Left Turn						
	Through	77	81	105.6%	0.8	0.3	A
	Right Turn	10	10	95.0%	0.0	0.1	A
	Subtotal	87	91	104.4%	0.7	0.3	A
Total		489	484	99.1%	4.3	0.3	A

HCM 2010 Signalized Intersection Summary

1: East St & Main St/E Main St

Existing + Project
Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	360	70	80	590	380	60	320	90	160	230	50
Future Volume (veh/h)	60	360	70	80	590	380	60	320	90	160	230	50
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		1.00
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	65	391	22	87	641	348	65	348	77	174	250	39
Adj No. of Lanes	1	2	1	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	80	1213	533	110	790	429	80	512	112	222	791	122
Arrive On Green	0.05	0.35	0.35	0.06	0.36	0.36	0.05	0.18	0.18	0.13	0.26	0.26
Sat Flow, veh/h	1757	3505	1542	1757	2177	1182	1757	2853	623	1757	3043	469
Grp Volume(v), veh/h	65	391	22	87	516	473	65	212	213	174	143	146
Grp Sat Flow(s),veh/h/ln	1757	1752	1542	1757	1752	1607	1757	1752	1724	1757	1752	1759
Q Serve(g_s), s	1.8	4.1	0.5	2.4	13.2	13.2	1.8	5.6	5.7	4.8	3.3	3.3
Cycle Q Clear(g_c), s	1.8	4.1	0.5	2.4	13.2	13.2	1.8	5.6	5.7	4.8	3.3	3.3
Prop In Lane	1.00		1.00	1.00		0.74	1.00		0.36	1.00		0.27
Lane Grp Cap(c), veh/h	80	1213	533	110	636	583	80	314	309	222	455	457
V/C Ratio(X)	0.81	0.32	0.04	0.79	0.81	0.81	0.81	0.67	0.69	0.78	0.31	0.32
Avail Cap(c_a), veh/h	707	2822	1241	707	1411	1294	849	1411	1388	849	1411	1416
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.5	12.0	10.8	23.0	14.3	14.3	23.5	19.0	19.1	21.1	14.8	14.8
Incr Delay (d2), s/veh	7.0	0.1	0.0	4.7	1.0	1.0	7.0	0.9	1.0	2.3	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	2.0	0.2	1.3	6.5	6.0	1.0	2.8	2.8	2.5	1.6	1.6
LnGrp Delay(d),s/veh	30.5	12.0	10.8	27.7	15.3	15.3	30.5	20.0	20.1	23.4	15.0	15.0
LnGrp LOS	C	B	B	C	B	B	C	B	C	C	B	B
Approach Vol, veh/h		478			1076			490			463	
Approach Delay, s/veh		14.5			16.3			21.4			18.1	
Approach LOS		B			B			C			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.3	22.1	5.3	17.0	6.1	21.3	9.3	13.0				
Change Period (Y+Rc), s	3.0	4.1	3.0	4.1	3.0	4.1	3.0	4.1				
Max Green Setting (Gmax), s	20.0	40.0	24.0	40.0	20.0	40.0	24.0	40.0				
Max Q Clear Time (g_c+I1), s	3.8	15.2	3.8	5.3	4.4	6.1	6.8	7.7				
Green Ext Time (p_c), s	0.0	2.7	0.0	0.8	0.0	1.3	0.1	1.2				
Intersection Summary												
HCM 2010 Ctrl Delay				17.3								
HCM 2010 LOS				B								

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing + Project Conditions
AM Peak Hour

Intersection 2

Industrial Way-SR 113 SB Off-Ramp/Main Street

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	60	60	100.3%	29.4	6.7	C
	Through	20	18	87.5%	37.9	33.1	D
	Right Turn	50	49	98.8%	16.7	5.5	B
	Subtotal	130	127	97.8%	24.2	3.9	C
SB	Left Turn	70	68	97.3%	26.7	5.9	C
	Through	90	93	102.9%	26.0	7.3	C
	Right Turn	20	21	106.0%	17.1	6.9	B
	Subtotal	180	182	101.1%	25.7	5.1	C
EB	Left Turn	30	26	87.3%	33.5	12.6	C
	Through	540	530	98.2%	27.2	12.9	C
	Right Turn	190	184	96.9%	24.6	18.6	C
	Subtotal	760	741	97.5%	26.9	13.8	C
WB	Left Turn	520	434	83.4%	165.2	45.8	F
	Through	1,100	1,045	95.0%	14.6	2.8	B
	Right Turn	120	117	97.3%	12.2	3.6	B
	Subtotal	1,740	1,595	91.7%	56.3	12.2	E
Total		2,810	2,645	94.1%	44.3	8.7	D

Intersection 3

SR 113 NB Ramps/Main Street

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	290	288	99.4%	26.3	4.0	C
	Through						
	Right Turn	500	485	97.0%	27.8	28.3	C
	Subtotal	790	773	97.9%	27.5	19.6	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	640	626	97.8%	41.5	51.8	D
	Right Turn	20	17	84.0%	38.9	58.0	D
	Subtotal	660	643	97.4%	41.4	51.8	D
WB	Left Turn	30	26	85.7%	61.4	29.8	E
	Through	1,450	1,326	91.5%	36.7	17.9	D
	Right Turn						
	Subtotal	1,480	1,352	91.4%	37.1	18.0	D
Total		2,930	2,768	94.5%	35.4	17.7	D

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing + Project Conditions
AM Peak Hour

Intersection 4

Pioneer Avenue/Main Street

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	260	261	100.2%	43.7	9.8	D
	Through	260	257	99.0%	26.2	4.6	C
	Right Turn	100	101	100.9%	31.3	5.2	C
	Subtotal	620	619	99.8%	34.4	4.6	C
SB	Left Turn	40	36	89.3%	50.7	12.2	D
	Through	140	142	101.6%	37.2	5.8	D
	Right Turn	70	72	103.0%	21.7	6.8	C
	Subtotal	250	250	100.0%	34.6	3.7	C
EB	Left Turn	120	111	92.8%	49.1	9.1	D
	Through	860	841	97.8%	37.0	11.3	D
	Right Turn	210	208	98.8%	36.2	12.0	D
	Subtotal	1,190	1,160	97.5%	38.1	11.0	D
NW	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	110	102	92.4%	78.1	6.5	E
	Through	1,180	1,060	89.9%	77.1	10.3	E
	Right Turn	110	99	89.8%	53.9	7.1	D
	Subtotal	1,400	1,261	90.1%	75.4	9.6	E
Total		3,460	3,290	95.1%	63.0	8.5	E

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing + Project Conditions
AM Peak Hour

Intersection 5

Interstate-5 NB Off-Ramp/Main Street

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	1,120	991	88.5%	343.8	60.5	F
	Through						
	Right Turn	10	10	98.0%	331.5	60.3	F
	Subtotal	1,130	1,001	88.6%	343.9	60.4	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	390	385	98.8%	18.8	1.6	B
	Right Turn						
	Subtotal	390	385	98.8%	18.8	1.6	B
WB	Left Turn						
	Through	290	284	98.0%	25.2	6.0	C
	Right Turn						
	Subtotal	290	284	98.0%	25.2	6.0	C
Total		1,810	1,670	92.3%	214.5	35.7	F

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing + Project Conditions
AM Peak Hour

Intersection 6 CR 102/Hays Lane-I-5 NB Ramps Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	40	40	99.3%	34.2	6.5	C
	Through	240	236	98.4%	15.8	3.4	B
	Right Turn	100	96	96.3%	3.2	0.4	A
	Subtotal	380	372	97.9%	14.5	2.5	B
SB	Left Turn						
	Through	440	440	100.0%	20.1	1.9	C
	Right Turn	10	10	101.0%	7.5	6.2	A
	Subtotal	450	450	100.0%	19.8	1.9	B
EB	Left Turn	20	17	82.5%	21.9	9.1	C
	Through						
	Right Turn	60	61	100.8%	20.5	6.8	C
	Subtotal	80	77	96.3%	21.0	4.9	C
WB	Left Turn	650	646	99.4%	20.3	1.2	C
	Through	40	39	97.3%	27.8	8.0	C
	Right Turn	200	201	100.5%	18.9	3.4	B
	Subtotal	890	886	99.5%	20.4	1.3	C
Total		1,800	1,785	99.2%	19.0	1.7	B

Intersection 7 CR 102/I-5 SB Ramps Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	320	315	98.3%	3.1	0.4	A
	Right Turn	540	535	99.1%	4.3	0.5	A
	Subtotal	860	850	98.8%	3.8	0.3	A
SB	Left Turn						
	Through	960	961	100.1%	6.5	0.6	A
	Right Turn	120	121	100.8%	6.0	0.6	A
	Subtotal	1,080	1,082	100.1%	6.5	0.5	A
EB	Left Turn	60	57	95.3%	7.6	1.2	A
	Through						
	Right Turn	130	136	104.9%	4.7	1.0	A
	Subtotal	190	194	101.9%	5.6	0.7	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		2,130	2,125	99.8%	5.3	0.3	A

HCM 2010 Signalized Intersection Summary

8: East St & Gibson Rd/E Gibson Rd

Existing + Project
Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	160	800	100	50	750	130	80	120	20	140	150	120
Future Volume (veh/h)	160	800	100	50	750	130	80	120	20	140	150	120
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1845	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	193	964	113	60	904	82	96	145	-27	169	181	12
Adj No. of Lanes	1	2	0	1	2	1	1	2	0	1	2	0
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	281	1169	137	194	1125	494	241	479	0	277	525	35
Arrive On Green	0.16	0.37	0.37	0.11	0.32	0.32	0.14	0.14	0.00	0.16	0.16	0.16
Sat Flow, veh/h	1757	3153	370	1757	3505	1539	1757	3597	0	1757	3338	220
Grp Volume(v), veh/h	193	536	541	60	904	82	96	118	0	169	94	99
Grp Sat Flow(s),veh/h/ln	1757	1752	1770	1757	1752	1539	1757	1752	0	1757	1752	1805
Q Serve(g_s), s	6.9	18.5	18.5	2.1	15.8	2.6	3.3	2.0	0.0	6.0	3.2	3.3
Cycle Q Clear(g_c), s	6.9	18.5	18.5	2.1	15.8	2.6	3.3	2.0	0.0	6.0	3.2	3.3
Prop In Lane	1.00		0.21	1.00		1.00	1.00		0.00	1.00		0.12
Lane Grp Cap(c), veh/h	281	649	656	194	1125	494	241	479	0	277	275	284
V/C Ratio(X)	0.69	0.82	0.83	0.31	0.80	0.17	0.40	0.25	0.00	0.61	0.34	0.35
Avail Cap(c_a), veh/h	737	1050	1061	526	2100	922	526	2100	0	737	1050	1082
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.5	19.0	19.0	27.3	20.7	16.3	26.3	25.8	0.0	26.2	25.1	25.1
Incr Delay (d2), s/veh	1.1	1.3	1.3	0.3	0.5	0.1	0.4	0.1	0.0	0.8	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.4	9.2	9.3	1.0	7.6	1.1	1.6	1.0	0.0	3.0	1.6	1.6
LnGrp Delay(d),s/veh	27.6	20.3	20.3	27.7	21.3	16.3	26.7	25.9	0.0	27.0	25.3	25.4
LnGrp LOS	C	C	C	C	C	B	C	C		C	C	C
Approach Vol, veh/h	1270			1046			214			362		
Approach Delay, s/veh	21.4			21.2			26.2			26.1		
Approach LOS	C			C			C			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.5	14.0	10.4	28.8	12.1	15.4	13.7	25.5				
Change Period (Y+Rc), s	3.0	4.9	3.0	4.1	3.0	4.9	3.0	4.1				
Max Green Setting (Gmax), s	28.0	40.0	20.0	40.0	20.0	40.0	28.0	40.0				
Max Q Clear Time (g_c+1.0), s	19.0	4.0	4.1	20.5	5.3	5.3	8.9	17.8				
Green Ext Time (p_c), s	0.1	0.4	0.0	3.4	0.0	0.7	0.2	3.4				
Intersection Summary												
HCM 2010 Ctrl Delay	22.3											
HCM 2010 LOS	C											

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing Plus Project Conditions
AM Peak Hour

Intersection 9 **Matmor Rd/E Gibson Rd-I-5 NB Ramps** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	60	59	98.7%	26.7	5.6	C
	Through	30	30	101.0%	23.8	8.4	C
	Right Turn	170	174	102.5%	13.2	3.3	B
	Subtotal	260	264	101.4%	17.4	2.3	B
SB	Left Turn	270	272	100.6%	134.8	39.7	F
	Through	30	30	101.3%	123.8	37.3	F
	Right Turn	120	115	95.8%	109.6	40.5	F
	Subtotal	420	417	99.3%	127.1	39.1	F
EB	Left Turn	110	103	93.4%	38.8	5.4	D
	Through	920	898	97.6%	25.0	2.6	C
	Right Turn	30	30	100.7%	20.6	7.4	C
	Subtotal	1,060	1,031	97.2%	26.2	2.4	C
WB	Left Turn	60	62	103.0%	46.4	6.9	D
	Through	830	829	99.9%	26.8	2.2	C
	Right Turn	160	159	99.6%	6.7	1.1	A
	Subtotal	1,050	1,051	100.1%	24.8	2.3	C
Total		2,790	2,762	99.0%	43.1	6.9	D

Intersection 10 **SR 113 SB Ramps/E Gibson Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	170	168	99.1%	15.8	1.4	B
	Through						
	Right Turn	120	123	102.6%	0.9	0.2	A
	Subtotal	290	292	100.5%	9.5	1.0	A
EB	Left Turn						
	Through	960	948	98.7%	14.6	1.9	B
	Right Turn	400	400	100.0%	9.5	1.0	A
	Subtotal	1,360	1,348	99.1%	13.1	1.6	B
WB	Left Turn						
	Through	930	927	99.7%	11.3	1.8	B
	Right Turn	460	453	98.5%	7.2	0.5	A
	Subtotal	1,390	1,380	99.3%	10.0	1.3	A
Total		3,040	3,019	99.3%	11.3	0.6	B

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing Plus Project Conditions
AM Peak Hour

Intersection 11

SR 113 NB Ramps/E Gibson Rd

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	160	151	94.4%	18.6	2.4	B
	Through						
	Right Turn	190	184	97.0%	1.7	0.2	A
	Subtotal	350	335	95.8%	9.4	1.4	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	890	874	98.2%	9.7	1.1	A
	Right Turn	240	243	101.4%	6.5	0.9	A
	Subtotal	1,130	1,117	98.9%	9.0	1.0	A
WB	Left Turn						
	Through	1,230	1,228	99.8%	15.6	1.1	B
	Right Turn	160	154	96.1%	11.1	0.8	B
	Subtotal	1,390	1,382	99.4%	15.1	1.0	B
Total		2,870	2,835	98.8%	11.9	0.9	B

Intersection 12

Bourn Dr-Harry Lorenzo Ave/E Gibson Rd

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn	230	229	99.6%	44.5	24.7	E
	Subtotal	230	229	99.6%	44.5	24.7	E
SB	Left Turn						
	Through						
	Right Turn	160	158	99.0%	48.4	26.2	E
	Subtotal	160	158	99.0%	48.4	26.2	E
EB	Left Turn						
	Through	930	911	97.9%	7.5	0.8	A
	Right Turn	150	147	97.8%	7.1	1.4	A
	Subtotal	1,080	1,057	97.9%	7.4	0.7	A
WB	Left Turn						
	Through	1,230	1,223	99.5%	6.8	0.6	A
	Right Turn	40	37	92.5%	6.2	1.0	A
	Subtotal	1,270	1,260	99.2%	6.8	0.6	A
Total		2,740	2,705	98.7%	13.0	2.8	B

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing Plus Project Conditions
AM Peak Hour

Intersection 13

Pioneer Ave/E Gibson Rd

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	490	481	98.2%	113.2	28.0	F
	Through	350	353	100.7%	32.1	4.1	C
	Right Turn	200	207	103.6%	13.2	2.2	B
	Subtotal	1,040	1,041	100.1%	62.1	14.2	E
SB	Left Turn	70	73	103.7%	53.8	7.4	D
	Through	360	367	101.9%	38.5	3.6	D
	Right Turn	290	294	101.3%	82.7	32.5	F
	Subtotal	720	733	101.8%	57.5	14.1	E
EB	Left Turn	280	272	97.1%	59.2	5.1	E
	Through	530	530	99.9%	48.5	3.9	D
	Right Turn	350	347	99.2%	36.1	6.9	D
	Subtotal	1,160	1,149	99.0%	47.1	3.7	D
WB	Left Turn	330	333	100.8%	64.5	14.6	E
	Through	490	484	98.8%	42.5	4.2	D
	Right Turn	50	48	96.8%	33.1	7.6	C
	Subtotal	870	865	99.5%	50.6	5.9	D
Total		3,790	3,788	99.9%	54.0	3.9	D

HCM Signalized Intersection Capacity Analysis

14: CR 102 & E. Gibson Rd/CR 24

Existing + Project
Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	400	10	110	10	10	10	140	310	0	10	180	560
Future Volume (vph)	400	10	110	10	10	10	140	310	0	10	180	560
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	5.2	5.2		3.7		3.0	5.2		3.0	5.2	5.2
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	0.95		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85		0.95		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1649	1657	1553		1716		1736	3471		1736	1827	1531
Flt Permitted	0.95	0.95	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1649	1657	1553		1716		1736	3471		1736	1827	1531
Peak-hour factor, PHF	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	488	12	134	12	12	12	171	378	0	12	220	683
RTOR Reduction (vph)	0	0	106	0	11	0	0	0	0	0	0	515
Lane Group Flow (vph)	249	251	28	0	25	0	171	378	0	12	220	168
Confl. Bikes (#/hr)												2
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	2	2		6	6		3	8		7	4	
Permitted Phases			2									4
Actuated Green, G (s)	16.9	16.9	16.9		6.1		14.6	40.5		1.7	20.2	20.2
Effective Green, g (s)	16.9	16.9	16.9		6.1		14.6	40.5		1.7	20.2	20.2
Actuated g/C Ratio	0.21	0.21	0.21		0.07		0.18	0.49		0.02	0.25	0.25
Clearance Time (s)	5.2	5.2	5.2		3.7		3.0	5.2		3.0	5.2	5.2
Vehicle Extension (s)	1.0	1.0	1.0		1.0		1.0	1.5		1.0	1.5	1.5
Lane Grp Cap (vph)	338	340	318		127		307	1708		35	448	375
v/s Ratio Prot	0.15	c0.15			c0.01		c0.10	c0.11		0.01	c0.12	
v/s Ratio Perm			0.02									0.11
v/c Ratio	0.74	0.74	0.09		0.20		0.56	0.22		0.34	0.49	0.45
Uniform Delay, d1	30.6	30.6	26.5		35.8		30.9	11.9		39.7	26.6	26.3
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	7.0	7.0	0.0		0.3		1.2	0.0		2.1	0.3	0.3
Delay (s)	37.6	37.7	26.5		36.1		32.1	11.9		41.9	26.9	26.6
Level of Service	D	D	C		D		C	B		D	C	C
Approach Delay (s)		35.3			36.1			18.2			26.9	
Approach LOS		D			D			B			C	
Intersection Summary												
HCM 2000 Control Delay			27.3				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.53									
Actuated Cycle Length (s)			82.3				Sum of lost time (s)			19.1		
Intersection Capacity Utilization			74.3%				ICU Level of Service			D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM 2010 Signalized Intersection Summary

15: East St & CR 24A/Sports Park Dr

Existing + Project
Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↔	↔		↔	↔	
Traffic Volume (veh/h)	20	30	140	40	40	20	40	160	10	20	220	20
Future Volume (veh/h)	20	30	140	40	40	20	40	160	10	20	220	20
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1900	1827	1900	1900	1827	1900	1827	1827	1900	1827	1827	1900
Adj Flow Rate, veh/h	25	37	54	49	49	14	49	198	11	25	272	23
Adj No. of Lanes	0	1	0	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	213	120	141	301	168	38	140	428	24	89	365	31
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.08	0.25	0.25	0.05	0.22	0.22
Sat Flow, veh/h	220	628	738	515	880	199	1740	1715	95	1740	1660	140
Grp Volume(v), veh/h	116	0	0	112	0	0	49	0	209	25	0	295
Grp Sat Flow(s),veh/h/ln	1586	0	0	1594	0	0	1740	0	1810	1740	0	1801
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	2.5	0.4	0.0	3.9
Cycle Q Clear(g_c), s	1.5	0.0	0.0	1.4	0.0	0.0	0.7	0.0	2.5	0.4	0.0	3.9
Prop In Lane	0.22		0.47	0.44		0.12	1.00		0.05	1.00		0.08
Lane Grp Cap(c), veh/h	475	0	0	507	0	0	140	0	452	89	0	396
V/C Ratio(X)	0.24	0.00	0.00	0.22	0.00	0.00	0.35	0.00	0.46	0.28	0.00	0.74
Avail Cap(c_a), veh/h	1689	0	0	1691	0	0	1360	0	2123	1360	0	2112
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.0	0.0	0.0	8.9	0.0	0.0	11.1	0.0	8.1	11.7	0.0	9.3
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.1	0.0	0.0	0.6	0.0	0.3	0.6	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.0	0.7	0.0	0.0	0.3	0.0	1.3	0.2	0.0	2.0
LnGrp Delay(d),s/veh	9.1	0.0	0.0	9.0	0.0	0.0	11.7	0.0	8.4	12.3	0.0	10.4
LnGrp LOS	A			A			B		A	B		B
Approach Vol, veh/h	116			112			258			320		
Approach Delay, s/veh	9.1			9.0			9.0			10.5		
Approach LOS	A			A			A			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		9.3	5.1	11.2		9.3	4.3	12.0				
Change Period (Y+Rc), s		4.4	3.0	* 5.6		* 4.4	3.0	5.6				
Max Green Setting (Gmax), s		25.0	20.0	* 30		* 25	20.0	30.0				
Max Q Clear Time (g_c+I1), s		3.5	2.7	5.9		3.4	2.4	4.5				
Green Ext Time (p_c), s		0.2	0.0	0.5		0.2	0.0	0.3				
Intersection Summary												
HCM 2010 Ctrl Delay	9.6											
HCM 2010 LOS	A											
Notes												

Intersection	
Intersection Delay, s/veh	43
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	40	30	10	30	20	270	10	380	10	100	380	20
Future Vol, veh/h	40	30	10	30	20	270	10	380	10	100	380	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	43	33	11	33	22	293	11	413	11	109	413	22
Number of Lanes	0	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	14.1	21.2	35.2	67.7
HCM LOS	B	C	E	F

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	3%	50%	100%	0%	20%
Vol Thru, %	95%	38%	0%	7%	76%
Vol Right, %	3%	12%	0%	93%	4%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	400	80	30	290	500
LT Vol	10	40	30	0	100
Through Vol	380	30	0	20	380
RT Vol	10	10	0	270	20
Lane Flow Rate	435	87	33	315	543
Geometry Grp	2	5	7	7	2
Degree of Util (X)	0.829	0.209	0.077	0.638	1.012
Departure Headway (Hd)	6.867	8.672	8.481	7.292	6.702
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	526	412	422	495	543
Service Time	4.925	6.764	6.24	5.05	4.702
HCM Lane V/C Ratio	0.827	0.211	0.078	0.636	1
HCM Control Delay	35.2	14.1	12	22.1	67.7
HCM Lane LOS	E	B	B	C	F
HCM 95th-tile Q	8.3	0.8	0.2	4.4	14.7

HCM 2010 Signalized Intersection Summary

17: Parkland Ave & E. Heritage Pkwy

Existing + Project
Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	40	20	40	20	50	50	160	90	90	70	10
Future Volume (veh/h)	10	40	20	40	20	50	50	160	90	90	70	10
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	14	54	-50	54	27	0	68	216	106	122	95	-67
Adj No. of Lanes	1	1	0	1	1	1	1	1	0	2	1	1
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	85	39	4580	267	230	196	290	282	138	791	571	485
Arrive On Green	0.05	0.02	0.00	0.15	0.12	0.00	0.16	0.24	0.24	0.23	0.30	0.00
Sat Flow, veh/h	1810	1900	0	1810	1900	1615	1810	1196	587	3510	1900	1615
Grp Volume(v), veh/h	14	4	0	54	27	0	68	0	322	122	95	-67
Grp Sat Flow(s),veh/h/ln	1810	1900	0	1810	1900	1615	1810	0	1783	1755	1900	1615
Q Serve(g_s), s	0.3	0.1	0.0	1.0	0.5	0.0	1.3	0.0	6.6	1.1	1.4	0.0
Cycle Q Clear(g_c), s	0.3	0.1	0.0	1.0	0.5	0.0	1.3	0.0	6.6	1.1	1.4	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.33	1.00		1.00
Lane Grp Cap(c), veh/h	85	39	0	267	230	196	290	0	420	791	571	485
V/C Ratio(X)	0.16	0.10	0.00	0.20	0.12	0.00	0.23	0.00	0.77	0.15	0.17	-0.14
Avail Cap(c_a), veh/h	926	1216	0	926	1216	1034	926	0	1141	1797	1216	1034
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	17.9	18.8	0.0	14.6	15.3	0.0	14.3	0.0	13.9	12.1	10.1	0.0
Incr Delay (d2), s/veh	0.3	0.4	0.0	0.1	0.1	0.0	0.2	0.0	1.1	0.0	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0	0.5	0.3	0.0	0.7	0.0	3.4	0.5	0.7	0.0
LnGrp Delay(d),s/veh	18.2	19.2	0.0	14.8	15.4	0.0	14.5	0.0	15.1	12.2	10.1	0.0
LnGrp LOS	B	B		B	B		B		B	B	B	
Approach Vol, veh/h	18				81				390		150	
Approach Delay, s/veh	18.4				15.0				14.9		16.3	
Approach LOS	B				B				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.8	5.2	9.3	15.8	4.8	9.1	11.8	13.3				
Change Period (Y+Rc), s	3.0	* 4.4	3.0	4.1	3.0	4.4	3.0	4.1				
Max Green Setting (Gmax), s	20.0	* 25	20.0	25.0	20.0	25.0	20.0	25.0				
Max Q Clear Time (g_c+I), s	13.0	2.1	3.3	3.4	2.3	2.5	3.1	8.6				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.6				
Intersection Summary												
HCM 2010 Ctrl Delay			15.4									
HCM 2010 LOS			B									
Notes												

HCM 2010 Signalized Intersection Summary
18: CR 102 & E. Heritage Pkwy/CR 25

Existing + Project
Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	10	310	0	0	10	60	190	10	20	360	80
Future Volume (veh/h)	110	10	310	0	0	10	60	190	10	20	360	80
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1845	1845	1845	1845
Adj Flow Rate, veh/h	134	12	111	0	0	0	73	232	3	24	439	13
Adj No. of Lanes	1	1	0	1	1	0	1	1	1	1	1	1
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	166	18	166	7	8	0	85	647	538	32	592	491
Arrive On Green	0.09	0.12	0.12	0.00	0.00	0.00	0.05	0.35	0.35	0.02	0.32	0.32
Sat Flow, veh/h	1757	155	1436	1757	1845	0	1757	1845	1535	1757	1845	1531
Grp Volume(v), veh/h	134	0	123	0	0	0	73	232	3	24	439	13
Grp Sat Flow(s),veh/h/ln	1757	0	1591	1757	1845	0	1757	1845	1535	1757	1845	1531
Q Serve(g_s), s	1.8	0.0	1.8	0.0	0.0	0.0	1.0	2.3	0.0	0.3	5.2	0.1
Cycle Q Clear(g_c), s	1.8	0.0	1.8	0.0	0.0	0.0	1.0	2.3	0.0	0.3	5.2	0.1
Prop In Lane	1.00		0.90	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	166	0	184	7	8	0	85	647	538	32	592	491
V/C Ratio(X)	0.81	0.00	0.67	0.00	0.00	0.00	0.86	0.36	0.01	0.74	0.74	0.03
Avail Cap(c_a), veh/h	1077	0	1626	1077	1885	0	1436	2262	1882	1436	2262	1877
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.9	0.0	10.4	0.0	0.0	0.0	11.6	5.9	5.2	11.9	7.4	5.7
Incr Delay (d2), s/veh	3.5	0.0	1.6	0.0	0.0	0.0	9.0	0.1	0.0	11.5	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.9	0.0	0.0	0.0	0.7	1.2	0.0	0.3	2.7	0.1
LnGrp Delay(d),s/veh	14.4	0.0	11.9	0.0	0.0	0.0	20.6	6.0	5.2	23.5	8.1	5.7
LnGrp LOS	B		B				C	A	A	C	A	A
Approach Vol, veh/h	257		0				308			476		
Approach Delay, s/veh	13.2		0.0				9.5			8.8		
Approach LOS	B						A			A		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	0.0	6.9	4.2	13.3	5.3	1.6	3.5	14.1				
Change Period (Y+Rc), s	3.0	4.1	3.0	5.5	3.0	4.1	3.0	5.5				
Max Green Setting (Gmax), s	15.0	25.0	20.0	30.0	15.0	25.0	20.0	30.0				
Max Q Clear Time (g_c+I), s	10.0	3.8	3.0	7.2	3.8	0.0	2.3	4.3				
Green Ext Time (p_c), s	0.0	0.3	0.0	1.0	0.0	0.0	0.0	0.5				
Intersection Summary												
HCM 2010 Ctrl Delay			10.1									
HCM 2010 LOS			B									

Intersection			
Intersection Delay, s/veh	6.0		
Intersection LOS	A		
Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	319	167	151
Demand Flow Rate, veh/h	329	172	155
Vehicles Circulating, veh/h	15	266	157
Vehicles Exiting, veh/h	297	78	281
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	5	5	5
Ped Cap Adj	0.999	0.999	0.999
Approach Delay, s/veh	6.2	6.3	5.4
Approach LOS	A	A	A
Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	329	172	155
Cap Entry Lane, veh/h	1113	866	966
Entry HV Adj Factor	0.970	0.973	0.974
Flow Entry, veh/h	319	167	151
Cap Entry, veh/h	1079	842	940
V/C Ratio	0.296	0.199	0.161
Control Delay, s/veh	6.2	6.3	5.4
LOS	A	A	A
95th %tile Queue, veh	1	1	1

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Research Park
Existing Plus Project Conditions
AM Peak Hour

Intersection 20

East St/County Road 25A

All-way Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	10	10	97.0%	4.1	0.7	A
	Through	10	10	104.0%	9.9	2.1	A
	Right Turn	10	11	111.0%	4.1	2.1	A
	Subtotal	30	31	104.0%	6.5	1.0	A
SB	Left Turn	270	270	99.9%	11.2	2.6	B
	Through	10	9	90.0%	16.4	6.2	C
	Right Turn	50	50	99.4%	7.4	2.6	A
	Subtotal	330	329	99.5%	10.8	2.6	B
EB	Left Turn	30	30	99.3%	12.4	5.6	B
	Through	300	293	97.8%	16.8	6.3	C
	Right Turn	10	10	103.0%	9.1	6.5	A
	Subtotal	340	334	98.1%	16.3	5.9	C
WB	Left Turn	10	5	50.0%	8.1	7.9	A
	Through	180	106	58.6%	14.0	2.1	B
	Right Turn	190	117	61.4%	7.5	1.0	A
	Subtotal	380	227	59.8%	10.6	1.7	B
Total		1,080	920	85.2%	12.8	3.1	B

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Research Park
Existing Plus Project Conditions
AM Peak Hour

Intersection 21

SR 113 SB Ramps/County Road 25A

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	190	1	0.3%	893.8	9.1	F
	Through	10	0	0.0%	719.9	379.4	F
	Right Turn	50	0	0.0%	899.9	0.2	F
	Subtotal	250	1	0.2%	353.8	456.8	F
EB	Left Turn						
	Through	250	250	99.9%	7.9	0.8	A
	Right Turn	330	327	99.0%	4.8	0.4	A
	Subtotal	580	576	99.4%	6.2	0.5	A
WB	Left Turn	650	480	73.8%	194.9	35.0	F
	Through	330	229	69.4%	204.8	26.7	F
	Right Turn						
	Subtotal	980	709	72.3%	198.2	31.8	F
Total		1,810	1,286	71.0%	80.2	10.2	F

Intersection 22

SR 113 NB Ramps/County Road 25A

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	120	67	56.1%	473.6	169.5	F
	Through						
	Right Turn	350	201	57.3%	446.2	170.0	F
	Subtotal	470	268	57.0%	364.0	142.6	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	30	27	88.3%	10.8	13.2	B
	Through	410	224	54.5%	4.9	6.4	A
	Right Turn						
	Subtotal	440	250	56.8%	5.5	7.1	A
WB	Left Turn						
	Through	860	641	74.5%	79.1	10.8	F
	Right Turn	250	184	73.8%	75.7	11.3	F
	Subtotal	1,110	825	74.3%	78.4	10.9	F
Total		2,020	1,343	66.5%	125.8	30.3	F

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Research Park
Existing Plus Project Conditions
AM Peak Hour

Intersection 23

Road A/County Road 25A

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn	20	20	101.5%	3.9	1.9	A
	Subtotal	20	20	101.5%	3.9	1.9	A
SB	Left Turn						
	Through						
	Right Turn	160	98	61.3%	381.5	229.3	F
	Subtotal	160	98	61.3%	310.3	225.8	F
EB	Left Turn						
	Through	540	308	57.1%	4.7	4.5	A
	Right Turn	220	116	52.8%	2.6	3.5	A
	Subtotal	760	425	55.9%	4.2	4.2	A
WB	Left Turn						
	Through	950	739	77.8%	81.5	32.2	F
	Right Turn	10	9	85.0%	65.4	93.0	F
	Subtotal	960	747	77.9%	81.5	32.3	F
Total		1,900	1,290	67.9%	64.2	21.4	F

Intersection				
Intersection Delay, s/veh	4.8			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	76	206	33	33
Demand Flow Rate, veh/h	78	212	33	33
Vehicles Circulating, veh/h	89	33	78	212
Vehicles Exiting, veh/h	156	78	89	33
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	5	5	5	5
Ped Cap Adj	0.999	0.999	0.999	0.999
Approach Delay, s/veh	4.2	5.2	3.8	4.3
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	78	212	33	33
Cap Entry Lane, veh/h	1034	1093	1045	914
Entry HV Adj Factor	0.979	0.972	0.990	0.990
Flow Entry, veh/h	76	206	33	33
Cap Entry, veh/h	1011	1062	1034	905
V/C Ratio	0.076	0.194	0.032	0.036
Control Delay, s/veh	4.2	5.2	3.8	4.3
LOS	A	A	A	A
95th %tile Queue, veh	0	1	0	0

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Research Park
Existing Plus Project Conditions
AM Peak Hour

Intersection 25

Road B/County Road 25A

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	100	88	87.6%	374.5	62.0	F
	Through	20	21	102.5%	197.2	89.2	F
	Right Turn	10	8	84.0%	159.5	110.1	F
	Subtotal	130	117	89.6%	331.1	56.9	F
SB	Left Turn	10	6	61.0%	153.1	89.5	F
	Through	60	37	61.2%	166.7	37.7	F
	Right Turn	530	352	66.3%	148.6	28.8	F
	Subtotal	600	394	65.7%	151.1	28.7	F
EB	Left Turn	450	263	58.5%	64.3	16.6	E
	Through	100	58	58.1%	39.5	13.7	D
	Right Turn	10	5	50.0%	22.0	23.8	C
	Subtotal	560	327	58.3%	59.6	16.2	E
WB	Left Turn	30	28	93.3%	321.5	167.5	F
	Through	330	315	95.3%	313.9	101.4	F
	Right Turn	10	8	81.0%	230.4	127.3	F
	Subtotal	370	351	94.8%	312.0	101.5	F
Total		1,660	1,188	71.6%	190.0	31.6	F

HCM 2010 Signalized Intersection Summary

26: Road B & Road C

Existing + Project
Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	20	20	220	30	70	100	260	70	50	380	60
Future Volume (veh/h)	30	20	20	220	30	70	100	260	70	50	380	60
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1900	1845	1900	1900	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	33	22	7	239	33	66	109	283	55	54	413	54
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	110	73	23	306	42	84	251	702	135	183	627	81
Arrive On Green	0.12	0.12	0.12	0.25	0.25	0.25	0.14	0.24	0.24	0.10	0.20	0.20
Sat Flow, veh/h	937	625	199	1218	168	336	1757	2930	561	1757	3115	405
Grp Volume(v), veh/h	62	0	0	338	0	0	109	168	170	54	231	236
Grp Sat Flow(s),veh/h/ln	1760	0	0	1722	0	0	1757	1752	1739	1757	1752	1767
Q Serve(g_s), s	2.2	0.0	0.0	12.2	0.0	0.0	3.8	5.4	5.5	1.9	8.1	8.2
Cycle Q Clear(g_c), s	2.2	0.0	0.0	12.2	0.0	0.0	3.8	5.4	5.5	1.9	8.1	8.2
Prop In Lane	0.53		0.11	0.71		0.20	1.00		0.32	1.00		0.23
Lane Grp Cap(c), veh/h	206	0	0	432	0	0	251	420	417	183	353	356
V/C Ratio(X)	0.30	0.00	0.00	0.78	0.00	0.00	0.43	0.40	0.41	0.30	0.66	0.66
Avail Cap(c_a), veh/h	736	0	0	872	0	0	341	728	722	289	676	681
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.1	0.0	0.0	23.4	0.0	0.0	26.2	21.4	21.4	27.7	24.6	24.6
Incr Delay (d2), s/veh	0.8	0.0	0.0	3.1	0.0	0.0	1.2	0.6	0.6	0.9	2.1	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	0.0	6.2	0.0	0.0	1.9	2.7	2.7	1.0	4.1	4.2
LnGrp Delay(d),s/veh	27.9	0.0	0.0	26.5	0.0	0.0	27.4	22.0	22.1	28.6	26.7	26.8
LnGrp LOS	C			C			C	C	C	C	C	C
Approach Vol, veh/h		62			338			447			521	
Approach Delay, s/veh		27.9			26.5			23.4			26.9	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	1.0	21.1		12.9	13.6	18.6		21.9				
Change Period (Y+Rc), s	4.0	5.1		5.1	4.0	5.1		5.1				
Max Green Setting (Gmax), s	1.0	27.8		28.0	13.0	25.8		33.9				
Max Q Clear Time (g_c+I), s	1.0	7.5		4.2	5.8	10.2		14.2				
Green Ext Time (p_c), s	0.0	1.9		0.3	0.1	2.5		2.0				
Intersection Summary												
HCM 2010 Ctrl Delay				25.7								
HCM 2010 LOS				C								

HCM 2010 Signalized Intersection Summary

28: Road B & Marston Dr

Existing + Project
Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↙	↕		↙	↕	
Traffic Volume (veh/h)	30	10	60	80	30	20	130	220	30	10	390	90
Future Volume (veh/h)	30	10	60	80	30	20	130	220	30	10	390	90
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1900	1845	1900	1900	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	33	11	10	87	33	15	141	239	25	11	424	81
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	122	41	37	185	70	32	295	1163	121	54	663	126
Arrive On Green	0.11	0.11	0.11	0.16	0.16	0.16	0.17	0.36	0.36	0.03	0.23	0.23
Sat Flow, veh/h	1058	353	321	1129	428	195	1757	3204	332	1757	2935	556
Grp Volume(v), veh/h	54	0	0	135	0	0	141	130	134	11	252	253
Grp Sat Flow(s),veh/h/ln	1732	0	0	1752	0	0	1757	1752	1783	1757	1752	1739
Q Serve(g_s), s	1.7	0.0	0.0	4.1	0.0	0.0	4.3	3.0	3.1	0.4	7.7	7.8
Cycle Q Clear(g_c), s	1.7	0.0	0.0	4.1	0.0	0.0	4.3	3.0	3.1	0.4	7.7	7.8
Prop In Lane	0.61		0.19	0.64		0.11	1.00		0.19	1.00		0.32
Lane Grp Cap(c), veh/h	199	0	0	288	0	0	295	636	647	54	396	393
V/C Ratio(X)	0.27	0.00	0.00	0.47	0.00	0.00	0.48	0.20	0.21	0.20	0.64	0.64
Avail Cap(c_a), veh/h	825	0	0	834	0	0	506	995	1013	328	817	811
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.9	0.0	0.0	22.3	0.0	0.0	22.2	12.9	12.9	27.9	20.6	20.7
Incr Delay (d2), s/veh	0.7	0.0	0.0	1.2	0.0	0.0	1.2	0.2	0.2	1.8	1.7	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.0	2.1	0.0	0.0	2.2	1.5	1.5	0.2	3.9	3.9
LnGrp Delay(d),s/veh	24.6	0.0	0.0	23.5	0.0	0.0	23.4	13.1	13.1	29.7	22.3	22.5
LnGrp LOS	C			C			C	B	B	C	C	C
Approach Vol, veh/h	54			135			405			516		
Approach Delay, s/veh	24.6			23.5			16.7			22.6		
Approach LOS	C			C			B			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.8	26.5		11.9	13.9	18.4		14.8				
Change Period (Y+Rc), s	4.0	5.1		5.1	4.0	5.1		5.1				
Max Green Setting (Gmax), s	1.0	33.5		28.1	17.0	27.5		28.1				
Max Q Clear Time (g_c+I), s	1.0	5.1		3.7	6.3	9.8		6.1				
Green Ext Time (p_c), s	0.0	1.6		0.2	0.2	2.9		0.7				
Intersection Summary												
HCM 2010 Ctrl Delay			20.6									
HCM 2010 LOS			C									

HCM 2010 Signalized Intersection Summary

29: Road B & Road E

Existing + Project
Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	10	100	70	10	130	60	140	20	70	410	120
Future Volume (veh/h)	130	10	100	70	10	130	60	140	20	70	410	120
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1900	1845	1900	1900	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	141	11	85	76	11	86	65	152	11	76	446	105
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	192	15	116	116	17	131	205	750	54	222	663	155
Arrive On Green	0.19	0.19	0.19	0.16	0.16	0.16	0.12	0.23	0.23	0.13	0.24	0.24
Sat Flow, veh/h	1001	78	603	727	105	822	1757	3314	238	1757	2815	658
Grp Volume(v), veh/h	237	0	0	173	0	0	65	80	83	76	276	275
Grp Sat Flow(s),veh/h/ln	1683	0	0	1654	0	0	1757	1752	1800	1757	1752	1720
Q Serve(g_s), s	8.6	0.0	0.0	6.4	0.0	0.0	2.2	2.4	2.4	2.6	9.3	9.5
Cycle Q Clear(g_c), s	8.6	0.0	0.0	6.4	0.0	0.0	2.2	2.4	2.4	2.6	9.3	9.5
Prop In Lane	0.59		0.36	0.44		0.50	1.00		0.13	1.00		0.38
Lane Grp Cap(c), veh/h	323	0	0	264	0	0	205	396	407	222	413	405
V/C Ratio(X)	0.73	0.00	0.00	0.66	0.00	0.00	0.32	0.20	0.20	0.34	0.67	0.68
Avail Cap(c_a), veh/h	751	0	0	733	0	0	297	852	875	297	852	837
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.8	0.0	0.0	25.7	0.0	0.0	26.4	20.4	20.5	26.0	22.6	22.7
Incr Delay (d2), s/veh	3.2	0.0	0.0	2.8	0.0	0.0	0.9	0.2	0.2	0.9	1.9	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	0.0	0.0	3.1	0.0	0.0	1.1	1.2	1.2	1.3	4.7	4.7
LnGrp Delay(d),s/veh	28.0	0.0	0.0	28.5	0.0	0.0	27.3	20.7	20.7	26.9	24.5	24.6
LnGrp LOS	C			C			C	C	C	C	C	C
Approach Vol, veh/h		237			173			228			627	
Approach Delay, s/veh		28.0			28.5			22.6			24.9	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	22.2	19.8		17.6	11.6	20.5		15.5				
Change Period (Y+Rc), s	4.0	5.1		5.1	4.0	5.1		5.1				
Max Green Setting (Gmax), s	31.7	31.7		29.1	11.0	31.7		28.9				
Max Q Clear Time (g_c+1/4), s	14.6	4.4		10.6	4.2	11.5		8.4				
Green Ext Time (p_c), s	0.1	0.9		1.3	0.1	3.3		0.9				
Intersection Summary												
HCM 2010 Ctrl Delay	25.5											
HCM 2010 LOS	C											

HCM 2010 Signalized Intersection Summary

30: Road B & Parkland Ave

Existing + Project
Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	10	10	490	10	70	10	30	360	150	100	10
Future Volume (veh/h)	10	10	10	490	10	70	10	30	360	150	100	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1845	1900	1845	1900
Adj Flow Rate, veh/h	11	11	0	533	11	30	11	33	21	163	109	10
Adj No. of Lanes	1	1	0	1	2	0	1	1	1	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	52	224	0	586	745	663	192	202	170	207	138	13
Arrive On Green	0.03	0.12	0.00	0.33	0.43	0.43	0.11	0.11	0.11	0.20	0.20	0.20
Sat Flow, veh/h	1757	1845	0	1757	1752	1559	1757	1845	1549	1030	688	63
Grp Volume(v), veh/h	11	11	0	533	11	30	11	33	21	282	0	0
Grp Sat Flow(s),veh/h/ln	1757	1845	0	1757	1752	1559	1757	1845	1549	1781	0	0
Q Serve(g_s), s	0.5	0.4	0.0	23.3	0.3	0.9	0.4	1.3	1.0	12.0	0.0	0.0
Cycle Q Clear(g_c), s	0.5	0.4	0.0	23.3	0.3	0.9	0.4	1.3	1.0	12.0	0.0	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	0.58		0.04
Lane Grp Cap(c), veh/h	52	224	0	586	745	663	192	202	170	358	0	0
V/C Ratio(X)	0.21	0.05	0.00	0.91	0.01	0.05	0.06	0.16	0.12	0.79	0.00	0.00
Avail Cap(c_a), veh/h	241	645	0	816	1181	1051	614	645	541	622	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	37.9	31.1	0.0	25.5	13.3	13.5	32.0	32.3	32.2	30.4	0.0	0.0
Incr Delay (d2), s/veh	2.0	0.1	0.0	11.1	0.0	0.0	0.1	0.4	0.3	3.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.2	0.0	13.1	0.1	0.4	0.2	0.7	0.4	6.3	0.0	0.0
LnGrp Delay(d),s/veh	39.9	31.2	0.0	36.6	13.3	13.5	32.1	32.7	32.5	34.3	0.0	0.0
LnGrp LOS	D	C		D	B	B	C	C	C	C		
Approach Vol, veh/h		22			574			65			282	
Approach Delay, s/veh		35.6			34.9			32.6			34.3	
Approach LOS		D			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		13.9	30.7	14.8		20.7	6.4	39.2				
Change Period (Y+Rc), s		5.1	4.0	5.1		4.6	4.0	5.1				
Max Green Setting (Gmax), s		28.0	37.2	28.0		28.0	11.0	54.0				
Max Q Clear Time (g_c+I1), s		3.3	25.3	2.4		14.0	2.5	2.9				
Green Ext Time (p_c), s		0.2	1.5	0.0		1.4	0.0	0.2				
Intersection Summary												
HCM 2010 Ctrl Delay				34.6								
HCM 2010 LOS				C								

HCM 2010 Roundabout
31: Harry Lorenzo Ave & Corporate Limit/Farmers Central Rd

Existing + Project
Timing Plan: AM Peak Hour

Intersection				
Intersection Delay, s/veh	5.8			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	33	55	337	196
Demand Flow Rate, veh/h	33	56	344	199
Vehicles Circulating, veh/h	222	321	33	56
Vehicles Exiting, veh/h	33	56	222	321
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.3	5.2	6.5	5.1
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	33	56	344	199
Cap Entry Lane, veh/h	905	820	1093	1068
Entry HV Adj Factor	0.993	0.978	0.980	0.983
Flow Entry, veh/h	33	55	337	196
Cap Entry, veh/h	899	802	1071	1050
V/C Ratio	0.036	0.068	0.315	0.186
Control Delay, s/veh	4.3	5.2	6.5	5.1
LOS	A	A	A	A
95th %tile Queue, veh	0	0	1	1

Intersection			
Intersection Delay, s/veh	6.6		
Intersection LOS	A		
Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	239	44	413
Demand Flow Rate, veh/h	246	45	425
Vehicles Circulating, veh/h	44	202	34
Vehicles Exiting, veh/h	415	88	213
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	5	5	5
Ped Cap Adj	0.999	0.999	0.999
Approach Delay, s/veh	5.6	4.4	7.5
Approach LOS	A	A	A
Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	246	45	425
Cap Entry Lane, veh/h	1081	923	1092
Entry HV Adj Factor	0.970	0.978	0.972
Flow Entry, veh/h	239	44	413
Cap Entry, veh/h	1049	902	1061
V/C Ratio	0.228	0.049	0.389
Control Delay, s/veh	5.6	4.4	7.5
LOS	A	A	A
95th %tile Queue, veh	1	0	2

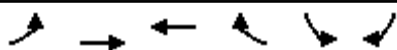
Intersection												
Int Delay, s/veh	2.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	10	10	10	10	60	10	80	10	30	260	20
Future Vol, veh/h	10	10	10	10	10	60	10	80	10	30	260	20
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	11	11	11	11	11	65	11	87	11	33	283	22
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	523	490	304	496	496	103	310	0	0	103	0	0
Stage 1	365	365	-	120	120	-	-	-	-	-	-	-
Stage 2	158	125	-	376	376	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	463	477	733	483	474	949	1245	-	-	1483	-	-
Stage 1	652	622	-	882	794	-	-	-	-	-	-	-
Stage 2	842	791	-	643	615	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	408	456	727	451	453	941	1239	-	-	1476	-	-
Mov Cap-2 Maneuver	408	456	-	451	453	-	-	-	-	-	-	-
Stage 1	643	602	-	870	783	-	-	-	-	-	-	-
Stage 2	763	780	-	603	595	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	12.7		10.5		0.8		0.7					
HCM LOS	B		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1239	-	-	498	741	1476	-	-				
HCM Lane V/C Ratio	0.009	-	-	0.065	0.117	0.022	-	-				
HCM Control Delay (s)	7.9	0	-	12.7	10.5	7.5	0	-				
HCM Lane LOS	A	A	-	B	B	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.2	0.4	0.1	-	-				

Intersection				
Intersection Delay, s/veh	5.8			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	87	261	163	153
Demand Flow Rate, veh/h	90	269	168	158
Vehicles Circulating, veh/h	337	78	78	281
Vehicles Exiting, veh/h	102	168	349	66
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	5	5	5	5
Ped Cap Adj	0.999	0.999	0.999	0.999
Approach Delay, s/veh	5.7	6.1	5.0	6.3
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	90	269	168	158
Cap Entry Lane, veh/h	807	1045	1045	853
Entry HV Adj Factor	0.971	0.972	0.969	0.971
Flow Entry, veh/h	87	261	163	153
Cap Entry, veh/h	783	1015	1012	828
V/C Ratio	0.112	0.258	0.161	0.185
Control Delay, s/veh	5.7	6.1	5.0	6.3
LOS	A	A	A	A
95th %tile Queue, veh	0	1	1	1

HCM 2010 Signalized Intersection Summary

35: Parkland Ave & Harry Lorenzo Ave

Existing + Project
Timing Plan: AM Peak Hour

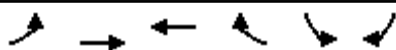


Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	260	260	420	10	40	150		
Future Volume (veh/h)	260	260	420	10	40	150		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			0.99	1.00	0.99		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1845	1845	1845	1900	1845	1900		
Adj Flow Rate, veh/h	283	283	457	9	43	25		
Adj No. of Lanes	1	2	2	0	0	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	3	3	3	3	0	0		
Cap, veh/h	413	2074	807	16	161	94		
Arrive On Green	0.23	0.59	0.23	0.23	0.15	0.15		
Sat Flow, veh/h	1757	3597	3607	69	1047	609		
Grp Volume(v), veh/h	283	283	228	238	69	0		
Grp Sat Flow(s),veh/h/ln	1757	1752	1752	1832	1680	0		
Q Serve(g_s), s	6.7	1.6	5.2	5.2	1.7	0.0		
Cycle Q Clear(g_c), s	6.7	1.6	5.2	5.2	1.7	0.0		
Prop In Lane	1.00			0.04	0.62	0.36		
Lane Grp Cap(c), veh/h	413	2074	402	420	258	0		
V/C Ratio(X)	0.69	0.14	0.57	0.57	0.27	0.00		
Avail Cap(c_a), veh/h	856	4110	977	1022	923	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	15.9	4.1	15.5	15.5	17.0	0.0		
Incr Delay (d2), s/veh	2.0	0.0	1.3	1.2	0.5	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	8.5	0.8	2.7	2.8	0.8	0.0		
LnGrp Delay(d),s/veh	17.9	4.2	16.8	16.7	17.6	0.0		
LnGrp LOS	B	A	B	B	B			
Approach Vol, veh/h		566	466		69			
Approach Delay, s/veh		11.0	16.8		17.6			
Approach LOS		B	B		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		32.7		12.8	16.5	16.2		
Change Period (Y+Rc), s		5.8		5.8	5.8	5.8		
Max Green Setting (Gmax), s		53.4		25.0	22.2	25.4		
Max Q Clear Time (g_c+I1), s		3.6		3.7	8.7	7.2		
Green Ext Time (p_c), s		2.0		0.1	0.7	2.6		
Intersection Summary								
HCM 2010 Ctrl Delay			13.9					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary

36: Parkland Ave & Pioneer Ave

Existing + Project
Timing Plan: AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	200	100	40	200	30	390		
Future Volume (veh/h)	200	100	40	200	30	390		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			0.99	1.00	0.99		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1845	1845	1845	1900	1845	1900		
Adj Flow Rate, veh/h	217	109	43	33	33	73		
Adj No. of Lanes	1	1	1	0	0	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	3	3	3	3	0	0		
Cap, veh/h	420	975	147	113	99	218		
Arrive On Green	0.24	0.53	0.15	0.15	0.20	0.20		
Sat Flow, veh/h	1757	1845	965	740	499	1103		
Grp Volume(v), veh/h	217	109	0	76	107	0		
Grp Sat Flow(s),veh/h/ln	1757	1845	0	1705	1617	0		
Q Serve(g_s), s	4.5	1.3	0.0	1.7	2.4	0.0		
Cycle Q Clear(g_c), s	4.5	1.3	0.0	1.7	2.4	0.0		
Prop In Lane	1.00			0.43	0.31	0.68		
Lane Grp Cap(c), veh/h	420	975	0	260	320	0		
V/C Ratio(X)	0.52	0.11	0.00	0.29	0.33	0.00		
Avail Cap(c_a), veh/h	795	2270	0	1093	999	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	14.0	5.0	0.0	15.9	14.6	0.0		
Incr Delay (d2), s/veh	1.0	0.1	0.0	0.6	0.6	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.3	0.6	0.0	0.8	1.1	0.0		
LnGrp Delay(d),s/veh	15.0	5.1	0.0	16.5	15.2	0.0		
LnGrp LOS	B	A		B	B			
Approach Vol, veh/h		326	76		107			
Approach Delay, s/veh		11.7	16.5		15.2			
Approach LOS		B	B		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		28.2		14.2	15.9	12.3		
Change Period (Y+Rc), s		5.8		5.8	5.8	5.8		
Max Green Setting (Gmax), s		52.2		26.2	19.2	27.2		
Max Q Clear Time (g_c+I1), s		3.3		4.4	6.5	3.7		
Green Ext Time (p_c), s		0.3		0.5	0.5	0.2		
Intersection Summary								
HCM 2010 Ctrl Delay			13.1					
HCM 2010 LOS			B					
Notes								

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

1: East St & Main St/E Main St

Existing + Project
Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	580	110	110	510	360	100	290	110	290	390	70
Future Volume (veh/h)	60	580	110	110	510	360	100	290	110	290	390	70
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		1.00
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	65	630	36	120	554	296	109	315	91	315	424	66
Adj No. of Lanes	1	2	1	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	81	955	420	153	687	367	139	456	129	371	917	142
Arrive On Green	0.05	0.27	0.27	0.09	0.31	0.31	0.08	0.17	0.17	0.21	0.30	0.30
Sat Flow, veh/h	1757	3505	1540	1757	2191	1169	1757	2687	762	1757	3042	470
Grp Volume(v), veh/h	65	630	36	120	443	407	109	203	203	315	243	247
Grp Sat Flow(s),veh/h/ln	1757	1752	1540	1757	1752	1608	1757	1752	1697	1757	1752	1759
Q Serve(g_s), s	2.0	8.7	1.0	3.7	12.7	12.7	3.3	6.0	6.2	9.4	6.2	6.2
Cycle Q Clear(g_c), s	2.0	8.7	1.0	3.7	12.7	12.7	3.3	6.0	6.2	9.4	6.2	6.2
Prop In Lane	1.00		1.00	1.00		0.73	1.00		0.45	1.00		0.27
Lane Grp Cap(c), veh/h	81	955	420	153	550	504	139	297	288	371	528	530
V/C Ratio(X)	0.80	0.66	0.09	0.78	0.81	0.81	0.78	0.68	0.70	0.85	0.46	0.47
Avail Cap(c_a), veh/h	642	2560	1125	642	1280	1174	770	1280	1240	770	1280	1285
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.9	17.7	14.8	24.5	17.3	17.3	24.7	21.4	21.4	20.8	15.5	15.5
Incr Delay (d2), s/veh	6.7	0.3	0.0	3.3	1.1	1.2	3.6	1.0	1.2	2.1	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	4.2	0.4	1.9	6.2	5.8	1.7	3.0	3.0	4.8	3.0	3.1
LnGrp Delay(d),s/veh	32.6	18.0	14.9	27.7	18.3	18.5	28.3	22.4	22.6	22.9	15.7	15.8
LnGrp LOS	C	B	B	C	B	B	C	C	C	C	B	B
Approach Vol, veh/h		731			970			515			805	
Approach Delay, s/veh		19.1			19.5			23.7			18.5	
Approach LOS		B			B			C			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.5	21.3	7.3	20.6	7.8	19.0	14.6	13.4				
Change Period (Y+Rc), s	3.0	4.1	3.0	4.1	3.0	4.1	3.0	4.1				
Max Green Setting (Gmax), s	20.0	40.0	24.0	40.0	20.0	40.0	24.0	40.0				
Max Q Clear Time (g_c+I1), s	4.0	14.7	5.3	8.2	5.7	10.7	11.4	8.2				
Green Ext Time (p_c), s	0.0	2.2	0.0	1.4	0.0	2.2	0.2	1.1				
Intersection Summary												
HCM 2010 Ctrl Delay				19.9								
HCM 2010 LOS				B								

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing + Project
PM Peak Hour

Intersection 2

Industrial Way-SR 113 SB Off-Ramp/Main Street

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	20	22	109.0%	31.0	14.6	C
	Through	10	11	105.0%	31.0	28.1	C
	Right Turn	40	39	98.5%	31.2	16.4	C
	Subtotal	70	72	102.4%	30.8	14.0	C
SB	Left Turn	70	63	89.9%	39.5	9.8	D
	Through	80	80	100.0%	46.0	20.5	D
	Right Turn	30	32	106.0%	33.7	9.3	C
	Subtotal	180	175	97.1%	40.5	12.9	D
EB	Left Turn	30	27	88.7%	56.0	18.3	E
	Through	910	819	89.9%	105.2	13.1	F
	Right Turn	180	166	92.4%	119.2	17.4	F
	Subtotal	1,120	1,011	90.3%	105.9	12.4	F
WB	Left Turn	490	365	74.4%	149.9	53.9	F
	Through	930	908	97.6%	15.5	4.3	B
	Right Turn	80	98	122.4%	12.7	3.8	B
	Subtotal	1,500	1,370	91.3%	51.6	16.3	D
Total		2,870	2,628	91.6%	70.4	9.6	E

Intersection 3

SR 113 NB Ramps/Main Street

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	250	234	93.4%	274.0	94.5	F
	Through						
	Right Turn	690	489	70.8%	507.6	106.1	F
	Subtotal	940	722	76.8%	434.3	93.6	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	1,000	882	88.2%	94.8	6.8	F
	Right Turn	30	27	89.7%	113.7	21.2	F
	Subtotal	1,030	909	88.2%	95.4	6.4	F
WB	Left Turn	50	53	105.2%	43.1	23.6	D
	Through	1,250	1,154	92.3%	21.9	17.0	C
	Right Turn						
	Subtotal	1,300	1,206	92.8%	22.8	17.0	C
Total		3,270	2,837	86.8%	148.0	22.7	F

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing + Project
PM Peak Hour

Intersection 4

Pioneer Avenue/Main Street

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	220	200	90.8%	40.7	5.0	D
	Through	180	154	85.7%	34.3	6.3	C
	Right Turn	210	95	45.1%	33.9	4.3	C
	Subtotal	610	449	73.6%	36.8	1.9	D
SB	Left Turn	130	91	70.0%	44.7	4.8	D
	Through	310	241	77.7%	35.9	4.3	D
	Right Turn	80	87	109.0%	20.7	6.4	C
	Subtotal	520	419	80.6%	34.8	2.3	C
EB	Left Turn	80	54	67.9%	50.7	7.3	D
	Through	1,360	1,113	81.8%	48.1	5.4	D
	Right Turn	230	187	81.3%	50.6	7.0	D
	Subtotal	1,670	1,354	81.1%	48.5	5.2	D
NW	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	370	267	72.2%	47.4	7.1	D
	Through	1,020	930	91.1%	25.7	3.4	C
	Right Turn	110	109	99.4%	10.5	2.7	B
	Subtotal	1,500	1,306	87.1%	28.5	3.5	C
Total		4,300	3,529	82.1%	43.4	2.8	D

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing + Project
PM Peak Hour

Intersection 5

Interstate-5 NB Off-Ramp/Main Street

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	800	683	85.3%	22.3	1.7	C
	Through						
	Right Turn	20	22	111.5%	19.7	4.1	B
	Subtotal	820	705	86.0%	22.2	1.7	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	580	512	88.2%	13.1	2.6	B
	Right Turn						
	Subtotal	580	512	88.2%	13.1	2.6	B
WB	Left Turn						
	Through	710	633	89.1%	9.7	1.2	A
	Right Turn						
	Subtotal	710	633	89.1%	9.7	1.2	A
Total		2,110	1,849	87.6%	15.4	1.1	B

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing+ Project Conditions
PM Peak Hour

Intersection 6 CR 102/Hays Lane-I-5 NB Ramps Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	60	60	99.7%	45.2	4.9	D
	Through	510	513	100.6%	18.7	2.7	B
	Right Turn	180	181	100.7%	3.9	0.4	A
	Subtotal	750	754	100.5%	17.4	2.0	B
SB	Left Turn						
	Through	780	774	99.2%	28.1	4.1	C
	Right Turn	10	11	106.0%	12.4	5.3	B
	Subtotal	790	784	99.3%	27.9	4.1	C
EB	Left Turn	40	43	106.3%	32.4	8.5	C
	Through						
	Right Turn	110	114	103.5%	28.7	4.9	C
	Subtotal	150	156	104.3%	29.8	5.0	C
WB	Left Turn	620	624	100.7%	29.2	2.1	C
	Through	30	30	98.7%	32.4	8.4	C
	Right Turn	140	132	94.0%	20.4	2.5	C
	Subtotal	790	786	99.4%	27.8	2.4	C
Total		2,480	2,480	100.0%	24.8	2.3	C

Intersection 7 CR 102/I-5 SB Ramps Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	690	697	101.0%	4.9	0.6	A
	Right Turn	740	740	100.0%	6.3	0.6	A
	Subtotal	1,430	1,437	100.5%	5.6	0.5	A
SB	Left Turn						
	Through	1,230	1,232	100.2%	10.8	1.2	B
	Right Turn	160	156	97.4%	8.8	0.7	A
	Subtotal	1,390	1,388	99.8%	10.6	1.1	B
EB	Left Turn	60	58	96.7%	10.0	2.2	B
	Through						
	Right Turn	210	212	100.9%	8.7	2.0	A
	Subtotal	270	270	99.9%	9.0	1.9	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		3,090	3,095	100.1%	8.2	0.7	A

HCM 2010 Signalized Intersection Summary

8: East St & Gibson Rd/E Gibson Rd

Existing + Project
Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	770	110	50	750	180	130	160	60	200	210	160
Future Volume (veh/h)	80	770	110	50	750	180	130	160	60	200	210	160
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		1.00
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1845	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	96	928	123	60	904	137	157	193	32	241	253	73
Adj No. of Lanes	1	2	0	1	2	1	1	2	0	1	2	0
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	239	1102	146	194	1153	506	272	451	73	285	425	120
Arrive On Green	0.14	0.36	0.36	0.11	0.33	0.33	0.15	0.15	0.15	0.16	0.16	0.16
Sat Flow, veh/h	1757	3103	411	1757	3505	1539	1757	3010	490	1757	2699	762
Grp Volume(v), veh/h	96	524	527	60	904	137	157	111	114	241	162	164
Grp Sat Flow(s),veh/h/ln	1757	1752	1762	1757	1752	1539	1757	1752	1748	1757	1752	1708
Q Serve(g_s), s	3.4	18.5	18.5	2.1	15.7	4.4	5.6	3.9	4.0	9.0	5.8	6.0
Cycle Q Clear(g_c), s	3.4	18.5	18.5	2.1	15.7	4.4	5.6	3.9	4.0	9.0	5.8	6.0
Prop In Lane	1.00		0.23	1.00		1.00	1.00		0.28	1.00		0.45
Lane Grp Cap(c), veh/h	239	622	626	194	1153	506	272	262	262	285	276	269
V/C Ratio(X)	0.40	0.84	0.84	0.31	0.78	0.27	0.58	0.42	0.44	0.84	0.59	0.61
Avail Cap(c_a), veh/h	730	1041	1046	522	2081	914	522	1041	1038	730	1041	1015
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.6	20.0	20.0	27.6	20.4	16.6	26.4	26.0	26.1	27.4	26.4	26.4
Incr Delay (d2), s/veh	0.4	1.3	1.3	0.3	0.5	0.1	0.7	0.4	0.4	2.6	0.7	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	9.1	9.2	1.1	7.6	1.9	2.8	1.9	2.0	4.6	2.9	2.9
LnGrp Delay(d),s/veh	27.0	21.3	21.3	27.9	20.9	16.7	27.2	26.4	26.5	30.0	27.1	27.3
LnGrp LOS	C	C	C	C	C	B	C	C	C	C	C	C
Approach Vol, veh/h	1147				1101		382				567	
Approach Delay, s/veh	21.8				20.8		26.7				28.4	
Approach LOS	C				C		C				C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.9	15.0	10.4	28.0	13.4	15.5	12.2	26.3				
Change Period (Y+Rc), s	3.0	4.9	3.0	4.1	3.0	4.9	3.0	4.1				
Max Green Setting (Gmax), s	28.0	40.0	20.0	40.0	20.0	40.0	28.0	40.0				
Max Q Clear Time (g_c+I1), s	11.0	6.0	4.1	20.5	7.6	8.0	5.4	17.7				
Green Ext Time (p_c), s	0.1	0.7	0.0	3.3	0.0	1.2	0.1	3.4				
Intersection Summary												
HCM 2010 Ctrl Delay			23.2									
HCM 2010 LOS			C									

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing + Project
PM Peak Hour

Intersection 9 Matmor Rd/E Gibson Rd-I-5 NB Ramps Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	50	50	100.6%	32.5	5.9	C
	Through	60	47	78.7%	28.7	5.7	C
	Right Turn	140	102	72.8%	15.6	4.0	B
	Subtotal	250	199	79.8%	23.8	2.2	C
SB	Left Turn	170	150	88.5%	45.4	9.2	D
	Through	40	39	98.5%	34.8	8.7	C
	Right Turn	120	118	98.4%	17.4	6.5	B
	Subtotal	330	308	93.3%	32.9	7.1	C
EB	Left Turn	170	174	102.1%	43.8	6.4	D
	Through	980	841	85.8%	26.9	3.3	C
	Right Turn	80	76	94.9%	22.0	7.6	C
	Subtotal	1,230	1,091	88.7%	29.2	3.3	C
WB	Left Turn	240	234	97.3%	48.1	5.7	D
	Through	1,000	942	94.2%	26.9	2.4	C
	Right Turn	290	250	86.0%	9.8	1.0	A
	Subtotal	1,530	1,425	93.1%	27.4	1.8	C
Total		3,340	3,023	90.5%	28.4	2.1	C

Intersection 10 SR 113 SB Ramps/E Gibson Rd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	150	120	80.1%	17.3	2.3	B
	Through						
	Right Turn	290	165	56.8%	0.9	0.2	A
	Subtotal	440	285	64.8%	8.1	1.4	A
EB	Left Turn						
	Through	1,140	955	83.8%	18.5	3.3	B
	Right Turn	150	137	91.3%	8.8	1.8	A
	Subtotal	1,290	1,092	84.7%	17.2	3.0	B
WB	Left Turn						
	Through	1,240	1,259	101.6%	11.7	1.7	B
	Right Turn	270	222	82.3%	7.1	1.0	A
	Subtotal	1,510	1,482	98.1%	11.0	1.5	B
Total		3,240	2,858	88.2%	13.0	1.4	B

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing + Project
PM Peak Hour

Intersection 11 SR 113 NB Ramps/E Gibson Rd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	370	376	101.5%	20.7	2.0	C
	Through						
	Right Turn	690	652	94.5%	7.4	5.7	A
	Subtotal	1,060	1,028	97.0%	12.5	4.1	B
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	1,100	1,004	91.3%	13.1	1.2	B
	Right Turn	190	74	38.9%	6.8	1.3	A
	Subtotal	1,290	1,078	83.6%	12.7	1.2	B
WB	Left Turn						
	Through	1,140	1,104	96.8%	16.2	2.1	B
	Right Turn	130	111	85.2%	10.8	1.1	B
	Subtotal	1,270	1,215	95.6%	15.7	2.0	B
Total		3,620	3,321	91.7%	13.8	1.6	B

Intersection 12 Bourn Dr-Harry Lorenzo Ave/E Gibson Rd Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn	20	92	461.0%	19.5	8.0	C
	Subtotal	20	92	461.0%	19.5	8.0	C
SB	Left Turn						
	Through						
	Right Turn	90	93	103.6%	12.3	3.3	B
	Subtotal	90	93	103.6%	12.3	3.3	B
EB	Left Turn						
	Through	1,570	1,463	93.2%	14.3	3.1	B
	Right Turn	220	195	88.4%	13.4	2.0	B
	Subtotal	1,790	1,657	92.6%	14.2	2.9	B
WB	Left Turn						
	Through	1,180	1,122	95.1%	7.0	0.6	A
	Right Turn	110	90	81.7%	6.4	1.2	A
	Subtotal	1,290	1,212	93.9%	7.0	0.7	A
Total		3,190	3,054	95.7%	11.5	1.6	B

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing + Project
PM Peak Hour

Intersection 13

Pioneer Ave/E Gibson Rd

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	340	237	69.7%	39.7	4.5	D
	Through	280	161	57.5%	24.1	3.2	C
	Right Turn	430	213	49.5%	12.1	1.6	B
	Subtotal	1,050	611	58.2%	26.3	2.2	C
SB	Left Turn	60	59	98.7%	45.3	10.6	D
	Through	430	193	44.8%	35.0	3.9	D
	Right Turn	210	215	102.3%	17.4	3.1	B
	Subtotal	700	467	66.7%	27.7	2.6	C
EB	Left Turn	380	404	106.4%	59.5	6.7	E
	Through	850	868	102.1%	59.6	11.0	E
	Right Turn	360	282	78.4%	30.0	7.6	C
	Subtotal	1,590	1,554	97.8%	54.1	9.0	D
WB	Left Turn	540	317	58.8%	47.4	4.5	D
	Through	740	757	102.4%	43.8	9.7	D
	Right Turn	50	51	101.2%	35.1	15.6	D
	Subtotal	1,330	1,125	84.6%	44.4	8.0	D
Total		4,670	3,757	80.5%	43.4	5.3	D

HCM Signalized Intersection Capacity Analysis

14: CR 102 & E. Gibson Rd/CR 24

Existing + Project
Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	800	10	90	10	10	10	140	440	0	10	500	560
Future Volume (vph)	800	10	90	10	10	10	140	440	0	10	500	560
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	5.2	5.2		3.7		3.0	5.2		3.0	5.2	5.2
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	0.95		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85		0.95		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1649	1655	1553		1716		1736	3471		1736	1827	1532
Flt Permitted	0.95	0.95	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1649	1655	1553		1716		1736	3471		1736	1827	1532
Peak-hour factor, PHF	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	976	12	110	12	12	12	171	537	0	12	610	683
RTOR Reduction (vph)	0	0	79	0	11	0	0	0	0	0	0	329
Lane Group Flow (vph)	498	490	31	0	25	0	171	537	0	12	610	354
Confl. Bikes (#/hr)												2
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	2	2		6	6		3	8		7	4	
Permitted Phases			2									4
Actuated Green, G (s)	30.3	30.3	30.3		6.7		14.9	52.6		2.2	32.8	32.8
Effective Green, g (s)	30.3	30.3	30.3		6.7		14.9	52.6		2.2	32.8	32.8
Actuated g/C Ratio	0.28	0.28	0.28		0.06		0.14	0.48		0.02	0.30	0.30
Clearance Time (s)	5.2	5.2	5.2		3.7		3.0	5.2		3.0	5.2	5.2
Vehicle Extension (s)	1.0	1.0	1.0		1.0		1.0	1.5		1.0	1.5	1.5
Lane Grp Cap (vph)	458	460	432		105		237	1676		35	550	461
v/s Ratio Prot	c0.30	0.30			c0.01		c0.10	c0.15		0.01	c0.33	
v/s Ratio Perm			0.02									0.23
v/c Ratio	1.09	1.07	0.07		0.24		0.72	0.32		0.34	1.11	0.77
Uniform Delay, d1	39.3	39.3	28.9		48.7		45.0	17.2		52.6	38.1	34.6
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	67.7	60.4	0.0		0.4		8.8	0.0		2.1	71.8	6.8
Delay (s)	107.0	99.7	29.0		49.1		53.8	17.3		54.8	109.9	41.4
Level of Service	F	F	C		D		D	B		D	F	D
Approach Delay (s)		95.9			49.1			26.1			73.5	
Approach LOS		F			D			C			E	
Intersection Summary												
HCM 2000 Control Delay			70.4				HCM 2000 Level of Service			E		
HCM 2000 Volume to Capacity ratio			0.93									
Actuated Cycle Length (s)			108.9				Sum of lost time (s)			19.1		
Intersection Capacity Utilization			85.8%				ICU Level of Service			E		
Analysis Period (min)			15									
c Critical Lane Group												

HCM 2010 Signalized Intersection Summary

15: East St & CR 24A/Sports Park Dr

Existing + Project
Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	50	50	20	30	30	100	180	50	20	270	50
Future Volume (veh/h)	20	50	50	20	30	30	100	180	50	20	270	50
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	22	54	24	22	33	8	109	196	49	22	293	49
Adj No. of Lanes	0	1	0	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	40	99	44	48	72	18	226	468	117	78	376	63
Arrive On Green	0.10	0.10	0.10	0.08	0.08	0.08	0.13	0.33	0.33	0.04	0.24	0.24
Sat Flow, veh/h	389	955	424	626	938	227	1774	1439	360	1774	1557	260
Grp Volume(v), veh/h	100	0	0	63	0	0	109	0	245	22	0	342
Grp Sat Flow(s),veh/h/ln	1768	0	0	1791	0	0	1774	0	1799	1774	0	1817
Q Serve(g_s), s	2.0	0.0	0.0	1.2	0.0	0.0	2.1	0.0	3.9	0.4	0.0	6.5
Cycle Q Clear(g_c), s	2.0	0.0	0.0	1.2	0.0	0.0	2.1	0.0	3.9	0.4	0.0	6.5
Prop In Lane	0.22		0.24	0.35		0.13	1.00		0.20	1.00		0.14
Lane Grp Cap(c), veh/h	184	0	0	138	0	0	226	0	585	78	0	439
V/C Ratio(X)	0.54	0.00	0.00	0.46	0.00	0.00	0.48	0.00	0.42	0.28	0.00	0.78
Avail Cap(c_a), veh/h	1191	0	0	1206	0	0	956	0	1454	956	0	1468
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.8	0.0	0.0	16.4	0.0	0.0	15.1	0.0	9.8	17.2	0.0	13.1
Incr Delay (d2), s/veh	0.9	0.0	0.0	0.9	0.0	0.0	0.6	0.0	0.2	0.7	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.6	0.0	0.0	1.1	0.0	1.9	0.2	0.0	3.4
LnGrp Delay(d),s/veh	16.7	0.0	0.0	17.3	0.0	0.0	15.7	0.0	10.0	17.9	0.0	14.3
LnGrp LOS	B			B			B		A	B		B
Approach Vol, veh/h	100				63		354				364	
Approach Delay, s/veh	16.7				17.3		11.7				14.5	
Approach LOS	B				B		B				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		3		4		6		7		8	
Phs Duration (G+Y+Rc), s	8.3		7.7		14.6		6.6		4.6		17.7	
Change Period (Y+Rc), s	4.4		3.0		* 5.6		3.7		3.0		5.6	
Max Green Setting (Gmax), s	25.0		20.0		* 30		25.0		20.0		30.0	
Max Q Clear Time (g_c+I1), s	4.0		4.1		8.5		3.2		2.4		5.9	
Green Ext Time (p_c), s	0.2		0.0		0.7		0.1		0.0		0.5	
Intersection Summary												
HCM 2010 Ctrl Delay			13.8									
HCM 2010 LOS			B									
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	97.2
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	30	10	30	20	270	10	360	40	230	400	40
Future Vol, veh/h	30	30	10	30	20	270	10	360	40	230	400	40
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	33	33	11	33	22	293	11	391	43	250	435	43
Number of Lanes	0	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	14.4	21.3	34.2	180.6
HCM LOS	B	C	D	F

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	2%	43%	100%	0%	34%
Vol Thru, %	88%	43%	0%	7%	60%
Vol Right, %	10%	14%	0%	93%	6%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	410	70	30	290	670
LT Vol	10	30	30	0	230
Through Vol	360	30	0	20	400
RT Vol	40	10	0	270	40
Lane Flow Rate	446	76	33	315	728
Geometry Grp	2	5	7	7	2
Degree of Util (X)	0.811	0.178	0.074	0.617	1.329
Departure Headway (Hd)	7.167	9.346	8.95	7.754	6.569
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	508	387	403	470	561
Service Time	5.167	7.346	6.65	5.454	4.573
HCM Lane V/C Ratio	0.878	0.196	0.082	0.67	1.298
HCM Control Delay	34.2	14.4	12.4	22.2	180.6
HCM Lane LOS	D	B	B	C	F
HCM 95th-tile Q	7.8	0.6	0.2	4.1	31.3

HCM 2010 Signalized Intersection Summary

17: Parkland Ave & E. Heritage Pkwy

Existing + Project
Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	20	20	140	20	40	30	80	80	50	90	10
Future Volume (veh/h)	10	20	20	140	20	40	30	80	80	50	90	10
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	14	27	-41	189	27	0	41	108	93	68	122	-117
Adj No. of Lanes	1	1	0	1	1	1	1	1	0	2	1	1
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	86	0	376	608	280	238	208	157	135	602	427	363
Arrive On Green	0.05	0.00	0.00	0.34	0.15	0.00	0.12	0.17	0.17	0.17	0.22	0.00
Sat Flow, veh/h	1810	1900	0	1810	1900	1615	1810	934	804	3510	1900	1615
Grp Volume(v), veh/h	14	-14	-14	189	27	0	41	0	201	68	122	-117
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1810	0	1738	1755	1900	1615
Q Serve(g_s), s	0.2	0.0	0.0	2.4	0.4	0.0	0.6	0.0	3.4	0.5	1.7	0.0
Cycle Q Clear(g_c), s	0.2	0.0	0.0	2.4	0.4	0.0	0.6	0.0	3.4	0.5	1.7	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.46	1.00		1.00
Lane Grp Cap(c), veh/h	86	0	0	608	280	238	208	0	293	602	427	363
V/C Ratio(X)	0.16	0.00	0.00	0.31	0.10	0.00	0.20	0.00	0.69	0.11	0.29	-0.32
Avail Cap(c_a), veh/h	1162	0	0	1162	1525	1296	1162	0	1395	2254	1525	1296
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	14.2	0.0	0.0	7.7	11.5	0.0	12.5	0.0	12.2	10.9	10.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.1	0.1	0.0	0.2	0.0	1.1	0.0	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	1.2	0.2	0.0	0.3	0.0	1.7	0.2	0.9	0.0
LnGrp Delay(d),s/veh	14.6	0.0	0.0	7.8	11.5	0.0	12.6	0.0	13.2	10.9	10.1	0.0
LnGrp LOS	B			A	B		B		B	B	B	
Approach Vol, veh/h	-14				216		242				73	
Approach Delay, s/veh	-14.6				8.2		13.1				27.1	
Approach LOS	A				A		B				C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	3.5	0.0	6.6	11.1	4.5	9.0	8.3	9.3				
Change Period (Y+Rc), s	3.0	* 4.4	3.0	4.1	3.0	4.4	3.0	4.1				
Max Green Setting (Gmax), s	20.0	* 25	20.0	25.0	20.0	25.0	20.0	25.0				
Max Q Clear Time (g_c+I), s	14.4	0.0	2.6	3.7	2.2	2.4	2.5	5.4				
Green Ext Time (p_c), s	0.1	0.0	0.0	0.2	0.0	0.0	0.0	0.4				
Intersection Summary												
HCM 2010 Ctrl Delay	13.8											
HCM 2010 LOS	B											
Notes												

User approved pedestrian interval to be less than phase max green.

User approved ignoring U-Turning movement.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary 18: CR 102 & E. Heritage Pkwy/CR 25

Existing + Project
Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	10	70	0	10	20	140	410	0	10	330	150
Future Volume (veh/h)	100	10	70	0	10	20	140	410	0	10	330	150
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1845	1845	1845	1845
Adj Flow Rate, veh/h	122	12	24	0	12	0	171	500	-6	12	402	49
Adj No. of Lanes	1	1	0	1	1	0	1	1	1	1	1	1
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	153	108	216	5	29	0	218	739	628	17	528	438
Arrive On Green	0.09	0.20	0.20	0.00	0.02	0.00	0.12	0.40	0.00	0.01	0.29	0.29
Sat Flow, veh/h	1757	550	1100	1757	1845	0	1757	1845	1568	1757	1845	1530
Grp Volume(v), veh/h	122	0	36	0	12	0	171	500	-6	12	402	49
Grp Sat Flow(s),veh/h/ln	1757	0	1650	1757	1845	0	1757	1845	1568	1757	1845	1530
Q Serve(g_s), s	2.2	0.0	0.6	0.0	0.2	0.0	3.0	7.1	0.0	0.2	6.4	0.8
Cycle Q Clear(g_c), s	2.2	0.0	0.6	0.0	0.2	0.0	3.0	7.1	0.0	0.2	6.4	0.8
Prop In Lane	1.00		0.67	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	153	0	324	5	29	0	218	739	628	17	528	438
V/C Ratio(X)	0.80	0.00	0.11	0.00	0.41	0.00	0.79	0.68	-0.01	0.72	0.76	0.11
Avail Cap(c_a), veh/h	822	0	1288	822	1439	0	1097	1727	1468	1097	1727	1432
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.3	0.0	10.6	0.0	15.6	0.0	13.6	7.9	0.0	15.8	10.4	8.4
Incr Delay (d2), s/veh	3.6	0.0	0.1	0.0	3.4	0.0	2.4	0.4	0.0	19.3	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.3	0.0	0.1	0.0	1.6	3.7	0.0	0.2	3.4	0.3
LnGrp Delay(d),s/veh	17.9	0.0	10.6	0.0	19.0	0.0	16.0	8.3	0.0	35.1	11.3	8.5
LnGrp LOS	B		B		B		B	A		D	B	A
Approach Vol, veh/h	158				12				665		463	
Approach Delay, s/veh	16.2				19.0				10.4		11.6	
Approach LOS	B				B				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	0.0	10.4	7.0	14.7	5.8	4.6	3.3	18.3				
Change Period (Y+Rc), s	3.0	4.1	3.0	5.5	3.0	4.1	3.0	5.5				
Max Green Setting (Gmax), s	15.0	25.0	20.0	30.0	15.0	25.0	20.0	30.0				
Max Q Clear Time (g_c+I), s	10.0	2.6	5.0	8.4	4.2	2.2	2.2	9.1				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.9	0.0	0.0	0.0	1.2				
Intersection Summary												
HCM 2010 Ctrl Delay			11.6									
HCM 2010 LOS			B									

Intersection			
Intersection Delay, s/veh	5.6		
Intersection LOS	A		
Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	273	91	227
Demand Flow Rate, veh/h	281	93	234
Vehicles Circulating, veh/h	31	172	78
Vehicles Exiting, veh/h	281	140	187
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	5	5	5
Ped Cap Adj	0.999	0.999	0.999
Approach Delay, s/veh	5.8	4.8	5.7
Approach LOS	A	A	A
Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	281	93	234
Cap Entry Lane, veh/h	1095	951	1045
Entry HV Adj Factor	0.971	0.976	0.970
Flow Entry, veh/h	273	91	227
Cap Entry, veh/h	1063	928	1013
V/C Ratio	0.257	0.098	0.224
Control Delay, s/veh	5.8	4.8	5.7
LOS	A	A	A
95th %tile Queue, veh	1	0	1

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Research Park
Existing Plus Project Conditions
PM Peak Hour

Intersection 20

East St/County Road 25A

All-way Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	10	8	77.0%	4.6	2.0	A
	Through	10	8	80.0%	6.8	3.7	A
	Right Turn	10	11	108.0%	2.8	1.1	A
	Subtotal	30	27	88.3%	5.0	1.8	A
SB	Left Turn	220	221	100.3%	8.2	1.5	A
	Through	10	10	102.0%	9.8	2.1	A
	Right Turn	40	45	112.8%	5.4	1.1	A
	Subtotal	270	276	102.2%	7.8	1.3	A
EB	Left Turn	60	60	100.2%	7.8	1.2	A
	Through	180	179	99.5%	11.0	0.9	B
	Right Turn	10	10	96.0%	4.1	1.7	A
	Subtotal	250	249	99.5%	10.0	0.8	A
WB	Left Turn	10	7	67.0%	8.4	4.8	A
	Through	190	144	76.0%	13.2	1.1	B
	Right Turn	300	215	71.5%	7.9	1.1	A
	Subtotal	500	366	73.1%	10.0	0.9	A
Total		1,050	917	87.3%	9.2	0.9	A

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Research Park
Existing Plus Project Conditions
PM Peak Hour

Intersection 21

SR 113 SB Ramps/County Road 25A

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	150	62	41.2%	671.4	54.3	F
	Through						
	Right Turn	40	14	34.8%	629.7	118.5	F
	Subtotal	190	76	39.8%	664.8	55.2	F
EB	Left Turn						
	Through	280	283	101.1%	4.2	0.3	A
	Right Turn	130	128	98.6%	2.7	0.4	A
	Subtotal	410	411	100.3%	3.8	0.3	A
WB	Left Turn	510	503	98.6%	13.8	3.4	B
	Through	460	351	76.2%	13.0	2.1	B
	Right Turn						
	Subtotal	970	853	88.0%	13.4	2.5	B
Total		1,570	1,340	85.4%	54.6	9.8	F

Intersection 22

SR 113 NB Ramps/County Road 25A

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	250	139	55.6%	324.8	63.8	F
	Through	10	5	52.0%	262.9	164.3	F
	Right Turn	610	345	56.6%	320.0	69.0	F
	Subtotal	870	489	56.2%	321.2	65.9	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	30	30	99.7%	37.8	25.1	E
	Through	400	313	78.4%	17.3	20.0	C
	Right Turn						
	Subtotal	430	343	79.8%	19.3	19.1	C
WB	Left Turn						
	Through	720	714	99.2%	7.2	0.8	A
	Right Turn	300	302	100.5%	3.9	0.5	A
	Subtotal	1,020	1,016	99.6%	6.2	0.7	A
Total		2,320	1,848	79.7%	82.5	2.9	F

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Research Park
Existing Plus Project Conditions
PM Peak Hour

Intersection 23

Road A/County Road 25A

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn	40	43	106.3%	8.2	3.4	A
	Subtotal	40	43	106.3%	8.2	3.4	A
SB	Left Turn						
	Through						
	Right Turn	140	144	102.8%	22.9	9.0	C
	Subtotal	140	144	102.8%	22.9	9.0	C
EB	Left Turn						
	Through	880	571	64.9%	4.0	0.6	A
	Right Turn	130	90	69.2%	2.2	0.5	A
	Subtotal	1,010	661	65.4%	3.8	0.5	A
WB	Left Turn						
	Through	880	870	98.9%	2.9	0.2	A
	Right Turn	20	21	106.5%	1.8	0.7	A
	Subtotal	900	891	99.0%	2.9	0.2	A
Total		2,090	1,738	83.2%	5.2	0.8	A

Intersection				
Intersection Delay, s/veh	4.8			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	87	217	33	33
Demand Flow Rate, veh/h	89	223	33	33
Vehicles Circulating, veh/h	89	33	89	223
Vehicles Exiting, veh/h	167	89	89	33
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	5	5	5	5
Ped Cap Adj	0.999	0.999	0.999	0.999
Approach Delay, s/veh	4.3	5.3	3.8	4.4
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	89	223	33	33
Cap Entry Lane, veh/h	1034	1093	1034	904
Entry HV Adj Factor	0.978	0.972	0.990	0.990
Flow Entry, veh/h	87	217	33	33
Cap Entry, veh/h	1010	1062	1023	895
V/C Ratio	0.086	0.204	0.032	0.037
Control Delay, s/veh	4.3	5.3	3.8	4.4
LOS	A	A	A	A
95th %tile Queue, veh	0	1	0	0

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Research Park
Existing Plus Project Conditions
PM Peak Hour

Intersection 25

Road B/County Road 25A

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	220	219	99.5%	93.1	40.9	F
	Through	40	38	93.8%	48.3	26.0	D
	Right Turn	30	32	106.0%	33.6	23.4	C
	Subtotal	290	288	99.3%	79.7	36.1	E
SB	Left Turn	20	18	92.0%	68.6	20.5	E
	Through	50	48	95.0%	69.9	17.5	E
	Right Turn	450	447	99.3%	56.9	14.4	E
	Subtotal	520	513	98.6%	58.8	14.7	E
EB	Left Turn	630	414	65.7%	42.2	3.6	D
	Through	280	194	69.2%	29.5	8.5	C
	Right Turn	10	6	60.0%	18.2	22.6	B
	Subtotal	920	614	66.7%	38.2	4.3	D
WB	Left Turn	20	19	95.5%	55.0	13.9	D
	Through	230	224	97.3%	45.2	5.8	D
	Right Turn	10	10	104.0%	29.9	18.0	C
	Subtotal	260	253	97.4%	45.3	5.2	D
Total		1,990	1,668	83.8%	53.9	9.6	D

HCM 2010 Signalized Intersection Summary

26: Road B & Road C

Existing + Project
Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕		↗	↕	
Traffic Volume (veh/h)	40	30	10	100	20	70	120	380	190	60	360	60
Future Volume (veh/h)	40	30	10	100	20	70	120	380	190	60	360	60
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1900	1845	1900	1900	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	43	33	6	109	22	55	130	413	156	65	391	54
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	129	99	18	171	35	86	285	618	231	213	641	88
Arrive On Green	0.14	0.14	0.14	0.17	0.17	0.17	0.16	0.25	0.25	0.12	0.21	0.21
Sat Flow, veh/h	930	714	130	997	201	503	1757	2492	930	1757	3092	424
Grp Volume(v), veh/h	82	0	0	186	0	0	130	289	280	65	220	225
Grp Sat Flow(s),veh/h/ln	1774	0	0	1701	0	0	1757	1752	1669	1757	1752	1764
Q Serve(g_s), s	2.5	0.0	0.0	6.1	0.0	0.0	4.0	8.9	9.1	2.0	6.9	7.0
Cycle Q Clear(g_c), s	2.5	0.0	0.0	6.1	0.0	0.0	4.0	8.9	9.1	2.0	6.9	7.0
Prop In Lane	0.52		0.07	0.59		0.30	1.00		0.56	1.00		0.24
Lane Grp Cap(c), veh/h	245	0	0	292	0	0	285	435	414	213	363	366
V/C Ratio(X)	0.33	0.00	0.00	0.64	0.00	0.00	0.46	0.66	0.68	0.31	0.61	0.61
Avail Cap(c_a), veh/h	826	0	0	959	0	0	380	810	772	321	752	757
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.4	0.0	0.0	23.2	0.0	0.0	22.8	20.4	20.4	24.1	21.6	21.7
Incr Delay (d2), s/veh	0.8	0.0	0.0	2.3	0.0	0.0	1.1	1.8	1.9	0.8	1.6	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	0.0	3.0	0.0	0.0	2.0	4.5	4.4	1.0	3.5	3.5
LnGrp Delay(d),s/veh	24.2	0.0	0.0	25.5	0.0	0.0	23.9	22.1	22.4	24.9	23.3	23.3
LnGrp LOS	C			C			C	C	C	C	C	C
Approach Vol, veh/h	82				186		699				510	
Approach Delay, s/veh	24.2				25.5		22.6				23.5	
Approach LOS	C				C		C				C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	1.3	20.0			13.4	13.7	17.6	15.4				
Change Period (Y+Rc), s	4.0	5.1			5.1	4.0	5.1	5.1				
Max Green Setting (Gmax), s	1.0	27.8			28.0	13.0	25.8	33.9				
Max Q Clear Time (g_c+14), s	1.0	11.1			4.5	6.0	9.0	8.1				
Green Ext Time (p_c), s	0.1	3.3			0.4	0.2	2.4	1.1				
Intersection Summary												
HCM 2010 Ctrl Delay			23.3									
HCM 2010 LOS			C									

HCM 2010 Signalized Intersection Summary

28: Road B & Marston Dr

Existing + Project
Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↖	↕		↖	↕	
Traffic Volume (veh/h)	80	20	130	40	10	10	80	380	70	20	360	40
Future Volume (veh/h)	80	20	130	40	10	10	80	380	70	20	360	40
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1900	1845	1900	1900	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	87	22	99	43	11	3	87	413	64	22	391	35
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	129	33	146	160	41	11	256	888	137	100	660	59
Arrive On Green	0.18	0.18	0.18	0.12	0.12	0.12	0.15	0.29	0.29	0.06	0.20	0.20
Sat Flow, veh/h	695	176	791	1328	340	93	1757	3042	468	1757	3252	290
Grp Volume(v), veh/h	208	0	0	57	0	0	87	237	240	22	210	216
Grp Sat Flow(s),veh/h/ln	1663	0	0	1761	0	0	1757	1752	1757	1757	1752	1789
Q Serve(g_s), s	6.5	0.0	0.0	1.6	0.0	0.0	2.5	6.2	6.3	0.7	6.0	6.1
Cycle Q Clear(g_c), s	6.5	0.0	0.0	1.6	0.0	0.0	2.5	6.2	6.3	0.7	6.0	6.1
Prop In Lane	0.42		0.48	0.75		0.05	1.00		0.27	1.00		0.16
Lane Grp Cap(c), veh/h	307	0	0	212	0	0	256	512	513	100	356	363
V/C Ratio(X)	0.68	0.00	0.00	0.27	0.00	0.00	0.34	0.46	0.47	0.22	0.59	0.60
Avail Cap(c_a), veh/h	837	0	0	887	0	0	535	1052	1055	346	864	882
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.2	0.0	0.0	22.3	0.0	0.0	21.4	16.2	16.2	25.1	20.1	20.2
Incr Delay (d2), s/veh	2.6	0.0	0.0	0.7	0.0	0.0	0.8	0.7	0.7	1.1	1.6	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.2	0.0	0.0	0.8	0.0	0.0	1.3	3.1	3.1	0.4	3.1	3.2
LnGrp Delay(d),s/veh	23.8	0.0	0.0	23.0	0.0	0.0	22.2	16.8	16.9	26.2	21.7	21.7
LnGrp LOS	C			C			C	B	B	C	C	C
Approach Vol, veh/h	208				57		564				448	
Approach Delay, s/veh	23.8				23.0		17.7				21.9	
Approach LOS	C				C		B				C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	7.2	21.4			15.4	12.1	16.4	11.8				
Change Period (Y+Rc), s	4.0	5.1			5.1	4.0	5.1	5.1				
Max Green Setting (Gmax), s	1.0	33.5			28.1	17.0	27.5	28.1				
Max Q Clear Time (g_c+I), s	1.0	8.3			8.5	4.5	8.1	3.6				
Green Ext Time (p_c), s	0.0	3.0			1.2	0.1	2.4	0.2				
Intersection Summary												
HCM 2010 Ctrl Delay			20.4									
HCM 2010 LOS			C									

HCM 2010 Signalized Intersection Summary

29: Road B & Road E

Existing + Project
Timing Plan: PM Peak Hour

	           											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	10	80	30	10	70	100	350	60	120	240	110
Future Volume (veh/h)	100	10	80	30	10	70	100	350	60	120	240	110
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1900	1845	1900	1900	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	109	11	62	33	11	12	109	380	52	130	261	70
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	178	18	101	120	40	44	276	635	86	293	588	154
Arrive On Green	0.18	0.18	0.18	0.12	0.12	0.12	0.16	0.21	0.21	0.17	0.21	0.21
Sat Flow, veh/h	1010	102	575	1016	339	370	1757	3096	420	1757	2740	720
Grp Volume(v), veh/h	182	0	0	56	0	0	109	214	218	130	165	166
Grp Sat Flow(s),veh/h/ln	1687	0	0	1725	0	0	1757	1752	1764	1757	1752	1708
Q Serve(g_s), s	5.8	0.0	0.0	1.7	0.0	0.0	3.2	6.4	6.5	3.9	4.7	4.9
Cycle Q Clear(g_c), s	5.8	0.0	0.0	1.7	0.0	0.0	3.2	6.4	6.5	3.9	4.7	4.9
Prop In Lane	0.60		0.34	0.59		0.21	1.00		0.24	1.00		0.42
Lane Grp Cap(c), veh/h	298	0	0	203	0	0	276	360	362	293	376	367
V/C Ratio(X)	0.61	0.00	0.00	0.28	0.00	0.00	0.39	0.59	0.60	0.44	0.44	0.45
Avail Cap(c_a), veh/h	849	0	0	862	0	0	334	961	967	334	961	936
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.0	0.0	0.0	23.3	0.0	0.0	21.9	20.8	20.8	21.7	19.7	19.8
Incr Delay (d2), s/veh	2.0	0.0	0.0	0.7	0.0	0.0	0.9	1.6	1.6	1.1	0.8	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	0.0	0.8	0.0	0.0	1.6	3.2	3.3	1.9	2.4	2.4
LnGrp Delay(d),s/veh	24.0	0.0	0.0	24.0	0.0	0.0	22.8	22.4	22.5	22.7	20.5	20.6
LnGrp LOS	C			C			C	C	C	C	C	C
Approach Vol, veh/h	182				56		541				461	
Approach Delay, s/veh	24.0				24.0		22.5				21.2	
Approach LOS	C				C		C				C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	3.6	17.0			15.3	13.1	17.5	11.9				
Change Period (Y+Rc), s	4.0	5.1			5.1	4.0	5.1	5.1				
Max Green Setting (Gmax), s	31.7				29.1	11.0	31.7	28.9				
Max Q Clear Time (g_c+1/9), s	8.5				7.8	5.2	6.9	3.7				
Green Ext Time (p_c), s	0.1	2.6			1.0	0.1	2.0	0.2				
Intersection Summary												
HCM 2010 Ctrl Delay			22.3									
HCM 2010 LOS			C									

HCM 2010 Signalized Intersection Summary

30: Road B & Parkland Ave

Existing + Project
Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	10	10	410	10	130	10	100	410	80	50	10
Future Volume (veh/h)	10	10	10	410	10	130	10	100	410	80	50	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.99	1.00		0.98
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1845	1900	1845	1900
Adj Flow Rate, veh/h	11	11	0	446	11	51	11	109	45	87	54	9
Adj No. of Lanes	1	1	0	1	2	0	1	1	1	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	53	262	0	509	704	626	264	277	233	153	95	16
Arrive On Green	0.03	0.14	0.00	0.29	0.40	0.40	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1757	1845	0	1757	1752	1558	1757	1845	1552	1028	638	106
Grp Volume(v), veh/h	11	11	0	446	11	51	11	109	45	150	0	0
Grp Sat Flow(s),veh/h/ln	1757	1845	0	1757	1752	1558	1757	1845	1552	1772	0	0
Q Serve(g_s), s	0.4	0.4	0.0	16.9	0.3	1.4	0.4	3.7	1.8	5.5	0.0	0.0
Cycle Q Clear(g_c), s	0.4	0.4	0.0	16.9	0.3	1.4	0.4	3.7	1.8	5.5	0.0	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	0.58		0.06
Lane Grp Cap(c), veh/h	53	262	0	509	704	626	264	277	233	263	0	0
V/C Ratio(X)	0.21	0.04	0.00	0.88	0.02	0.08	0.04	0.39	0.19	0.57	0.00	0.00
Avail Cap(c_a), veh/h	277	741	0	937	1357	1206	705	741	623	712	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	33.0	25.8	0.0	23.6	12.6	12.9	25.3	26.8	25.9	27.6	0.0	0.0
Incr Delay (d2), s/veh	1.9	0.1	0.0	5.0	0.0	0.1	0.1	0.9	0.4	1.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.2	0.0	8.9	0.1	0.6	0.2	1.9	0.8	2.8	0.0	0.0
LnGrp Delay(d),s/veh	34.9	25.9	0.0	28.5	12.6	13.0	25.4	27.7	26.3	29.6	0.0	0.0
LnGrp LOS	C	C		C	B	B	C	C	C	C		
Approach Vol, veh/h	22			508			165			150		
Approach Delay, s/veh	30.4			26.6			27.2			29.6		
Approach LOS	C			C			C			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		15.6	24.2	15.0		14.9	6.1	33.1				
Change Period (Y+Rc), s		5.1	4.0	5.1		4.6	4.0	5.1				
Max Green Setting (Gmax), s		28.0	37.2	28.0		28.0	11.0	54.0				
Max Q Clear Time (g_c+I1), s		5.7	18.9	2.4		7.5	2.4	3.4				
Green Ext Time (p_c), s		0.7	1.4	0.0		0.7	0.0	0.4				
Intersection Summary												
HCM 2010 Ctrl Delay			27.4									
HCM 2010 LOS			C									

HCM 2010 Roundabout
31: Harry Lorenzo Ave & Corporate Limit/Farmers Central Rd

Existing + Project
Timing Plan: PM Peak Hour

Intersection				
Intersection Delay, s/veh	5.3			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	33	76	164	261
Demand Flow Rate, veh/h	33	77	167	266
Vehicles Circulating, veh/h	310	144	56	77
Vehicles Exiting, veh/h	33	79	287	144
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.8	4.5	4.9	6.0
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	33	77	167	266
Cap Entry Lane, veh/h	829	978	1068	1046
Entry HV Adj Factor	0.993	0.984	0.980	0.980
Flow Entry, veh/h	33	76	164	261
Cap Entry, veh/h	823	963	1047	1025
V/C Ratio	0.040	0.079	0.156	0.254
Control Delay, s/veh	4.8	4.5	4.9	6.0
LOS	A	A	A	A
95th %tile Queue, veh	0	0	1	1

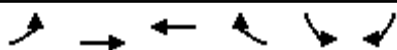
Intersection			
Intersection Delay, s/veh	6.2		
Intersection LOS	A		
Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	358	120	207
Demand Flow Rate, veh/h	369	124	214
Vehicles Circulating, veh/h	23	224	101
Vehicles Exiting, veh/h	292	168	247
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	5	5	5
Ped Cap Adj	0.999	0.999	0.999
Approach Delay, s/veh	6.7	5.5	5.7
Approach LOS	A	A	A
Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	369	124	214
Cap Entry Lane, veh/h	1104	903	1021
Entry HV Adj Factor	0.970	0.968	0.967
Flow Entry, veh/h	358	120	207
Cap Entry, veh/h	1070	874	987
V/C Ratio	0.334	0.137	0.210
Control Delay, s/veh	6.7	5.5	5.7
LOS	A	A	A
95th %tile Queue, veh	1	0	1

Intersection												
Int Delay, s/veh	3.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	20	10	10	10	40	10	240	10	60	130	10
Future Vol, veh/h	20	20	10	10	10	40	10	240	10	60	130	10
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	22	22	11	11	11	43	11	261	11	65	141	11
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	603	581	157	592	581	277	157	0	0	277	0	0
Stage 1	282	282	-	294	294	-	-	-	-	-	-	-
Stage 2	321	299	-	298	287	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	409	424	886	416	424	759	1417	-	-	1280	-	-
Stage 1	723	676	-	712	668	-	-	-	-	-	-	-
Stage 2	689	664	-	709	673	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	355	393	878	371	393	752	1410	-	-	1274	-	-
Mov Cap-2 Maneuver	355	393	-	371	393	-	-	-	-	-	-	-
Stage 1	713	635	-	702	659	-	-	-	-	-	-	-
Stage 2	630	655	-	636	632	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	14.8		12.2		0.3		2.4					
HCM LOS	B		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1410	-	-	422	568	1274	-	-				
HCM Lane V/C Ratio	0.008	-	-	0.129	0.115	0.051	-	-				
HCM Control Delay (s)	7.6	0	-	14.8	12.2	8	0	-				
HCM Lane LOS	A	A	-	B	B	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.4	0.4	0.2	-	-				

Intersection				
Intersection Delay, s/veh	6.3			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	109	217	327	76
Demand Flow Rate, veh/h	113	223	337	78
Vehicles Circulating, veh/h	212	147	101	235
Vehicles Exiting, veh/h	101	291	224	135
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	5	5	5	5
Ped Cap Adj	0.999	0.999	0.999	0.999
Approach Delay, s/veh	5.3	6.1	7.1	4.9
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	113	223	337	78
Cap Entry Lane, veh/h	914	975	1021	893
Entry HV Adj Factor	0.965	0.973	0.970	0.979
Flow Entry, veh/h	109	217	327	76
Cap Entry, veh/h	882	949	991	874
V/C Ratio	0.124	0.229	0.330	0.087
Control Delay, s/veh	5.3	6.1	7.1	4.9
LOS	A	A	A	A
95th %tile Queue, veh	0	1	1	0

HCM 2010 Signalized Intersection Summary 35: Parkland Ave & Harry Lorenzo Ave

Existing + Project
Timing Plan: PM Peak Hour

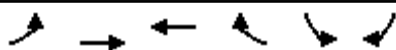


Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	150	350	410	10	60	140		
Future Volume (veh/h)	150	350	410	10	60	140		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			0.99	1.00	0.99		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1845	1845	1845	1900	1845	1900		
Adj Flow Rate, veh/h	163	380	446	9	65	47		
Adj No. of Lanes	1	2	2	0	0	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	3	3	3	3	0	0		
Cap, veh/h	365	1954	790	16	185	134		
Arrive On Green	0.21	0.56	0.22	0.22	0.19	0.19		
Sat Flow, veh/h	1757	3597	3605	71	960	694		
Grp Volume(v), veh/h	163	380	222	233	113	0		
Grp Sat Flow(s),veh/h/ln	1757	1752	1752	1831	1669	0		
Q Serve(g_s), s	3.8	2.5	5.2	5.2	2.7	0.0		
Cycle Q Clear(g_c), s	3.8	2.5	5.2	5.2	2.7	0.0		
Prop In Lane	1.00			0.04	0.58	0.42		
Lane Grp Cap(c), veh/h	365	1954	394	412	322	0		
V/C Ratio(X)	0.45	0.19	0.56	0.57	0.35	0.00		
Avail Cap(c_a), veh/h	839	4025	957	1000	897	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	16.1	5.1	16.0	16.0	16.2	0.0		
Incr Delay (d2), s/veh	0.9	0.0	1.3	1.2	0.6	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.9	1.2	2.7	2.8	1.3	0.0		
LnGrp Delay(d),s/veh	16.9	5.2	17.3	17.2	16.9	0.0		
LnGrp LOS	B	A	B	B	B			
Approach Vol, veh/h		543	455		113			
Approach Delay, s/veh		8.7	17.2		16.9			
Approach LOS		A	B		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		31.7		14.8	15.5	16.3		
Change Period (Y+Rc), s		5.8		5.8	5.8	5.8		
Max Green Setting (Gmax), s		53.4		25.0	22.2	25.4		
Max Q Clear Time (g_c+I1), s		4.5		4.7	5.8	7.2		
Green Ext Time (p_c), s		2.8		0.3	0.4	2.5		
Intersection Summary								
HCM 2010 Ctrl Delay			13.0					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary

36: Parkland Ave & Pioneer Ave

Existing + Project
Timing Plan: PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	310	100	30	50	20	390		
Future Volume (veh/h)	310	100	30	50	20	390		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			0.99	1.00	0.99		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1845	1845	1845	1900	1845	1900		
Adj Flow Rate, veh/h	337	109	33	5	22	73		
Adj No. of Lanes	1	1	1	0	0	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	3	3	3	3	0	0		
Cap, veh/h	473	952	158	24	71	235		
Arrive On Green	0.27	0.52	0.10	0.10	0.19	0.19		
Sat Flow, veh/h	1757	1845	1563	237	367	1219		
Grp Volume(v), veh/h	337	109	0	38	96	0		
Grp Sat Flow(s),veh/h/ln	1757	1845	0	1800	1603	0		
Q Serve(g_s), s	6.9	1.2	0.0	0.8	2.0	0.0		
Cycle Q Clear(g_c), s	6.9	1.2	0.0	0.8	2.0	0.0		
Prop In Lane	1.00			0.13	0.23	0.76		
Lane Grp Cap(c), veh/h	473	952	0	182	310	0		
V/C Ratio(X)	0.71	0.11	0.00	0.21	0.31	0.00		
Avail Cap(c_a), veh/h	846	2415	0	1228	1054	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	13.2	5.0	0.0	16.5	13.8	0.0		
Incr Delay (d2), s/veh	2.0	0.1	0.0	0.6	0.6	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	8.5	0.6	0.0	0.4	1.0	0.0		
LnGrp Delay(d),s/veh	15.2	5.0	0.0	17.0	14.4	0.0		
LnGrp LOS	B	A		B	B			
Approach Vol, veh/h		446	38		96			
Approach Delay, s/veh		12.7	17.0		14.4			
Approach LOS		B	B		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		26.4		13.5	16.5	9.8		
Change Period (Y+Rc), s		5.8		5.8	5.8	5.8		
Max Green Setting (Gmax), s		52.2		26.2	19.2	27.2		
Max Q Clear Time (g_c+I1), s		3.2		4.0	8.9	2.8		
Green Ext Time (p_c), s		0.3		0.5	0.8	0.1		
Intersection Summary								
HCM 2010 Ctrl Delay			13.3					
HCM 2010 LOS			B					
Notes								

User approved volume balancing among the lanes for turning movement.

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing + Project Conditions (Mitigated)
AM Peak Hour

Intersection 3

SR 113 NB Ramps/Main Street

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	290	306	105.4%	26.4	3.4	C
	Through						
	Right Turn	500	501	100.2%	17.3	4.0	B
	Subtotal	790	807	102.1%	20.9	3.4	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	640	647	101.1%	28.2	14.9	C
	Right Turn	20	20	100.0%	30.0	27.5	C
	Subtotal	660	667	101.1%	28.3	15.2	C
WB	Left Turn	30	29	96.3%	34.3	9.1	C
	Through	1,450	1,449	99.9%	17.2	2.4	B
	Right Turn						
	Subtotal	1,480	1,478	99.8%	17.6	2.3	B
Total		2,930	2,951	100.7%	20.9	3.9	C

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing + Project Conditions (Mitigated)
AM Peak Hour

Intersection 5

Interstate-5 NB Off-Ramp/Main Street

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	1,120	1,142	102.0%	61.9	23.2	E
	Through						
	Right Turn	10	11	107.0%	52.6	27.0	D
	Subtotal	1,130	1,153	102.0%	61.8	23.2	E
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	390	390	99.9%	17.1	2.2	B
	Right Turn						
	Subtotal	390	390	99.9%	17.1	2.2	B
WB	Left Turn						
	Through	290	283	97.6%	19.0	3.8	B
	Right Turn						
	Subtotal	290	283	97.6%	19.0	3.8	B
Total		1,810	1,826	100.9%	46.8	16.7	D

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing + Project Conditions - MITIGATED
AM Peak Hour

Intersection 12 Bourn Dr-Harry Lorenzo Ave/E Gibson Rd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	230	229	99.6%	72.2	12.5	E
	Through	30	28	94.7%	42.9	15.8	D
	Right Turn	50	49	97.6%	31.6	14.8	C
	Subtotal	310	306	98.8%	62.0	12.5	E
SB	Left Turn	50	52	103.2%	45.5	9.0	D
	Through	60	66	109.7%	46.0	9.9	D
	Right Turn	140	145	103.8%	32.7	5.5	C
	Subtotal	250	263	105.1%	38.7	5.8	D
EB	Left Turn	90	93	103.8%	73.3	16.4	E
	Through	1,030	1,010	98.1%	42.3	8.1	D
	Right Turn	140	140	99.9%	43.9	14.6	D
	Subtotal	1,260	1,244	98.7%	44.9	8.2	D
WB	Left Turn	20	20	100.5%	105.5	24.4	F
	Through	1,140	1,148	100.7%	72.3	10.7	E
	Right Turn	30	32	105.3%	73.5	21.1	E
	Subtotal	1,190	1,200	100.8%	72.9	10.9	E
Total		3,010	3,012	100.1%	56.8	7.4	E

HCM Signalized Intersection Capacity Analysis

14: CR 102 & E. Gibson Rd/CR 24

Existing + Project (Improvements)

Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	400	10	110	10	10	10	140	310	0	10	180	560
Future Volume (vph)	400	10	110	10	10	10	140	310	0	10	180	560
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	5.2	5.2		3.7		3.0	5.2		3.0	5.2	5.2
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85		0.95		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1649	1657	1553		1716		1736	3471		1736	3471	1531
Flt Permitted	0.95	0.95	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1649	1657	1553		1716		1736	3471		1736	3471	1531
Peak-hour factor, PHF	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	488	12	134	12	12	12	171	378	0	12	220	683
RTOR Reduction (vph)	0	0	107	0	11	0	0	0	0	0	0	516
Lane Group Flow (vph)	249	251	27	0	25	0	171	378	0	12	220	167
Confl. Bikes (#/hr)												2
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	2	2		6	6		3	8		7	4	
Permitted Phases			2									4
Actuated Green, G (s)	15.0	15.0	15.0		4.0		12.5	36.0		1.7	18.0	18.0
Effective Green, g (s)	15.0	15.0	15.0		4.0		12.5	36.0		1.7	18.0	18.0
Actuated g/C Ratio	0.20	0.20	0.20		0.05		0.17	0.49		0.02	0.24	0.24
Clearance Time (s)	5.2	5.2	5.2		3.7		3.0	5.2		3.0	5.2	5.2
Vehicle Extension (s)	1.0	1.0	1.0		1.0		1.0	1.5		1.0	1.5	1.5
Lane Grp Cap (vph)	335	336	315		93		294	1693		39	846	373
v/s Ratio Prot	0.15	c0.15			c0.01		c0.10	c0.11		0.01	0.06	
v/s Ratio Perm			0.02									c0.11
v/c Ratio	0.74	0.75	0.09		0.27		0.58	0.22		0.31	0.26	0.45
Uniform Delay, d1	27.6	27.6	23.8		33.5		28.2	10.9		35.5	22.5	23.7
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	7.6	7.7	0.0		0.6		1.9	0.0		1.6	0.1	0.3
Delay (s)	35.2	35.3	23.9		34.0		30.1	10.9		37.1	22.6	24.0
Level of Service	D	D	C		C		C	B		D	C	C
Approach Delay (s)		32.9			34.0			16.9			23.8	
Approach LOS		C			C			B			C	
Intersection Summary												
HCM 2000 Control Delay			24.9				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.53									
Actuated Cycle Length (s)			73.8				Sum of lost time (s)			19.1		
Intersection Capacity Utilization			74.3%				ICU Level of Service			D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM 2010 Signalized Intersection Summary
16: Parkland Ave/Pioneer Ave & Farmers Central Rd

Existing + Project (Improvements)
Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	30	10	30	20	270	10	380	10	100	380	20
Future Volume (veh/h)	40	30	10	30	20	270	10	380	10	100	380	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.95
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1900	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	43	33	6	33	22	32	11	413	10	109	413	21
Adj No. of Lanes	0	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	128	98	18	238	91	132	54	515	12	254	697	35
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.03	0.29	0.29	0.14	0.40	0.40
Sat Flow, veh/h	929	713	130	1757	673	979	1757	1792	43	1757	1736	88
Grp Volume(v), veh/h	82	0	0	33	0	54	11	0	423	109	0	434
Grp Sat Flow(s),veh/h/ln	1772	0	0	1757	0	1653	1757	0	1835	1757	0	1824
Q Serve(g_s), s	2.7	0.0	0.0	1.1	0.0	1.9	0.4	0.0	14.0	3.7	0.0	12.2
Cycle Q Clear(g_c), s	2.7	0.0	0.0	1.1	0.0	1.9	0.4	0.0	14.0	3.7	0.0	12.2
Prop In Lane	0.52		0.07	1.00		0.59	1.00		0.02	1.00		0.05
Lane Grp Cap(c), veh/h	244	0	0	238	0	223	54	0	527	254	0	733
V/C Ratio(X)	0.34	0.00	0.00	0.14	0.00	0.24	0.21	0.00	0.80	0.43	0.00	0.59
Avail Cap(c_a), veh/h	758	0	0	754	0	709	295	0	942	295	0	936
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.5	0.0	0.0	25.0	0.0	25.3	31.0	0.0	21.6	25.5	0.0	15.4
Incr Delay (d2), s/veh	0.8	0.0	0.0	0.3	0.0	0.6	1.9	0.0	2.9	1.1	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.0	0.5	0.0	0.9	0.2	0.0	7.5	1.9	0.0	6.3
LnGrp Delay(d),s/veh	26.3	0.0	0.0	25.2	0.0	25.9	32.8	0.0	24.5	26.7	0.0	16.1
LnGrp LOS	C			C		C	C		C	C		B
Approach Vol, veh/h	82				87		434				543	
Approach Delay, s/veh	26.3				25.6		24.7				18.3	
Approach LOS	C				C		C				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	13.5	23.9			14.1	6.0	31.4	14.0				
Change Period (Y+Rc), s	4.0	5.1			5.1	4.0	5.1	5.1				
Max Green Setting (Gmax), s	11.0	33.6			28.0	11.0	33.6	28.1				
Max Q Clear Time (g_c+I1), s	5.7	16.0			4.7	2.4	14.2	3.9				
Green Ext Time (p_c), s	0.1	2.2			0.4	0.0	2.4	0.3				
Intersection Summary												
HCM 2010 Ctrl Delay			21.8									
HCM 2010 LOS			C									

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Research Park
Existing Plus Project Mitigated
AM Peak Hour

Intersection 21

SR 113 SB Ramps/County Road 25A

Roundabout

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	190	189	99.4%	4.3	0.4	A
	Through	10	10	103.0%	6.2	3.4	A
	Right Turn	50	50	99.2%	3.9	0.5	A
	Subtotal	250	249	99.5%	4.3	0.4	A
EB	Left Turn						
	Through	250	252	100.7%	7.3	0.6	A
	Right Turn	330	323	98.0%	4.7	0.3	A
	Subtotal	580	575	99.2%	5.8	0.4	A
WB	Left Turn	650	646	99.3%	6.0	0.6	A
	Through	330	344	104.3%	8.3	0.8	A
	Right Turn						
	Subtotal	980	990	101.0%	6.8	0.6	A
Total		1,810	1,814	100.2%	6.1	0.4	A

Intersection 22

SR 113 NB Ramps/County Road 25A

Roundabout

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	120	123	102.2%	4.1	0.3	A
	Through						
	Right Turn	350	353	100.9%	4.3	0.1	A
	Subtotal	470	476	101.2%	4.3	0.1	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	30	28	92.3%	4.7	0.7	A
	Through	410	412	100.4%	7.3	0.5	A
	Right Turn						
	Subtotal	440	440	99.9%	7.1	0.5	A
WB	Left Turn						
	Through	860	865	100.6%	9.5	0.3	A
	Right Turn	250	257	102.6%	5.8	0.2	A
	Subtotal	1,110	1,122	101.1%	8.6	0.3	A
Total		2,020	2,037	100.8%	7.3	0.2	A

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Research Park
Existing Plus Project Mitigated
AM Peak Hour

Intersection 23

Road A/County Road 25A

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn	20	20	99.5%	4.5	1.4	A
	Subtotal	20	20	99.5%	4.5	1.4	A
SB	Left Turn						
	Through						
	Right Turn	160	162	101.3%	11.6	4.3	B
	Subtotal	160	162	101.3%	11.6	4.3	B
EB	Left Turn						
	Through	540	543	100.5%	1.3	0.2	A
	Right Turn	220	222	100.7%	1.1	0.3	A
	Subtotal	760	764	100.6%	1.3	0.2	A
WB	Left Turn						
	Through	950	959	100.9%	2.2	0.1	A
	Right Turn	10	11	110.0%	3.0	0.5	A
	Subtotal	960	970	101.0%	2.2	0.1	A
Total		1,900	1,916	100.8%	2.7	0.4	A

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Research Park
Existing Plus Project Mitigated
AM Peak Hour

Intersection 25

Road B/County Road 25A

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	100	98	98.2%	41.6	5.5	D
	Through	20	17	87.0%	36.5	15.2	D
	Right Turn	10	9	91.0%	8.4	8.9	A
	Subtotal	130	125	95.9%	38.5	5.0	D
SB	Left Turn	10	9	86.0%	36.2	28.2	D
	Through	60	61	102.3%	27.5	6.3	C
	Right Turn	530	540	101.9%	16.0	2.6	B
	Subtotal	600	610	101.7%	17.7	2.1	B
EB	Left Turn	450	449	99.7%	27.2	3.2	C
	Through	100	103	102.8%	13.0	3.6	B
	Right Turn	10	10	99.0%	5.9	10.0	A
	Subtotal	560	561	100.2%	24.1	2.6	C
WB	Left Turn	30	30	100.0%	55.7	9.8	E
	Through	330	331	100.3%	36.2	3.6	D
	Right Turn	10	11	112.0%	15.4	11.9	B
	Subtotal	370	372	100.6%	36.9	3.1	D
Total		1,660	1,668	100.5%	25.5	2.1	C

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing + Project (Mitigated)
PM Peak Hour

Intersection 3

SR 113 NB Ramps/Main Street

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	250	239	95.6%	48.4	3.5	D
	Through						
	Right Turn	690	595	86.2%	123.8	47.5	F
	Subtotal	940	834	88.7%	102.7	33.3	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	1,000	934	93.4%	96.0	9.6	F
	Right Turn	30	30	100.3%	117.4	21.5	F
	Subtotal	1,030	965	93.6%	96.7	9.7	F
WB	Left Turn	50	50	99.4%	31.3	14.3	C
	Through	1,250	1,154	92.3%	11.7	5.8	B
	Right Turn						
	Subtotal	1,300	1,204	92.6%	12.5	5.9	B
Total		3,270	3,002	91.8%	64.6	10.3	E

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing + Project (Mitigated)
PM Peak Hour

Intersection 5

Interstate-5 NB Off-Ramp/Main Street

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	800	692	86.4%	22.9	0.9	C
	Through						
	Right Turn	20	23	112.5%	17.8	2.1	B
	Subtotal	820	714	87.1%	22.8	0.9	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	580	555	95.7%	13.3	2.0	B
	Right Turn						
	Subtotal	580	555	95.7%	13.3	2.0	B
WB	Left Turn						
	Through	710	627	88.3%	8.9	0.5	A
	Right Turn						
	Subtotal	710	627	88.3%	8.9	0.5	A
Total		2,110	1,896	89.9%	15.4	0.8	B

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing + Project Conditions - MITIGATED
PM Peak Hour

Intersection 12

Bourn Dr-Harry Lorenzo Ave/E Gibson Rd

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	160	158	99.0%	66.6	13.3	E
	Through	60	65	107.5%	42.4	14.7	D
	Right Turn	10	10	98.0%	37.9	29.2	D
	Subtotal	230	233	101.2%	58.8	11.1	E
SB	Left Turn	30	28	92.7%	55.7	13.3	E
	Through	40	42	104.8%	48.5	11.5	D
	Right Turn	80	81	100.8%	17.2	5.2	B
	Subtotal	150	150	100.2%	33.6	4.0	C
EB	Left Turn	190	184	96.7%	97.2	17.1	F
	Through	1,540	1,511	98.1%	61.1	11.6	E
	Right Turn	170	167	98.4%	58.1	12.1	E
	Subtotal	1,900	1,862	98.0%	64.4	11.9	E
WB	Left Turn	100	96	96.2%	81.5	13.1	F
	Through	1,110	1,128	101.6%	40.9	7.4	D
	Right Turn	80	80	99.4%	39.5	11.4	D
	Subtotal	1,290	1,304	101.1%	43.9	7.7	D
Total		3,570	3,549	99.4%	55.2	8.5	E

HCM Signalized Intersection Capacity Analysis

14: CR 102 & E. Gibson Rd/CR 24

Existing + Project (Improvements)

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	800	10	90	10	10	10	140	440	0	10	500	560
Future Volume (vph)	800	10	90	10	10	10	140	440	0	10	500	560
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	5.2	5.2		3.7		3.0	5.2		3.0	5.2	5.2
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85		0.95		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1649	1655	1553		1716		1736	3471		1736	3471	1531
Flt Permitted	0.95	0.95	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1649	1655	1553		1716		1736	3471		1736	3471	1531
Peak-hour factor, PHF	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	976	12	110	12	12	12	171	537	0	12	610	683
RTOR Reduction (vph)	0	0	73	0	11	0	0	0	0	0	0	513
Lane Group Flow (vph)	498	490	37	0	25	0	171	537	0	12	610	170
Confl. Bikes (#/hr)												2
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	2	2		6	6		3	8		7	4	
Permitted Phases			2									4
Actuated Green, G (s)	34.3	34.3	34.3		6.4		12.3	42.9		2.1	25.6	25.6
Effective Green, g (s)	34.3	34.3	34.3		6.4		12.3	42.9		2.1	25.6	25.6
Actuated g/C Ratio	0.33	0.33	0.33		0.06		0.12	0.42		0.02	0.25	0.25
Clearance Time (s)	5.2	5.2	5.2		3.7		3.0	5.2		3.0	5.2	5.2
Vehicle Extension (s)	1.0	1.0	1.0		1.0		1.0	1.5		1.0	1.5	1.5
Lane Grp Cap (vph)	550	552	518		106		207	1448		35	864	381
v/s Ratio Prot	c0.30	0.30			c0.01		c0.10	c0.15		0.01	c0.18	
v/s Ratio Perm			0.02									0.11
v/c Ratio	0.91	0.89	0.07		0.23		0.83	0.37		0.34	0.71	0.45
Uniform Delay, d1	32.7	32.4	23.4		45.9		44.2	20.6		49.7	35.2	32.6
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	18.0	15.5	0.0		0.4		21.8	0.1		2.1	2.2	0.3
Delay (s)	50.7	47.9	23.4		46.3		66.0	20.7		51.8	37.3	32.9
Level of Service	D	D	C		D		E	C		D	D	C
Approach Delay (s)		46.7			46.3			31.7			35.2	
Approach LOS		D			D			C			D	
Intersection Summary												
HCM 2000 Control Delay			38.5				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			0.76									
Actuated Cycle Length (s)			102.8				Sum of lost time (s)			19.1		
Intersection Capacity Utilization			85.8%				ICU Level of Service			E		
Analysis Period (min)			15									
c Critical Lane Group												

HCM 2010 Signalized Intersection Summary
16: Parkland Ave/Pioneer Ave & Farmers Central Rd

Existing + Project (Improvements)
Timing Plan: PM Peak Hour

																		
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR						
Lane Configurations																		
Traffic Volume (veh/h)	30	30	10	30	20	270	10	360	40	230	400	40						
Future Volume (veh/h)	30	30	10	30	20	270	10	360	40	230	400	40						
Number	7	4	14	3	8	18	5	2	12	1	6	16						
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0						
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.96						
Parking Bus, 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						
Adj Sat Flow, veh/h/ln	1900	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900						
Adj Flow Rate, veh/h	33	33	4	33	22	20	11	391	40	250	435	41						
Adj No. of Lanes	0	1	0	1	1	0	1	1	0	1	1	0						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92						
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3						
Cap, veh/h	108	108	13	222	112	101	53	473	48	299	707	67						
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.03	0.29	0.29	0.17	0.43	0.43						
Sat Flow, veh/h	840	840	102	1757	884	803	1757	1641	168	1757	1653	156						
Grp Volume(v), veh/h	70	0	0	33	0	42	11	0	431	250	0	476						
Grp Sat Flow(s),veh/h/ln	1782	0	0	1757	0	1687	1757	0	1809	1757	0	1809						
Q Serve(g_s), s	2.4	0.0	0.0	1.1	0.0	1.5	0.4	0.0	15.0	9.3	0.0	13.7						
Cycle Q Clear(g_c), s	2.4	0.0	0.0	1.1	0.0	1.5	0.4	0.0	15.0	9.3	0.0	13.7						
Prop In Lane	0.47		0.06	1.00		0.48	1.00		0.09	1.00		0.09						
Lane Grp Cap(c), veh/h	229	0	0	222	0	213	53	0	521	299	0	774						
V/C Ratio(X)	0.31	0.00	0.00	0.15	0.00	0.20	0.21	0.00	0.83	0.84	0.00	0.62						
Avail Cap(c_a), veh/h	742	0	0	732	0	702	287	0	772	418	0	907						
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00						
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00						
Uniform Delay (d), s/veh	26.6	0.0	0.0	26.2	0.0	26.3	31.8	0.0	22.4	27.0	0.0	14.9						
Incr Delay (d2), s/veh	0.7	0.0	0.0	0.3	0.0	0.4	1.9	0.0	4.8	10.0	0.0	0.9						
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.0	0.6	0.0	0.7	0.2	0.0	8.1	5.3	0.0	6.9						
LnGrp Delay(d),s/veh	27.3	0.0	0.0	26.5	0.0	26.8	33.7	0.0	27.2	37.0	0.0	15.9						
LnGrp LOS	C			C		C	C		C	D		B						
Approach Vol, veh/h	70				75				442									
Approach Delay, s/veh	27.3				26.6				27.3									
Approach LOS	C				C				C									
Timer	1	2	3	4	5	6	7	8										
Assigned Phs	1	2			4	5	6	8										
Phs Duration (G+Y+Rc), s	15.4	24.5			13.7	6.0	33.9	13.6										
Change Period (Y+Rc), s	4.0	5.1			5.1	4.0	5.1	5.1										
Max Green Setting (Gmax), s	16.0	28.7			28.0	11.0	33.7	28.0										
Max Q Clear Time (g_c+I1), s	11.3	17.0			4.4	2.4	15.7	3.5										
Green Ext Time (p_c), s	0.3	1.9			0.3	0.0	2.6	0.2										
Intersection Summary																		
HCM 2010 Ctrl Delay																		
HCM 2010 LOS																		

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Research Park
Existing Plus Project Mitigated
PM Peak Hour

Intersection 21

SR 113 SB Ramps/County Road 25A

Roundabout

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	150	151	100.7%	3.9	0.3	A
	Through						
	Right Turn	40	38	96.0%	3.9	0.4	A
	Subtotal	190	189	99.7%	3.9	0.3	A
EB	Left Turn						
	Through	280	281	100.4%	7.8	0.6	A
	Right Turn	130	132	101.5%	4.0	0.2	A
	Subtotal	410	413	100.8%	6.6	0.5	A
WB	Left Turn	510	506	99.2%	5.6	0.2	A
	Through	460	463	100.6%	8.0	0.3	A
	Right Turn						
	Subtotal	970	969	99.9%	6.8	0.2	A
Total		1,570	1,571	100.1%	6.4	0.2	A

Intersection 22

SR 113 NB Ramps/County Road 25A

Roundabout

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	250	245	98.0%	4.8	0.3	A
	Through	10	10	103.0%	5.8	4.2	A
	Right Turn	610	613	100.5%	5.1	0.2	A
	Subtotal	870	869	99.8%	5.0	0.2	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	30	28	94.7%	4.9	0.6	A
	Through	400	406	101.5%	7.1	0.5	A
	Right Turn						
	Subtotal	430	434	101.0%	7.0	0.4	A
WB	Left Turn						
	Through	720	724	100.5%	8.9	0.3	A
	Right Turn	300	302	100.6%	5.5	0.3	A
	Subtotal	1,020	1,026	100.5%	7.9	0.3	A
Total		2,320	2,329	100.4%	6.6	0.2	A

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Research Park
Existing Plus Project Mitigated
PM Peak Hour

Intersection 23

Road A/County Road 25A

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn	40	39	96.8%	6.3	2.4	A
	Subtotal	40	39	96.8%	6.3	2.4	A
SB	Left Turn						
	Through						
	Right Turn	140	136	97.2%	8.4	1.5	A
	Subtotal	140	136	97.2%	8.4	1.5	A
EB	Left Turn						
	Through	880	887	100.8%	1.9	0.1	A
	Right Turn	130	131	100.7%	1.3	0.3	A
	Subtotal	1,010	1,018	100.8%	1.8	0.1	A
WB	Left Turn						
	Through	880	891	101.2%	1.8	0.2	A
	Right Turn	20	20	98.5%	2.3	0.5	A
	Subtotal	900	910	101.1%	1.9	0.2	A
Total		2,090	2,103	100.6%	2.4	0.2	A

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Research Park
Existing Plus Project Mitigated
PM Peak Hour

Intersection 25

Road B/County Road 25A

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	220	223	101.1%	55.5	15.6	E
	Through	40	41	101.5%	34.0	8.6	C
	Right Turn	30	33	111.3%	19.4	6.9	B
	Subtotal	290	297	102.2%	48.6	14.0	D
SB	Left Turn	20	20	97.5%	41.3	13.0	D
	Through	50	49	97.0%	30.5	7.4	C
	Right Turn	450	452	100.3%	12.4	2.4	B
	Subtotal	520	520	99.9%	15.8	2.4	B
EB	Left Turn	630	634	100.7%	33.5	4.7	C
	Through	280	283	101.1%	19.7	3.7	B
	Right Turn	10	10	103.0%	17.3	14.2	B
	Subtotal	920	928	100.8%	29.1	3.8	C
WB	Left Turn	20	20	98.5%	47.6	8.0	D
	Through	230	235	102.3%	39.6	5.1	D
	Right Turn	10	12	115.0%	13.5	9.2	B
	Subtotal	260	267	102.5%	39.1	4.7	D
Total		1,990	2,010	101.0%	30.0	3.9	C

HCM 2010 Signalized Intersection Summary

1: East St & Main St/E Main St

Existing Plus Approved Projects

Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	380	70	80	590	380	60	340	80	160	210	50
Future Volume (veh/h)	50	380	70	80	590	380	60	340	80	160	210	50
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		1.00
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	54	413	28	87	641	348	65	370	69	174	228	38
Adj No. of Lanes	1	2	1	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	66	1186	522	110	792	430	80	542	100	222	796	131
Arrive On Green	0.04	0.34	0.34	0.06	0.36	0.36	0.05	0.18	0.18	0.13	0.26	0.26
Sat Flow, veh/h	1757	3505	1542	1757	2177	1182	1757	2948	544	1757	3013	495
Grp Volume(v), veh/h	54	413	28	87	516	473	65	218	221	174	131	135
Grp Sat Flow(s),veh/h/ln	1757	1752	1542	1757	1752	1607	1757	1752	1739	1757	1752	1755
Q Serve(g_s), s	1.5	4.3	0.6	2.4	13.0	13.0	1.8	5.7	5.8	4.7	2.9	3.0
Cycle Q Clear(g_c), s	1.5	4.3	0.6	2.4	13.0	13.0	1.8	5.7	5.8	4.7	2.9	3.0
Prop In Lane	1.00		1.00	1.00		0.74	1.00		0.31	1.00		0.28
Lane Grp Cap(c), veh/h	66	1186	522	110	637	585	80	322	320	222	463	464
V/C Ratio(X)	0.82	0.35	0.05	0.79	0.81	0.81	0.81	0.68	0.69	0.78	0.28	0.29
Avail Cap(c_a), veh/h	715	2853	1255	715	1426	1308	858	1426	1416	858	1426	1428
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.5	12.2	11.0	22.7	14.1	14.1	23.2	18.7	18.8	20.8	14.4	14.4
Incr Delay (d2), s/veh	9.2	0.1	0.0	4.7	0.9	1.0	7.0	0.9	1.0	2.3	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	2.1	0.3	1.3	6.3	5.8	1.0	2.8	2.8	2.4	1.4	1.5
LnGrp Delay(d),s/veh	32.7	12.3	11.0	27.4	15.0	15.1	30.3	19.6	19.7	23.1	14.5	14.5
LnGrp LOS	C	B	B	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		495			1076			504			440	
Approach Delay, s/veh		14.4			16.1			21.1			17.9	
Approach LOS		B			B			C			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	4.8	22.0	5.2	17.1	6.1	20.7	9.2	13.1				
Change Period (Y+Rc), s	3.0	4.1	3.0	4.1	3.0	4.1	3.0	4.1				
Max Green Setting (Gmax), s	20.0	40.0	24.0	40.0	20.0	40.0	24.0	40.0				
Max Q Clear Time (g_c+I1), s	3.5	15.0	3.8	5.0	4.4	6.3	6.7	7.8				
Green Ext Time (p_c), s	0.0	2.7	0.0	0.7	0.0	1.4	0.1	1.2				
Intersection Summary												
HCM 2010 Ctrl Delay				17.1								
HCM 2010 LOS				B								

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing + Approved Conditions
AM Peak Hour

Intersection 2

Industrial Way-SR 113 SB Off-Ramp/Main Street

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	60	59	98.3%	29.1	10.0	C
	Through	20	22	112.0%	35.6	15.1	D
	Right Turn	50	51	101.0%	19.5	11.8	B
	Subtotal	130	132	101.5%	26.3	11.3	C
SB	Left Turn	80	82	102.1%	50.0	63.0	D
	Through	80	81	101.8%	52.1	69.6	D
	Right Turn	20	20	100.0%	41.4	61.3	D
	Subtotal	180	183	101.7%	50.0	65.4	D
EB	Left Turn	30	28	92.3%	37.4	12.1	D
	Through	560	569	101.5%	24.2	6.9	C
	Right Turn	170	171	100.6%	21.9	13.9	C
	Subtotal	760	767	101.0%	24.2	8.8	C
WB	Left Turn	550	434	79.0%	162.7	47.7	F
	Through	1,110	969	87.3%	15.4	2.9	B
	Right Turn	110	99	90.1%	15.2	4.8	B
	Subtotal	1,770	1,503	84.9%	58.6	13.2	E
Total		2,840	2,585	91.0%	46.6	12.7	D

Intersection 3

SR 113 NB Ramps/Main Street

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	280	277	99.0%	29.3	5.4	C
	Through						
	Right Turn	520	508	97.6%	41.2	26.4	D
	Subtotal	800	785	98.1%	37.3	19.0	D
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	670	668	99.6%	65.4	54.3	E
	Right Turn	30	29	95.3%	96.8	86.7	F
	Subtotal	700	696	99.4%	66.4	55.0	E
WB	Left Turn	30	26	87.0%	51.3	28.7	D
	Through	1,490	1,240	83.2%	30.9	24.0	C
	Right Turn						
	Subtotal	1,520	1,266	83.3%	31.3	24.0	C
Total		3,020	2,747	91.0%	41.8	26.5	D

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing + Approved Conditions
AM Peak Hour

Intersection 4

Pioneer Avenue/Main Street

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	290	280	96.5%	49.1	11.9	D
	Through	320	322	100.6%	29.1	2.2	C
	Right Turn	370	369	99.7%	46.9	15.0	D
	Subtotal	980	971	99.1%	41.9	5.5	D
SB	Left Turn	80	76	95.0%	54.5	6.1	D
	Through	140	142	101.6%	33.4	4.1	C
	Right Turn	60	62	102.7%	22.2	13.9	C
	Subtotal	280	280	99.9%	36.9	4.3	D
EB	Left Turn	140	141	100.4%	54.9	6.1	D
	Through	890	871	97.9%	47.2	7.6	D
	Right Turn	210	210	100.1%	50.4	9.7	D
	Subtotal	1,240	1,222	98.6%	48.7	7.5	D
NW	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	130	99	76.2%	93.6	9.2	F
	Through	1,190	938	78.8%	92.1	11.2	F
	Right Turn	110	87	79.1%	61.6	7.5	E
	Subtotal	1,430	1,124	78.6%	89.7	10.2	F
Total		3,930	3,597	91.5%	80.1	7.2	F

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing + Approved Conditions
AM Peak Hour

Intersection 5

Interstate-5 NB Off-Ramp/Main Street

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	1,150	846	73.6%	625.1	60.4	F
	Through						
	Right Turn	10	9	90.0%	565.2	66.6	F
	Subtotal	1,160	855	73.7%	624.6	60.0	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	540	533	98.8%	16.8	2.4	B
	Right Turn						
	Subtotal	540	533	98.8%	16.8	2.4	B
WB	Left Turn						
	Through	290	287	98.8%	26.4	4.0	C
	Right Turn						
	Subtotal	290	287	98.8%	26.4	4.0	C
Total		1,990	1,675	84.2%	327.9	21.7	F

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing + Approved Conditions
AM Peak Hour

Intersection 6

CR 102/Hays Lane-I-5 NB Ramps

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	40	40	100.8%	32.5	9.3	C
	Through	280	288	102.8%	14.2	2.2	B
	Right Turn	110	107	97.3%	2.9	0.8	A
	Subtotal	430	435	101.2%	13.2	2.8	B
SB	Left Turn						
	Through	480	485	101.1%	19.6	2.8	B
	Right Turn	10	10	104.0%	9.1	6.7	A
	Subtotal	490	496	101.2%	19.4	2.8	B
EB	Left Turn	20	20	98.0%	25.3	8.5	C
	Through						
	Right Turn	60	59	98.0%	23.2	6.3	C
	Subtotal	80	78	98.0%	24.1	6.8	C
WB	Left Turn	530	546	102.9%	19.8	2.1	B
	Through	40	44	110.3%	26.0	4.9	C
	Right Turn	190	182	95.7%	15.2	2.9	B
	Subtotal	760	772	101.5%	19.2	1.5	B
Total		1,760	1,781	101.2%	18.0	2.0	B

Intersection 7

CR 102/I-5 SB Ramps

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	340	339	99.6%	3.5	0.9	A
	Right Turn	540	542	100.4%	4.8	0.5	A
	Subtotal	880	881	100.1%	4.3	0.4	A
SB	Left Turn						
	Through	850	864	101.6%	6.8	0.6	A
	Right Turn	150	151	100.9%	6.8	0.5	A
	Subtotal	1,000	1,015	101.5%	6.8	0.6	A
EB	Left Turn	90	95	105.9%	8.3	1.4	A
	Through						
	Right Turn	130	135	103.5%	4.8	0.6	A
	Subtotal	220	230	104.5%	6.1	0.8	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		2,100	2,126	101.2%	5.7	0.4	A

HCM 2010 Signalized Intersection Summary

8: East St & Gibson Rd/E Gibson Rd

Existing Plus Approved Projects
Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	160	740	140	60	760	140	80	120	60	110	140	130
Future Volume (veh/h)	160	740	140	60	760	140	80	120	60	110	140	130
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		1.00
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1845	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	193	892	159	72	916	93	96	145	14	133	169	0
Adj No. of Lanes	1	2	0	1	2	1	1	2	0	1	2	0
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	279	1073	191	212	1136	499	239	466	44	263	554	0
Arrive On Green	0.16	0.36	0.36	0.12	0.32	0.32	0.14	0.14	0.14	0.15	0.16	0.00
Sat Flow, veh/h	1757	2963	528	1757	3505	1539	1757	3229	308	1757	3597	0
Grp Volume(v), veh/h	193	528	523	72	916	93	96	78	81	133	169	0
Grp Sat Flow(s),veh/h/ln	1757	1752	1738	1757	1752	1539	1757	1752	1784	1757	1752	0
Q Serve(g_s), s	7.0	18.5	18.5	2.5	16.1	2.9	3.4	2.7	2.7	4.7	2.9	0.0
Cycle Q Clear(g_c), s	7.0	18.5	18.5	2.5	16.1	2.9	3.4	2.7	2.7	4.7	2.9	0.0
Prop In Lane	1.00		0.30	1.00		1.00	1.00		0.17	1.00		0.00
Lane Grp Cap(c), veh/h	279	635	630	212	1136	499	239	253	258	263	554	0
V/C Ratio(X)	0.69	0.83	0.83	0.34	0.81	0.19	0.40	0.31	0.31	0.51	0.31	0.00
Avail Cap(c_a), veh/h	731	1041	1033	522	2082	914	522	1041	1060	731	2082	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	26.8	19.6	19.6	27.1	20.8	16.4	26.6	25.8	25.8	26.3	25.1	0.0
Incr Delay (d2), s/veh	1.1	1.3	1.3	0.3	0.5	0.1	0.4	0.3	0.3	0.6	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.5	9.2	9.1	1.2	7.8	1.2	1.7	1.3	1.4	2.3	1.4	0.0
LnGrp Delay(d),s/veh	27.9	20.9	20.9	27.5	21.3	16.4	27.0	26.0	26.1	26.9	25.2	0.0
LnGrp LOS	C	C	C	C	C	B	C	C	C	C	C	
Approach Vol, veh/h	1244			1081			255			302		
Approach Delay, s/veh	22.0			21.3			26.4			25.9		
Approach LOS	C			C			C			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.1	14.6	11.1	28.5	12.2	15.5	13.7	25.9				
Change Period (Y+Rc), s	3.0	4.9	3.0	4.1	3.0	4.9	3.0	4.1				
Max Green Setting (Gmax), s	28.0	40.0	20.0	40.0	20.0	40.0	28.0	40.0				
Max Q Clear Time (g_c+I), s	10.7	4.7	4.5	20.5	5.4	4.9	9.0	18.1				
Green Ext Time (p_c), s	0.0	0.5	0.0	3.3	0.0	0.7	0.2	3.4				
Intersection Summary												
HCM 2010 Ctrl Delay	22.5											
HCM 2010 LOS	C											

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing Plus Approved Projects Conditions
AM Peak Hour

Intersection 9 **Matmor Rd/E Gibson Rd-I-5 NB Ramps** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	60	60	100.2%	23.3	2.5	C
	Through	40	41	101.5%	23.4	5.1	C
	Right Turn	210	209	99.7%	14.6	4.7	B
	Subtotal	310	310	100.0%	17.7	3.6	B
SB	Left Turn	280	266	94.9%	169.1	16.4	F
	Through	30	26	87.7%	148.2	29.2	F
	Right Turn	120	115	95.4%	142.9	15.5	F
	Subtotal	430	406	94.5%	160.7	15.6	F
EB	Left Turn	110	113	102.8%	36.0	7.1	D
	Through	900	904	100.4%	25.7	4.4	C
	Right Turn	30	28	92.3%	23.8	14.1	C
	Subtotal	1,040	1,045	100.4%	26.7	4.6	C
WB	Left Turn	70	65	92.3%	45.3	5.3	D
	Through	900	854	94.9%	29.0	2.6	C
	Right Turn	160	156	97.2%	7.3	1.5	A
	Subtotal	1,130	1,074	95.0%	26.6	2.1	C
Total		2,910	2,835	97.4%	48.7	3.0	D

Intersection 10 **SR 113 SB Ramps/E Gibson Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	170	171	100.6%	16.3	3.2	B
	Through						
	Right Turn	190	192	101.3%	0.9	0.3	A
	Subtotal	360	364	101.0%	7.7	1.8	A
EB	Left Turn						
	Through	1,070	1,064	99.4%	14.6	2.0	B
	Right Turn	320	314	98.2%	9.7	1.1	A
	Subtotal	1,390	1,378	99.1%	13.5	1.8	B
WB	Left Turn						
	Through	940	877	93.3%	11.0	2.3	B
	Right Turn	570	512	89.8%	6.6	0.6	A
	Subtotal	1,510	1,389	92.0%	9.3	1.6	A
Total		3,260	3,131	96.0%	11.0	1.1	B

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing Plus Approved Projects Conditions
AM Peak Hour

Intersection 11

SR 113 NB Ramps/E Gibson Rd

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	120	119	98.8%	18.3	2.3	B
	Through						
	Right Turn	170	181	106.4%	1.6	0.3	A
	Subtotal	290	299	103.2%	8.2	1.3	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	900	900	100.0%	9.1	1.1	A
	Right Turn	340	335	98.4%	6.8	0.7	A
	Subtotal	1,240	1,234	99.5%	8.5	0.9	A
WB	Left Turn						
	Through	1,390	1,271	91.5%	15.1	1.4	B
	Right Turn	190	174	91.6%	11.6	1.0	B
	Subtotal	1,580	1,445	91.5%	14.6	1.4	B
Total		3,110	2,979	95.8%	11.3	1.0	B

Intersection 12

Bourn Dr-Harry Lorenzo Ave/E Gibson Rd

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn	170	166	97.8%	24.9	10.9	C
	Subtotal	170	166	97.8%	24.9	10.9	C
SB	Left Turn						
	Through						
	Right Turn	160	166	103.4%	70.0	38.0	F
	Subtotal	160	166	103.4%	70.0	38.0	F
EB	Left Turn						
	Through	1,010	1,022	101.2%	6.4	0.6	A
	Right Turn	60	60	100.0%	7.6	2.5	A
	Subtotal	1,070	1,082	101.1%	6.5	0.6	A
WB	Left Turn						
	Through	1,420	1,279	90.1%	7.2	0.6	A
	Right Turn	40	37	92.5%	6.4	1.5	A
	Subtotal	1,460	1,316	90.2%	7.2	0.6	A
Total		2,860	2,730	95.5%	11.9	2.8	B

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing Plus Approved Projects Conditions
AM Peak Hour

Intersection 13

Pioneer Ave/E Gibson Rd

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	680	539	79.3%	185.3	7.4	F
	Through	560	451	80.5%	43.4	1.8	D
	Right Turn	290	230	79.2%	18.3	3.0	B
	Subtotal	1,530	1,220	79.7%	101.9	3.8	F
SB	Left Turn	70	69	98.1%	52.6	8.2	D
	Through	350	353	100.7%	34.7	3.0	C
	Right Turn	290	296	101.9%	53.0	22.9	D
	Subtotal	710	717	101.0%	44.0	11.0	D
EB	Left Turn	260	262	100.8%	55.1	5.2	E
	Through	510	511	100.3%	44.0	4.4	D
	Right Turn	410	417	101.6%	43.1	13.0	D
	Subtotal	1,180	1,190	100.8%	46.3	5.9	D
WB	Left Turn	220	225	102.3%	53.6	4.9	D
	Through	490	479	97.8%	40.9	3.4	D
	Right Turn	20	21	105.0%	36.9	11.6	D
	Subtotal	730	725	99.3%	44.7	2.7	D
Total		4,150	3,852	92.8%	60.7	3.0	E

HCM Signalized Intersection Capacity Analysis

14: CR 102 & E. Gibson Rd/CR 24

Existing Plus Approved Projects

Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	370	10	110	10	10	10	110	400	0	10	200	400
Future Volume (vph)	370	10	110	10	10	10	110	400	0	10	200	400
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	5.2	5.2		3.7		3.0	5.2		3.0	5.2	5.2
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	0.95		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85		0.95		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1649	1657	1553		1716		1736	3471		1736	1827	1532
Flt Permitted	0.95	0.95	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1649	1657	1553		1716		1736	3471		1736	1827	1532
Peak-hour factor, PHF	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	451	12	134	12	12	12	134	488	0	12	244	488
RTOR Reduction (vph)	0	0	105	0	11	0	0	0	0	0	0	365
Lane Group Flow (vph)	230	233	29	0	25	0	134	488	0	12	244	123
Confl. Bikes (#/hr)												2
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	2	2		6	6		3	8		7	4	
Permitted Phases			2									4
Actuated Green, G (s)	16.3	16.3	16.3		5.9		9.8	34.8		1.7	19.1	19.1
Effective Green, g (s)	16.3	16.3	16.3		5.9		9.8	34.8		1.7	19.1	19.1
Actuated g/C Ratio	0.22	0.22	0.22		0.08		0.13	0.46		0.02	0.25	0.25
Clearance Time (s)	5.2	5.2	5.2		3.7		3.0	5.2		3.0	5.2	5.2
Vehicle Extension (s)	1.0	1.0	1.0		1.0		1.0	1.5		1.0	1.5	1.5
Lane Grp Cap (vph)	354	356	333		133		224	1593		38	460	386
v/s Ratio Prot	0.14	c0.14			c0.01		c0.08	c0.14		0.01	c0.13	
v/s Ratio Perm			0.02									0.08
v/c Ratio	0.65	0.65	0.09		0.19		0.60	0.31		0.32	0.53	0.32
Uniform Delay, d1	27.1	27.2	23.8		32.7		31.1	12.9		36.5	24.5	23.1
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	3.1	3.3	0.0		0.2		2.9	0.0		1.7	0.6	0.2
Delay (s)	30.2	30.5	23.8		33.0		34.0	12.9		38.2	25.1	23.2
Level of Service	C	C	C		C		C	B		D	C	C
Approach Delay (s)		28.9			33.0			17.5			24.1	
Approach LOS		C			C			B			C	
Intersection Summary												
HCM 2000 Control Delay			23.6				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.53									
Actuated Cycle Length (s)			75.8				Sum of lost time (s)			19.1		
Intersection Capacity Utilization			63.9%				ICU Level of Service			B		
Analysis Period (min)			15									
c Critical Lane Group												

HCM 2010 Signalized Intersection Summary 15: East St & CR 24A/Sports Park Dr

Existing Plus Approved Projects
Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	30	140	60	40	30	40	110	10	30	270	20
Future Volume (veh/h)	20	30	140	60	40	30	40	110	10	30	270	20
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1900	1827	1900	1900	1827	1900	1827	1827	1900	1827	1827	1900
Adj Flow Rate, veh/h	25	37	27	74	49	22	49	136	8	37	333	21
Adj No. of Lanes	0	1	0	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	223	157	92	320	124	44	138	454	27	125	438	28
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.08	0.27	0.27	0.07	0.26	0.26
Sat Flow, veh/h	291	843	494	651	666	236	1740	1708	100	1740	1700	107
Grp Volume(v), veh/h	89	0	0	145	0	0	49	0	144	37	0	354
Grp Sat Flow(s),veh/h/ln	1629	0	0	1553	0	0	1740	0	1809	1740	0	1807
Q Serve(g_s), s	0.0	0.0	0.0	0.9	0.0	0.0	0.7	0.0	1.7	0.5	0.0	4.9
Cycle Q Clear(g_c), s	1.2	0.0	0.0	2.1	0.0	0.0	0.7	0.0	1.7	0.5	0.0	4.9
Prop In Lane	0.28		0.30	0.51		0.15	1.00		0.06	1.00		0.06
Lane Grp Cap(c), veh/h	472	0	0	488	0	0	138	0	481	125	0	466
V/C Ratio(X)	0.19	0.00	0.00	0.30	0.00	0.00	0.35	0.00	0.30	0.30	0.00	0.76
Avail Cap(c_a), veh/h	1606	0	0	1571	0	0	1276	0	1990	1276	0	1988
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.5	0.0	0.0	9.9	0.0	0.0	11.9	0.0	8.0	12.0	0.0	9.3
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.1	0.0	0.0	0.6	0.0	0.1	0.5	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.0	1.0	0.0	0.0	0.4	0.0	0.9	0.3	0.0	2.6
LnGrp Delay(d),s/veh	9.6	0.0	0.0	10.0	0.0	0.0	12.5	0.0	8.1	12.5	0.0	10.3
LnGrp LOS	A			A			B		A	B		B
Approach Vol, veh/h	89			145			193			391		
Approach Delay, s/veh	9.6			10.0			9.2			10.5		
Approach LOS	A			A			A			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		9.5	5.2	12.6		9.5	5.0	12.8				
Change Period (Y+Rc), s		4.4	3.0	* 5.6		* 4.4	3.0	5.6				
Max Green Setting (Gmax), s		25.0	20.0	* 30		* 25	20.0	30.0				
Max Q Clear Time (g_c+I1), s		3.2	2.7	6.9		4.1	2.5	3.7				
Green Ext Time (p_c), s		0.2	0.0	0.6		0.3	0.0	0.2				
Intersection Summary												
HCM 2010 Ctrl Delay	10.0											
HCM 2010 LOS	B											
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
16: Parkland Ave/Pioneer Ave & Farmers Central Rd

Existing Plus Approved Projects
Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↖	↗			↔			↔	
Traffic Volume (veh/h)	40	30	10	10	20	270	10	590	10	100	250	30
Future Volume (veh/h)	40	30	10	10	20	270	10	590	10	100	250	30
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.98	0.99		0.96	0.99		0.96
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1900	1845	1900	1845	1845	1900	1900	1845	1900	1900	1845	1900
Adj Flow Rate, veh/h	43	33	2	11	22	156	11	641	10	109	272	29
Adj No. of Lanes	0	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	259	154	7	550	43	305	113	920	14	277	610	57
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.51	0.51	0.51	0.51	0.51	0.51
Sat Flow, veh/h	425	697	30	1339	195	1380	9	1795	28	276	1191	112
Grp Volume(v), veh/h	78	0	0	11	0	178	662	0	0	410	0	0
Grp Sat Flow(s),veh/h/ln	152	0	0	1339	0	1575	1831	0	0	1578	0	0
Q Serve(g_s), s	0.1	0.0	0.0	0.0	0.0	3.4	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.5	0.0	0.0	0.2	0.0	3.4	9.3	0.0	0.0	4.8	0.0	0.0
Prop In Lane	0.55		0.03	1.00		0.88	0.02		0.02	0.27		0.07
Lane Grp Cap(c), veh/h	420	0	0	550	0	348	1047	0	0	944	0	0
V/C Ratio(X)	0.19	0.00	0.00	0.02	0.00	0.51	0.63	0.00	0.00	0.43	0.00	0.00
Avail Cap(c_a), veh/h	857	0	0	1444	0	1400	1891	0	0	1561	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	10.8	0.0	0.0	10.3	0.0	11.6	6.3	0.0	0.0	5.2	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.0	0.0	1.2	0.6	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.0	0.1	0.0	1.5	4.8	0.0	0.0	2.5	0.0	0.0
LnGrp Delay(d),s/veh	11.0	0.0	0.0	10.3	0.0	12.7	6.9	0.0	0.0	5.5	0.0	0.0
LnGrp LOS	B			B		B	A			A		
Approach Vol, veh/h	78			189			662			410		
Approach Delay, s/veh	11.0			12.6			6.9			5.5		
Approach LOS	B			B			A			A		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	21.8		12.0		21.8		12.0					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	33.0		18.0		33.0		30.0					
Max Q Clear Time (g_c+I1), s	11.3		5.5		6.8		5.4					
Green Ext Time (p_c), s	4.3		0.2		3.0		1.1					
Intersection Summary												
HCM 2010 Ctrl Delay	7.5											
HCM 2010 LOS	A											

HCM 2010 Signalized Intersection Summary

17: Parkland Ave & E. Heritage Pkwy

Existing Plus Approved Projects
Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	200	50	100	50	30	70	60	120	60	40	210	60
Future Volume (veh/h)	200	50	100	50	30	70	60	120	60	40	210	60
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	270	68	49	68	41	0	81	162	58	54	284	0
Adj No. of Lanes	1	1	0	1	1	1	1	1	0	2	1	1
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	488	173	125	295	119	101	302	303	109	454	362	307
Arrive On Green	0.27	0.17	0.17	0.16	0.06	0.00	0.17	0.23	0.23	0.13	0.19	0.00
Sat Flow, veh/h	1810	1025	739	1810	1900	1615	1810	1329	476	3510	1900	1615
Grp Volume(v), veh/h	270	0	117	68	41	0	81	0	220	54	284	0
Grp Sat Flow(s),veh/h/ln	1810	0	1763	1810	1900	1615	1810	0	1805	1755	1900	1615
Q Serve(g_s), s	6.0	0.0	2.8	1.5	1.0	0.0	1.8	0.0	5.0	0.6	6.6	0.0
Cycle Q Clear(g_c), s	6.0	0.0	2.8	1.5	1.0	0.0	1.8	0.0	5.0	0.6	6.6	0.0
Prop In Lane	1.00		0.42	1.00		1.00	1.00		0.26	1.00		1.00
Lane Grp Cap(c), veh/h	488	0	298	295	119	101	302	0	412	454	362	307
V/C Ratio(X)	0.55	0.00	0.39	0.23	0.35	0.00	0.27	0.00	0.53	0.12	0.79	0.00
Avail Cap(c_a), veh/h	774	0	943	774	1016	864	774	0	966	1502	1016	864
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	14.6	0.0	17.3	17.0	21.0	0.0	17.0	0.0	15.9	18.0	18.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.3	0.1	0.6	0.0	0.2	0.0	0.4	0.0	1.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	0.0	1.4	0.8	0.5	0.0	0.9	0.0	2.5	0.3	3.6	0.0
LnGrp Delay(d),s/veh	15.0	0.0	17.6	17.1	21.6	0.0	17.1	0.0	16.3	18.0	19.4	0.0
LnGrp LOS	B		B	B	C		B		B	B	B	
Approach Vol, veh/h	387				109				301		338	
Approach Delay, s/veh	15.8				18.8				16.5		19.2	
Approach LOS	B				B				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.6	12.3	10.8	13.0	15.6	7.3	9.0	14.8				
Change Period (Y+Rc), s	3.0	* 4.4	3.0	4.1	3.0	4.4	3.0	4.1				
Max Green Setting (Gmax), s	20.0	* 25	20.0	25.0	20.0	25.0	20.0	25.0				
Max Q Clear Time (g_c+1/3), s	13.5	4.8	3.8	8.6	8.0	3.0	2.6	7.0				
Green Ext Time (p_c), s	0.0	0.2	0.0	0.5	0.1	0.0	0.0	0.4				
Intersection Summary												
HCM 2010 Ctrl Delay			17.3									
HCM 2010 LOS			B									
Notes												

User approved pedestrian interval to be less than phase max green.

User approved ignoring U-Turning movement.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary

18: CR 102 & E. Heritage Pkwy/CR 25

Existing Plus Approved Projects
Timing Plan: AM Peak Hour

	           											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	180	10	220	0	0	10	50	180	10	20	360	100
Future Volume (veh/h)	180	10	220	0	0	10	50	180	10	20	360	100
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1845	1845	1845	1845
Adj Flow Rate, veh/h	220	12	48	0	0	0	61	220	3	24	439	24
Adj No. of Lanes	1	1	0	1	1	0	1	1	1	1	1	1
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	279	37	147	7	8	0	73	638	531	32	595	494
Arrive On Green	0.16	0.11	0.11	0.00	0.00	0.00	0.04	0.35	0.35	0.02	0.32	0.32
Sat Flow, veh/h	1757	323	1293	1757	1845	0	1757	1845	1535	1757	1845	1531
Grp Volume(v), veh/h	220	0	60	0	0	0	61	220	3	24	439	24
Grp Sat Flow(s),veh/h/ln	1757	0	1616	1757	1845	0	1757	1845	1535	1757	1845	1531
Q Serve(g_s), s	2.9	0.0	0.8	0.0	0.0	0.0	0.8	2.1	0.0	0.3	5.1	0.3
Cycle Q Clear(g_c), s	2.9	0.0	0.8	0.0	0.0	0.0	0.8	2.1	0.0	0.3	5.1	0.3
Prop In Lane	1.00		0.80	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	279	0	183	7	8	0	73	638	531	32	595	494
V/C Ratio(X)	0.79	0.00	0.33	0.00	0.00	0.00	0.83	0.34	0.01	0.74	0.74	0.05
Avail Cap(c_a), veh/h	1092	0	1675	1092	1911	0	1456	2293	1908	1456	2293	1903
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.8	0.0	9.9	0.0	0.0	0.0	11.5	5.9	5.2	11.8	7.3	5.6
Incr Delay (d2), s/veh	1.9	0.0	0.4	0.0	0.0	0.0	8.7	0.1	0.0	11.5	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	0.4	0.0	0.0	0.0	0.6	1.1	0.0	0.3	2.7	0.1
LnGrp Delay(d),s/veh	11.6	0.0	10.2	0.0	0.0	0.0	20.2	6.0	5.2	23.3	7.9	5.6
LnGrp LOS	B		B				C	A	A	C	A	A
Approach Vol, veh/h	280			0			284			487		
Approach Delay, s/veh	11.3			0.0			9.0			8.6		
Approach LOS	B						A			A		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	0.0	6.8	4.0	13.3	6.8	0.0	3.4	13.9				
Change Period (Y+Rc), s	3.0	4.1	3.0	5.5	3.0	4.1	3.0	5.5				
Max Green Setting (Gmax), s	15.0	25.0	20.0	30.0	15.0	25.0	20.0	30.0				
Max Q Clear Time (g_c+I), s	10.0	2.8	2.8	7.1	4.9	0.0	2.3	4.1				
Green Ext Time (p_c), s	0.0	0.1	0.0	1.0	0.1	0.0	0.0	0.5				
Intersection Summary												
HCM 2010 Ctrl Delay	9.4											
HCM 2010 LOS	A											

Intersection				
Intersection Delay, s/veh10.4				
Intersection LOS B				
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	106	232	207	558
Demand Flow Rate, veh/h	107	235	211	568
Vehicles Circulating, veh/h	557	262	122	231
Vehicles Exiting, veh/h	242	71	542	266
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	2
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	7.6	7.1	5.7	14.0
Approach LOS	A	A	A	B
Lane	Left	Left	Left	Left
Designated Moves	LT	LTR	LTR	L
Assumed Moves	LT	LTR	LTR	L
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	107	235	211	568
Cap Entry Lane, veh/h	647	870	1000	897
Entry HV Adj Factor	0.986	0.989	0.982	0.982
Flow Entry, veh/h	106	232	207	558
Cap Entry, veh/h	639	860	983	880
V/C Ratio	0.165	0.270	0.211	0.633
Control Delay, s/veh	7.6	7.1	5.7	14.0
LOS	A	A	A	B
95th %tile Queue, veh	1	1	1	5

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing + Approved Conditions
AM Peak Hour

Intersection 20

East St/CR 25A

All-way Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	10	10	102.0%	4.8	1.2	A
	Through	10	11	114.0%	9.7	1.6	A
	Right Turn	10	10	97.0%	3.9	1.8	A
	Subtotal	30	31	104.3%	6.7	1.5	A
SB	Left Turn	340	335	98.6%	15.6	3.9	C
	Through	10	10	99.0%	16.4	6.1	C
	Right Turn	50	50	99.6%	9.7	2.3	A
	Subtotal	400	395	98.7%	15.0	3.7	C
EB	Left Turn	30	30	98.7%	10.2	3.3	B
	Through	230	236	102.4%	13.4	1.2	B
	Right Turn	10	11	105.0%	6.3	3.4	A
	Subtotal	270	276	102.1%	12.9	1.2	B
WB	Left Turn	10	8	75.0%	10.7	4.8	B
	Through	200	166	83.2%	14.2	1.2	B
	Right Turn	130	109	84.1%	8.9	1.0	A
	Subtotal	340	283	83.3%	12.0	1.1	B
Total		1,040	985	94.7%	13.4	2.0	B

Intersection 21

SR 113 SB Ramps/CR 25A

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	10	4	38.0%	558.7	185.0	F
	Through						
	Right Turn	50	42	84.4%	104.6	175.0	F
	Subtotal	60	46	76.7%	115.3	184.8	F
EB	Left Turn						
	Through	110	111	100.5%	7.0	0.7	A
	Right Turn	470	470	99.9%	4.0	0.4	A
	Subtotal	580	580	100.1%	4.5	0.5	A
WB	Left Turn	410	382	93.1%	163.1	27.7	F
	Through	290	238	82.2%	156.1	29.4	F
	Right Turn						
	Subtotal	700	620	88.6%	161.1	27.7	F
Total		1,340	1,246	93.0%	89.4	7.5	F

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing + Approved Conditions
AM Peak Hour

Intersection 22

SR 113 NB Ramps/CR 25A

Side-street Stop

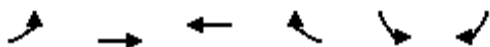
Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	150	107	71.3%	474.5	120.8	F
	Through						
	Right Turn	80	61	76.0%	456.0	134.0	F
	Subtotal	230	168	72.9%	395.4	162.1	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	30	28	93.7%	4.2	2.5	A
	Through	90	86	95.6%	2.2	0.9	A
	Right Turn						
	Subtotal	120	114	95.1%	2.6	1.3	A
WB	Left Turn						
	Through	550	537	97.5%	215.6	107.6	F
	Right Turn	20	19	94.5%	208.5	88.0	F
	Subtotal	570	555	97.4%	215.6	107.0	F
Total		920	837	91.0%	225.7	82.4	F

Intersection						
Int Delay, s/veh	5.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	260	70	230	570	10
Future Vol, veh/h	10	260	70	230	570	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	283	76	250	620	11
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1022	620	631	0	-	0
Stage 1	620	-	-	-	-	-
Stage 2	402	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	261	488	951	-	-	-
Stage 1	536	-	-	-	-	-
Stage 2	676	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	240	488	951	-	-	-
Mov Cap-2 Maneuver	240	-	-	-	-	-
Stage 1	493	-	-	-	-	-
Stage 2	676	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	22	2.1		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	951	-	240	488	-	-
HCM Lane V/C Ratio	0.08	-	0.045	0.579	-	-
HCM Control Delay (s)	9.1	-	20.7	22	-	-
HCM Lane LOS	A	-	C	C	-	-
HCM 95th %tile Q(veh)	0.3	-	0.1	3.6	-	-

HCM Signalized Intersection Capacity Analysis

36: Parkland Ave & Pioneer Ave

Existing Plus Approved Projects
Timing Plan: AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	380	300	0
Future Volume (vph)	0	0	0	380	300	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.5	4.5	
Lane Util. Factor				1.00	0.97	
Frt				0.85	1.00	
Flt Protected				1.00	0.95	
Satd. Flow (prot)				1583	3433	
Flt Permitted				1.00	0.95	
Satd. Flow (perm)				1583	3433	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	413	326	0
RTOR Reduction (vph)	0	0	0	310	0	0
Lane Group Flow (vph)	0	0	0	103	326	0
Turn Type	Prot			Perm	Prot	
Protected Phases	5		6		4	
Permitted Phases		2		6		
Actuated Green, G (s)				8.2	9.6	
Effective Green, g (s)				8.2	9.6	
Actuated g/C Ratio				0.25	0.29	
Clearance Time (s)				4.5	4.5	
Vehicle Extension (s)				3.0	3.0	
Lane Grp Cap (vph)				394	1001	
v/s Ratio Prot					c0.09	
v/s Ratio Perm				c0.07		
v/c Ratio				0.26	0.33	
Uniform Delay, d1				9.9	9.1	
Progression Factor				1.00	1.00	
Incremental Delay, d2				0.4	0.2	
Delay (s)				10.3	9.3	
Level of Service				B	A	
Approach Delay (s)		0.0	10.3		9.3	
Approach LOS		A	B		A	
Intersection Summary						
HCM 2000 Control Delay			9.8		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.27			
Actuated Cycle Length (s)			32.9		Sum of lost time (s)	13.5
Intersection Capacity Utilization			27.3%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

Intersection			
Intersection Delay, s/veh	9.4		
Intersection LOS	A		
Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	152	120	587
Demand Flow Rate, veh/h	155	122	598
Vehicles Circulating, veh/h	122	111	100
Vehicles Exiting, veh/h	576	166	133
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	5.1	4.7	11.4
Approach LOS	A	A	B
Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	155	122	598
Cap Entry Lane, veh/h	1000	1011	1022
Entry HV Adj Factor	0.982	0.984	0.982
Flow Entry, veh/h	152	120	587
Cap Entry, veh/h	982	995	1004
V/C Ratio	0.155	0.121	0.585
Control Delay, s/veh	5.1	4.7	11.4
LOS	A	A	B
95th %tile Queue, veh	1	0	4

HCM 2010 Signalized Intersection Summary

1: East St & Main St/E Main St

Existing Plus Approved Projects
Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	580	110	110	510	360	110	320	110	290	390	70
Future Volume (veh/h)	60	580	110	110	510	360	110	320	110	290	390	70
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		1.00
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	65	630	36	120	554	296	120	348	91	315	424	66
Adj No. of Lanes	1	2	1	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	81	949	417	153	683	365	153	491	127	370	918	142
Arrive On Green	0.05	0.27	0.27	0.09	0.31	0.31	0.09	0.18	0.18	0.21	0.30	0.30
Sat Flow, veh/h	1757	3505	1540	1757	2191	1169	1757	2751	709	1757	3042	470
Grp Volume(v), veh/h	65	630	36	120	443	407	120	220	219	315	243	247
Grp Sat Flow(s),veh/h/ln	1757	1752	1540	1757	1752	1608	1757	1752	1707	1757	1752	1759
Q Serve(g_s), s	2.1	9.0	1.0	3.8	13.1	13.1	3.8	6.6	6.8	9.7	6.3	6.4
Cycle Q Clear(g_c), s	2.1	9.0	1.0	3.8	13.1	13.1	3.8	6.6	6.8	9.7	6.3	6.4
Prop In Lane	1.00		1.00	1.00		0.73	1.00		0.42	1.00		0.27
Lane Grp Cap(c), veh/h	81	949	417	153	547	501	153	313	305	370	529	531
V/C Ratio(X)	0.80	0.66	0.09	0.78	0.81	0.81	0.78	0.70	0.72	0.85	0.46	0.47
Avail Cap(c_a), veh/h	626	2496	1097	626	1248	1145	751	1248	1216	751	1248	1253
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.5	18.2	15.3	25.1	17.8	17.8	25.1	21.7	21.7	21.3	15.9	15.9
Incr Delay (d2), s/veh	6.6	0.3	0.0	3.3	1.1	1.2	3.3	1.1	1.2	2.2	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	4.3	0.4	1.9	6.4	5.9	1.9	3.3	3.3	4.9	3.1	3.1
LnGrp Delay(d),s/veh	33.1	18.5	15.3	28.4	18.9	19.0	28.4	22.8	22.9	23.5	16.1	16.2
LnGrp LOS	C	B	B	C	B	B	C	C	C	C	B	B
Approach Vol, veh/h		731			970			559			805	
Approach Delay, s/veh		19.6			20.1			24.0			19.0	
Approach LOS		B			C			C			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.6	21.6	7.9	21.0	7.9	19.3	14.8	14.1				
Change Period (Y+Rc), s	3.0	4.1	3.0	4.1	3.0	4.1	3.0	4.1				
Max Green Setting (Gmax), s	20.0	40.0	24.0	40.0	20.0	40.0	24.0	40.0				
Max Q Clear Time (g_c+I1), s	4.1	15.1	5.8	8.4	5.8	11.0	11.7	8.8				
Green Ext Time (p_c), s	0.0	2.2	0.0	1.4	0.0	2.2	0.2	1.2				
Intersection Summary												
HCM 2010 Ctrl Delay				20.4								
HCM 2010 LOS				C								

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing + Approved
PM Peak Hour

Intersection 2

Industrial Way-SR 113 SB Off-Ramp/Main Street

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	20	20	98.0%	47.5	36.9	D
	Through	10	9	86.0%	19.1	16.5	B
	Right Turn	40	43	107.5%	45.2	43.7	D
	Subtotal	70	71	101.7%	42.6	35.2	D
SB	Left Turn	70	68	97.6%	65.7	35.1	E
	Through	70	67	95.3%	59.5	27.8	E
	Right Turn	30	33	110.3%	49.0	28.0	D
	Subtotal	170	168	98.9%	60.1	29.8	E
EB	Left Turn	30	23	75.7%	52.3	12.3	D
	Through	950	739	77.8%	128.1	13.6	F
	Right Turn	170	119	70.2%	146.8	14.0	F
	Subtotal	1,150	881	76.6%	128.9	13.0	F
WB	Left Turn	420	354	84.2%	242.5	25.6	F
	Through	930	899	96.7%	13.1	3.9	B
	Right Turn	80	81	100.8%	11.0	3.7	B
	Subtotal	1,430	1,333	93.2%	76.3	5.7	E
Total		2,820	2,454	87.0%	91.8	5.9	F

Intersection 3

SR 113 NB Ramps/Main Street

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	250	243	97.2%	128.2	107.2	F
	Through						
	Right Turn	530	444	83.8%	384.2	121.1	F
	Subtotal	780	687	88.1%	301.5	120.5	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	1,040	816	78.4%	119.7	11.4	F
	Right Turn	30	22	72.7%	164.2	27.3	F
	Subtotal	1,070	838	78.3%	120.8	10.7	F
WB	Left Turn	50	42	84.8%	113.1	31.2	F
	Through	1,180	1,110	94.1%	66.2	17.6	E
	Right Turn						
	Subtotal	1,230	1,153	93.7%	68.2	18.2	E
Total		3,080	2,678	86.9%	142.2	26.2	F

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing + Approved
PM Peak Hour

Intersection 4

Pioneer Avenue/Main Street

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	210	205	97.8%	48.8	7.6	D
	Through	170	172	101.2%	33.1	5.7	C
	Right Turn	210	215	102.4%	31.0	5.8	C
	Subtotal	590	592	100.4%	38.3	3.2	D
SB	Left Turn	130	133	101.9%	56.7	26.3	E
	Through	290	300	103.3%	48.5	29.5	D
	Right Turn	80	75	93.5%	34.7	26.1	C
	Subtotal	500	507	101.4%	48.5	28.1	D
EB	Left Turn	70	63	89.3%	62.0	7.1	E
	Through	1,240	1,003	80.9%	55.3	7.0	E
	Right Turn	240	180	75.0%	58.7	7.3	E
	Subtotal	1,550	1,246	80.4%	56.1	6.5	E
NW	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	310	284	91.5%	84.4	22.2	F
	Through	960	919	95.7%	75.7	30.5	E
	Right Turn	110	108	98.1%	44.2	22.1	D
	Subtotal	1,380	1,310	94.9%	74.8	27.6	E
Total		4,020	3,655	90.9%	69.3	13.7	E

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing + Approved
PM Peak Hour

Intersection 5

Interstate-5 NB Off-Ramp/Main Street

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	740	708	95.6%	136.4	146.3	F
	Through						
	Right Turn	20	22	111.5%	97.7	113.1	F
	Subtotal	760	730	96.1%	135.7	145.3	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	570	522	91.5%	14.7	2.7	B
	Right Turn						
	Subtotal	570	522	91.5%	14.7	2.7	B
WB	Left Turn						
	Through	650	621	95.6%	126.1	118.3	F
	Right Turn						
	Subtotal	650	621	95.6%	126.1	118.3	F
Total		1,980	1,873	94.6%	92.4	79.7	F

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing + Approved Conditions
PM Peak Hour

Intersection 6

CR 102/Hays Lane-I-5 NB Ramps

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	60	60	100.5%	42.4	8.2	D
	Through	470	474	100.8%	19.0	3.4	B
	Right Turn	180	174	96.6%	3.9	0.3	A
	Subtotal	710	708	99.7%	17.2	2.7	B
SB	Left Turn						
	Through	770	764	99.2%	28.7	3.2	C
	Right Turn	10	9	88.0%	19.2	10.2	B
	Subtotal	780	773	99.1%	28.6	3.1	C
EB	Left Turn	40	40	99.3%	30.7	8.8	C
	Through						
	Right Turn	110	113	102.6%	31.1	4.8	C
	Subtotal	150	153	101.7%	30.9	4.0	C
WB	Left Turn	660	672	101.7%	29.7	3.7	C
	Through	30	30	101.0%	42.0	7.2	D
	Right Turn	150	146	97.1%	23.0	2.6	C
	Subtotal	840	848	100.9%	29.0	3.4	C
Total		2,480	2,481	100.0%	25.7	2.7	C

Intersection 7

CR 102/I-5 SB Ramps

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	650	654	100.6%	4.7	0.5	A
	Right Turn	700	710	101.4%	6.2	0.6	A
	Subtotal	1,350	1,364	101.0%	5.5	0.4	A
SB	Left Turn						
	Through	1,250	1,255	100.4%	9.6	1.2	A
	Right Turn	160	163	102.1%	8.8	1.5	A
	Subtotal	1,410	1,419	100.6%	9.5	1.2	A
EB	Left Turn	60	55	91.7%	8.9	2.4	A
	Through						
	Right Turn	210	210	100.2%	8.4	1.8	A
	Subtotal	270	265	98.3%	8.6	1.5	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		3,030	3,048	100.6%	7.6	0.7	A

HCM 2010 Signalized Intersection Summary 8: East St & Gibson Rd/E Gibson Rd

Existing Plus Approved Projects
Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	790	120	70	710	140	170	230	70	210	190	160
Future Volume (veh/h)	80	790	120	70	710	140	170	230	70	210	190	160
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		1.00
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1845	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	96	952	135	84	855	89	205	277	44	253	229	73
Adj No. of Lanes	1	2	0	1	2	1	1	2	0	1	2	0
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	228	1110	157	217	1244	547	262	427	67	295	420	131
Arrive On Green	0.13	0.36	0.36	0.12	0.35	0.35	0.15	0.14	0.14	0.17	0.16	0.16
Sat Flow, veh/h	1757	3074	436	1757	3505	1540	1757	3029	475	1757	2633	818
Grp Volume(v), veh/h	96	543	544	84	855	89	205	159	162	253	150	152
Grp Sat Flow(s),veh/h/ln	1757	1752	1757	1757	1752	1540	1757	1752	1751	1757	1752	1698
Q Serve(g_s), s	3.7	20.8	20.8	3.2	15.1	2.9	8.2	6.2	6.4	10.2	5.7	6.0
Cycle Q Clear(g_c), s	3.7	20.8	20.8	3.2	15.1	2.9	8.2	6.2	6.4	10.2	5.7	6.0
Prop In Lane	1.00		0.25	1.00		1.00	1.00		0.27	1.00		0.48
Lane Grp Cap(c), veh/h	228	633	634	217	1244	547	262	247	247	295	280	271
V/C Ratio(X)	0.42	0.86	0.86	0.39	0.69	0.16	0.78	0.64	0.66	0.86	0.54	0.56
Avail Cap(c_a), veh/h	678	966	968	484	1931	848	484	966	965	678	966	936
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.1	21.5	21.5	29.3	20.0	16.0	29.8	29.5	29.5	29.4	28.0	28.1
Incr Delay (d2), s/veh	0.5	3.2	3.2	0.4	0.3	0.1	1.9	1.0	1.1	2.8	0.6	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	10.5	10.5	1.6	7.3	1.2	4.1	3.1	3.1	5.2	2.8	2.8
LnGrp Delay(d),s/veh	29.5	24.6	24.7	29.7	20.2	16.1	31.7	30.5	30.6	32.2	28.6	28.8
LnGrp LOS	C	C	C	C	C	B	C	C	C	C	C	C
Approach Vol, veh/h	1183			1028			526			555		
Approach Delay, s/veh	25.1			20.6			31.0			30.3		
Approach LOS	C			C			C			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.2	15.1	12.0	30.3	13.8	16.5	12.4	29.9				
Change Period (Y+Rc), s	3.0	4.9	3.0	4.1	3.0	4.9	3.0	4.1				
Max Green Setting (Gmax), s	28.0	40.0	20.0	40.0	20.0	40.0	28.0	40.0				
Max Q Clear Time (g_c+1/2), s	12.2	8.4	5.2	22.8	10.2	8.0	5.7	17.1				
Green Ext Time (p_c), s	0.1	1.1	0.0	3.3	0.1	1.1	0.1	3.2				
Intersection Summary												
HCM 2010 Ctrl Delay	25.5											
HCM 2010 LOS	C											

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing Plus Approved Project Conditions
PM Peak Hour

Intersection 9 **Matmor Rd/E Gibson Rd-I-5 NB Ramps** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	50	50	99.6%	33.0	7.6	C
	Through	60	60	99.3%	34.9	3.3	C
	Right Turn	130	127	97.7%	17.6	3.5	B
	Subtotal	240	236	98.5%	25.0	2.0	C
SB	Left Turn	140	140	100.2%	47.8	15.9	D
	Through	40	42	105.0%	30.9	10.1	C
	Right Turn	120	122	101.9%	18.1	6.6	B
	Subtotal	300	305	101.5%	33.4	11.1	C
EB	Left Turn	170	169	99.4%	44.8	5.6	D
	Through	910	916	100.7%	30.6	3.4	C
	Right Turn	80	80	99.6%	24.9	4.7	C
	Subtotal	1,160	1,165	100.4%	32.1	3.4	C
WB	Left Turn	220	228	103.8%	48.1	4.2	D
	Through	910	922	101.4%	25.2	3.7	C
	Right Turn	240	238	99.2%	9.1	0.9	A
	Subtotal	1,370	1,389	101.4%	26.3	3.2	C
Total		3,070	3,094	100.8%	29.1	2.9	C

Intersection 10 **SR 113 SB Ramps/E Gibson Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	110	106	96.1%	16.5	3.5	B
	Through						
	Right Turn	250	251	100.5%	0.6	0.1	A
	Subtotal	360	357	99.1%	5.7	1.5	A
EB	Left Turn						
	Through	1,050	1,047	99.7%	16.1	2.5	B
	Right Turn	130	135	103.6%	8.6	1.2	A
	Subtotal	1,180	1,182	100.2%	15.2	2.3	B
WB	Left Turn						
	Through	1,120	1,138	101.6%	12.2	2.5	B
	Right Turn	240	244	101.5%	5.9	0.7	A
	Subtotal	1,360	1,381	101.6%	11.1	2.1	B
Total		2,900	2,920	100.7%	12.1	1.4	B

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing Plus Approved Project Conditions
PM Peak Hour

Intersection 11

SR 113 NB Ramps/E Gibson Rd

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	220	221	100.4%	30.7	19.1	C
	Through						
	Right Turn	700	712	101.7%	30.6	29.8	C
	Subtotal	920	933	101.4%	30.7	27.3	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	1,060	1,059	99.9%	10.9	1.0	B
	Right Turn	100	101	100.6%	6.9	0.8	A
	Subtotal	1,160	1,160	100.0%	10.5	0.9	B
WB	Left Turn						
	Through	1,140	1,158	101.6%	13.8	0.8	B
	Right Turn	120	127	106.2%	10.3	0.6	B
	Subtotal	1,260	1,285	102.0%	13.5	0.7	B
Total		3,340	3,377	101.1%	17.5	7.7	B

Intersection 12

Bourn Dr-Harry Lorenzo Ave/E Gibson Rd

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn	10	11	107.0%	8.4	6.2	A
	Subtotal	10	11	107.0%	8.4	6.2	A
SB	Left Turn						
	Through						
	Right Turn	80	84	104.4%	12.5	4.0	B
	Subtotal	80	84	104.4%	12.5	4.0	B
EB	Left Turn						
	Through	1,600	1,609	100.5%	19.1	2.6	C
	Right Turn	160	164	102.3%	19.1	5.6	C
	Subtotal	1,760	1,772	100.7%	19.1	2.6	C
WB	Left Turn						
	Through	1,180	1,198	101.5%	7.2	0.8	A
	Right Turn	100	99	98.7%	7.2	0.8	A
	Subtotal	1,280	1,297	101.3%	7.2	0.8	A
Total		3,130	3,163	101.1%	14.1	1.6	B

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing Plus Approved Project Conditions
PM Peak Hour

Intersection 13

Pioneer Ave/E Gibson Rd

Signal

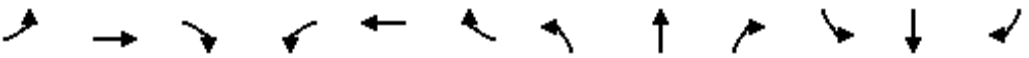
Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	330	339	102.6%	44.3	6.1	D
	Through	220	217	98.4%	23.8	3.3	C
	Right Turn	210	202	96.0%	9.4	1.7	A
	Subtotal	760	757	99.6%	29.8	3.8	C
SB	Left Turn	60	56	93.5%	43.8	7.3	D
	Through	330	327	99.2%	33.9	2.1	C
	Right Turn	210	212	101.0%	16.0	2.5	B
	Subtotal	600	596	99.3%	28.7	1.1	C
EB	Left Turn	380	384	101.0%	67.8	15.8	E
	Through	850	854	100.5%	67.7	22.7	E
	Right Turn	380	386	101.4%	41.5	21.9	D
	Subtotal	1,610	1,623	100.8%	61.4	20.7	E
WB	Left Turn	370	362	97.9%	47.5	4.7	D
	Through	740	746	100.8%	42.4	8.1	D
	Right Turn	50	52	104.4%	36.5	8.2	D
	Subtotal	1,160	1,160	100.0%	43.7	6.6	D
Total		4,130	4,136	100.1%	46.3	9.8	D

HCM Signalized Intersection Capacity Analysis

14: CR 102 & E. Gibson Rd/CR 24

Existing Plus Approved Projects

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	730	10	90	10	10	10	130	470	0	10	540	560
Future Volume (vph)	730	10	90	10	10	10	130	470	0	10	540	560
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	5.2	5.2		3.7		3.0	5.2		3.0	5.2	5.2
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	0.95		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85		0.95		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1649	1655	1553		1716		1736	3471		1736	1827	1532
Flt Permitted	0.95	0.95	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1649	1655	1553		1716		1736	3471		1736	1827	1532
Peak-hour factor, PHF	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	890	12	110	12	12	12	159	573	0	12	659	683
RTOR Reduction (vph)	0	0	79	0	11	0	0	0	0	0	0	304
Lane Group Flow (vph)	454	448	31	0	25	0	159	573	0	12	659	379
Confl. Bikes (#/hr)												2
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	2	2		6	6		3	8		7	4	
Permitted Phases			2									4
Actuated Green, G (s)	30.3	30.3	30.3		6.7		14.5	52.2		2.2	32.9	32.9
Effective Green, g (s)	30.3	30.3	30.3		6.7		14.5	52.2		2.2	32.9	32.9
Actuated g/C Ratio	0.28	0.28	0.28		0.06		0.13	0.48		0.02	0.30	0.30
Clearance Time (s)	5.2	5.2	5.2		3.7		3.0	5.2		3.0	5.2	5.2
Vehicle Extension (s)	1.0	1.0	1.0		1.0		1.0	1.5		1.0	1.5	1.5
Lane Grp Cap (vph)	460	462	433		105		232	1669		35	553	464
v/s Ratio Prot	c0.28	0.27			c0.01		c0.09	c0.17		0.01	c0.36	
v/s Ratio Perm			0.02									0.25
v/c Ratio	0.99	0.97	0.07		0.24		0.69	0.34		0.34	1.19	0.82
Uniform Delay, d1	38.9	38.6	28.8		48.5		44.8	17.5		52.4	37.8	35.0
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	38.1	33.5	0.0		0.4		6.5	0.0		2.1	103.2	10.2
Delay (s)	77.0	72.1	28.8		48.9		51.4	17.5		54.6	141.0	45.2
Level of Service	E	E	C		D		D	B		D	F	D
Approach Delay (s)		69.6			48.9			24.9			91.9	
Approach LOS		E			D			C			F	
Intersection Summary												
HCM 2000 Control Delay			68.5				HCM 2000 Level of Service			E		
HCM 2000 Volume to Capacity ratio			0.93									
Actuated Cycle Length (s)			108.5				Sum of lost time (s)			19.1		
Intersection Capacity Utilization			83.8%				ICU Level of Service			E		
Analysis Period (min)			15									
c Critical Lane Group												

HCM 2010 Signalized Intersection Summary

15: East St & CR 24A/Sports Park Dr

Existing Plus Approved Projects

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	50	50	20	30	40	90	280	60	40	200	50
Future Volume (veh/h)	30	50	50	20	30	40	90	280	60	40	200	50
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	33	54	24	22	33	18	98	304	60	43	217	49
Adj No. of Lanes	0	1	0	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	59	96	43	46	69	38	216	389	77	138	314	71
Arrive On Green	0.11	0.11	0.11	0.09	0.09	0.09	0.12	0.26	0.26	0.08	0.21	0.21
Sat Flow, veh/h	526	861	382	530	795	434	1774	1512	298	1774	1472	332
Grp Volume(v), veh/h	111	0	0	73	0	0	98	0	364	43	0	266
Grp Sat Flow(s),veh/h/ln	1769	0	0	1760	0	0	1774	0	1810	1774	0	1804
Q Serve(g_s), s	2.1	0.0	0.0	1.4	0.0	0.0	1.8	0.0	6.7	0.8	0.0	4.9
Cycle Q Clear(g_c), s	2.1	0.0	0.0	1.4	0.0	0.0	1.8	0.0	6.7	0.8	0.0	4.9
Prop In Lane	0.30		0.22	0.30		0.25	1.00		0.16	1.00		0.18
Lane Grp Cap(c), veh/h	198	0	0	152	0	0	216	0	466	138	0	385
V/C Ratio(X)	0.56	0.00	0.00	0.48	0.00	0.00	0.45	0.00	0.78	0.31	0.00	0.69
Avail Cap(c_a), veh/h	1235	0	0	1229	0	0	991	0	1516	991	0	1511
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.1	0.0	0.0	15.6	0.0	0.0	14.6	0.0	12.4	15.6	0.0	13.0
Incr Delay (d2), s/veh	0.9	0.0	0.0	0.9	0.0	0.0	0.6	0.0	1.1	0.5	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	0.0	0.7	0.0	0.0	0.9	0.0	3.5	0.4	0.0	2.5
LnGrp Delay(d),s/veh	16.0	0.0	0.0	16.5	0.0	0.0	15.2	0.0	13.5	16.1	0.0	13.8
LnGrp LOS	B			B			B		B	B		B
Approach Vol, veh/h	111				73		462				309	
Approach Delay, s/veh	16.0				16.5		13.8				14.1	
Approach LOS	B				B		B				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		3		4		6		7		8	
Phs Duration (G+Y+Rc), s	8.4		7.4		13.2		6.8		5.8		14.8	
Change Period (Y+Rc), s	4.4		3.0		* 5.6		3.7		3.0		5.6	
Max Green Setting (Gmax), s	25.0		20.0		* 30		25.0		20.0		30.0	
Max Q Clear Time (g_c+I1), s	4.1		3.8		6.9		3.4		2.8		8.7	
Green Ext Time (p_c), s	0.2		0.0		0.5		0.1		0.0		0.8	
Intersection Summary												
HCM 2010 Ctrl Delay			14.4									
HCM 2010 LOS			B									
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
16: Parkland Ave/Pioneer Ave & Farmers Central Rd

Existing Plus Approved Projects
Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	30	10	10	30	170	10	330	10	230	460	40
Future Volume (veh/h)	30	30	10	10	30	170	10	330	10	230	460	40
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.98	0.98		0.98	1.00		0.96	0.99		0.96
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1900	1845	1900	1845	1845	1900	1900	1845	1900	1900	1845	1900
Adj Flow Rate, veh/h	33	33	2	11	33	15	11	359	10	250	500	42
Adj No. of Lanes	0	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	211	151	7	386	172	78	102	1104	30	374	636	50
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.63	0.63	0.63	0.63	0.63	0.63
Sat Flow, veh/h	530	1041	48	1327	1192	542	15	1755	48	405	1011	79
Grp Volume(v), veh/h	68	0	0	11	0	48	380	0	0	792	0	0
Grp Sat Flow(s),veh/h/ln	1619	0	0	1327	0	1733	1817	0	0	1495	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	12.0	0.0	0.0
Cycle Q Clear(g_c), s	1.3	0.0	0.0	0.2	0.0	1.0	3.9	0.0	0.0	15.9	0.0	0.0
Prop In Lane	0.49		0.03	1.00		0.31	0.03		0.03	0.32		0.05
Lane Grp Cap(c), veh/h	368	0	0	386	0	251	1237	0	0	1060	0	0
V/C Ratio(X)	0.18	0.00	0.00	0.03	0.00	0.19	0.31	0.00	0.00	0.75	0.00	0.00
Avail Cap(c_a), veh/h	1300	0	0	1192	0	1305	2390	0	0	1994	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.1	0.0	0.0	14.7	0.0	15.0	3.5	0.0	0.0	5.4	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.0	0.0	0.4	0.1	0.0	0.0	1.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.0	0.1	0.0	0.5	1.9	0.0	0.0	6.7	0.0	0.0
LnGrp Delay(d),s/veh	15.4	0.0	0.0	14.7	0.0	15.4	3.6	0.0	0.0	6.5	0.0	0.0
LnGrp LOS	B			B		B	A			A		
Approach Vol, veh/h	68				59		380				792	
Approach Delay, s/veh	15.4				15.2		3.6				6.5	
Approach LOS	B				B		A				A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	29.6		10.3		29.6		10.3					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	51.0		30.0		51.0		30.0					
Max Q Clear Time (g_c+I1), s	5.9		3.3		17.9		3.0					
Green Ext Time (p_c), s	2.4		0.3		7.2		0.2					
Intersection Summary												
HCM 2010 Ctrl Delay	6.5											
HCM 2010 LOS	A											

HCM 2010 Signalized Intersection Summary

17: Parkland Ave & E. Heritage Pkwy

Existing Plus Approved Projects
Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	30	50	60	30	40	90	170	50	50	150	120
Future Volume (veh/h)	120	30	50	60	30	40	90	170	50	50	150	120
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	162	41	0	81	41	0	122	230	53	68	203	31
Adj No. of Lanes	1	1	0	1	1	1	1	1	0	2	1	1
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	458	250	0	335	120	102	381	302	70	539	278	231
Arrive On Green	0.25	0.13	0.00	0.19	0.06	0.00	0.21	0.20	0.20	0.15	0.15	0.15
Sat Flow, veh/h	1810	1900	0	1810	1900	1615	1810	1488	343	3510	1900	1579
Grp Volume(v), veh/h	162	41	0	81	41	0	122	0	283	68	203	31
Grp Sat Flow(s),veh/h/ln	1810	1900	0	1810	1900	1615	1810	0	1831	1755	1900	1579
Q Serve(g_s), s	3.3	0.8	0.0	1.7	0.9	0.0	2.5	0.0	6.5	0.7	4.5	0.8
Cycle Q Clear(g_c), s	3.3	0.8	0.0	1.7	0.9	0.0	2.5	0.0	6.5	0.7	4.5	0.8
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.19	1.00		1.00
Lane Grp Cap(c), veh/h	458	250	0	335	120	102	381	0	372	539	278	231
V/C Ratio(X)	0.35	0.16	0.00	0.24	0.34	0.00	0.32	0.00	0.76	0.13	0.73	0.13
Avail Cap(c_a), veh/h	816	1071	0	816	1071	910	816	0	1032	1583	1071	890
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.6	17.1	0.0	15.4	19.9	0.0	14.8	0.0	16.7	16.2	18.1	16.5
Incr Delay (d2), s/veh	0.2	0.1	0.0	0.1	0.6	0.0	0.2	0.0	1.2	0.0	1.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.5	0.0	0.8	0.5	0.0	1.3	0.0	3.3	0.4	2.5	0.3
LnGrp Delay(d),s/veh	13.8	17.2	0.0	15.6	20.5	0.0	15.0	0.0	17.9	16.2	19.5	16.6
LnGrp LOS	B	B		B	C		B		B	B	B	B
Approach Vol, veh/h	203			122			405			302		
Approach Delay, s/veh	14.5			17.2			17.0			18.5		
Approach LOS	B			B			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.2	10.2	12.3	10.6	14.2	7.2	9.8	13.1				
Change Period (Y+Rc), s	3.0	* 4.4	3.0	4.1	3.0	4.4	3.0	4.1				
Max Green Setting (Gmax), s	20.0	* 25	20.0	25.0	20.0	25.0	20.0	25.0				
Max Q Clear Time (g_c+I), s	13.7	2.8	4.5	6.5	5.3	2.9	2.7	8.5				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.3	0.1	0.0	0.0	0.5				
Intersection Summary												
HCM 2010 Ctrl Delay	17.0											
HCM 2010 LOS	B											
Notes												

User approved pedestrian interval to be less than phase max green.

User approved ignoring U-Turning movement.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary 18: CR 102 & E. Heritage Pkwy/CR 25

Existing Plus Approved Projects
Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	10	50	0	10	20	110	410	0	10	330	190
Future Volume (veh/h)	130	10	50	0	10	20	110	410	0	10	330	190
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1845	1845	1845	1845
Adj Flow Rate, veh/h	159	12	0	0	12	0	134	500	-6	12	402	98
Adj No. of Lanes	1	1	0	1	1	0	1	1	1	1	1	1
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	202	413	0	5	29	0	169	692	589	17	532	442
Arrive On Green	0.12	0.22	0.00	0.00	0.02	0.00	0.10	0.38	0.00	0.01	0.29	0.29
Sat Flow, veh/h	1757	1845	0	1757	1845	0	1757	1845	1568	1757	1845	1530
Grp Volume(v), veh/h	159	12	0	0	12	0	134	500	-6	12	402	98
Grp Sat Flow(s),veh/h/ln	1757	1845	0	1757	1845	0	1757	1845	1568	1757	1845	1530
Q Serve(g_s), s	2.8	0.2	0.0	0.0	0.2	0.0	2.4	7.5	0.0	0.2	6.4	1.6
Cycle Q Clear(g_c), s	2.8	0.2	0.0	0.0	0.2	0.0	2.4	7.5	0.0	0.2	6.4	1.6
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	202	413	0	5	29	0	169	692	589	17	532	442
V/C Ratio(X)	0.79	0.03	0.00	0.00	0.41	0.00	0.79	0.72	-0.01	0.72	0.76	0.22
Avail Cap(c_a), veh/h	818	1432	0	818	1432	0	1091	1718	1460	1091	1718	1425
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.9	9.8	0.0	0.0	15.7	0.0	14.2	8.6	0.0	15.9	10.4	8.7
Incr Delay (d2), s/veh	2.6	0.0	0.0	0.0	3.4	0.0	3.1	0.5	0.0	19.3	0.8	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.1	0.0	0.0	0.1	0.0	1.3	3.9	0.0	0.2	3.4	0.7
LnGrp Delay(d),s/veh	16.4	9.8	0.0	0.0	19.1	0.0	17.4	9.2	0.0	35.2	11.3	8.8
LnGrp LOS	B	A			B		B	A		D	B	A
Approach Vol, veh/h	171			12			628			512		
Approach Delay, s/veh	16.0			19.1			11.0			11.3		
Approach LOS	B			B			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	0.0	11.3	6.1	14.8	6.7	4.6	3.3	17.6				
Change Period (Y+Rc), s	3.0	4.1	3.0	5.5	3.0	4.1	3.0	5.5				
Max Green Setting (Gmax), s	15.0	25.0	20.0	30.0	15.0	25.0	20.0	30.0				
Max Q Clear Time (g_c+I), s	10.0	2.2	4.4	8.4	4.8	2.2	2.2	9.5				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.2				
Intersection Summary												
HCM 2010 Ctrl Delay	11.8											
HCM 2010 LOS	B											

Intersection				
Intersection Delay, s/veh	7.7			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	136	109	424	277
Demand Flow Rate, veh/h	137	111	432	281
Vehicles Circulating, veh/h	285	466	167	118
Vehicles Exiting, veh/h	114	133	255	459
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	2
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.9	6.9	9.2	6.5
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LT	LTR	LTR	L
Assumed Moves	LT	LTR	LTR	L
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	137	111	432	281
Cap Entry Lane, veh/h	850	709	956	1004
Entry HV Adj Factor	0.993	0.985	0.982	0.985
Flow Entry, veh/h	136	109	424	277
Cap Entry, veh/h	844	699	939	988
V/C Ratio	0.161	0.157	0.452	0.280
Control Delay, s/veh	5.9	6.9	9.2	6.5
LOS	A	A	A	A
95th %tile Queue, veh	1	1	2	1

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing + Approved
PM Peak Hour

Intersection 20

East St/CR 25A

All-way Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	10	8	80.0%	3.1	2.0	A
	Through	10	9	88.0%	6.4	3.6	A
	Right Turn	10	11	110.0%	2.1	0.9	A
	Subtotal	30	28	92.7%	4.2	1.6	A
SB	Left Turn	140	138	98.4%	6.5	0.7	A
	Through	10	9	92.0%	9.0	1.3	A
	Right Turn	40	40	101.0%	4.9	0.8	A
	Subtotal	190	187	98.6%	6.3	0.6	A
EB	Left Turn	60	54	90.7%	6.5	1.2	A
	Through	110	102	92.7%	9.5	0.7	A
	Right Turn	10	9	93.0%	3.5	1.5	A
	Subtotal	180	166	92.1%	8.2	0.8	A
WB	Left Turn	10	11	107.0%	15.8	4.8	C
	Through	180	178	98.9%	20.2	3.3	C
	Right Turn	330	331	100.2%	15.1	2.6	C
	Subtotal	520	520	99.9%	16.9	2.8	C
Total		920	900	97.9%	12.5	1.8	B

Intersection 21

SR 113 SB Ramps/CR 25A

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	10	9	92.0%	10.5	4.4	B
	Through						
	Right Turn	40	39	97.0%	4.4	1.4	A
	Subtotal	50	48	96.0%	6.0	1.8	A
EB	Left Turn						
	Through	110	102	93.1%	3.9	0.8	A
	Right Turn	150	148	98.9%	2.6	0.6	A
	Subtotal	260	251	96.5%	3.1	0.6	A
WB	Left Turn	110	103	93.5%	4.5	1.0	A
	Through	480	481	100.2%	3.5	0.8	A
	Right Turn						
	Subtotal	590	584	98.9%	3.7	0.8	A
Total		900	883	98.1%	3.7	0.6	A

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing + Approved
PM Peak Hour

Intersection 22

SR 113 NB Ramps/CR 25A

Side-street Stop

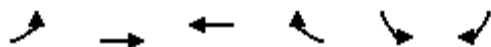
Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	370	375	101.4%	30.2	13.7	D
	Through						
	Right Turn	290	294	101.2%	25.7	12.6	D
	Subtotal	660	669	101.3%	28.3	13.3	D
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	30	26	87.3%	2.8	1.0	A
	Through	90	85	94.9%	1.9	0.5	A
	Right Turn						
	Subtotal	120	112	93.0%	2.1	0.6	A
WB	Left Turn						
	Through	220	206	93.6%	1.7	0.3	A
	Right Turn	10	11	105.0%	0.8	1.0	A
	Subtotal	230	217	94.1%	1.7	0.3	A
Total		1,010	997	98.7%	19.4	8.5	C

Intersection						
Int Delay, s/veh	2.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	70	210	520	370	10
Future Vol, veh/h	10	70	210	520	370	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	76	228	565	402	11
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1423	402	413	0	-	0
Stage 1	402	-	-	-	-	-
Stage 2	1021	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	150	648	1146	-	-	-
Stage 1	676	-	-	-	-	-
Stage 2	348	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	120	648	1146	-	-	-
Mov Cap-2 Maneuver	120	-	-	-	-	-
Stage 1	541	-	-	-	-	-
Stage 2	348	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	14.6	2.6		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1146	-	120	648	-	-
HCM Lane V/C Ratio	0.199	-	0.091	0.117	-	-
HCM Control Delay (s)	8.9	-	38	11.3	-	-
HCM Lane LOS	A	-	E	B	-	-
HCM 95th %tile Q(veh)	0.7	-	0.3	0.4	-	-

HCM Signalized Intersection Capacity Analysis

36: Parkland Ave & Pioneer Ave

Existing Plus Approved Projects
Timing Plan: PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	310	300	0
Future Volume (vph)	0	0	0	310	300	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.5	4.5	
Lane Util. Factor				1.00	0.97	
Frt				0.85	1.00	
Flt Protected				1.00	0.95	
Satd. Flow (prot)				1583	3433	
Flt Permitted				1.00	0.95	
Satd. Flow (perm)				1583	3433	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	337	326	0
RTOR Reduction (vph)	0	0	0	255	0	0
Lane Group Flow (vph)	0	0	0	82	326	0
Turn Type	Prot			Perm	Prot	
Protected Phases	5		6		4	
Permitted Phases		2		6		
Actuated Green, G (s)				7.9	9.6	
Effective Green, g (s)				7.9	9.6	
Actuated g/C Ratio				0.24	0.29	
Clearance Time (s)				4.5	4.5	
Vehicle Extension (s)				3.0	3.0	
Lane Grp Cap (vph)				383	1010	
v/s Ratio Prot					c0.09	
v/s Ratio Perm				c0.05		
v/c Ratio				0.21	0.32	
Uniform Delay, d1				9.9	9.0	
Progression Factor				1.00	1.00	
Incremental Delay, d2				0.3	0.2	
Delay (s)				10.1	9.2	
Level of Service				B	A	
Approach Delay (s)		0.0	10.1		9.2	
Approach LOS		A	B		A	
Intersection Summary						
HCM 2000 Control Delay			9.7		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.25			
Actuated Cycle Length (s)			32.6		Sum of lost time (s)	13.5
Intersection Capacity Utilization			22.9%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

Intersection			
Intersection Delay, s/veh 6.9			
Intersection LOS A			
Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	424	163	196
Demand Flow Rate, veh/h	433	167	200
Vehicles Circulating, veh/h	34	355	78
Vehicles Exiting, veh/h	244	112	444
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	7.5	6.9	5.3
Approach LOS	A	A	A
Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	433	167	200
Cap Entry Lane, veh/h	1092	792	1045
Entry HV Adj Factor	0.980	0.979	0.980
Flow Entry, veh/h	424	163	196
Cap Entry, veh/h	1071	776	1024
V/C Ratio	0.396	0.211	0.191
Control Delay, s/veh	7.5	6.9	5.3
LOS	A	A	A
95th %tile Queue, veh	2	1	1

HCM 2010 Signalized Intersection Summary

1: East St & Main St/E Main St

Existing+Approved+Project Conditions

Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	370	80	80	570	370	70	350	80	160	220	50
Future Volume (veh/h)	50	370	80	80	570	370	70	350	80	160	220	50
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		1.00
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	54	402	30	87	620	334	76	380	70	174	239	39
Adj No. of Lanes	1	2	1	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	65	1154	507	110	774	417	95	556	101	222	787	127
Arrive On Green	0.04	0.33	0.33	0.06	0.35	0.35	0.05	0.19	0.19	0.13	0.26	0.26
Sat Flow, veh/h	1757	3505	1541	1757	2184	1176	1757	2954	539	1757	3022	486
Grp Volume(v), veh/h	54	402	30	87	498	456	76	224	226	174	137	141
Grp Sat Flow(s),veh/h/ln	1757	1752	1541	1757	1752	1608	1757	1752	1740	1757	1752	1756
Q Serve(g_s), s	1.5	4.2	0.6	2.4	12.4	12.4	2.1	5.7	5.9	4.6	3.0	3.1
Cycle Q Clear(g_c), s	1.5	4.2	0.6	2.4	12.4	12.4	2.1	5.7	5.9	4.6	3.0	3.1
Prop In Lane	1.00		1.00	1.00		0.73	1.00		0.31	1.00		0.28
Lane Grp Cap(c), veh/h	65	1154	507	110	621	570	95	330	327	222	456	457
V/C Ratio(X)	0.83	0.35	0.06	0.79	0.80	0.80	0.80	0.68	0.69	0.78	0.30	0.31
Avail Cap(c_a), veh/h	727	2900	1276	727	1450	1330	872	1450	1440	872	1450	1453
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.1	12.3	11.1	22.3	14.1	14.1	22.6	18.3	18.3	20.5	14.3	14.4
Incr Delay (d2), s/veh	9.3	0.1	0.0	4.8	0.9	1.0	5.7	0.9	1.0	2.3	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	2.0	0.3	1.3	6.1	5.6	1.1	2.8	2.9	2.4	1.5	1.5
LnGrp Delay(d),s/veh	32.4	12.4	11.1	27.1	15.0	15.1	28.3	19.2	19.3	22.8	14.5	14.5
LnGrp LOS	C	B	B	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		486			1041			526			452	
Approach Delay, s/veh		14.5			16.0			20.5			17.7	
Approach LOS		B			B			C			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	4.8	21.2	5.6	16.7	6.0	20.0	9.1	13.2				
Change Period (Y+Rc), s	3.0	4.1	3.0	4.1	3.0	4.1	3.0	4.1				
Max Green Setting (Gmax), s	20.0	40.0	24.0	40.0	20.0	40.0	24.0	40.0				
Max Q Clear Time (g_c+I1), s	3.5	14.4	4.1	5.1	4.4	6.2	6.6	7.9				
Green Ext Time (p_c), s	0.0	2.6	0.0	0.7	0.0	1.4	0.1	1.3				
Intersection Summary												
HCM 2010 Ctrl Delay				17.0								
HCM 2010 LOS				B								

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing + Approved + Project Conditions
AM Peak Hour

Intersection 2

Industrial Way-SR 113 SB Off-Ramp/Main Street

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	60	62	103.7%	28.1	5.7	C
	Through	20	19	92.5%	28.2	10.9	C
	Right Turn	50	51	102.0%	13.8	6.0	B
	Subtotal	130	132	101.3%	22.7	5.9	C
SB	Left Turn	70	71	100.7%	26.2	5.9	C
	Through	90	82	90.6%	27.5	6.6	C
	Right Turn	20	20	100.0%	17.2	11.3	B
	Subtotal	180	172	95.6%	26.0	5.4	C
EB	Left Turn	30	28	92.3%	34.5	7.2	C
	Through	530	533	100.5%	21.5	2.4	C
	Right Turn	190	199	104.7%	13.5	1.8	B
	Subtotal	750	760	101.3%	19.8	2.2	B
WB	Left Turn	660	452	68.5%	177.3	10.3	F
	Through	1,080	854	79.1%	12.1	3.1	B
	Right Turn	120	103	85.8%	10.3	3.3	B
	Subtotal	1,860	1,409	75.8%	66.8	3.6	E
Total		2,920	2,472	84.7%	47.2	1.9	D

Intersection 3

SR 113 NB Ramps/Main Street

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	290	284	98.0%	36.2	15.4	D
	Through						
	Right Turn	750	716	95.5%	132.2	82.7	F
	Subtotal	1,040	1,001	96.2%	106.2	64.4	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	630	630	100.0%	38.4	17.4	D
	Right Turn	30	31	103.7%	46.3	32.5	D
	Subtotal	660	661	100.1%	38.7	17.8	D
WB	Left Turn	40	27	66.5%	52.9	27.7	D
	Through	1,570	1,141	72.7%	34.9	20.3	C
	Right Turn						
	Subtotal	1,610	1,168	72.5%	35.3	20.4	D
Total		3,310	2,829	85.5%	60.3	20.8	E

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing + Approved + Project Conditions
AM Peak Hour

Intersection 4

Pioneer Avenue/Main Street

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	270	214	79.2%	50.9	21.3	D
	Through	320	259	80.9%	43.5	4.5	D
	Right Turn	560	434	77.5%	211.8	13.8	F
	Subtotal	1,150	906	78.8%	128.4	7.3	F
SB	Left Turn	80	82	102.8%	52.0	5.5	D
	Through	160	158	98.6%	34.3	4.9	C
	Right Turn	60	59	98.2%	18.7	8.8	B
	Subtotal	300	299	99.6%	36.4	3.9	D
EB	Left Turn	140	137	97.9%	58.2	8.4	E
	Through	1,080	1,053	97.5%	42.1	6.3	D
	Right Turn	210	201	95.7%	47.3	7.6	D
	Subtotal	1,430	1,391	97.3%	44.4	5.8	D
NW	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	160	111	69.4%	92.3	10.9	F
	Through	1,300	919	70.7%	86.5	9.2	F
	Right Turn	110	75	68.4%	57.9	6.6	E
	Subtotal	1,570	1,105	70.4%	85.2	9.2	F
Total		4,450	3,701	83.2%	101.5	7.8	F

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing + Approved + Project Conditions
AM Peak Hour

Intersection 5

Interstate-5 NB Off-Ramp/Main Street

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	1,290	822	63.7%	611.9	72.3	F
	Through						
	Right Turn	10	6	61.0%	554.1	61.0	F
	Subtotal	1,300	828	63.7%	611.9	72.3	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	880	799	90.8%	18.5	2.2	B
	Right Turn						
	Subtotal	880	799	90.8%	18.5	2.2	B
WB	Left Turn						
	Through	290	290	99.9%	27.4	5.7	C
	Right Turn						
	Subtotal	290	290	99.9%	27.4	5.7	C
Total		2,470	1,917	77.6%	267.5	12.4	F

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing + Approved + Project Conditions
AM Peak Hour

Intersection 6

CR 102/Hays Lane-I-5 NB Ramps

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	50	50	99.4%	35.4	6.5	D
	Through	280	276	98.6%	16.3	2.2	B
	Right Turn	100	97	97.3%	2.9	0.4	A
	Subtotal	430	423	98.4%	15.3	2.4	B
SB	Left Turn						
	Through	640	637	99.5%	25.3	3.1	C
	Right Turn	10	11	114.0%	14.2	10.9	B
	Subtotal	650	648	99.8%	25.1	3.1	C
EB	Left Turn	20	19	93.5%	35.2	9.7	D
	Through						
	Right Turn	60	60	99.8%	28.4	4.4	C
	Subtotal	80	79	98.3%	30.5	4.4	C
WB	Left Turn	710	716	100.8%	24.7	2.7	C
	Through	40	38	96.0%	30.2	6.0	C
	Right Turn	220	219	99.5%	19.8	3.6	B
	Subtotal	970	973	100.4%	23.9	2.5	C
Total		2,130	2,123	99.7%	22.8	2.0	C

Intersection 7

CR 102/I-5 SB Ramps

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through	360	358	99.4%	3.2	0.6	A
	Right Turn	560	560	100.1%	4.9	0.6	A
	Subtotal	920	918	99.8%	4.2	0.5	A
SB	Left Turn						
	Through	1,070	1,082	101.1%	7.9	1.0	A
	Right Turn	280	268	95.9%	8.5	0.8	A
	Subtotal	1,350	1,350	100.0%	8.0	0.9	A
EB	Left Turn	70	64	90.9%	8.3	1.4	A
	Through						
	Right Turn	130	138	106.1%	5.4	1.0	A
	Subtotal	200	202	100.8%	6.3	0.9	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		2,470	2,470	100.0%	6.5	0.5	A

HCM 2010 Signalized Intersection Summary

8: East St & Gibson Rd/E Gibson Rd

Existing+Approved+Project Conditions

Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	760	110	70	750	140	110	180	80	120	170	120
Future Volume (veh/h)	150	760	110	70	750	140	110	180	80	120	170	120
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		1.00
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1845	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	181	916	126	84	904	92	133	217	50	145	205	21
Adj No. of Lanes	1	2	0	1	2	1	1	2	0	1	2	0
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	274	1086	149	226	1136	499	260	422	95	265	487	49
Arrive On Green	0.16	0.35	0.35	0.13	0.32	0.32	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1757	3087	425	1757	3505	1539	1757	2833	638	1757	3213	326
Grp Volume(v), veh/h	181	520	522	84	904	92	133	132	135	145	111	115
Grp Sat Flow(s),veh/h/ln	1757	1752	1759	1757	1752	1539	1757	1752	1719	1757	1752	1786
Q Serve(g_s), s	6.6	18.7	18.7	3.0	16.0	2.9	4.8	4.7	4.9	5.2	3.9	4.0
Cycle Q Clear(g_c), s	6.6	18.7	18.7	3.0	16.0	2.9	4.8	4.7	4.9	5.2	3.9	4.0
Prop In Lane	1.00		0.24	1.00		1.00	1.00		0.37	1.00		0.18
Lane Grp Cap(c), veh/h	274	617	619	226	1136	499	260	261	256	265	266	271
V/C Ratio(X)	0.66	0.84	0.84	0.37	0.80	0.18	0.51	0.51	0.53	0.55	0.42	0.43
Avail Cap(c_a), veh/h	721	1027	1031	515	2055	902	515	1027	1008	721	1027	1047
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.1	20.4	20.4	27.2	21.0	16.6	26.8	26.7	26.8	26.8	26.2	26.2
Incr Delay (d2), s/veh	1.0	1.4	1.4	0.4	0.5	0.1	0.6	0.6	0.6	0.7	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.3	9.2	9.2	1.5	7.7	1.2	2.3	2.3	2.4	2.6	1.9	2.0
LnGrp Delay(d),s/veh	28.1	21.8	21.8	27.6	21.5	16.6	27.4	27.3	27.4	27.5	26.6	26.6
LnGrp LOS	C	C	C	C	C	B	C	C	C	C	C	C
Approach Vol, veh/h	1223				1080				400		371	
Approach Delay, s/veh	22.7				21.5				27.4		26.9	
Approach LOS	C				C				C		C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.3	15.1	11.8	28.1	13.1	15.2	13.6	26.2				
Change Period (Y+Rc), s	3.0	4.9	3.0	4.1	3.0	4.9	3.0	4.1				
Max Green Setting (Gmax), s	28.0	40.0	20.0	40.0	20.0	40.0	28.0	40.0				
Max Q Clear Time (g_c+I), s	17.2	6.9	5.0	20.7	6.8	6.0	8.6	18.0				
Green Ext Time (p_c), s	0.1	0.9	0.0	3.2	0.0	0.8	0.2	3.4				
Intersection Summary												
HCM 2010 Ctrl Delay			23.4									
HCM 2010 LOS			C									

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing Plus Approved Plus Project (2030) Conditions
AM Peak Hour

Intersection 9

Matmor Rd/E Gibson Rd-I-5 NB Ramps

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	60	55	91.3%	25.1	6.2	C
	Through	40	38	95.8%	28.9	8.0	C
	Right Turn	240	247	102.8%	20.4	5.2	C
	Subtotal	340	340	100.0%	22.0	5.1	C
SB	Left Turn	330	236	71.4%	401.1	29.9	F
	Through	30	23	76.0%	354.4	64.2	F
	Right Turn	120	89	73.8%	376.3	32.7	F
	Subtotal	480	347	72.3%	393.0	28.4	F
EB	Left Turn	110	106	96.2%	61.1	23.0	E
	Through	1,050	1,059	100.9%	54.7	28.6	D
	Right Turn	30	29	95.0%	47.0	26.4	D
	Subtotal	1,190	1,194	100.3%	55.1	27.9	E
WB	Left Turn	70	67	95.7%	45.8	8.9	D
	Through	920	869	94.5%	26.2	4.1	C
	Right Turn	160	152	95.2%	6.1	1.0	A
	Subtotal	1,150	1,088	94.6%	24.5	3.2	C
Total		3,160	2,969	94.0%	83.2	11.9	F

Intersection 10

SR 113 SB Ramps/E Gibson Rd

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	190	193	101.5%	15.7	1.8	B
	Through						
	Right Turn	240	251	104.5%	0.9	0.1	A
	Subtotal	430	444	103.2%	7.4	1.0	A
EB	Left Turn						
	Through	1,240	1,182	95.3%	17.8	2.0	B
	Right Turn	380	359	94.4%	12.8	1.5	B
	Subtotal	1,620	1,540	95.1%	16.6	1.9	B
WB	Left Turn						
	Through	910	833	91.5%	10.1	2.1	B
	Right Turn	560	495	88.3%	6.2	0.4	A
	Subtotal	1,470	1,328	90.3%	8.8	1.5	A
Total		3,520	3,312	94.1%	12.1	1.2	B

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing Plus Approved Plus Project (2030) Conditions
AM Peak Hour

Intersection 11 **SR 113 NB Ramps/E Gibson Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	130	135	103.5%	16.8	1.6	B
	Through						
	Right Turn	180	180	100.0%	1.5	0.1	A
	Subtotal	310	315	101.5%	8.1	0.6	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	950	910	95.8%	10.1	1.1	B
	Right Turn	480	467	97.4%	7.9	0.9	A
	Subtotal	1,430	1,377	96.3%	9.4	1.0	A
WB	Left Turn						
	Through	1,340	1,192	89.0%	16.0	1.8	B
	Right Turn	240	210	87.5%	12.2	1.2	B
	Subtotal	1,580	1,402	88.7%	15.5	1.8	B
Total		3,320	3,094	93.2%	12.0	1.0	B

Intersection 12 **Bourn Dr-Harry Lorenzo Ave/E Gibson Rd** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn	170	171	100.8%	24.2	14.7	C
	Subtotal	170	171	100.8%	24.2	14.7	C
SB	Left Turn						
	Through						
	Right Turn	170	171	100.7%	65.3	38.5	F
	Subtotal	170	171	100.7%	65.3	38.5	F
EB	Left Turn						
	Through	1,030	988	95.9%	6.6	0.4	A
	Right Turn	100	101	101.4%	5.9	1.1	A
	Subtotal	1,130	1,089	96.4%	6.6	0.4	A
WB	Left Turn						
	Through	1,410	1,231	87.3%	7.9	0.7	A
	Right Turn	60	55	91.7%	6.6	1.3	A
	Subtotal	1,470	1,286	87.5%	7.8	0.7	A
Total		2,940	2,718	92.4%	12.5	2.7	B

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing Plus Approved Plus Project (2030) Conditions
AM Peak Hour

Intersection 13

Pioneer Ave/E Gibson Rd

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	700	526	75.2%	235.9	3.3	F
	Through	630	518	82.3%	31.2	4.3	C
	Right Turn	520	411	79.1%	20.7	2.9	C
	Subtotal	1,850	1,456	78.7%	107.3	4.2	F
SB	Left Turn	70	69	98.7%	52.0	9.9	D
	Through	420	422	100.6%	36.1	4.7	D
	Right Turn	280	276	98.5%	51.3	42.3	D
	Subtotal	770	767	99.6%	44.5	20.1	D
EB	Left Turn	270	258	95.7%	56.7	3.3	E
	Through	530	510	96.3%	47.2	3.8	D
	Right Turn	400	389	97.2%	34.0	10.0	C
	Subtotal	1,200	1,158	96.5%	44.9	3.3	D
WB	Left Turn	450	450	99.9%	108.9	49.2	F
	Through	490	481	98.2%	37.3	8.2	D
	Right Turn	20	20	97.5%	21.0	15.3	C
	Subtotal	960	950	99.0%	73.2	29.6	E
Total		4,780	4,331	90.6%	71.3	8.5	E

HCM Signalized Intersection Capacity Analysis

14: CR 102 & E. Gibson Rd/CR 24

Existing+Approved+Project Conditions

Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	390	10	110	10	10	10	110	490	0	10	250	550
Future Volume (vph)	390	10	110	10	10	10	110	490	0	10	250	550
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	5.2	5.2		3.7		3.0	5.2		3.0	5.2	5.2
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	0.95		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85		0.95		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1649	1657	1553		1716		1736	3471		1736	1827	1532
Flt Permitted	0.95	0.95	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1649	1657	1553		1716		1736	3471		1736	1827	1532
Peak-hour factor, PHF	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	476	12	134	12	12	12	134	598	0	12	305	671
RTOR Reduction (vph)	0	0	107	0	11	0	0	0	0	0	0	493
Lane Group Flow (vph)	243	245	27	0	25	0	134	598	0	12	305	178
Confl. Bikes (#/hr)												2
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	2	2		6	6		3	8		7	4	
Permitted Phases			2									4
Actuated Green, G (s)	16.9	16.9	16.9		6.1		13.9	41.7		1.7	22.1	22.1
Effective Green, g (s)	16.9	16.9	16.9		6.1		13.9	41.7		1.7	22.1	22.1
Actuated g/C Ratio	0.20	0.20	0.20		0.07		0.17	0.50		0.02	0.26	0.26
Clearance Time (s)	5.2	5.2	5.2		3.7		3.0	5.2		3.0	5.2	5.2
Vehicle Extension (s)	1.0	1.0	1.0		1.0		1.0	1.5		1.0	1.5	1.5
Lane Grp Cap (vph)	333	335	314		125		288	1733		35	483	405
v/s Ratio Prot	0.15	c0.15			c0.01		c0.08	c0.17		0.01	c0.17	
v/s Ratio Perm			0.02									0.12
v/c Ratio	0.73	0.73	0.09		0.20		0.47	0.35		0.34	0.63	0.44
Uniform Delay, d1	31.2	31.2	27.0		36.4		31.4	12.6		40.3	27.1	25.5
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	6.6	6.9	0.0		0.3		0.4	0.0		2.1	2.0	0.3
Delay (s)	37.8	38.1	27.1		36.7		31.9	12.7		42.5	29.1	25.8
Level of Service	D	D	C		D		C	B		D	C	C
Approach Delay (s)		35.6			36.7			16.2			27.0	
Approach LOS		D			D			B			C	
Intersection Summary												
HCM 2000 Control Delay			26.1				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.57									
Actuated Cycle Length (s)			83.5				Sum of lost time (s)			19.1		
Intersection Capacity Utilization			73.8%				ICU Level of Service			D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM 2010 Signalized Intersection Summary

15: East St & CR 24A/Sports Park Dr

Existing+Approved+Project Conditions
Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	30	150	70	40	30	40	220	20	20	280	20
Future Volume (veh/h)	20	30	150	70	40	30	40	220	20	20	280	20
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1900	1827	1900	1900	1827	1900	1827	1827	1900	1827	1827	1900
Adj Flow Rate, veh/h	25	37	29	86	49	23	49	272	20	25	346	21
Adj No. of Lanes	0	1	0	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	218	156	98	334	113	42	138	495	36	88	453	27
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.08	0.29	0.29	0.05	0.27	0.27
Sat Flow, veh/h	284	831	521	712	604	224	1740	1681	124	1740	1704	103
Grp Volume(v), veh/h	91	0	0	158	0	0	49	0	292	25	0	367
Grp Sat Flow(s),veh/h/ln	1636	0	0	1541	0	0	1740	0	1805	1740	0	1808
Q Serve(g_s), s	0.0	0.0	0.0	1.2	0.0	0.0	0.7	0.0	3.8	0.4	0.0	5.2
Cycle Q Clear(g_c), s	1.3	0.0	0.0	2.4	0.0	0.0	0.7	0.0	3.8	0.4	0.0	5.2
Prop In Lane	0.27		0.32	0.54		0.15	1.00		0.07	1.00		0.06
Lane Grp Cap(c), veh/h	472	0	0	489	0	0	138	0	531	88	0	480
V/C Ratio(X)	0.19	0.00	0.00	0.32	0.00	0.00	0.36	0.00	0.55	0.28	0.00	0.76
Avail Cap(c_a), veh/h	1576	0	0	1532	0	0	1252	0	1948	1252	0	1951
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.7	0.0	0.0	10.1	0.0	0.0	12.1	0.0	8.3	12.7	0.0	9.4
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.1	0.0	0.0	0.6	0.0	0.3	0.6	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.0	1.1	0.0	0.0	0.4	0.0	1.9	0.2	0.0	2.7
LnGrp Delay(d),s/veh	9.8	0.0	0.0	10.3	0.0	0.0	12.7	0.0	8.6	13.4	0.0	10.4
LnGrp LOS	A			B			B		A	B		B
Approach Vol, veh/h	91			158			341			392		
Approach Delay, s/veh	9.8			10.3			9.2			10.6		
Approach LOS	A			B			A			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		9.6	5.2	13.0		9.6	4.4	13.8				
Change Period (Y+Rc), s		4.4	3.0	* 5.6		* 4.4	3.0	5.6				
Max Green Setting (Gmax), s		25.0	20.0	* 30		* 25	20.0	30.0				
Max Q Clear Time (g_c+I1), s		3.3	2.7	7.2		4.4	2.4	5.8				
Green Ext Time (p_c), s		0.2	0.0	0.6		0.3	0.0	0.5				
Intersection Summary												
HCM 2010 Ctrl Delay	10.0											
HCM 2010 LOS	A											
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
16: Parkland Ave/Pioneer Ave & Farmers Central Rd

Existing+Approved+Project Conditions
Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	30	10	10	20	270	10	950	10	100	610	30
Future Volume (veh/h)	40	30	10	10	20	270	10	950	10	100	610	30
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.99	1.00		0.98	1.00		0.96
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1900	1845	1900	1845	1845	1900	1900	1845	1900	1900	1845	1900
Adj Flow Rate, veh/h	43	33	4	11	22	191	11	1033	11	109	663	32
Adj No. of Lanes	0	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	119	75	7	306	31	271	50	1210	13	139	749	35
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.67	0.67	0.67	0.67	0.67	0.67
Sat Flow, veh/h	253	391	34	1338	163	1411	6	1808	19	130	1119	52
Grp Volume(v), veh/h	80	0	0	11	0	213	1055	0	0	804	0	0
Grp Sat Flow(s),veh/h/ln	679	0	0	1338	0	1574	1833	0	0	1300	0	0
Q Serve(g_s), s	2.1	0.0	0.0	0.0	0.0	10.0	0.0	0.0	0.0	8.6	0.0	0.0
Cycle Q Clear(g_c), s	12.1	0.0	0.0	0.7	0.0	10.0	35.0	0.0	0.0	43.6	0.0	0.0
Prop In Lane	0.54		0.05	1.00		0.90	0.01		0.01	0.14		0.04
Lane Grp Cap(c), veh/h	201	0	0	306	0	302	1273	0	0	922	0	0
V/C Ratio(X)	0.40	0.00	0.00	0.04	0.00	0.70	0.83	0.00	0.00	0.87	0.00	0.00
Avail Cap(c_a), veh/h	477	0	0	574	0	618	1630	0	0	1193	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	30.3	0.0	0.0	26.0	0.0	29.7	10.1	0.0	0.0	10.2	0.0	0.0
Incr Delay (d2), s/veh	1.3	0.0	0.0	0.0	0.0	3.0	2.9	0.0	0.0	5.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0	0.0	0.2	0.0	4.6	18.3	0.0	0.0	16.7	0.0	0.0
LnGrp Delay(d),s/veh	31.6	0.0	0.0	26.0	0.0	32.7	13.0	0.0	0.0	16.1	0.0	0.0
LnGrp LOS	C			C		C	B			B		
Approach Vol, veh/h	80		224				1055		804			
Approach Delay, s/veh	31.6		32.4				13.0		16.1			
Approach LOS	C		C				B		B			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	58.5		20.2		58.5		20.2					
Change Period (Y+Rc), s	5.8		5.1		5.8		5.1					
Max Green Setting (Gmax), s	68.2		30.9		68.2		30.9					
Max Q Clear Time (g_c+I1), s	37.0		14.1		45.6		12.0					
Green Ext Time (p_c), s	10.3		0.3		7.1		1.2					
Intersection Summary												
HCM 2010 Ctrl Delay			16.9									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

17: Parkland Ave & E. Heritage Pkwy

Existing+Approved+Project Conditions

Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	190	60	100	90	30	40	70	220	70	40	240	60
Future Volume (veh/h)	190	60	100	90	30	40	70	220	70	40	240	60
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	257	81	57	122	41	0	95	297	83	54	324	3
Adj No. of Lanes	1	1	0	1	1	1	1	1	0	2	1	1
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	456	117	83	383	139	118	318	370	103	444	400	333
Arrive On Green	0.25	0.11	0.11	0.21	0.07	0.00	0.18	0.26	0.26	0.13	0.21	0.21
Sat Flow, veh/h	1810	1035	728	1810	1900	1615	1810	1423	398	3510	1900	1580
Grp Volume(v), veh/h	257	0	138	122	41	0	95	0	380	54	324	3
Grp Sat Flow(s),veh/h/ln	1810	0	1763	1810	1900	1615	1810	0	1821	1755	1900	1580
Q Serve(g_s), s	6.2	0.0	3.8	2.9	1.0	0.0	2.3	0.0	9.8	0.7	8.1	0.1
Cycle Q Clear(g_c), s	6.2	0.0	3.8	2.9	1.0	0.0	2.3	0.0	9.8	0.7	8.1	0.1
Prop In Lane	1.00		0.41	1.00		1.00	1.00		0.22	1.00		1.00
Lane Grp Cap(c), veh/h	456	0	200	383	139	118	318	0	473	444	400	333
V/C Ratio(X)	0.56	0.00	0.69	0.32	0.29	0.00	0.30	0.00	0.80	0.12	0.81	0.01
Avail Cap(c_a), veh/h	721	0	878	721	946	804	721	0	907	1398	946	787
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.4	0.0	21.4	16.7	22.0	0.0	18.0	0.0	17.4	19.5	18.9	15.7
Incr Delay (d2), s/veh	0.4	0.0	1.6	0.2	0.4	0.0	0.2	0.0	1.2	0.0	1.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	0.0	1.9	1.4	0.6	0.0	1.2	0.0	5.0	0.3	4.4	0.0
LnGrp Delay(d),s/veh	16.8	0.0	23.0	16.9	22.5	0.0	18.2	0.0	18.6	19.5	20.4	15.7
LnGrp LOS	B		C	B	C		B		B	B	C	B
Approach Vol, veh/h	395			163			475			381		
Approach Delay, s/veh	19.0			18.3			18.5			20.2		
Approach LOS	B			B			B			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.6	10.1	11.8	14.7	15.6	8.1	9.3	17.1				
Change Period (Y+Rc), s	3.0	* 4.4	3.0	4.1	3.0	4.4	3.0	4.1				
Max Green Setting (Gmax), s	20.0	* 25	20.0	25.0	20.0	25.0	20.0	25.0				
Max Q Clear Time (g_c+I), s	14.9	5.8	4.3	10.1	8.2	3.0	2.7	11.8				
Green Ext Time (p_c), s	0.0	0.2	0.0	0.5	0.1	0.0	0.0	0.7				
Intersection Summary												
HCM 2010 Ctrl Delay			19.1									
HCM 2010 LOS			B									
Notes												

User approved pedestrian interval to be less than phase max green.

User approved ignoring U-Turning movement.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary

18: CR 102 & E. Heritage Pkwy/CR 25

Existing+Approved+Project Conditions

Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	190	10	220	0	0	10	50	250	10	20	380	110
Future Volume (veh/h)	190	10	220	0	0	10	50	250	10	20	380	110
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1845	1845	1845	1845
Adj Flow Rate, veh/h	232	12	48	0	0	0	61	305	3	24	463	32
Adj No. of Lanes	1	1	0	1	1	0	1	1	1	1	1	1
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	295	40	161	7	7	0	73	661	550	32	619	514
Arrive On Green	0.17	0.12	0.12	0.00	0.00	0.00	0.04	0.36	0.36	0.02	0.34	0.34
Sat Flow, veh/h	1757	323	1293	1757	1845	0	1757	1845	1535	1757	1845	1531
Grp Volume(v), veh/h	232	0	60	0	0	0	61	305	3	24	463	32
Grp Sat Flow(s),veh/h/ln	1757	0	1616	1757	1845	0	1757	1845	1535	1757	1845	1531
Q Serve(g_s), s	3.2	0.0	0.9	0.0	0.0	0.0	0.9	3.2	0.0	0.3	5.6	0.4
Cycle Q Clear(g_c), s	3.2	0.0	0.9	0.0	0.0	0.0	0.9	3.2	0.0	0.3	5.6	0.4
Prop In Lane	1.00		0.80	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	295	0	201	7	7	0	73	661	550	32	619	514
V/C Ratio(X)	0.79	0.00	0.30	0.00	0.00	0.00	0.84	0.46	0.01	0.74	0.75	0.06
Avail Cap(c_a), veh/h	1044	0	1600	1044	1826	0	1391	2192	1824	1391	2192	1819
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.1	0.0	10.1	0.0	0.0	0.0	12.0	6.2	5.2	12.3	7.4	5.7
Incr Delay (d2), s/veh	1.8	0.0	0.3	0.0	0.0	0.0	9.2	0.2	0.0	11.6	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0	0.4	0.0	0.0	0.0	0.6	1.6	0.0	0.3	2.9	0.2
LnGrp Delay(d),s/veh	11.9	0.0	10.4	0.0	0.0	0.0	21.2	6.4	5.2	24.0	8.1	5.7
LnGrp LOS	B		B				C	A	A	C	A	A
Approach Vol, veh/h	292		0				369			519		
Approach Delay, s/veh	11.5		0.0				8.9			8.7		
Approach LOS	B						A			A		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	0.0	7.2	4.0	14.0	7.2	0.0	3.5	14.6				
Change Period (Y+Rc), s	3.0	4.1	3.0	5.5	3.0	4.1	3.0	5.5				
Max Green Setting (G_max), s	15.0	25.0	20.0	30.0	15.0	25.0	20.0	30.0				
Max Q Clear Time (g_c+I1), s	10.0	2.9	2.9	7.6	5.2	0.0	2.3	5.2				
Green Ext Time (p_c), s	0.0	0.1	0.0	1.1	0.1	0.0	0.0	0.7				
Intersection Summary												
HCM 2010 Ctrl Delay			9.5									
HCM 2010 LOS			A									

Intersection				
Intersection Delay, s/veh11.3				
Intersection LOS B				
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	208	232	261	537
Demand Flow Rate, veh/h	214	239	268	552
Vehicles Circulating, veh/h	541	414	218	268
Vehicles Exiting, veh/h	279	72	537	385
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	5	5	0	5
Ped Cap Adj	0.999	0.999	1.000	0.999
Approach Delay, s/veh	10.0	8.9	7.2	14.8
Approach LOS	A	A	A	B
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	214	239	268	552
Cap Entry Lane, veh/h	658	747	909	864
Entry HV Adj Factor	0.970	0.972	0.973	0.972
Flow Entry, veh/h	208	232	261	537
Cap Entry, veh/h	638	726	884	840
V/C Ratio	0.326	0.320	0.295	0.639
Control Delay, s/veh	10.0	8.9	7.2	14.8
LOS	A	A	A	B
95th %tile Queue, veh	1	1	1	5

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Research Park
Existing Plus Approved Plus Project Conditions
AM Peak Hour

Intersection 20

East St/County Road 25A

All-way Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	10	10	102.0%	4.0	2.7	A
	Through	10	10	98.0%	9.5	1.7	A
	Right Turn	10	11	112.0%	4.2	2.3	A
	Subtotal	30	31	104.0%	6.6	1.3	A
SB	Left Turn	450	439	97.6%	18.7	2.5	C
	Through	10	11	112.0%	18.2	9.8	C
	Right Turn	50	54	107.6%	13.9	1.8	B
	Subtotal	510	504	98.8%	18.2	2.5	C
EB	Left Turn	30	27	90.3%	11.2	1.8	B
	Through	270	275	101.7%	14.5	1.5	B
	Right Turn	10	11	110.0%	8.5	3.7	A
	Subtotal	310	313	100.8%	13.9	1.4	B
WB	Left Turn	10	4	36.0%	6.3	6.1	A
	Through	240	85	35.6%	14.3	2.9	B
	Right Turn	240	86	36.0%	8.3	2.6	A
	Subtotal	490	175	35.8%	11.2	2.7	B
Total		1,340	1,023	76.4%	15.6	1.5	C

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Research Park
Existing Plus Approved Plus Project Conditions
AM Peak Hour

Intersection 21

SR 113 SB Ramps/County Road 25A

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	160	0	0.3%	896.7	7.8	F
	Through	10	0	0.0%	899.9	0.2	F
	Right Turn	50	0	0.4%	891.7	17.5	F
	Subtotal	220	1	0.3%	175.6	370.2	F
EB	Left Turn						
	Through	400	408	102.0%	7.6	0.3	A
	Right Turn	330	318	96.3%	4.7	0.3	A
	Subtotal	730	726	99.4%	6.3	0.2	A
WB	Left Turn	910	379	41.7%	228.7	40.5	F
	Through	440	175	39.8%	220.8	20.7	F
	Right Turn						
	Subtotal	1,350	554	41.1%	227.0	34.3	F
Total		2,300	1,281	55.7%	77.6	8.2	F

Intersection 22

SR 113 NB Ramps/County Road 25A

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	120	36	29.6%	506.3	83.3	F
	Through						
	Right Turn	340	94	27.6%	479.5	100.6	F
	Subtotal	460	129	28.1%	487.6	95.1	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	30	27	88.3%	3.8	2.1	A
	Through	530	382	72.0%	2.6	0.6	A
	Right Turn						
	Subtotal	560	408	72.9%	2.7	0.7	A
WB	Left Turn						
	Through	1,230	519	42.2%	121.0	19.4	F
	Right Turn	210	82	39.0%	115.5	20.8	F
	Subtotal	1,440	601	41.7%	120.4	18.9	F
Total		2,460	1,138	46.3%	126.3	17.2	F

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Research Park
Existing Plus Approved Plus Project Conditions
AM Peak Hour

Intersection 23

Road A/County Road 25A

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn	20	18	91.0%	11.9	12.6	B
	Subtotal	20	18	91.0%	7.8	7.6	A
SB	Left Turn						
	Through						
	Right Turn	160	83	51.8%	452.2	311.8	F
	Subtotal	160	83	51.8%	272.2	249.2	F
EB	Left Turn						
	Through	680	373	54.8%	6.5	8.3	A
	Right Turn	190	102	53.9%	4.3	7.2	A
	Subtotal	870	475	54.6%	6.0	8.2	A
WB	Left Turn						
	Through	1,280	518	40.4%	126.0	44.1	F
	Right Turn	30	12	40.7%	90.8	48.6	F
	Subtotal	1,310	530	40.5%	126.1	44.1	F
Total		2,360	1,106	46.9%	74.3	24.6	F

Intersection				
Intersection Delay, s/veh	4.6			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	76	185	33	33
Demand Flow Rate, veh/h	78	190	33	33
Vehicles Circulating, veh/h	89	33	78	190
Vehicles Exiting, veh/h	134	78	89	33
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	5	5	5	5
Ped Cap Adj	0.999	0.999	0.999	0.999
Approach Delay, s/veh	4.2	5.0	3.8	4.2
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	78	190	33	33
Cap Entry Lane, veh/h	1034	1093	1045	934
Entry HV Adj Factor	0.979	0.972	0.990	0.990
Flow Entry, veh/h	76	185	33	33
Cap Entry, veh/h	1011	1062	1034	925
V/C Ratio	0.076	0.174	0.032	0.035
Control Delay, s/veh	4.2	5.0	3.8	4.2
LOS	A	A	A	A
95th %tile Queue, veh	0	1	0	0

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement
Intersection 25

Road B/County Road 25A

Woodland Research Park
Existing Plus Approved Plus Project Conditions
AM Peak Hour
Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	90	50	55.7%	486.8	171.8	F
	Through	20	15	72.5%	262.8	196.4	F
	Right Turn	10	7	72.0%	182.4	257.1	F
	Subtotal	120	72	59.8%	422.6	177.2	F
SB	Left Turn	30	12	40.0%	215.6	114.0	F
	Through	60	23	38.3%	260.1	122.0	F
	Right Turn	610	250	40.9%	230.7	60.1	F
	Subtotal	700	285	40.7%	232.0	57.3	F
EB	Left Turn	500	279	55.9%	73.4	22.0	E
	Through	190	104	54.8%	38.1	23.9	D
	Right Turn	10	6	60.0%	14.9	14.5	B
	Subtotal	700	390	55.7%	63.7	21.5	E
WB	Left Turn	70	24	34.9%	514.3	118.0	F
	Through	610	233	38.1%	532.9	85.8	F
	Right Turn	30	12	38.3%	494.6	171.4	F
	Subtotal	710	269	37.8%	528.1	85.1	F
Total		2,230	1,015	45.5%	222.2	22.6	F

HCM 2010 Signalized Intersection Summary

26: Road B & Road C

Existing+Approved+Project Conditions

Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↙	↕		↙	↕	
Traffic Volume (veh/h)	40	10	20	240	20	30	80	290	130	20	450	70
Future Volume (veh/h)	40	10	20	240	20	30	80	290	130	20	450	70
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1900	1845	1900	1900	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	43	11	7	261	22	29	87	315	101	22	489	65
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	143	37	23	340	29	38	232	803	253	97	714	94
Arrive On Green	0.12	0.12	0.12	0.23	0.23	0.23	0.13	0.31	0.31	0.06	0.23	0.23
Sat Flow, veh/h	1230	315	200	1457	123	162	1757	2619	824	1757	3108	411
Grp Volume(v), veh/h	61	0	0	312	0	0	87	209	207	22	275	279
Grp Sat Flow(s),veh/h/ln	1745	0	0	1742	0	0	1757	1752	1691	1757	1752	1767
Q Serve(g_s), s	2.1	0.0	0.0	11.2	0.0	0.0	3.0	6.3	6.5	0.8	9.6	9.7
Cycle Q Clear(g_c), s	2.1	0.0	0.0	11.2	0.0	0.0	3.0	6.3	6.5	0.8	9.6	9.7
Prop In Lane	0.70		0.11	0.84		0.09	1.00		0.49	1.00		0.23
Lane Grp Cap(c), veh/h	203	0	0	406	0	0	232	537	518	97	403	406
V/C Ratio(X)	0.30	0.00	0.00	0.77	0.00	0.00	0.38	0.39	0.40	0.23	0.68	0.69
Avail Cap(c_a), veh/h	735	0	0	864	0	0	289	748	722	289	748	754
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.0	0.0	0.0	23.9	0.0	0.0	26.5	18.2	18.3	30.2	23.5	23.5
Incr Delay (d2), s/veh	0.8	0.0	0.0	3.1	0.0	0.0	1.0	0.5	0.5	1.2	2.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	0.0	5.7	0.0	0.0	1.5	3.1	3.1	0.4	4.8	4.9
LnGrp Delay(d),s/veh	27.8	0.0	0.0	27.0	0.0	0.0	27.5	18.7	18.8	31.3	25.5	25.6
LnGrp LOS	C			C			C	B	B	C	C	C
Approach Vol, veh/h	61			312			503			576		
Approach Delay, s/veh	27.8			27.0			20.3			25.8		
Approach LOS	C			C			C			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.7	25.6		12.9	12.8	20.4		20.7				
Change Period (Y+Rc), s	4.0	5.1		5.1	4.0	5.1		5.1				
Max Green Setting (Gmax), s	1.0	28.5		28.1	11.0	28.5		33.1				
Max Q Clear Time (g_c+I), s	1.0	8.5		4.1	5.0	11.7		13.2				
Green Ext Time (p_c), s	0.0	2.4		0.3	0.1	3.1		1.8				
Intersection Summary												
HCM 2010 Ctrl Delay	24.2											
HCM 2010 LOS	C											

Intersection						
Int Delay, s/veh	7.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	70	280	100	230	570	40
Future Vol, veh/h	70	280	100	230	570	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	76	304	109	250	620	43
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1088	620	663	0	-	0
Stage 1	620	-	-	-	-	-
Stage 2	468	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	239	488	926	-	-	-
Stage 1	536	-	-	-	-	-
Stage 2	630	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	211	488	926	-	-	-
Mov Cap-2 Maneuver	211	-	-	-	-	-
Stage 1	473	-	-	-	-	-
Stage 2	630	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	25.3	2.8		0		
HCM LOS	D					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	926	-	211	488	-	-
HCM Lane V/C Ratio	0.117	-	0.361	0.624	-	-
HCM Control Delay (s)	9.4	-	31.4	23.8	-	-
HCM Lane LOS	A	-	D	C	-	-
HCM 95th %tile Q(veh)	0.4	-	1.6	4.2	-	-

HCM 2010 Signalized Intersection Summary

28: Road B & Marston Dr

Existing+Approved+Project Conditions

Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	10	60	70	40	20	130	220	20	10	450	80
Future Volume (veh/h)	30	10	60	70	40	20	130	220	20	10	450	80
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1900	1845	1900	1900	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	33	11	10	76	43	15	141	239	18	11	489	75
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	120	40	36	160	91	32	289	1244	93	54	739	113
Arrive On Green	0.11	0.11	0.11	0.16	0.16	0.16	0.16	0.38	0.38	0.03	0.24	0.24
Sat Flow, veh/h	1058	353	321	997	564	197	1757	3304	247	1757	3045	465
Grp Volume(v), veh/h	54	0	0	134	0	0	141	126	131	11	280	284
Grp Sat Flow(s),veh/h/ln	1732	0	0	1758	0	0	1757	1752	1799	1757	1752	1757
Q Serve(g_s), s	1.7	0.0	0.0	4.2	0.0	0.0	4.4	2.9	3.0	0.4	8.8	8.8
Cycle Q Clear(g_c), s	1.7	0.0	0.0	4.2	0.0	0.0	4.4	2.9	3.0	0.4	8.8	8.8
Prop In Lane	0.61		0.19	0.57		0.11	1.00		0.14	1.00		0.26
Lane Grp Cap(c), veh/h	197	0	0	283	0	0	289	660	677	54	425	426
V/C Ratio(X)	0.27	0.00	0.00	0.47	0.00	0.00	0.49	0.19	0.19	0.20	0.66	0.66
Avail Cap(c_a), veh/h	802	0	0	814	0	0	434	968	994	319	852	855
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.6	0.0	0.0	23.1	0.0	0.0	23.0	12.7	12.7	28.7	20.7	20.7
Incr Delay (d2), s/veh	0.7	0.0	0.0	1.2	0.0	0.0	1.3	0.1	0.1	1.8	1.8	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.0	2.1	0.0	0.0	2.3	1.4	1.5	0.2	4.4	4.5
LnGrp Delay(d),s/veh	25.3	0.0	0.0	24.4	0.0	0.0	24.3	12.8	12.9	30.5	22.5	22.5
LnGrp LOS	C			C			C	B	B	C	C	C
Approach Vol, veh/h		54			134			398			575	
Approach Delay, s/veh		25.3			24.4			16.9			22.6	
Approach LOS		C			C			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.9	27.9		12.0	14.0	19.8		14.9				
Change Period (Y+Rc), s	4.0	5.1		5.1	4.0	5.1		5.1				
Max Green Setting (Gmax), s	1.0	33.5		28.1	15.0	29.5		28.1				
Max Q Clear Time (g_c+I), s	1.0	5.0		3.7	6.4	10.8		6.2				
Green Ext Time (p_c), s	0.0	1.5		0.2	0.2	3.3		0.7				
Intersection Summary												
HCM 2010 Ctrl Delay			21.0									
HCM 2010 LOS			C									

HCM 2010 Signalized Intersection Summary

29: Road B & Road E

Existing+Approved+Project Conditions

Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	10	130	80	10	130	60	100	20	70	400	120
Future Volume (veh/h)	110	10	130	80	10	130	60	100	20	70	400	120
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1900	1845	1900	1900	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	120	11	105	87	11	92	65	109	7	76	435	104
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	163	15	143	123	16	130	205	743	47	222	650	154
Arrive On Green	0.19	0.19	0.19	0.16	0.16	0.16	0.12	0.22	0.22	0.13	0.23	0.23
Sat Flow, veh/h	847	78	741	758	96	802	1757	3344	213	1757	2806	665
Grp Volume(v), veh/h	236	0	0	190	0	0	65	57	59	76	270	269
Grp Sat Flow(s),veh/h/ln	1665	0	0	1656	0	0	1757	1752	1804	1757	1752	1719
Q Serve(g_s), s	8.7	0.0	0.0	7.1	0.0	0.0	2.2	1.7	1.7	2.6	9.1	9.3
Cycle Q Clear(g_c), s	8.7	0.0	0.0	7.1	0.0	0.0	2.2	1.7	1.7	2.6	9.1	9.3
Prop In Lane	0.51		0.44	0.46		0.48	1.00		0.12	1.00		0.39
Lane Grp Cap(c), veh/h	321	0	0	269	0	0	205	389	401	222	406	398
V/C Ratio(X)	0.73	0.00	0.00	0.71	0.00	0.00	0.32	0.15	0.15	0.34	0.67	0.67
Avail Cap(c_a), veh/h	763	0	0	724	0	0	296	841	866	296	841	825
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.7	0.0	0.0	25.8	0.0	0.0	26.4	20.4	20.4	26.0	22.8	22.8
Incr Delay (d2), s/veh	3.3	0.0	0.0	3.4	0.0	0.0	0.9	0.2	0.2	0.9	1.9	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	0.0	0.0	3.5	0.0	0.0	1.1	0.8	0.9	1.3	4.6	4.6
LnGrp Delay(d),s/veh	28.0	0.0	0.0	29.2	0.0	0.0	27.3	20.6	20.6	26.9	24.6	24.8
LnGrp LOS	C			C			C	C	C	C	C	C
Approach Vol, veh/h		236			190			181			615	
Approach Delay, s/veh		28.0			29.2			23.0			25.0	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	2.2	19.6		17.7	11.6	20.2		15.7				
Change Period (Y+Rc), s	4.0	5.1		5.1	4.0	5.1		5.1				
Max Green Setting (Gmax), s	1.0	31.3		29.9	11.0	31.3		28.5				
Max Q Clear Time (g_c+1/4), s	1.0	3.7		10.7	4.2	11.3		9.1				
Green Ext Time (p_c), s	0.1	0.6		1.3	0.1	3.2		1.0				
Intersection Summary												
HCM 2010 Ctrl Delay	25.9											
HCM 2010 LOS	C											

HCM 2010 Signalized Intersection Summary

30: Road B & Parkland Ave

Existing+Approved+Project Conditions

Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	10	10	470	10	70	10	30	300	140	110	10
Future Volume (veh/h)	10	10	10	470	10	70	10	30	300	140	110	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1845	1900	1845	1900
Adj Flow Rate, veh/h	11	11	0	511	11	31	11	33	17	152	120	10
Adj No. of Lanes	1	1	0	1	2	0	1	1	1	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	53	229	0	567	730	650	191	200	168	194	153	13
Arrive On Green	0.03	0.12	0.00	0.32	0.42	0.42	0.11	0.11	0.11	0.20	0.20	0.20
Sat Flow, veh/h	1757	1845	0	1757	1752	1559	1757	1845	1550	962	759	63
Grp Volume(v), veh/h	11	11	0	511	11	31	11	33	17	282	0	0
Grp Sat Flow(s),veh/h/ln	1757	1845	0	1757	1752	1559	1757	1845	1550	1784	0	0
Q Serve(g_s), s	0.5	0.4	0.0	21.5	0.3	0.9	0.4	1.3	0.8	11.6	0.0	0.0
Cycle Q Clear(g_c), s	0.5	0.4	0.0	21.5	0.3	0.9	0.4	1.3	0.8	11.6	0.0	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	0.54		0.04
Lane Grp Cap(c), veh/h	53	229	0	567	730	650	191	200	168	361	0	0
V/C Ratio(X)	0.21	0.05	0.00	0.90	0.02	0.05	0.06	0.16	0.10	0.78	0.00	0.00
Avail Cap(c_a), veh/h	272	667	0	839	1199	1066	639	671	564	645	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	36.7	29.9	0.0	25.1	13.3	13.4	31.0	31.3	31.1	29.3	0.0	0.0
Incr Delay (d2), s/veh	1.9	0.1	0.0	9.3	0.0	0.0	0.1	0.4	0.3	3.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.2	0.0	11.8	0.1	0.4	0.2	0.7	0.3	6.1	0.0	0.0
LnGrp Delay(d),s/veh	38.6	30.0	0.0	34.4	13.3	13.5	31.1	31.7	31.4	33.0	0.0	0.0
LnGrp LOS	D	C		C	B	B	C	C	C	C		
Approach Vol, veh/h	22		553			61			282			
Approach Delay, s/veh	34.3		32.8			31.5			33.0			
Approach LOS	C		C			C			C			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		3	4	6		7	8				
Phs Duration (G+Y+Rc), s	13.5		29.0	14.7	20.3		6.3	37.4				
Change Period (Y+Rc), s	5.1		4.0	5.1	4.6		4.0	5.1				
Max Green Setting (Gmax), s	28.2		37.0	28.0	28.0		12.0	53.0				
Max Q Clear Time (g_c+I1), s	3.3		23.5	2.4	13.6		2.5	2.9				
Green Ext Time (p_c), s	0.2		1.5	0.0	1.4		0.0	0.2				
Intersection Summary												
HCM 2010 Ctrl Delay			32.8									
HCM 2010 LOS			C									

HCM 2010 Roundabout
 31: Harry Lorenzo Ave & Corporate Limit/Farmers Central Rd

Existing+Approved+Project Conditions

Timing Plan: AM Peak Hour

Intersection				
Intersection Delay, s/veh	4.0			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	0	33	76	120
Demand Flow Rate, veh/h	0	33	77	122
Vehicles Circulating, veh/h	144	55	11	22
Vehicles Exiting, veh/h	0	33	133	66
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	0.0	3.6	3.9	4.3
Approach LOS	-	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	0	33	77	122
Cap Entry Lane, veh/h	978	1069	1118	1105
Entry HV Adj Factor	1.000	1.000	0.986	0.982
Flow Entry, veh/h	0	33	76	120
Cap Entry, veh/h	978	1069	1102	1086
V/C Ratio	0.000	0.031	0.069	0.110
Control Delay, s/veh	3.7	3.6	3.9	4.3
LOS	A	A	A	A
95th %tile Queue, veh	0	0	0	0

Intersection			
Intersection Delay, s/veh	12.6		
Intersection LOS	B		
Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	250	674	337
Demand Flow Rate, veh/h	258	695	348
Vehicles Circulating, veh/h	157	56	605
Vehicles Exiting, veh/h	796	359	146
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	5	5	5
Ped Cap Adj	0.999	0.999	0.999
Approach Delay, s/veh	6.6	13.0	16.4
Approach LOS	A	B	C
Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	258	695	348
Cap Entry Lane, veh/h	966	1068	617
Entry HV Adj Factor	0.969	0.970	0.968
Flow Entry, veh/h	250	674	337
Cap Entry, veh/h	936	1036	597
V/C Ratio	0.267	0.651	0.564
Control Delay, s/veh	6.6	13.0	16.4
LOS	A	B	C
95th %tile Queue, veh	1	5	4

Intersection												
Int Delay, s/veh	4.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	10	10	10	10	50	10	30	10	40	110	20
Future Vol, veh/h	10	10	10	10	10	50	10	30	10	40	110	20
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	11	11	11	11	11	54	11	33	11	43	120	22

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	320	293	141	299	299	49	147	0	0	49	0	0
Stage 1	222	222	-	66	66	-	-	-	-	-	-	-
Stage 2	98	71	-	233	233	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	631	616	904	651	611	1017	1429	-	-	1551	-	-
Stage 1	778	718	-	942	838	-	-	-	-	-	-	-
Stage 2	906	834	-	768	710	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	567	587	896	611	582	1008	1422	-	-	1544	-	-
Mov Cap-2 Maneuver	567	587	-	611	582	-	-	-	-	-	-	-
Stage 1	768	693	-	930	827	-	-	-	-	-	-	-
Stage 2	836	823	-	722	685	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	10.8		9.7		1.5		1.7	
HCM LOS	B		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1422	-	-	655	842	1544	-
HCM Lane V/C Ratio	0.008	-	-	0.05	0.09	0.028	-
HCM Control Delay (s)	7.6	0	-	10.8	9.7	7.4	0
HCM Lane LOS	A	A	-	B	A	A	A
HCM 95th %tile Q(veh)	0	-	-	0.2	0.3	0.1	-

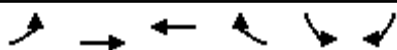
Intersection				
Intersection Delay, s/veh	4.9			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	98	142	98	152
Demand Flow Rate, veh/h	101	147	101	156
Vehicles Circulating, veh/h	179	78	89	147
Vehicles Exiting, veh/h	124	112	191	78
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	5	5	5	5
Ped Cap Adj	0.999	0.999	0.999	0.999
Approach Delay, s/veh	4.9	4.8	4.5	5.3
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	101	147	101	156
Cap Entry Lane, veh/h	945	1045	1034	975
Entry HV Adj Factor	0.971	0.969	0.968	0.975
Flow Entry, veh/h	98	142	98	152
Cap Entry, veh/h	917	1012	999	950
V/C Ratio	0.107	0.141	0.098	0.160
Control Delay, s/veh	4.9	4.8	4.5	5.3
LOS	A	A	A	A
95th %tile Queue, veh	0	0	0	1

HCM 2010 Signalized Intersection Summary

35: Parkland Ave & Harry Lorenzo Ave

Existing+Approved+Project Conditions

Timing Plan: AM Peak Hour

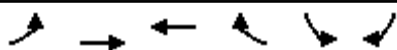


Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	30	420	420	10	30	130		
Future Volume (veh/h)	30	420	420	10	30	130		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			0.99	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1845	1845	1845	1900	1845	1900		
Adj Flow Rate, veh/h	33	457	457	9	33	23		
Adj No. of Lanes	1	2	2	0	0	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	3	3	3	3	0	0		
Cap, veh/h	151	1864	1002	20	142	99		
Arrive On Green	0.09	0.53	0.29	0.29	0.15	0.15		
Sat Flow, veh/h	1757	3597	3607	69	969	675		
Grp Volume(v), veh/h	33	457	228	238	57	0		
Grp Sat Flow(s),veh/h/ln	1757	1752	1752	1832	1673	0		
Q Serve(g_s), s	0.6	2.5	3.9	3.9	1.1	0.0		
Cycle Q Clear(g_c), s	0.6	2.5	3.9	3.9	1.1	0.0		
Prop In Lane	1.00			0.04	0.58	0.40		
Lane Grp Cap(c), veh/h	151	1864	500	522	246	0		
V/C Ratio(X)	0.22	0.25	0.46	0.46	0.23	0.00		
Avail Cap(c_a), veh/h	643	4876	1515	1584	1308	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	15.4	4.5	10.6	10.6	13.6	0.0		
Incr Delay (d2), s/veh	0.7	0.1	0.6	0.6	0.5	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.3	1.2	1.9	2.0	0.5	0.0		
LnGrp Delay(d),s/veh	16.1	4.6	11.2	11.2	14.1	0.0		
LnGrp LOS	B	A	B	B	B			
Approach Vol, veh/h		490	466		57			
Approach Delay, s/veh		5.4	11.2		14.1			
Approach LOS		A	B		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		25.0		11.1	8.9	16.1		
Change Period (Y+Rc), s		5.8		5.8	5.8	5.8		
Max Green Setting (Gmax), s		50.2		28.2	13.2	31.2		
Max Q Clear Time (g_c+I1), s		4.5		3.1	2.6	5.9		
Green Ext Time (p_c), s		3.4		0.1	0.0	2.9		
Intersection Summary								
HCM 2010 Ctrl Delay			8.6					
HCM 2010 LOS			A					

HCM 2010 Signalized Intersection Summary

36: Parkland Ave & Pioneer Ave

Existing+Approved+Project Conditions
Timing Plan: AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations					 			
Traffic Volume (veh/h)	400	50	50	370	270	380		
Future Volume (veh/h)	400	50	50	370	270	380		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			0.99	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1900		
Adj Flow Rate, veh/h	435	54	54	75	224	229		
Adj No. of Lanes	1	1	1	1	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	3	3	3	3	3	0		
Cap, veh/h	515	1053	313	263	376	346		
Arrive On Green	0.29	0.57	0.17	0.17	0.21	0.21		
Sat Flow, veh/h	1757	1845	1845	1547	1757	1615		
Grp Volume(v), veh/h	435	54	54	75	224	229		
Grp Sat Flow(s),veh/h/ln	1757	1845	1845	1547	1757	1615		
Q Serve(g_s), s	12.5	0.7	1.4	2.3	6.2	7.0		
Cycle Q Clear(g_c), s	12.5	0.7	1.4	2.3	6.2	7.0		
Prop In Lane	1.00			1.00	1.00	1.00		
Lane Grp Cap(c), veh/h	515	1053	313	263	376	346		
V/C Ratio(X)	0.84	0.05	0.17	0.29	0.60	0.66		
Avail Cap(c_a), veh/h	1048	2167	868	728	814	748		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	17.9	5.1	19.1	19.5	19.1	19.4		
Incr Delay (d2), s/veh	3.9	0.0	0.3	0.6	1.5	2.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	6.6	0.4	0.7	1.0	3.1	6.3		
LnGrp Delay(d),s/veh	21.8	5.1	19.4	20.1	20.6	21.6		
LnGrp LOS	C	A	B	C	C	C		
Approach Vol, veh/h		489	129		453			
Approach Delay, s/veh		19.9	19.8		21.1			
Approach LOS		B	B		C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		36.6		17.4	21.6	15.0		
Change Period (Y+Rc), s		5.8		5.8	5.8	5.8		
Max Green Setting (Gmax), s		63.4		25.0	32.2	25.4		
Max Q Clear Time (g_c+I1), s		2.7		9.0	14.5	4.3		
Green Ext Time (p_c), s		0.1		2.6	1.3	0.5		
Intersection Summary								
HCM 2010 Ctrl Delay			20.4					
HCM 2010 LOS			C					
Notes								

User approved volume balancing among the lanes for turning movement.

Intersection			
Intersection Delay, s/veh	10.3		
Intersection LOS	B		
Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	348	206	598
Demand Flow Rate, veh/h	355	210	610
Vehicles Circulating, veh/h	111	155	166
Vehicles Exiting, veh/h	665	311	199
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	7.3	5.9	13.5
Approach LOS	A	A	B
Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	355	210	610
Cap Entry Lane, veh/h	1011	968	957
Entry HV Adj Factor	0.981	0.980	0.980
Flow Entry, veh/h	348	206	598
Cap Entry, veh/h	992	948	938
V/C Ratio	0.351	0.217	0.637
Control Delay, s/veh	7.3	5.9	13.5
LOS	A	A	B
95th %tile Queue, veh	2	1	5

HCM 2010 Signalized Intersection Summary

1: East St & Main St/E Main St

Existing Plus Approved Plus Project Conditions

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	580	120	130	510	360	120	330	100	290	430	80
Future Volume (veh/h)	70	580	120	130	510	360	120	330	100	290	430	80
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		1.00
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	76	630	47	141	554	296	130	359	83	315	467	75
Adj No. of Lanes	1	2	1	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	96	922	405	179	680	363	166	502	115	369	887	142
Arrive On Green	0.05	0.26	0.26	0.10	0.31	0.31	0.09	0.18	0.18	0.21	0.29	0.29
Sat Flow, veh/h	1757	3505	1540	1757	2191	1169	1757	2827	645	1757	3026	483
Grp Volume(v), veh/h	76	630	47	141	443	407	130	221	221	315	269	273
Grp Sat Flow(s),veh/h/ln	1757	1752	1540	1757	1752	1608	1757	1752	1720	1757	1752	1757
Q Serve(g_s), s	2.5	9.3	1.3	4.5	13.4	13.4	4.2	6.8	7.0	9.9	7.4	7.5
Cycle Q Clear(g_c), s	2.5	9.3	1.3	4.5	13.4	13.4	4.2	6.8	7.0	9.9	7.4	7.5
Prop In Lane	1.00		1.00	1.00		0.73	1.00		0.38	1.00		0.28
Lane Grp Cap(c), veh/h	96	922	405	179	544	499	166	311	306	369	514	515
V/C Ratio(X)	0.79	0.68	0.12	0.79	0.81	0.82	0.78	0.71	0.72	0.85	0.52	0.53
Avail Cap(c_a), veh/h	612	2441	1072	612	1221	1120	734	1221	1198	734	1221	1224
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.8	19.0	16.1	25.2	18.3	18.3	25.4	22.2	22.3	21.8	16.9	17.0
Incr Delay (d2), s/veh	5.3	0.3	0.0	2.9	1.1	1.3	3.1	1.1	1.2	2.2	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	4.5	0.6	2.3	6.6	6.1	2.2	3.3	3.4	5.0	3.6	3.6
LnGrp Delay(d),s/veh	32.2	19.3	16.1	28.1	19.4	19.6	28.5	23.3	23.5	24.0	17.3	17.3
LnGrp LOS	C	B	B	C	B	B	C	C	C	C	B	B
Approach Vol, veh/h		753			991			572			857	
Approach Delay, s/veh		20.4			20.7			24.6			19.8	
Approach LOS		C			C			C			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.1	21.9	8.4	20.9	8.9	19.2	15.1	14.3				
Change Period (Y+Rc), s	3.0	4.1	3.0	4.1	3.0	4.1	3.0	4.1				
Max Green Setting (Gmax), s	20.0	40.0	24.0	40.0	20.0	40.0	24.0	40.0				
Max Q Clear Time (g_c+I1), s	4.5	15.4	6.2	9.5	6.5	11.3	11.9	9.0				
Green Ext Time (p_c), s	0.0	2.2	0.0	1.5	0.0	2.2	0.2	1.2				
Intersection Summary												
HCM 2010 Ctrl Delay			21.1									
HCM 2010 LOS			C									

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing + Approved + Project Conditions
PM Peak Hour

Intersection 2 **Industrial Way-SR 113 SB Off-Ramp/Main Street** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	40	39	96.3%	58.7	26.3	E
	Through	10	9	86.0%	67.9	54.9	E
	Right Turn	50	47	93.6%	50.2	32.1	D
	Subtotal	100	94	93.9%	55.0	30.0	E
SB	Left Turn	70	71	101.4%	85.6	51.1	F
	Through	80	78	97.6%	90.7	53.3	F
	Right Turn	30	28	94.0%	76.7	57.9	E
	Subtotal	180	177	98.5%	86.4	53.0	F
EB	Left Turn	30	24	79.3%	58.9	16.5	E
	Through	880	683	77.6%	119.0	10.5	F
	Right Turn	190	137	71.9%	136.7	16.8	F
	Subtotal	1,100	843	76.7%	120.2	10.3	F
WB	Left Turn	510	358	70.3%	242.2	15.6	F
	Through	930	747	80.3%	14.0	3.6	B
	Right Turn	80	66	81.9%	9.4	4.4	A
	Subtotal	1,520	1,171	77.0%	86.0	6.3	F
Total		2,900	2,285	78.8%	97.8	7.0	F

Intersection 3 **SR 113 NB Ramps/Main Street** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	260	148	56.8%	784.7	61.2	F
	Through						
	Right Turn	760	365	48.0%	1046.2	78.7	F
	Subtotal	1,020	512	50.2%	979.4	77.7	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	980	771	78.7%	116.7	13.3	F
	Through						
	Right Turn	30	25	84.3%	147.3	20.3	F
	Subtotal	1,010	797	78.9%	117.9	13.3	F
WB	Left Turn	50	39	77.0%	116.3	9.1	F
	Through	1,260	1,041	82.6%	76.8	3.5	E
	Right Turn						
	Subtotal	1,310	1,079	82.4%	78.3	3.3	E
Total		3,340	2,388	71.5%	283.9	14.2	F

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing + Approved + Project Conditions
PM Peak Hour

Intersection 4

Pioneer Avenue/Main Street

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	220	223	101.3%	50.7	8.9	D
	Through	180	180	100.1%	31.9	5.6	C
	Right Turn	210	209	99.5%	31.1	5.8	C
	Subtotal	610	612	100.3%	38.8	5.0	D
SB	Left Turn	130	132	101.5%	47.2	8.3	D
	Through	310	307	99.1%	41.2	7.6	D
	Right Turn	80	80	99.5%	41.7	21.8	D
	Subtotal	520	519	99.8%	43.3	7.9	D
EB	Left Turn	80	55	68.8%	65.1	7.2	E
	Through	1,410	921	65.3%	60.9	7.6	E
	Right Turn	230	139	60.6%	68.3	7.5	E
	Subtotal	1,720	1,115	64.8%	62.0	7.1	E
NW	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	410	302	73.6%	101.5	9.9	F
	Through	1,030	812	78.8%	92.0	12.9	F
	Right Turn	110	97	88.1%	54.5	7.8	D
	Subtotal	1,550	1,211	78.1%	91.4	12.1	F
Total		4,400	3,456	78.5%	78.4	9.2	E

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing + Approved + Project Conditions
PM Peak Hour

Intersection 5

Interstate-5 NB Off-Ramp/Main Street

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	830	642	77.3%	577.8	81.6	F
	Through						
	Right Turn	20	20	99.0%	469.8	92.2	F
	Subtotal	850	661	77.8%	575.0	82.4	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	570	443	77.7%	15.4	1.7	B
	Right Turn						
	Subtotal	570	443	77.7%	15.4	1.7	B
WB	Left Turn						
	Through	730	593	81.3%	330.4	42.8	F
	Right Turn						
	Subtotal	730	593	81.3%	330.4	42.8	F
Total		2,150	1,698	79.0%	335.3	34.3	F

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing + Approved + Project Conditions
PM Peak Hour

Intersection 6

CR 102/Hays Lane-I-5 NB Ramps

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	70	66	94.4%	46.4	8.3	D
	Through	500	492	98.3%	18.8	2.1	B
	Right Turn	180	179	99.4%	3.8	0.5	A
	Subtotal	750	737	98.2%	17.8	1.8	B
SB	Left Turn						
	Through	800	813	101.6%	30.4	3.5	C
	Right Turn	10	12	117.0%	16.2	8.1	B
	Subtotal	810	824	101.8%	30.2	3.4	C
EB	Left Turn	40	42	105.5%	37.0	5.7	D
	Through						
	Right Turn	110	117	106.0%	34.2	8.3	C
	Subtotal	150	159	105.9%	34.8	6.7	C
WB	Left Turn	730	738	101.1%	35.9	6.1	D
	Through	30	28	92.7%	44.8	11.0	D
	Right Turn	160	159	99.3%	25.7	6.6	C
	Subtotal	920	925	100.5%	34.5	6.2	C
Total		2,630	2,645	100.6%	28.5	3.9	C

Intersection 7

CR 102/I-5 SB Ramps

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through	690	679	98.3%	4.8	0.8	A
	Right Turn	840	843	100.4%	7.7	0.9	A
	Subtotal	1,530	1,522	99.5%	6.4	0.6	A
SB	Left Turn						
	Through	1,340	1,363	101.7%	10.9	1.1	B
	Right Turn	160	159	99.6%	9.0	1.1	A
	Subtotal	1,500	1,522	101.5%	10.7	1.1	B
EB	Left Turn	60	60	99.5%	10.6	3.5	B
	Through						
	Right Turn	210	206	98.0%	8.7	1.1	A
	Subtotal	270	266	98.4%	9.1	1.5	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		3,300	3,309	100.3%	8.6	0.6	A

HCM 2010 Signalized Intersection Summary

8: East St & Gibson Rd/E Gibson Rd

Existing + Approved + Project Conditions

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	770	140	90	710	190	150	240	90	200	260	200
Future Volume (veh/h)	80	770	140	90	710	190	150	240	90	200	260	200
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		1.00
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1845	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	96	928	158	108	855	143	181	289	73	241	313	111
Adj No. of Lanes	1	2	0	1	2	1	1	2	0	1	2	0
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	199	1078	183	207	1280	562	228	441	109	261	454	158
Arrive On Green	0.11	0.36	0.36	0.12	0.37	0.37	0.13	0.16	0.15	0.15	0.18	0.17
Sat Flow, veh/h	1757	2987	508	1757	3505	1540	1757	2774	688	1757	2551	888
Grp Volume(v), veh/h	96	544	542	108	855	143	181	181	181	241	213	211
Grp Sat Flow(s),veh/h/ln	1757	1752	1742	1757	1752	1540	1757	1752	1709	1757	1752	1686
Q Serve(g_s), s	3.8	21.6	21.6	4.3	15.4	4.9	7.5	7.2	7.5	10.1	8.5	8.8
Cycle Q Clear(g_c), s	3.8	21.6	21.6	4.3	15.4	4.9	7.5	7.2	7.5	10.1	8.5	8.8
Prop In Lane	1.00		0.29	1.00		1.00	1.00		0.40	1.00		0.53
Lane Grp Cap(c), veh/h	199	632	629	207	1280	562	228	279	272	261	312	300
V/C Ratio(X)	0.48	0.86	0.86	0.52	0.67	0.25	0.79	0.65	0.67	0.92	0.68	0.70
Avail Cap(c_a), veh/h	633	937	932	445	1875	824	445	956	932	633	956	920
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.2	22.2	22.2	31.1	20.0	16.7	31.6	29.6	29.8	31.5	28.8	29.2
Incr Delay (d2), s/veh	0.7	3.8	3.9	0.8	0.2	0.1	2.3	0.9	1.1	5.6	1.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	11.1	11.1	2.1	7.4	2.1	3.8	3.6	3.6	5.3	4.2	4.2
LnGrp Delay(d),s/veh	31.8	26.0	26.1	31.8	20.2	16.7	34.0	30.5	30.9	37.1	29.8	30.3
LnGrp LOS	C	C	C	C	C	B	C	C	C	D	C	C
Approach Vol, veh/h	1182			1106			543			665		
Approach Delay, s/veh	26.5			20.9			31.8			32.6		
Approach LOS	C			C			C			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.2	15.9	12.8	31.0	13.7	17.3	12.5	31.4				
Change Period (Y+Rc), s	3.0	4.9	3.0	4.1	3.0	4.9	3.0	4.1				
Max Green Setting (Gmax), s	40.0	40.0	20.0	40.0	20.0	40.0	28.0	40.0				
Max Q Clear Time (g_c+1.12), s	9.5	9.5	6.3	23.6	9.5	10.8	5.8	17.4				
Green Ext Time (p_c), s	0.1	1.3	0.0	3.3	0.1	1.6	0.1	3.2				
Intersection Summary												
HCM 2010 Ctrl Delay	26.7											
HCM 2010 LOS	C											

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing Plus Approved Plus Project (2030) Conditions
PM Peak Hour

Intersection 9 **Matmor Rd/E Gibson Rd-I-5 NB Ramps** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	50	51	101.2%	32.8	3.4	C
	Through	60	59	98.2%	34.5	5.9	C
	Right Turn	140	139	99.6%	19.6	4.3	B
	Subtotal	250	249	99.6%	25.6	3.1	C
SB	Left Turn	160	159	99.3%	49.6	4.8	D
	Through	40	39	96.3%	40.9	8.5	D
	Right Turn	120	117	97.8%	34.8	4.7	C
	Subtotal	320	315	98.4%	42.9	2.9	D
EB	Left Turn	170	172	101.3%	43.3	3.2	D
	Through	940	933	99.2%	31.4	3.9	C
	Right Turn	80	77	96.6%	27.8	4.2	C
	Subtotal	1,190	1,182	99.3%	32.8	3.4	C
WB	Left Turn	250	252	100.7%	51.9	6.2	D
	Through	1,020	1,015	99.5%	30.3	4.1	C
	Right Turn	290	294	101.3%	11.6	0.9	B
	Subtotal	1,560	1,560	100.0%	30.3	3.5	C
Total		3,320	3,306	99.6%	31.9	2.8	C

Intersection 10 **SR 113 SB Ramps/E Gibson Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	210	212	100.7%	18.5	1.6	B
	Through						
	Right Turn	280	280	99.9%	1.0	0.2	A
	Subtotal	490	491	100.2%	8.5	1.0	A
EB	Left Turn						
	Through	1,100	1,089	99.0%	17.2	2.6	B
	Right Turn	140	143	101.9%	9.3	1.9	A
	Subtotal	1,240	1,232	99.3%	16.2	2.5	B
WB	Left Turn						
	Through	1,280	1,285	100.4%	11.4	2.3	B
	Right Turn	270	279	103.4%	6.8	0.6	A
	Subtotal	1,550	1,564	100.9%	10.6	2.0	B
Total		3,280	3,287	100.2%	12.4	1.1	B

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing Plus Approved Plus Project (2030) Conditions
PM Peak Hour

Intersection 11 **SR 113 NB Ramps/E Gibson Rd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	370	371	100.2%	40.2	28.3	D
	Through						
	Right Turn	690	697	101.0%	39.2	44.5	D
	Subtotal	1,060	1,068	100.7%	39.7	38.7	D
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	1,140	1,129	99.0%	12.4	1.2	B
	Right Turn	170	173	101.9%	7.0	0.8	A
	Subtotal	1,310	1,302	99.4%	11.7	1.1	B
WB	Left Turn						
	Through	1,180	1,194	101.2%	16.0	1.7	B
	Right Turn	120	120	99.6%	11.2	1.0	B
	Subtotal	1,300	1,313	101.0%	15.6	1.6	B
Total		3,670	3,683	100.4%	21.4	11.4	C

Intersection 12 **Bourn Dr-Harry Lorenzo Ave/E Gibson Rd** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn	10	10	100.0%	8.3	5.2	A
	Subtotal	10	10	100.0%	8.3	5.2	A
SB	Left Turn						
	Through						
	Right Turn	90	93	103.3%	14.6	3.9	B
	Subtotal	90	93	103.3%	14.6	3.9	B
EB	Left Turn						
	Through	1,590	1,592	100.1%	19.5	3.1	C
	Right Turn	240	237	98.8%	19.4	4.3	C
	Subtotal	1,830	1,829	99.9%	19.5	3.0	C
WB	Left Turn						
	Through	1,210	1,220	100.8%	8.2	0.9	A
	Right Turn	90	88	97.2%	8.2	1.2	A
	Subtotal	1,300	1,307	100.6%	8.2	0.9	A
Total		3,230	3,239	100.3%	14.7	1.4	B

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing Plus Approved Plus Project (2030) Conditions
PM Peak Hour

Intersection 13

Pioneer Ave/E Gibson Rd

Signal

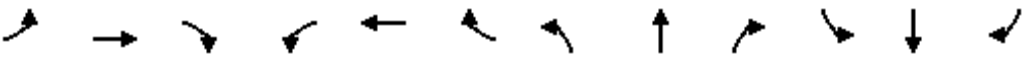
Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	350	348	99.5%	48.8	3.0	D
	Through	290	288	99.4%	32.7	3.8	C
	Right Turn	430	423	98.5%	28.6	2.4	C
	Subtotal	1,070	1,060	99.1%	36.5	1.4	D
SB	Left Turn	60	59	97.8%	51.1	12.5	D
	Through	450	452	100.4%	36.4	3.1	D
	Right Turn	210	218	103.6%	16.0	3.7	B
	Subtotal	720	728	101.1%	31.6	2.3	C
EB	Left Turn	370	373	100.9%	65.5	6.8	E
	Through	850	849	99.9%	76.2	17.5	E
	Right Turn	380	380	100.0%	49.0	14.9	D
	Subtotal	1,600	1,602	100.1%	67.2	14.1	E
WB	Left Turn	560	546	97.4%	83.2	39.3	F
	Through	740	749	101.1%	39.7	4.8	D
	Right Turn	50	51	102.6%	33.3	8.4	C
	Subtotal	1,350	1,345	99.7%	57.7	18.8	E
Total		4,740	4,735	99.9%	52.5	5.8	D

HCM Signalized Intersection Capacity Analysis

14: CR 102 & E. Gibson Rd/CR 24

Existing + Approved + Project Conditions

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	850	10	90	10	10	10	130	510	0	10	620	570
Future Volume (vph)	850	10	90	10	10	10	130	510	0	10	620	570
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	0.95		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85		0.95		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1649	1655	1553		1716		1736	3471		1736	1827	1532
Flt Permitted	0.95	0.95	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1649	1655	1553		1716		1736	3471		1736	1827	1532
Peak-hour factor, PHF	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	1037	12	110	12	12	12	159	622	0	12	756	695
RTOR Reduction (vph)	0	0	78	0	11	0	0	0	0	0	0	269
Lane Group Flow (vph)	529	520	32	0	25	0	159	622	0	12	756	426
Confl. Bikes (#/hr)												2
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	2	2		6	6		3	8		7	4	
Permitted Phases			2									4
Actuated Green, G (s)	30.3	30.3	30.3		6.7		14.5	52.2		2.2	32.9	32.9
Effective Green, g (s)	31.5	31.5	31.5		6.4		13.5	53.4		1.2	34.1	34.1
Actuated g/C Ratio	0.29	0.29	0.29		0.06		0.12	0.49		0.01	0.31	0.31
Clearance Time (s)	5.2	5.2	5.2		3.7		3.0	5.2		3.0	5.2	5.2
Vehicle Extension (s)	1.0	1.0	1.0		1.0		1.0	1.5		1.0	1.5	1.5
Lane Grp Cap (vph)	478	480	450		101		216	1708		19	574	481
v/s Ratio Prot	c0.32	0.31			c0.01		c0.09	c0.18		0.01	c0.41	
v/s Ratio Perm			0.02									0.28
v/c Ratio	1.11	1.08	0.07		0.24		0.74	0.36		0.63	1.32	0.89
Uniform Delay, d1	38.5	38.5	27.9		48.7		45.8	17.0		53.4	37.2	35.4
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	73.5	65.4	0.0		0.5		10.7	0.0		40.9	154.7	17.1
Delay (s)	112.0	103.9	27.9		49.2		56.4	17.1		94.3	191.9	52.5
Level of Service	F	F	C		D		E	B		F	F	D
Approach Delay (s)		100.4			49.2			25.1			124.9	
Approach LOS		F			D			C			F	
Intersection Summary												
HCM 2000 Control Delay			93.2				HCM 2000 Level of Service			F		
HCM 2000 Volume to Capacity ratio			1.04									
Actuated Cycle Length (s)			108.5				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			85.8%				ICU Level of Service			E		
Analysis Period (min)			15									
c Critical Lane Group												

HCM 2010 Signalized Intersection Summary

15: East St & CR 24A/Sports Park Dr

Existing + Approved + Project Conditions

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	50	60	20	30	40	100	300	60	30	310	50
Future Volume (veh/h)	20	50	60	20	30	40	100	300	60	30	310	50
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	22	54	35	22	33	13	109	326	60	33	337	49
Adj No. of Lanes	0	1	0	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	41	100	65	42	62	25	175	556	102	64	462	67
Arrive On Green	0.12	0.12	0.11	0.07	0.07	0.08	0.10	0.36	0.32	0.04	0.29	0.26
Sat Flow, veh/h	346	850	551	574	861	339	1774	1531	282	1774	1591	231
Grp Volume(v), veh/h	111	0	0	68	0	0	109	0	386	33	0	386
Grp Sat Flow(s),veh/h/ln	1748	0	0	1774	0	0	1774	0	1813	1774	0	1822
Q Serve(g_s), s	2.3	0.0	0.0	1.4	0.0	0.0	2.3	0.0	6.8	0.7	0.0	7.5
Cycle Q Clear(g_c), s	2.3	0.0	0.0	1.4	0.0	0.0	2.3	0.0	6.8	0.7	0.0	7.5
Prop In Lane	0.20		0.32	0.32		0.19	1.00		0.16	1.00		0.13
Lane Grp Cap(c), veh/h	206	0	0	129	0	0	175	0	659	64	0	529
V/C Ratio(X)	0.54	0.00	0.00	0.53	0.00	0.00	0.62	0.00	0.59	0.52	0.00	0.73
Avail Cap(c_a), veh/h	1139	0	0	1124	0	0	864	0	1469	864	0	1458
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.3	0.0	0.0	17.4	0.0	0.0	16.9	0.0	10.2	18.5	0.0	12.5
Incr Delay (d2), s/veh	0.8	0.0	0.0	1.2	0.0	0.0	1.3	0.0	0.3	2.4	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.0	0.7	0.0	0.0	1.2	0.0	3.4	0.4	0.0	3.8
LnGrp Delay(d),s/veh	17.1	0.0	0.0	18.7	0.0	0.0	18.2	0.0	10.5	20.8	0.0	13.3
LnGrp LOS	B			B			B		B	C		B
Approach Vol, veh/h	111			68			495			419		
Approach Delay, s/veh	17.1			18.7			12.2			13.9		
Approach LOS	B			B			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		8.6	7.9	15.7		6.8	5.4	18.2				
Change Period (Y+Rc), s		4.4	3.0	* 5.6		3.7	3.0	5.6				
Max Green Setting (Gmax), s		25.0	20.0	* 30		25.0	20.0	30.0				
Max Q Clear Time (g_c+I1), s		4.3	4.3	9.5		3.4	2.7	8.8				
Green Ext Time (p_c), s		0.2	0.0	0.8		0.1	0.0	0.8				
Intersection Summary												
HCM 2010 Ctrl Delay	13.7											
HCM 2010 LOS	B											
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
16: Parkland Ave/Pioneer Ave & Farmers Central Rd

Existing + Approved + Project Conditions
Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	30	10	10	30	170	10	720	10	230	840	40
Future Volume (veh/h)	30	30	10	10	30	170	10	720	10	230	840	40
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.97	0.98		0.98	1.00		0.98	1.00		0.97
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1900	1845	1900	1845	1845	1900	1900	1845	1900	1900	1845	1900
Adj Flow Rate, veh/h	33	33	7	11	33	28	11	783	11	250	913	42
Adj No. of Lanes	0	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	98	87	15	201	105	89	37	1417	20	245	788	36
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11	0.80	0.80	0.80	0.80	0.80	0.80
Sat Flow, veh/h	490	762	133	1319	913	775	10	1775	25	263	987	45
Grp Volume(v), veh/h	73	0	0	11	0	61	805	0	0	1205	0	0
Grp Sat Flow(s),veh/h/ln	1384	0	0	1319	0	1688	1809	0	0	1296	0	0
Q Serve(g_s), s	2.8	0.0	0.0	0.0	0.0	4.2	0.0	0.0	0.0	80.4	0.0	0.0
Cycle Q Clear(g_c), s	7.0	0.0	0.0	1.0	0.0	4.2	19.7	0.0	0.0	100.1	0.0	0.0
Prop In Lane	0.45		0.10	1.00		0.46	0.01		0.01	0.21		0.03
Lane Grp Cap(c), veh/h	201	0	0	201	0	194	1473	0	0	1069	0	0
V/C Ratio(X)	0.36	0.00	0.00	0.05	0.00	0.31	0.55	0.00	0.00	1.13	0.00	0.00
Avail Cap(c_a), veh/h	378	0	0	355	0	390	1473	0	0	1069	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	52.1	0.0	0.0	49.6	0.0	51.0	4.5	0.0	0.0	15.8	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.0	0.0	0.1	0.0	0.9	0.4	0.0	0.0	69.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	0.0	0.3	0.0	2.0	10.0	0.0	0.0	57.5	0.0	0.0
LnGrp Delay(d),s/veh	53.2	0.0	0.0	49.7	0.0	51.9	5.0	0.0	0.0	85.4	0.0	0.0
LnGrp LOS	D			D		D	A			F		
Approach Vol, veh/h	73			72			805			1205		
Approach Delay, s/veh	53.2			51.6			5.0			85.4		
Approach LOS	D			D			A			F		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	105.9			19.5			105.9			19.5		
Change Period (Y+Rc), s	5.8			5.1			5.8			5.1		
Max Green Setting (Gmax), s	100.1			29.0			100.1			29.0		
Max Q Clear Time (g_c+I1), s	21.7			9.0			102.1			6.2		
Green Ext Time (p_c), s	7.0			0.3			0.0			0.3		
Intersection Summary												
HCM 2010 Ctrl Delay	53.1											
HCM 2010 LOS	D											

HCM 2010 Signalized Intersection Summary

17: Parkland Ave & E. Heritage Pkwy

Existing + Approved + Project Conditions

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	30	50	90	30	30	90	210	90	30	260	110
Future Volume (veh/h)	110	30	50	90	30	30	90	210	90	30	260	110
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	149	41	0	122	41	0	122	284	107	41	351	19
Adj No. of Lanes	1	1	0	1	1	1	1	1	0	2	1	1
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	375	134	0	348	132	112	318	418	158	296	433	360
Arrive On Green	0.21	0.07	0.00	0.19	0.07	0.00	0.18	0.32	0.32	0.08	0.23	0.23
Sat Flow, veh/h	1810	1900	0	1810	1900	1615	1810	1309	493	3510	1900	1580
Grp Volume(v), veh/h	149	41	0	122	41	0	122	0	391	41	351	19
Grp Sat Flow(s),veh/h/ln	1810	1900	0	1810	1900	1615	1810	0	1803	1755	1900	1580
Q Serve(g_s), s	3.6	1.0	0.0	2.9	1.0	0.0	3.0	0.0	9.4	0.5	8.8	0.5
Cycle Q Clear(g_c), s	3.6	1.0	0.0	2.9	1.0	0.0	3.0	0.0	9.4	0.5	8.8	0.5
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.27	1.00		1.00
Lane Grp Cap(c), veh/h	375	134	0	348	132	112	318	0	576	296	433	360
V/C Ratio(X)	0.40	0.31	0.00	0.35	0.31	0.00	0.38	0.00	0.68	0.14	0.81	0.05
Avail Cap(c_a), veh/h	687	938	0	687	965	820	687	0	905	1333	953	793
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.1	22.1	0.0	17.5	22.1	0.0	18.2	0.0	14.8	21.2	18.3	15.1
Incr Delay (d2), s/veh	0.3	0.5	0.0	0.2	0.5	0.0	0.3	0.0	0.5	0.1	1.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.6	0.0	1.5	0.6	0.0	1.5	0.0	4.8	0.3	4.8	0.2
LnGrp Delay(d),s/veh	17.4	22.6	0.0	17.7	22.6	0.0	18.5	0.0	15.3	21.3	19.7	15.1
LnGrp LOS	B	C		B	C		B		B	C	B	B
Approach Vol, veh/h	190			163			513			411		
Approach Delay, s/veh	18.5			19.0			16.1			19.7		
Approach LOS	B			B			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.6	8.2	12.8	15.4	14.4	7.5	8.2	20.0				
Change Period (Y+Rc), s	3.0	* 4.4	3.0	4.1	3.0	4.4	3.0	4.1				
Max Green Setting (Gmax), s	20.0	* 25	20.0	25.0	20.0	25.0	20.0	25.0				
Max Q Clear Time (g_c+I), s	14.9	3.0	5.0	10.8	5.6	3.0	2.5	11.4				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.7				
Intersection Summary												
HCM 2010 Ctrl Delay	18.0											
HCM 2010 LOS	B											
Notes												

User approved pedestrian interval to be less than phase max green.

User approved ignoring U-Turning movement.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary

18: CR 102 & E. Heritage Pkwy/CR 25

Existing Plus Approved Plus Project Conditions

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	10	50	0	10	20	110	430	0	10	380	190
Future Volume (veh/h)	120	10	50	0	10	20	110	430	0	10	380	190
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1845	1845	1845	1845
Adj Flow Rate, veh/h	146	12	2	0	12	0	134	524	0	12	463	77
Adj No. of Lanes	1	1	0	1	1	0	1	1	1	1	1	1
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	185	324	54	5	29	0	170	750	637	17	589	489
Arrive On Green	0.11	0.21	0.21	0.00	0.02	0.00	0.10	0.41	0.00	0.01	0.32	0.32
Sat Flow, veh/h	1757	1542	257	1757	1845	0	1757	1845	1568	1757	1845	1531
Grp Volume(v), veh/h	146	0	14	0	12	0	134	524	0	12	463	77
Grp Sat Flow(s),veh/h/ln	1757	0	1799	1757	1845	0	1757	1845	1568	1757	1845	1531
Q Serve(g_s), s	2.7	0.0	0.2	0.0	0.2	0.0	2.5	7.9	0.0	0.2	7.7	1.2
Cycle Q Clear(g_c), s	2.7	0.0	0.2	0.0	0.2	0.0	2.5	7.9	0.0	0.2	7.7	1.2
Prop In Lane	1.00		0.14	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	185	0	378	5	29	0	170	750	637	17	589	489
V/C Ratio(X)	0.79	0.00	0.04	0.00	0.41	0.00	0.79	0.70	0.00	0.72	0.79	0.16
Avail Cap(c_a), veh/h	782	0	1334	782	1368	0	1042	1642	1395	1042	1642	1362
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.7	0.0	10.6	0.0	16.4	0.0	14.9	8.3	0.0	16.7	10.4	8.2
Incr Delay (d2), s/veh	2.8	0.0	0.0	0.0	3.4	0.0	3.1	0.4	0.0	19.5	0.9	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.1	0.0	0.1	0.0	1.3	4.0	0.0	0.2	4.0	0.5
LnGrp Delay(d),s/veh	17.5	0.0	10.6	0.0	19.9	0.0	18.0	8.7	0.0	36.1	11.3	8.3
LnGrp LOS	B		B		B		B	A		D	B	A
Approach Vol, veh/h	160				12				658			
Approach Delay, s/veh	16.9				19.9				10.6			
Approach LOS	B				B				B			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	0.0	11.2	6.3	16.3	6.6	4.6	3.3	19.2				
Change Period (Y+Rc), s	3.0	4.1	3.0	5.5	3.0	4.1	3.0	5.5				
Max Green Setting (Gmax), s	15.0	25.0	20.0	30.0	15.0	25.0	20.0	30.0				
Max Q Clear Time (g_c+I1), s	0.0	2.2	4.5	9.7	4.7	2.2	2.2	9.9				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.1	0.0	0.0	0.0	1.2				
Intersection Summary												
HCM 2010 Ctrl Delay	11.8											
HCM 2010 LOS	B											

Intersection				
Intersection Delay, s/veh	9.3			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	178	109	467	416
Demand Flow Rate, veh/h	183	112	481	429
Vehicles Circulating, veh/h	323	548	203	153
Vehicles Exiting, veh/h	259	136	303	507
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	5	5	0	5
Ped Cap Adj	0.999	0.999	1.000	0.999
Approach Delay, s/veh	6.9	7.7	10.9	9.0
Approach LOS	A	A	B	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	183	112	481	429
Cap Entry Lane, veh/h	818	653	922	970
Entry HV Adj Factor	0.974	0.975	0.971	0.971
Flow Entry, veh/h	178	109	467	416
Cap Entry, veh/h	796	636	895	941
V/C Ratio	0.224	0.172	0.521	0.443
Control Delay, s/veh	6.9	7.7	10.9	9.0
LOS	A	A	B	A
95th %tile Queue, veh	1	1	3	2

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Research Park
Existing Plus Approved Plus Project Conditions
PM Peak Hour

Intersection 20

East St/County Road 25A

All-way Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	10	10	99.0%	3.4	1.6	A
	Through	10	11	110.0%	8.7	1.2	A
	Right Turn	10	10	96.0%	3.9	2.7	A
	Subtotal	30	31	101.7%	5.1	1.1	A
SB	Left Turn	290	290	100.0%	9.8	2.3	A
	Through	10	13	128.0%	11.0	2.5	B
	Right Turn	40	44	110.8%	6.5	1.9	A
	Subtotal	340	347	102.1%	9.4	2.0	A
EB	Left Turn	60	56	92.5%	8.0	1.1	A
	Through	160	156	97.4%	10.9	0.9	B
	Right Turn	10	11	109.0%	4.7	1.5	A
	Subtotal	230	222	96.7%	9.8	0.7	A
WB	Left Turn	10	7	71.0%	9.2	9.0	A
	Through	230	172	74.7%	18.5	2.0	C
	Right Turn	480	372	77.5%	13.7	1.9	B
	Subtotal	720	551	76.5%	15.3	1.9	C
Total		1,320	1,150	87.2%	12.0	1.1	B

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Research Park
Existing Plus Approved Plus Project Conditions
PM Peak Hour

Intersection 21

SR 113 SB Ramps/County Road 25A

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	150	47	31.3%	738.1	72.9	F
	Through						
	Right Turn	40	12	29.3%	743.9	104.8	F
	Subtotal	190	59	30.9%	734.4	73.8	F
EB	Left Turn						
	Through	330	330	100.1%	4.1	0.4	A
	Right Turn	130	126	96.9%	2.6	0.4	A
	Subtotal	460	456	99.2%	3.7	0.3	A
WB	Left Turn	430	407	94.7%	20.1	8.1	C
	Through	680	537	79.0%	19.7	7.0	C
	Right Turn						
	Subtotal	1,110	944	85.1%	19.9	7.5	C
Total		1,760	1,459	82.9%	41.5	9.4	E

Intersection 22

SR 113 NB Ramps/County Road 25A

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	250	128	51.0%	294.4	40.0	F
	Through	10	6	59.0%	321.8	73.2	F
	Right Turn	760	369	48.6%	286.4	32.4	F
	Subtotal	1,020	503	49.3%	289.7	32.2	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	30	28	91.7%	14.5	8.1	B
	Through	450	351	77.9%	5.3	3.1	A
	Right Turn						
	Subtotal	480	378	78.8%	6.1	3.5	A
WB	Left Turn						
	Through	860	821	95.5%	5.6	0.7	A
	Right Turn	210	201	95.8%	3.0	0.5	A
	Subtotal	1,070	1,022	95.6%	5.1	0.6	A
Total		2,570	1,903	74.1%	79.0	2.5	F

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Research Park
Existing Plus Approved Plus Project Conditions
PM Peak Hour

Intersection 23

Road A/County Road 25A

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn	50	47	93.4%	9.9	4.0	A
	Subtotal	50	47	93.4%	9.9	4.0	A
SB	Left Turn						
	Through						
	Right Turn	120	122	101.3%	20.8	9.6	C
	Subtotal	120	122	101.3%	20.8	9.6	C
EB	Left Turn						
	Through	1,080	638	59.1%	3.8	0.8	A
	Right Turn	130	81	61.9%	1.9	0.6	A
	Subtotal	1,210	719	59.4%	3.5	0.8	A
WB	Left Turn						
	Through	950	902	95.0%	3.1	0.3	A
	Right Turn	30	30	98.3%	1.9	0.8	A
	Subtotal	980	932	95.1%	3.0	0.3	A
Total		2,360	1,819	77.1%	4.7	0.9	A

Intersection				
Intersection Delay, s/veh	4.8			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	98	206	33	33
Demand Flow Rate, veh/h	100	212	33	33
Vehicles Circulating, veh/h	89	33	100	212
Vehicles Exiting, veh/h	156	100	89	33
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	5	5	5	5
Ped Cap Adj	0.999	0.999	0.999	0.999
Approach Delay, s/veh	4.4	5.2	3.8	4.3
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	100	212	33	33
Cap Entry Lane, veh/h	1034	1093	1022	914
Entry HV Adj Factor	0.977	0.972	0.990	0.990
Flow Entry, veh/h	98	206	33	33
Cap Entry, veh/h	1010	1062	1012	905
V/C Ratio	0.097	0.194	0.032	0.036
Control Delay, s/veh	4.4	5.2	3.8	4.3
LOS	A	A	A	A
95th %tile Queue, veh	0	1	0	0

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Research Park
Existing Plus Approved Plus Project Conditions
PM Peak Hour

Intersection 25

Road B/County Road 25A

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	190	187	98.3%	78.2	29.1	E
	Through	40	39	98.0%	46.7	15.9	D
	Right Turn	50	52	104.8%	22.5	11.4	C
	Subtotal	280	278	99.4%	63.3	22.5	E
SB	Left Turn	50	42	83.2%	105.3	31.6	F
	Through	50	52	103.8%	100.1	24.0	F
	Right Turn	510	459	90.1%	83.3	17.7	F
	Subtotal	610	553	90.6%	87.1	18.5	F
EB	Left Turn	670	410	61.1%	46.1	3.7	D
	Through	450	267	59.4%	26.7	3.1	C
	Right Turn	10	6	62.0%	17.2	16.1	B
	Subtotal	1,130	683	60.5%	38.3	3.2	D
WB	Left Turn	30	29	97.3%	61.0	25.2	E
	Through	280	285	101.8%	61.4	24.7	E
	Right Turn	30	30	101.3%	56.6	20.5	E
	Subtotal	340	345	101.4%	61.2	23.9	E
Total		2,360	1,859	78.8%	61.2	9.2	E

HCM 2010 Signalized Intersection Summary

26: Road B & Road C

Existing + Approved + Project Conditions

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕↕		↕	↕↕	
Traffic Volume (veh/h)	40	30	20	190	20	30	110	400	240	30	350	60
Future Volume (veh/h)	40	30	20	190	20	30	110	400	240	30	350	60
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1900	1845	1900	1900	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	43	33	11	207	22	28	120	435	186	33	380	53
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	120	92	31	282	30	38	270	659	279	135	612	85
Arrive On Green	0.14	0.14	0.14	0.20	0.20	0.20	0.15	0.28	0.28	0.08	0.20	0.20
Sat Flow, veh/h	870	667	222	1401	149	190	1757	2394	1013	1757	3088	427
Grp Volume(v), veh/h	87	0	0	257	0	0	120	317	304	33	214	219
Grp Sat Flow(s),veh/h/ln	1759	0	0	1739	0	0	1757	1752	1655	1757	1752	1763
Q Serve(g_s), s	2.8	0.0	0.0	8.7	0.0	0.0	3.9	10.0	10.2	1.1	7.0	7.1
Cycle Q Clear(g_c), s	2.8	0.0	0.0	8.7	0.0	0.0	3.9	10.0	10.2	1.1	7.0	7.1
Prop In Lane	0.49		0.13	0.81		0.11	1.00		0.61	1.00		0.24
Lane Grp Cap(c), veh/h	244	0	0	350	0	0	270	482	456	135	347	349
V/C Ratio(X)	0.36	0.00	0.00	0.73	0.00	0.00	0.44	0.66	0.67	0.24	0.62	0.63
Avail Cap(c_a), veh/h	789	0	0	786	0	0	421	932	880	308	820	825
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.5	0.0	0.0	23.4	0.0	0.0	24.1	20.1	20.1	27.2	22.9	23.0
Incr Delay (d2), s/veh	0.9	0.0	0.0	3.0	0.0	0.0	1.1	1.5	1.7	0.9	1.8	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.0	4.4	0.0	0.0	2.0	5.1	4.9	0.6	3.6	3.6
LnGrp Delay(d),s/veh	25.3	0.0	0.0	26.4	0.0	0.0	25.2	21.6	21.8	28.1	24.7	24.8
LnGrp LOS	C			C			C	C	C	C	C	C
Approach Vol, veh/h	87			257			741			466		
Approach Delay, s/veh	25.3			26.4			22.3			25.0		
Approach LOS	C			C			C			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.8	22.3		13.8	13.6	17.5		17.7				
Change Period (Y+Rc), s	4.0	5.1		5.1	4.0	5.1		5.1				
Max Green Setting (Gmax), s	33.3			28.1	15.0	29.3		28.3				
Max Q Clear Time (g_c+I), s	12.2			4.8	5.9	9.1		10.7				
Green Ext Time (p_c), s	0.0	4.0		0.4	0.2	2.5		1.4				
Intersection Summary												
HCM 2010 Ctrl Delay	24.0											
HCM 2010 LOS	C											

Intersection						
Int Delay, s/veh	4.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	40	120	240	520	370	80
Future Vol, veh/h	40	120	240	520	370	80
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	43	130	261	565	402	87
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1489	402	489	0	-	0
Stage 1	402	-	-	-	-	-
Stage 2	1087	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	136	648	1074	-	-	-
Stage 1	676	-	-	-	-	-
Stage 2	323	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	103	648	1074	-	-	-
Mov Cap-2 Maneuver	103	-	-	-	-	-
Stage 1	512	-	-	-	-	-
Stage 2	323	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	24.9	3		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1074	-	103	648	-	-
HCM Lane V/C Ratio	0.243	-	0.422	0.201	-	-
HCM Control Delay (s)	9.4	-	63.4	12	-	-
HCM Lane LOS	A	-	F	B	-	-
HCM 95th %tile Q(veh)	1	-	1.8	0.7	-	-

HCM 2010 Signalized Intersection Summary

28: Road B & Marston Dr

Existing + Approved + Project Conditions

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	30	130	40	10	10	80	390	70	20	330	40
Future Volume (veh/h)	70	30	130	40	10	10	80	390	70	20	330	40
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1900	1845	1900	1900	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	76	33	98	43	11	3	87	424	64	22	359	35
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	114	50	147	161	41	11	258	873	131	100	633	61
Arrive On Green	0.19	0.19	0.19	0.12	0.12	0.12	0.15	0.29	0.29	0.06	0.20	0.20
Sat Flow, veh/h	612	266	789	1328	340	93	1757	3054	458	1757	3225	312
Grp Volume(v), veh/h	207	0	0	57	0	0	87	242	246	22	194	200
Grp Sat Flow(s),veh/h/ln	1667	0	0	1761	0	0	1757	1752	1759	1757	1752	1785
Q Serve(g_s), s	6.4	0.0	0.0	1.6	0.0	0.0	2.5	6.3	6.4	0.7	5.5	5.6
Cycle Q Clear(g_c), s	6.4	0.0	0.0	1.6	0.0	0.0	2.5	6.3	6.4	0.7	5.5	5.6
Prop In Lane	0.37		0.47	0.75		0.05	1.00		0.26	1.00		0.18
Lane Grp Cap(c), veh/h	311	0	0	213	0	0	258	501	503	100	344	350
V/C Ratio(X)	0.67	0.00	0.00	0.27	0.00	0.00	0.34	0.48	0.49	0.22	0.56	0.57
Avail Cap(c_a), veh/h	903	0	0	897	0	0	382	1006	1010	350	975	993
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.9	0.0	0.0	22.0	0.0	0.0	21.1	16.3	16.4	24.8	20.1	20.1
Incr Delay (d2), s/veh	2.5	0.0	0.0	0.7	0.0	0.0	0.8	0.7	0.7	1.1	1.5	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.1	0.0	0.0	0.8	0.0	0.0	1.2	3.1	3.2	0.3	2.8	2.9
LnGrp Delay(d),s/veh	23.3	0.0	0.0	22.7	0.0	0.0	21.9	17.1	17.1	25.9	21.5	21.5
LnGrp LOS	C			C			C	B	B	C	C	C
Approach Vol, veh/h	207				57		575				416	
Approach Delay, s/veh	23.3				22.7		17.8				21.8	
Approach LOS	C				C		B				C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	7.1	20.9			15.4	12.1	15.9	11.8				
Change Period (Y+Rc), s	4.0	5.1			5.1	4.0	5.1	5.1				
Max Green Setting (Gmax), s	1.0	31.7			29.9	12.0	30.7	28.1				
Max Q Clear Time (g_c+I2), s	1.0	8.4			8.4	4.5	7.6	3.6				
Green Ext Time (p_c), s	0.0	3.0			1.2	0.1	2.3	0.2				
Intersection Summary												
HCM 2010 Ctrl Delay			20.2									
HCM 2010 LOS			C									

HCM 2010 Signalized Intersection Summary

29: Road B & Road E

Existing + Approved + Project Conditions

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	10	80	30	10	70	100	360	60	120	210	120
Future Volume (veh/h)	100	10	80	30	10	70	100	360	60	120	210	120
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1900	1845	1900	1900	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	109	11	62	33	11	14	109	391	53	130	228	60
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	178	18	101	117	39	50	275	640	86	292	595	153
Arrive On Green	0.18	0.18	0.18	0.12	0.12	0.12	0.16	0.21	0.21	0.17	0.22	0.22
Sat Flow, veh/h	1010	102	575	978	326	415	1757	3100	417	1757	2754	708
Grp Volume(v), veh/h	182	0	0	58	0	0	109	220	224	130	143	145
Grp Sat Flow(s),veh/h/ln	1687	0	0	1718	0	0	1757	1752	1765	1757	1752	1710
Q Serve(g_s), s	5.8	0.0	0.0	1.8	0.0	0.0	3.2	6.6	6.7	3.9	4.1	4.2
Cycle Q Clear(g_c), s	5.8	0.0	0.0	1.8	0.0	0.0	3.2	6.6	6.7	3.9	4.1	4.2
Prop In Lane	0.60		0.34	0.57		0.24	1.00		0.24	1.00		0.41
Lane Grp Cap(c), veh/h	296	0	0	206	0	0	275	362	365	292	378	369
V/C Ratio(X)	0.61	0.00	0.00	0.28	0.00	0.00	0.40	0.61	0.61	0.45	0.38	0.39
Avail Cap(c_a), veh/h	838	0	0	830	0	0	483	835	841	483	835	815
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.1	0.0	0.0	23.3	0.0	0.0	22.0	20.9	21.0	21.8	19.5	19.5
Incr Delay (d2), s/veh	2.1	0.0	0.0	0.7	0.0	0.0	0.9	1.6	1.7	1.1	0.6	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	0.0	0.9	0.0	0.0	1.6	3.3	3.4	2.0	2.0	2.0
LnGrp Delay(d),s/veh	24.2	0.0	0.0	24.1	0.0	0.0	23.0	22.6	22.7	22.9	20.1	20.2
LnGrp LOS	C			C			C	C	C	C	C	C
Approach Vol, veh/h	182				58		553				418	
Approach Delay, s/veh	24.2				24.1		22.7				21.0	
Approach LOS	C				C		C				C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	13.7	17.1			15.3	13.1	17.7	12.1				
Change Period (Y+Rc), s	4.0	5.1			5.1	4.0	5.1	5.1				
Max Green Setting (Gmax), s	10.0	27.7			28.9	16.0	27.7	28.1				
Max Q Clear Time (g_c+I), s	15.9	8.7			7.8	5.2	6.2	3.8				
Green Ext Time (p_c), s	0.2	2.5			1.0	0.2	1.6	0.2				
Intersection Summary												
HCM 2010 Ctrl Delay			22.4									
HCM 2010 LOS			C									

HCM 2010 Signalized Intersection Summary

30: Road B & Parkland Ave

Existing + Approved + Project Conditions

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	10	10	390	10	130	10	90	430	90	50	10
Future Volume (veh/h)	10	10	10	390	10	130	10	90	430	90	50	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.99	1.00		0.98
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1845	1900	1845	1900
Adj Flow Rate, veh/h	11	11	0	424	11	50	11	98	45	98	54	9
Adj No. of Lanes	1	1	0	1	2	0	1	1	1	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	53	265	0	482	680	604	267	280	236	165	91	15
Arrive On Green	0.03	0.14	0.00	0.27	0.39	0.39	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1757	1845	0	1757	1752	1558	1757	1845	1552	1078	594	99
Grp Volume(v), veh/h	11	11	0	424	11	50	11	98	45	161	0	0
Grp Sat Flow(s),veh/h/ln	1757	1845	0	1757	1752	1558	1757	1845	1552	1771	0	0
Q Serve(g_s), s	0.4	0.3	0.0	15.7	0.3	1.4	0.4	3.2	1.7	5.8	0.0	0.0
Cycle Q Clear(g_c), s	0.4	0.3	0.0	15.7	0.3	1.4	0.4	3.2	1.7	5.8	0.0	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	0.61		0.06
Lane Grp Cap(c), veh/h	53	265	0	482	680	604	267	280	236	271	0	0
V/C Ratio(X)	0.21	0.04	0.00	0.88	0.02	0.08	0.04	0.35	0.19	0.59	0.00	0.00
Avail Cap(c_a), veh/h	285	761	0	698	1135	1009	729	766	645	730	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	32.1	25.1	0.0	23.6	12.8	13.1	24.6	25.8	25.1	26.8	0.0	0.0
Incr Delay (d2), s/veh	1.9	0.1	0.0	8.9	0.0	0.1	0.1	0.7	0.4	2.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.2	0.0	8.7	0.1	0.6	0.2	1.7	0.8	3.0	0.0	0.0
LnGrp Delay(d),s/veh	34.0	25.1	0.0	32.5	12.8	13.2	24.6	26.5	25.5	28.9	0.0	0.0
LnGrp LOS	C	C		C	B	B	C	C	C	C		
Approach Vol, veh/h		22			485			154			161	
Approach Delay, s/veh		29.6			30.1			26.1			28.9	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		15.4	22.7	14.9		15.0	6.1	31.4				
Change Period (Y+Rc), s		5.1	4.0	5.1		4.6	4.0	5.1				
Max Green Setting (Gmax), s		28.2	27.0	28.0		28.0	11.0	44.0				
Max Q Clear Time (g_c+I1), s		5.2	17.7	2.3		7.8	2.4	3.4				
Green Ext Time (p_c), s		0.6	1.0	0.0		0.8	0.0	0.3				
Intersection Summary												
HCM 2010 Ctrl Delay				29.1								
HCM 2010 LOS				C								

HCM 2010 Roundabout
31: Harry Lorenzo Ave & Corporate Limit/Farmers Central Rd

Existing + Approved + Project Conditions

Timing Plan: PM Peak Hour

Intersection				
Intersection Delay, s/veh	4.1			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	0	22	65	142
Demand Flow Rate, veh/h	0	22	66	144
Vehicles Circulating, veh/h	155	44	22	11
Vehicles Exiting, veh/h	0	44	133	55
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	0.0	3.5	3.8	4.4
Approach LOS	-	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	0	22	66	144
Cap Entry Lane, veh/h	968	1081	1105	1118
Entry HV Adj Factor	1.000	1.000	0.987	0.983
Flow Entry, veh/h	0	22	65	142
Cap Entry, veh/h	968	1081	1091	1099
V/C Ratio	0.000	0.020	0.060	0.129
Control Delay, s/veh	3.7	3.5	3.8	4.4
LOS	A	A	A	A
95th %tile Queue, veh	0	0	0	0

Intersection			
Intersection Delay, s/veh10.4			
Intersection LOS B			
Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	598	424	196
Demand Flow Rate, veh/h	616	436	202
Vehicles Circulating, veh/h	112	157	291
Vehicles Exiting, veh/h	381	571	302
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	5	5	5
Ped Cap Adj	0.999	0.999	0.999
Approach Delay, s/veh	12.3	9.2	7.0
Approach LOS	B	A	A
Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	616	436	202
Cap Entry Lane, veh/h	1010	966	845
Entry HV Adj Factor	0.970	0.971	0.970
Flow Entry, veh/h	598	424	196
Cap Entry, veh/h	979	937	819
V/C Ratio	0.610	0.452	0.239
Control Delay, s/veh	12.3	9.2	7.0
LOS	B	A	A
95th %tile Queue, veh	4	2	1

Intersection												
Int Delay, s/veh	4.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	20	10	10	10	10	40	10	100	10	60	50	10
Future Vol, veh/h	20	10	10	10	10	40	10	100	10	60	50	10
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	22	11	11	11	11	43	11	109	11	65	54	11

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	364	342	70	348	342	125	70	0	0	125	0	0
Stage 1	195	195	-	142	142	-	-	-	-	-	-	-
Stage 2	169	147	-	206	200	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	590	579	990	605	579	923	1524	-	-	1455	-	-
Stage 1	804	737	-	859	777	-	-	-	-	-	-	-
Stage 2	831	774	-	794	734	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	526	542	981	560	542	915	1517	-	-	1448	-	-
Mov Cap-2 Maneuver	526	542	-	560	542	-	-	-	-	-	-	-
Stage 1	794	699	-	848	767	-	-	-	-	-	-	-
Stage 2	771	764	-	734	696	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	11.5		10.3		0.6		3.8	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1517	-	-	600	750	1448	-	-
HCM Lane V/C Ratio	0.007	-	-	0.072	0.087	0.045	-	-
HCM Control Delay (s)	7.4	0	-	11.5	10.3	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.3	0.1	-	-

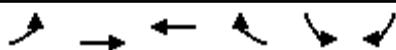
Intersection				
Intersection Delay, s/veh	5.1			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	120	141	174	76
Demand Flow Rate, veh/h	124	145	179	78
Vehicles Circulating, veh/h	123	158	112	157
Vehicles Exiting, veh/h	112	133	135	146
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	5	5	5	5
Ped Cap Adj	0.999	0.999	0.999	0.999
Approach Delay, s/veh	4.9	5.3	5.4	4.5
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	124	145	179	78
Cap Entry Lane, veh/h	999	965	1010	966
Entry HV Adj Factor	0.966	0.971	0.971	0.979
Flow Entry, veh/h	120	141	174	76
Cap Entry, veh/h	964	936	980	945
V/C Ratio	0.124	0.150	0.177	0.081
Control Delay, s/veh	4.9	5.3	5.4	4.5
LOS	A	A	A	A
95th %tile Queue, veh	0	1	1	0

HCM 2010 Signalized Intersection Summary

35: Parkland Ave & Harry Lorenzo Ave

Existing + Approved + Project Conditions

Timing Plan: PM Peak Hour

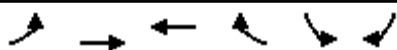


Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	60	470	420	20	10	110		
Future Volume (veh/h)	60	470	420	20	10	110		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			0.99	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1845	1845	1845	1900	1845	1900		
Adj Flow Rate, veh/h	65	511	457	18	11	16		
Adj No. of Lanes	1	2	2	0	0	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	3	3	3	3	0	0		
Cap, veh/h	256	2067	976	38	58	85		
Arrive On Green	0.15	0.59	0.28	0.28	0.09	0.09		
Sat Flow, veh/h	1757	3597	3529	135	645	938		
Grp Volume(v), veh/h	65	511	233	242	28	0		
Grp Sat Flow(s),veh/h/ln	1757	1752	1752	1819	1641	0		
Q Serve(g_s), s	1.2	2.5	4.0	4.0	0.6	0.0		
Cycle Q Clear(g_c), s	1.2	2.5	4.0	4.0	0.6	0.0		
Prop In Lane	1.00			0.07	0.39	0.57		
Lane Grp Cap(c), veh/h	256	2067	498	517	148	0		
V/C Ratio(X)	0.25	0.25	0.47	0.47	0.19	0.00		
Avail Cap(c_a), veh/h	640	4854	1508	1566	1277	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	13.7	3.6	10.7	10.7	15.3	0.0		
Incr Delay (d2), s/veh	0.5	0.1	0.7	0.7	0.6	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.6	1.2	2.0	2.0	0.3	0.0		
LnGrp Delay(d),s/veh	14.3	3.6	11.4	11.4	15.9	0.0		
LnGrp LOS	B	A	B	B	B			
Approach Vol, veh/h		576	475		28			
Approach Delay, s/veh		4.8	11.4		15.9			
Approach LOS		A	B		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		27.2		9.1	11.1	16.1		
Change Period (Y+Rc), s		5.8		5.8	5.8	5.8		
Max Green Setting (Gmax), s		50.2		28.2	13.2	31.2		
Max Q Clear Time (g_c+I1), s		4.5		2.6	3.2	6.0		
Green Ext Time (p_c), s		3.9		0.0	0.1	2.9		
Intersection Summary								
HCM 2010 Ctrl Delay			8.0					
HCM 2010 LOS			A					

HCM 2010 Signalized Intersection Summary

36: Parkland Ave & Pioneer Ave

Existing + Approved + Project Conditions
Timing Plan: PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations					 			
Traffic Volume (veh/h)	430	50	40	290	330	400		
Future Volume (veh/h)	430	50	40	290	330	400		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			0.99	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1900		
Adj Flow Rate, veh/h	467	54	43	30	280	285		
Adj No. of Lanes	1	1	1	1	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	3	3	3	3	3	0		
Cap, veh/h	544	1005	246	206	440	405		
Arrive On Green	0.31	0.54	0.13	0.13	0.25	0.25		
Sat Flow, veh/h	1757	1845	1845	1546	1757	1615		
Grp Volume(v), veh/h	467	54	43	30	280	285		
Grp Sat Flow(s),veh/h/ln	1757	1845	1845	1546	1757	1615		
Q Serve(g_s), s	14.2	0.8	1.2	1.0	8.1	9.1		
Cycle Q Clear(g_c), s	14.2	0.8	1.2	1.0	8.1	9.1		
Prop In Lane	1.00			1.00	1.00	1.00		
Lane Grp Cap(c), veh/h	544	1005	246	206	440	405		
V/C Ratio(X)	0.86	0.05	0.18	0.15	0.64	0.70		
Avail Cap(c_a), veh/h	997	2062	826	692	774	712		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	18.4	6.1	21.8	21.7	18.9	19.3		
Incr Delay (d2), s/veh	4.1	0.0	0.3	0.3	1.5	2.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	7.5	0.4	0.6	0.4	4.1	8.1		
LnGrp Delay(d),s/veh	22.5	6.1	22.2	22.1	20.5	21.6		
LnGrp LOS	C	A	C	C	C	C		
Approach Vol, veh/h		521	73		565			
Approach Delay, s/veh		20.8	22.1		21.0			
Approach LOS		C	C		C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		36.7		20.0	23.4	13.3		
Change Period (Y+Rc), s		5.8		5.8	5.8	5.8		
Max Green Setting (Gmax), s		63.4		25.0	32.2	25.4		
Max Q Clear Time (g_c+I1), s		2.8		11.1	16.2	3.2		
Green Ext Time (p_c), s		0.1		3.1	1.4	0.2		
Intersection Summary								
HCM 2010 Ctrl Delay			21.0					
HCM 2010 LOS			C					
Notes								

User approved volume balancing among the lanes for turning movement.

Intersection			
Intersection Delay, s/veh	9.7		
Intersection LOS	A		
Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	587	304	271
Demand Flow Rate, veh/h	598	310	277
Vehicles Circulating, veh/h	44	421	221
Vehicles Exiting, veh/h	454	221	510
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	10.3	10.6	7.4
Approach LOS	B	B	A
Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	598	310	277
Cap Entry Lane, veh/h	1081	742	906
Entry HV Adj Factor	0.981	0.980	0.978
Flow Entry, veh/h	587	304	271
Cap Entry, veh/h	1061	727	886
V/C Ratio	0.553	0.418	0.306
Control Delay, s/veh	10.3	10.6	7.4
LOS	B	B	A
95th %tile Queue, veh	4	2	1

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing + Approved + Project Conditions (Mitigated)
AM Peak Hour

Intersection 2 **Industrial Way-SR 113 SB Off-Ramp/Main Street** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	60	62	103.2%	50.9	12.2	D
	Through	20	18	89.0%	48.4	12.5	D
	Right Turn	50	52	103.2%	30.9	10.0	C
	Subtotal	130	131	101.0%	42.5	9.8	D
SB	Left Turn	70	66	94.9%	37.9	8.0	D
	Through	90	94	103.9%	40.8	6.6	D
	Right Turn	20	24	117.5%	31.7	11.1	C
	Subtotal	180	183	101.9%	38.7	6.2	D
EB	Left Turn	30	30	100.3%	61.7	17.0	E
	Through	530	534	100.8%	66.2	23.1	E
	Right Turn	190	192	101.2%	67.9	30.7	E
	Subtotal	750	757	100.9%	66.6	24.1	E
WB	Left Turn	660	580	87.9%	59.4	19.1	E
	Through	1,080	1,001	92.7%	15.2	3.0	B
	Right Turn	120	113	94.3%	14.4	3.9	B
	Subtotal	1,860	1,695	91.1%	29.9	6.5	C
Total		2,920	2,766	94.7%	41.5	7.2	D

Intersection 3 **SR 113 NB Ramps/Main Street** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	290	291	100.4%	37.7	6.7	D
	Through						
	Right Turn	750	742	99.0%	58.1	30.7	E
	Subtotal	1,040	1,034	99.4%	52.5	22.9	D
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	630	634	100.6%	44.6	10.1	D
	Right Turn	30	28	92.3%	47.9	21.8	D
	Subtotal	660	662	100.3%	44.7	10.4	D
WB	Left Turn	40	39	97.3%	26.5	5.4	C
	Through	1,570	1,412	89.9%	13.7	2.0	B
	Right Turn						
	Subtotal	1,610	1,451	90.1%	14.0	2.1	B
Total		3,310	3,146	95.0%	33.4	8.0	C

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing + Approved + Project Conditions (Mitigated)
AM Peak Hour

Intersection 4

Pioneer Avenue/Main Street

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	270	272	100.7%	134.7	47.8	F
	Through	320	316	98.6%	72.7	35.3	E
	Right Turn	560	571	101.9%	89.3	39.6	F
	Subtotal	1,150	1,158	100.7%	96.6	26.4	F
SB	Left Turn	80	81	100.8%	62.0	12.4	E
	Through	160	165	103.3%	48.3	6.6	D
	Right Turn	60	62	103.8%	34.5	8.7	C
	Subtotal	300	308	102.7%	49.1	5.7	D
EB	Left Turn	140	141	100.8%	122.8	48.0	F
	Through	1,080	1,073	99.3%	32.0	4.8	C
	Right Turn	210	207	98.5%	32.0	6.2	C
	Subtotal	1,430	1,420	99.3%	41.7	8.7	D
NW	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	160	141	87.9%	84.5	7.2	F
	Through	1,300	1,131	87.0%	58.5	5.0	E
	Right Turn	110	99	89.8%	43.5	5.7	D
	Subtotal	1,570	1,370	87.3%	60.0	4.7	E
Total		4,450	4,257	95.7%	85.0	11.9	F

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing + Approved + Project Conditions (Mitigated)
AM Peak Hour

Intersection 5

Interstate-5 NB Off-Ramp/Main Street

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	1,290	1,096	84.9%	425.9	35.3	F
	Through						
	Right Turn	10	9	86.0%	353.7	37.0	F
	Subtotal	1,300	1,104	85.0%	425.6	35.3	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	880	877	99.6%	32.5	3.3	C
	Right Turn						
	Subtotal	880	877	99.6%	32.5	3.3	C
WB	Left Turn						
	Through	290	288	99.4%	30.4	3.1	C
	Right Turn						
	Subtotal	290	288	99.4%	30.4	3.1	C
Total		2,470	2,269	91.9%	223.9	15.0	F

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing Plus Approved Plus Project (2030) Conditions - MITIGATED
AM Peak Hour

Intersection 12

Bourn Dr-Harry Lorenzo Ave/E Gibson Rd

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	290	289	99.6%	87.5	27.1	F
	Through	30	31	104.0%	59.4	25.4	E
	Right Turn	80	78	97.4%	44.2	22.2	D
	Subtotal	400	398	99.5%	76.6	25.7	E
SB	Left Turn	30	28	91.7%	57.2	14.4	E
	Through	30	27	88.7%	63.1	23.2	E
	Right Turn	160	164	102.2%	40.2	9.7	D
	Subtotal	220	218	98.9%	44.6	10.7	D
EB	Left Turn	80	79	99.3%	75.0	11.1	E
	Through	1,030	1,026	99.6%	32.2	5.4	C
	Right Turn	100	98	98.3%	32.4	8.6	C
	Subtotal	1,210	1,203	99.5%	35.0	5.3	C
WB	Left Turn	20	18	88.5%	166.8	51.6	F
	Through	1,210	1,187	98.1%	149.8	27.4	F
	Right Turn	40	43	107.0%	150.7	38.6	F
	Subtotal	1,270	1,248	98.2%	150.3	27.6	F
Total		3,100	3,066	98.9%	89.2	13.6	F

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing Plus Approved Plus Project (2030) Conditions - MITIGATED
AM Peak Hour

Intersection 13

Pioneer Ave/E Gibson Rd

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	500	496	99.3%	139.9	68.3	F
	Through	620	636	102.6%	60.1	17.3	E
	Right Turn	560	578	103.3%	62.1	18.6	E
	Subtotal	1,680	1,711	101.8%	82.9	24.6	F
SB	Left Turn	70	69	99.0%	56.8	11.6	E
	Through	380	377	99.1%	42.5	5.8	D
	Right Turn	280	275	98.3%	71.6	57.1	E
	Subtotal	730	721	98.8%	54.4	21.3	D
EB	Left Turn	190	185	97.6%	60.6	12.4	E
	Through	530	527	99.5%	45.2	12.7	D
	Right Turn	420	414	98.5%	37.5	11.4	D
	Subtotal	1,140	1,126	98.8%	44.4	9.7	D
WB	Left Turn	440	444	100.9%	88.5	27.8	F
	Through	490	494	100.8%	40.8	10.6	D
	Right Turn	20	22	107.5%	27.2	11.2	C
	Subtotal	950	959	101.0%	64.6	16.6	E
Total		4,500	4,517	100.4%	65.6	15.3	E

HCM Signalized Intersection Capacity Analysis

14: CR 102 & E. Gibson Rd/CR 24

Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	390	10	110	10	10	10	110	490	0	10	250	550
Future Volume (vph)	390	10	110	10	10	10	110	490	0	10	250	550
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	5.2	5.2		3.7		3.0	5.2		3.0	5.2	5.2
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85		0.95		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1649	1657	1553		1716		1736	3471		1736	3471	1531
Flt Permitted	0.95	0.95	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1649	1657	1553		1716		1736	3471		1736	3471	1531
Peak-hour factor, PHF	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	476	12	134	12	12	12	134	598	0	12	305	671
RTOR Reduction (vph)	0	0	106	0	11	0	0	0	0	0	0	505
Lane Group Flow (vph)	243	245	28	0	25	0	134	598	0	12	305	166
Confl. Bikes (#/hr)												2
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	2	2		6	6		3	8		7	4	
Permitted Phases			2									4
Actuated Green, G (s)	14.3	14.3	14.3		3.8		9.1	31.7		1.7	17.0	17.0
Effective Green, g (s)	14.3	14.3	14.3		3.8		9.1	31.7		1.7	17.0	17.0
Actuated g/C Ratio	0.21	0.21	0.21		0.06		0.13	0.46		0.02	0.25	0.25
Clearance Time (s)	5.2	5.2	5.2		3.7		3.0	5.2		3.0	5.2	5.2
Vehicle Extension (s)	1.0	1.0	1.0		1.0		1.0	1.5		1.0	1.5	1.5
Lane Grp Cap (vph)	343	345	323		95		230	1603		43	860	379
v/s Ratio Prot	0.15	c0.15			c0.01		c0.08	c0.17		0.01	0.09	
v/s Ratio Perm			0.02									c0.11
v/c Ratio	0.71	0.71	0.09		0.26		0.58	0.37		0.28	0.35	0.44
Uniform Delay, d1	25.2	25.2	21.9		31.1		28.0	12.0		32.8	21.3	21.8
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	5.4	5.6	0.0		0.5		2.4	0.1		1.3	0.1	0.3
Delay (s)	30.6	30.9	21.9		31.6		30.4	12.0		34.1	21.4	22.1
Level of Service	C	C	C		C		C	B		C	C	C
Approach Delay (s)		28.8			31.6			15.4			22.0	
Approach LOS		C			C			B			C	
Intersection Summary												
HCM 2000 Control Delay			21.9				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.54									
Actuated Cycle Length (s)			68.6				Sum of lost time (s)			19.1		
Intersection Capacity Utilization			73.8%				ICU Level of Service			D		
Analysis Period (min)			15									
c Critical Lane Group												

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Research Park
Existing Plus Approved Plus Project Mitigated
AM Peak Hour

Intersection 21

SR 113 SB Ramps/County Road 25A

Roundabout

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	160	159	99.5%	5.4	1.3	A
	Through	10	9	92.0%	6.5	3.9	A
	Right Turn	50	48	96.2%	4.7	0.4	A
	Subtotal	220	217	98.4%	5.3	0.9	A
EB	Left Turn						
	Through	400	384	95.9%	12.4	3.3	B
	Right Turn	330	343	104.0%	5.1	0.5	A
	Subtotal	730	727	99.6%	9.1	2.1	A
WB	Left Turn	910	887	97.5%	38.4	22.0	E
	Through	440	436	99.0%	41.2	22.2	E
	Right Turn						
	Subtotal	1,350	1,323	98.0%	39.3	22.1	E
Total		2,300	2,267	98.5%	26.8	13.5	D

Intersection 22

SR 113 NB Ramps/County Road 25A

Roundabout

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	120	117	97.8%	4.1	0.4	A
	Through						
	Right Turn	340	338	99.3%	4.2	0.1	A
	Subtotal	460	455	98.9%	4.2	0.2	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	30	27	90.7%	7.1	1.6	A
	Through	530	515	97.2%	10.2	1.6	B
	Right Turn						
	Subtotal	560	543	96.9%	10.1	1.5	B
WB	Left Turn						
	Through	1,230	1,216	98.8%	17.7	15.3	C
	Right Turn	210	214	101.9%	7.5	3.2	A
	Subtotal	1,440	1,430	99.3%	16.3	13.7	C
Total		2,460	2,427	98.7%	12.5	7.9	B

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Research Park
Existing Plus Approved Plus Project Mitigated
AM Peak Hour

Intersection 23

Road A/County Road 25A

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn	20	18	91.0%	5.4	1.9	A
	Subtotal	20	18	91.0%	5.4	1.9	A
SB	Left Turn						
	Through						
	Right Turn	160	153	95.3%	66.5	110.0	F
	Subtotal	160	153	95.3%	66.5	110.0	F
EB	Left Turn						
	Through	680	667	98.0%	1.7	0.3	A
	Right Turn	190	183	96.5%	1.0	0.2	A
	Subtotal	870	850	97.7%	1.5	0.3	A
WB	Left Turn						
	Through	1,280	1,276	99.7%	3.3	0.9	A
	Right Turn	30	28	94.0%	2.8	0.7	A
	Subtotal	1,310	1,304	99.6%	3.2	0.9	A
Total		2,360	2,325	98.5%	6.8	6.7	A

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Research Park
Existing Plus Approved Plus Project Mitigated
AM Peak Hour

Intersection 25

Road B/County Road 25A

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	90	93	103.4%	42.3	5.9	D
	Through	20	20	102.0%	37.9	21.2	D
	Right Turn	10	11	108.0%	7.0	4.9	A
	Subtotal	120	124	103.6%	39.0	3.5	D
SB	Left Turn	30	30	98.7%	42.8	14.1	D
	Through	60	54	90.7%	21.1	5.1	C
	Right Turn	610	601	98.6%	27.3	4.5	C
	Subtotal	700	685	97.9%	27.4	3.8	C
EB	Left Turn	500	493	98.6%	43.3	5.5	D
	Through	190	184	96.9%	18.6	2.1	B
	Right Turn	10	11	114.0%	6.3	7.6	A
	Subtotal	700	689	98.4%	36.4	4.2	D
WB	Left Turn	70	73	104.1%	66.4	11.3	E
	Through	610	609	99.8%	36.8	6.2	D
	Right Turn	30	34	112.3%	12.8	7.2	B
	Subtotal	710	716	100.8%	38.9	5.8	D
Total		2,230	2,214	99.3%	34.7	3.2	C

HCM 2010 Signalized Intersection Summary 27: CR 102 & CR 25A

Existing + Approved + Project
Conditions (Mitigated)
Timing Plan: AM Peak Hour

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	70	280	100	230	570	40		
Future Volume (veh/h)	70	280	100	230	570	40		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	76	36	109	250	620	17		
Adj No. of Lanes	1	1	1	1	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	164	146	161	1239	843	717		
Arrive On Green	0.09	0.09	0.09	0.67	0.45	0.45		
Sat Flow, veh/h	1774	1583	1774	1863	1863	1583		
Grp Volume(v), veh/h	76	36	109	250	620	17		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1863	1863	1583		
Q Serve(g_s), s	1.5	0.8	2.2	1.9	10.1	0.2		
Cycle Q Clear(g_c), s	1.5	0.8	2.2	1.9	10.1	0.2		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	164	146	161	1239	843	717		
V/C Ratio(X)	0.46	0.25	0.68	0.20	0.74	0.02		
Avail Cap(c_a), veh/h	1244	1110	502	2762	2009	1708		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	16.0	15.6	16.3	2.4	8.3	5.6		
Incr Delay (d2), s/veh	2.0	0.9	4.9	0.1	1.3	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.8	0.7	1.3	1.0	5.3	0.1		
LnGrp Delay(d),s/veh	18.0	16.5	21.2	2.5	9.6	5.6		
LnGrp LOS	B	B	C	A	A	A		
Approach Vol, veh/h	112			359	637			
Approach Delay, s/veh	17.5			8.2	9.5			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		29.2		7.9	7.9	21.3		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		55.0		26.0	10.5	40.0		
Max Q Clear Time (g_c+I1), s		3.9		3.5	4.2	12.1		
Green Ext Time (p_c), s		1.6		0.3	0.1	4.7		
Intersection Summary								
HCM 2010 Ctrl Delay			9.9					
HCM 2010 LOS			A					

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing + Approved + Project (Mitigated)
PM Peak Hour

Intersection 2

Industrial Way-SR 113 SB Off-Ramp/Main Street

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	40	39	96.8%	51.4	35.4	D
	Through	10	10	96.0%	22.2	19.7	C
	Right Turn	50	52	103.2%	33.4	28.9	C
	Subtotal	100	100	99.9%	41.0	30.0	D
SB	Left Turn	70	71	101.1%	64.8	48.8	E
	Through	80	76	94.8%	58.7	39.6	E
	Right Turn	30	30	100.7%	68.4	66.6	E
	Subtotal	180	177	98.2%	62.5	46.9	E
EB	Left Turn	30	20	66.0%	59.5	18.8	E
	Through	880	635	72.1%	138.0	17.9	F
	Right Turn	190	132	69.5%	153.2	20.5	F
	Subtotal	1,100	787	71.5%	138.9	17.3	F
WB	Left Turn	510	461	90.3%	70.0	26.3	E
	Through	930	870	93.5%	15.3	4.4	B
	Right Turn	80	77	96.6%	14.5	5.9	B
	Subtotal	1,520	1,408	92.6%	32.8	10.0	C
Total		2,900	2,471	85.2%	68.1	9.4	E

Intersection 3

SR 113 NB Ramps/Main Street

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	260	237	91.3%	295.8	112.1	F
	Through						
	Right Turn	760	623	82.0%	484.8	111.1	F
	Subtotal	1,020	861	84.4%	432.2	108.2	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	980	727	74.2%	118.0	6.3	F
	Through						
	Right Turn	30	24	78.7%	140.8	32.6	F
	Subtotal	1,010	751	74.3%	118.8	6.8	F
WB	Left Turn	50	43	86.4%	24.7	6.7	C
	Through	1,260	1,175	93.3%	9.6	1.8	A
	Right Turn						
	Subtotal	1,310	1,218	93.0%	10.1	1.9	B
Total		3,340	2,829	84.7%	164.6	33.6	F

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing + Approved + Project (Mitigated)
PM Peak Hour

Intersection 4

Pioneer Avenue/Main Street

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	220	219	99.7%	67.3	6.6	E
	Through	180	184	102.2%	47.7	4.0	D
	Right Turn	210	211	100.3%	37.4	7.0	D
	Subtotal	610	614	100.6%	51.5	3.6	D
SB	Left Turn	130	132	101.8%	58.8	11.1	E
	Through	310	312	100.7%	48.3	6.5	D
	Right Turn	80	78	97.5%	21.5	11.8	C
	Subtotal	520	523	100.5%	47.0	5.0	D
EB	Left Turn	80	60	75.5%	74.0	17.8	E
	Through	1,410	1,106	78.4%	39.5	3.5	D
	Right Turn	230	169	73.3%	41.3	3.4	D
	Subtotal	1,720	1,335	77.6%	41.2	3.7	D
NW	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	410	358	87.3%	114.1	7.4	F
	Through	1,030	947	92.0%	45.5	4.3	D
	Right Turn	110	106	96.5%	35.2	3.2	D
	Subtotal	1,550	1,412	91.1%	62.5	5.4	E
Total		4,400	3,883	88.3%	60.7	2.9	E

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing + Approved + Project (Mitigated)
PM Peak Hour

Intersection 5

Interstate-5 NB Off-Ramp/Main Street

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	830	759	91.4%	268.8	147.7	F
	Through						
	Right Turn	20	21	106.5%	196.4	145.1	F
	Subtotal	850	780	91.8%	266.7	148.0	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	570	487	85.4%	16.1	2.6	B
	Right Turn						
	Subtotal	570	487	85.4%	16.1	2.6	B
WB	Left Turn						
	Through	730	668	91.5%	184.7	84.2	F
	Right Turn						
	Subtotal	730	668	91.5%	184.7	84.2	F
Total		2,150	1,935	90.0%	175.5	58.2	F

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing Plus Approved Plus Project (2030) Conditions - MITIGATED
PM Peak Hour

Intersection 12

Bourn Dr-Harry Lorenzo Ave/E Gibson Rd

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	140	142	101.3%	72.2	31.8	E
	Through	30	29	97.7%	46.7	18.8	D
	Right Turn	10	12	115.0%	28.4	20.2	C
	Subtotal	180	183	101.4%	65.7	26.4	E
SB	Left Turn	20	20	98.0%	69.5	21.0	E
	Through	30	32	105.3%	53.2	18.4	D
	Right Turn	80	81	100.8%	30.1	9.6	C
	Subtotal	130	132	101.4%	39.8	10.3	D
EB	Left Turn	210	204	97.3%	93.0	13.6	F
	Through	1,590	1,550	97.5%	58.7	7.0	E
	Right Turn	220	223	101.1%	55.8	7.1	E
	Subtotal	2,020	1,977	97.9%	61.9	7.4	E
WB	Left Turn	110	105	95.4%	80.7	16.6	F
	Through	1,110	1,125	101.4%	37.2	4.0	D
	Right Turn	80	77	95.9%	36.4	6.1	D
	Subtotal	1,300	1,307	100.5%	41.0	4.4	D
Total		3,630	3,599	99.1%	53.9	4.3	D

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing Plus Approved Plus Project (2030) Conditions - MITIGATED
PM Peak Hour

Intersection 13

Pioneer Ave/E Gibson Rd

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	260	260	100.1%	56.0	5.8	E
	Through	260	259	99.4%	31.5	3.8	C
	Right Turn	440	429	97.4%	20.4	3.4	C
	Subtotal	960	948	98.7%	33.4	2.5	C
SB	Left Turn	60	57	95.5%	53.6	7.1	D
	Through	370	380	102.6%	35.5	3.8	D
	Right Turn	250	257	102.8%	19.4	2.7	B
	Subtotal	680	694	102.1%	31.0	2.3	C
EB	Left Turn	370	372	100.5%	54.9	5.9	D
	Through	850	826	97.2%	47.7	8.2	D
	Right Turn	400	386	96.4%	31.1	6.6	C
	Subtotal	1,620	1,584	97.7%	45.4	6.1	D
WB	Left Turn	520	520	100.1%	56.7	6.6	E
	Through	790	794	100.5%	38.2	4.4	D
	Right Turn	50	53	105.2%	30.6	6.8	C
	Subtotal	1,360	1,367	100.5%	45.3	3.3	D
Total		4,620	4,592	99.4%	40.6	2.6	D

HCM Signalized Intersection Capacity Analysis

14: CR 102 & E. Gibson Rd/CR 24

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	850	10	90	10	10	10	130	510	0	10	620	570
Future Volume (vph)	850	10	90	10	10	10	130	510	0	10	620	570
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	5.2	5.2		3.7		3.0	5.2		3.0	5.2	5.2
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85		0.95		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1649	1655	1553		1716		1736	3471		1736	3471	1532
Flt Permitted	0.95	0.95	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1649	1655	1553		1716		1736	3471		1736	3471	1532
Peak-hour factor, PHF	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	1037	12	110	12	12	12	159	622	0	12	756	695
RTOR Reduction (vph)	0	0	68	0	11	0	0	0	0	0	0	510
Lane Group Flow (vph)	529	520	42	0	25	0	159	622	0	12	756	185
Confl. Bikes (#/hr)												2
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	2	2		6	6		3	8		7	4	
Permitted Phases			2									4
Actuated Green, G (s)	39.4	39.4	39.4		6.2		13.4	46.9		4.1	30.3	30.3
Effective Green, g (s)	39.4	39.4	39.4		6.2		13.4	46.9		4.1	30.3	30.3
Actuated g/C Ratio	0.35	0.35	0.35		0.05		0.12	0.41		0.04	0.27	0.27
Clearance Time (s)	5.2	5.2	5.2		3.7		3.0	5.2		3.0	5.2	5.2
Vehicle Extension (s)	1.0	1.0	1.0		1.0		1.0	1.5		1.0	1.5	1.5
Lane Grp Cap (vph)	571	573	538		93		204	1431		62	924	408
v/s Ratio Prot	c0.32	0.31			c0.01		c0.09	c0.18		0.01	c0.22	
v/s Ratio Perm			0.03									0.12
v/c Ratio	0.93	0.91	0.08		0.27		0.78	0.43		0.19	0.82	0.45
Uniform Delay, d1	35.8	35.4	25.0		51.6		48.7	23.9		53.2	39.1	34.8
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	20.9	17.7	0.0		0.6		15.6	0.1		0.6	5.4	0.3
Delay (s)	56.6	53.1	25.0		52.1		64.3	24.0		53.8	44.5	35.1
Level of Service	E	D	C		D		E	C		D	D	D
Approach Delay (s)		52.0			52.1			32.2			40.1	
Approach LOS		D			D			C			D	
Intersection Summary												
HCM 2000 Control Delay			42.5				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			0.81									
Actuated Cycle Length (s)			113.7				Sum of lost time (s)			19.1		
Intersection Capacity Utilization			87.8%				ICU Level of Service			E		
Analysis Period (min)			15									
c Critical Lane Group												

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing Plus Approved Plus Project (2030) Conditions - MITIGATED
PM Peak Hour

Intersection 21

SR 113 SB Ramps/County Road 25A

Roundabout

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	150	153	101.9%	4.3	0.5	A
	Through						
	Right Turn	40	44	109.0%	3.7	0.3	A
	Subtotal	190	197	103.4%	4.2	0.4	A
EB	Left Turn						
	Through	330	342	103.7%	8.0	0.5	A
	Right Turn	130	133	102.1%	4.3	0.3	A
	Subtotal	460	475	103.2%	6.9	0.4	A
WB	Left Turn	430	438	101.8%	6.8	1.0	A
	Through	680	691	101.6%	9.5	1.1	A
	Right Turn						
	Subtotal	1,110	1,128	101.7%	8.5	1.1	A
Total		1,760	1,800	102.3%	7.6	0.8	A

Intersection 22

SR 113 NB Ramps/County Road 25A

Roundabout

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	250	251	100.2%	4.4	0.3	A
	Through	10	11	110.0%	6.2	2.4	A
	Right Turn	760	753	99.0%	5.4	0.2	A
	Subtotal	1,020	1,014	99.4%	5.1	0.2	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	30	28	94.7%	5.1	0.7	A
	Through	450	466	103.5%	7.4	0.6	A
	Right Turn						
	Subtotal	480	494	102.9%	7.3	0.6	A
WB	Left Turn						
	Through	860	880	102.3%	9.5	0.3	A
	Right Turn	210	210	100.0%	5.6	0.3	A
	Subtotal	1,070	1,090	101.8%	8.8	0.3	A
Total		2,570	2,598	101.1%	7.1	0.1	A

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing Plus Approved Plus Project (2030) Conditions - MITIGATED
PM Peak Hour

Intersection 23

Road A/County Road 25A

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn	50	48	95.4%	8.5	2.2	A
	Subtotal	50	48	95.4%	8.5	2.2	A
SB	Left Turn						
	Through						
	Right Turn	120	121	100.4%	11.2	5.1	B
	Subtotal	120	121	100.4%	11.2	5.1	B
EB	Left Turn						
	Through	1,080	1,083	100.3%	2.6	0.4	A
	Right Turn	130	133	102.2%	1.9	0.5	A
	Subtotal	1,210	1,216	100.5%	2.5	0.4	A
WB	Left Turn						
	Through	950	968	101.8%	2.1	0.2	A
	Right Turn	30	29	95.7%	2.8	0.9	A
	Subtotal	980	996	101.7%	2.1	0.2	A
Total		2,360	2,380	100.9%	3.0	0.3	A

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Existing Plus Approved Plus Project (2030) Conditions - MITIGATED
PM Peak Hour

Intersection 25

Road B/County Road 25A

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	190	193	101.3%	48.7	7.9	D
	Through	40	36	88.8%	34.3	9.1	C
	Right Turn	50	52	104.6%	11.6	2.9	B
	Subtotal	280	280	100.1%	39.6	5.9	D
SB	Left Turn	50	49	98.2%	36.1	5.8	D
	Through	50	50	99.4%	26.4	6.8	C
	Right Turn	510	521	102.1%	16.5	2.9	B
	Subtotal	610	620	101.6%	18.9	2.9	B
EB	Left Turn	670	677	101.0%	40.1	3.8	D
	Through	450	446	99.2%	24.0	2.1	C
	Right Turn	10	10	104.0%	16.2	7.9	B
	Subtotal	1,130	1,134	100.3%	33.5	2.1	C
WB	Left Turn	30	28	91.7%	52.4	11.5	D
	Through	280	283	101.1%	34.6	3.6	C
	Right Turn	30	32	105.3%	12.4	5.5	B
	Subtotal	340	342	100.6%	34.1	3.0	C
Total		2,360	2,376	100.7%	30.4	2.0	C

HCM 2010 Signalized Intersection Summary 27: CR 102 & CR 25A

Existing + Approved + Project Conditions
(Mitigated)

Timing Plan: PM Peak Hour

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	40	120	240	520	370	80		
Future Volume (veh/h)	40	120	240	520	370	80		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	43	10	261	565	402	26		
Adj No. of Lanes	1	1	1	1	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	104	93	338	1228	611	519		
Arrive On Green	0.06	0.06	0.19	0.66	0.33	0.33		
Sat Flow, veh/h	1774	1583	1774	1863	1863	1583		
Grp Volume(v), veh/h	43	10	261	565	402	26		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1863	1863	1583		
Q Serve(g_s), s	0.7	0.2	4.5	4.7	5.9	0.4		
Cycle Q Clear(g_c), s	0.7	0.2	4.5	4.7	5.9	0.4		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	104	93	338	1228	611	519		
V/C Ratio(X)	0.41	0.11	0.77	0.46	0.66	0.05		
Avail Cap(c_a), veh/h	1444	1289	583	2625	1750	1488		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	14.5	14.2	12.3	2.7	9.2	7.3		
Incr Delay (d2), s/veh	2.6	0.5	3.8	0.3	1.2	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.4	0.2	2.5	2.4	3.2	0.2		
LnGrp Delay(d),s/veh	17.1	14.7	16.0	2.9	10.4	7.4		
LnGrp LOS	B	B	B	A	B	A		
Approach Vol, veh/h	53			826	428			
Approach Delay, s/veh	16.7			7.1	10.2			
Approach LOS	B			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		25.6		6.4	10.6	15.0		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		45.0		26.0	10.5	30.0		
Max Q Clear Time (g_c+I1), s		6.7		2.7	6.5	7.9		
Green Ext Time (p_c), s		4.3		0.1	0.3	2.6		
Intersection Summary								
HCM 2010 Ctrl Delay			8.5					
HCM 2010 LOS			A					

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement
Intersection 1

SR 113 NB Ramps/E Gibson Rd

Woodland Tech Park TIS
Cumulative Buildout Conditions (Mitigated)
AM Peak Hour
Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	120	122	101.9%	18.0	2.8	B
	Through						
	Right Turn	410	414	100.9%	11.8	1.9	B
	Subtotal	530	536	101.1%	13.2	1.6	B
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	1,070	1,065	99.6%	10.5	0.7	B
	Right Turn	380	394	103.7%	6.3	0.4	A
	Subtotal	1,450	1,460	100.7%	9.4	0.6	A
WB	Left Turn						
	Through	1,390	1,371	98.6%	18.2	1.4	B
	Right Turn	310	309	99.8%	10.9	0.8	B
	Subtotal	1,700	1,680	98.8%	16.8	1.2	B
Total		3,680	3,675	99.9%	13.4	0.7	B

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Cumulative Buildout Conditions (Mitigated)
AM Peak Hour

Intersection 2 Bourn Dr-Harry Lorenzo Ave/E Gibson Rd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	220	219	99.3%	103.6	42.0	F
	Through	30	29	95.7%	70.8	44.5	E
	Right Turn	30	32	105.7%	41.3	25.3	D
	Subtotal	280	279	99.6%	94.6	38.7	F
SB	Left Turn	60	57	94.7%	59.2	12.9	E
	Through	30	32	105.0%	63.8	19.9	E
	Right Turn	150	149	99.1%	47.5	13.9	D
	Subtotal	240	237	98.8%	52.7	11.2	D
EB	Left Turn	100	100	99.6%	77.1	17.0	E
	Through	1,320	1,324	100.3%	32.5	4.8	C
	Right Turn	60	62	103.8%	29.8	6.0	C
	Subtotal	1,480	1,486	100.4%	35.7	5.2	D
WB	Left Turn	20	17	86.5%	133.7	26.4	F
	Through	1,330	1,315	98.9%	116.8	17.3	F
	Right Turn	50	51	102.0%	124.9	19.5	F
	Subtotal	1,400	1,384	98.8%	117.3	17.2	F
Total		3,400	3,386	99.6%	75.9	8.5	E

Intersection 3 Pioneer Ave/E Gibson Rd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	450	444	98.6%	83.5	27.5	F
	Through	680	682	100.2%	47.5	11.6	D
	Right Turn	640	654	102.2%	78.4	37.8	E
	Subtotal	1,770	1,780	100.5%	68.7	19.0	E
SB	Left Turn	70	71	101.0%	64.5	11.1	E
	Through	430	440	102.4%	42.0	4.1	D
	Right Turn	280	282	100.8%	44.3	19.1	D
	Subtotal	780	793	101.7%	45.0	7.8	D
EB	Left Turn	180	182	101.1%	64.8	10.5	E
	Through	800	793	99.1%	55.5	17.0	E
	Right Turn	430	433	100.6%	43.4	11.9	D
	Subtotal	1,410	1,407	99.8%	53.1	12.1	D
WB	Left Turn	470	471	100.2%	78.7	24.6	E
	Through	670	675	100.8%	37.3	2.9	D
	Right Turn	40	41	103.5%	28.7	7.2	C
	Subtotal	1,180	1,187	100.6%	53.8	10.9	D
Total		5,140	5,167	100.5%	57.6	8.1	E

HCM Signalized Intersection Capacity Analysis

4: CR 102 & E. Gibson Rd/CR 24

Cumulative Buildout Conditions

Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	670	370	190	80	170	10	10	160	650	10	10	520
Future Volume (vph)	670	370	190	80	170	10	10	160	650	10	10	520
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.2	5.2	3.0	3.7			3.0	5.2		3.0	5.2
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95			0.97	0.95		1.00	0.95
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00			1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99			1.00	1.00		1.00	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00		0.95	1.00
Satd. Flow (prot)	3367	1827	1526	1736	3439			3367	3462		1736	3471
Flt Permitted	0.95	1.00	1.00	0.95	1.00			0.95	1.00		0.95	1.00
Satd. Flow (perm)	3367	1827	1526	1736	3439			3367	3462		1736	3471
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	728	402	207	87	185	11	11	174	707	11	11	565
RTOR Reduction (vph)	0	0	143	0	3	0	0	0	1	0	0	0
Lane Group Flow (vph)	728	402	64	87	193	0	0	185	717	0	11	565
Confl. Peds. (#/hr)			5			5				5		
Confl. Bikes (#/hr)												
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	Prot	NA		Prot	NA
Protected Phases	5	2		1	6		3	3	8		7	4
Permitted Phases			2									
Actuated Green, G (s)	25.6	31.4	31.4	9.7	17.0			12.3	25.1		12.3	25.1
Effective Green, g (s)	25.6	31.4	31.4	9.7	17.0			12.3	25.1		12.3	25.1
Actuated g/C Ratio	0.25	0.31	0.31	0.10	0.17			0.12	0.25		0.12	0.25
Clearance Time (s)	3.0	5.2	5.2	3.0	3.7			3.0	5.2		3.0	5.2
Vehicle Extension (s)	1.0	1.0	1.0	1.0	1.0			1.0	1.5		1.0	1.5
Lane Grp Cap (vph)	845	562	469	165	573			406	851		209	854
v/s Ratio Prot	c0.22	c0.22		0.05	0.06			c0.05	0.21		0.01	0.16
v/s Ratio Perm			0.04									
v/c Ratio	0.86	0.72	0.14	0.53	0.34			0.46	0.84		0.05	0.66
Uniform Delay, d1	36.5	31.3	25.5	44.0	37.5			41.7	36.6		39.7	34.6
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	8.7	3.6	0.0	1.4	0.1			0.3	7.3		0.0	1.5
Delay (s)	45.2	34.9	25.5	45.4	37.6			42.0	43.9		39.7	36.1
Level of Service	D	C	C	D	D			D	D		D	D
Approach Delay (s)		39.1			40.0				43.5			33.2
Approach LOS		D			D				D			C
Intersection Summary												
HCM 2000 Control Delay			38.1			HCM 2000 Level of Service			D			
HCM 2000 Volume to Capacity ratio			0.74									
Actuated Cycle Length (s)			102.0			Sum of lost time (s)			18.4			
Intersection Capacity Utilization			80.9%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: CR 102 & E. Gibson Rd/CR 24

Cumulative Buildout Conditions

Timing Plan: AM Peak Hour

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	780
Future Volume (vph)	780
Ideal Flow (vphpl)	1900
Total Lost time (s)	3.0
Lane Util. Factor	1.00
Frpb, ped/bikes	0.99
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1541
Flt Permitted	1.00
Satd. Flow (perm)	1541
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	848
RTOR Reduction (vph)	195
Lane Group Flow (vph)	653
Confl. Peds. (#/hr)	2
Confl. Bikes (#/hr)	2
Heavy Vehicles (%)	4%
Turn Type	pm+ov
Protected Phases	5
Permitted Phases	4
Actuated Green, G (s)	50.7
Effective Green, g (s)	50.7
Actuated g/C Ratio	0.50
Clearance Time (s)	3.0
Vehicle Extension (s)	1.0
Lane Grp Cap (vph)	765
v/s Ratio Prot	c0.21
v/s Ratio Perm	0.21
v/c Ratio	0.85
Uniform Delay, d1	22.4
Progression Factor	1.00
Incremental Delay, d2	8.8
Delay (s)	31.2
Level of Service	C
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM 2010 Signalized Intersection Summary 5: East St & CR 24C

Cumulative Buildout Conditions
Timing Plan: AM Peak Hour

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	40	390	350	20	300	510		
Future Volume (veh/h)	40	390	350	20	300	510		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	0.98		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1900	1900	1863		
Adj Flow Rate, veh/h	43	28	380	20	326	554		
Adj No. of Lanes	0	0	1	0	0	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	118	77	1285	68	416	620		
Arrive On Green	0.12	0.12	0.73	0.73	0.73	0.73		
Sat Flow, veh/h	1006	655	1754	92	468	847		
Grp Volume(v), veh/h	72	0	0	400	880	0		
Grp Sat Flow(s),veh/h/ln	1684	0	0	1846	1314	0		
Q Serve(g_s), s	2.7	0.0	0.0	5.0	33.8	0.0		
Cycle Q Clear(g_c), s	2.7	0.0	0.0	5.0	38.6	0.0		
Prop In Lane	0.60	0.39		0.05	0.37			
Lane Grp Cap(c), veh/h	198	0	0	1352	1036	0		
V/C Ratio(X)	0.36	0.00	0.00	0.30	0.85	0.00		
Avail Cap(c_a), veh/h	450	0	0	1970	1503	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	27.4	0.0	0.0	3.1	8.7	0.0		
Incr Delay (d2), s/veh	1.1	0.0	0.0	0.1	3.3	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.3	0.0	0.0	2.5	14.1	0.0		
LnGrp Delay(d),s/veh	28.5	0.0	0.0	3.2	11.9	0.0		
LnGrp LOS	C			A	B			
Approach Vol, veh/h	72		400			880		
Approach Delay, s/veh	28.5		3.2			11.9		
Approach LOS	C		A			B		
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		54.7				54.7		12.6
Change Period (Y+Rc), s		5.4				5.4		4.7
Max Green Setting (Gmax), s		71.9				71.9		18.0
Max Q Clear Time (g_c+I1), s		7.0				40.6		4.7
Green Ext Time (p_c), s		2.5				8.7		0.1
Intersection Summary								
HCM 2010 Ctrl Delay			10.2					
HCM 2010 LOS			B					
Notes								

User approved volume balancing among the lanes for turning movement.

HCM 2010 Roundabout
6: Matmor Rd & Parkland Ave

Cumulative Buildout Conditions

Timing Plan: AM Peak Hour

Intersection				
Intersection Delay, s/veh12.2				
Intersection LOS B				
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	522	609	229	196
Demand Flow Rate, veh/h	532	621	234	199
Vehicles Circulating, veh/h	233	111	632	577
Vehicles Exiting, veh/h	543	755	133	155
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	5	5	5	5
Ped Cap Adj	0.999	0.999	0.999	0.999
Approach Delay, s/veh	12.9	12.3	11.9	10.0
Approach LOS	B	B	B	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	532	621	234	199
Cap Entry Lane, veh/h	895	1011	601	635
Entry HV Adj Factor	0.981	0.980	0.980	0.983
Flow Entry, veh/h	522	609	229	196
Cap Entry, veh/h	878	991	588	623
V/C Ratio	0.595	0.615	0.390	0.314
Control Delay, s/veh	12.9	12.3	11.9	10.0
LOS	B	B	B	A
95th %tile Queue, veh	4	4	2	1

HCM 2010 Signalized Intersection Summary

7: Road B/Road F & Parkland Ave

Cumulative Buildout Conditions

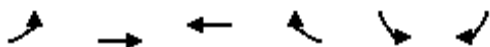
Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	430	310	350	280	50	200	20	290	120	80	60
Future Volume (veh/h)	30	430	310	350	280	50	200	20	290	120	80	60
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	33	467	188	380	304	43	217	22	32	130	87	55
Adj No. of Lanes	1	1	1	1	2	0	1	1	1	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	116	501	424	366	1277	179	272	286	241	157	105	66
Arrive On Green	0.07	0.27	0.27	0.21	0.41	0.41	0.15	0.15	0.15	0.19	0.19	0.19
Sat Flow, veh/h	1774	1863	1575	1774	3116	436	1774	1863	1568	839	561	355
Grp Volume(v), veh/h	33	467	188	380	171	176	217	22	32	272	0	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1575	1774	1770	1783	1774	1863	1568	1755	0	0
Q Serve(g_s), s	1.8	24.9	10.1	21.0	6.4	6.6	12.0	1.0	1.8	15.2	0.0	0.0
Cycle Q Clear(g_c), s	1.8	24.9	10.1	21.0	6.4	6.6	12.0	1.0	1.8	15.2	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.24	1.00		1.00	0.48		0.20
Lane Grp Cap(c), veh/h	116	501	424	366	725	730	272	286	241	328	0	0
V/C Ratio(X)	0.28	0.93	0.44	1.04	0.24	0.24	0.80	0.08	0.13	0.83	0.00	0.00
Avail Cap(c_a), veh/h	192	512	433	366	725	730	508	534	449	482	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	45.3	36.3	30.9	40.4	19.7	19.7	41.6	36.9	37.3	39.9	0.0	0.0
Incr Delay (d2), s/veh	1.3	23.8	0.7	57.6	0.2	0.2	5.3	0.1	0.2	7.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	16.2	4.5	16.0	3.2	3.3	6.3	0.5	0.8	8.0	0.0	0.0
LnGrp Delay(d),s/veh	46.7	60.1	31.6	98.1	19.8	19.9	46.9	37.1	37.5	47.6	0.0	0.0
LnGrp LOS	D	E	C	F	B	B	D	D	D	D		
Approach Vol, veh/h		688			727			271			272	
Approach Delay, s/veh		51.7			60.7			45.0			47.6	
Approach LOS		D			E			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		20.7	25.0	32.5		23.6	10.7	46.8				
Change Period (Y+Rc), s		5.1	4.0	5.1		4.6	4.0	5.1				
Max Green Setting (Gmax), s		29.2	21.0	28.0		28.0	11.0	38.0				
Max Q Clear Time (g_c+I1), s		14.0	23.0	26.9		17.2	3.8	8.6				
Green Ext Time (p_c), s		0.7	0.0	0.4		1.2	0.0	2.0				
Intersection Summary												
HCM 2010 Ctrl Delay			53.5									
HCM 2010 LOS			D									

HCM Signalized Intersection Capacity Analysis

8: Parkland Ave & Pioneer Ave

Cumulative Buildout Conditions
Timing Plan: AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	640	150	160	280	230	430
Future Volume (vph)	640	150	160	280	230	430
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8	5.8	5.8	5.8	5.8	5.8
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	3539	1863	1556	1770	1556
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	3539	1863	1556	1770	1556
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	696	163	174	304	250	467
RTOR Reduction (vph)	0	0	0	255	0	377
Lane Group Flow (vph)	696	163	174	49	250	91
Confl. Peds. (#/hr)				5		5
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Actuated Green, G (s)	42.7	15.2	15.2	15.2	18.1	18.1
Effective Green, g (s)	42.7	15.2	15.2	15.2	18.1	18.1
Actuated g/C Ratio	0.46	0.16	0.16	0.16	0.19	0.19
Clearance Time (s)	5.8	5.8	5.8	5.8	5.8	5.8
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	809	575	303	253	343	301
v/s Ratio Prot	c0.39	0.05	c0.09		c0.14	
v/s Ratio Perm				0.03		0.06
v/c Ratio	0.86	0.28	0.57	0.20	0.73	0.30
Uniform Delay, d1	22.7	34.3	36.1	33.8	35.3	32.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.3	0.3	2.6	0.4	7.5	0.6
Delay (s)	31.9	34.6	38.7	34.2	42.9	32.8
Level of Service	C	C	D	C	D	C
Approach Delay (s)		32.5	35.8		36.3	
Approach LOS		C	D		D	
Intersection Summary						
HCM 2000 Control Delay			34.6		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.77			
Actuated Cycle Length (s)			93.4		Sum of lost time (s)	17.4
Intersection Capacity Utilization			74.3%		ICU Level of Service	D
Analysis Period (min)			15			
c Critical Lane Group						

HCM 2010 Signalized Intersection Summary

9: Road B & Road E

Cumulative Buildout Conditions
Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	10	90	50	10	150	40	210	10	80	520	140
Future Volume (veh/h)	150	10	90	50	10	150	40	210	10	80	520	140
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	163	11	76	54	11	65	43	228	8	87	565	130
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	220	15	103	105	21	127	162	769	27	237	751	172
Arrive On Green	0.20	0.20	0.20	0.15	0.15	0.15	0.09	0.22	0.22	0.13	0.26	0.26
Sat Flow, veh/h	1115	75	520	694	141	835	1774	3487	122	1774	2855	655
Grp Volume(v), veh/h	250	0	0	130	0	0	43	115	121	87	350	345
Grp Sat Flow(s),veh/h/ln	1711	0	0	1671	0	0	1774	1770	1840	1774	1770	1740
Q Serve(g_s), s	9.0	0.0	0.0	4.7	0.0	0.0	1.5	3.5	3.6	2.9	11.8	11.9
Cycle Q Clear(g_c), s	9.0	0.0	0.0	4.7	0.0	0.0	1.5	3.5	3.6	2.9	11.8	11.9
Prop In Lane	0.65		0.30	0.42		0.50	1.00		0.07	1.00		0.38
Lane Grp Cap(c), veh/h	338	0	0	254	0	0	162	390	406	237	466	458
V/C Ratio(X)	0.74	0.00	0.00	0.51	0.00	0.00	0.27	0.30	0.30	0.37	0.75	0.75
Avail Cap(c_a), veh/h	735	0	0	718	0	0	313	616	641	327	630	619
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.6	0.0	0.0	25.4	0.0	0.0	27.6	21.2	21.2	25.7	22.1	22.1
Incr Delay (d2), s/veh	3.2	0.0	0.0	1.6	0.0	0.0	0.9	0.4	0.4	0.9	3.4	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	0.0	0.0	2.2	0.0	0.0	0.8	1.8	1.9	1.5	6.2	6.1
LnGrp Delay(d),s/veh	27.8	0.0	0.0	27.0	0.0	0.0	28.5	21.6	21.6	26.7	25.5	25.7
LnGrp LOS	C			C			C	C	C	C	C	C
Approach Vol, veh/h		250			130			279			782	
Approach Delay, s/veh		27.8			27.0			22.7			25.7	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.7	19.5		18.0	10.0	22.3		15.0				
Change Period (Y+Rc), s	4.0	5.1		5.1	4.0	5.1		5.1				
Max Green Setting (Gmax), s	12.0	22.7		28.0	11.5	23.2		28.0				
Max Q Clear Time (g_c+I), s	14.9	5.6		11.0	3.5	13.9		6.7				
Green Ext Time (p_c), s	0.1	1.1		1.3	0.0	2.9		0.7				
Intersection Summary												
HCM 2010 Ctrl Delay	25.6											
HCM 2010 LOS	C											

HCM 2010 Signalized Intersection Summary

10: Road B & Marston Dr

Cumulative Buildout Conditions
Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	10	50	60	30	40	100	190	20	20	390	120
Future Volume (veh/h)	40	10	50	60	30	40	100	190	20	20	390	120
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	43	11	13	65	33	27	109	207	15	22	424	104
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	143	37	43	146	74	61	276	1093	79	100	641	156
Arrive On Green	0.13	0.13	0.13	0.16	0.16	0.16	0.16	0.33	0.33	0.06	0.23	0.23
Sat Flow, veh/h	1119	286	338	908	461	377	1774	3347	241	1774	2818	685
Grp Volume(v), veh/h	67	0	0	125	0	0	109	109	113	22	265	263
Grp Sat Flow(s),veh/h/ln	1744	0	0	1747	0	0	1774	1770	1818	1774	1770	1733
Q Serve(g_s), s	2.1	0.0	0.0	3.8	0.0	0.0	3.3	2.6	2.6	0.7	8.0	8.1
Cycle Q Clear(g_c), s	2.1	0.0	0.0	3.8	0.0	0.0	3.3	2.6	2.6	0.7	8.0	8.1
Prop In Lane	0.64		0.19	0.52		0.22	1.00		0.13	1.00		0.40
Lane Grp Cap(c), veh/h	223	0	0	282	0	0	276	578	594	100	403	394
V/C Ratio(X)	0.30	0.00	0.00	0.44	0.00	0.00	0.40	0.19	0.19	0.22	0.66	0.67
Avail Cap(c_a), veh/h	829	0	0	831	0	0	331	712	732	331	712	698
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.3	0.0	0.0	22.3	0.0	0.0	22.4	14.2	14.2	26.5	20.7	20.7
Incr Delay (d2), s/veh	0.7	0.0	0.0	1.1	0.0	0.0	0.9	0.2	0.2	1.1	1.8	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	1.9	0.0	0.0	1.6	1.3	1.3	0.4	4.1	4.1
LnGrp Delay(d),s/veh	24.0	0.0	0.0	23.4	0.0	0.0	23.3	14.4	14.4	27.6	22.5	22.7
LnGrp LOS	C			C			C	B	B	C	C	C
Approach Vol, veh/h		67			125			331			550	
Approach Delay, s/veh		24.0			23.4			17.3			22.8	
Approach LOS		C			C			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.3	24.3		12.6	13.1	18.5		14.6				
Change Period (Y+Rc), s	4.0	5.1		5.1	4.0	5.1		5.1				
Max Green Setting (Gmax), s	1.0	23.7		28.0	11.0	23.7		28.0				
Max Q Clear Time (g_c+I_2), s	1.0	4.6		4.1	5.3	10.1		5.8				
Green Ext Time (p_c), s	0.0	1.1		0.3	0.1	2.6		0.6				
Intersection Summary												
HCM 2010 Ctrl Delay			21.2									
HCM 2010 LOS			C									

Intersection				
Intersection Delay, s/veh	4.8			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	109	120	77	152
Demand Flow Rate, veh/h	111	122	78	155
Vehicles Circulating, veh/h	166	55	133	122
Vehicles Exiting, veh/h	111	156	144	55
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	5	5	5	5
Ped Cap Adj	0.999	0.999	0.999	0.999
Approach Delay, s/veh	4.9	4.4	4.4	5.1
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	111	122	78	155
Cap Entry Lane, veh/h	957	1069	989	1000
Entry HV Adj Factor	0.986	0.987	0.982	0.981
Flow Entry, veh/h	109	120	77	152
Cap Entry, veh/h	943	1055	970	980
V/C Ratio	0.116	0.114	0.079	0.155
Control Delay, s/veh	4.9	4.4	4.4	5.1
LOS	A	A	A	A
95th %tile Queue, veh	0	0	0	1

HCM 2010 Signalized Intersection Summary

12: Road B & Road C

Cumulative Buildout Conditions
Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	10	30	220	20	30	90	220	110	40	330	60
Future Volume (veh/h)	40	10	30	220	20	30	90	220	110	40	330	60
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	43	11	8	239	22	29	98	239	62	43	359	51
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	149	38	28	321	30	39	262	671	170	166	581	82
Arrive On Green	0.12	0.12	0.12	0.22	0.22	0.22	0.15	0.24	0.24	0.09	0.19	0.19
Sat Flow, veh/h	1220	312	227	1449	133	176	1774	2790	708	1774	3110	438
Grp Volume(v), veh/h	62	0	0	290	0	0	98	150	151	43	203	207
Grp Sat Flow(s),veh/h/ln	1759	0	0	1758	0	0	1774	1770	1729	1774	1770	1778
Q Serve(g_s), s	1.9	0.0	0.0	9.2	0.0	0.0	3.0	4.2	4.4	1.4	6.3	6.4
Cycle Q Clear(g_c), s	1.9	0.0	0.0	9.2	0.0	0.0	3.0	4.2	4.4	1.4	6.3	6.4
Prop In Lane	0.69		0.13	0.82		0.10	1.00		0.41	1.00		0.25
Lane Grp Cap(c), veh/h	215	0	0	390	0	0	262	426	416	166	330	332
V/C Ratio(X)	0.29	0.00	0.00	0.74	0.00	0.00	0.37	0.35	0.36	0.26	0.61	0.62
Avail Cap(c_a), veh/h	821	0	0	847	0	0	355	673	657	325	643	646
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.9	0.0	0.0	21.8	0.0	0.0	23.1	18.9	19.0	25.2	22.4	22.4
Incr Delay (d2), s/veh	0.7	0.0	0.0	2.8	0.0	0.0	0.9	0.5	0.5	0.8	1.9	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	4.7	0.0	0.0	1.5	2.1	2.1	0.7	3.2	3.3
LnGrp Delay(d),s/veh	24.7	0.0	0.0	24.6	0.0	0.0	24.0	19.4	19.5	26.1	24.3	24.4
LnGrp LOS	C			C			C	B	B	C	C	C
Approach Vol, veh/h		62			290			399			453	
Approach Delay, s/veh		24.7			24.6			20.6			24.5	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.6	19.5		12.4	12.9	16.3		18.4				
Change Period (Y+Rc), s	4.0	5.1		5.1	4.0	5.1		5.1				
Max Green Setting (Gmax), s	1.0	22.8		28.0	12.0	21.8		28.9				
Max Q Clear Time (g_c+1/4), s	1.0	6.4		3.9	5.0	8.4		11.2				
Green Ext Time (p_c), s	0.0	1.5		0.2	0.1	1.9		1.5				
Intersection Summary												
HCM 2010 Ctrl Delay	23.2											
HCM 2010 LOS	C											

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Research Park
Cumulative Plus Project Conditions
AM Peak Hour

Intersection 13

East St/County Road 25A

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	20	18	88.0%	41.3	12.6	D
	Through	50	46	92.2%	40.1	8.6	D
	Right Turn	110	114	103.5%	6.4	1.1	A
	Subtotal	180	178	98.6%	19.2	4.7	B
SB	Left Turn	530	516	97.4%	31.0	3.4	C
	Through	100	97	97.2%	26.1	7.4	C
	Right Turn	90	87	96.6%	4.8	1.0	A
	Subtotal	720	701	97.3%	26.7	2.3	C
EB	Left Turn	60	60	100.0%	45.7	7.0	D
	Through	180	178	99.0%	25.4	3.6	C
	Right Turn	40	41	102.8%	16.8	8.4	B
	Subtotal	280	279	99.8%	28.2	3.4	C
WB	Left Turn	190	192	101.2%	47.3	9.4	D
	Through	210	212	101.1%	20.6	3.9	C
	Right Turn	410	414	101.1%	5.7	0.4	A
	Subtotal	810	819	101.1%	19.9	3.4	B
Total		1,990	1,976	99.3%	23.4	1.3	C

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Research Park
Cumulative Plus Project Conditions
AM Peak Hour

Intersection 14

SR 113 SB Ramps/County Road 25A

Roundabout

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	160	161	100.4%	5.0	0.8	A
	Through						
	Right Turn	190	203	107.1%	4.8	0.2	A
	Subtotal	350	364	104.0%	4.9	0.4	A
EB	Left Turn						
	Through	430	428	99.5%	10.7	1.7	B
	Right Turn	390	381	97.7%	5.6	0.2	A
	Subtotal	820	809	98.7%	8.3	1.0	A
WB	Left Turn	750	745	99.3%	33.7	14.9	D
	Through	620	615	99.2%	36.9	15.3	E
	Right Turn						
	Subtotal	1,370	1,360	99.2%	35.1	15.0	E
Total		2,540	2,533	99.7%	22.7	8.8	C

Intersection 15

SR 113 NB Ramps/County Road 25A

Roundabout

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	290	286	98.6%	5.5	0.4	A
	Through						
	Right Turn	380	378	99.4%	4.9	0.3	A
	Subtotal	670	664	99.0%	5.1	0.3	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	110	103	93.6%	7.4	1.3	A
	Through	480	485	101.0%	10.1	1.1	B
	Right Turn						
	Subtotal	590	588	99.7%	9.6	1.1	A
WB	Left Turn						
	Through	1,080	1,067	98.8%	20.1	8.1	C
	Right Turn	200	201	100.7%	7.0	0.7	A
	Subtotal	1,280	1,268	99.1%	18.2	7.0	C
Total		2,540	2,520	99.2%	12.7	3.6	B

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Research Park
Cumulative Plus Project Conditions
AM Peak Hour

Intersection 16

Road A/County Road 25A

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn	20	20	100.5%	5.0	1.2	A
	Subtotal	20	20	100.5%	5.0	1.2	A
SB	Left Turn						
	Through						
	Right Turn	160	156	97.8%	31.2	34.0	D
	Subtotal	160	156	97.8%	31.2	34.0	D
EB	Left Turn						
	Through	660	656	99.3%	2.1	0.4	A
	Right Turn	200	209	104.4%	1.8	0.5	A
	Subtotal	860	864	100.5%	2.0	0.4	A
WB	Left Turn						
	Through	1,120	1,109	99.0%	2.9	0.4	A
	Right Turn	80	77	96.4%	2.2	0.8	A
	Subtotal	1,200	1,186	98.9%	2.9	0.3	A
Total		2,240	2,227	99.4%	5.3	4.4	A

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Research Park
Cumulative Plus Project Conditions
AM Peak Hour

Intersection 17

Road B/County Road 25A

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	90	88	97.6%	43.4	6.6	D
	Through	20	21	104.5%	32.5	11.0	C
	Right Turn	20	20	98.0%	8.4	4.2	A
	Subtotal	130	128	98.7%	36.0	6.3	D
SB	Left Turn	40	41	101.5%	38.1	9.4	D
	Through	50	50	100.6%	27.2	6.5	C
	Right Turn	490	494	100.8%	21.8	4.3	C
	Subtotal	580	585	100.8%	23.3	3.6	C
EB	Left Turn	410	404	98.5%	38.7	11.1	D
	Through	260	260	100.1%	18.9	2.0	B
	Right Turn	10	11	105.0%	9.7	5.5	A
	Subtotal	680	675	99.2%	30.6	7.3	C
WB	Left Turn	70	66	94.0%	56.6	9.3	E
	Through	560	546	97.4%	33.4	3.6	C
	Right Turn	60	65	107.7%	16.1	4.2	B
	Subtotal	690	676	98.0%	34.0	4.0	C
Total		2,080	2,064	99.2%	30.0	3.2	C

Intersection			
Intersection Delay, s/veh	12.5		
Intersection LOS	B		
Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	347	685	348
Demand Flow Rate, veh/h	354	699	355
Vehicles Circulating, veh/h	200	44	599
Vehicles Exiting, veh/h	754	510	144
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	5	5	5
Ped Cap Adj	0.999	0.999	0.999
Approach Delay, s/veh	8.3	12.6	16.4
Approach LOS	A	B	C
Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	354	699	355
Cap Entry Lane, veh/h	925	1081	621
Entry HV Adj Factor	0.980	0.980	0.980
Flow Entry, veh/h	347	685	348
Cap Entry, veh/h	906	1059	608
V/C Ratio	0.383	0.647	0.572
Control Delay, s/veh	8.3	12.6	16.4
LOS	A	B	C
95th %tile Queue, veh	2	5	4

Intersection			
Intersection Delay, s/veh11.1			
Intersection LOS B			
Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	500	337	532
Demand Flow Rate, veh/h	510	344	543
Vehicles Circulating, veh/h	133	144	266
Vehicles Exiting, veh/h	676	499	222
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	5	5	5
Ped Cap Adj	0.999	0.999	0.999
Approach Delay, s/veh	10.2	7.5	14.3
Approach LOS	B	A	B
Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	510	344	543
Cap Entry Lane, veh/h	989	978	866
Entry HV Adj Factor	0.980	0.979	0.980
Flow Entry, veh/h	500	337	532
Cap Entry, veh/h	969	957	848
V/C Ratio	0.516	0.352	0.627
Control Delay, s/veh	10.2	7.5	14.3
LOS	B	A	B
95th %tile Queue, veh	3	2	5

HCM 2010 Signalized Intersection Summary

20: CR 102 & CR 25A

Cumulative Buildout Conditions
Timing Plan: AM Peak Hour

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	220	310	160	410	590	110		
Future Volume (veh/h)	220	310	160	410	590	110		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	239	163	174	446	641	52		
Adj No. of Lanes	1	1	1	1	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	392	350	383	1030	1030	871		
Arrive On Green	0.22	0.22	0.55	0.55	0.55	0.55		
Sat Flow, veh/h	1774	1583	747	1863	1863	1576		
Grp Volume(v), veh/h	239	163	174	446	641	52		
Grp Sat Flow(s),veh/h/ln	1774	1583	747	1863	1863	1576		
Q Serve(g_s), s	6.0	4.4	10.3	7.0	11.6	0.8		
Cycle Q Clear(g_c), s	6.0	4.4	21.9	7.0	11.6	0.8		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	392	350	383	1030	1030	871		
V/C Ratio(X)	0.61	0.47	0.45	0.43	0.62	0.06		
Avail Cap(c_a), veh/h	752	671	540	1421	1421	1202		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	17.4	16.8	15.0	6.5	7.6	5.1		
Incr Delay (d2), s/veh	1.5	1.0	0.8	0.3	0.6	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	3.1	2.0	2.2	3.6	6.1	0.3		
LnGrp Delay(d),s/veh	18.9	17.7	15.8	6.8	8.2	5.2		
LnGrp LOS	B	B	B	A	A	A		
Approach Vol, veh/h	402			620	693			
Approach Delay, s/veh	18.4			9.3	7.9			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	2		4		6			
Phs Duration (G+Y+Rc), s	33.9		15.7		33.9			
Change Period (Y+Rc), s	6.5		* 4.7		6.5			
Max Green Setting (Gmax), s	37.8		* 21		37.8			
Max Q Clear Time (g_c+I1), s	23.9		8.0		13.6			
Green Ext Time (p_c), s	3.5		1.1		4.8			
Intersection Summary								
HCM 2010 Ctrl Delay			10.9					
HCM 2010 LOS			B					
Notes								

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary

21: East St & Gibson Rd/E Gibson Rd

Cumulative Buildout Conditions
Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	220	800	110	120	770	180	310	480	190	230	290	130
Future Volume (veh/h)	220	800	110	120	770	180	310	480	190	230	290	130
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		1.00
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1845	1845	1845	1845	1845	1845	1900
Adj Flow Rate, veh/h	239	870	110	130	837	96	337	522	33	250	315	93
Adj No. of Lanes	1	2	0	1	2	1	1	2	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	278	1009	128	224	1025	450	374	712	314	287	413	120
Arrive On Green	0.16	0.32	0.32	0.13	0.29	0.29	0.21	0.20	0.20	0.16	0.15	0.15
Sat Flow, veh/h	1757	3122	395	1757	3505	1538	1757	3505	1543	1757	2680	778
Grp Volume(v), veh/h	239	488	492	130	837	96	337	522	33	250	204	204
Grp Sat Flow(s),veh/h/ln	1757	1752	1765	1757	1752	1538	1757	1752	1543	1757	1752	1706
Q Serve(g_s), s	10.9	21.4	21.4	5.7	18.2	3.9	15.3	11.4	1.4	11.4	9.1	9.4
Cycle Q Clear(g_c), s	10.9	21.4	21.4	5.7	18.2	3.9	15.3	11.4	1.4	11.4	9.1	9.4
Prop In Lane	1.00		0.22	1.00		1.00	1.00		1.00	1.00		0.46
Lane Grp Cap(c), veh/h	278	566	570	224	1025	450	374	712	314	287	270	263
V/C Ratio(X)	0.86	0.86	0.86	0.58	0.82	0.21	0.90	0.73	0.11	0.87	0.76	0.78
Avail Cap(c_a), veh/h	386	849	855	236	1398	614	665	1510	665	407	498	485
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.6	26.0	26.0	33.7	27.0	21.9	31.4	30.6	26.6	33.4	33.2	33.3
Incr Delay (d2), s/veh	10.3	4.1	4.0	1.9	2.0	0.1	3.8	0.6	0.1	10.4	1.6	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	10.9	11.0	2.9	9.0	1.6	7.8	5.6	0.6	6.3	4.5	4.6
LnGrp Delay(d),s/veh	44.0	30.1	30.1	35.6	28.9	22.0	35.2	31.1	26.6	43.8	34.8	35.2
LnGrp LOS	D	C	C	D	C	C	D	C	C	D	C	D
Approach Vol, veh/h	1219				1063				892		658	
Approach Delay, s/veh	32.8				29.1				32.5		38.4	
Approach LOS	C				C				C		D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.4	21.5	13.4	30.6	20.4	17.5	15.9	28.1				
Change Period (Y+Rc), s	3.0	4.9	3.0	4.1	3.0	4.9	3.0	4.1				
Max Green Setting (Gmax), s	19.0	35.3	11.0	39.7	31.0	23.3	18.0	32.7				
Max Q Clear Time (g_c+1/3), s	13.4	13.4	7.7	23.4	17.3	11.4	12.9	20.2				
Green Ext Time (p_c), s	0.1	2.2	0.0	2.9	0.1	1.2	0.1	2.6				
Intersection Summary												
HCM 2010 Ctrl Delay			32.7									
HCM 2010 LOS			C									

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Cumulative Buildout Conditions
PM Peak Hour

Intersection 1

SR 113 NB Ramps/E Gibson Rd

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	220	220	99.9%	19.4	2.4	B
	Through						
	Right Turn	900	895	99.4%	32.0	13.7	C
	Subtotal	1,120	1,114	99.5%	29.5	11.0	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	1,000	998	99.8%	32.8	11.8	C
	Right Turn	280	288	102.9%	8.8	3.4	A
	Subtotal	1,280	1,286	100.5%	27.4	9.7	C
WB	Left Turn						
	Through	1,230	1,244	101.2%	30.4	4.0	C
	Right Turn	160	161	100.6%	14.6	3.0	B
	Subtotal	1,390	1,405	101.1%	28.8	3.7	C
Total		3,790	3,806	100.4%	28.6	6.8	C

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Tech Park TIS
Cumulative Buildout Conditions
PM Peak Hour

Intersection 2

Bourn Dr-Harry Lorenzo Ave/E Gibson Rd

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	100	103	103.1%	60.9	15.0	E
	Through	30	33	110.7%	50.0	16.0	D
	Right Turn	10	11	109.0%	29.8	28.5	C
	Subtotal	140	147	105.1%	56.0	11.5	E
SB	Left Turn	30	29	97.7%	60.4	14.6	E
	Through	30	27	90.3%	48.8	12.0	D
	Right Turn	90	88	97.6%	27.7	9.0	C
	Subtotal	150	144	96.1%	37.3	8.5	D
EB	Left Turn	200	193	96.4%	76.2	8.6	E
	Through	1,550	1,548	99.9%	50.2	6.9	D
	Right Turn	150	145	96.9%	48.1	7.4	D
	Subtotal	1,900	1,886	99.3%	52.7	6.5	D
WB	Left Turn	100	101	101.0%	70.1	14.4	E
	Through	1,200	1,212	101.0%	45.4	8.7	D
	Right Turn	90	86	95.2%	45.5	11.7	D
	Subtotal	1,390	1,398	100.6%	47.2	8.5	D
Total		3,580	3,576	99.9%	50.1	5.9	D

Intersection 3

Pioneer Ave/E Gibson Rd

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	230	234	101.6%	62.1	8.7	E
	Through	310	314	101.4%	35.5	3.6	D
	Right Turn	520	526	101.1%	35.8	17.7	D
	Subtotal	1,060	1,074	101.3%	41.3	8.7	D
SB	Left Turn	70	72	102.1%	51.2	10.9	D
	Through	470	472	100.5%	40.7	3.6	D
	Right Turn	210	213	101.2%	19.6	2.9	B
	Subtotal	750	756	100.8%	35.8	3.0	D
EB	Left Turn	340	341	100.2%	64.8	10.1	E
	Through	940	949	100.9%	52.4	11.2	D
	Right Turn	310	307	99.1%	32.2	8.0	C
	Subtotal	1,590	1,596	100.4%	51.4	8.2	D
WB	Left Turn	540	533	98.7%	75.2	25.4	E
	Through	950	958	100.9%	50.8	10.7	D
	Right Turn	100	102	102.4%	42.5	9.3	D
	Subtotal	1,590	1,594	100.3%	58.8	13.7	E
Total		4,990	5,020	100.6%	49.3	5.3	D

HCM Signalized Intersection Capacity Analysis

4: CR 102 & E. Gibson Rd/CR 24

Cumulative Buildout Conditions

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	950	330	140	230	400	10	10	230	790	10	10	870
Future Volume (vph)	950	330	140	230	400	10	10	230	790	10	10	870
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	5.2	5.2	3.5	5.2			3.0	5.2		3.0	5.2
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95			1.00	0.95		1.00	0.95
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00			1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00			1.00	1.00		1.00	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00		0.95	1.00
Satd. Flow (prot)	3367	1827	1522	1736	3457			1736	3463		1736	3471
Flt Permitted	0.95	1.00	1.00	0.95	1.00			0.95	1.00		0.95	1.00
Satd. Flow (perm)	3367	1827	1522	1736	3457			1736	3463		1736	3471
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1033	359	152	250	435	11	11	250	859	11	11	946
RTOR Reduction (vph)	0	0	96	0	1	0	0	0	1	0	0	0
Lane Group Flow (vph)	1033	359	56	250	445	0	0	261	869	0	11	946
Confl. Peds. (#/hr)			5			5				5		
Confl. Bikes (#/hr)												
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	Prot	NA		Prot	NA
Protected Phases	5	2		1	6		3	3	8		7	4
Permitted Phases			2									
Actuated Green, G (s)	44.5	43.1	43.1	24.6	23.2			21.8	38.8		21.8	38.8
Effective Green, g (s)	44.5	43.1	43.1	24.6	23.2			21.8	38.8		21.8	38.8
Actuated g/C Ratio	0.29	0.28	0.28	0.16	0.15			0.14	0.25		0.14	0.25
Clearance Time (s)	3.5	5.2	5.2	3.5	5.2			3.0	5.2		3.0	5.2
Vehicle Extension (s)	1.0	1.0	1.0	1.0	1.0			1.0	1.5		1.0	1.5
Lane Grp Cap (vph)	984	517	431	280	526			248	882		248	884
v/s Ratio Prot	c0.31	0.20		0.14	c0.13			c0.15	0.25		0.01	c0.27
v/s Ratio Perm			0.04									
v/c Ratio	1.05	0.69	0.13	0.89	0.85			1.05	0.99		0.04	1.07
Uniform Delay, d1	53.8	48.7	40.6	62.5	62.8			65.2	56.4		56.2	56.7
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	42.7	3.3	0.0	27.4	11.5			71.6	26.5		0.0	50.8
Delay (s)	96.5	51.9	40.6	89.9	74.3			136.8	82.9		56.2	107.5
Level of Service	F	D	D	F	E			F	F		E	F
Approach Delay (s)		80.6			79.9				95.3			75.3
Approach LOS		F			E				F			E
Intersection Summary												
HCM 2000 Control Delay			82.0			HCM 2000 Level of Service			F			
HCM 2000 Volume to Capacity ratio			0.98									
Actuated Cycle Length (s)			152.2			Sum of lost time (s)			18.9			
Intersection Capacity Utilization			93.7%			ICU Level of Service			F			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: CR 102 & E. Gibson Rd/CR 24

Cumulative Buildout Conditions

Timing Plan: PM Peak Hour

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	720
Future Volume (vph)	720
Ideal Flow (vphpl)	1900
Total Lost time (s)	3.5
Lane Util. Factor	1.00
Frpb, ped/bikes	0.99
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1538
Flt Permitted	1.00
Satd. Flow (perm)	1538
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	783
RTOR Reduction (vph)	71
Lane Group Flow (vph)	712
Confl. Peds. (#/hr)	5
Confl. Bikes (#/hr)	2
Heavy Vehicles (%)	4%
Turn Type	pm+ov
Protected Phases	5
Permitted Phases	4
Actuated Green, G (s)	83.3
Effective Green, g (s)	83.3
Actuated g/C Ratio	0.55
Clearance Time (s)	3.5
Vehicle Extension (s)	1.0
Lane Grp Cap (vph)	841
v/s Ratio Prot	0.25
v/s Ratio Perm	0.22
v/c Ratio	0.85
Uniform Delay, d1	29.1
Progression Factor	1.00
Incremental Delay, d2	7.6
Delay (s)	36.6
Level of Service	D
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM 2010 Signalized Intersection Summary

5: East St & CR 24C

Cumulative Buildout Conditions
Timing Plan: PM Peak Hour

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	40	340	510	20	360	420		
Future Volume (veh/h)	40	340	510	20	360	420		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	0.98		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1900	1900	1863		
Adj Flow Rate, veh/h	43	107	554	21	391	457		
Adj No. of Lanes	0	0	1	0	0	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	51	127	1440	55	437	462		
Arrive On Green	0.11	0.11	0.81	0.81	0.81	0.81		
Sat Flow, veh/h	458	1139	1783	68	489	571		
Grp Volume(v), veh/h	151	0	0	575	848	0		
Grp Sat Flow(s),veh/h/ln	1608	0	0	1851	1060	0		
Q Serve(g_s), s	11.5	0.0	0.0	10.9	87.3	0.0		
Cycle Q Clear(g_c), s	11.5	0.0	0.0	10.9	98.2	0.0		
Prop In Lane	0.28	0.71		0.04	0.46			
Lane Grp Cap(c), veh/h	180	0	0	1495	898	0		
V/C Ratio(X)	0.84	0.00	0.00	0.38	0.94	0.00		
Avail Cap(c_a), veh/h	231	0	0	1504	904	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	54.6	0.0	0.0	3.4	17.1	0.0		
Incr Delay (d2), s/veh	19.1	0.0	0.0	0.2	17.8	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	6.1	0.0	0.0	5.5	32.5	0.0		
LnGrp Delay(d),s/veh	73.7	0.0	0.0	3.5	34.9	0.0		
LnGrp LOS	E			A	C			
Approach Vol, veh/h	151		575			848		
Approach Delay, s/veh	73.7		3.5			34.9		
Approach LOS	E		A			C		
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		106.7				106.7		18.7
Change Period (Y+Rc), s		5.4				5.4		4.7
Max Green Setting (Gmax), s		101.9				101.9		18.0
Max Q Clear Time (g_c+I1), s		12.9				100.2		13.5
Green Ext Time (p_c), s		4.0				1.1		0.2
Intersection Summary								
HCM 2010 Ctrl Delay			27.2					
HCM 2010 LOS			C					
Notes								

User approved volume balancing among the lanes for turning movement.

HCM 2010 Roundabout
6: Parkland Ave & Matmor Rd

Cumulative Buildout Conditions

Timing Plan: PM Peak Hour

Intersection				
Intersection Delay, s/veh 12.8				
Intersection LOS B				
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	489	695	207	185
Demand Flow Rate, veh/h	499	710	211	189
Vehicles Circulating, veh/h	255	89	577	643
Vehicles Exiting, veh/h	577	699	177	156
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	5	5	5	5
Ped Cap Adj	0.999	0.999	0.999	0.999
Approach Delay, s/veh	12.5	14.4	10.3	10.7
Approach LOS	B	B	B	B
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	499	710	211	189
Cap Entry Lane, veh/h	876	1034	635	594
Entry HV Adj Factor	0.981	0.979	0.983	0.977
Flow Entry, veh/h	489	695	207	185
Cap Entry, veh/h	858	1012	623	580
V/C Ratio	0.570	0.687	0.333	0.318
Control Delay, s/veh	12.5	14.4	10.3	10.7
LOS	B	B	B	B
95th %tile Queue, veh	4	6	1	1

HCM 2010 Signalized Intersection Summary

7: Road B/Road F & Parkland Ave

Cumulative Buildout Conditions

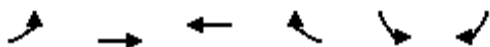
Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	360	210	350	370	120	320	60	360	70	30	40
Future Volume (veh/h)	50	360	210	350	370	120	320	60	360	70	30	40
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	54	391	105	380	402	106	348	65	65	76	33	29
Adj No. of Lanes	1	1	1	1	2	0	1	1	1	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	154	453	382	400	1060	277	399	419	354	109	47	42
Arrive On Green	0.09	0.24	0.24	0.23	0.38	0.38	0.23	0.23	0.23	0.11	0.11	0.11
Sat Flow, veh/h	1774	1863	1574	1774	2775	724	1774	1863	1573	961	417	367
Grp Volume(v), veh/h	54	391	105	380	255	253	348	65	65	138	0	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1574	1774	1770	1729	1774	1863	1573	1744	0	0
Q Serve(g_s), s	2.8	19.6	5.3	20.6	10.1	10.3	18.4	2.7	3.3	7.4	0.0	0.0
Cycle Q Clear(g_c), s	2.8	19.6	5.3	20.6	10.1	10.3	18.4	2.7	3.3	7.4	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.42	1.00		1.00	0.55		0.21
Lane Grp Cap(c), veh/h	154	453	382	400	676	661	399	419	354	198	0	0
V/C Ratio(X)	0.35	0.86	0.27	0.95	0.38	0.38	0.87	0.16	0.18	0.70	0.00	0.00
Avail Cap(c_a), veh/h	200	535	452	400	708	692	513	539	455	501	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	41.9	35.3	29.9	37.2	21.7	21.8	36.4	30.3	30.5	41.6	0.0	0.0
Incr Delay (d2), s/veh	1.4	12.2	0.4	32.1	0.3	0.4	12.5	0.2	0.2	4.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	11.6	2.3	13.6	5.0	5.0	10.4	1.4	1.4	3.8	0.0	0.0
LnGrp Delay(d),s/veh	43.3	47.5	30.3	69.2	22.1	22.2	48.9	30.5	30.8	46.0	0.0	0.0
LnGrp LOS	D	D	C	E	C	C	D	C	C	D		
Approach Vol, veh/h		550			888			478			138	
Approach Delay, s/veh		43.8			42.3			43.9			46.0	
Approach LOS		D			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		27.0	26.0	28.8		15.6	12.5	42.3				
Change Period (Y+Rc), s		5.1	4.0	5.1		4.6	4.0	5.1				
Max Green Setting (Gmax), s		28.2	22.0	28.0		28.0	11.0	39.0				
Max Q Clear Time (g_c+I1), s		20.4	22.6	21.6		9.4	4.8	12.3				
Green Ext Time (p_c), s		1.1	0.0	1.4		0.7	0.0	3.1				
Intersection Summary												
HCM 2010 Ctrl Delay			43.3									
HCM 2010 LOS			D									

HCM Signalized Intersection Capacity Analysis

8: Parkland Ave & Pioneer Ave

Cumulative Buildout Conditions
Timing Plan: PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	560	150	170	220	210	610
Future Volume (vph)	560	150	170	220	210	610
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8	5.8	5.8	5.8	5.8	5.8
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	3539	1863	1556	1770	1556
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	3539	1863	1556	1770	1556
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	609	163	185	239	228	663
RTOR Reduction (vph)	0	0	0	196	0	526
Lane Group Flow (vph)	609	163	185	43	228	137
Confl. Peds. (#/hr)				5		5
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Actuated Green, G (s)	34.9	15.5	15.5	15.5	17.6	17.6
Effective Green, g (s)	34.9	15.5	15.5	15.5	17.6	17.6
Actuated g/C Ratio	0.41	0.18	0.18	0.18	0.21	0.21
Clearance Time (s)	5.8	5.8	5.8	5.8	5.8	5.8
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	723	642	338	282	364	320
v/s Ratio Prot	c0.34	0.05	c0.10		c0.13	
v/s Ratio Perm				0.03		0.09
v/c Ratio	0.84	0.25	0.55	0.15	0.63	0.43
Uniform Delay, d1	22.8	30.0	31.8	29.4	30.9	29.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.8	0.2	1.8	0.3	3.3	0.9
Delay (s)	31.6	30.2	33.6	29.7	34.3	30.4
Level of Service	C	C	C	C	C	C
Approach Delay (s)		31.3	31.4		31.4	
Approach LOS		C	C		C	
Intersection Summary						
HCM 2000 Control Delay			31.4		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.72			
Actuated Cycle Length (s)			85.4		Sum of lost time (s)	17.4
Intersection Capacity Utilization			69.3%		ICU Level of Service	C
Analysis Period (min)			15			
c Critical Lane Group						

HCM 2010 Signalized Intersection Summary

9: Road B & Road E

Cumulative Buildout Conditions
Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↙	↕		↙	↕	
Traffic Volume (veh/h)	130	10	60	20	10	90	80	520	40	150	290	150
Future Volume (veh/h)	130	10	60	20	10	90	80	520	40	150	290	150
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	141	11	49	22	11	9	87	565	39	163	315	104
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	208	16	72	91	46	37	247	810	56	301	712	231
Arrive On Green	0.17	0.17	0.17	0.10	0.10	0.10	0.14	0.24	0.24	0.17	0.27	0.27
Sat Flow, veh/h	1209	94	420	915	458	374	1774	3357	231	1774	2623	850
Grp Volume(v), veh/h	201	0	0	42	0	0	87	297	307	163	211	208
Grp Sat Flow(s),veh/h/ln	1724	0	0	1747	0	0	1774	1770	1819	1774	1770	1703
Q Serve(g_s), s	6.6	0.0	0.0	1.3	0.0	0.0	2.7	9.3	9.3	5.1	6.0	6.2
Cycle Q Clear(g_c), s	6.6	0.0	0.0	1.3	0.0	0.0	2.7	9.3	9.3	5.1	6.0	6.2
Prop In Lane	0.70		0.24	0.52		0.21	1.00		0.13	1.00		0.50
Lane Grp Cap(c), veh/h	296	0	0	174	0	0	247	427	439	301	480	462
V/C Ratio(X)	0.68	0.00	0.00	0.24	0.00	0.00	0.35	0.70	0.70	0.54	0.44	0.45
Avail Cap(c_a), veh/h	795	0	0	806	0	0	339	662	680	351	673	648
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.6	0.0	0.0	25.2	0.0	0.0	23.6	21.0	21.0	23.0	18.3	18.4
Incr Delay (d2), s/veh	2.7	0.0	0.0	0.7	0.0	0.0	0.9	2.1	2.0	1.5	0.6	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.4	0.0	0.0	0.7	0.0	0.0	1.4	4.8	4.9	2.6	3.0	3.0
LnGrp Delay(d),s/veh	26.3	0.0	0.0	25.9	0.0	0.0	24.5	23.1	23.1	24.6	18.9	19.1
LnGrp LOS	C			C			C	C	C	C	B	B
Approach Vol, veh/h	201			42			691			582		
Approach Delay, s/veh	26.3			25.9			23.2			20.6		
Approach LOS	C			C			C			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.3	19.7		15.5	12.5	21.6		11.1				
Change Period (Y+Rc), s	4.0	5.1		5.1	4.0	5.1		5.1				
Max Green Setting (Gmax), s	12.0	22.7		28.0	11.6	23.1		28.0				
Max Q Clear Time (g_c+I), s	11.3			8.6	4.7	8.2		3.3				
Green Ext Time (p_c), s	0.2	2.7		1.1	0.1	2.1		0.2				
Intersection Summary												
HCM 2010 Ctrl Delay	22.7											
HCM 2010 LOS	C											

HCM 2010 Signalized Intersection Summary

10: Road B & Marston Dr

Cumulative Buildout Conditions
Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	20	100	30	10	20	70	400	50	40	270	50
Future Volume (veh/h)	100	20	100	30	10	20	70	400	50	40	270	50
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	109	22	79	33	11	1	76	435	45	43	293	40
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	169	34	122	141	47	4	247	789	81	172	631	85
Arrive On Green	0.19	0.19	0.19	0.11	0.11	0.11	0.14	0.24	0.24	0.10	0.20	0.20
Sat Flow, veh/h	882	178	639	1312	437	40	1774	3236	333	1774	3129	423
Grp Volume(v), veh/h	210	0	0	45	0	0	76	237	243	43	164	169
Grp Sat Flow(s),veh/h/ln	1700	0	0	1790	0	0	1774	1770	1800	1774	1770	1782
Q Serve(g_s), s	6.1	0.0	0.0	1.2	0.0	0.0	2.1	6.3	6.3	1.2	4.4	4.5
Cycle Q Clear(g_c), s	6.1	0.0	0.0	1.2	0.0	0.0	2.1	6.3	6.3	1.2	4.4	4.5
Prop In Lane	0.52		0.38	0.73		0.02	1.00		0.19	1.00		0.24
Lane Grp Cap(c), veh/h	325	0	0	192	0	0	247	431	439	172	357	360
V/C Ratio(X)	0.65	0.00	0.00	0.23	0.00	0.00	0.31	0.55	0.55	0.25	0.46	0.47
Avail Cap(c_a), veh/h	892	0	0	936	0	0	365	780	793	365	780	786
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.0	0.0	0.0	21.9	0.0	0.0	20.7	17.7	17.7	22.4	18.8	18.8
Incr Delay (d2), s/veh	2.1	0.0	0.0	0.6	0.0	0.0	0.7	1.1	1.1	0.7	0.9	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	0.0	0.0	0.6	0.0	0.0	1.1	3.2	3.2	0.6	2.2	2.3
LnGrp Delay(d),s/veh	22.1	0.0	0.0	22.5	0.0	0.0	21.4	18.8	18.8	23.1	19.7	19.8
LnGrp LOS	C			C			C	B	B	C	B	B
Approach Vol, veh/h	210				45		556				376	
Approach Delay, s/veh	22.1				22.5		19.1				20.1	
Approach LOS	C				C		B				C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	9.2	18.2			15.3	11.4	15.9	10.8				
Change Period (Y+Rc), s	4.0	5.1			5.1	4.0	5.1	5.1				
Max Green Setting (Gmax), s	1.0	23.6			28.1	11.0	23.6	28.0				
Max Q Clear Time (g_c+1/3), s	1.0	8.3			8.1	4.1	6.5	3.2				
Green Ext Time (p_c), s	0.0	2.4			1.2	0.1	1.7	0.2				
Intersection Summary												
HCM 2010 Ctrl Delay			20.1									
HCM 2010 LOS			C									

Intersection

Intersection Delay, s/veh 4.7

Intersection LOS A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	109	131	120	77
Demand Flow Rate, veh/h	111	134	122	79
Vehicles Circulating, veh/h	102	111	123	134
Vehicles Exiting, veh/h	111	134	90	111
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	5	5	5	5
Ped Cap Adj	0.999	0.999	0.999	0.999
Approach Delay, s/veh	4.6	4.8	4.8	4.4
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	111	134	122	79
Cap Entry Lane, veh/h	1020	1011	999	988
Entry HV Adj Factor	0.986	0.981	0.987	0.979
Flow Entry, veh/h	109	131	120	77
Cap Entry, veh/h	1006	991	986	967
V/C Ratio	0.109	0.133	0.122	0.080
Control Delay, s/veh	4.6	4.8	4.8	4.4
LOS	A	A	A	A
95th %tile Queue, veh	0	0	0	0

HCM 2010 Signalized Intersection Summary

12: Road B & Road C

Cumulative Buildout Conditions
Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	20	20	170	20	50	110	340	230	40	260	40
Future Volume (veh/h)	60	20	20	170	20	50	110	340	230	40	260	40
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	65	22	11	185	22	44	120	370	149	43	283	31
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	172	58	29	254	30	60	279	601	238	166	578	63
Arrive On Green	0.15	0.15	0.15	0.20	0.20	0.20	0.16	0.24	0.24	0.09	0.18	0.18
Sat Flow, veh/h	1172	397	198	1284	153	305	1774	2469	979	1774	3216	349
Grp Volume(v), veh/h	98	0	0	251	0	0	120	264	255	43	155	159
Grp Sat Flow(s),veh/h/ln	1767	0	0	1742	0	0	1774	1770	1678	1774	1770	1795
Q Serve(g_s), s	3.0	0.0	0.0	8.2	0.0	0.0	3.7	8.0	8.2	1.4	4.8	4.9
Cycle Q Clear(g_c), s	3.0	0.0	0.0	8.2	0.0	0.0	3.7	8.0	8.2	1.4	4.8	4.9
Prop In Lane	0.66		0.11	0.74		0.18	1.00		0.58	1.00		0.19
Lane Grp Cap(c), veh/h	260	0	0	345	0	0	279	431	409	166	318	323
V/C Ratio(X)	0.38	0.00	0.00	0.73	0.00	0.00	0.43	0.61	0.63	0.26	0.49	0.49
Avail Cap(c_a), veh/h	815	0	0	804	0	0	322	691	655	322	691	701
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.4	0.0	0.0	22.8	0.0	0.0	23.1	20.4	20.5	25.6	22.4	22.4
Incr Delay (d2), s/veh	0.9	0.0	0.0	2.9	0.0	0.0	1.0	1.4	1.6	0.8	1.2	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	0.0	4.2	0.0	0.0	1.9	4.0	4.0	0.7	2.4	2.5
LnGrp Delay(d),s/veh	24.3	0.0	0.0	25.7	0.0	0.0	24.2	21.8	22.1	26.4	23.5	23.6
LnGrp LOS	C			C			C	C	C	C	C	C
Approach Vol, veh/h	98				251				639		357	
Approach Delay, s/veh	24.3				25.7				22.4		23.9	
Approach LOS	C				C				C		C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	9.7	19.9			14.0	13.5	16.0	17.1				
Change Period (Y+Rc), s	4.0	5.1			5.1	4.0	5.1	5.1				
Max Green Setting (Gmax), s	1.0	23.7			28.0	11.0	23.7	28.0				
Max Q Clear Time (g_c+I), s	1.4	10.2			5.0	5.7	6.9	10.2				
Green Ext Time (p_c), s	0.0	2.6			0.4	0.1	1.5	1.3				
Intersection Summary												
HCM 2010 Ctrl Delay			23.5									
HCM 2010 LOS			C									

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Research Park
Cumulative Plus Project Conditions
PM Peak Hour

Intersection 13

East St/County Road 25A

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	40	41	101.8%	42.1	5.9	D
	Through	130	125	96.1%	34.7	4.9	C
	Right Turn	210	211	100.2%	7.9	1.3	A
	Subtotal	380	376	99.0%	21.0	2.6	C
SB	Left Turn	350	350	100.1%	34.3	4.9	C
	Through	80	88	110.5%	25.5	5.7	C
	Right Turn	70	73	103.7%	4.1	0.7	A
	Subtotal	500	511	102.3%	28.3	3.0	C
EB	Left Turn	90	93	103.6%	43.3	4.8	D
	Through	100	97	96.9%	25.8	4.9	C
	Right Turn	30	29	96.3%	11.5	5.8	B
	Subtotal	220	219	99.5%	31.1	4.1	C
WB	Left Turn	180	177	98.4%	43.1	6.5	D
	Through	130	124	95.3%	24.8	3.8	C
	Right Turn	630	631	100.2%	8.7	1.1	A
	Subtotal	940	932	99.2%	17.3	2.2	B
Total		2,040	2,039	99.9%	22.3	1.3	C

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Research Park
Cumulative Plus Project Conditions
PM Peak Hour

Intersection 14

SR 113 SB Ramps/County Road 25A

Roundabout

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	200	192	96.0%	4.0	0.2	A
	Through						
	Right Turn	230	224	97.4%	4.1	0.2	A
	Subtotal	430	416	96.7%	4.1	0.2	A
EB	Left Turn						
	Through	500	500	100.0%	7.6	0.3	A
	Right Turn	160	160	99.8%	4.2	0.1	A
	Subtotal	660	660	99.9%	6.8	0.3	A
WB	Left Turn	450	437	97.2%	6.4	1.1	A
	Through	710	708	99.7%	9.0	1.4	A
	Right Turn						
	Subtotal	1,160	1,145	98.7%	8.0	1.2	A
Total		2,250	2,220	98.7%	6.9	0.7	A

Intersection 15

SR 113 NB Ramps/County Road 25A

Roundabout

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	280	275	98.2%	4.3	0.3	A
	Through						
	Right Turn	640	645	100.8%	4.6	0.2	A
	Subtotal	920	920	100.0%	4.5	0.2	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	120	118	98.0%	4.9	0.4	A
	Through	580	575	99.2%	7.3	0.3	A
	Right Turn						
	Subtotal	700	693	99.0%	6.9	0.2	A
WB	Left Turn						
	Through	880	872	99.1%	9.1	0.4	A
	Right Turn	180	182	101.1%	5.9	0.3	A
	Subtotal	1,060	1,054	99.5%	8.5	0.4	A
Total		2,680	2,667	99.5%	6.7	0.2	A

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Woodland Research Park
Cumulative Plus Project Conditions
PM Peak Hour

Intersection 16

Road A/County Road 25A

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn	40	43	106.3%	10.5	4.4	B
	Subtotal	40	43	106.3%	10.5	4.4	B
SB	Left Turn						
	Through						
	Right Turn	120	118	98.3%	11.2	4.7	B
	Subtotal	120	118	98.3%	11.2	4.7	B
EB	Left Turn						
	Through	1,090	1,091	100.1%	3.1	0.4	A
	Right Turn	130	129	99.2%	2.3	0.6	A
	Subtotal	1,220	1,220	100.0%	3.0	0.4	A
WB	Left Turn						
	Through	940	937	99.7%	2.3	0.2	A
	Right Turn	100	101	100.5%	3.1	0.5	A
	Subtotal	1,040	1,038	99.8%	2.4	0.2	A
Total		2,420	2,418	99.9%	3.3	0.5	A

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement
Intersection 17

Road B/County Road 25A

Woodland Research Park
Cumulative Plus Project Conditions
PM Peak Hour
Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	190	184	96.8%	45.0	4.9	D
	Through	40	41	102.5%	35.2	9.1	D
	Right Turn	70	74	106.0%	17.1	6.3	B
	Subtotal	300	299	99.7%	36.8	3.1	D
SB	Left Turn	80	81	101.4%	37.3	7.1	D
	Through	40	39	98.0%	29.8	12.8	C
	Right Turn	400	402	100.4%	14.1	1.3	B
	Subtotal	520	522	100.4%	18.7	2.5	B
EB	Left Turn	650	650	99.9%	46.1	8.6	D
	Through	470	469	99.9%	22.7	4.6	C
	Right Turn	10	11	112.0%	18.7	10.8	B
	Subtotal	1,130	1,130	100.0%	35.8	5.7	D
WB	Left Turn	40	40	99.5%	49.2	6.8	D
	Through	400	399	99.9%	32.9	4.0	C
	Right Turn	30	33	110.3%	19.1	6.2	B
	Subtotal	470	472	100.5%	33.3	4.0	C
Total		2,420	2,424	100.1%	31.7	2.7	C

Intersection			
Intersection Delay, s/veh	11.1		
Intersection LOS	B		
Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	608	522	196
Demand Flow Rate, veh/h	620	532	200
Vehicles Circulating, veh/h	122	144	355
Vehicles Exiting, veh/h	433	598	321
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	5	5	5
Ped Cap Adj	0.999	0.999	0.999
Approach Delay, s/veh	12.6	10.9	7.5
Approach LOS	B	B	A
Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	620	532	200
Cap Entry Lane, veh/h	1000	978	792
Entry HV Adj Factor	0.980	0.981	0.980
Flow Entry, veh/h	608	522	196
Cap Entry, veh/h	980	959	776
V/C Ratio	0.620	0.544	0.253
Control Delay, s/veh	12.6	10.9	7.5
LOS	B	B	A
95th %tile Queue, veh	4	3	1

Intersection			
Intersection Delay, s/veh 11.3			
Intersection LOS B			
Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	619	435	272
Demand Flow Rate, veh/h	632	444	277
Vehicles Circulating, veh/h	66	333	333
Vehicles Exiting, veh/h	544	365	444
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	5	5	5
Ped Cap Adj	0.999	0.999	0.999
Approach Delay, s/veh	11.5	12.6	8.6
Approach LOS	B	B	A
Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	632	444	277
Cap Entry Lane, veh/h	1058	810	810
Entry HV Adj Factor	0.980	0.981	0.982
Flow Entry, veh/h	619	435	272
Cap Entry, veh/h	1036	794	795
V/C Ratio	0.598	0.549	0.342
Control Delay, s/veh	11.5	12.6	8.6
LOS	B	B	A
95th %tile Queue, veh	4	3	2

HCM 2010 Signalized Intersection Summary

20: CR 102 & CR 25A

Cumulative Buildout Conditions
Timing Plan: PM Peak Hour

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	170	140	240	530	560	190		
Future Volume (veh/h)	170	140	240	530	560	190		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	185	30	261	576	609	100		
Adj No. of Lanes	1	1	1	1	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	326	291	448	1160	1160	982		
Arrive On Green	0.18	0.18	0.62	0.62	0.62	0.62		
Sat Flow, veh/h	1774	1583	736	1863	1863	1577		
Grp Volume(v), veh/h	185	30	261	576	609	100		
Grp Sat Flow(s),veh/h/ln	1774	1583	736	1863	1863	1577		
Q Serve(g_s), s	5.5	0.9	17.8	9.8	10.6	1.5		
Cycle Q Clear(g_c), s	5.5	0.9	28.4	9.8	10.6	1.5		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	326	291	448	1160	1160	982		
V/C Ratio(X)	0.57	0.10	0.58	0.50	0.53	0.10		
Avail Cap(c_a), veh/h	643	574	597	1537	1537	1301		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	21.5	19.7	14.1	6.0	6.1	4.4		
Incr Delay (d2), s/veh	1.5	0.2	1.2	0.3	0.4	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.8	0.4	3.7	5.1	5.5	0.7		
LnGrp Delay(d),s/veh	23.1	19.8	15.3	6.3	6.5	4.4		
LnGrp LOS	C	B	B	A	A	A		
Approach Vol, veh/h	215			837	709			
Approach Delay, s/veh	22.6			9.1	6.2			
Approach LOS	C			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	2		4		6			
Phs Duration (G+Y+Rc), s	42.6		15.4		42.6			
Change Period (Y+Rc), s	6.5		* 4.7		6.5			
Max Green Setting (Gmax), s	47.8		* 21		47.8			
Max Q Clear Time (g_c+I1), s	30.4		7.5		12.6			
Green Ext Time (p_c), s	5.6		0.5		5.1			
Intersection Summary								
HCM 2010 Ctrl Delay			9.6					
HCM 2010 LOS			A					
Notes								

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary

21: East St & Gibson Rd/E Gibson Rd

Cumulative Buildout Conditions
Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	770	230	200	740	180	230	420	160	280	470	210
Future Volume (veh/h)	90	770	230	200	740	180	230	420	160	280	470	210
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		1.00
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1845	1845	1845	1845	1845	1845	1900
Adj Flow Rate, veh/h	98	837	230	217	804	116	250	457	35	304	511	193
Adj No. of Lanes	1	2	0	1	2	1	1	2	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	162	922	253	244	1359	597	278	700	308	331	573	215
Arrive On Green	0.09	0.34	0.34	0.14	0.39	0.39	0.16	0.20	0.20	0.19	0.23	0.23
Sat Flow, veh/h	1757	2704	743	1757	3505	1541	1757	3505	1543	1757	2493	937
Grp Volume(v), veh/h	98	542	525	217	804	116	250	457	35	304	358	346
Grp Sat Flow(s),veh/h/ln	1757	1752	1695	1757	1752	1541	1757	1752	1543	1757	1752	1678
Q Serve(g_s), s	6.1	33.6	33.6	13.8	20.7	5.7	15.9	13.6	2.1	19.3	22.5	22.7
Cycle Q Clear(g_c), s	6.1	33.6	33.6	13.8	20.7	5.7	15.9	13.6	2.1	19.3	22.5	22.7
Prop In Lane	1.00		0.44	1.00		1.00	1.00		1.00	1.00		0.56
Lane Grp Cap(c), veh/h	162	598	578	244	1359	597	278	700	308	331	403	386
V/C Ratio(X)	0.60	0.91	0.91	0.89	0.59	0.19	0.90	0.65	0.11	0.92	0.89	0.90
Avail Cap(c_a), veh/h	263	772	747	309	1637	719	541	1137	501	433	461	441
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.6	35.8	35.8	48.1	27.7	23.0	47.0	41.9	37.3	45.3	42.4	42.5
Incr Delay (d2), s/veh	1.3	10.6	11.0	19.1	0.2	0.1	4.3	0.4	0.1	18.6	16.1	17.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	18.0	17.5	8.0	10.1	2.4	8.0	6.6	0.9	11.1	12.7	12.4
LnGrp Delay(d),s/veh	51.0	46.4	46.8	67.2	27.8	23.1	51.3	42.3	37.3	63.9	58.5	60.0
LnGrp LOS	D	D	D	E	C	C	D	D	D	E	E	E
Approach Vol, veh/h	1165				1137				742		1008	
Approach Delay, s/veh	46.9				34.8				45.1		60.6	
Approach LOS	D				C				D		E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	24.4	27.6	18.8	42.9	21.0	31.0	13.5	48.2				
Change Period (Y+Rc), s	3.0	4.9	3.0	4.1	3.0	4.9	3.0	4.1				
Max Green Setting (Gmax), s	28.6	36.9	20.0	50.1	35.0	29.9	17.0	53.1				
Max Q Clear Time (g_c+Y), s	21.3	15.6	15.8	35.6	17.9	24.7	8.1	22.7				
Green Ext Time (p_c), s	0.1	1.8	0.0	3.2	0.1	1.4	0.1	3.0				
Intersection Summary												
HCM 2010 Ctrl Delay			46.6									
HCM 2010 LOS			D									