Eastside Transportation Corridor Improvement Study

Appendices

January 2021

Table of Contents

Acronyms

AADT	Annual Average Daily Traffic
AASHTO	American Association of State Highway and Transportation Officials
ADA	Americans with Disabilities Act
ADZD	Advanced Delimma Zone Detection
ATP	Active Transportation Plan
AWSC	All-Way Stop-Controlled
CA-MUTCD	California Manual of Uniform Traffic Control Devices
CM	Countermeasure
CRZ	Clear Recovery Zone
DUI	Driving Under the Influence
EB, SB, WB, NB	Eastbound, Southbound, Westbound, Northbound
EDD	Employment Development Department
FCOG	Fresno Council of Governments
FO	Fixed Object
FSI	Fatal and Severe Injury (Collisions)
HCM	Highway Capacity Manual
HFST	High Friction Surface Treatment
LOS	Level of Service
LRSM	Local Roadway Safety Manual
LT	Left-turn
LTS	Level of Traffic Stress
MUT	Median U-Turn
NAICS	North American Industry Classification System
PHF	Peak Hour Factor
RAB	Roundabout
RCUT	Restricted Crossing U-Turn
RNDBT	Roundabout
RRFB	Rectangular Rapid Flashing Beacon
RT	Right-turn
RTP	Regional Transportation Plan
SCS	Sustainable Communities Strategy
SOI	Sphere of Influence
SR	State Route
SWITRS	Statewide Integrated Traffic Records System
TDM	Transportation Demand Management
TIMS	Transportation Injury Mapping System
TSM	Transportation System Management
TWSC	Two-Way Stop-Controlled
USDOT	United States Department of Transportation
VMT	Vehicle Miles Traveled

Appendix A.
Land Use Policy Review Matrix

Jurisdiction	Element	G/O/P/IM	G/O#	P #	Goal/Policy/Program Language	Funding	Active Transport (bike/ped)	Multi-modal (public transit/connections to active transport)	Road Diets	Complete Streets	Connected Network	Safety	Design	Traffic Calming	Development	Regional/Interagency Support	Traffic Flow	Auto Priority	Road Expansion	N/A
Clovis	Circ	G	1	N/A	A comprehensive and well-maintained multimodal circulation system that provides for the safe and efficient movement of people and goods.			x				x								
Clovis	Circ	G	1	N/A	A context-sensitive and “complete streets” transportation network that prioritizes effective connectivity and accommodates a comprehensive range of mobility needs.		x	x		x										
Clovis	Circ	P	1	1.1	**Multimodal network.** The city shall plan, design, operate, and maintain the transportation network to promote safe and convenient travel for all users: pedestrians, bicyclists, transit riders, freight, and motorists.		x	x		x		x	x							
Clovis	Circ	P	1	1.2	**Transportation decisions.** Decisions should balance the comfort, convenience, and safety of pedestrians, bicyclists, and motorists.		x			x		x								
Clovis	Circ	P	1	1.3	**Age and mobility.** The design of roadways shall consider all potential users, including children, seniors, and persons with disabilities.					x		x								
Clovis	Circ	P	1	1.4	**Jobs and housing.** Encourage infill development that would provide jobs and services closer to housing, and vice versa, to reduce citywide vehicle miles travelled and effectively utilize the existing transportation infrastructure.										x					
Clovis	Circ	P	1	1.5	**Neighborhood connectivity.** The transportation network shall provide multimodal access between neighborhoods and neighborhood-serving uses (educational, recreational, or neighborhood commercial uses).			x		x	x									
Clovis	Circ	P	1	1.6	**Internal circulation.** New development shall utilize a grid or modified-grid street pattern. Areas designated for residential and mixed-use village developments should feature short block lengths of 200 to 600 feet.															x
Clovis	Circ	P	1	1.7	**Narrow streets.** The City may permit curb-to-curb dimensions that are narrower than current standards on local streets to promote pedestrian and bicycle connectivity and enhance safety.															x
Clovis	Circ	P	1	1.8	**Network completion.** New development shall complete the extension of stub streets planned to connect to adjacent streets, where appropriate.						x									
Clovis	Circ	G	2	N/A	A roadway network that is well planned, funded, and maintained.	x														
Clovis	Circ	P	2	2.1	**Level of service.** The following is the City’s level of service (LOS) standards: A. Achieve LOS D vehicle traffic operations during the a.m. and p.m. peak hours B. Allow exceptions on a case-by-case basis where lower levels of service would result in other public benefits, such as: i. Preserving agriculture or open space land ii. Preserving the rural/historic character of a neighborhood iii. Preserving or creating a pedestrian-friendly environment in Old Town or mixed-use village districts iv. Avoiding adverse impacts to pedestrians, cyclists, and mass transit riders v. Where right-of-way constraints would make capacity expansion infeasible		x													
Clovis	Circ	P	2	2.2	**Multimodal LOS.** Monitor the evolution of multimodal level of service (MMLOS) standards. The city may adopt MMLOS standards when appropriate.			x												
Clovis	Circ	P	2	2.3	**Fair share costs.** New development shall pay its fair share of the cost for circulation improvements in accordance with the city’s traffic fee mitigation program.															x
Clovis	Circ	P	2	2.4	**Right-of-way dedication.** The city may require right-of-way dedication essential to the circulation system in conjunction with any development or annexation. The City shall request the County of Fresno to apply the same requirements in the Clovis planning area.															x
Clovis	Circ	P	2	2.5	**Regional and state roadway funding.** Coordinate with the County of Fresno, City of Fresno, Fresno Council of Governments, and Caltrans to fund roadway improvements adjacent to and within the City’s Planning Area.	x														

EASTSIDE TRANSPORTATION CORRIDOR IMPROVEMENT STUDY

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Clovis	Circ	G	3	N/A	A multimodal transportation network that is safe and comfortable in the context of adjacent neighborhoods.			x			x	x								
Clovis	Circ	P	3	3.1	**Traffic calming.** Employ traffic-calming measures in new developments and existing neighborhoods to control traffic speeds and maintain safety.									x						
Clovis	Circ	P	3	3.2	**Neighborhood compatibility.** Periodically review and update design standards to ensure that new and redesigned streets are compatible with the context of adjacent neighborhoods.															x
Clovis	Circ	P	3	3.3	**Old Town and mixed use village centers.** Transportation decisions on local streets in Old Town and mixed-use village centers shall prioritize pedestrians, then bicyclists, then mass transit, then motorists.															x
Clovis	Circ	P	3	3.4	**Road diets.** Minimize roadway width as feasible to serve adjacent neighborhoods while maintaining sufficient space for public safety services.				x											
Clovis	Circ	P	3	3.5	**Roadway widening.** Only consider street widening or intersection expansions after considering multimodal alternative improvements to non-automotive facilities.			x												
Clovis	Circ	P	3	3.6	**Soundwalls.** Design roadway networks to disperse traffic to minimize traffic levels. Discourage soundwalls along new collector and local streets when feasible.															x
Clovis	Circ	P	3	3.7	**Conflict points.** Minimize the number of and enhance safety at vehicular, pedestrian, and bicycle conflict points.							x								
Clovis	Circ	P	3	3.8	**Access management.** Minimize access points and curb cuts along arterials and prohibit them within 200 feet of an intersection where possible. Eliminate and/or consolidate driveways when new development occurs or when traffic operation or safety warrants.															x
Clovis	Circ	P	3	3.9	**Park-once.** Encourage “park-once” designs where convenient, centralized public parking areas are accompanied by safe, visible, and well-marked access to sidewalks and businesses.															x
Clovis	Circ	P	3	3.10	**Pedestrian access and circulation.** Entrances at signalized intersections should provide sidewalks on both sides of the entrance that connect to an internal pedestrian pathway to businesses and throughout nonresidential parking lots larger than 50 spaces.						x									
Clovis	Circ	P	3	3.11	**Right-of-way design.** Design landscaped parkways, medians, and right-of-ways as aesthetic buffers to improve the community’s appearance and encourage non-motorized transportation.		x						x							
Clovis	Circ	P	3	3.12	**Residential orientation.** Where feasible, residential development should face local and collector streets to increase visibility and safety of travelers along the streets, and encourage pedestrian and bicycle access.															x
Clovis	Circ	G	4	N/A	A bicycle and transit system that serves as a functional alternative to commuting by car.		x													
Clovis	Circ	P	4	4.1	**Bike and transit backbone.** The bicycle and transit system should connect Shaw Avenue, Old Town, the Medical Center/R&T Park, and the three Urban Centers.															x
Clovis	Circ	P	4	4.2	**Priority for new bicycle facilities.** Prioritize investments in the backbone system over other bicycle improvements.	x	x				x									
Clovis	Circ	P	4	4.3	**Freeway crossings.** Require separate bicycle and pedestrian crossings for new freeway extensions and encourage separate crossings where Class I facilities are planned to cross existing freeways.															x
Clovis	Circ	P	4	4.4	**Bicycles and transit.** Coordinate with transit agencies to integrate bicycle access and storage into transit vehicles, bus stops, and activity centers.		x	x					x							
Clovis	Circ	P	4	4.5	**Transit stops.** Improve and maintain safe, clean, comfortable, well-lit, and rider-friendly transit stops that are well marked and visible to motorists.			x				x	x							

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Clovis	Circ	P	4	4.6	**Transit priority corridors.** Prioritize investments for, and transit services and facilities along the transit priority corridors.	x														
Clovis	Circ	P	4	4.7	**Bus rapid transit.** Plan for bus rapid transit and transit-only lanes on transit priority corridors as future ridership levels increase.			x												
Clovis	Circ	G	5	N/A	A complete system of trails and pathways accessible to all residents.		x				x									
Clovis	Circ	P	5	5.1	**Complete street amenities.** Upgrade existing streets and design new streets to include complete street amenities, prioritizing improvements to bicycle and pedestrian connectivity or safety, consistent with the Bicycle Transportation Master Plan and other master plans.		x			x	x									
Clovis	Circ	P	5	5.2	**Development-funded facilities.** Require development to fund and construct facilities as shown in the Bicycle Transportation Plan when facilities are in or adjacent to the development.	x									x					
Clovis	Circ	P	5	5.3	**Pathways.** Encourage pathways and other pedestrian amenities in Urban Centers and new development 10 acres or larger.		x													
Clovis	Circ	P	5	5.4	**Homeowner associations.** The city may require homeowner associations to maintain pathways and other bicycle and pedestrian facilities within the homeowner association area.															x
Clovis	Circ	P	5	5.5	**Pedestrian access.** Require sidewalks, paths, and crosswalks to provide access to schools, parks, and other activity centers and to provide general pedestrian connectivity throughout the city.		x				x									
Clovis	Circ	G	6	N/A	Safe and efficient goods movement with minimal impacts on local roads and neighborhoods.															x
Clovis	Circ	P	6	6.1	**Truck routes.** Plan and designate truck routes that minimize truck traffic through or near residential areas.															x
Clovis	Circ	P	6	6.2	**Land use.** Place industrial and warehousing businesses near freeways and truck routes to minimize truck traffic through or near residential areas.															x
Clovis	Circ	G	7	N/A	A regional transportation system that connects Clovis to the San Joaquin Valley region.															x
Clovis	Circ	P	7	7.1	**Clovis Avenue extension.** Invest in the extension of Clovis Avenue north to Copper Avenue as funding is available.															x
Clovis	Circ	P	7	7.2	**Right-of-way for future extensions.** Coordinate with Fresno County, the Fresno Council of Governments, and Caltrans to preserve future right-of-way for extending Clovis Avenue north of Copper Avenue to Auberry Road and future State Route 65.															x
Clovis	Circ	P	7	7.3	**San Joaquin River crossing.** Collaborate with the Fresno Council of Governments and appropriate agencies to secure a San Joaquin River crossing between State Route 41 and North Fork Road.															x
Clovis	LU	G	N/A	N/A	A complete community and a sustainable city that maintains its small town character and premier quality of life through balanced growth, development, and reinvestment.															x
Clovis	LU	G	1	N/A	The quality of buildings and neighborhoods within the older parts of Clovis is in the same class as the quality of those in recently developed areas.															x
Clovis	LU	P	1	1.2	**Open to changes.** Be open to potential changes in land use, circulation, and development standards to reposition areas identified on Figure LU-5 if necessary for revitalization and redevelopment.															x
Clovis	LU	P	1	1.3	**Priority for public investments.** Assign a high priority to public investments (infrastructure, services, facilities, and open space) in areas identified in Figure LU-5.															x
Clovis	LU	G	4	N/A	Orderly development of the General Plan outside of the city boundary.															x
Clovis	LU	P	4	4.1	**Clovis leadership.** The city shall take a leadership role in the land use planning for the sphere of influence and entire Clovis General Plan Area.															x

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Fowler	Circ	G	5.1	N/A	Design and implement a multi-modal transportation system that will serve projected future travel demand, minimize congestion, and address future growth in the City.			x					x	x						
Fowler	Circ	P	5.1	1	Utilize existing infrastructure and utilities to the maximum to the extent practical and provide for the logical, timely, and economically efficient extension of infrastructure and services.															x
Fowler	Circ	P	5.1	2	Cooperate with local, regional, State and federal agencies to establish an efficient transportation system.											x				
Fowler	Circ	G	5.2	N/A	Provide a well-planned, designed, constructed and maintained street and highway system that facilitates the movement of vehicles and provides safe and convenient access to surrounding developments.							x					x			
Fowler	Circ	P	5.2	1	Designate streets according to the following functional classifications: a) Freeways carry regional traffic through the community with access only at interchanges with major streets. b) Expressways connect regional destinations on the non-freeway system and generally pass through several jurisdictions. Traffic carrying capacity is maintained through access control at 2 mile intervals. c) Arterials serve as the principal network for cross-town traffic flow. They connect areas of major traffic generation within the urban area and connect with important county roads and state highways. They also provide for the distribution and collection of through traffic to and from collector and local streets. d) Collectors provide for traffic movement between arterial and local streets, traffic movement within and between neighborhoods and major activity centers, and limited direct access to abutting properties. e) Local streets provide direct access to abutting properties and for localized traffic movements within residential, commercial and industrial areas.															x
Fowler	Circ	P	5.2	2	Apply consistent standards for new development based on traffic carrying capacity and classification. a) Expressways shall be developed with a minimum right-of-way of 100 feet, to include four to six travel lanes and access restricted to 2 -mile intervals. b) Arterials shall be developed with a minimum right-of-way of 80 feet, to include four travel lanes, parking, and a center median (either raised or painted). c) Collectors are designed to have a 72 to 80-foot right-of-way width that allows four lanes undivided with parking, or two lanes with a two-way continuous left turn center lane. d) Local streets shall have a minimum 60-foot right-of-way with two travel lanes and parking. Local streets may be reduced in width when it can be demonstrated that projected traffic flows can be accommodated. Local public streets should not be reduced to less than 32 feet between curbs.															x

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Fowler	Circ	P	5.2	3	a) Freeway Highway 99: 220' b) Expressway Temperance Avenue: 100' c) Arterials American Avenue: 84' Fowler Avenue (west/south of Highway 99): 84' Golden State Boulevard: 150' Manning Avenue: 84' d) Collectors 5th: 80' 7th: 80' 8th: 80' Adams: 80' Armstrong: 80' Clayton: 80' Fowler (north of Adams): 80' Fresno: 80' Lincoln: 80' Merced: 80' Parlier: 80' South: 80' Springfield: 80' Summer: 80'								x							
Fowler	Circ	P	5.2	4	Standards for new street development can be altered or refined where it can be demonstrated that projected traffic flows can be accommodated. Alternative standards for major streets include 1) an 84-foot arterial without a raised median island; and 2) a 72-foot collector to contain two travel lanes and a continuous dual left-turn lane.															x
Fowler	Circ	P	5.2	6	Encourage a Level of Service (LOS) "C" throughout the local circulation network, with an LOS "D" along SR 99. An exception to the local road standard is that LOS "D" may be allowed at intersections of major streets, at SR 99 interchanges, and along street segments where additional improvements are not feasible.												x	x		
Fowler	Circ	P	5.2	7	Make intersection improvements to the existing major street system selectively through traffic engineering solutions rather than major structural improvements. This could include signalization, intersection channelization, use of directional signs, and diversion of traffic onto under-utilized streets.								x							
Fowler	Circ	P	5.2	8	Require residential developments along arterials to back-on to such streets (with ornamental fencing, landscaping and waiver of access), or provide frontage roads with limited points of access to the street. “Open ended cul-de-sacs” to major streets are also encouraged for pedestrian access.								x							

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Fowler	Circ	P	5.2	9	Discourage direct access to collector streets from residential areas except where physical circumstances do not allow other design solutions.															x
Fowler	Circ	P	5.2	10	Develop street patterns for interior streets within new subdivisions to protect neighborhoods from the intrusion of through traffic.															x
Fowler	Circ	P	5.2	11	Driveway access to major activity centers, including multifamily development, should be located no closer than 200 feet to the intersection of a collector or arterial street.															x
Fowler	Circ	P	5.2	12	The distance between commercial driveways on arterial streets should be not less than 400 feet. Where practical and desirable, commercial driveways should be located on adjacent collector streets rather than on arterial streets.															x
Fowler	Circ	P	5.2	13	Existing points of ingress and egress shall be consolidated whenever possible. Driveway consolidation for new development shall be encouraged through access agreements along arterials.															x
Fowler	Circ	P	5.2	14	Ingress and egress to shopping centers should minimize left-turn movements into and out of parking or loading areas.															x
Fowler	Circ	P	5.2	15	The City reserves the right to reduce the ultimate right-of-way for arterials and collectors to avoid disrupting existing development by constructing a travelway that generally meets the street classification standards.															x
Fowler	Circ	P	5.2	16	Adjacent parking areas for large commercial and industrial developments should be designed to allow interconnection and flow of traffic between these facilities. Access easements and agreements should be obtained during the development process.															x
Fowler	Circ	P	5.2	17	Traffic signals should be placed at no closer than ¼-mile intervals on arterials and collectors unless conditions warrant additional signalization to improve traffic flow.															x
Fowler	Circ	P	5.2	18	Require private developers to be primarily responsible for the improvement of streets and highways to developing commercial, industrial, and residential areas. These may include road construction or widening, installation of turning lanes and traffic signals, and the improvement of any drainage facility or other auxiliary facility necessary for the safe and efficient movement of traffic or the protection of road facilities.															x
Fowler	Circ	P	5.2	19	Require private and public land developments to provide all on-site and off-site facility improvements necessary to mitigate any development-generated circulation impacts. The City may require applicants to provide traffic impact studies prepared by qualified professionals to identify the impacts of a development and necessary mitigation measures.															x
Fowler	Circ	P	5.2	20	Require dedication of necessary rights-of-way as part of the land division and land use review processes.															x
Fowler	Circ	P	5.2	21	Consider the use of traffic calming techniques in the design of new local streets where such techniques will improve safety and manage traffic flow.															x
Fowler	Circ	P	5.2	22	Provide a street network with quick and efficient routes for emergency vehicles, meeting necessary street widths, turn around radius, and other factors as determined by the City Engineer in consultation with the Fire Department and other emergency service providers.															x
Fowler	Circ	P	5.2	23	Restrict on-street parking to reduce traffic congestion and improve safety in appropriate locations.							x					x			
Fowler	Circ	G	5.3	N/A	Provide designated routes and loading standards that reduce the noise and safety concerns associated with truck traffic.															x

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Fowler	Circ	P	5.3	1	Designate truck routes for use by heavy commercial and industrial traffic (reference Figure 5-2). a) Designated truck routes shall be: Golden State Boulevard Manning Avenue 5th Street (south of Fresno) 7th Street 8th Street South Temperance Avenue Adams Avenue (west of 7th)															x
Fowler	Circ	P	5.3	2	Design interior collector street systems for commercial and industrial subdivisions to accommodate the movement of heavy trucks.															x
Fowler	Circ	P	5.3	3	Restrict heavy duty truck through-traffic in residential areas and plan land uses so that trucks do not need to traverse these areas.															x
Fowler	Circ	P	5.3	4	Design off-street loading facilities so that they do not face surrounding roads or residential neighborhoods. Truck backing and maneuvering to access loading areas shall not be permitted on the public road system, except when specifically permitted.															x
Fowler	Circ	G	5.4	N/A	Provide safe and convenient pedestrian access between residential neighborhoods, parks, open space, and schools that service those neighborhoods.		x				x	x								
Fowler	Circ	P	5.4	1	Provide a safe walking environment for pedestrians. a) Subdivision layouts should include safe and pleasant designs which promote pedestrian access to arterials and collectors and consider the location of community services, such as schools, parks and neighborhood shopping activity centers in the accessibility of their design for all persons. b) Require the installation of sidewalks as an integral part of all street construction where appropriate. c) Require street lighting within the rights-of-way of all public streets. d) Include pedestrian signal indicators as an integral part of the installation of traffic signals.		x						x							
Fowler	Circ	P	5.4	2	Maximize visibility and access for pedestrians and encourage the removal of barriers (walls, easements, and fences) for safe and convenient movement of pedestrians. Special emphasis should be placed on the needs of disabled persons considering ADA regulations.		x					x	x							
Fowler	Circ	P	5.4	3	Plan for pedestrian access consistent with road design standards while designing street and road projects. Provisions for pedestrian paths or sidewalks and timing of traffic signals to allow safe pedestrian street crossing shall be included.		x						x							
Fowler	Circ	P	5.4	4	Collaborate with the Fowler Unified School District to ensure that school children have adequate transportation routes available, such as a local pedestrian or bike paths, or local bus service.			x				x				x				

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Fowler	Circ	P	5.4	5	Encourage safe pedestrian walkways within commercial, office, industrial, residential, and recreational developments that comply with the Americans with Disabilities Act (ADA) requirements.															x
Fowler	Circ	P	5.4	6	Coordinate with transit operators to ensure that pedestrian facilities are provided along and/or near transit routes, whenever feasible. New land developments may be required to provide pedestrian facilities due to existing or future planned transit routes even if demand for a pedestrian facility is not otherwise warranted.		x	x								x				
Fowler	Circ	P	5.4	7	Review all existing roadways without pedestrian facilities when they are considered for improvements (whether maintenance or upgrade) to determine if new pedestrian facilities are warranted. New roadways should also be assessed for pedestrian facilities.		x													
Fowler	Circ	G	5.5	N/A	Ensure the provision of adequate off-street parking for all land uses.															x
Fowler	Circ	P	5.5	1	Require all new development to provide adequate off-street parking based on expected parking needs.															x
Fowler	Circ	P	5.5	2	Provide adequate loading areas within off-street parking areas for all commercial and manufacturing land uses.															x
Fowler	Circ	P	5.5	3	Anticipate parking needs at proposed and expected activity centers, particularly downtown.															x
Fowler	Circ	G	5.6	N/A	Provide landscaping to improve the aesthetics of transportation system routes.								x							
Fowler	Circ	P	5.6	1	Encourage Caltrans to install and maintain landscaping and other mitigation elements along SR 99 especially adjacent to residential or other noise sensitive uses.															x
Fowler	Circ	P	5.6	2	Encourage the use of drought-tolerant native plants and the use of recycled water for roadway landscaping.								x							
Fowler	Circ	P	5.6	3	Require parking areas of all commercial and industrial land uses that abut residential areas to be buffered and shielded by adequate landscaping.															x
Fowler	Circ	G	5.7	N/A	Provide access (driveways, local streets, and private roads) to the City's street and highway system to reduce conflicts that can result from pedestrian traffic and motorized traffic.															x
Fowler	Circ	P	5.7	1	Limit access points and intersections of streets and highways based on the road's General Plan classification and function. Access points must be located a sufficient distance away from major intersections to allow for safe, efficient operation.															x
Fowler	Circ	P	5.7	2	Require that the automobile and truck access of commercial and industrial land uses abutting residential parcels be located at the maximum practical distance from the nearest residential parcels to minimize noise impacts.															x
Fowler	Circ	G	5.8	N/A	Provide a transportation system that is integrated with adjacent jurisdictions.											x				
Fowler	Circ	P	5.8	1	Continue to support Golden State Boulevard as a secondary route connecting the Kingsburg-Selma-Fowler corridor.															x
Fowler	Circ	P	5.8	2	Cooperate with adjacent communities and Fresno County to improve the principal gateways to Fowler (Golden State Boulevard, Manning, Adams, and Fowler) to facilitate the movement of traffic into and out of the City.											x	x			
Fowler	Circ	P	5.8	3	Coordinate local transportation planning with preparation of the Fresno County Regional Transportation Plan (RTP) to ensure eligibility for state and federal funding. The RTP and the Fresno County Short- and Long-Range Transit Plans are incorporated by reference in the Circulation Element.	x										x				
Fowler	Circ	P	5.8	4	Encourage the active participation of Caltrans in the design of highway capital improvement projects.											x				

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Fowler	Circ	P	5.8	5	Collaborate with Fresno County to integrate right-of-way and improvement standards for roads that cross jurisdictional boundaries. For development outside the City's boundaries, but within the Sphere of Influence, City and County staff will cooperate and agree on reasonable design standards and negotiate logical transitions from City to County Standards. In general, for such development under County jurisdiction but within the Sphere of Influence, City Standards should apply if annexation would logically occur in the short to intermediate range. Where annexation seems doubtful in the long-term, County Standards should apply.								x			x				
Fowler	Circ	G	5.9	N/A	Ensure that the future transportation system is financially supported and can be adequately maintained.	x														
Fowler	Circ	P	5.9	1	Distribute the costs of transportation system improvements equitably among those who will benefit.	x														
Fowler	Circ	P	5.9	2	Use annexations, development agreements, revenue sharing agreements, tax allocation agreements and the CEQA process as tools to ensure that new development pays a fair share of costs to provide local and regional transportation improvements and to mitigate cumulative traffic impacts.															x
Fowler	Circ	P	5.9	3	Prepare a Capital Improvement Program (CIP) that establishes improvement priorities and scheduling for transportation project construction over a period of 5 to 7 years that will be reviewed and updated annually.	x														
Fowler	Circ	P	5.9	4	Participate in the establishment of regional traffic mitigation fees and/or benefit districts to be assessed on new development. The fees shall cover a reasonable share of the costs of providing local and subregional transportation improvements needed for serving new development.	x														
Fowler	Circ	P	5.9	5	Seek all available means to finance improvements, including State and Federal grants, to ensure that a non-motorized system is implemented.	x	x													
Fowler	Circ	G	5.10	N/A	Encourage the use of public/mass transportation services to reduce reliance on the automobile.			x												
Fowler	Circ	P	5.10	1	Encourage transit alternatives to meet the basic transportation needs of the young, the elderly, the disabled, and people without access to an automobile. a) Maintain opportunities for a transit center within the City where alternative transit modes would connect. b) Encourage and provide for ride sharing, park and ride, and other similar energy saving and air emission reduction programs.			x			x									
Fowler	Circ	P	5.10	2	Planning and development of arterial and collector streets shall include design features where appropriate that can be used as future public transit stops.			x					x							
Fowler	Circ	P	5.10	3	Support the expansion and improvement of transit systems and ride sharing programs to reduce the production of automobile emissions.			x												
Fowler	Circ	P	5.10	4	Support the use of alternate fuel vehicles and fueling stations for City and County vehicles and public transit vehicles.															x
Fowler	Circ	P	5.10	5	Support transit operators' programs to increase transit usage.			x								x				

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Fowler	Circ	P	5.10	6	Support all operator efforts to maximize revenue sources for short and long range transit needs that utilize all funding mechanisms available including federal grants, state enabling legislation, and farebox revenue. This can be accomplished through Fresno COG and the Fresno County Rural Transit Agency (FCRTA) through the development of the Short and Long Range Transit Plans.	x										x				
Fowler	Circ	P	5.10	7	Support programs developed by transit agencies/operators to provide paratransit service.															x
Fowler	Circ	P	5.10	8	Incorporate the potential for public transit service in the design of major trip attractors (i.e. community centers and employment centers).															x
Fowler	Circ	P	5.10	9	Support continued improvements to AMTRAK rail passenger service within Fresno County and throughout the San Joaquin Valley.															x
Fowler	Circ	G	5.11	N/A	Provide efficient goods movement through proposed rail facilities, the designation of truck routes and the provision of grade separations to reduce rail/roadway conflicts.								x				x			
Fowler	Circ	P	5.11	1	Encourage the efficient movement of goods and people by rail through a shift of a portion of the goods previously moved by trucks onto the rail freight system.															x
Fowler	Circ	P	5.11	2	Implement street and highway projects to provide convenient and economical goods movement in areas with large concentrations of truck traffic.												x			
Fowler	Circ	P	5.11	3	Identify street and highway improvement and maintenance projects that will improve goods movement and implement projects that are economically feasible.												x			
Fowler	Circ	G	5.12	N/A	Provide facilities for non-motorized modes of transportation that enhance the livability and character of the City.		x						x							
Fowler	Circ	P	5.12	1	Use the following definitions in designating a bikeways plan: a) Bike Path (Class I). A pathway for the exclusive use of bicycles separated from motor vehicle facilities by space or a barrier, identified by signing and pavement markings. b) Bike Lane (Class II). A signed, striped lane on a roadway for use by bicycles, usually located on the edge of the pavement or between the parking lane and the first motor vehicle lane. c) Bike Route (Class III). A recommended route for bicycles that is signed but not striped. d) Bikeway. All facilities that provide for bicycles. The planned bikeway system is shown on Figure 5-3.		x						x							
Fowler	Circ	P	5.12	2	Give priority to bikeways that will serve the highest concentration of cyclists and destination areas of highest demand.		x													
Fowler	Circ	P	5.12	3	Provide bikeways in proximity to major traffic generators such as commercial centers, schools, recreational areas, and major public facilities.		x				x									
Fowler	Circ	P	5.12	4	Develop a visually clear, simple, and consistent bicycle system with standard signs and markings, as designated by the State of California Traffic Control Devices Committee and the State Bikeway Committee.		x						x							
Fowler	Circ	P	5.12	5	Support installation of bike parking at public and private places of assembly such as parks, schools, office buildings, churches, and retail commercial developments.		x				x				x					
Fowler	Circ	P	5.12	6	Amend the zoning ordinance to include provisions for bicycle parking facilities in off-street parking requirements.		x													

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Fowler	Circ	P	5.12	7	Develop a comprehensive bikeway system as an incentive for increased bicycle use. Give priority to bike routes that link local routes with planned regional facilities.		x				x									
Fowler	Circ	P	5.12	8	Provide non-motorized alternatives for commuter travel as well as recreational opportunities.		x													
Fowler	Circ	P	5.12	9	Develop a multi-purpose recreational bikeway network and support facilities.		x				x									
Fowler	Circ	P	5.12	10	Provide separate rights-of-way for non-motorized facilities whenever economically and physically feasible.		x								x					
Fowler	Circ	P	5.12	11	Develop bikeways in compliance with standards in the Caltrans Highway Design Manual or other appropriate standards.		x						x							
Fowler	Circ	G	5.13	N/A	Design, construct, and operate the transportation system in a manner that maintains a high level of environmental quality.								x							
Fowler	Circ	P	5.13	1	Control dust and mitigate other environmental impacts during all stages of roadway construction.															x
Fowler	Circ	P	5.13	2	Protect City residents from transportation generated noise. Increased setbacks, walls, landscaped berms, other sound-absorbing barriers, or a combination thereof shall be provided along major roadways where appropriate in order to protect adjacent noise-sensitive land uses from traffic-generated noise impacts. Additionally, noise generators such as commercial or industrial activities shall use these techniques to mitigate exterior noise levels .								x							
Fowler	Circ	P	5.13	3	Review and monitor proposals for expansion of pipelines for the transport of suitable products and materials, and require mitigation of environmental impacts. In particular, require mitigation of the potential for hazardous chemical or gas leakage and explosion.															x
Fowler	Circ	P	5.13	4	Encourage the use of non-polluting vehicles for both public and private uses.															x
Fowler	Circ	P	5.13	5	Include noise mitigation measures in the design of new roadway projects.								x							
Fowler	Circ	G	5.14	N/A	Support the use of Transportation Demand Management (TDM) strategies to reduce dependence on the single-occupant vehicle, increase the ability of the existing transportation system to carry more people, and enhance mobility along congested corridors.		x	x					x				x			
Fowler	Circ	P	5.14	1	New development shall consider Transportation System Management and Transportation Demand Management as strategies for the mitigation of traffic and parking congestion. Public transit, traffic management, ride sharing and parking management are to be used to the greatest extent practical to implement transportation management strategies.															x
Fowler	Circ	P	5.14	2	Coordinate with Caltrans, Fresno COG, transit agencies and other responsible agencies to identify the need for additional park-n-ride facilities along major commuter travel corridors.											x				
Fowler	Circ	G	5.15	N/A	Utilize Intelligent Transportation Systems (ITS) to improve the safety and performance of the surface transportation system using new technology in detection, communication, computing, and traffic control.								x							
Fowler	Circ	P	5.15	1	Encourage the integration of Intelligent Transportation Systems (ITS) consistent with the principles and recommendations referenced in the Fresno County ITS Strategic Plan as the transportation system is implemented.								x			x				
Fowler	LU	P	N/A	4.4.7	Ensure that all commercial uses contribute to the resolution of traffic and parking impacts created by additional traffic demands generated by those businesses.															x
Fowler	LU	P	N/A	4.4.8	Encourage the upgrading, beautifying and revitalization of existing strip commercial areas and shopping centers.															x

EASTSIDE TRANSPORTATION CORRIDOR IMPROVEMENT STUDY

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North Kingsburg	Specific Plan	O	5.B	N/A	Implement a diversified multi-modal transportation system between North Kingsburg and activity centers of the community, including schools, the Central Business District, the City's principal highway commercial area centering on the Sierra Street interchange with Freeway 99, and principal employment areas along the Industrial Corridor.			x												
North Kingsburg	Specific Plan	O	7.A	N/A	Provide a safe and efficient circulation system that will accommodate necessary motorized vehicular trips but which emphasizes the ease and convenience of pedestrian and bicycle travel and public transit.		x	x				x								
North Kingsburg	Specific Plan	O	7.B	N/A	Participate in planning for circulation and/or transportation improvements that benefit surrounding communities and the San Joaquin Valley region.											x				
Orange Cove	Circ	G	1	I	Ensure that streets in Orange Cove are not congested.													x		
Orange Cove	Circ	G	1	II	Ensure that traffic on Orange Cove's streets operates in an efficient and safe manner.							x					x	x		
Orange Cove	Circ	G	1	III	Provide for long-term financing for street construction and maintenance.	x														
Orange Cove	Circ	P	1	1	A level of service C will be the desirable minimum service level in Orange Cove at which arterial and collector segments will operate. A level of service of B will be the desirable minimum service level in Orange Cove at which intersections will operate.												x	x		
Orange Cove	Circ	IM	1	1.a	The City will program into its 5-year capital budget street improvements that will ensure the specified LOS is not exceeded in the city limits. Funds for these street improvement projects will come from gas tax and transportation funds.															x
Orange Cove	Circ	IM	1	1.b	The City shall develop a traffic impact fee for new development in Orange Cove. This fee shall be consistent with the requirements of AB 1600.															x
Orange Cove	Circ	P	1	2	Land use projects which generate large amounts of traffic shall be precluded from channeling traffic onto local roadways.															x
Orange Cove	Circ	IM	1	2.a	The Planning Department shall recommend denial of discretionary land use projects to the Planning Commission and City Council that are inconsistent with this policy.															x
Orange Cove	Circ	G	2	I	Provide an arterial road system that conveys traffic in an efficient and safe manner.							x								
Orange Cove	Circ	G	2	II	Arterials should be visually pleasing, and designed to accommodate other modes of transportation, such as bicycles and pedestrians.		x						x							
Orange Cove	Circ	P	2	1	Study reconficturing Anchor and South Avenues to provide a landscaped median, left-turn lanes and bike lanes.															x
Orange Cove	Circ	IM	2	1.a	The City should contract with a traffic consultant to prepare preliminary road design for these two roadways.															x
Orange Cove	Circ	IM	2	1.b	The City should seek state or federal funds to construct improvements along these roadways, including medians, signalization and left-turn pockets.															x
Orange Cove	Circ	IM	2	1.c	The City shall establish a landscaped median development impact fee for new development. This fee shall be consistent with the requirements of AB 1600.															x
Orange Cove	Circ	IM	2	1.d	Arterial roadways will be constructed consistent, where possible, with street cross-section illustrations contained in Figure 1.								x							
Orange Cove	Circ	P	2	2	Driveways that intersect with arterials should be kept to a minimum and, if possible, should be reduced or eliminated when redevelopment occurs along an arterial roadway.															x
Orange Cove	Circ	IM	2	2.a	Through the site plan review process, the Planning and Engineering Departments will discourage development designs that create this condition.															x
Orange Cove	Circ	P	2	3	Left turn lanes shall be constructed on arterials where they intersect with other arterials or collectors.								x							
Orange Cove	Circ	IM	2	3.a	The City Engineer and Public Works Department will coordinate to ensure that left turn lanes are installed as development occurs. For already-developed neighborhoods, the proposed ciruclation impact fee should be set to fund installation of left turn lanes.															x

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Orange Cove	Circ	P	2	4	Curbing at the intersections of arterial and collector streets should be painted red at least 50 feet in all diretions from the corner curb radius in order to provide sufficient sight-line for traffic pulling into the intersection.															x
Orange Cove	Circ	IM	2	4.a	The Public Works Department will ensure that curbing is properly painted.															x
Orange Cove	Circ	G	3	I	Provide efficient and safe circulation access to all parts of Orange Cove.							x					x			
Orange Cove	Circ	P	3	I.1	Driveways that intersect with collectors should be kept to a minimum and, if possible, should be reduced when redevelopment occurs along this type of roadway.															x
Orange Cove	Circ	IM	3	I.1.a	Through the site plan review process, the Planning and Engineering Departments will discourage development designs that create this condition.															x
Orange Cove	Circ	P	3	I.2	Left turn lanes shall be constructed on collectors where they intersect with other arterials or collectors.															x
Orange Cove	Circ	IM	3	I.2.a	Through the site plan review process, the Planning and Engineering Departments will require this design feature.															x
Orange Cove	Circ	P	3	I.3	Curbing at the intersections of arterial and collector streets should be painted red at least 50 feet in all diretions from the corner curb radius in order to provide sufficient sight-line for traffic pulling into the intersection.							x	x							
Orange Cove	Circ	IM	3	I.3.a	The Public Works Department will identify which curbs at the aforementioned intersections should be red-curbed.															x
Orange Cove	Circ	P	3	I.4	Where possible, major collector roadways should contain sufficient right-of-way for two travel lanes, two bike lanes, two parking lanes and a median/turn lane; and minor collectors should have sufficient right-of-way for two travel lanes, two parking lanes, two 6-foot parkways, and two 4 1/2-foot sidewalks.		x						x							
Orange Cove	Circ	IM	3	I.4.a	Major and minor collector roadways will be constructed consistent with street cross-section illustrations contained in Figure 1 of the Circulation Element.		x						x							
Orange Cove	Circ	P	3	I.5	All street improvement projects, including widening, closing, or constructing new roadways, will be reviewed by the Planning and Engineering Departments to confirm that the project is consistent with the Circulation Element.															x
Orange Cove	Circ	IM	3	I.5.a	The Planning and Engineering Departments will review development projects to determine consistency with the Circulation Element during site plan and subdivision review.															x
Orange Cove	Circ	G	3	II	Provide a collector system that encourages truck traffic but not at the expense of the community or adjacent neighborhoods.															x
Orange Cove	Circ	P	3	II.1	Designate a system of truck routes in Orange Cove that minimizes negative impacts on sensitive land uses and neighborhoods.															x
Orange Cove	Circ	IM	3	II.1.a	The Circulation Map designates truck routes.															x
Orange Cove	Circ	G	4	I	Revise local street standards to ensure residential streets are safe and effective.															x
Orange Cove	Circ	G	4	II	Require subdivision designs that utilize grid street patterns, reserving cul-de-sacs only where necessary.															x
Orange Cove	Circ	P	4	1	Single family residential subdivisions may have local streets that have a minimum right-of-way width of 56 feet, 32 feet paved width. Tree-line parkways shall be installed in this right-of-way. The parkway shall have a width of 7 feet; the sidewalk 5 feet (see Figure 1).															x
Orange Cove	Circ	P	4	2	Single family residential subdivisions with streets on blocks shorter than 600 feet may have a minimum right-of-way width of 52 feet, 28 feet paved width. Tree-line parkways shall be installed in this right-of-way. The parkway shall have a width of 7 feet; the sidewalk 5 feet (see Figure 1).															x

EASTSIDE TRANSPORTATION CORRIDOR IMPROVEMENT STUDY

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Orange Cove	Circ	P	4	3	Subdivisions shall be designed to maxmuze connectivity, favoring grid street patterns over cul- de-sac heavy street patterns. The use of cul-de-sacs shall be kept to a minimum unless needed to allow more efficient utilization of oddly shaped or "leftover" portions of the parent subdivision parcel. These design goals are expressed in the following design standards															x
Orange Cove	Circ	IM	4	3.a	Subdivisions shall be designed to maximize connectivity between the subdivision and surrounding developments.															x
Orange Cove	Circ	IM	4	3.b	To the extent practical, road layouts shall use a grid pattern which maximize the number of connections to the surrounding collector roadway system.															x
Orange Cove	Circ	P	4	4	Alleys are permitted within residential subdivisions. Alleys shall have a rights-of-way of 24 feet and a paved width of 20 feet. A concrete vee gutter is required in the middle of the alley. The non-paved portion of the right-of-way shall be landscaped and provided with irrigation. Garbage pickup shall not be permitted in the alleys.															x
Orange Cove	Circ	G	5	I	Ensure that busy intersections are properly designed, thereby ensuring safe and effective traffic maneuvers.							x	x							
Orange Cove	Circ	G	5	II	Seek innovative methods of controlling traffic at busy intersections within the Orange Cove planning area.								x							
Orange Cove	Circ	P	5	1	The following intersection improvements are designated: *Park Boulevard/Anchor Avenue* - It is recommended that this intersection be converted from a two-way stop controlled intersection to an all-way stop controlled intersection. The resultant LOS is anticipated to improve to "B" with 10.9 seconds delay during the AM peak hour and LOS "B" with 12.7 seconds delay during the PM peak hour. *Park Boulevard / Center Street* - It is recommended that this intersection be widened to accommodate an additional through lane on the westbound approach. At the eastbound approach, the right tum lane should be mod.ified to be a shared through-right lane. Based upon field review by OMNI-MEANS, adequate right-of-way exists to widen eastbound and westbound interesction approaches. The resultant LOS would improve to "C" with 15.4 seconds delay during the PM peak hour. *South Avenue / Anchor Avenue* - It is recommended that the eastbound approach at the intersection be widened to accommodate a dedicated left tum lane and a shared through-right lane. The resultant LOS is forecasted to improve to "C" with 18.6 seconds delay during the PM peak hour.															x
Orange Cove	Circ	P	5	2	The City shall adopt a development impact fee that finances the proper design of intersections.															x
Orange Cove	Circ	IM	5	2.a	The Engineering and Planning Departments will prepare the design plan for these roundabouts.															x
Orange Cove	Circ	IM	5	2.b	The City will calculate and implement development impact fees that are consistent with the Circulation Element map and Assembly Bill 1600 (legislation that requires a nexus, or connection, between the fee being required and the improvement to be installed).															x
Orange Cove	Circ	P	5	3	The City should consider allowing roundabouts within new development.								x							
Orange Cove	Circ	IM	5	3.a	The Engineering and Planning Departments will prepare the design plan for these roundabouts.															x
Orange Cove	Circ	IM	5	3.b	The City shall seek public input in regards to the interior treatment of the roundabouts.								x							

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Orange Cove	Circ	G	6	I	Establish truck routes through Orange Cove that are safe and not disruptive to residential neighborhoods, schools and businesses.															x
Orange Cove	Circ	G	6	II	Facilitate the movement of truck traffic through and around Orange Cove.															x
Orange Cove	Circ	P	6	1	Identify truck routes on the Orange Cove Circulation Element map.															x
Orange Cove	Circ	P	6	2	Prohibit through-truck traffic on streets that are not identified as truck routes.															x
Orange Cove	Circ	IM	6	2.a	Direct truck traffic away from residential areas and other sensitive land uses.															x
Orange Cove	Circ	IM	6	2.b	The Public Works Department shall install truck route signage.															x
Orange Cove	Circ	IM	6	2.c	Consider using county roads to divert truck traffic through or around Orange Cove to avoid sensitive land uses.															x
Orange Cove	Circ	G	7	I	Provide adequate public parking in the downtown.															x
Orange Cove	Circ	G	7	II	Insure that adequate off-street parking is provided by new development.															x
Orange Cove	Circ	G	7	III	Encourage the joint use of parking lots.															x
Orange Cove	Circ	G	7	IV	Design parking lots that are safe, visually pleasing and convenient.															x
Orange Cove	Circ	P	7	1	Off-street parking in the downtown shall be located on the side or at the rear of the building(s).															x
Orange Cove	Circ	P	7	2	Parking lots for new uses shall include landscaping, proper lighting and shall be properly designed to insure maneuverability of vehicles and pedestrians.															x
Orange Cove	Circ	IM	7	2.a	Through the site plan review process, the Planning and Engineering Departments will ensure that the design of new parking lots contain these features.															x
Orange Cove	Circ	IM	7	2.b	The Zoning Ordinance shall be amended to include parking lot design standards, including a requirement for 50 percent shading within a ten-year time frame. Rows of parking stalls shall be interrupted with tree planters.															x
Orange Cove	Circ	IM	7	2.c	Pedestrian pathways through parking lots shall be clearly delineated using improvements such as landscaping, lighting, trellises and special pavement material, such as textured/colored concrete.															x
Orange Cove	Circ	P	7	3	Parking lots located adjacent to land designated for residential use shall be separated by a 6-foot block wall, which is landscaped with shrubs, trees or vines. Parking lots adjacent to streets shall be separated by a low wall or berm, which is landscaped on both sides.															x
Orange Cove	Circ	P	7	4	New parking lots along Park Boulevard should be designed so that the parking lot does not occupy the entire frontage of the site.															x
Orange Cove	Circ	IM	7	4.a	Through the site plan review process, the Planning Department will insure that the design of new parking lots will be consistent with this policy.															x
Orange Cove	Circ	P	7	5	The City and/or the Orange Cove Redevelopment Agency may consider the purchase of land in the downtown for use as a public parking lot.															x
Orange Cove	Circ	G	8	I	Encourage persons to ride bikes for good health as well as for environmental reasons.		x													
Orange Cove	Circ	G	8	II	Ensure that Orange Cove's bikepath system is consistent with the Fresno County Regional Bicycle Transportation Plan.						x									
Orange Cove	Circ	G	8	III	Encourage residents to walk in Orange Cove.		x													
Orange Cove	Circ	P	8	1	Develop a bike path plan for the City of Orange Cove.		x													
Orange Cove	Circ	IM	8	1.a	Design the Plan so that some of the bike path segments are not along surface streets but along the railroad right-of-way, parks and ditch easements.															x
Orange Cove	Circ	IM	8	1.b	Apply for state and federal funds to finance the construction of the bikepath system.	x	x													
Orange Cove	Circ	IM	8	1.c	Ensure that subdivisions are designed so that persons riding bikes can access adjacent properties from the neighborhood.															x
Orange Cove	Circ	IM	8	1.d	Work with the County of Fresno to ensure that Orange Cove's Plan is linked to the County's regional bikeway network.		x				x					x				

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Orange Cove	Circ	IM	8	1.e	Consider implementing traffic calming designs where bike paths cross surface streets.		x					x	x	x						
Orange Cove	Circ	IM	8	1.f	Bikepaths will be constructed consistent with the bikepath cross-section illustrated in Appendix A of the Circulation Element.								x							
Orange Cove	Circ	P	8	2	Provide safe and convenient pedestrian access to all areas of the city, including between neighborhoods.		x					x								
Orange Cove	Circ	IM	8	2.a	Maintain and repair sidewalks to make them safe for pedestrians.		x					x								
Orange Cove	Circ	IM	8	2.b	Plant existing parkways that lack trees to make the walking experience more enjoyable.		x						x							
Orange Cove	Circ	IM	8	2.c	Provide signage for walking paths.		x						x							
Orange Cove	Circ	IM	8	2.d	Investigate the use of ditch easements for walking paths.															x
Orange Cove	Circ	P	8	3	Establish a walking and bicycling trail within the railroad right-of-way.															x
Orange Cove	Circ	IM	8	3.a	Pursue grant funds to purchase the right of way and construct a landscaped pathway.															x
Orange Cove	Circ	G	9	I	Ensure that children have safe walking and bicycling routes to school.		x					x								
Orange Cove	Circ	P	9	1	Require new development to install sidewalks.															x
Orange Cove	Circ	IM	9	1.a	The City Planner and City Engineer will ensure that sidewalks are installed as a requirement of development.		x				x									
Orange Cove	Circ	P	9	2	Seek funding to establish sidewalks in existing neighborhoods without them.															x
Orange Cove	Circ	IM	9	2.a	The City should seek grant monies to establish sidewalks in critical locations.															x
Orange Cove	Circ	P	9	3	Coordinate with Kings Canyon Unified School District to establish sidewalks along their campuses.															x
Orange Cove	Circ	IM	9	3.a	The City Administrator will work with KCUSD to ensure sidewalks are established around school campuses.															x
Orange Cove	Circ	G	10	I	Promote alternative modes of transportation, including bicycles, buses, trains and walking.		x	x												
Orange Cove	Circ	G	10	II	Reduce automobile use by improving transit service and encouraging transit use.			x												
Orange Cove	Circ	P	10	1	Facilitate the provision of convenient, frequent, dependable and efficient scheduled transit for Orange Cove residents.			x												
Orange Cove	Circ	IM	10	1.a	New developments adjacent to arterial or collector streets shall include bus loading zones at appropriate locations.															x
Orange Cove	Circ	IM	10	1.b	All arterial streets shall be designed to accommodate buses and bus loading zones.			x					x							
Orange Cove	Circ	IM	10	1.c	Improve transit line coverage and frequency throughout Orange Cove and to adjacent cities, with particular emphasis on service to the downtown, employment centers, and social services.			x			x									
Orange Cove	Circ	IM	10	1.d	Undertake the following transit improvement program recommended by Omni-Means in the box to the right.			x												
Orange Cove	Circ	G	11	I	Overly wide streets in Orange Cove should be considered for a tree-lined median or tree-lined parkway.															x
Orange Cove	Circ	G	11	II	The downtown area should be planted with street trees that provide shade, color and beauty.															x
Orange Cove	Circ	P	11	1	The City shall have prepared a streetscape design plan that will establish a 20-year improvement program for the construction of landscaped medians for specific roadways in Orange Cove. This Plan should include details for lighting, landscaping and signing.															x
Orange Cove	Circ	IM	11	1.a	The Engineering and Planning Departments will prepare the streetscape design plan. Funds will come from tax increment, gas tax, transportation funds and the state grant programs.															x

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Orange Cove	Circ	IM	11	1.b	The City shall apply for urban forestry grants to assist in the funding of constructing landscaped medians.															x
Orange Cove	Circ	P	11	2	Existing parkways that do not contain trees should be planted with trees.															x
Orange Cove	Circ	IM	11	2.a	The City should apply for an urban forestry grant to pay for the cost of installing street trees.															x
Orange Cove	Circ	P	11	3	Parkways with trees that have broken or lifted adjacent sidewalk shall be removed and replaced with more appropriate street trees.															x
Orange Cove	Circ	P	11	4	Parkways that have been filled with pavement shall be opened up and planted with appropriate street trees.															x
Orange Cove	LU	P	3	III.2	Encourage residential developments and adjacent land uses to be pedestrian-oriented.															x
Orange Cove	LU	IM	3	III.2.a	All residential developments with walls should provide openings for pedestrian and bike traffic.		x													x
Orange Cove	LU	IM	3	III.2.b	Land uses adjacent to residential developments should provide for pedestrian access between the two types of developments.		x													x
Orange Cove	LU	G	4	III	Encourage commercial develoment to be pedestrian-oriented.		x													x
Orange Cove	LU	P	4	III.1	Through design, require new commercial development to be accessible by the walking public.		x													x
Orange Cove	LU	IM	4	III.1.a	During Orange Cove's site plan review process the city will insure that the design of the commercial development will be pedestrian- oriented. The previously-mentioned design guidelines will provide examples of good pedestrian oriented design.		x													x
Parlier	Circ	O	5.9.A	N/A	Develop a circulation network of local roads, collectors, and arterials that will meet projected traffic needs.												x			
Parlier	Circ	P	5.9.A	1	Designate streets according to the following functional classifications: a. Arterials serve as the principal network for cross-town traffic flow. They connect areas of major traffic generation within the urban area and connect with important county roads and state highways. They also provide for the distribution and collection of through traffic to and from collector and local streets. b. Collectors provide for traffic movement between arterial and local streets, traffic movement within and between neighborhoods and major activity centers, and limited direct access to abutting properties. c. Local streets provide for direct access to abutting properties and for very localized traffic movements within residential, commercial and industrial areas.															x

EASTSIDE TRANSPORTATION IMPROVEMENT CORRIDOR STUDY

Jurisdiction	Element	G/O/P/IM	G/O#	P #	Goal/Policy/Program Language	Funding	Active Transport (bike/ped)	Multi-modal (public transit/connections to active transport)	Road Diets	Complete Streets	Connected Network	Safety	Design	Traffic Calming	Development	Regional/Interagency Support	Traffic Flow	Auto Priority	Road Expansion	N/A
Parlier	Circ	P	5.9.A	2	Apply consistent standards for new street development, based on traffic carrying capacity and classification. a. Arterials shall be developed with a minimum right-of-way of 106 feet, to include four travel lanes, parking, and a center median (raised or painted). b. Collectors are designed to have an 80-foot right-of-way width which allows four lanes undivided with parking, or two lanes with a two-way continuous left turn center lane. c. Local streets shall have a minimum 60-foot right-of-way which allows two travel lanes and parking. The right-of-way may be modified to 50 feet if a local street is a non-through street or cul-de-sac. Modified nonstandard streets require approval of the City.								x							
Parlier	Circ	P	5.9.A	3	Designated streets and recommended rights-of-way are: [see Table 5.2 for recommended widths for arterials and colletors]								x							
Parlier	Circ	P	5.9.A	4	Standards for new street development can be altered or refined through the specific plan or planned unit development process where it can be demonstrated that projected traffic flows can be accommodated.												x	x		
Parlier	Circ	P	5.9.A	5	Encourage a Level of Service "C" throughout the circulation network with a Level of Service "D" at major intersections during the P.M. peak hour as defined in the Highway Capacity Manual. These levels represent stable operating conditions; occasionally, backups may develop at signals or behind turning vehicles. The Level of Service could be adjusted on specific roadways or intersections where overriding social or economic benefits to the city can be identified.													x		
Parlier	Circ	P	5.9.A	6	Make intersection improvements to the existing major street system selectively through traffic engineering solutions rather than major structural improvements. This could include signalization, intersection channelization, use of directional signs, and diversion of traffic onto under utilized streets.								x							
Parlier	Circ	P	5.9.A	7	Designate truck routes for use by heavy commercial and industrial traffic. a. Designated truck routes shall be: Academy, Manning, Mendocino, Newmark, and Zediker.															x
Parlier	Circ	O	5.9.B	N/A	Protect rights-of-way for future street development by establishing street dedication requirements. Such method should minimize adverse impacts on adjacent properties and avoid imposition of street improvement requirements significantly in advance of need.															x
Parlier	Circ	P	5.9.B	1	Establish official plan lines for all arterial and collector streets included in the Circulation Element of the General Plan.															x
Parlier	Circ	P	5.9.B	2	Delay street improvement requirements resulting from the granting of an entitlement for properties located on arterial or collector streets where the official plan line indicates delay of ultimate street improvements is appropriate.															x
Parlier	Circ	O	5.9.C	N/A	Maximize the use of site planning techniques to improve traffic safety.															x

EASTSIDE TRANSPORTATION IMPROVEMENT CORRIDOR STUDY

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Parlier	Circ	P	5.9.C	1	Require residential developments along arterials to back-on to such streets (with ornamental fencing, landscaping and waiver of access), or provide frontage roads with limited points of access to the street. "Daylighted" cul-de-sacs for pedestrian access are also encouraged.															x
Parlier	Circ	P	5.9.C	2	Discourage direct access to collector streets from residential areas except where physical circumstances do not allow other design solutions.															x
Parlier	Circ	P	5.9.C	3	Permit design standards for local streets to reduce right-of-way width and paving where innovative approaches to street design are proposed within a planned unit development.															x
Parlier	Circ	P	5.9.C	4	Project design shall reflect options for reducing through traffic on local streets, and for reducing the number of intersections with collectors and arterials.															x
Parlier	Circ	P	5.9.C	5	Develop non-continuous street patterns for interior streets within new subdivisions to protect neighborhoods from the intrusion of through traffic.															x
Parlier	Circ	P	5.9.C	6	Driveway access to major activity centers, including multifamily development should be located no closer than 200 feet to the intersection of a collector or arterial street.															x
Parlier	Circ	P	5.9.C	7	The distance between commercial driveways on arterial streets should be not less than 400 feet. Where practical and desirable, commercial driveways should be located on adjacent collector streets rather than on arterial streets.															x
Parlier	Circ	P	5.9.C	8	If parcel size demands and shared access is not available, commercial driveways may be located not less than 50 feet from an intersection of an arterial or collector provided that the driveway is not served by a median break.															x
Parlier	Circ	P	5.9.C	9	Existing points of ingress and egress shall be consolidated whenever possible. Driveway consolidation for new development shall be encouraged through access agreements along arterials.															x
Parlier	Circ	P	5.9.C	10	Ingress and egress to shopping centers should minimize left-turn movements into and out of parking or loading areas.								x							
Parlier	Circ	P	5.9.C	11	Where possible, intersections shall be four-leg, right angles; jogs, offset and skewed intersections in near proximity shall be avoided.								x							
Parlier	Circ	P	5.9.C	12	The City reserves the right to reduce the ultimate right-of-way for arterials and collectors to avoid disrupting existing development by constructing a travelway which generally meets the street classification standards.								x							
Parlier	Circ	P	5.9.C	13	Adjacent parking areas for large commercial and industrial developments should be designed to allow interconnection and flow of traffic between these facilities. Access easements and agreements should be obtained during the development process.															x
Parlier	Circ	P	5.9.C	14	Traffic signals should be placed no closer than 1/4 mile intervals on arterials and collectors unless conditions warrant additional signalization to improve traffic flow.								x							
Parlier	Circ	O	5.10.A	N/A	Coordinate regional transportation planning opportunities.											x				
Parlier	Circ	P	5.10.A	1	Continue to support Academy Avenue as the preferred route for the "Fresno County Southeast Corridor" connecting Highway 99 with Highway 180.						x									
Parlier	Circ	P	5.10.A	2	Cooperate with adjacent communities and Fresno County to improve the principal gateways to Parlier (Manning, Academy, Mendocino) to facilitate the movement of traffic into and out of the City.											x	x	x		
Parlier	Circ	P	5.10.A	3	Coordinate local transportation planning with the Fresno County Congestion Management Plan to ensure eligibility for state and federal funding.	x										x				

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Parlier	Circ	P	5.10.A	4	Reserve the right-of-way of the abandoned Visalia Subdivision Branchline Railroad for pedestrian, bicycle and mass transit alternatives. Should Fresno County and the Council of Fresno County Governments determine that the railroad right-of-way is not to be reserved in unincorporated areas outside the City; the right-of-way within Parlier shall be returned to adjacent property owners.															x
Parlier	Circ	P	5.10.A	5	Work with Caltrans and the cities of Fowler, Selma, Reedley, and Orange Cove to address necessary improvements on Manning Avenue, general circulation issues in this corridor and impacts on and mitigation for the Manning Avenue/State Route 99 interchange.						x		x			x				
Parlier	Circ	O	5.11.A	N/A	Promote the use of alternative modes of transportation to reduce dependence on the private automobile and reduce air emissions.		x	x												
Parlier	Circ	P	5.11.A	1	Encourage transit alternatives to meet the basic transportation needs of the young, the elderly, the handicapped, and people without access to an automobile. a. Maintain opportunities for a transit center within the City where alternative transit modes would connect. b. Encourage and provide for ride sharing, park and ride, and other similar commuter energy savings programs.			x												
Parlier	Circ	P	5.11.A	2	Provide a safe walking environment for pedestrians. a. Subdivision layouts should include safe and pleasant designs which promote pedestrian access to arterials and collectors and consider the location of community services, such as schools, parks and neighborhood shopping activity centers in the accessibility of their design for all persons. b. Require the installation of sidewalks as an integral part of all street construction. c. Require street lighting within the rights-of-way of all public streets. d. Include pedestrian signal indications as an integral part of the installation of traffic signals.		x					x	x		x					
Parlier	Circ	P	5.11.A	3	Promote the growth of private airports to meet the local demands for commuter and charter air passenger service, special haul air freight service, and agricultural crop development services. a. Support the maintenance and expansion of existing private airports in the vicinity of Parlier. b. Seek local development of new industries which would increase demand for airport services.															x
Parlier	Circ	P	5.11.A	4	New development shall consider Transportation System Management and Transportation Demand Management as strategies for the mitigation of traffic and parking congestion. Public transit, traffic management, ride sharing and parking management are to be used to the greatest extent practical to implement transportation management strategies.			x												

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Parlier	Circ	P	5.11.A	5	Planning and development of arterial and collector streets shall include design features which can be used a future public transit stops.			x					x							
Parlier	Circ	P	5.11.A	6	Coordination of other social service transit providers including schools, mental health services, and others should be recognized in the planning of the circulation system.			x												
Parlier	Circ	P	5.11.A	7	Support coordination with other cities, counties and planning agencies concerning land use, jobs/housing balance and transportation planning as a means of improving air quality.											x				
Parlier	Circ	P	5.11.A	8	Support the expansion and improvement of transit systems and ride sharing programs to reduce the production of automobile emissions.			x												
Parlier	Circ	P	5.11.A	9	Support the use of alternate fuel vehicles and fueling stations for public transit vehicles, City and County public agency vehicles.			x												
Parlier	Circ	P	5.11.A	10	Encourage all new development projects to incorporate transportation system management techniques into project development. Measures that could be implemented to reduce vehicle travel, air pollution and energy consumption include: - staggered or varied work hours; - work at home options; - facilities to improve public transportation; - telecommunication improvements.															x
Parlier	Circ	O	5.12.A	N/A	Promote the use of bicycles as a viable means of transportation.		x													
Parlier	Circ	P	5.12.A	1	Utilize the following definitions in designating a bikeways plan: a. Bike Path (Class I). A special pathway for the exclusive use of bicycles, which is separated from motor vehicle facilities by space or a physical barrier. It is identified by guide signing and pavement markings. b. Bike Lane (Class II). A lane on the paved area of a road for preferential use by bicycles. It is usually located along the right edge of the paved area or between the parking lane and the first motor vehicle lane. It is identified by a "Bike Lane" guide sign, special lane lines, and other pavement markings. c. Bike Route (Class III). A recommended route for bicycle travel along an existing right-of-way which is signed but not striped. d. Bikeway. All facilities which explicitly provide for bicycle travel. The bikeway can be anything from a separate facility to a simple signed street.		x													
Parlier	Circ	P	5.12.A	2	Give priority to bikeways which will serve the highest concentration of cyclists and destination areas of highest demand.		x													
Parlier	Circ	P	5.12.A	3	Provide bikeways in proximity to major traffic generators such as commercial centers, schools, recreational areas, and major public facilities.		x				x									
Parlier	Circ	P	5.12.A	4	Develop a visually clear, simple, and consistent bicycle system with standard signs and markings, as designated by the State of California Traffic Control Devices Committee and the State Bikeway Committee.		x						x							
Parlier	Circ	P	5.12.A	5	Develop an expanded program of education in the rules of the road for cyclist both through the media and school and private efforts.															x
Parlier	Circ	P	5.12.A	6	Provide sweeping and other necessary maintenance to clear bikeways of dirt, glass, gravel and other debris.															x

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Parlier	Circ	P	5.12.A	7	Support the installation of bike parking racks at public and private places of assembly such as parks, schools, office buildings, churches, and retail commercial developments.															x
Parlier	Circ	P	5.12.A	8	Amend the zoning ordinance to include provisions for bicycle parking facilities in the off-street parking requirements.															x
Parlier	Circ	P	5.12.A	9	Develop a comprehensive bikeway system as an incentive for increased use of the bicycle for intra-urban use. Give priority to bike routes that link local routes with planned regional facilities. See the Circulation Map. a. Establish bicycle lanes where feasible along arterials and collectors in newly developing areas. A bicycle route system should be identified which serves the existing developed city. This route system should not utilize arterials or collectors where travel ways are constrained, but rather parallel streets with less traffic. Where bike lanes are proposed, they should be considered a shared facility with street traffic.		x				x									
Parlier	LU	P	4.4.C	11	All residential projects shall provide usable open space within the boundaries of the development. This open space shall be in addition to any development fees paid for neighborhood or community park space. A. Within multifamily projects, including mobile home parks, a minimum of 10% of the project site shall be developed with usable open space which could include swimming pools, green space, landscaping, and recreation/meeitng rooms. B. Within single family projects, either attached or detached, a minimum of 5% of the site shall be developed with usable open space could include common recreation areas, mini-parks, greenbelts/recreation trails, and landscaping. Such open space shall be maintained by assessment district, landscape lighting district, homeowners' association, or other appropriate maintenance entity.		x								x					
Parlier	LU	P	4.5.A	2	Locate new Neighborhood Commercial uses along major traffic ways in consolidated centers that utilize common access and parking for commercial uses, discourage the introduction of strip commercial uses, and require adequate pedestrian links to residential areas. General plan amendments for new neighborhood commercial uses should be accomplished by an independent markeitng analysis which shows the demand for hte new use and impact on existing commercial areas.						x									
Reedley	Circ	G	3.2A	N/A	The City will design and maintain a fully integrated local transportation network that provides for the movement of people and goods in an orderly, safe, and efficient manner.						x									
Reedley	Circ	G	3.2B	N/A	Maintain a level of service (LOS) of "C" or better.												x	x		
Reedley	Circ	G	3.2C	N/A	Plan and develop a street and highway system so as to maximize its effectiveness while minimizing its cost of construction and maintenance.												x			
Reedley	Circ	G	3.2D	N/A	Minimize the adverse impact of streets and highways on adjacent land uses and on the environment of the Planning Area.															x
Reedley	Circ	G	3.2E	N/A	Provide a street and highway system which can accommodate alternative modes of travel.		x													
Reedley	Circ	G	3.2F	N/A	Provide a street and highway system which is aesthetically pleasant to the user through the incorporation of landscape buffering on applicable medians and right-of-way.								x							
Reedley	Circ	P	3.2	3.2.1	All street and roadway improvements shall be in conformance with the Circulation Diagram as shown in Figure 3-1.															x

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Reedley	Circ	P	3.2	3.2.2	Apply consistent standards for new street development based on traffic carrying capacity and classification.															x
Reedley	Circ	P	3.2	3.2.3	The design of major arterials, arterials, collectors and local streets shall comply with the adopted City of Reedley, Standard Plans and Specifications.								x							
Reedley	Circ	P	3.2	3.2.4	Standards for new street development can be altered or refined through the adoption of a specific plan or planned unit development process, with City Engineer approval when it can be demonstrated that projected traffic flows can be accommodated.															x
Reedley	Circ	P	3.2	3.2.5	The City shall revise roadway standards for future streets to include the following: (a) Narrow street widths, particularly on local roadways. (b) Revise geometrics of street intersections, including smaller turning radii, to the maximum extent practicalto slow turning movements, thereby, improving safety for pedestrians. (c) Tree lined streets, including parkways between the curb and sidewalk. (d) Along major streets, landscaped medians shall be constructed. (e) Revised Street Standards shall ensure efficient and safe access for emergency vehicles. (f) Roundabouts shall be located at selected street intersections to improve traffic flow, reduce air emissions and to provide community landmarks. (g) Circulation plans for pedestrian, bicycle and vehicle traffic shall provide for effective connections to major community facilities, such as the Kings River, Rail Trail, downtown, Reedley College, Reedley High School, elementary schools, parks and employment areas. (h) Street designs for collector and arterial roadways shall include provisions for future fixed route transit systems. (i) Traffic signals where warrants for traffic demands are met.		x	x	x		x	x	x							
Reedley	Circ	P	3.2	3.2.6	Street standards shall be developed to include street trees planted in planter strips between the curb and sidewalk in order to shade paved street surfaces.								x							
Reedley	Circ	P	3.2	3.2.7	Subdivisions shall be designed to maximize connectivity between subdivisions and surrounding development. Use of a grid pattern with reasonable street lengths to maximize the number of connections to surrounding collector street system is encouraged.															x
Reedley	Circ	P	3.2	3.2.8	A walled-in subdivision shall be discouraged unless noise measurements exceed the threshold for residential development adjacent to roadways.															x
Reedley	Circ	P	3.2	3.2.9	Cul-de-sacs shall feature breaks in the perimeter wall to allow pedestrian and visual access to the neighborhood.															x
Reedley	Circ	P	3.2	3.2.10	Standards for block lengths shall be developed to eliminate overly long blocks that allow for vehicles to reach increased speeds.															x

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Reedley	Circ	P	3.2	3.2.11	Major arterials shall provide for through traffic movement on continuous routes with limited direct access to abutting property. Intersections with cross streets are generally at grade and generally spaced a minimum of one-half mile apart.													x		
Reedley	Circ	P	3.2	3.2.12	Arterials provide for through traffic movement on continuous routes, joining major traffic generators, major arterials, and other arterials. Access to abutting property should be controlled and limited.								x					x		
Reedley	Circ	P	3.2	3.2.13	Collectors provide internal traffic movement within an area and connect local roads to the arterial system. Access to abutting property is generally permitted.															x
Reedley	Circ	P	3.2	3.2.14	Local streets provide internal traffic movement within an area and primarily serve to provide direct access to abutting property.															x
Reedley	Circ	P	3.2	3.2.15	Street cross sections may deviate from the standards, if the proposed cross section results in increased traffic capacity or circulation. Primarily, deviation should be restricted to older sections of the City that cannot accommodate current standards. All deviations are subject to the approval of the City Engineer.															x
Reedley	Circ	P	3.2	3.2.16	The City shall maintain the landscaping on street rights-of-way on collector and arterial roadways by the use of Landscape and Lighting Districts in new areas.								x							
Reedley	Circ	P	3.2	3.2.17	The City shall explore adoption of a city-wide landscape and lighting district to ensure equal maintenance of street rights-of-way.															x
Reedley	Circ	P	3.2	3.2.18	Access to property abutting an arterial or collector roadway will be subject to the following criteria: (a) Direct access from an arterial or collector to a major traffic generator should be restricted through design requirements on new developments which provide for frontage roads, access to other roads, or limits on the number and location of direct access points. Major traffic generators may be defined as including, but not limited to, large multiple-family residential development, large commercial developments, industrial developments, educational institutions and medical centers. (b) New residential subdivisions should be designed with a minimum number of lots fronting directly on collector streets and with no lots fronting directly on arterial streets. Vehicular access may be permitted from a frontage road or from other roads. Where direct access is provided from a residential subdivision lot to a collector street, turnaround facilities shall be required for each lot as a condition of subdivision approval so that vehicles do not back out onto the roadway. (c) Turnaround facilities shall be required as a condition for a parcel map approval where the new parcels will have direct access to arterial or collector streets. Such turnaround facilities should insure that vehicles need not back out onto the roadway.															x
Reedley	Circ	P	3.2	3.2.19	Existing landscaped medians should be extended to their logical conclusion within the street and highway system. In particular, Manning Avenue and Kingswood Parkway should be extended as new development occurs.								x		x					
Reedley	Circ	P	3.2	3.2.20	The primary street and highway entrances leading into the community should have landscaped medians. This would include North Reed Avenue, East Dinuba Avenue, North and South Frankwood Avenue and Buttonwillow Avenue between Dinuba and South Avenue.															

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Reedley	Circ	P	3.2	3.2.21	The City should ensure completion of planned arterial and collector streets as they become necessary to serve developing urban areas or unmet traffic demands of the City by the following: (a) Adopt a street improvement program based on a needs priority system. (b) Require dedication and improvement of necessary street facilities as a condition of land development. (c) Coordinate the street improvement program with other public service facility improvement programs. (d) Utilize available FCTA, State and Federal funds for street and highway development.												x	x		
Reedley	Circ	P	3.2	3.2.22	The City should insure that planned streets and highways operate to their maximum efficiency by coordinating their multi-modal use as follows: (a) Develop bikeways in accordance with the City Bikeways Plan. (b) Consider the need for transit and bikeway facilities when establishing the ultimate rights-of-way of streets and highways. (c) The City should prepare typical roadway cross sections which define standards for transit and bikeway facility improvements. (d) Provide additional rights-of-way and improvements off of the travel way of arterial and collector streets where deemed necessary for public transportation. (e) Provide areas for pedestrian travel which will enhance the safety and efficiency of the street system.		x	x												
Reedley	Circ	P	3.2	3.2.23	The City should minimize the adverse impact of truck traffic on the community by maintaining and enforcing a system of designated truck routes.															x
Reedley	Circ	P	3.2	3.2.24	The City should insure the installation of signals, roundabouts, signs, lighting, and other traffic improvements necessary for the safe and efficient movement of vehicular traffic and pedestrians within the City by the following: (a) Adopt and maintain a traffic safety and operations improvement program based on a needs priority system as part of the City street improvement program. (b) Require the installation of necessary street improvements as a condition of land development.		x					x		x	x					
Reedley	Circ	P	3.2	3.2.25	The City shall encourage the use of traffic calming designs such as roundabouts, bulb-outs, etc., where they will improve the operation or LOS of a street.								x	x						
Reedley	Circ	P	3.2	3.2.26	The City should minimize the adverse environmental impact of street and highway development by utilizing road construction methods which reduce the air, water, and noise pollutions associated with such development.															x

EASTSIDE TRANSPORTATION IMPROVEMENT CORRIDOR STUDY

Jurisdiction	Element	G/O/P/IM	G/O#	P #	Goal/Policy/Program Language	Funding	Active Transport (bike/ped)	Multi-modal (public transit/connections to active transport)	Road Diets	Complete Streets	Connected Network	Safety	Design	Traffic Calming	Development	Regional/Interagency Support	Traffic Flow	Auto Priority	Road Expansion	N/A
Reedley	Circ	P	3.2	3.2.27	Where a portion of the right-of-way of a planned new street lies outside the boundaries of property proposed for development under a subdivision, site plan review, or conditional use permit application, the applicant may be required, depending on the magnitude of the development and the amount of traffic it will generate, to dedicate sufficient right-of-way width to allow for the development of two travel lanes and one shoulder, curb, gutter and planting area.															x
Reedley	Circ	P	3.2	3.2.28	Development resulting in any of the following shall be required, as part of the special permit approval process, to have a licensed engineer complete a traffic impacts study. The scope of that study shall be determined by the City Engineer and paid for by the developer. (a) 500 vehicle trips per day; or (b) 250 a.m. or p.m. peak hour trips; or (c) 25 Percent increase to existing traffic conditions from the development project.															x
Reedley	Circ	P	3.2	3.2.29	Continue to seek and secure financing for all components of the transportation system through the use of special taxes, assessment districts, developer dedications and fees, or other appropriate mechanisms to be applied uniformly throughout the City. (a) The City Engineer shall periodically prepare a report with recommendation to the City Council to ensure transportation funding is sufficient to meet the City's LOS standard.	x														
Reedley	Circ	P	3.2	3.2.30	Pursue the implementation of city-wide fees on new development sufficient to cover the fair share portion of that development's impact to the street and highway system that is not covered by other funding sources.															x
Reedley	Circ	P	3.2	3.2.31	Review of local and regional transportation plans and capital improvement plans to ensure that only new development projects consistent with this plan are being proposed and funded.															x
Reedley	Circ	P	3.2	3.2.32	Prepare and adopt Official Plan Lines or Director Determination for major streets to preserve right-of-way needed for future improvements.															x
Reedley	Circ	G	3.4A	N/A	Encourage the use of bicycles as a viable means of transportation.		x													
Reedley	Circ	G	3.4B	N/A	Develop a continuous and easily accessible bikeways system which facilitates the use of the bicycle as a viable alternative transportation mode.		x													
Reedley	Circ	G	3.4C	N/A	Develop programs, standards, ordinances, and procedures to achieve and maintain safe conditions for bicycle use.		x					x								
Reedley	Circ	G	3.4D	N/A	Encourage bicycling for reasons of ecology, health, economy, and enjoyment as well as for transportation use.		x													
Reedley	Circ	P	3.4	3.4.1	Priority should be given to bikeways that will serve the most cyclists and destinations of greatest demand.		x													
Reedley	Circ	P	3.4	3.4.2	Bikeways should be designated near major traffic generators such as commercial and employment centers, schools, recreational areas, and major public facilities.		x				x									
Reedley	Circ	P	3.4	3.4.3	Bicycle parking and storage facilities should be provided at major bicycle traffic generators.		x				x									
Reedley	Circ	P	3.4	3.4.4	Bikeways should be provided in both existing and future parks where they will not cause serious conflicts with other uses of the parks.		x													

Jurisdiction	Element	G/O/P/IM	G/O#	P #	Goal/Policy/Program Language	Funding	Active Transport (bike/ped)	Multi-modal (public transit/connections to active transport)	Road Diets	Complete Streets	Connected Network	Safety	Design	Traffic Calming	Development	Regional/Interagency Support	Traffic Flow	Auto Priority	Road Expansion	N/A
Reedley	Circ	P	3.4	3.4.5	Bikeways should be continuous and should be linked to other bikeways and recreation facilities.		x													
Reedley	Circ	P	3.4	3.4.6	Where ever possible, bikeways should be developed in conjunction with street construction and improvement projects occurring along streets and roads where bikeways have been designated on the Bikeways Plan map.		x						x		x					
Reedley	Circ	P	3.4	3.4.7	The City and County should develop a coordinated program for the construction of bikeways in the Planning Area.		x													
Reedley	Circ	P	3.4	3.4.8	The design and construction of a bikeway shall conform to the standards established by the California Department of Transportation and the City of Reedley Standard Plans and Specifications.		x													
Reedley	Circ	P	3.4	3.4.9	Work with the City of Dinuba to provide a bicycle/pedestrian trail system that will connect to a similar system in the City of Reedley near the Sports Park.		x									x				
Reedley	Circ	P	3.4	3.4.10	Safe conditions for bicycle use shall be developed and maintained. The following shall apply: (a) A visually clear, simple, and consistent bikeway system with clearly defined areas and boundaries should be established. (b) For the safety of those who use the bikeways, the City should consider stopping a bikeway before a major street intersection or dangerous railroad crossing and starting it again after the area has been passed. Within these potentially dangerous areas, bicyclists walk their bicycles or ride with extra caution at their own risk. (c) Through mass media, school, and private efforts, the City of Reedley should encourage a program of education in the rules of the road aimed at both the cyclist and the motorist. (d) Bikeways should be constructed and maintained to reduce or eliminate hazards such as unsafe drainage grated, dirt, glass, gravel, and other debris. (e) The bikeway system should be monitored and evaluated in order to determine the effectiveness of established bikeway facilities in terms of use, safety, and efficiency.							x								
Reedley	Circ	P	3.4	3.4.11	Require large scale development projects to provide bike racks to encourage bicycling as an alternative mode of transportation.		x								x					
Reedley	Circ	G	3.5A	N/A	Promote the variety of public transit connections with other nearby cities and locations.			x								x				
Reedley	Circ	P	3.5	3.5.1	Continue to evaluate public transit needs.			x												
Reedley	Circ	P	3.5	3.5.2	Explore increased transit opportunities with nearby cities.			x								x				
Reedley	Circ	G	3.6A	N/A	Maintain the viability of the rail service to the community of Reedley.															x
Reedley	Circ	P	3.6	3.6.1	Ensure that development along the rail corridor complies with noise limits identified in the Noise Element.															x
Reedley	Circ	P	3.6	3.6.2	CIR 3.6.2 Pursue the reduction of the noise by eliminating the train horns at intersections in the City of Reedley through the continued pursuit of a quiet zone in the City of Reedley.															x
Reedley	Circ	P	3.6	3.6.3	CIR 3.6.3 Maintain the viability of the rail system to encourage continued use for commercial and industrial applications.															x
Reedley	Circ	G	3.7A	N/A	Promote the integrity of the Reedley Municipal Airport.															x

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Reedley	Circ	P	3.7	3.7.1	Land uses surrounding the airport should remain agricultural.															x
Reedley	Circ	P	3.7	3.7.2	Coordinate with Fresno County to establish land uses around the airport that will not conflict with airport operations.															x
Reedley	Circ	G	3.8A	N/A	Provide safe and efficient truck routes into and within the community.															x
Reedley	Circ	P	3.8	3.8.1	Truck traffic shall be permitted on the designated arterial and collector streets only, as identified in the Circulation Element Truck Route Map, Figure 3-4. Truck access through non-designated routes will only be allowed for purposes of picking up or delivering supplies within City limits.															x
Reedley	Circ	P	3.8	3.8.2	Truck parking shall be prohibited on residential areas for vehicles in excess of 10,000 GVW, or higher than eight feet.															x
Reedley	Circ	P	3.8	3.8.3	Truck parking shall be discouraged on arterial/collector streets outside of the industrial park or other designated areas.															x
Reedley	Circ	G	3.9A	N/A	Promote a parking program that accommodates the parking needs of each land use type.															x
Reedley	Circ	P	3.9	3.9.1	Adequate parking shall be required of all commercial and industrial land uses to accommodate parking demand.															x
Reedley	Circ	P	3.9	3.9.2	Adequate parking shall be required of all residential developments to accommodate owners and tenants.															x
Reedley	Circ	P	3.9	3.9.3	Parking standards shall be evaluated for new development in the Central Downtown area to ensure that parking is provided within walking distance.															x
Reedley	Circ	P	3.9	3.9.4	Establish parking space standards that include compact parking and parking standards which encourage alternative fuel vehicles.															x
Reedley	Circ	P	3.9	3.9.5	Establish parking lot landscaping standards that require the provision of at least 50% shade coverage.															x
Reedley	Circ	P	3.9	3.9.6	Maintain existing park and ride facilities and explore opportunities of additional sites.															x
Reedley	Circ	G	3.10A	N/A																
Reedley	LU	P	N/A	LU-2.4.2	Develop well-designed and landscaped major gateways or entrances to the City at the following locations: a) Manning Avenue near the Kings River b) North and South Reed Avenue c) Manning Avenue and Buttonwillow Avenue d) East Dinuba Avenue								x							
Reedley	LU	P	N/A	LU-2.5.1	The City shall encourage projects incorporating pedestrian-oriented design.			x							x					

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Reedley	LU	G	LU-2.6F	N/A	Street standards shall be revised to reflect Complete Streets design which includes the following: 1) Narrow street widths, particularly on local streets, to the maximum extent practical. 2) Revised geometrics of street intersections, including smaller turn radii. 3) Tree-lined streets, incluidng parkways between the curb and sidewalk. 4) Along major streets, landscaped medians shall be constructed. 5) Revised street standards shall ensure safe and efficient access for emergency vehicles. 6) Roundabouts shall be located at selected street intersections to improve traffic flow, reduce air emissions and to provide community landmarks. 7) Circulation plans for pedestrian, bicycle and vehicle traffic shall provide for effective connections to major community facilities, such as the Kings River, Rail Trail, Downtown, Reedley College, Reedley High School, elementary schools and parks and employment areas. 8) Street designs for collector and arterial roadwyas shall include provisions for future fixed route transit systems.		x		x	x	x	x	x							
Reedley	LU	G	LU-2.6H	N/A	Sidewalk standards shall be revised to encourage and facilitate pedestrian activity by increasing sidewalk width, allow meandering sidewalk patterns and incorporating the placement of street trees between the sidewalk and the street.		x						x							
Reedley	LU	P	N/A	LU-2.7.4	Community Commercial designations shall be located primarily at the following locations: a) Manning Avenue east of Columbia Avenue b) Manning Avenue east of Reed Avenue c) Dinuba Avenue east of Zumwalt Avenue d) Other locations with Arterial/Arterial intersections that provide for major shopping opportunities.						x									
Reedley	LU	G	LU-2.7T	N/A	Public facilities shall complement and support the creation of livable neighborhoods.								x							
Reedley	LU	G	LU-2.7U	N/A	Provide transportation and recreation opportunities near schools.			x			x									
Reedley	LU	P	N/A	LU-2.7.6	The planning area shall contain parks, schools, trails, ponding basins and other public improvements deemed appropriate.		x													
Reedley	LU	G	LU 2.9A	N/A	Improve the infrastructure of our community in order to maximize opportunities for all residents of Reedley to make healthful choices.		x				x									
Reedley	LU	P	N/A	LU-2.9.2	Encourage patterns of development, such as sidewalks and walking and biking paths that promote physical activity and discourage automobile dependency.		x													
Reedley	LU	P	N/A	LU-2.9.4	Encourage the development of parks and open space, as well as a network of pedestrian walkways for physical activity in all neighborhoods.		x				x									
Reedley	LU	P	N/A	LU-2.9.5	Provide adequate lighting for streets, parks, recreational facilities, sidewalks and bike paths to promote their use.		x						x							

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Sanger	Circ	G	1	N/A	Develop a comprehensive circulation system that is coordinated with planned land use patterns contained in the Land Use and Urban Form Element															x
Sanger	Circ	P	1	1	The transportation system shall provide adequate capacity to serve travel demands anticipated by year 2025.								x							
Sanger	Circ	P	1	2	The transportation system shall be formulated in a manner that responds to concentrations of population and employment activities in areas designated for urban development by the Land Use Element.															x
Sanger	Circ	P	1	3	Transportation system improvements shall be sized and designed to safely and efficiently accommodate existing and projected traffic, with respect to both the volume and type of traffic.							x	x				x			
Sanger	Circ	P	1	4	When a land use development project is proposed, the City will determine if a traffic impact study is required. The developer is responsible for objectively assessing the mpacts of the development on the roadway network. The analysis will follow standard procedures for the development of Traffic Impact Studies, including trip generation, distribution and assignment of trips, to the backgorund roadway network and the analysis of level of service on critical roadway segments and intersections. Traffic impact studies evaluating State highway facilities, shall be referred to Caltrans, and utilize traffic study preparation guidelines and level of service standards as recommended by Caltrans.															x
Sanger	Circ	G	2	N/A	The City's transportation system shall be designed, constructed, operated, and implemented in a manner that maintains a high level of environmental quality.															x
Sanger	Circ	P	2	1	Using the latest available technology, the City of Sanger shall mitigate, to the extent practicable, any negative environmental effects on air quality and ambient noise levels resulting from circulation improvements.															x
Sanger	Circ	P	2	2	The City of Sanger shall support the implementation of effective controls on vehicular emissions.															x
Sanger	Circ	P	2	3	Alignments for new roadways, or for improvements to existing roadways and other transportation system improvements, shall avoid, where practicable, disturbance of existing communities, biotic resource areas and minimize destruction of trees.								x							
Sanger	Circ	P	2	4	Mitigation measures shall be used, to the extent practical, to reduce or avoid adverse environmental, safety and economic impacts of transportation improvement projects.															x
Sanger	Circ	P	2	5	Determination of practical roadway alignments and other transportation system improvements and mitigation measures shall reflect need for improvement, costs, maintenance of appropriate design standards and safety features, as well as environmental consequences.							x	x							
Sanger	Circ	G	3	N/A	The City's transportation system shall be maintained, designed, constructed, operated and implemented in a manner which provides a roadway network which supports the economy and maintain personal mobility and promotes safety, convenience, and efficiency.							x	x							

Jurisdiction	Element	G/O/P/IM	G/O#	P #	Goal/Policy/Program Language	Funding	Active Transport (bike/ped)	Multi-modal (public transit/connections to active transport)	Road Diets	Complete Streets	Connected Network	Safety	Design	Traffic Calming	Development	Regional/Interagency Support	Traffic Flow	Auto Priority	Road Expansion	N/A
Sanger	Circ	P	3	1	Priority shall be given to: -maintaining the existing farm-to-market rural road system within underdeveloped portions of the City limits, which supports transportation of goods and people in the City of Sanger; and -measures that improve safety and the efficient use of existing transportation facilities, particularly on heavily traveled routes. Such measures typically include low-cost improvements such as signalization, channelization and turning lanes.								x							
Sanger	Circ	P	3	2	Transportation system improvements and operations shall be located and designed to promote utilization of the existing system, intermodal coordination and give priority to energy-conservation.			x												
Sanger	Circ	P	3	3	The City, in coordination with the Fresno COG, shall encourage Transportation Systems Management (TSM) strategies in urban areas to reduce vehicular trips during peak periods. Such strategies may include: -traffic flow improvements, and continued maintenance and rehabilitation of existing corridors for efficient movement of people and goods; -incentives for carpooling and vanpooling thorugh Fresno COG's Rideshare Program; -preferential parking for carpools and vanpools; -incentives for flex-time and modified work schedules; -development of park and ride facilities to accommodate carpools and vanpools; and -a transit service that meets public transportation needs of local residents.			x								x				
Sanger	Circ	G	4	N/A	Provide and maintain a highway system with adequate capacity and acceptable levels of service to accommodate projected travel demands for the 20-year planning period.												x			
Sanger	Circ	P	4	1	Rights-of-way shall be reserved for all highways designatedon the roadway system as required by the City's Subdivision Ordinance.															x
Sanger	Circ	P	4	2	The City has established a target Level of Service "C" along all major streets and highways except that LOS "D" may be allowed at intersections of any major street, highway or along street and highway segments where additional improvements are not feasible.												x	x		
Sanger	Circ	P	4	3	All significant trip generators shall be served by roads of adequate capacity and design standards to provide reasonale and safe access by appropriate transportation modes with minimum delay.												x	x		
Sanger	Circ	P	4	4	Future maintenance costs, and the relationship of overall maintenance needs to available funds, should be considered to determine whether a roadway should be routinely maintained or fully reconstructed.	x														
Sanger	Circ	P	4	5	Where extensive truck travel involving regional movement of bulk goods is anticipated, such as along Central Avenue, roadway standards to accommodate large trucks should be implemented.															x

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Sanger	Circ	P	4	6	For development under City jurisdiction outside the current City limits but within Sanger's Sphere of Influence (SOI), where roadway standards are different from the County, City and County staff will cooperate and agree on a reasonable choice of design standards for the particular circumstances involved and negotiate logical transitions from City to County Standards. It will be City staff's responsibility to contact the County when differences in standards are determined. -Transition areas at meeting points of roadways designed to differing City and County Standards or differing functional classifications shoudl be individually designed to facilitate satisfactory operational and safety performance. Further, the City should update the Road Standards to reflect the intent of this policy.															x
Sanger	Circ	P	4	7	The City shall make every effort ot obtain adequate funding to provide roadway infrastructure that accommodates new development and maintains the minimum level of service.	x												x		
Sanger	Circ	P	4	8	The City shall seek roadway improvement funding from a variety of sources to ensure that no person(s) or agency is inequitably burdened and pays an inordinate share of the cost of such improvements. Funding sources shall be distributed equitably, to the extent practicable, between those benefitting from the expenditure of such funds.	x														
Sanger	Circ	P	4	9	Access and parking policies for each functional roadway classificaiton within the City shall be as follows: -Expressways: Access to and from abutting property is prohibited. Access to expressway facilities shall only be at major signalized intersections along the expressway; -Urban and Rural Arterials: Access from abutting pracels shall be discouraged. Consolidation of driveways shall be encouraged. Parking may be prohibited if additional capacity is needed; and - Urban Collectors, Rural Collectors and Local Roads: Access shall be permitted from abutting parcels.								x							
Sanger	Circ	P	4	10	For each roadway classification, pavement widths, lane configurations, and medians and/or shoulder widths shall be based on the acceptable design standards of the agency having jurisdiction over the facility.															x

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Sanger	Circ	P	4	11	For City roads, each roadway classificaiton, pavement widths, lane configuration, and medians and/or shoulder widths shall be based on acceptable design standards. -Divided Urban and Rural Arterials - Right-of-way of 100-106 feet; -Undivided Urban and Rural Arterials - Right-of-way of 80-84 feet; -Urban and Rural Collectors - Right-of-way of 68-72 feet; -Local Roads - Ultimate right-of-way of 56-60 feet. Narrower right-of-way may be considered with innovative traffic calming street designs such as curvilinear streets, parkway landscape strips, and intersection enhanced paving. Narrower streets may also be considered for in-fill or odd shaped parcels, or to support neo-tranditional development; -All Classes - Additional right-of-way may be required for intersection design; and -The Southeast Sanger Area Specific Plan design standards shall apply to facilities within the specific plan area.								x							
Sanger	Circ	P	4	12	Requirements for frontage improvements on each functional roadway class shall be as follows: -Urban and Rural Arterials and Urban Collectors - urban improvement standards shall be required, including curb and gutter, planter strips, sidewalks, street lights, and landscaping; -Rural Collectors - improvement standards shall be applied; and -Local Roads - City facility standards shall be applied which include planter strips.								x							
Sanger	Circ	P	4	13	Ordinances may be adopted by the City that require maintenance agreements for private roads. The agreements would be executed by the developer when required by specific provisions contained in the City of Sanger's General Plan, Specific, Community, or Redevelopment Plan, or an ordinance code.															x
Sanger	Circ	P	4	14	The City of Sanger's Building Setback Line Ordinance shall assure adequate separation between future right-of-way acquisition areas and future structures or other improvements. The setback ordinance shall define setbacks from external limits rather than from the cetnerline of right-of-way for roadway classifications identified in this Circulation Element. Where larger setbacks are desired, the Public Works Director may designate higher setbacks are desired, the Public Works Director may designate higher setback requirements.															x
Sanger	Circ	P	4	15	The City shall adopt ordinances that establish plan lines for designated arterial and collector highways. Specific plans may also be utilized to establish plan lines, which are based upon specified distances from the center lines of existing roadways. In either method, new structures shall not be constructed within the area of the plan line and required setbacks shall be measured from the plan line boundary rather than from the parcel boundary.															x
Sanger	Circ	P	4	16	Parking restrictions along facilities in unincorporated areas shall be determined from roadway classification policies described herein or, in situations where variations are desired by proposed developments.															x

EASTSIDE TRANSPORTATION IMPROVEMENT CORRIDOR STUDY

Jurisdiction	Element	G/O/P/IM	G/O#	P #	Goal/Policy/Program Language	Funding	Active Transport (bike/ped)	Multi-modal (public transit/connections to active transport)	Road Diets	Complete Streets	Connected Network	Safety	Design	Traffic Calming	Development	Regional/Interagency Support	Traffic Flow	Auto Priority	Road Expansion	N/A
Sanger	Circ	P	4	17	Prior to approval of conditional use permits and/or site plan reviews for new agricultural processing nad industrial facilities with similar truck traffic generating characteristics, the City shall require the applicant to demonstrate an adequate on-site truck parking/staging/maneuvering facility plan to preclude the need for truck queuing and parking on adjacent roadways.															x
Sanger	Circ	P	4	18	Development proposals requiring developer mitigation fees for future year circulation improvements shall agree to participate in a mitigation fee program implemented by a development agreement with the City.															x
Sanger	Circ	G	5	N/A	Promote development of a safe, efficient, and conveneint and economical community, inter-community and Citywide public transportation system.			x			x	x								
Sanger	Circ	P	5	1	Support transit service through the Fresno County Rural Transit Agency (FCRTA) that adequately serves low-income residents, students, the elderly and physically disabled.			x								x				
Sanger	Circ	P	5	2	The City, through FCRTA and development of the Fresno County Short Range Transit Plan (SRTP), should help identify short and long-range transit needs and maximize revenue sources utilizing all funding mechanisms including federal grants, State enabling legislation, and farebox revenue.	x										x				
Sanger	Circ	P	5	3	The City and FCRTA should distribute complete and accurate public transit information.															x
Sanger	Circ	P	5	4	Support the coordination and consolidation of social service transportation through the Fresno County Consolidation Transportation Service Agency (CTSA) administered by the Fresno County Economic Opportunities Commission (EOC) to promote efficiency and optimum use of existing transit resources.			x								x				
Sanger	Circ	P	5	5	Encourage safety, reasonable fares and the provision of adequate service to meet reasonable transit needs.			x				x								
Sanger	Circ	G	6	N/A	The City shall establish safe and convenient facilities to accommodate the use of non-motorized modes of transportation.		x					x								
Sanger	Circ	P	6	1	Prepare a Community Pedestrian and Bike Trails Plan that: -identifies walking and bicycle routes that are appropriate for recreational and commuter use; -prepares and coordinates information systems for bicyclists and carpools; -reviews and addresses the needs of pedestrians and bicyclists within the city; and -encourages and supports maintenance of existing bicycles and pedestrian facilities.		x													
Sanger	Circ	P	6	2	Designate regional bicycle routes that are designed for safe use by bicyclists and reduce conflicts with motor vehicles. Support development of designated bicycle paths adjacent to or separated from commute corridors.		x					x								
Sanger	Circ	P	6	3	Support implementation of bicycle support facilities such as bike racks, showers, locker rooms and other facilities during the project review process. Encourage employers to offer incentives (showers, locker rooms, and money) for bicyclists to reduce congestion and increase parking availability.		x						x		x					
Sanger	Circ	P	6	4	Support the bicycle as an alternate transportation mode and as part of the traffic mix.		x													
Sanger	Circ	P	6	5	Encourage the use of abandoned railroad right-of-ways and canals for bicycle paths.															x
Sanger	Circ	P	6	6	Encourage removal of barriers (walls, easements and fences) for safe and convenient movement of pedestrians. Special emphasis should be placed on the needs of disabled persons.		x			x										

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Sanger	Circ	P	6	7	Consider the needs of pedestrians and address requirements of the Americna Disabilities Act (ADA) to provide for the safe and convenient movement of pedestrians and the needs of disabled persons during the project review process.		x			x		x								
Sanger	Circ	G	7	N/A	Provide for the efficient movement of goods through design, construction and maintenance of the regional circulation system.								x							x
Sanger	Circ	P	7	1	Street and highway projects shall be implemented so that goods movement can continue to be convenient and economical in areas where large concentrations of truck traffic exist.															x
Sanger	Circ	P	7	2	Support continued operation of the regional freight rail system, which offers safe, convenient and economical transport of commodities.															x
Sanger	Circ	P	7	3	Review and monitor proposals for expansion of pipelines for the transport of suitable products and materials.															x
Sanger	Circ	P	7	4	Provide for the efficient movement of goods through design, construction and maintenance of the ciites truck route system.															x
Sanger	Circ	IM		4.5	The City shall implement transportation improvement projects identified in Table 4-3 by the Year 2025 in order to maintain adequate level of service. The City shall identify and program potential revenue sources to provide for a balanced financing plan. The City shall consider the followng options when developing a balanced program: -Generate funds/improvements necessary to meet needs through a combination of existing and potential funding sources (existing and proposed Measure "C" Program, State and Federal funds and grant proceeds, development fees and conditions of approval, City Contributions, etc.); -Reduce the list of new construction projects (reference Table 4-3); and/or Review the City's General Plan land use urban form element and County land use policies and identify ways to minimize growth including impacts of land use and development on the City's future transportation system.	x														
Sanger	LU	P	5	5	Promote new development, redevelopment, and revitalization of Sanger's downtown, the Academy Avenue corridor, and the Jensen Avenue corridor.										x					
Sanger	LU	P	6	2	Create a sense of arrival to the City along key access routes. Design entryways to the City utilizing landscaping along major roadways entering the City as well as at key points of entry along these routes.								x							
Sanger	LU	IM	6	B	Site two minor gateways consisting of some sequoia trees and a sign announcing a traveler's approach to Sanger at the planning area boundaries at the intersections of American and Academy avenues and Jensen and Dockery avenues.															
Sanger	LU	IM	6	C	Site four major gateways consisting of sequoia trees, monument signs, public art, landscaping, and other landscaping features (such as stone) at the intersections of : - Central and Academy Avenues; - Jensen and Indianola Avenues; - East Annadale Avenue and Collins Creek; - Highway 180 and Academy Avenue.								x							

EASTSIDE TRANSPORTATION CORRIDOR IMPROVEMENT STUDY

Jurisdiction	Element	G/O/P/IM	G/O#	P #	Goal/Policy/Program Language	Funding	Active Transport (bike/ped)	Multi-modal (public transit/connections to active transport)	Road Diets	Complete Streets	Connected Network	Safety	Design	Traffic Calming	Development	Regional/Interagency Support	Traffic Flow	Auto Priority	Road Expansion	N/A
Sanger	LU	IM	6	D	Utilize existing rights-of-way, and where necessary purchase new rights-of-way, to create a parkway along Academy Avenue south from Kings Canyon Road. The vision for these parkways is one of the streets lined by giant sequoias and other landscaping or hard scape features.								x							
Selma	Circ	G	1	N/A	To design and maintain a fully integrated local network that provides for safe and convenient circulation using a variety of transportation modes.			x				x								
Selma	Circ	O	1	A	Maintain a roadway level of service (LOS) of D or better for intersections and road segments for Minor Collectors, Collectors, Arterials, Major Arterials, and Highways; where other jurisdictions control and manage roadways, their respective level of service standards shall prevail on applicable segments. In order to avoid using Local streets for excessive through traffic, an LOS of B is established for Local streets.												x	x		
Selma	Circ	O	1	B	Develop a circulation network of local roads, collectors and arterials that will meet projected traffic needs.															x
Selma	Circ	O	1	C	Enhance the availability and accessibility of alternative modes of transportation, such as walking, bicycling, carpools, buses and rail.		x	x		x										
Selma	Circ	O	1	D	Design streets that promote safe and pleasant conditions for residents, pedestrians, bicyclists, and motorists on neighborhood streets, while preserving access for emergency vehicles, buses, and other users. In order to promote safe streets, traffic calming measures described in Table 2-1 herein shall be used.		x	x				x	x							
Selma	Circ	O	1	E	Eliminate truck conflicts with commercial, industrial and residential areas in the community.															x
Selma	Circ	P	1	2.1	Coordinate demand-responsive transit service in conjunction with the Council of Fresno County Governments (COFCG) and Fresno County.			x								x				
Selma	Circ	P	1	2.2	Coordinate convenient and efficient transit service to the elderly, handicapped, and low-income population of the City and its environs.			x												
Selma	Circ	P	1	2.3	Coordinate transit services through the City Manager and in conjunction with surrounding cities, and the County of Fresno, and Council of Fresno County Governments.			x								x				
Selma	Circ	P	1	2.4	Cooperate with the COFCG in providing transit service and planning to meet the social and economic needs of all segments of the community.			x								x				
Selma	Circ	P	1	2.5	Encourage benches, telephones and shaded areas at major transit destinations so people can utilize the transit system safely and comfortably. The City shall determine such need based on site plan review procedure and other planning implementation methods.															x
Selma	Circ	P	1	2.6	Major arterials, arterials, and collectors will be designed to allow transit vehicles to pull out of traffic. This policy may be implemented with either a continuous parking lane with bus stops, or with special bus pull-out lanes.			x					x							
Selma	Circ	P	1	2.7	Transit centers/stops shall be established to encourage the interface between commercial centers, high density residential uses and the transit system.			x												
Selma	Circ	P	1	2.8	All street and roadway improvements shall be designed and constructed in accordance with the Circulation Element and Circulation Plan.								x							
Selma	Circ	P	1	2.9	The Circulation Plan shall act as a guide in determining the function of major streets. The City's functional street classification system shall include highways, expressways, major arterials, arterials, collectors, minor collectors, and local streets.															x

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Selma	Circ	P	1	2.10	The City will plan for and seek funding for the construction of on- and off-ramps and a highway overpass at Dinuba Avenue and SR 99.															x
Selma	Circ	P	1	2.11	The City will plan for and seek funding for the construction of a grade separation with the railroad tracks at the intersection of the railroad tracks and Floral and Dinuba Avenues.															x
Selma	Circ	P	1	2.12	Expressways should be at least four divided lanes, with limited access at one-half mile points.															x
Selma	Circ	P	1	2.13	Arterials shall be improved to four lanes, with appropriate variations in intersection design to alleviate special traffic problems where necessary. Major arterials shall be improved to six lanes, with appropriate variations in intersection design to alleviate special traffic problems where necessary.								x				x	x	x	
Selma	Circ	P	1	2.14	Meandering sidewalks shall be encouraged along collectors and arterials.		x						x							
Selma	Circ	P	1	2.15	Floral Avenue from SR 99 to Amber shall be widened to four lanes, either by street widening or by elimination of parking as traffic generation warrants.															x
Selma	Circ	P	1	2.16	City circulation system street alignments shall be coordinated with Fresno County circulation system street alignments.															x
Selma	Circ	P	1	2.17	Local collectors shall serve residential neighborhoods, but shall not be used to carry through traffic or high traffic volumes. Actual design and improvement to ultimate standards shall be achieved through inclusion of facilities as part of the City-wide Capital Improvements Program, or by new developers as areas adjoining the designated circulation system are developed, with allowance for bicycle lanes, where planned.															x
Selma	Circ	P	1	2.18	If Heartland High School is ever abandoned (although this is not currently planned), a more direct route shall be developed from Rose Avenue to Whitson Street, and a connection to Arrants Avenue provided, including an improved railroad grade crossing.															x
Selma	Circ	P	1	2.19	The City of Selma will request that Selma's Circulation Element and Circulation Plan be incorporated into the Fresno County General Plan and Selma Community Plan.															x
Selma	Circ	P	1	2.20	A one-mile arterial frequency grid system plan shall be used to allow efficient access throughout the community and to support the major commercial areas of the City, including McCall Avenue at Dinuba, the downtown area and commercial uses along SR 99.															x
Selma	Circ	P	1	2.21	The overall circulation plan for future neighborhoods shall be in conformance with Figure 2-1 and include offset minor collectors, traffic calming features as needed, a neighborhood park within ¼ mile walking distance per neighborhood, and a commercial/office/transit node.															x
Selma	Circ	P	1	2.22	Extend McCall Avenue as a four lane divided arterial north of Dinuba to serve future development.															x
Selma	Circ	P	1	2.23	Collector streets shall be at approximately one-mile intervals centered between arterial streets and shall be planned to intersect with other streets so as to maximize traffic safety and discourage fast flowing traffic through residential areas. Where possible, major arterials, arterials, and collectors shall form 4-leg, right-angle intersections; jog, offset and skewed intersections of streets in near proximity shall be avoided where possible.															x
Selma	Circ	P	1	2.24	Residences shall not be permitted to have direct access onto arterials, particularly where traffic volumes are likely to create excessive noise levels or safety hazards.															x

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Selma	Circ	P	1	2.25	The primary purpose of arterials is for cross-town traffic flow and through-traffic. Parking along arterials should be discouraged and eliminated where it now exists, as deemed appropriate by the Traffic and Streets Commission and as traffic safety conditions warrant.															x
Selma	Circ	P	1	2.26	McCall Avenue between Arrants and Floral Avenue shall be designated as a seventy foot arterial street with plan lines developed accordingly. This will provide for four lanes with no on street parking.															x
Selma	Circ	P	1	2.27	It shall be the policy of the City to develop major streets in the community as follows: **Arterials** -Nebraska Avenue from De Wolf to Second and Front to Bethel -Amber Avenue from Nebraska to future connection with Del Rey -McCall Avenue from Manning Avenue to Dinuba Avenue -Floral Avenue from Whitson to De Wolf -Whitson Avenue in its entirety -Golden State Boulevard in its entirety -Highland Avenue from Manning Avenue to Mountain View -Mountain View Avenue from De Wolf to Bethel -Dinuba Avenue throughout the Sphere of Influence															x
Selma	Circ	P	1	2.28	The street network should provide a quick and efficient route for emergency vehicles, including police, fire and other vehicles, when responding to calls for service. The length of single-entry access routes shall be restricted.															x
Selma	Circ	P	1	2.29	Major arterials shall be built in areas where traffic demand warrants the development of this facility to meet the adopted level of service standard.															x
Selma	Circ	P	1	2.30	Major arterial, arterial, collector, minor collector, and local street standards shall be developed to provide an increased quality of life for residential neighborhoods, a more attractive bike and pedestrian environment, conservation of natural resources and adequate capacity for their appropriate function. These new standards shall be incorporated into the City's Standard Specifications for Public Works.															x
Selma	Circ	P	1	2.31	Median breaks and driveway standards for major arterial, arterial and collector streets directly affect the performance of these roadways, and the following minimum standards have been developed to facilitate the proper operation of these roadways:															x

Jurisdiction	Element	G/O/P/IM	G/O#	P #	Goal/Policy/Program Language	Funding	Active Transport (bike/ped)	Multi-modal (public transit/connections to active transport)	Road Diets	Complete Streets	Connected Network	Safety	Design	Traffic Calming	Development	Regional/Interagency Support	Traffic Flow	Auto Priority	Road Expansion	N/A
Selma	Circ	P	1	2.31 (cor	**Major Arterial Street Standards** a. Driveway access to major activity centers (locations that generate more than 5,000 daily trips) should be located no closer than 200 feet to the adjacent intersection of a collector or arterial street (measurement shall be from the curb return to the nearest edge of the driveway). If driveways must be provided near intersections for facilities (such as service stations) these driveways shall not be serviced by median breaks and shall be located no less than 100 feet from the intersection (measurement shall be from the curb return to the nearest edge of the driveway). If more than one is required to serve a property, the driveways shall be separated by 150 feet (the 150 feet are to be measured edge to edge, not centerline to centerline). b. The distance between driveways along commercially developed major arterials should not be less than 600 feet (measurement shall be from centerline to centerline). Where this spacing is not practical, the development shall provide acceptable traffic mitigation measures in addition to those already required. c. Where practical and desirable, driveways should be located on adjacent arterial or collector streets rather than on major arterial streets.															x
Selma	Circ	P	1	2.31 (cor	d. Full median breaks, where there is no adopted design, should provide access to collector streets and to major activity centers and should parallel the standards for driveways: not less than 200 feet from an adjacent intersection of an arterial or collector street, and not less than 1,000 feet between full median breaks. e. Driveway consolidation shall be encouraged through joint access agreements along arterials where standards a. through d. are exceeded. f. Major arterials shall be developed in conformance with Figure 2-1 and shall be sized in accordance with the projected traffic volumes on road segments and intersections. The preferred minimum distance between intersections along major arterials is ¼ mile.															x

Jurisdiction	Element	G/O/P/IM	G/O#	P #	Goal/Policy/Program Language	Funding	Active Transport (bike/ped)	Multi-modal (public transit/connections to active transport)	Road Diets	Complete Streets	Connected Network	Safety	Design	Traffic Calming	Development	Regional/Interagency Support	Traffic Flow	Auto Priority	Road Expansion	N/A
Selma	Circ	P	1	2.31 (cor	**Arterial Street Standards** a. Driveway access to major activity centers (locations that generate more than 5,000 daily trips) should be located no closer than 200 feet to the adjacent intersection of a collector or arterial street (measurement shall be from the curb return to the nearest edge of the driveway). If driveways must be provided near intersections for facilities (such as service stations) these driveways shall not be serviced by median breaks and shall be located no less than 100 feet from the intersection (measurement shall be from the curb return to the nearest edge of the driveway). If more than one is required to serve a property, the driveways shall be separated by 150 feet (the 150 feet are to be measured edge to edge, not centerline to centerline). b. The distance between driveways along commercially developed arterials should not be less than 400 feet (measurement shall be from centerline to centerline). Where this spacing is not practical, the development shall provide acceptable traffic mitigation measures in addition to those already required. c. Where practical and desirable, driveways should be located on adjacent collector streets rather than on arterial streets.															x
Selma	Circ	P	1	2.31 (cor	d. Full median breaks, where there is no adopted design, should provide access to collector streets and to major activity centers and should parallel the standards for driveways: not less than 200 feet from an adjacent intersection of an arterial or collector street, and not less than 1,000 feet between full median breaks. e. Driveway consolidation shall be encouraged through joint access agreements along arterials where standards a. through d. are exceeded. f. Major arterial and arterials shall be developed in conformance with Figure 2-1 and shall be sized in accordance with the projected traffic volumes on road segments and intersections.															

Jurisdiction	Element	G/O/P/IM	G/O#	P #	Goal/Policy/Program Language	Funding	Active Transport (bike/ped)	Multi-modal (public transit/connections to active transport)	Road Diets	Complete Streets	Connected Network	Safety	Design	Traffic Calming	Development	Regional/Interagency Support	Traffic Flow	Auto Priority	Road Expansion	N/A
Selma	Circ	P	1	2.31 (cor	**Collector Street Standards** a. Driveway access to major activity centers should be located no closer than 150 feet to the adjacent intersection of a collector or arterial street (measurement shall be from the curb return to the nearest edge of the driveway). If driveways must be provided near intersections for facilities (such as service stations) these driveways shall not be serviced by median breaks and shall be located no less than 100 feet from the intersection (measurement shall be from the curb return to the edge of the driveway). If more than one is requested to serve a property, the driveways shall be separated by 150 feet (the 150 feet are to be measured edge to edge, not centerline to centerline). b. The distance between driveways and intersecting local streets should not be less than 300 feet (measurement shall be from the curb return to the nearest edge of the driveway). Where this spacing is not practical, the development shall provide acceptable traffic mitigation measures in addition to those already required. c. Driveways to residential property along collectors should be consolidated whenever possible.															x
Selma	Circ	P	1	2.31 (cor	d. Medians on collectors shall be provided by concrete where left turn control is needed and by painted medians on two-way left turn pockets where appropriate. Where concrete medians are provided, median breaks should be spaced not less than 300 feet apart. e. Collectors shall be developed in conformance with Figure 2-1 and shall be sized in accordance with the projected traffic volumes on road segments and intersections.															
Selma	Circ	P	1	2.31 (cor	**Local Streets and Minor Collectors** a. Local streets shall not carry an unreasonable level of through traffic. Should it be determined that a local street is carrying an unacceptable level of through traffic, the City may use appropriate means to reduce traffic through creation of one-way traffic flow, installation of traffic calming devices, and/or any other means deemed to be acceptable under the Vehicle Code of the State of California. Traffic calming features in conformance with Table 2-1 are encouraged when warranted. b. Local residential streets shall be kept at a curb-to-curb width of 40 feet, may include a planter strip to provide shade to prevent excessive heat build-up, and include a sidewalk of sufficient width to allow two people walking side-by-side to pass. c. In new residential subdivisions, local streets should be aligned in an orientation that allows for homes to be located in a manner that provides the best solar orientation.															x

Jurisdiction	Element	G/O/P/IM	G/O#	P #	Goal/Policy/Program Language	Funding	Active Transport (bike/ped)	Multi-modal (public transit/connections to active transport)	Road Diets	Complete Streets	Connected Network	Safety	Design	Traffic Calming	Development	Regional/Interagency Support	Traffic Flow	Auto Priority	Road Expansion	N/A
Selma	Circ	P	1	2.31 (cor	d. Design the street network with multiple connections and relatively direct routes for pedestrians and bicyclists as well as motorists. e. Provide pedestrians and bicyclists with shortcuts and alternatives to travel along high volume streets by designing pedestrian and bicycle pass-through pathways at cul-de-sac bulbs adjacent to Arterial roadways. f. Short streets, trees, on-street parking, tee intersections, use of terminating vistas and traffic calming devices should be used to limit vehicle speed. g. Streets shall be designed in accordance with projected traffic volumes and City- adopted level of service standards. Oversized streets shall be discouraged. Deviations to the arterial, collector, and local street standards identified above may be adopted subject to review and approval by the City Council.															
Selma	Circ	P	1	2.32	To continue to provide a high level of service to the community, the City designates Service Level "D" as defined in the Highway Capacity Manual as the minimum desirable service level at which freeways, expressways, major arterials, arterials and collector streets should operate. All new facilities in these categories shall be designed to operate at this level or better for a period of at least 20 years following their construction.															x
Selma	Circ	P	1	2.33	The circulation system shall be designed and developed to minimize excessive noise impacts on sensitive land uses and traffic congestion which would increase the rate of vehicle emissions. New development shall mitigate noise and emission impacts [e.g. by constructing sound walls (where warranted), designing to minimize emissions (such as roundabout or traffic circle), etc.].															x
Selma	Circ	P	1	2.34	Right-of-way essential to the circulation system should be dedicated and/or developed to the appropriate extent and width when a division of property or development occurs. The City shall coordinate street improvements with the County of Fresno so that the same requirements apply outside the City limits.															x
Selma	Circ	P	1	2.35	The right-of-way widths and construction widths of all classes of streets from local to major arterial shall be updated as necessary to reflect the street classifications in this Element.															x
Selma	Circ	P	1	2.36	Developers shall mitigate traffic impacts associated with their projects to minimize the impacts to highways, major arterials, arterials, and collector streets.															x
Selma	Circ	P	1	2.37	The City will continue to collect development impact fees for the circulation system (streets, signals and bridges) and shall revise and update the development impact fees as needed.															x
Selma	Circ	P	1	2.38	The City will implement a transportation impact fee program to help facilitate state highway facility circulation improvements in the Selma Planning Area, in coordination with Caltrans. This program is intended to help mitigate the impacts and additional vehicle trips that will be added to the regional transportation network from new development.															x

Jurisdiction	Element	G/O/P/IM	G/O#	P #	Goal/Policy/Program Language	Funding	Active Transport (bike/ped)	Multi-modal (public transit/connections to active transport)	Road Diets	Complete Streets	Connected Network	Safety	Design	Traffic Calming	Development	Regional/Interagency Support	Traffic Flow	Auto Priority	Road Expansion	N/A
Selma	Circ	P	1	2.39	The City shall promote an active policy of consolidating driveways, access points and curb cuts along existing developed major arterials, or arterials when development or change in intensity of development or land use occurs or when traffic operation or safety warrants.															x
Selma	Circ	P	1	2.40	Residential subdivisions shall be designed to encourage access from collector streets and to discourage use of local streets as a bypass to congested arterials.															x
Selma	Circ	P	1	2.41	Where major arterials, arterials, and collector streets are required, residential development shall be oriented away (side-on or rear-on) from such streets, and shall be properly buffered so that the traffic carrying capacity on the street will be preserved and the residential environment protected from the adverse characteristics of the street.															x
Selma	Circ	P	1	2.42	Due to the traffic congestion which results from numerous points of ingress and egress along commercial streets, future commercial developments or modifications to existing developments shall be master planned with limited points of ingress and egress onto a major street. Ingress and egress to shopping centers should be carefully designed in order to promote traffic safety. Left-hand movements into and out of commercial areas should be minimized and existing points of ingress and egress shall be consolidated whenever possible.															x
Selma	Circ	P	1	2.43	In order to promote safe and efficient traffic flow throughout the City, traffic signals shall be spaced no closer than 1/4 mile on arterials except in unusual circumstances. The intersections of arterial and collector streets and the access driveways to major traffic generators shall be located so as to maintain this minimum spacing.								x				x			
Selma	Circ	P	1	2.44	The City will develop, through various funding mechanisms and sources, a city wide bicycle path/lane/route system in conformance with the City's 2003 Bicycle Transportation Plan. The bicycle path/lane/route system will utilize existing or future railroad right-of-way and water courses. The paths (class I), may also include landscaping, lighting, mileage markers, directional signage and benches. The on-road lanes (class II) would include striping and the on-road routes (class III) would not include striping. Reference Figure 2-3 for the proposed city-wide bike plan. The class I bike paths can also be utilized by pedestrians if the proposed paths are wide enough to allow both bicyclists and pedestrians.		x													
Selma	Circ	P	1	2.45	Sidewalks, paths, and appropriate crosswalks should be located to facilitate access to all schools and other areas with significant pedestrian traffic. Whenever feasible, pedestrian paths should be developed to allow for unobstructed pedestrian flow from within a neighborhood.															x
Selma	Circ	P	1	2.46	The City shall require curb, gutter, and sidewalks in all areas of the community to accommodate pedestrian traffic, especially along routes with high pedestrian traffic such as schools, parks, and the Downtown area. Installation of these improvements shall be encouraged to the extent feasible in existing neighborhoods where they do not currently exist.		x													
Selma	Circ	P	1	2.47	The City shall promote safe, convenient and accessible pedestrian ways within the community.		x													

Jurisdiction	Element	G/O/P/IM	G/O#	P #	Goal/Policy/Program Language	Funding	Active Transport (bike/ped)	Multi-modal (public transit/connections to active transport)	Road Diets	Complete Streets	Connected Network	Safety	Design	Traffic Calming	Development	Regional/Interagency Support	Traffic Flow	Auto Priority	Road Expansion	N/A
Selma	Circ	P	1	2.48	Where security walls or fences are proposed for residential developments along major arterials, arterials, or collector streets, pedestrian access should be considered between the major arterial, arterial, or collector, and the development to allow access to transit vehicles, commercial facilities, educational facilities and recreation areas operating on the street.															x
Selma	Circ	P	1	2.49	Street lighting shall be provided for all public streets and pedestrian signals shall be provided at all traffic signal locations.								x							
Selma	Circ	P	1	2.50	New development shall be required to plant and maintain appropriate trees or other devices in order to achieve shading of at least 50% of all hardscaped parking and pedestrian surfaces.															x
Selma	Circ	P	1	2.51	Adequate off-street parking shall be required of all commercial and industrial land uses to accommodate parking demand. Off-street parking shall also be required of residential land uses to accommodate tenants.															x
Selma	Circ	P	1	2.52	Parking standards shall be evaluated for new development to ensure that parking requirements are satisfied within walking distance of development, and to ensure that arterial streets do not separate parking from the parking demand generator.															x
Selma	Circ	P	1	2.53	Parking standards shall be evaluated to assess the potential for offering reduced parking requirements to development that incorporate measures proven to reduce vehicular trips. Shared parking should be encouraged whenever possible.															x
Selma	Circ	P	1	2.54	The City shall work with Caltrans and transit service providers to establish a park and ride lot or lots within the community to serve the needs of regional and local commuters.															x
Selma	Circ	P	1	2.55	To preserve the viability of the Golden State Industrial Corridor, uses or activities shall not be permitted to encroach so as to reduce the efficiency of the rail system.															x
Selma	Circ	P	1	2.56	To preserve the viability of the Selma Aerodrome as a regional general aviation facility, the City adopts the policy plan recommendations of the Fresno County Airports Land Use Policy Plan Study, where applicable.															x
Selma	Circ	P	1	2.57	The City shall discourage land uses surrounding the Selma Aerodrome, which would reduce its ability to function as an element of the transportation system.															x
Selma	Circ	P	1	2.58	Since the Selma Aerodrome serves as the primary air field in the area, efforts shall be made to continue to upgrade the service capacity of the airport.															x
Selma	Circ	P	1	2.59	The City will encourage coordination of major transmission and canal facilities in the community and, where possible, integrate such facilities into the recreation, open space and conservation element plans of the community.															x
Selma	Circ	P	1	2.60	The City shall encourage the use of energy efficient and non-polluting fuels and modes of transportation.															x
Selma	Circ	P	1	2.61	Transportation System Management and Transportation Demand Management are the applicable strategies for the mitigation of traffic and parking congestion. Public transit, traffic management, ridesharing and parking management are to be used to the greatest extent practical to implement transportation management strategies.			x												
Selma	Circ	P	1	2.62	Promote the long term shifting of peak hour commute trips from the single occupant automobile to ridesharing, buses, pedestrians, and bicycles.		x	x												
Selma	Circ	P	1	2.63	Large development shall be encouraged to incorporate transit passenger facilities, bicycle racks or lockers, shower facilities, as well as on site services (eating, mail, banking, etc.) as ways to encourage alternative modes for commute trips.															x

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Selma	Circ	P	1	2.64	Provide for the development and maintenance of the community's transportation infrastructure, including streets, sewer, water, storm drain, pipeline, electrical, and communication facilities.															x
Selma	Circ	P	1	2.65	The maintenance of the investment in the existing and future infrastructure is a high priority for the community.															x
Selma	Circ	P	1	2.66	The City shall maintain a high level of inter-governmental coordination and citizen participation in the circulation and transportation planning process and work with other agencies to assure that regional transportation plans are consistent with the City's General Plan.											x				
Selma	Circ	P	1	2.67	Truck traffic shall be permitted on designated arterial and collector streets only; as identified in the Circulation Element Truck Route Map (reference Figure 2-4).															x
Selma	Circ	P	1	2.68	The City shall encourage development of truck and parking facilities appropriately located within the industrial area.															x
Selma	Circ	P	1	2.69	Truck parking a. Shall be discouraged on streets outside of industrial areas. b. Shall be prohibited in residential areas for vehicles in excess of 10,000 gross vehicle weight (GVW), or higher than 8 feet.															x
Selma	LU	P	3	1.20	Support smart growth principles that advance mixed use, higher density, walkable, bikeable and accessible neighborhoods which coordinate land use and transportation with open space areas for recreation. Promote green/sustainable building standards for private residential, multifamily, and commercial projects.		x	x			x	x								
Fresno County	Circ	G	TR-A	N/A	To plan and provide a unified, coordinated, and cost-efficient countywide street and highway system that ensures the safe, orderly, and efficient movement of people and goods.						x	x								
Fresno County	Circ	P	TR-A	TR-A.1	The County shall plan and construct County-maintained streets and roads according to the County's Roadway Design Standards. Roadway design standards for County-maintained roads shall be based on the American Association of State Highway and Transportation Officials (AASHTO) standards, and supplemented by California Department of Transportation (Caltrans) design standards and by County Public Works Department Standards. County standards include typical cross sections by roadway classification, consistent with right of way widths summarized in Table TR 1. The County may deviate from the adopted standards in circumstances where conditions warrant special treatment of the roadway. Typical circumstances where exceptions may be warranted may include: a. Extraordinary construction costs due to terrain, roadside development, or unusual right of way needs; and b. Environmental constraints that may otherwise entirely preclude road improvement.								x							

Jurisdiction	Element	G/O/P/IM	G/O#	P #	Goal/Policy/Program Language	Funding	Active Transport (bike/ped)	Multi-modal (public transit/connections to active transport)	Road Diets	Complete Streets	Connected Network	Safety	Design	Traffic Calming	Development	Regional/Interagency Support	Traffic Flow	Auto Priority	Road Expansion	N/A
Fresno County	Circ	P	TR-A	TR-A.2	The County shall plan and design its roadway system in a manner that strives to meet Level of Service (LOS) D on urban roadways within the spheres of influence of the cities of Fresno and Clovis and LOS C on all other roadways in the county. Roadway improvements to increase capacity and maintain LOS standards should be planned and programmed based on consideration of the total overall needs of the roadway system, recognizing the priority of maintenance, rehabilitation, and operation of the existing road system. The County may, in programming capacity-increasing projects, allow exceptions to the level of service standards in this policy where it finds that the improvements or other measures required to achieve the LOS policy are unacceptable based on established criteria. In addition to consideration of the total overall needs of the roadway system, the County shall consider the following factors:								x				x	x		
Fresno County	Circ	P	TR-A	TR-A.2 (c	a. The right-of-way needs and the physical impacts on surrounding properties; b. Construction and right-of-way acquisition costs; c. The number of hours that the roadway would operate at conditions below the standard; d. The ability of the required improvement to significantly reduce delay and improve traffic operations; and e. Environmental impacts upon which the County may base findings to allow an exceedance of the standards. In no case should the County plan for worse than LOS D on rural County roadways, worse than LOS E on urban roadways within the spheres of influence of the cities of Fresno and Clovis, or in cooperation with Caltrans and the Council of Fresno County Governments, plan for worse than LOS E on State highways in the county.															
Fresno County	Circ	P	TR-A	TR-A.3	The County shall require that new or modified access to property abutting a roadway and to intersecting roads conform to access specifications in the Circulation Diagram and Standards section. Exceptions to the access standards may be permitted in the manner and form prescribed in the Fresno County Zoning and Subdivision Ordinances, provided that the designed safety and operational characteristics of the existing and planned roadway facility will not be substantially diminished.															x
Fresno County	Circ	P	TR-A	TR-A.4	The County shall program road improvements on a countywide priority basis using technical assessment tools such as the Road and Traffic Evaluation (RATE) and Pavement Management System (PMS).															x
Fresno County	Circ	P	TR-A	TR-A.5	The County shall require dedication of right-of-way or dedication and construction of planned road facilities as a condition of land development, and require an analysis of impacts of traffic from all land development projects including impacts from truck traffic. Each such project shall construct or fund improvements necessary to mitigate the effects of traffic from the project. The County may allow a project to fund a fair share of improvements that provide significant benefit to others through traffic impact fees.															x

Jurisdiction	Element	G/O/P/IM	G/O#	P #	Goal/Policy/Program Language	Funding	Active Transport (bike/ped)	Multi-modal (public transit/connections to active transport)	Road Diets	Complete Streets	Connected Network	Safety	Design	Traffic Calming	Development	Regional/Interagency Support	Traffic Flow	Auto Priority	Road Expansion	N/A
Fresno County	Circ	P	TR-A	TR-A.6	The County shall continue to participate with the Council of Fresno County Governments, the California Department of Transportation, and other agencies, to maintain a current Regional Transportation Plan, and to identify funding priorities and development expenditure plans for available regional transportation funds, in accordance with regional, State, and Federal transportation planning and programming procedures. Such regional programming may include improvements to State highways, city streets, and County roadways.	x										x				
Fresno County	Circ	P	TR-A	TR-A.7	The County shall assess fees on new development sufficient to cover the fair share portion of that development’s impacts on the local and regional transportation system.															x
Fresno County	Circ	P	TR-A	TR-A.8	The County shall ensure that land development that affects roadway use or operation or requires roadway access to plan, dedicate, and construct required improvements consistent with the criteria in the Circulation Diagram and Standards section of this element.															x
Fresno County	Circ	P	TR-A	TR-A.9	The County shall ensure that the funding of capacity-increasing projects on the Inter-regional Highway System (I-5, and rural portions of SR 99 and SR 41) utilizes State and Federal sources intended for improvements to that system. Fresno County and local development shall not be required to participate financially in the upgrading of the Inter-regional Highway System except as may affect local interchanges.															x
Fresno County	Circ	P	TR-A	TR-A.10	The County shall actively seek all possible financial assistance, including grant funds available from regional, State, and Federal agencies for street and highway purposes when compatible with General Plan policies and long term local funding capabilities.	x														
Fresno County	Circ	P	TR-A	TR-A.11	The County shall ensure that funds allocated directly or are otherwise available to the County for road fund uses shall be programmed and expended to maximize the use of Federal and other matching funds, and shall be based on the following sequence of priorities: a. Maintenance, rehabilitation, reconstruction, and operation of the existing County-maintained road system; b. Safety improvements where physical modifications or capital improvements would reduce the number and/or severity of accidents; and c. Capital capacity improvements to expand capacity or reduce congestion on roadways at or below County LOS standards, and to expand the roadway network.	x						x								
Fresno County	Circ	P	TR-A	TR-A.12	The County, where appropriate, shall coordinate the multi modal use of streets and highways to ensure their maximum efficiency and shall consider the need for transit, bikeway, and recreational trail facilities when establishing the Ultimate Right of way Plan and Precise Plans of streets and highways.		x	x												
Fresno County	Circ	P	TR-A	TR-A.13	The County shall develop and maintain a program to construct bikeways and recreation trails in conjunction with roadway projects in accordance with the adopted Regional Bikeways Plan, the adopted Recreation Trails Plan, available dedicated funding for construction and maintenance, and a needs priority system.		x									x				
Fresno County	Circ	P	TR-A	TR-A.14	The County shall work with the cities of Fresno County in establishing a system of designated truck routes through urban areas.															x
Fresno County	Circ	P	TR-A	TR-A.15	The County shall encourage street designs for interior streets within new subdivisions which protect neighborhoods from the intrusion of through traffic.															x

Jurisdiction	Element	G/O/P/IM	G/O#	P #	Goal/Policy/Program Language	Funding	Active Transport (bike/ped)	Multi-modal (public transit/connections to active transport)	Road Diets	Complete Streets	Connected Network	Safety	Design	Traffic Calming	Development	Regional/Interagency Support	Traffic Flow	Auto Priority	Road Expansion	N/A
Fresno County	Circ	P	TR-A	TR-A.16	The County shall require that plans for County road improvement projects consider the preservation of unique existing landscaping to the extent that it will be consistent with user safety.							x								
Fresno County	Circ	P	TR-A	TR-A.17	The County should utilize road construction methods that minimize the air, water, and noise pollution associated with street and highway development.															x
Fresno County	Circ	P	TR-A	TR-A.18	The County shall accept classified roads, as defined in Figures TR-1a, TR-1b, and TR-1c, into the County-maintained road system following construction in unincorporated area, when constructed to County standards. The County may make exceptions for collector roads in the Millerton Specific or Shaver Lake Community Plan areas. The County shall not add local roads to the existing County-maintained road system. Provision of maintenance for newly constructed local public roads will be through a County Service Area zone of benefit or other means acceptable to the Board of Supervisors.						x									
Fresno County	Circ	P	TR-A	TR-A.19	The County may identify locations of needed future road rights of way, consistent with adopted functional classifications, through development and adoption of specific plan lines where appropriate. Circumstances where specific plan line development may be considered may include the following: a. Where major classified roadways or corridors are expected to require additional through lanes within a 20 year planning horizon; b. Where the future alignment is expected to deviate from the existing alignment, or to be developed asymmetrically about the existing section or center line; c. Where the adjacent properties are substantially undeveloped, so that property owners may benefit from prior knowledge of the location of rights of way of planned roadways before constructing improvements or developing property in a way which may ultimately conflict with identified transportation needs; and d. Expressways and associated frontage roads.															x
Fresno County	Circ	IM	TR-A	TR-A.A	The County shall prepare and adopt a priority list of street and highway improvements for the Road Improvement Program (RIP) based on a horizon of at least seven (7) years. The Board of Supervisors shall update the RIP every five (5) years, or more frequently as recommended by the responsible departments. The RIP shall program maintenance and rehabilitation, reconstruction, capacity, operational, safety improvements, and specific plan lines on a prioritized basis. The RIP shall be coordinated with the five (5) year major review of the General Plan and shall be included in the annual General Plan review. (See Policies TR-A.4 and TR-A.11)	x						x								
Fresno County	Circ	IM	TR-A	TR-A.B	The County shall consider adopting a traffic impact fee ordinance for areas outside the spheres of influence of cities in the county. The traffic fees should be designed to achieve the adopted LOS and preserve structural integrity based on a twenty (20) year time horizon. The traffic mitigation fees should be updated at least every five years, or concurrently with the approval of any significant modification of the land use allocation used to develop the fees. The County shall require new development within the spheres of influence of cities in the county to pay the traffic impact fees of those cities. (See Policy TR-A.8)															x

EASTSIDE TRANSPORTATION CORRIDOR IMPROVEMENT STUDY

Jurisdiction	Element	G/O/P/IM	G/O#	P #	Goal/Policy/Program Language	Funding	Active Transport (bike/ped)	Multi-modal (public transit/connections to active transport)	Road Diets	Complete Streets	Connected Network	Safety	Design	Traffic Calming	Development	Regional/Interagency Support	Traffic Flow	Auto Priority	Road Expansion	N/A
Fresno County	Circ	IM	TR-A	TR-A.C	The County shall continue to identify and pursue appropriate new funding sources for transportation improvements. Grant funds from regional, State, and Federal agencies should be pursued and utilized when compatible with the General Plan policies and long-term local funding capabilities. (See Policy TR-A.10)	x														
Fresno County	Circ	IM	TR-A	TR-A.D	The County shall coordinate its transportation planning with the Council of Fresno County Governments, Caltrans, cities within the county, and adjacent jurisdictions. (See Policy TR-A.6)											x				
Fresno County	Circ	IM	TR-A	TR-A.E	The County shall update and maintain the Improvement Standards for other County development improvements, including private roads dedicated to public use. (See Policy TR-A.1)															x
Fresno County	Circ	G	TR-B	N/A	To promote a safe and efficient mass transit system that provides service to residents without access to automobiles and, in urban areas, helps to reduce congestion, improves the environment, and provides viable non-automotive means of transportation.			x												
Fresno County	Circ	P	TR-B	TR-B.1	The County shall work with transit providers to provide transit services within the county that are responsive to existing and future transit demand and that can demonstrate cost-effectiveness by meeting minimum farebox recovery levels required by State and Federal funding programs.	x		x												
Fresno County	Circ	P	TR-B	TR-B.2	The County shall promote transit services in designated corridors where population and employment densities are sufficient or could be increased to support those transit services, particularly within the spheres of influence of the cities and along existing transit corridors in the rural area of the county.			x								x				
Fresno County	Circ	P	TR-B	TR-B.3	The County shall work with the Cities of Fresno and Clovis and other agencies to achieve land use patterns and densities in areas planned for development that support transit services, preserve adequate rights-of-way, and enhance transit services in the designated transit corridors shown in Figure TR-3.															x
Fresno County	Circ	P	TR-B	TR-B.4	The County shall work with the Council of Fresno County Governments and transit service providers to pursue all available sources of funding for transit services when consistent with General Plan policies and long-term funding capabilities.	x		x								x				
Fresno County	Circ	P	TR-B	TR-B.5	The County shall consider the transit needs of senior, disabled, low-income, and transit-dependent persons in making recommendations regarding transit services.			x												
Fresno County	Circ	P	TR-B	TR-B.6	The County shall encourage the development of facilities for convenient transfers between different transportation systems (e.g., train-to-bus, bus-to-bus).			x												
Fresno County	Circ	IM	TR-B	TR-B.A	The County shall work with the Council of Fresno County Governments (COFCG) and transit providers in the county to periodically review and update the short-range transit plans in the county at least as often as required by State law. (See Policy TR-B.1)															x
Fresno County	Circ	IM	TR-B	TR-B.B	The County shall encourage transit providers and the COFCG to prepare, adopt, and implement a long-range strategic transit master plan for the County or subareas of the county. The master plan shall review the transit corridors in this Policy Document and designate a set of transit corridors so that appropriate planning can be concentrated on these corridors. The plan(s) shall be reviewed and updated on a regular basis. (See Policy TR B.1)			x								x				
Fresno County	Circ	IM	TR-B	TR-B.C	Through its representation on the COFCG Board and the FCRTA (a joint powers agency), the County shall work with these agencies to identify and pursue funding for transit. (See Policy TR-B.4)	x		x												

EASTSIDE TRANSPORTATION CORRIDOR IMPROVEMENT STUDY

Jurisdiction	Element	G/O/P/IM	G/O#	P #	Goal/Policy/Program Language	Funding	Active Transport (bike/ped)	Multi-modal (public transit/connections to active transport)	Road Diets	Complete Streets	Connected Network	Safety	Design	Traffic Calming	Development	Regional/Interagency Support	Traffic Flow	Auto Priority	Road Expansion	N/A
Fresno County	Circ	IM	TR-B	TR-B.D	The County shall work with the COFCG and other agencies to identify right-of-way needs within designated transit corridors and to acquire needed rights-of-way, including abandoned rights-of-way and track structures. (See Policy TR-B.3)			x								x				
Fresno County	Circ	IM	TR-B	TR-B.E	The County shall work with the cities in the county to prepare and adopt land use and design standards for areas within designated urban transit corridors to promote transit accessibility and use. (See Policy TR-B.3)															x
Fresno County	Circ	IM	TR-B	TR-B.F	The County shall work with Caltrans and other agencies to determine the need for additional or expanded park-and-ride lots and to identify additional sites for such lots. (See Policy TR-B.2)															x
Fresno County	Circ	G	TR-C	N/A	To reduce travel demand on the County's roadway system and maximize the operating efficiency of transportation facilities so as to reduce the quantity of motor vehicle emissions and reduce the amount of investment required in new or expanded facilities.		x	x												
Fresno County	Circ	P	TR-C	TR-C.1	The County shall support all standards and regulations adopted by the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) governing transportation control measures (TCMs).															x
Fresno County	Circ	P	TR-C	TR-C.2	The County shall consider transportation system management (TSM) measures to increase the capacity of the existing roadway network prior to constructing new traffic lanes. Such measures may include traffic signal synchronization and additional turning lanes.								x							
Fresno County	Circ	P	TR-C	TR-C.3	The County shall work with the Cities of Fresno and Clovis to encourage new urban development within the FCMA to provide appropriate on-site facilities that encourage employees to use alternative transportation modes as air quality and transportation mitigation measures. The type of facilities may include bicycle parking, shower and locker facilities, and convenient access to transit, depending on the development size and location.		x									x				
Fresno County	Circ	G	TR-D	N/A	To plan and provide a safe, continuous, and easily accessible bikeway system that facilitates the use of the bicycle as a viable alternative transportation mode and as a form of recreation and exercise.		x				x	x								
Fresno County	Circ	P	TR-D	TR-D.1	The County shall implement a system of recreational, commuter, and inter-community bicycle routes in accordance with the Regional Bikeway Plan described in the Circulation Diagram and Standards section and depicted in Figure TR-2. The plan designates bikeways between cities and unincorporated communities, to and near major traffic generators such as recreational areas, parks of regional significance, and other major public facilities, and along recreational routes.		x				x					x				
Fresno County	Circ	P	TR-D	TR-D.2	The County shall give priority to bikeways that will serve the most cyclists and destinations of greatest demand and to bikeways that close gaps in the existing system.		x													
Fresno County	Circ	P	TR-D	TR-D.3	The County shall implement Regional Bikeways Plan routes as Class II facilities unless otherwise designated.		x													
Fresno County	Circ	P	TR-D	TR-D.4	The County shall develop bikeways in conjunction with street improvement projects occurring along streets and roads designated on the Regional Bikeways Plan map.		x													
Fresno County	Circ	P	TR-D	TR-D.5	The County shall require that adequate rights-of-way or easements are provided for designated bikeways or trails as a condition of land development.		x								x					
Fresno County	Circ	P	TR-D	TR-D.6	The County should promote bicycle safety programs through education and awareness programs aimed at both cyclists and motorists.		x					x								
Fresno County	Circ	P	TR-D	TR-D.7	The County shall construct and maintain bikeways to minimize conflicts between bicyclists and motorists.		x					x	x							

Jurisdiction	Element	G/O/P/IM	G/O#	P #	Goal/Policy/Program Language	Funding	Active Transport (bike/ped)	Multi-modal (public transit/connections to active transport)	Road Diets	Complete Streets	Connected Network	Safety	Design	Traffic Calming	Development	Regional/Interagency Support	Traffic Flow	Auto Priority	Road Expansion	N/A
Fresno County	Circ	P	TR-D	TR-D.8	The County shall support development of facilities that help link bicycling with other modes of transportation.		x	x			x									
Fresno County	Circ	IM	TR-D	TR-D.A	The County shall work with the Council of Fresno County Governments, Caltrans, and cities within the county to update the Regional Bikeways Plan to ensure consistency with the Circulation Diagram and Standards section. (See Policy TR-D.1)		x									x				
Fresno County	Circ	IM	TR-D	TR-D.B	The County shall encourage implementation and use of bikeways by use of Transportation Development Act Article III bicycle and pedestrian funds to implement and maintain bikeways or bike trails. The County shall continue to identify and pursue appropriate new funding sources for bikeway implementation. Grant funds from regional, State, and Federal agencies should be pursued and utilized when compatible with the General Plan policies and long-term local funding capabilities. (See Policy TR-D.1)	x	x									x				
Fresno County	Circ	IM	TR-D	TR-D.C	The County shall require that sufficient pavement width for bikeways shown on the Regional Bikeway Plan be constructed in conjunction with road construction projects, and that adequate right-of-way and/or pavement width for bicycle facilities be included in frontage improvements required of new development. Implementation through signing and striping is an operational decision, and may not coincide with initial construction. (See Policies TR-D.4 and TR-D.5)		x								x					
Fresno County	Circ	IM	TR-D	TR-D.D	The County shall use California Department of Transportation (Caltrans) bikeway design standards as guidelines for construction of Class I, II, III bicycle facilities. (See Policies TR-D.1 and TR-D.3)		x													
Fresno County	Circ	IM	TR-D	TR-D.E	The County shall work with other agencies to provide facilities that help link bicycles to other modes, including provision of bike racks or space on buses and parking or lockers for bicycles at transportation terminals. (See Policy TR-D.8)		x	x								x				
Fresno County	Circ	G	TR-E	N/A	To plan for a safe, efficient, and environmentally-sound rail system to meet the needs of all Fresno County residents, industry, commerce, and agriculture.															x
Fresno County	Circ	P	TR-E	TR-E.1	The County supports consolidation of the Burlington Northern Santa Fe main line traffic onto the Union Pacific right-of-way from Calwa to the San Joaquin River.															x
Fresno County	Circ	P	TR-E	TR-E.2	The County shall support improvements to at-grade crossings on the Burlington Northern Santa Fe and Union Pacific mainline and spur or branch line tracks within the county.															x
Fresno County	Circ	P	TR-E	TR-E.3	The County shall support acquisition by local agencies of railroad rights-of-way that are: 1) in designated transit corridors shown in Figure TR-3; and 2) required for public health, safety, and welfare.															x
Fresno County	Circ	P	TR-E	TR-E.4	The County shall work cooperatively with the railroads on the long-term protection of railroad rights-of-way.															x
Fresno County	Circ	P	TR-E	TR-E.5	The County shall support multi-modal stations at appropriate locations to integrate rail transportation with other transportation modes.			x												
Fresno County	Circ	P	TR-E	TR-E.6	The County shall support the development of a statewide high-speed rail service through the Central Valley that serves downtown Fresno and that parallels the Burlington Northern/Santa Fe corridor south of the City of Fresno, the Union Pacific corridor through the City of Fresno, and is capable of accommodating the rapid movement of freight during nighttime, non-passenger usage hours.															x
Fresno County	Circ	IM	TR-E	TR-E.A	The County shall work with other agencies to plan line-designated railroad corridors to facilitate the preservation of important railroad rights-of–way for future rail expansion or other appropriate transportation facilities. (See Policies TR-E.3 and TR-E.4)															x

Jurisdiction	Element	G/O/P/IM	G/O#	P #	Goal/Policy/Program Language	Funding	Active Transport (bike/ped)	Multi-modal (public transit/connections to active transport)	Road Diets	Complete Streets	Connected Network	Safety	Design	Traffic Calming	Development	Regional/Interagency Support	Traffic Flow	Auto Priority	Road Expansion	N/A
Fresno County	Circ	IM	TR-E	TR-E.B	The County shall use appropriate zoning in designated rail corridors to ensure preservation of rail facilities for future local rail use. (See Policy TR-E.4)															x
Fresno County	Circ	IM	TR-E	TR-E.C	The County shall participate in the Council of Fresno County Governments Rail Committee to support improvement, development, and expansion of rail service in Fresno County. (See Policies TR-E.1 through TR-E.6)															x
Fresno County	Circ	G	TR-F	N/A	To promote the maintenance and improvement of general and commercial aviation facilities within the parameters of compatible surrounding land uses.															x
Fresno County	Circ	P	TR-F	TR-F.1	The County shall continue to support Federal and State regulations governing operations and land use restrictions related to airports in the county.															x
Fresno County	Circ	P	TR-F	TR-F.2	The County shall continue its membership on and support of the Fresno County Airport Land Use Commission.															x
Fresno County	Circ	P	TR-F	TR-F.3	The County shall support the concept of a regional cargo airport on the County's west side to serve the growing needs of agricultural commerce.															x

Appendix B. Existing Operations Analysis

Traffic Peak Hour Volume Counts

Historical Counts provided by GHD

Purchased Counts provided by National Data & Surveying Services

Street Light Data

Day Type

1: Analysis Week (Tu-Th)

TURNING MOVEMENT COUNTS

Day Part	West Leg - SR168/Academy EB Left	EB Thru	EB Right	East Leg - SR168/Academy WB Left	WB Thru	WB Right	South Leg - SR168/Academy NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right	Total
00: All Day (12am-12am)	-	2,483	134	579	2,135	-	278	-	587	-	-	-	6,196
01: 12am (12am-1am)	-	13	-	2	3	-	-	-	-	-	-	-	18
02: 1am (1am-2am)	-	7	-	-	-	-	-	-	-	-	-	-	7
03: 2am (2am-3am)	-	2	-	-	1	-	-	-	-	-	-	-	3
04: 3am (3am-4am)	-	1	-	1	4	-	1	-	2	-	-	-	9
05: 4am (4am-5am)	-	5	-	20	11	-	-	-	5	-	-	-	41
06: 5am (5am-6am)	-	23	12	54	45	-	-	-	18	-	-	-	152
07: 6am (6am-7am)	-	79	-	45	239	-	70	-	38	-	-	-	471
08: 7am (7am-8am)	-	69	9	74	315	-	17	-	30	-	-	-	514
09: 8am (8am-9am)	-	85	9	41	217	-	13	-	25	-	-	-	390
10: 9am (9am-10am)	-	76	7	21	141	-	12	-	35	-	-	-	292
11: 10am (10am-11am)	-	90	7	25	121	-	8	-	26	-	-	-	277
12: 11am (11am-12noon)	-	116	7	24	103	-	12	-	24	-	-	-	286
13: 12pm (12noon-1pm)	-	105	6	20	153	-	6	-	15	-	-	-	305
14: 1pm (1pm-2pm)	-	126	5	23	115	-	11	-	29	-	-	-	309
15: 2pm (2pm-3pm)	-	156	9	33	126	-	8	-	35	-	-	-	367
16: 3pm (3pm-4pm)	-	243	14	41	115	-	13	-	73	-	-	-	499
17: 4pm (4pm-5pm)	-	238	12	34	147	-	15	-	59	-	-	-	505
18: 5pm (5pm-6pm)	-	296	17	24	119	-	21	-	95	-	-	-	572
19: 6pm (6pm-7pm)	-	242	10	32	78	-	16	-	41	-	-	-	419
20: 7pm (7pm-8pm)	-	176	4	16	47	-	9	-	25	-	-	-	277
21: 8pm (8pm-9pm)	-	159	-	19	29	-	9	-	20	-	-	-	236
22: 9pm (9pm-10pm)	-	85	4	10	18	-	5	-	9	-	-	-	131
23: 10pm (10pm-11pm)	-	51	-	7	3	-	4	-	1	-	-	-	66
24: 11pm (11pm-12am)	-	31	-	9	-	-	4	-	1	-	-	-	45

TURNING MOVEMENT PERCENTAGE

Day Part	West Leg - SR168/Academy EB Left	EB Thru	EB Right	East Leg - SR168/Academy WB Left	WB Thru	WB Right	South Leg - SR168/Academy NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right
00: All Day (12am-12am)	0%	95%	5%	21%	79%	0%	32%	0%	68%	-	-	-
01: 12am (12am-1am)	0%	100%	0%	40%	60%	0%	-	-	-	-	-	-
02: 1am (1am-2am)	0%	100%	0%	-	-	-	-	-	-	-	-	-
03: 2am (2am-3am)	0%	100%	0%	0%	100%	0%	-	-	-	-	-	-
04: 3am (3am-4am)	0%	100%	0%	20%	80%	0%	33%	0%	67%	-	-	-
05: 4am (4am-5am)	0%	100%	0%	65%	35%	0%	0%	0%	100%	-	-	-
06: 5am (5am-6am)	0%	66%	34%	55%	45%	0%	0%	0%	100%	-	-	-
07: 6am (6am-7am)	0%	100%	0%	16%	84%	0%	65%	0%	35%	-	-	-
08: 7am (7am-8am)	0%	88%	12%	19%	81%	0%	36%	0%	64%	-	-	-
09: 8am (8am-9am)	0%	90%	10%	16%	84%	0%	34%	0%	66%	-	-	-
10: 9am (9am-10am)	0%	92%	8%	13%	87%	0%	26%	0%	74%	-	-	-
11: 10am (10am-11am)	0%	93%	7%	17%	83%	0%	24%	0%	76%	-	-	-
12: 11am (11am-12noon)	0%	94%	6%	19%	81%	0%	33%	0%	67%	-	-	-
13: 12pm (12noon-1pm)	0%	95%	5%	12%	88%	0%	29%	0%	71%	-	-	-
14: 1pm (1pm-2pm)	0%	96%	4%	17%	83%	0%	28%	0%	73%	-	-	-
15: 2pm (2pm-3pm)	0%	95%	5%	21%	79%	0%	19%	0%	81%	-	-	-
16: 3pm (3pm-4pm)	0%	95%	5%	26%	74%	0%	15%	0%	85%	-	-	-
17: 4pm (4pm-5pm)	0%	95%	5%	19%	81%	0%	20%	0%	80%	-	-	-
18: 5pm (5pm-6pm)	0%	95%	5%	17%	83%	0%	18%	0%	82%	-	-	-
19: 6pm (6pm-7pm)	0%	96%	4%	29%	71%	0%	28%	0%	72%	-	-	-
20: 7pm (7pm-8pm)	0%	98%	2%	25%	75%	0%	26%	0%	74%	-	-	-
21: 8pm (8pm-9pm)	0%	100%	0%	40%	60%	0%	31%	0%	69%	-	-	-
22: 9pm (9pm-10pm)	0%	96%	4%	36%	64%	0%	36%	0%	64%	-	-	-
23: 10pm (10pm-11pm)	0%	100%	0%	70%	30%	0%	80%	0%	20%	-	-	-
24: 11pm (11pm-12am)	0%	100%	0%	100%	0%	0%	80%	0%	20%	-	-	-

Day Type

1: Analysis Week (Tu-Th)

TURNING MOVEMENT COUNTS

	West Leg - Shaw/Academy			East Leg - Shaw/Academy			South Leg - Shaw/Academy			North Leg - Shaw/Academy			
Day Part	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right	Total
00: All Day (12am-12am)	246	266	1,035	163	178	161	972	1,996	172	196	1,811	220	7,416
01: 12am (12am-1am)	1	2	2	-	-	-	8	3	-	-	4	1	21
04: 3am (3am-4am)	-	-	-	-	-	-	-	-	-	-	5	-	5
05: 4am (4am-5am)	-	-	2	-	-	15	4	9	-	-	5	6	41
06: 5am (5am-6am)	2	-	3	7	4	3	2	39	-	-	41	22	123
07: 6am (6am-7am)	6	8	40	8	42	12	31	67	27	4	138	11	394
08: 7am (7am-8am)	18	5	162	54	8	7	71	226	5	7	217	28	808
09: 8am (8am-9am)	13	10	73	7	5	9	87	164	10	7	110	9	504
10: 9am (9am-10am)	11	11	38	6	6	11	37	112	11	8	95	13	359
11: 10am (10am-11am)	18	11	39	6	5	10	40	81	5	7	76	7	305
12: 11am (11am-12noon)	14	7	50	3	16	11	44	80	4	9	81	6	325
13: 12pm (12noon-1pm)	17	15	49	15	6	12	56	88	5	13	86	11	373
14: 1pm (1pm-2pm)	16	14	51	8	5	4	57	104	7	12	68	12	358
15: 2pm (2pm-3pm)	12	11	51	8	6	6	68	107	8	24	89	12	402
16: 3pm (3pm-4pm)	20	20	75	10	15	10	96	162	13	9	144	18	592
17: 4pm (4pm-5pm)	19	33	101	10	16	10	83	207	15	14	137	14	659
18: 5pm (5pm-6pm)	23	47	94	9	14	12	109	205	21	21	173	17	745
19: 6pm (6pm-7pm)	16	31	75	3	6	9	73	131	21	22	115	13	515
20: 7pm (7pm-8pm)	12	19	49	-	17	8	41	93	9	19	76	5	348
21: 8pm (8pm-9pm)	10	13	37	3	5	5	33	55	6	7	59	4	237
22: 9pm (9pm-10pm)	5	6	26	2	2	4	15	34	3	3	50	5	155
23: 10pm (10pm-11pm)	2	-	15	-	1	-	11	23	-	-	24	3	79
02: 1am (1am-2am)	-	-	-	-	-	-	3	5	-	-	4	1	13
24: 11pm (11pm-12am)	3	2	4	2	-	-	2	8	-	2	14	-	37
03: 2am (2am-3am)	2	-	2	-	-	-	1	3	-	-	2	-	10

TURNING MOVEMENT PERCENTAGE

	West Leg - Shaw/Academy			East Leg - Shaw/Academy			South Leg - Shaw/Academy			North Leg - Shaw/Academy		
Day Part	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right
00: All Day (12am-12am)	16%	17%	67%	32%	35%	32%	31%	64%	5%	9%	81%	10%
01: 12am (12am-1am)	20%	40%	40%	-	-	-	73%	27%	0%	0%	80%	20%
04: 3am (3am-4am)	-	-	-	-	-	-	-	-	-	0%	100%	0%
05: 4am (4am-5am)	0%	0%	100%	0%	0%	100%	31%	69%	0%	0%	45%	55%
06: 5am (5am-6am)	40%	0%	60%	50%	29%	21%	5%	95%	0%	0%	65%	35%
07: 6am (6am-7am)	11%	15%	74%	13%	68%	19%	25%	54%	22%	3%	90%	7%
08: 7am (7am-8am)	10%	3%	88%	78%	12%	10%	24%	75%	2%	3%	86%	11%
09: 8am (8am-9am)	14%	10%	76%	33%	24%	43%	33%	63%	4%	6%	87%	7%
10: 9am (9am-10am)	18%	18%	63%	26%	26%	48%	23%	70%	7%	7%	82%	11%
11: 10am (10am-11am)	26%	16%	57%	29%	24%	48%	32%	64%	4%	8%	84%	8%
12: 11am (11am-12noon)	20%	10%	70%	10%	53%	37%	34%	63%	3%	9%	84%	6%
13: 12pm (12noon-1pm)	21%	19%	60%	45%	18%	36%	38%	59%	3%	12%	78%	10%
14: 1pm (1pm-2pm)	20%	17%	63%	47%	29%	24%	34%	62%	4%	13%	74%	13%
15: 2pm (2pm-3pm)	16%	15%	69%	40%	30%	30%	37%	58%	4%	19%	71%	10%
16: 3pm (3pm-4pm)	17%	17%	65%	29%	43%	29%	35%	60%	5%	5%	84%	11%
17: 4pm (4pm-5pm)	12%	22%	66%	28%	44%	28%	27%	68%	5%	8%	83%	8%
18: 5pm (5pm-6pm)	14%	29%	57%	26%	40%	34%	33%	61%	6%	10%	82%	8%
19: 6pm (6pm-7pm)	13%	25%	61%	17%	33%	50%	32%	58%	9%	15%	77%	9%
20: 7pm (7pm-8pm)	15%	24%	61%	0%	68%	32%	29%	65%	6%	19%	76%	5%
21: 8pm (8pm-9pm)	17%	22%	62%	23%	38%	38%	35%	59%	6%	10%	84%	6%
22: 9pm (9pm-10pm)	14%	16%	70%	25%	25%	50%	29%	65%	6%	5%	86%	9%
23: 10pm (10pm-11pm)	12%	0%	88%	0%	100%	0%	32%	68%	0%	0%	89%	11%
02: 1am (1am-2am)	-	-	-	-	-	-	38%	63%	0%	0%	80%	20%
24: 11pm (11pm-12am)	33%	22%	44%	100%	0%	0%	20%	80%	0%	13%	88%	0%
03: 2am (2am-3am)	50%	0%	50%	-	-	-	25%	75%	0%	0%	100%	0%

Day Type

1: Analysis Week (Tu-Th)

TURNING MOVEMENT COUNTS

	West Leg - Ashlan/Academy			East Leg - Ashlan/Academy			South Leg - Ashlan/Academy			North Leg - Ashlan/Academy			
Day Part	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right	Total
00: All Day (12am-12am)	300	212	565	255	173	249	543	3,089	267	233	2,921	229	9,036
01: 12am (12am-1am)	2	-	2	-	1	-	2	14	-	-	6	-	27
02: 1am (1am-2am)	1	-	-	-	-	-	1	7	-	-	4	-	13
05: 4am (4am-5am)	3	-	-	-	-	10	-	4	4	-	9	-	30
06: 5am (5am-6am)	3	-	32	11	-	10	2	42	4	1	43	12	160
07: 6am (6am-7am)	6	2	22	20	4	5	9	125	3	21	182	10	409
08: 7am (7am-8am)	19	1	54	62	39	46	68	252	3	3	472	24	1,043
09: 8am (8am-9am)	20	7	29	33	9	16	44	244	7	9	184	26	628
10: 9am (9am-10am)	8	7	21	19	9	18	18	144	8	13	131	9	405
11: 10am (10am-11am)	14	15	24	2	8	21	23	114	7	7	128	5	368
12: 11am (11am-12noon)	15	9	25	11	6	15	21	126	16	9	136	12	401
13: 12pm (12noon-1pm)	9	13	27	16	5	17	21	143	5	5	148	14	423
14: 1pm (1pm-2pm)	20	8	42	5	8	4	28	162	12	7	134	15	445
15: 2pm (2pm-3pm)	12	11	37	10	7	12	44	177	9	10	153	14	496
16: 3pm (3pm-4pm)	39	15	43	11	12	14	46	262	33	15	226	17	733
17: 4pm (4pm-5pm)	29	18	51	9	13	14	58	291	39	27	219	13	781
18: 5pm (5pm-6pm)	39	22	64	9	17	19	63	373	56	25	270	15	972
19: 6pm (6pm-7pm)	24	44	22	9	7	10	31	237	15	22	168	16	605
20: 7pm (7pm-8pm)	14	9	40	12	9	8	19	150	19	24	98	12	414
21: 8pm (8pm-9pm)	14	21	10	7	8	3	20	109	14	13	93	8	320
22: 9pm (9pm-10pm)	8	8	12	4	8	2	9	61	4	9	63	8	196
23: 10pm (10pm-11pm)	2	1	4	-	2	2	6	33	9	3	32	1	95
24: 11pm (11pm-12am)	-	2	2	3	-	1	1	16	-	2	15	1	43
03: 2am (2am-3am)	-	-	2	2	-	-	-	6	-	-	3	1	14
04: 3am (3am-4am)	-	-	-	-	-	-	2	2	-	1	3	-	8

TURNING MOVEMENT PERCENTAGE

	West Leg - Ashlan/Academy			East Leg - Ashlan/Academy			South Leg - Ashlan/Academy			North Leg - Ashlan/Academy		
Day Part	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right
00: All Day (12am-12am)	28%	20%	52%	38%	26%	37%	14%	79%	7%	7%	86%	7%
01: 12am (12am-1am)	50%	0%	50%	0%	100%	0%	13%	88%	0%	0%	100%	0%
02: 1am (1am-2am)	100%	0%	0%	-	-	-	13%	88%	0%	0%	100%	0%
05: 4am (4am-5am)	100%	0%	0%	0%	0%	100%	0%	50%	50%	0%	100%	0%
06: 5am (5am-6am)	9%	0%	91%	52%	0%	48%	4%	88%	8%	2%	77%	21%
07: 6am (6am-7am)	20%	7%	73%	69%	14%	17%	7%	91%	2%	10%	85%	5%
08: 7am (7am-8am)	26%	1%	73%	42%	27%	31%	21%	78%	1%	1%	95%	5%
09: 8am (8am-9am)	36%	13%	52%	57%	16%	28%	15%	83%	2%	4%	84%	12%
10: 9am (9am-10am)	22%	19%	58%	41%	20%	39%	11%	85%	5%	8%	86%	6%
11: 10am (10am-11am)	26%	28%	45%	6%	26%	68%	16%	79%	5%	5%	91%	4%
12: 11am (11am-12noon)	31%	18%	51%	34%	19%	47%	13%	77%	10%	6%	87%	8%
13: 12pm (12noon-1pm)	18%	27%	55%	42%	13%	45%	12%	85%	3%	3%	89%	8%
14: 1pm (1pm-2pm)	29%	11%	60%	29%	47%	24%	14%	80%	6%	4%	86%	10%
15: 2pm (2pm-3pm)	20%	18%	62%	34%	24%	41%	19%	77%	4%	6%	86%	8%
16: 3pm (3pm-4pm)	40%	15%	44%	30%	32%	38%	13%	77%	10%	6%	88%	7%
17: 4pm (4pm-5pm)	30%	18%	52%	25%	36%	39%	15%	75%	10%	10%	85%	5%
18: 5pm (5pm-6pm)	31%	18%	51%	20%	38%	42%	13%	76%	11%	8%	87%	5%
19: 6pm (6pm-7pm)	27%	49%	24%	35%	27%	38%	11%	84%	5%	11%	82%	8%
20: 7pm (7pm-8pm)	22%	14%	63%	41%	31%	28%	10%	80%	10%	18%	73%	9%
21: 8pm (8pm-9pm)	31%	47%	22%	39%	44%	17%	14%	76%	10%	11%	82%	7%
22: 9pm (9pm-10pm)	29%	29%	43%	29%	57%	14%	12%	82%	5%	11%	79%	10%
23: 10pm (10pm-11pm)	29%	14%	57%	0%	50%	50%	13%	69%	19%	8%	89%	3%
24: 11pm (11pm-12am)	0%	50%	50%	75%	0%	25%	6%	94%	0%	11%	83%	6%
03: 2am (2am-3am)	0%	0%	100%	100%	0%	0%	0%	100%	0%	0%	75%	25%
04: 3am (3am-4am)	-	-	-	-	-	-	50%	50%	0%	25%	75%	0%

Day Type

1: Analysis Week (Tu-Th)

TURNING MOVEMENT COUNTS

Day Part	West Leg - McKinley/Academy EB Left	EB Thru	EB Right	East Leg - McKinley/Academy WB Left	WB Thru	WB Right	South Leg - McKinley/Academy NB Left	NB Thru	NB Right	North Leg - McKinley/Academy SB Left	SB Thru	SB Right	Total
00: All Day (12am-12am)	177	128	399	19	91	52	442	3,668	58	93	3,659	163	8,949
07: 6am (6am-7am)	6	-	9	-	-	-	30	102	4	12	252	12	427
08: 7am (7am-8am)	14	16	57	7	-	-	33	296	3	12	594	33	1,065
09: 8am (8am-9am)	17	11	34	-	-	11	25	245	4	8	253	9	617
11: 10am (10am-11am)	6	9	21	-	3	2	20	150	7	7	143	14	382
12: 11am (11am-12noon)	5	-	30	-	6	-	17	148	-	7	170	4	387
13: 12pm (12noon-1pm)	12	5	18	-	3	5	26	153	4	4	177	11	418
14: 1pm (1pm-2pm)	7	9	21	3	20	-	17	185	7	-	167	10	446
15: 2pm (2pm-3pm)	6	12	30	3	5	3	30	226	-	9	177	11	512
16: 3pm (3pm-4pm)	8	16	25	-	15	-	58	373	-	13	267	10	785
17: 4pm (4pm-5pm)	25	11	54	-	5	4	53	395	4	4	265	11	831
18: 5pm (5pm-6pm)	36	12	37	2	12	2	44	458	-	-	320	9	932
19: 6pm (6pm-7pm)	7	6	19	6	-	14	24	254	6	11	188	8	543
20: 7pm (7pm-8pm)	4	7	11	-	-	5	19	176	-	5	140	2	369
21: 8pm (8pm-9pm)	5	-	8	5	7	5	11	136	-	-	85	3	265
23: 10pm (10pm-11pm)	2	-	-	-	-	-	7	40	-	-	33	-	82
24: 11pm (11pm-12am)	2	-	2	-	-	-	1	12	-	-	20	2	39
05: 4am (4am-5am)	2	-	-	-	-	-	-	7	-	-	14	-	23
10: 9am (9am-10am)	10	-	23	-	-	-	15	155	9	5	172	9	398
22: 9pm (9pm-10pm)	-	5	-	-	-	-	18	77	-	-	64	8	172
01: 12am (12am-1am)	2	-	-	-	-	-	3	15	-	-	12	-	32
02: 1am (1am-2am)	-	-	-	-	-	-	-	9	-	-	5	-	14
03: 2am (2am-3am)	-	-	-	-	-	-	-	7	-	-	7	-	14
04: 3am (3am-4am)	-	-	-	-	-	-	-	-	-	-	3	-	3
06: 5am (5am-6am)	1	9	-	-	-	-	1	55	6	-	120	2	194

TURNING MOVEMENT PERCENTAGE

Day Part	West Leg - McKinley/Academy EB Left	EB Thru	EB Right	East Leg - McKinley/Academy WB Left	WB Thru	WB Right	South Leg - McKinley/Academy NB Left	NB Thru	NB Right	North Leg - McKinley/Academy SB Left	SB Thru	SB Right
00: All Day (12am-12am)	25%	18%	57%	12%	56%	32%	11%	88%	1%	2%	93%	4%
07: 6am (6am-7am)	40%	0%	60%	-	-	-	22%	75%	3%	4%	91%	4%
08: 7am (7am-8am)	16%	18%	66%	100%	0%	0%	10%	89%	1%	2%	93%	5%
09: 8am (8am-9am)	27%	18%	55%	0%	0%	100%	9%	89%	1%	3%	94%	3%
11: 10am (10am-11am)	17%	25%	58%	0%	60%	40%	11%	85%	4%	4%	87%	9%
12: 11am (11am-12noon)	14%	0%	86%	0%	100%	0%	10%	90%	0%	4%	94%	2%
13: 12pm (12noon-1pm)	34%	14%	51%	0%	38%	63%	14%	84%	2%	2%	92%	6%
14: 1pm (1pm-2pm)	19%	24%	57%	13%	87%	0%	8%	89%	3%	0%	94%	6%
15: 2pm (2pm-3pm)	13%	25%	63%	27%	45%	27%	12%	88%	0%	5%	90%	6%
16: 3pm (3pm-4pm)	16%	33%	51%	0%	100%	0%	13%	87%	0%	4%	92%	3%
17: 4pm (4pm-5pm)	28%	12%	60%	0%	56%	44%	12%	87%	1%	1%	95%	4%
18: 5pm (5pm-6pm)	42%	14%	44%	13%	75%	13%	9%	91%	0%	0%	97%	3%
19: 6pm (6pm-7pm)	22%	19%	59%	30%	0%	70%	8%	89%	2%	5%	91%	4%
20: 7pm (7pm-8pm)	18%	32%	50%	0%	0%	100%	10%	90%	0%	3%	95%	1%
21: 8pm (8pm-9pm)	38%	0%	62%	29%	41%	29%	7%	93%	0%	0%	97%	3%
23: 10pm (10pm-11pm)	100%	0%	0%	-	-	-	15%	85%	0%	0%	100%	0%
24: 11pm (11pm-12am)	50%	0%	50%	-	-	-	8%	92%	0%	0%	91%	9%
05: 4am (4am-5am)	100%	0%	0%	-	-	-	0%	100%	0%	0%	100%	0%
10: 9am (9am-10am)	30%	0%	70%	-	-	-	8%	87%	5%	3%	92%	5%
22: 9pm (9pm-10pm)	0%	100%	0%	-	-	-	19%	81%	0%	0%	89%	11%
01: 12am (12am-1am)	100%	0%	0%	-	-	-	17%	83%	0%	0%	100%	0%
02: 1am (1am-2am)	-	-	-	-	-	-	0%	100%	0%	0%	100%	0%
03: 2am (2am-3am)	-	-	-	-	-	-	0%	100%	0%	0%	100%	0%
04: 3am (3am-4am)	-	-	-	-	-	-	-	-	-	0%	100%	0%
06: 5am (5am-6am)	10%	90%	0%	-	-	-	2%	89%	10%	0%	98%	2%

Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:
OMNI-Means
943 Reserve Drive
Roseville, CA 95678

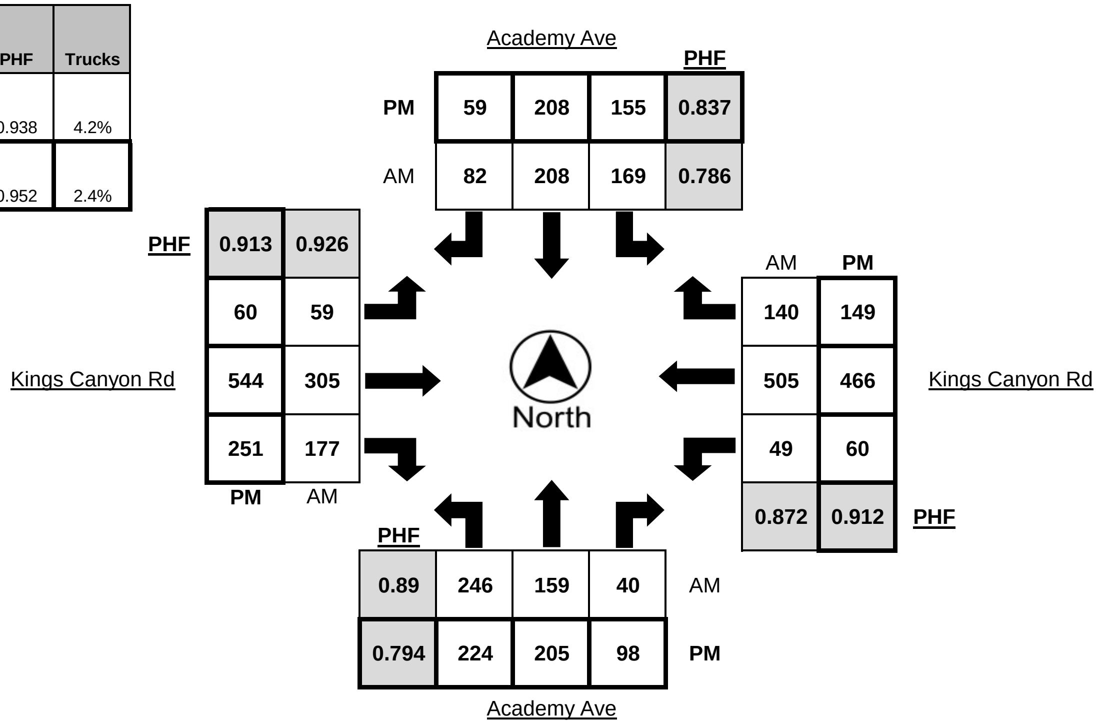
LOCATION	Kings Canyon Rd @ Academy Ave	**LATITUDE**	36.7360
COUNTY	Fresno	**LONGITUDE**	-119.5563
COLLECTION DATE	Thursday, January 11, 2018	**WEATHER**	Clear

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 7:15 AM	78	19	15	0	35	37	18	1	8	80	42	9	6	124	28	8
7:15 AM - 7:30 AM	63	30	10	4	41	57	24	3	11	88	47	8	9	157	33	10
7:30 AM - 7:45 AM	62	51	7	4	71	55	20	1	14	76	32	12	12	118	45	10
7:45 AM - 8:00 AM	57	32	8	5	29	47	15	5	18	68	56	11	16	121	36	9
8:00 AM - 8:15 AM	64	46	15	2	28	49	23	0	16	73	42	3	12	109	26	3
8:15 AM - 8:30 AM	57	24	7	3	44	58	12	7	10	79	37	13	9	110	28	6
8:30 AM - 8:45 AM	46	29	14	6	39	53	20	4	11	92	40	11	9	111	23	11
8:45 AM - 9:00 AM	49	26	13	4	26	31	16	3	7	76	51	5	7	108	19	10
TOTAL	**476**	**257**	**89**	**28**	**313**	**387**	**148**	**24**	**95**	**632**	**347**	**72**	**80**	**958**	**238**	**67**

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	69	54	29	1	49	42	17	1	18	111	72	2	12	119	36	5
4:15 PM - 4:30 PM	73	58	29	1	37	44	11	2	18	105	68	5	14	128	41	10
4:30 PM - 4:45 PM	49	40	29	3	50	61	15	3	13	141	55	4	8	102	37	8
4:45 PM - 5:00 PM	35	31	17	2	27	58	15	2	17	153	64	6	17	124	44	5
5:00 PM - 5:15 PM	67	76	23	2	41	45	18	1	12	145	64	4	21	112	27	2
5:15 PM - 5:30 PM	44	40	26	1	27	42	21	2	18	165	74	4	13	113	40	4
5:30 PM - 5:45 PM	35	45	19	0	38	55	13	2	15	120	70	5	14	102	29	5
5:45 PM - 6:00 PM	37	45	25	0	29	40	16	2	16	101	66	5	6	91	27	7
TOTAL	**409**	**389**	**197**	**10**	**298**	**387**	**126**	**15**	**127**	**1041**	**533**	**35**	**105**	**891**	**281**	**46**

	Northbound				Southbound				Eastbound				Westbound			
PEAK HOUR	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
7:15 AM - 8:15 AM	246	159	40	15	169	208	82	9	59	305	177	34	49	505	140	32
4:15 PM - 5:15 PM	224	205	98	8	155	208	59	8	60	544	251	19	60	466	149	25

	PHF	**Trucks**
AM	0.938	4.2%
PM	0.952	2.4%



Day Type

1: Analysis Week (Tu-Th)

TURNING MOVEMENT COUNTS

	West Leg - Jensen/Academy						South Leg - Jensen/Academy			North Leg - Jensen/Academy			
Day Part	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right	Total
00: All Day (12am-12am)	2,488	-	2,759	-	-	-	2,763	4,311	-	-	4,260	2,007	18,588
01: 12am (12am-1am)	9	-	12	-	-	-	13	22	-	-	48	7	111
02: 1am (1am-2am)	7	-	11	-	-	-	10	23	-	-	9	3	63
03: 2am (2am-3am)	6	-	6	-	-	-	8	10	-	-	7	4	41
04: 3am (3am-4am)	2	-	3	-	-	-	9	5	-	-	5	12	36
05: 4am (4am-5am)	6	-	9	-	-	-	14	13	-	-	37	16	95
06: 5am (5am-6am)	18	-	17	-	-	-	62	70	-	-	113	42	322
07: 6am (6am-7am)	37	-	35	-	-	-	90	102	-	-	178	65	507
08: 7am (7am-8am)	139	-	94	-	-	-	215	229	-	-	392	266	1,335
09: 8am (8am-9am)	124	-	141	-	-	-	185	252	-	-	238	127	1,067
10: 9am (9am-10am)	114	-	124	-	-	-	124	203	-	-	220	115	900
11: 10am (10am-11am)	123	-	133	-	-	-	126	201	-	-	211	89	883
12: 11am (11am-12noon)	134	-	138	-	-	-	148	225	-	-	192	120	957
13: 12pm (12noon-1pm)	154	-	170	-	-	-	172	264	-	-	239	101	1,100
14: 1pm (1pm-2pm)	143	-	178	-	-	-	143	238	-	-	263	89	1,054
15: 2pm (2pm-3pm)	148	-	154	-	-	-	187	245	-	-	253	132	1,119
16: 3pm (3pm-4pm)	273	-	236	-	-	-	186	380	-	-	271	117	1,463
17: 4pm (4pm-5pm)	181	-	229	-	-	-	210	414	-	-	297	117	1,448
18: 5pm (5pm-6pm)	253	-	318	-	-	-	200	404	-	-	364	142	1,681
19: 6pm (6pm-7pm)	203	-	229	-	-	-	201	326	-	-	271	131	1,361
20: 7pm (7pm-8pm)	169	-	187	-	-	-	184	260	-	-	222	106	1,128
21: 8pm (8pm-9pm)	112	-	162	-	-	-	128	181	-	-	198	85	866
22: 9pm (9pm-10pm)	76	-	99	-	-	-	77	151	-	-	134	74	611
23: 10pm (10pm-11pm)	39	-	44	-	-	-	33	49	-	-	69	27	261
24: 11pm (11pm-12am)	26	-	18	-	-	-	38	42	-	-	42	19	185

TURNING MOVEMENT PERCENTAGE

	West Leg - Jensen/Academy						South Leg - Jensen/Academy			North Leg - Jensen/Academy		
Day Part	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right
00: All Day (12am-12am)	47%	0%	53%	-	-	-	39%	61%	0%	0%	68%	32%
01: 12am (12am-1am)	43%	0%	57%	-	-	-	37%	63%	0%	0%	87%	13%
02: 1am (1am-2am)	39%	0%	61%	-	-	-	30%	70%	0%	0%	75%	25%
03: 2am (2am-3am)	50%	0%	50%	-	-	-	44%	56%	0%	0%	64%	36%
04: 3am (3am-4am)	40%	0%	60%	-	-	-	64%	36%	0%	0%	29%	71%
05: 4am (4am-5am)	40%	0%	60%	-	-	-	52%	48%	0%	0%	70%	30%
06: 5am (5am-6am)	51%	0%	49%	-	-	-	47%	53%	0%	0%	73%	27%
07: 6am (6am-7am)	51%	0%	49%	-	-	-	47%	53%	0%	0%	73%	27%
08: 7am (7am-8am)	60%	0%	40%	-	-	-	48%	52%	0%	0%	60%	40%
09: 8am (8am-9am)	47%	0%	53%	-	-	-	42%	58%	0%	0%	65%	35%
10: 9am (9am-10am)	48%	0%	52%	-	-	-	38%	62%	0%	0%	66%	34%
11: 10am (10am-11am)	48%	0%	52%	-	-	-	39%	61%	0%	0%	70%	30%
12: 11am (11am-12noon)	49%	0%	51%	-	-	-	40%	60%	0%	0%	62%	38%
13: 12pm (12noon-1pm)	48%	0%	52%	-	-	-	39%	61%	0%	0%	70%	30%
14: 1pm (1pm-2pm)	45%	0%	55%	-	-	-	38%	62%	0%	0%	75%	25%
15: 2pm (2pm-3pm)	49%	0%	51%	-	-	-	43%	57%	0%	0%	66%	34%
16: 3pm (3pm-4pm)	54%	0%	46%	-	-	-	33%	67%	0%	0%	70%	30%
17: 4pm (4pm-5pm)	44%	0%	56%	-	-	-	34%	66%	0%	0%	72%	28%
18: 5pm (5pm-6pm)	44%	0%	56%	-	-	-	33%	67%	0%	0%	72%	28%
19: 6pm (6pm-7pm)	47%	0%	53%	-	-	-	38%	62%	0%	0%	67%	33%
20: 7pm (7pm-8pm)	47%	0%	53%	-	-	-	41%	59%	0%	0%	68%	32%
21: 8pm (8pm-9pm)	41%	0%	59%	-	-	-	41%	59%	0%	0%	70%	30%
22: 9pm (9pm-10pm)	43%	0%	57%	-	-	-	34%	66%	0%	0%	64%	36%
23: 10pm (10pm-11pm)	47%	0%	53%	-	-	-	40%	60%	0%	0%	72%	28%
24: 11pm (11pm-12am)	59%	0%	41%	-	-	-	48%	53%	0%	0%	69%	31%

Day Type

1: Analysis Week (Tu-Th)

TURNING MOVEMENT COUNTS

	West Leg - Annadale/Academy			East Leg - Annadale/Academy			South Leg - Annadale/Academy			North Leg - Annadale/Academy			
Day Part	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right	Total
00: All Day (12am-12am)	107	302	122	977	174	1,869	102	4,467	864	1,836	4,349	158	15,327
01: 12am (12am-1am)	-	-	-	5	2	11	-	24	9	16	57	-	124
02: 1am (1am-2am)	-	3	-	-	-	12	3	19	-	10	17	-	64
03: 2am (2am-3am)	-	-	-	4	-	1	-	12	3	2	8	-	30
04: 3am (3am-4am)	-	-	-	2	-	3	-	10	-	-	11	2	28
05: 4am (4am-5am)	-	-	-	11	4	8	-	15	-	12	13	-	63
06: 5am (5am-6am)	2	-	2	33	19	60	5	51	-	11	113	3	299
07: 6am (6am-7am)	2	-	6	30	-	70	-	117	21	40	175	6	467
08: 7am (7am-8am)	16	14	10	78	32	231	7	246	43	114	267	6	1,064
09: 8am (8am-9am)	12	15	5	52	3	148	7	258	38	61	242	7	848
10: 9am (9am-10am)	4	4	5	52	16	120	4	206	41	64	244	5	765
11: 10am (10am-11am)	9	3	9	36	3	92	10	228	39	65	227	4	725
12: 11am (11am-12noon)	10	17	4	43	6	91	4	261	49	95	210	2	792
13: 12pm (12noon-1pm)	9	14	7	68	11	87	8	267	54	106	275	11	917
14: 1pm (1pm-2pm)	6	8	5	75	-	79	14	240	40	130	247	10	854
15: 2pm (2pm-3pm)	5	19	4	53	9	117	4	326	59	108	239	8	951
16: 3pm (3pm-4pm)	7	99	14	58	14	127	4	302	68	208	293	15	1,209
17: 4pm (4pm-5pm)	6	38	9	78	4	156	5	489	87	143	281	18	1,314
18: 5pm (5pm-6pm)	9	20	7	86	14	143	10	390	91	183	391	10	1,354
19: 6pm (6pm-7pm)	7	6	11	69	10	105	4	329	68	127	317	22	1,075
20: 7pm (7pm-8pm)	4	10	17	53	10	78	5	255	43	95	247	10	827
21: 8pm (8pm-9pm)	2	5	6	38	3	67	7	166	57	127	245	13	736
22: 9pm (9pm-10pm)	3	8	3	27	-	36	5	136	32	70	122	6	448
23: 10pm (10pm-11pm)	-	5	-	16	-	18	-	51	14	44	55	6	209
24: 11pm (11pm-12am)	-	5	-	8	-	23	-	55	14	15	44	3	167

TURNING MOVEMENT PERCENTAGE

	West Leg - Annadale/Academy			East Leg - Annadale/Academy			South Leg - Annadale/Academy			North Leg - Annadale/Academy		
Day Part	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right
00: All Day (12am-12am)	20%	57%	23%	32%	6%	62%	2%	82%	16%	29%	69%	2%
01: 12am (12am-1am)	-	-	-	28%	11%	61%	0%	73%	27%	22%	78%	0%
02: 1am (1am-2am)	0%	100%	0%	0%	0%	100%	14%	86%	0%	37%	63%	0%
03: 2am (2am-3am)	-	-	-	80%	0%	20%	0%	80%	20%	20%	80%	0%
04: 3am (3am-4am)	-	-	-	40%	0%	60%	0%	100%	0%	0%	85%	15%
05: 4am (4am-5am)	-	-	-	48%	17%	35%	0%	100%	0%	48%	52%	0%
06: 5am (5am-6am)	50%	0%	50%	29%	17%	54%	9%	91%	0%	9%	89%	2%
07: 6am (6am-7am)	25%	0%	75%	30%	0%	70%	0%	85%	15%	18%	79%	3%
08: 7am (7am-8am)	40%	35%	25%	23%	9%	68%	2%	83%	15%	29%	69%	2%
09: 8am (8am-9am)	38%	47%	16%	26%	1%	73%	2%	85%	13%	20%	78%	2%
10: 9am (9am-10am)	31%	31%	38%	28%	9%	64%	2%	82%	16%	20%	78%	2%
11: 10am (10am-11am)	43%	14%	43%	27%	2%	70%	4%	82%	14%	22%	77%	1%
12: 11am (11am-12noon)	32%	55%	13%	31%	4%	65%	1%	83%	16%	31%	68%	1%
13: 12pm (12noon-1pm)	30%	47%	23%	41%	7%	52%	2%	81%	16%	27%	70%	3%
14: 1pm (1pm-2pm)	32%	42%	26%	49%	0%	51%	5%	82%	14%	34%	64%	3%
15: 2pm (2pm-3pm)	18%	68%	14%	30%	5%	65%	1%	84%	15%	30%	67%	2%
16: 3pm (3pm-4pm)	6%	83%	12%	29%	7%	64%	1%	81%	18%	40%	57%	3%
17: 4pm (4pm-5pm)	11%	72%	17%	33%	2%	66%	1%	84%	15%	32%	64%	4%
18: 5pm (5pm-6pm)	25%	56%	19%	35%	6%	59%	2%	79%	19%	31%	67%	2%
19: 6pm (6pm-7pm)	29%	25%	46%	38%	5%	57%	1%	82%	17%	27%	68%	5%
20: 7pm (7pm-8pm)	13%	32%	55%	38%	7%	55%	2%	84%	14%	27%	70%	3%
21: 8pm (8pm-9pm)	15%	38%	46%	35%	3%	62%	3%	72%	25%	33%	64%	3%
22: 9pm (9pm-10pm)	21%	57%	21%	43%	0%	57%	3%	79%	18%	35%	62%	3%
23: 10pm (10pm-11pm)	0%	100%	0%	47%	0%	53%	0%	78%	22%	42%	52%	6%
24: 11pm (11pm-12am)	0%	100%	0%	26%	0%	74%	0%	80%	20%	24%	71%	5%

Day Type

1: Analysis Week (Tu-Th)

TURNING MOVEMENT COUNTS

	West Leg - North/Academy			East Leg - North/Academy			South Leg - North/Academy			North Leg - North/Academy			
Day Part	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right	Total
00: All Day (12am-12am)	739	1,931	1,000	735	1,491	572	873	3,496	742	578	3,680	836	16,673
01: 12am (12am-1am)	5	22	1	10	17	3	3	16	27	40	21	1	166
02: 1am (1am-2am)	2	2	2	1	28	8	3	14	6	8	10	2	86
03: 2am (2am-3am)	2	1	1	3	7	2	-	8	4	2	5	4	39
04: 3am (3am-4am)	2	3	1	3	9	3	-	5	5	-	10	3	44
05: 4am (4am-5am)	1	4	7	7	23	3	-	11	5	3	14	1	79
06: 5am (5am-6am)	4	24	47	31	18	15	5	38	1	9	131	4	327
07: 6am (6am-7am)	13	90	48	50	72	14	15	101	21	22	189	17	652
08: 7am (7am-8am)	39	121	88	40	153	38	56	186	51	36	255	34	1,097
09: 8am (8am-9am)	47	105	66	39	103	47	64	198	30	38	200	42	979
10: 9am (9am-10am)	38	91	67	26	83	27	34	161	28	38	182	53	828
11: 10am (10am-11am)	32	61	42	41	65	41	33	192	28	30	185	53	803
12: 11am (11am-12noon)	31	87	62	34	67	31	56	242	34	18	173	40	875
13: 12pm (12noon-1pm)	53	102	66	60	68	44	55	182	37	26	253	49	995
14: 1pm (1pm-2pm)	36	92	67	44	46	25	50	199	29	55	209	50	902
15: 2pm (2pm-3pm)	41	139	54	43	83	26	101	278	42	44	194	42	1,087
16: 3pm (3pm-4pm)	70	297	69	65	129	53	74	212	45	40	235	60	1,349
17: 4pm (4pm-5pm)	76	141	58	43	97	44	74	401	67	25	254	70	1,350
18: 5pm (5pm-6pm)	77	147	79	55	90	37	69	316	69	35	355	80	1,409
19: 6pm (6pm-7pm)	58	110	57	35	101	41	53	237	48	23	247	85	1,095
20: 7pm (7pm-8pm)	58	93	48	37	89	28	40	169	46	22	186	68	884
21: 8pm (8pm-9pm)	29	71	35	30	68	23	37	123	27	32	181	51	707
22: 9pm (9pm-10pm)	13	98	16	26	39	13	27	110	25	16	100	23	506
23: 10pm (10pm-11pm)	6	24	15	10	13	6	19	48	51	6	54	8	260
24: 11pm (11pm-12am)	4	12	7	7	11	4	8	51	8	7	34	3	156

TURNING MOVEMENT PERCENTAGE

	West Leg - North/Academy			East Leg - North/Academy			South Leg - North/Academy			North Leg - North/Academy		
Day Part	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right
00: All Day (12am-12am)	20%	53%	27%	26%	53%	20%	17%	68%	15%	11%	72%	16%
01: 12am (12am-1am)	18%	79%	4%	33%	57%	10%	7%	35%	59%	65%	34%	2%
02: 1am (1am-2am)	33%	33%	33%	3%	76%	22%	13%	61%	26%	40%	50%	10%
03: 2am (2am-3am)	50%	25%	25%	25%	58%	17%	0%	67%	33%	18%	45%	36%
04: 3am (3am-4am)	33%	50%	17%	20%	60%	20%	0%	50%	50%	0%	77%	23%
05: 4am (4am-5am)	8%	33%	58%	21%	70%	9%	0%	69%	31%	17%	78%	6%
06: 5am (5am-6am)	5%	32%	63%	48%	28%	23%	11%	86%	2%	6%	91%	3%
07: 6am (6am-7am)	9%	60%	32%	37%	53%	10%	11%	74%	15%	10%	83%	7%
08: 7am (7am-8am)	16%	49%	35%	17%	66%	16%	19%	63%	17%	11%	78%	10%
09: 8am (8am-9am)	22%	48%	30%	21%	54%	25%	22%	68%	10%	14%	71%	15%
10: 9am (9am-10am)	19%	46%	34%	19%	61%	20%	15%	72%	13%	14%	67%	19%
11: 10am (10am-11am)	24%	45%	31%	28%	44%	28%	13%	76%	11%	11%	69%	20%
12: 11am (11am-12noon)	17%	48%	34%	26%	51%	23%	17%	73%	10%	8%	75%	17%
13: 12pm (12noon-1pm)	24%	46%	30%	35%	40%	26%	20%	66%	14%	8%	77%	15%
14: 1pm (1pm-2pm)	18%	47%	34%	38%	40%	22%	18%	72%	10%	18%	67%	16%
15: 2pm (2pm-3pm)	18%	59%	23%	28%	55%	17%	24%	66%	10%	16%	69%	15%
16: 3pm (3pm-4pm)	16%	68%	16%	26%	52%	21%	22%	64%	14%	12%	70%	18%
17: 4pm (4pm-5pm)	28%	51%	21%	23%	53%	24%	14%	74%	12%	7%	73%	20%
18: 5pm (5pm-6pm)	25%	49%	26%	30%	49%	20%	15%	70%	15%	7%	76%	17%
19: 6pm (6pm-7pm)	26%	49%	25%	20%	57%	23%	16%	70%	14%	6%	70%	24%
20: 7pm (7pm-8pm)	29%	47%	24%	24%	58%	18%	16%	66%	18%	8%	67%	25%
21: 8pm (8pm-9pm)	21%	53%	26%	25%	56%	19%	20%	66%	14%	12%	69%	19%
22: 9pm (9pm-10pm)	10%	77%	13%	33%	50%	17%	17%	68%	15%	12%	72%	17%
23: 10pm (10pm-11pm)	13%	53%	33%	34%	45%	21%	16%	41%	43%	9%	79%	12%
24: 11pm (11pm-12am)	17%	52%	30%	32%	50%	18%	12%	76%	12%	16%	77%	7%

Day Type

1: Analysis Week (Tu-Th)

TURNING MOVEMENT COUNTS

Day Part	West Leg - Adams/Academy			East Leg - Adams/Academy			South Leg - Adams/Academy			North Leg - Adams/Academy			Total
	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right	
00: All Day (12am-12am)	179	721	465	34	482	797	335	3,867	31	719	3,933	154	11,717
01: 12am (12am-1am)	3	2	9	-	-	2	-	33	-	4	27	2	82
02: 1am (1am-2am)	-	-	-	-	-	-	-	12	-	-	10	1	23
04: 3am (3am-4am)	-	-	-	-	-	1	-	10	-	2	12	-	25
05: 4am (4am-5am)	-	1	-	-	-	2	-	29	-	5	31	-	68
06: 5am (5am-6am)	2	8	7	1	17	4	22	80	-	13	123	6	283
07: 6am (6am-7am)	6	28	11	-	43	17	21	146	-	22	243	8	545
08: 7am (7am-8am)	10	75	41	3	42	72	20	210	3	68	340	6	890
09: 8am (8am-9am)	14	51	17	2	19	47	12	241	3	64	187	4	661
10: 9am (9am-10am)	11	28	20	-	20	47	10	172	1	33	177	3	522
11: 10am (10am-11am)	9	22	13	2	17	23	23	181	2	35	178	9	514
12: 11am (11am-12noon)	7	24	10	1	14	54	29	183	4	14	168	13	521
13: 12pm (12noon-1pm)	11	27	21	2	21	29	24	183	-	29	218	9	574
14: 1pm (1pm-2pm)	11	37	17	2	25	45	25	177	1	26	241	8	615
15: 2pm (2pm-3pm)	18	55	25	3	23	53	25	225	4	18	224	7	680
16: 3pm (3pm-4pm)	10	70	47	4	75	77	37	267	1	58	270	20	936
17: 4pm (4pm-5pm)	14	88	34	1	49	83	24	405	2	48	271	10	1,029
18: 5pm (5pm-6pm)	18	67	51	2	41	68	24	404	1	66	374	7	1,123
19: 6pm (6pm-7pm)	24	47	52	2	24	56	11	276	1	44	243	10	790
20: 7pm (7pm-8pm)	11	23	32	1	19	42	10	182	3	31	176	16	546
21: 8pm (8pm-9pm)	2	24	17	3	8	30	9	159	3	70	151	7	483
22: 9pm (9pm-10pm)	2	25	11	5	3	30	5	116	2	39	148	7	393
23: 10pm (10pm-11pm)	4	8	14	-	3	19	7	95	1	5	75	3	234
24: 11pm (11pm-12am)	-	8	8	2	3	7	-	52	1	22	40	-	143
03: 2am (2am-3am)	-	2	2	1	1	-	2	13	1	1	14	-	37

TURNING MOVEMENT PERCENTAGE

Day Part	West Leg - Adams/Academy			East Leg - Adams/Academy			South Leg - Adams/Academy			North Leg - Adams/Academy		
	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right
00: All Day (12am-12am)	13%	53%	34%	3%	37%	61%	8%	91%	1%	15%	82%	3%
01: 12am (12am-1am)	21%	14%	64%	0%	0%	100%	0%	100%	0%	12%	82%	6%
02: 1am (1am-2am)	-	-	-	-	-	-	0%	100%	0%	0%	91%	9%
04: 3am (3am-4am)	-	-	-	0%	0%	100%	0%	100%	0%	14%	86%	0%
05: 4am (4am-5am)	0%	100%	0%	0%	0%	100%	0%	100%	0%	14%	86%	0%
06: 5am (5am-6am)	12%	47%	41%	5%	77%	18%	22%	78%	0%	9%	87%	4%
07: 6am (6am-7am)	13%	62%	24%	0%	72%	28%	13%	87%	0%	8%	89%	3%
08: 7am (7am-8am)	8%	60%	33%	3%	36%	62%	9%	90%	1%	16%	82%	1%
09: 8am (8am-9am)	17%	62%	21%	3%	28%	69%	5%	94%	1%	25%	73%	2%
10: 9am (9am-10am)	19%	47%	34%	0%	30%	70%	5%	94%	1%	15%	83%	1%
11: 10am (10am-11am)	20%	50%	30%	5%	40%	55%	11%	88%	1%	16%	80%	4%
12: 11am (11am-12noon)	17%	59%	24%	1%	20%	78%	13%	85%	2%	7%	86%	7%
13: 12pm (12noon-1pm)	19%	46%	36%	4%	40%	56%	12%	88%	0%	11%	85%	4%
14: 1pm (1pm-2pm)	17%	57%	26%	3%	35%	63%	12%	87%	0%	9%	88%	3%
15: 2pm (2pm-3pm)	18%	56%	26%	4%	29%	67%	10%	89%	2%	7%	90%	3%
16: 3pm (3pm-4pm)	8%	55%	37%	3%	48%	49%	12%	88%	0%	17%	78%	6%
17: 4pm (4pm-5pm)	10%	65%	25%	1%	37%	62%	6%	94%	0%	15%	82%	3%
18: 5pm (5pm-6pm)	13%	49%	38%	2%	37%	61%	6%	94%	0%	15%	84%	2%
19: 6pm (6pm-7pm)	20%	38%	42%	2%	29%	68%	4%	96%	0%	15%	82%	3%
20: 7pm (7pm-8pm)	17%	35%	48%	2%	31%	68%	5%	93%	2%	14%	79%	7%
21: 8pm (8pm-9pm)	5%	56%	40%	7%	20%	73%	5%	93%	2%	31%	66%	3%
22: 9pm (9pm-10pm)	5%	66%	29%	13%	8%	79%	4%	94%	2%	20%	76%	4%
23: 10pm (10pm-11pm)	15%	31%	54%	0%	14%	86%	7%	92%	1%	6%	90%	4%
24: 11pm (11pm-12am)	0%	50%	50%	17%	25%	58%	0%	98%	2%	35%	65%	0%
03: 2am (2am-3am)	0%	50%	50%	50%	50%	0%	13%	81%	6%	7%	93%	0%

Day Type

1: Analysis Week (Tu-Th)

TURNING MOVEMENT COUNTS

	West Leg - Manning/Academy			East Leg - Manning/Academy			South Leg - Manning/Academy			North Leg - Manning/Academy			
Day Part	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right	Total
00: All Day (12am-12am)	904	6,884	168	355	7,372	1,337	188	1,981	380	1,232	2,060	910	23,771
01: 12am (12am-1am)	7	56	-	-	28	7	-	11	-	11	6	3	129
02: 1am (1am-2am)	-	26	-	-	34	5	-	12	-	4	5	-	86
03: 2am (2am-3am)	2	13	-	-	22	1	2	13	2	1	9	6	71
04: 3am (3am-4am)	1	53	-	-	26	1	-	11	-	5	5	5	107
05: 4am (4am-5am)	8	58	-	3	87	3	1	24	6	4	8	11	213
06: 5am (5am-6am)	9	100	9	4	223	37	13	53	8	28	92	17	593
07: 6am (6am-7am)	26	257	12	58	440	31	34	103	9	46	215	46	1,277
08: 7am (7am-8am)	35	498	7	17	934	67	9	95	12	130	165	68	2,037
09: 8am (8am-9am)	20	373	18	16	428	86	23	103	12	83	142	60	1,364
10: 9am (9am-10am)	49	379	8	18	370	61	9	85	15	67	98	31	1,190
11: 10am (10am-11am)	34	319	6	20	362	64	8	57	31	76	74	52	1,103
12: 11am (11am-12noon)	41	284	10	16	366	76	6	64	27	65	81	37	1,073
13: 12pm (12noon-1pm)	41	299	4	18	404	70	6	83	16	73	106	55	1,175
14: 1pm (1pm-2pm)	32	416	12	24	388	82	3	94	20	68	140	53	1,332
15: 2pm (2pm-3pm)	59	423	15	29	525	89	10	126	20	66	106	66	1,534
16: 3pm (3pm-4pm)	63	501	25	21	570	115	15	159	51	85	134	64	1,803
17: 4pm (4pm-5pm)	85	611	12	38	573	102	7	236	27	72	129	76	1,968
18: 5pm (5pm-6pm)	106	717	8	18	492	112	7	188	32	120	207	47	2,054
19: 6pm (6pm-7pm)	76	493	7	18	360	101	8	109	20	90	107	71	1,460
20: 7pm (7pm-8pm)	73	318	4	14	259	77	9	73	15	51	68	42	1,003
21: 8pm (8pm-9pm)	54	278	10	13	248	58	9	97	26	35	58	48	934
22: 9pm (9pm-10pm)	29	201	3	6	128	39	6	91	17	32	51	34	637
23: 10pm (10pm-11pm)	26	117	2	-	67	29	2	78	8	12	37	11	389
24: 11pm (11pm-12am)	21	81	-	2	44	24	1	16	-	20	12	7	228

TURNING MOVEMENT PERCENTAGE

	West Leg - Manning/Academy			East Leg - Manning/Academy			South Leg - Manning/Academy			North Leg - Manning/Academy		
Day Part	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right
00: All Day (12am-12am)	11%	87%	2%	4%	81%	15%	7%	78%	15%	29%	49%	22%
01: 12am (12am-1am)	11%	89%	0%	0%	80%	20%	0%	100%	0%	55%	30%	15%
02: 1am (1am-2am)	0%	100%	0%	0%	87%	13%	0%	100%	0%	44%	56%	0%
03: 2am (2am-3am)	13%	87%	0%	0%	96%	4%	12%	76%	12%	6%	56%	38%
04: 3am (3am-4am)	2%	98%	0%	0%	96%	4%	0%	100%	0%	33%	33%	33%
05: 4am (4am-5am)	12%	88%	0%	3%	94%	3%	3%	77%	19%	17%	35%	48%
06: 5am (5am-6am)	8%	85%	8%	2%	84%	14%	18%	72%	11%	20%	67%	12%
07: 6am (6am-7am)	9%	87%	4%	11%	83%	6%	23%	71%	6%	15%	70%	15%
08: 7am (7am-8am)	6%	92%	1%	2%	92%	7%	8%	82%	10%	36%	45%	19%
09: 8am (8am-9am)	5%	91%	4%	3%	81%	16%	17%	75%	9%	29%	50%	21%
10: 9am (9am-10am)	11%	87%	2%	4%	82%	14%	8%	78%	14%	34%	50%	16%
11: 10am (10am-11am)	9%	89%	2%	4%	81%	14%	8%	59%	32%	38%	37%	26%
12: 11am (11am-12noon)	12%	85%	3%	3%	80%	17%	6%	66%	28%	36%	44%	20%
13: 12pm (12noon-1pm)	12%	87%	1%	4%	82%	14%	6%	79%	15%	31%	45%	24%
14: 1pm (1pm-2pm)	7%	90%	3%	5%	79%	17%	3%	80%	17%	26%	54%	20%
15: 2pm (2pm-3pm)	12%	85%	3%	5%	82%	14%	6%	81%	13%	28%	45%	28%
16: 3pm (3pm-4pm)	11%	85%	4%	3%	81%	16%	7%	71%	23%	30%	47%	23%
17: 4pm (4pm-5pm)	12%	86%	2%	5%	80%	14%	3%	87%	10%	26%	47%	27%
18: 5pm (5pm-6pm)	13%	86%	1%	3%	79%	18%	3%	83%	14%	32%	55%	13%
19: 6pm (6pm-7pm)	13%	86%	1%	4%	75%	21%	6%	80%	15%	34%	40%	26%
20: 7pm (7pm-8pm)	18%	81%	1%	4%	74%	22%	9%	75%	15%	32%	42%	26%
21: 8pm (8pm-9pm)	16%	81%	3%	4%	78%	18%	7%	73%	20%	25%	41%	34%
22: 9pm (9pm-10pm)	12%	86%	1%	3%	74%	23%	5%	80%	15%	27%	44%	29%
23: 10pm (10pm-11pm)	18%	81%	1%	0%	70%	30%	2%	89%	9%	20%	62%	18%
24: 11pm (11pm-12am)	21%	79%	0%	3%	63%	34%	6%	94%	0%	51%	31%	18%

Day Type

1: Analysis Week (Tu-Th)

TURNING MOVEMENT COUNTS

	West Leg - Rose/Academy			East Leg - Rose/Academy			South Leg - Rose/Academy			North Leg - Rose/Academy			
Day Part	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right	Total
00: All Day (12am-12am)	188	1,612	129	61	1,535	248	144	1,476	59	210	1,663	237	7,562
01: 12am (12am-1am)	1	3	-	-	4	2	-	6	-	-	7	-	23
02: 1am (1am-2am)	-	5	-	-	1	1	-	7	-	-	6	-	20
05: 4am (4am-5am)	13	18	-	-	1	2	2	9	-	-	10	-	55
06: 5am (5am-6am)	-	30	-	-	11	16	-	27	2	10	80	1	177
07: 6am (6am-7am)	2	59	13	-	38	58	4	55	2	41	212	23	507
08: 7am (7am-8am)	2	95	5	6	210	7	13	92	6	8	122	37	603
09: 8am (8am-9am)	4	76	5	2	106	22	4	77	-	14	98	18	426
10: 9am (9am-10am)	17	75	4	2	105	13	4	55	2	5	85	7	374
11: 10am (10am-11am)	11	91	4	4	98	8	5	41	-	11	64	11	348
12: 11am (11am-12noon)	12	98	4	12	90	6	15	44	3	10	65	10	369
13: 12pm (12noon-1pm)	14	82	22	3	77	2	12	62	5	10	73	10	372
14: 1pm (1pm-2pm)	22	91	10	2	92	2	9	66	4	10	117	14	439
15: 2pm (2pm-3pm)	13	121	18	3	103	15	13	90	5	19	76	15	491
16: 3pm (3pm-4pm)	6	117	10	5	144	22	10	142	2	25	100	16	599
17: 4pm (4pm-5pm)	19	123	9	6	112	44	13	162	6	13	97	20	624
18: 5pm (5pm-6pm)	20	236	9	13	106	4	14	151	11	17	180	11	772
19: 6pm (6pm-7pm)	11	80	5	2	108	2	6	77	4	5	92	17	409
20: 7pm (7pm-8pm)	6	72	4	-	46	7	6	68	4	5	53	8	279
21: 8pm (8pm-9pm)	1	56	1	3	43	2	6	87	7	5	34	7	252
22: 9pm (9pm-10pm)	15	39	4	-	19	3	4	69	2	-	34	6	195
23: 10pm (10pm-11pm)	2	26	2	-	12	2	3	60	-	-	33	2	142
24: 11pm (11pm-12am)	-	7	-	-	9	1	2	6	-	-	13	-	38
03: 2am (2am-3am)	-	2	-	-	1	-	-	13	-	-	5	3	24
04: 3am (3am-4am)	2	2	-	-	3	-	-	8	-	1	5	-	21

TURNING MOVEMENT PERCENTAGE

	West Leg - Rose/Academy			East Leg - Rose/Academy			South Leg - Rose/Academy			North Leg - Rose/Academy		
Day Part	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right
00: All Day (12am-12am)	10%	84%	7%	3%	83%	13%	9%	88%	4%	10%	79%	11%
01: 12am (12am-1am)	25%	75%	0%	0%	67%	33%	0%	100%	0%	0%	100%	0%
02: 1am (1am-2am)	0%	100%	0%	0%	50%	50%	0%	100%	0%	0%	100%	0%
05: 4am (4am-5am)	42%	58%	0%	0%	33%	67%	18%	82%	0%	0%	100%	0%
06: 5am (5am-6am)	0%	100%	0%	0%	41%	59%	0%	93%	7%	11%	88%	1%
07: 6am (6am-7am)	3%	80%	18%	0%	40%	60%	7%	90%	3%	15%	77%	8%
08: 7am (7am-8am)	2%	93%	5%	3%	94%	3%	12%	83%	5%	5%	73%	22%
09: 8am (8am-9am)	5%	89%	6%	2%	82%	17%	5%	95%	0%	11%	75%	14%
10: 9am (9am-10am)	18%	78%	4%	2%	88%	11%	7%	90%	3%	5%	88%	7%
11: 10am (10am-11am)	10%	86%	4%	4%	89%	7%	11%	89%	0%	13%	74%	13%
12: 11am (11am-12noon)	11%	86%	4%	11%	83%	6%	24%	71%	5%	12%	76%	12%
13: 12pm (12noon-1pm)	12%	69%	19%	4%	94%	2%	15%	78%	6%	11%	78%	11%
14: 1pm (1pm-2pm)	18%	74%	8%	2%	96%	2%	11%	84%	5%	7%	83%	10%
15: 2pm (2pm-3pm)	9%	80%	12%	2%	85%	12%	12%	83%	5%	17%	69%	14%
16: 3pm (3pm-4pm)	5%	88%	8%	3%	84%	13%	6%	92%	1%	18%	71%	11%
17: 4pm (4pm-5pm)	13%	81%	6%	4%	69%	27%	7%	90%	3%	10%	75%	15%
18: 5pm (5pm-6pm)	8%	89%	3%	11%	86%	3%	8%	86%	6%	8%	87%	5%
19: 6pm (6pm-7pm)	11%	83%	5%	2%	96%	2%	7%	89%	5%	4%	81%	15%
20: 7pm (7pm-8pm)	7%	88%	5%	0%	87%	13%	8%	87%	5%	8%	80%	12%
21: 8pm (8pm-9pm)	2%	97%	2%	6%	90%	4%	6%	87%	7%	11%	74%	15%
22: 9pm (9pm-10pm)	26%	67%	7%	0%	86%	14%	5%	92%	3%	0%	85%	15%
23: 10pm (10pm-11pm)	7%	87%	7%	0%	86%	14%	5%	95%	0%	0%	94%	6%
24: 11pm (11pm-12am)	0%	100%	0%	0%	90%	10%	25%	75%	0%	0%	100%	0%
03: 2am (2am-3am)	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%	63%	38%
04: 3am (3am-4am)	50%	50%	0%	0%	100%	0%	0%	100%	0%	17%	83%	0%

Day Type

1: Analysis Week (Tu-Th)

TURNING MOVEMENT COUNTS

	West Leg - MtView/Manning			East Leg - MtView/Manning			South Leg - MtView/Manning			North Leg - MtView/Manning			
Day Part	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right	Total
00: All Day (12am-12am)	589	4,511	106	394	4,919	293	107	724	368	346	822	580	13,759
01: 12am (12am-1am)	4	33	-	1	32	1	-	1	1	1	-	3	77
02: 1am (1am-2am)	5	16	-	-	21	-	-	-	1	-	-	5	48
03: 2am (2am-3am)	5	7	-	-	13	-	-	6	-	-	2	3	36
04: 3am (3am-4am)	3	15	-	-	23	-	-	5	-	-	2	2	50
06: 5am (5am-6am)	5	49	1	5	181	4	3	20	5	8	38	26	345
07: 6am (6am-7am)	16	227	1	14	342	25	2	14	2	28	65	99	835
08: 7am (7am-8am)	51	343	16	29	424	26	20	32	36	20	71	43	1,111
09: 8am (8am-9am)	19	258	2	10	341	11	5	52	36	20	52	28	834
10: 9am (9am-10am)	20	170	5	22	248	9	4	32	13	24	43	20	610
11: 10am (10am-11am)	15	185	5	17	254	5	4	34	10	18	34	19	600
12: 11am (11am-12noon)	13	219	6	29	205	18	8	30	15	5	39	31	618
13: 12pm (12noon-1pm)	22	214	10	24	291	16	8	45	16	15	58	24	743
14: 1pm (1pm-2pm)	17	259	4	21	293	15	5	44	17	19	49	57	800
15: 2pm (2pm-3pm)	23	308	9	28	331	24	3	47	17	16	44	25	875
16: 3pm (3pm-4pm)	72	375	13	30	399	23	10	49	62	20	60	22	1,135
17: 4pm (4pm-5pm)	72	406	9	43	346	27	10	72	36	35	54	24	1,134
18: 5pm (5pm-6pm)	43	407	7	38	335	35	3	89	25	52	76	62	1,172
19: 6pm (6pm-7pm)	18	290	8	19	247	21	7	48	28	23	35	42	786
20: 7pm (7pm-8pm)	24	221	8	25	168	16	11	36	18	10	29	16	582
21: 8pm (8pm-9pm)	49	180	3	28	128	4	8	37	16	8	19	9	489
22: 9pm (9pm-10pm)	37	124	3	7	91	8	1	21	3	10	19	9	333
23: 10pm (10pm-11pm)	37	105	1	3	61	7	-	8	3	9	14	10	258
24: 11pm (11pm-12am)	-	-	-	-	-	-	-	-	-	-	-	-	-
05: 4am (4am-5am)	6	60	-	2	100	-	-	3	-	-	3	4	178

TURNING MOVEMENT PERCENTAGE

	West Leg - MtView/Manning			East Leg - MtView/Manning			South Leg - MtView/Manning			North Leg - MtView/Manning		
Day Part	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right
00: All Day (12am-12am)	11%	87%	2%	7%	88%	5%	9%	60%	31%	20%	47%	33%
01: 12am (12am-1am)	11%	89%	0%	3%	94%	3%	0%	50%	50%	25%	0%	75%
02: 1am (1am-2am)	24%	76%	0%	0%	100%	0%	0%	0%	100%	0%	0%	100%
03: 2am (2am-3am)	42%	58%	0%	0%	100%	0%	0%	100%	0%	0%	40%	60%
04: 3am (3am-4am)	17%	83%	0%	0%	100%	0%	0%	100%	0%	0%	50%	50%
06: 5am (5am-6am)	9%	89%	2%	3%	95%	2%	11%	71%	18%	11%	53%	36%
07: 6am (6am-7am)	7%	93%	0%	4%	90%	7%	11%	78%	11%	15%	34%	52%
08: 7am (7am-8am)	12%	84%	4%	6%	89%	5%	23%	36%	41%	15%	53%	32%
09: 8am (8am-9am)	7%	92%	1%	3%	94%	3%	5%	56%	39%	20%	52%	28%
10: 9am (9am-10am)	10%	87%	3%	8%	89%	3%	8%	65%	27%	28%	49%	23%
11: 10am (10am-11am)	7%	90%	2%	6%	92%	2%	8%	71%	21%	25%	48%	27%
12: 11am (11am-12noon)	5%	92%	3%	12%	81%	7%	15%	57%	28%	7%	52%	41%
13: 12pm (12noon-1pm)	9%	87%	4%	7%	88%	5%	12%	65%	23%	15%	60%	25%
14: 1pm (1pm-2pm)	6%	93%	1%	6%	89%	5%	8%	67%	26%	15%	39%	46%
15: 2pm (2pm-3pm)	7%	91%	3%	7%	86%	6%	4%	70%	25%	19%	52%	29%
16: 3pm (3pm-4pm)	16%	82%	3%	7%	88%	5%	8%	40%	51%	20%	59%	22%
17: 4pm (4pm-5pm)	15%	83%	2%	10%	83%	6%	8%	61%	31%	31%	48%	21%
18: 5pm (5pm-6pm)	9%	89%	2%	9%	82%	9%	3%	76%	21%	27%	40%	33%
19: 6pm (6pm-7pm)	6%	92%	3%	7%	86%	7%	8%	58%	34%	23%	35%	42%
20: 7pm (7pm-8pm)	9%	87%	3%	12%	80%	8%	17%	55%	28%	18%	53%	29%
21: 8pm (8pm-9pm)	21%	78%	1%	18%	80%	3%	13%	61%	26%	22%	53%	25%
22: 9pm (9pm-10pm)	23%	76%	2%	7%	86%	8%	4%	84%	12%	26%	50%	24%
23: 10pm (10pm-11pm)	26%	73%	1%	4%	86%	10%	0%	73%	27%	27%	42%	30%
24: 11pm (11pm-12am)	-	-	-	-	-	-	-	-	-	-	-	-
05: 4am (4am-5am)	9%	91%	0%	2%	98%	0%	0%	100%	0%	0%	43%	57%

ITM Peak Hour Summary

Prepared by:

NDS

National Data & Surveying Services

10th Ave and Kamm Ave , Kingsburg

Date:	1/18/2017
Day:	Wednesday
Project #:	Historical
City:	Kingsburg

AM Peak Hour	715 AM
NOON Peak Hour	
PM Peak Hour	430 PM

N-S street: 10th Ave. E-W street: Kamm Ave.

Peak Hour Summary

Southbound Approach

	Right	Through	Left	Northbound departure (out)
Lanes	0	1	0	
AM	7	63	6	68
NOON	0	0	0	0
PM	1	58	13	50

Eastbound Approach

	Left	Through	Right	Westbound departure (out)
Lanes	0	1	1	
AM	0	27	21	170
NOON	0	0	0	0
PM	2	63	61	46

Westbound Approach

	Right	Through	Left	Eastbound departure (out)
Lanes	0	1	0	
AM	7	109	55	70
NOON	0	0	0	0
PM	3	22	62	129

Northbound Approach

	Southbound departure (out)	Left	Through	Right
Lanes		0	1	1
AM	139	54	61	37
NOON	0	0	0	0
PM	181	23	45	53

CONTROL
4-Way Stop

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs

Leg	Direction	AM	NOON	PM
North Leg	In	76	0	72
North Leg	Out	68	0	50
East Leg	In	171	0	87
East Leg	Out	70	0	129
South Leg	Out	139	0	181
South Leg	In	152	0	121
West Leg	Out	170	0	46
West Leg	In	48	0	126

Total Volume Per Leg

Leg	AM	NOON	PM
North Leg	144	0	122
East Leg	241	0	216
South Leg	291	0	302
West Leg	218	0	172

ITM Peak Hour Summary

Prepared by:

NDS

National Data & Surveying Services

10th Ave_Marion St and Sierra St , Kingsburg

Date:	1/18/2017
Day:	Wednesday

Project #:	Historical
City:	Kingsburg

AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	430 PM

N

10th Ave_Marion St

Sierra St

Peak Hour Summary

Southbound Approach

	Right	Through	Left	Northbound Out
Lanes	1	1	1	
AM	209	117	44	240
NOON	0	0	0	0
PM	108	90	35	233

Eastbound Approach

	AM	NOON	PM
Westbound Out	633	0	450

Lanes		AM	NOON	PM
1	Left	134	0	118
1	Through	320	0	290
1	Right	83	0	56

CONTROL

Sigalized

Westbound Approach

	AM	NOON	PM	Lanes
Right	19	0	20	0
Through	333	0	259	1
Left	3	0	8	1
Eastbound Out	368	0	333	

Northbound Approach

	Southbound Out	Left	Through	Right
AM	203	91	87	4
NOON	0	0	0	0
PM	154	83	95	8
Lanes		1	1	0

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs

North Leg

	In	Out
AM	370	240
NOON	0	0
PM	233	233

West Leg

	AM	NOON	PM
Out	633	0	450
In	537	0	464

East Leg

	AM	NOON	PM
In	355	0	287
Out	368	0	333

South Leg

	Out	In
AM	203	182
NOON	0	0
PM	154	186

Total Volume Per Leg

Leg	AM	NOON	PM
North Leg	610	0	466
West Leg	1170	0	914
East Leg	723	0	620
South Leg	385	0	340

Day Type

1: Analysis Week (M-M)

TURNING MOVEMENT COUNTS

	West Leg - Manning/Golden State			East Leg - Manning/Golden State			South Leg - Manning/Golden State			North Leg - Manning/Golden State			
Day Part	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right	Total
00: All Day (12am-12am)	1,005	5,715	2,513	190	6,517	1,150	1,684	2,149	124	1,087	2,248	1,037	25,419
01: 12am (12am-1am)	7	42	32	4	21	16	24	12	-	7	8	-	173
02: 1am (1am-2am)	4	33	9	3	22	-	2	10	-	7	4	20	114
03: 2am (2am-3am)	5	19	15	-	55	8	7	6	2	-	2	29	148
04: 3am (3am-4am)	-	45	9	-	39	4	8	-	-	-	-	12	117
05: 4am (4am-5am)	10	59	7	3	149	14	13	13	2	9	3	21	303
06: 5am (5am-6am)	26	84	29	2	228	49	68	16	-	9	36	37	584
07: 6am (6am-7am)	44	228	41	5	351	53	105	83	-	40	55	28	1,033
08: 7am (7am-8am)	141	377	147	8	857	271	161	245	6	62	51	33	2,359
09: 8am (8am-9am)	110	254	132	2	467	50	103	146	3	76	94	90	1,527
10: 9am (9am-10am)	42	295	102	11	360	34	81	126	3	33	87	44	1,218
11: 10am (10am-11am)	44	230	90	4	352	29	107	128	5	43	100	67	1,199
12: 11am (11am-12noon)	40	262	107	12	299	52	57	112	9	59	128	53	1,190
13: 12pm (12noon-1pm)	50	304	144	20	320	108	96	132	18	61	168	67	1,488
14: 1pm (1pm-2pm)	54	301	184	16	378	57	82	184	6	84	133	63	1,542
15: 2pm (2pm-3pm)	86	374	191	18	397	57	74	110	7	72	155	68	1,609
16: 3pm (3pm-4pm)	62	410	213	31	441	76	142	175	12	57	242	92	1,953
17: 4pm (4pm-5pm)	59	569	306	13	435	95	138	134	17	114	257	92	2,229
18: 5pm (5pm-6pm)	62	659	253	13	443	78	167	163	7	163	268	62	2,338
19: 6pm (6pm-7pm)	53	386	158	11	332	43	84	140	8	59	180	51	1,505
20: 7pm (7pm-8pm)	32	252	104	-	222	18	35	92	5	43	105	34	942
21: 8pm (8pm-9pm)	28	228	102	7	138	22	68	64	4	49	91	28	829
22: 9pm (9pm-10pm)	20	150	82	9	128	7	32	36	5	19	47	18	553
23: 10pm (10pm-11pm)	16	89	30	2	48	6	14	13	2	5	11	18	254
24: 11pm (11pm-12am)	9	65	17	3	38	2	8	10	2	14	24	22	214

TURNING MOVEMENT PERCENTAGE

	West Leg - Manning/Golden State			East Leg - Manning/Golden State			South Leg - Manning/Golden State			North Leg - Manning/Golden State		
Day Part	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right
00: All Day (12am-12am)	11%	62%	27%	2%	83%	15%	43%	54%	3%	25%	51%	24%
01: 12am (12am-1am)	9%	52%	40%	10%	51%	39%	67%	33%	0%	47%	53%	0%
02: 1am (1am-2am)	9%	72%	20%	12%	88%	0%	17%	83%	0%	23%	13%	65%
03: 2am (2am-3am)	13%	49%	38%	0%	87%	13%	47%	40%	13%	0%	6%	94%
04: 3am (3am-4am)	0%	83%	17%	0%	91%	9%	100%	0%	0%	0%	0%	100%
05: 4am (4am-5am)	13%	78%	9%	2%	90%	8%	46%	46%	7%	27%	9%	64%
06: 5am (5am-6am)	19%	60%	21%	1%	82%	18%	81%	19%	0%	11%	44%	45%
07: 6am (6am-7am)	14%	73%	13%	1%	86%	13%	56%	44%	0%	33%	45%	23%
08: 7am (7am-8am)	21%	57%	22%	1%	75%	24%	39%	59%	1%	42%	35%	23%
09: 8am (8am-9am)	22%	51%	27%	0%	90%	10%	41%	58%	1%	29%	36%	35%
10: 9am (9am-10am)	10%	67%	23%	3%	89%	8%	39%	60%	1%	20%	53%	27%
11: 10am (10am-11am)	12%	63%	25%	1%	91%	8%	45%	53%	2%	20%	48%	32%
12: 11am (11am-12noon)	10%	64%	26%	3%	82%	14%	32%	63%	5%	25%	53%	22%
13: 12pm (12noon-1pm)	10%	61%	29%	4%	71%	24%	39%	54%	7%	21%	57%	23%
14: 1pm (1pm-2pm)	10%	56%	34%	4%	84%	13%	30%	68%	2%	30%	48%	23%
15: 2pm (2pm-3pm)	13%	57%	29%	4%	84%	12%	39%	58%	4%	24%	53%	23%
16: 3pm (3pm-4pm)	9%	60%	31%	6%	80%	14%	43%	53%	4%	15%	62%	24%
17: 4pm (4pm-5pm)	6%	61%	33%	2%	80%	17%	48%	46%	6%	25%	56%	20%
18: 5pm (5pm-6pm)	6%	68%	26%	2%	83%	15%	50%	48%	2%	33%	54%	13%
19: 6pm (6pm-7pm)	9%	65%	26%	3%	86%	11%	36%	60%	3%	20%	62%	18%
20: 7pm (7pm-8pm)	8%	65%	27%	0%	93%	8%	27%	70%	4%	24%	58%	19%
21: 8pm (8pm-9pm)	8%	64%	28%	4%	83%	13%	50%	47%	3%	29%	54%	17%
22: 9pm (9pm-10pm)	8%	60%	33%	6%	89%	5%	44%	49%	7%	23%	56%	21%
23: 10pm (10pm-11pm)	12%	66%	22%	4%	86%	11%	48%	45%	7%	15%	32%	53%
24: 11pm (11pm-12am)	10%	71%	19%	7%	88%	5%	40%	50%	10%	23%	40%	37%

Day Type

1: Analysis Week (Tu-Th)

TURNING MOVEMENT COUNTS

Day Part	West Leg - Manning/McCall			East Leg - Manning/McCall			South Leg - Manning/McCall			North Leg - Manning/McCall			Total
	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right	
00: All Day (12am-12am)	255	5,258	1,021	2,159	6,013	241	1,355	1,705	2,176	238	1,677	275	22,373
01: 12am (12am-1am)	2	40	10	12	23	-	8	4	19	1	5	1	125
02: 1am (1am-2am)	2	14	12	10	26	-	3	-	10	1	4	2	84
03: 2am (2am-3am)	2	16	-	3	24	-	-	8	5	-	2	1	61
04: 3am (3am-4am)	-	47	-	3	31	-	1	4	7	-	-	1	94
05: 4am (4am-5am)	-	60	2	5	81	1	40	18	14	1	7	1	230
06: 5am (5am-6am)	3	97	4	18	229	3	72	71	21	2	8	3	531
07: 6am (6am-7am)	8	211	5	33	439	7	90	63	46	29	54	34	1,019
08: 7am (7am-8am)	18	337	51	133	879	12	253	143	174	41	223	57	2,321
09: 8am (8am-9am)	11	289	29	102	407	15	104	97	84	14	148	34	1,334
10: 9am (9am-10am)	14	285	25	107	293	7	62	72	100	15	75	12	1,067
11: 10am (10am-11am)	7	229	32	118	313	16	54	56	97	9	80	13	1,024
12: 11am (11am-12noon)	7	205	61	96	277	14	64	79	114	7	62	6	992
13: 12pm (12noon-1pm)	10	204	38	121	331	13	87	111	112	12	64	10	1,113
14: 1pm (1pm-2pm)	14	288	60	141	285	22	54	72	142	15	96	6	1,195
15: 2pm (2pm-3pm)	12	326	54	159	400	18	72	98	126	26	114	10	1,415
16: 3pm (3pm-4pm)	25	405	62	180	423	23	98	145	155	17	117	14	1,664
17: 4pm (4pm-5pm)	43	492	81	213	401	23	81	146	180	17	148	16	1,841
18: 5pm (5pm-6pm)	44	609	204	175	348	26	81	211	203	14	166	20	2,101
19: 6pm (6pm-7pm)	16	362	64	149	293	15	52	117	173	9	123	14	1,387
20: 7pm (7pm-8pm)	5	227	63	118	203	11	36	61	135	4	62	10	935
21: 8pm (8pm-9pm)	6	195	66	139	144	9	22	60	113	13	42	4	813
22: 9pm (9pm-10pm)	7	139	61	71	104	4	14	39	78	1	31	2	551
23: 10pm (10pm-11pm)	1	87	28	28	51	4	9	16	49	-	18	2	293
24: 11pm (11pm-12am)	1	80	10	22	27	2	3	6	16	-	13	1	181

TURNING MOVEMENT PERCENTAGE

Day Part	West Leg - Manning/McCall			East Leg - Manning/McCall			South Leg - Manning/McCall			North Leg - Manning/McCall		
	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right
00: All Day (12am-12am)	4%	80%	16%	26%	71%	3%	26%	33%	42%	11%	77%	13%
01: 12am (12am-1am)	4%	77%	19%	34%	66%	0%	26%	13%	61%	14%	71%	14%
02: 1am (1am-2am)	7%	50%	43%	28%	72%	0%	23%	0%	77%	14%	57%	29%
03: 2am (2am-3am)	11%	89%	0%	11%	89%	0%	0%	62%	38%	0%	67%	33%
04: 3am (3am-4am)	0%	100%	0%	9%	91%	0%	8%	33%	58%	0%	0%	100%
05: 4am (4am-5am)	0%	97%	3%	6%	93%	1%	56%	25%	19%	11%	78%	11%
06: 5am (5am-6am)	3%	93%	4%	7%	92%	1%	44%	43%	13%	15%	62%	23%
07: 6am (6am-7am)	4%	94%	2%	7%	92%	1%	45%	32%	23%	25%	46%	29%
08: 7am (7am-8am)	4%	83%	13%	13%	86%	1%	44%	25%	31%	13%	69%	18%
09: 8am (8am-9am)	3%	88%	9%	19%	78%	3%	36%	34%	29%	7%	76%	17%
10: 9am (9am-10am)	4%	88%	8%	26%	72%	2%	26%	31%	43%	15%	74%	12%
11: 10am (10am-11am)	3%	85%	12%	26%	70%	4%	26%	27%	47%	9%	78%	13%
12: 11am (11am-12noon)	3%	75%	22%	25%	72%	4%	25%	31%	44%	9%	83%	8%
13: 12pm (12noon-1pm)	4%	81%	15%	26%	71%	3%	28%	36%	36%	14%	74%	12%
14: 1pm (1pm-2pm)	4%	80%	17%	31%	64%	5%	20%	27%	53%	13%	82%	5%
15: 2pm (2pm-3pm)	3%	83%	14%	28%	69%	3%	24%	33%	43%	17%	76%	7%
16: 3pm (3pm-4pm)	5%	82%	13%	29%	68%	4%	25%	36%	39%	11%	79%	9%
17: 4pm (4pm-5pm)	7%	80%	13%	33%	63%	4%	20%	36%	44%	9%	82%	9%
18: 5pm (5pm-6pm)	5%	71%	24%	32%	63%	5%	16%	43%	41%	7%	83%	10%
19: 6pm (6pm-7pm)	4%	82%	14%	33%	64%	3%	15%	34%	51%	6%	84%	10%
20: 7pm (7pm-8pm)	2%	77%	21%	36%	61%	3%	16%	26%	58%	5%	82%	13%
21: 8pm (8pm-9pm)	2%	73%	25%	48%	49%	3%	11%	31%	58%	22%	71%	7%
22: 9pm (9pm-10pm)	3%	67%	29%	40%	58%	2%	11%	30%	60%	3%	91%	6%
23: 10pm (10pm-11pm)	1%	75%	24%	34%	61%	5%	12%	22%	66%	0%	90%	10%
24: 11pm (11pm-12am)	1%	88%	11%	43%	53%	4%	12%	24%	64%	0%	93%	7%

Day Type

1: Analysis Week (Tu-Th)

TURNING MOVEMENT COUNTS

	West Leg - Manning/Mendocino			East Leg - Manning/Mendocino			South Leg - Manning/Mendocino			North Leg - Manning/Mendocino			
Day Part	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right	Total
00: All Day (12am-12am)	839	6,432	970	1,427	7,509	1,090	1,081	1,206	1,171	1,182	1,176	935	25,018
01: 12am (12am-1am)	8	55	2	5	23	5	8	5	12	4	2	4	133
02: 1am (1am-2am)	2	20	5	5	31	5	5	5	9	2	4	4	97
03: 2am (2am-3am)	3	10	-	4	23	-	3	1	-	2	5	2	53
04: 3am (3am-4am)	4	50	2	3	26	4	-	-	-	13	6	5	113
05: 4am (4am-5am)	3	61	5	9	81	-	1	2	3	6	9	9	189
06: 5am (5am-6am)	29	58	32	22	216	24	36	3	10	47	97	26	600
07: 6am (6am-7am)	12	243	61	77	450	17	48	14	59	70	65	68	1,184
08: 7am (7am-8am)	80	426	116	103	871	32	52	30	165	91	103	113	2,182
09: 8am (8am-9am)	22	394	40	52	450	30	94	33	59	49	51	35	1,309
10: 9am (9am-10am)	20	371	57	65	361	37	56	36	51	50	54	32	1,190
11: 10am (10am-11am)	25	324	54	101	361	50	55	55	40	55	67	59	1,246
12: 11am (11am-12noon)	36	278	46	73	378	54	55	44	59	54	70	42	1,189
13: 12pm (12noon-1pm)	39	283	56	62	424	63	54	52	51	72	55	43	1,254
14: 1pm (1pm-2pm)	48	382	50	95	412	66	54	64	65	62	53	55	1,406
15: 2pm (2pm-3pm)	60	378	58	95	543	90	67	84	74	65	63	77	1,654
16: 3pm (3pm-4pm)	60	478	74	162	584	152	109	148	96	75	76	65	2,079
17: 4pm (4pm-5pm)	104	536	60	144	601	132	96	103	106	92	65	51	2,090
18: 5pm (5pm-6pm)	69	703	80	127	496	85	89	147	82	91	99	56	2,124
19: 6pm (6pm-7pm)	52	479	65	69	364	84	66	107	75	102	67	72	1,602
20: 7pm (7pm-8pm)	42	294	31	72	262	53	54	75	46	78	47	50	1,104
21: 8pm (8pm-9pm)	51	247	33	41	243	65	48	74	53	69	42	44	1,010
22: 9pm (9pm-10pm)	35	181	25	23	150	31	21	52	52	19	24	18	631
23: 10pm (10pm-11pm)	25	99	12	22	80	10	15	39	11	5	21	6	345
24: 11pm (11pm-12am)	21	71	7	7	59	5	14	14	9	6	16	2	231

TURNING MOVEMENT PERCENTAGE

	West Leg - Manning/Mendocino			East Leg - Manning/Mendocino			South Leg - Manning/Mendocino			North Leg - Manning/Mendocino		
Day Part	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right
00: All Day (12am-12am)	10%	78%	12%	14%	75%	11%	31%	35%	34%	36%	36%	28%
01: 12am (12am-1am)	12%	85%	3%	15%	70%	15%	32%	20%	48%	40%	20%	40%
02: 1am (1am-2am)	7%	74%	19%	12%	76%	12%	26%	26%	47%	20%	40%	40%
03: 2am (2am-3am)	23%	77%	0%	15%	85%	0%	75%	25%	0%	22%	56%	22%
04: 3am (3am-4am)	7%	89%	4%	9%	79%	12%	-	-	-	54%	25%	21%
05: 4am (4am-5am)	4%	88%	7%	10%	90%	0%	17%	33%	50%	25%	38%	38%
06: 5am (5am-6am)	24%	49%	27%	8%	82%	9%	73%	6%	20%	28%	57%	15%
07: 6am (6am-7am)	4%	77%	19%	14%	83%	3%	40%	12%	49%	34%	32%	33%
08: 7am (7am-8am)	13%	68%	19%	10%	87%	3%	21%	12%	67%	30%	34%	37%
09: 8am (8am-9am)	5%	86%	9%	10%	85%	6%	51%	18%	32%	36%	38%	26%
10: 9am (9am-10am)	4%	83%	13%	14%	78%	8%	39%	25%	36%	37%	40%	24%
11: 10am (10am-11am)	6%	80%	13%	20%	71%	10%	37%	37%	27%	30%	37%	33%
12: 11am (11am-12noon)	10%	77%	13%	14%	75%	11%	35%	28%	37%	33%	42%	25%
13: 12pm (12noon-1pm)	10%	75%	15%	11%	77%	11%	34%	33%	32%	42%	32%	25%
14: 1pm (1pm-2pm)	10%	80%	10%	17%	72%	12%	30%	35%	36%	36%	31%	32%
15: 2pm (2pm-3pm)	12%	76%	12%	13%	75%	12%	30%	37%	33%	32%	31%	38%
16: 3pm (3pm-4pm)	10%	78%	12%	18%	65%	17%	31%	42%	27%	35%	35%	30%
17: 4pm (4pm-5pm)	15%	77%	9%	16%	69%	15%	31%	34%	35%	44%	31%	25%
18: 5pm (5pm-6pm)	8%	83%	9%	18%	70%	12%	28%	46%	26%	37%	40%	23%
19: 6pm (6pm-7pm)	9%	80%	11%	13%	70%	16%	27%	43%	30%	42%	28%	30%
20: 7pm (7pm-8pm)	11%	80%	8%	19%	68%	14%	31%	43%	26%	45%	27%	29%
21: 8pm (8pm-9pm)	15%	75%	10%	12%	70%	19%	27%	42%	30%	45%	27%	28%
22: 9pm (9pm-10pm)	15%	75%	10%	11%	74%	15%	17%	42%	42%	31%	39%	30%
23: 10pm (10pm-11pm)	18%	73%	9%	20%	71%	9%	23%	60%	17%	16%	66%	19%
24: 11pm (11pm-12am)	21%	72%	7%	10%	83%	7%	38%	38%	24%	25%	67%	8%

Day Type

1: Analysis Week (Tu-Th)

TURNING MOVEMENT COUNTS

	West Leg - Manning/Lac Jac			East Leg - Manning/Lac Jac			South Leg - Manning/Lac Jac			North Leg - Manning/Lac Jac			
Day Part	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right	Total
00: All Day (12am-12am)	442	7,750	804	552	7,999	807	773	487	735	1,059	416	441	22,265
01: 12am (12am-1am)	2	66	2	1	28	4	-	-	-	2	1	2	108
02: 1am (1am-2am)	-	38	-	-	20	2	7	2	-	-	-	2	71
03: 2am (2am-3am)	2	13	-	2	16	-	2	-	-	-	-	2	37
04: 3am (3am-4am)	3	24	2	1	47	1	18	1	1	1	-	4	103
05: 4am (4am-5am)	4	35	-	6	59	1	6	1	1	10	-	6	129
06: 5am (5am-6am)	9	108	11	3	177	13	67	11	7	23	12	7	448
07: 6am (6am-7am)	45	281	29	5	379	55	76	23	50	46	7	12	1,008
08: 7am (7am-8am)	62	560	25	60	767	128	132	86	90	134	41	39	2,124
09: 8am (8am-9am)	30	447	20	17	403	41	82	14	83	86	17	30	1,270
10: 9am (9am-10am)	36	417	21	39	395	41	30	30	47	74	17	25	1,172
11: 10am (10am-11am)	13	416	28	14	410	23	28	21	42	33	10	29	1,067
12: 11am (11am-12noon)	34	402	29	33	421	32	35	22	39	48	19	30	1,144
13: 12pm (12noon-1pm)	33	432	32	46	527	32	31	15	42	35	20	14	1,259
14: 1pm (1pm-2pm)	33	462	29	49	518	54	26	48	33	80	38	19	1,389
15: 2pm (2pm-3pm)	42	502	41	38	634	59	41	52	33	101	51	47	1,641
16: 3pm (3pm-4pm)	20	604	55	42	617	54	32	37	64	132	54	64	1,775
17: 4pm (4pm-5pm)	10	622	109	73	610	64	36	28	46	105	35	53	1,791
18: 5pm (5pm-6pm)	17	796	127	43	528	55	35	33	116	60	30	41	1,881
19: 6pm (6pm-7pm)	5	537	80	20	394	54	31	25	30	26	41	10	1,253
20: 7pm (7pm-8pm)	4	332	59	24	350	35	22	10	23	25	9	5	898
21: 8pm (8pm-9pm)	12	276	54	41	345	20	4	13	8	22	4	5	804
22: 9pm (9pm-10pm)	14	198	26	5	195	16	5	9	2	7	3	-	480
23: 10pm (10pm-11pm)	14	97	7	2	107	18	2	2	-	2	2	-	253
24: 11pm (11pm-12am)	3	78	6	-	60	-	2	-	-	-	-	4	153

TURNING MOVEMENT PERCENTAGE

	West Leg - Manning/Lac Jac			East Leg - Manning/Lac Jac			South Leg - Manning/Lac Jac			North Leg - Manning/Lac Jac		
Day Part	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right
00: All Day (12am-12am)	5%	86%	9%	6%	85%	9%	39%	24%	37%	55%	22%	23%
01: 12am (12am-1am)	3%	94%	3%	3%	85%	12%	-	-	-	40%	20%	40%
02: 1am (1am-2am)	0%	100%	0%	0%	91%	9%	78%	22%	0%	0%	0%	100%
03: 2am (2am-3am)	13%	87%	0%	11%	89%	0%	100%	0%	0%	0%	0%	100%
04: 3am (3am-4am)	10%	83%	7%	2%	96%	2%	90%	5%	5%	20%	0%	80%
05: 4am (4am-5am)	10%	90%	0%	9%	89%	2%	75%	13%	13%	63%	0%	38%
06: 5am (5am-6am)	7%	84%	9%	2%	92%	7%	79%	13%	8%	55%	29%	17%
07: 6am (6am-7am)	13%	79%	8%	1%	86%	13%	51%	15%	34%	71%	11%	18%
08: 7am (7am-8am)	10%	87%	4%	6%	80%	13%	43%	28%	29%	63%	19%	18%
09: 8am (8am-9am)	6%	90%	4%	4%	87%	9%	46%	8%	46%	65%	13%	23%
10: 9am (9am-10am)	8%	88%	4%	8%	83%	9%	28%	28%	44%	64%	15%	22%
11: 10am (10am-11am)	3%	91%	6%	3%	92%	5%	31%	23%	46%	46%	14%	40%
12: 11am (11am-12noon)	7%	86%	6%	7%	87%	7%	36%	23%	41%	49%	20%	31%
13: 12pm (12noon-1pm)	7%	87%	6%	8%	87%	5%	35%	17%	48%	51%	29%	20%
14: 1pm (1pm-2pm)	6%	88%	6%	8%	83%	9%	24%	45%	31%	58%	28%	14%
15: 2pm (2pm-3pm)	7%	86%	7%	5%	87%	8%	33%	41%	26%	51%	26%	24%
16: 3pm (3pm-4pm)	3%	89%	8%	6%	87%	8%	24%	28%	48%	53%	22%	26%
17: 4pm (4pm-5pm)	1%	84%	15%	10%	82%	9%	33%	25%	42%	54%	18%	27%
18: 5pm (5pm-6pm)	2%	85%	14%	7%	84%	9%	19%	18%	63%	46%	23%	31%
19: 6pm (6pm-7pm)	1%	86%	13%	4%	84%	12%	36%	29%	35%	34%	53%	13%
20: 7pm (7pm-8pm)	1%	84%	15%	6%	86%	9%	40%	18%	42%	64%	23%	13%
21: 8pm (8pm-9pm)	4%	81%	16%	10%	85%	5%	16%	52%	32%	71%	13%	16%
22: 9pm (9pm-10pm)	6%	83%	11%	2%	90%	7%	31%	56%	13%	70%	30%	0%
23: 10pm (10pm-11pm)	12%	82%	6%	2%	84%	14%	50%	50%	0%	50%	50%	0%
24: 11pm (11pm-12am)	3%	90%	7%	0%	100%	0%	100%	0%	0%	0%	0%	100%

Day Type

1: Analysis Week (Tu-Th)

TURNING MOVEMENT COUNTS

Day Part	West Leg - Manning/Reed EB Left	EB Thru	EB Right	East Leg - Manning/Reed WB Left	WB Thru	WB Right	South Leg - Manning/Reed NB Left	NB Thru	NB Right	North Leg - Manning/Reed SB Left	SB Thru	SB Right	Total
00: All Day (12am-12am)	1,510	3,974	348	1,781	3,894	893	553	2,264	1,551	968	2,661	1,639	22,036
01: 12am (12am-1am)	5	33	1	2	11	2	3	8	1	1	10	4	81
02: 1am (1am-2am)	7	19	1	3	4	1	2	4	3	3	6	6	59
03: 2am (2am-3am)	1	5	-	1	6	1	-	1	1	2	6	9	33
04: 3am (3am-4am)	1	10	-	-	31	-	-	2	2	-	1	10	57
05: 4am (4am-5am)	9	16	-	4	27	1	3	7	1	1	4	7	80
06: 5am (5am-6am)	26	51	2	29	77	8	4	30	10	3	20	55	315
07: 6am (6am-7am)	73	77	11	31	160	42	14	62	31	8	67	74	650
08: 7am (7am-8am)	135	277	10	193	423	117	98	181	88	37	232	183	1,974
09: 8am (8am-9am)	84	187	26	74	219	48	58	118	64	36	137	89	1,140
10: 9am (9am-10am)	90	179	22	100	221	51	34	121	48	31	150	88	1,135
11: 10am (10am-11am)	78	185	28	85	173	49	17	106	75	46	162	96	1,100
12: 11am (11am-12noon)	77	199	27	114	208	73	41	126	70	58	158	91	1,242
13: 12pm (12noon-1pm)	83	237	25	133	240	71	28	157	108	94	172	103	1,451
14: 1pm (1pm-2pm)	97	251	28	96	218	50	49	137	84	100	164	119	1,393
15: 2pm (2pm-3pm)	75	315	34	92	257	47	33	172	130	79	175	121	1,530
16: 3pm (3pm-4pm)	123	361	28	145	269	50	36	193	183	115	234	128	1,865
17: 4pm (4pm-5pm)	128	298	34	119	306	38	31	170	148	77	216	169	1,734
18: 5pm (5pm-6pm)	161	401	26	167	306	66	45	235	132	91	207	77	1,914
19: 6pm (6pm-7pm)	76	293	17	130	214	56	18	143	138	71	184	69	1,409
20: 7pm (7pm-8pm)	83	192	16	121	195	48	12	104	98	50	111	53	1,083
21: 8pm (8pm-9pm)	47	195	8	94	159	36	13	109	63	34	119	56	933
22: 9pm (9pm-10pm)	30	93	6	36	92	20	7	61	44	19	63	17	488
23: 10pm (10pm-11pm)	19	56	-	12	46	9	6	14	14	19	36	14	245
24: 11pm (11pm-12am)	16	32	3	3	30	1	-	5	12	3	17	7	129

TURNING MOVEMENT PERCENTAGE

Day Part	West Leg - Manning/Reed EB Left	EB Thru	EB Right	East Leg - Manning/Reed WB Left	WB Thru	WB Right	South Leg - Manning/Reed NB Left	NB Thru	NB Right	North Leg - Manning/Reed SB Left	SB Thru	SB Right
00: All Day (12am-12am)	26%	68%	6%	27%	59%	14%	13%	52%	36%	18%	51%	31%
01: 12am (12am-1am)	13%	85%	3%	13%	73%	13%	25%	67%	8%	7%	67%	27%
02: 1am (1am-2am)	26%	70%	4%	38%	50%	13%	22%	44%	33%	20%	40%	40%
03: 2am (2am-3am)	17%	83%	0%	13%	75%	13%	0%	50%	50%	12%	35%	53%
04: 3am (3am-4am)	9%	91%	0%	0%	100%	0%	0%	50%	50%	0%	9%	91%
05: 4am (4am-5am)	36%	64%	0%	13%	84%	3%	27%	64%	9%	8%	33%	58%
06: 5am (5am-6am)	33%	65%	3%	25%	68%	7%	9%	68%	23%	4%	26%	71%
07: 6am (6am-7am)	45%	48%	7%	13%	69%	18%	13%	58%	29%	5%	45%	50%
08: 7am (7am-8am)	32%	66%	2%	26%	58%	16%	27%	49%	24%	8%	51%	40%
09: 8am (8am-9am)	28%	63%	9%	22%	64%	14%	24%	49%	27%	14%	52%	34%
10: 9am (9am-10am)	31%	62%	8%	27%	59%	14%	17%	60%	24%	12%	56%	33%
11: 10am (10am-11am)	27%	64%	10%	28%	56%	16%	9%	54%	38%	15%	53%	32%
12: 11am (11am-12noon)	25%	66%	9%	29%	53%	18%	17%	53%	30%	19%	51%	30%
13: 12pm (12noon-1pm)	24%	69%	7%	30%	54%	16%	10%	54%	37%	25%	47%	28%
14: 1pm (1pm-2pm)	26%	67%	7%	26%	60%	14%	18%	51%	31%	26%	43%	31%
15: 2pm (2pm-3pm)	18%	74%	8%	23%	65%	12%	10%	51%	39%	21%	47%	32%
16: 3pm (3pm-4pm)	24%	71%	5%	31%	58%	11%	9%	47%	44%	24%	49%	27%
17: 4pm (4pm-5pm)	28%	65%	7%	26%	66%	8%	9%	49%	42%	17%	47%	37%
18: 5pm (5pm-6pm)	27%	68%	4%	31%	57%	12%	11%	57%	32%	24%	55%	21%
19: 6pm (6pm-7pm)	20%	76%	4%	33%	54%	14%	6%	48%	46%	22%	57%	21%
20: 7pm (7pm-8pm)	29%	66%	5%	33%	54%	13%	6%	49%	46%	23%	52%	25%
21: 8pm (8pm-9pm)	19%	78%	3%	33%	55%	12%	7%	59%	34%	16%	57%	27%
22: 9pm (9pm-10pm)	23%	72%	5%	24%	62%	14%	6%	54%	39%	19%	64%	17%
23: 10pm (10pm-11pm)	25%	75%	0%	18%	69%	13%	18%	41%	41%	28%	52%	20%
24: 11pm (11pm-12am)	31%	63%	6%	9%	88%	3%	0%	29%	71%	11%	63%	26%

Day Type

1: Analysis Week (Tu-Th)

TURNING MOVEMENT COUNTS

	West Leg - Manning/Frankwood			East Leg - Manning/Frankwood			South Leg - Manning/Frankwood			North Leg - Manning/Frankwood			
Day Part	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right	Total
00: All Day (12am-12am)	1,202	5,221	404	391	4,560	923	390	1,531	404	1,034	1,782	1,237	19,079
01: 12am (12am-1am)	2	31	2	1	9	2	3	3	-	3	4	3	63
02: 1am (1am-2am)	1	23	1	-	6	1	1	1	-	1	1	-	36
03: 2am (2am-3am)	1	7	-	-	2	-	2	1	1	2	1	-	17
04: 3am (3am-4am)	1	14	-	-	17	-	5	-	-	1	1	3	42
05: 4am (4am-5am)	1	21	3	-	27	1	-	4	1	2	3	5	68
06: 5am (5am-6am)	-	58	5	2	92	7	7	6	1	8	35	10	231
07: 6am (6am-7am)	18	81	7	13	186	17	22	54	11	11	50	16	486
08: 7am (7am-8am)	71	251	22	41	431	64	40	95	25	90	343	330	1,803
09: 8am (8am-9am)	60	218	21	15	238	29	26	61	10	47	82	44	851
10: 9am (9am-10am)	26	210	16	15	280	34	28	50	17	20	66	36	798
11: 10am (10am-11am)	40	249	13	13	231	31	25	55	16	47	74	49	843
12: 11am (11am-12noon)	46	260	28	18	311	30	28	61	17	67	77	43	986
13: 12pm (12noon-1pm)	70	386	36	27	331	55	18	111	28	53	60	59	1,234
14: 1pm (1pm-2pm)	50	371	39	27	266	64	24	61	17	57	82	52	1,110
15: 2pm (2pm-3pm)	97	431	33	20	265	70	19	99	26	41	86	64	1,251
16: 3pm (3pm-4pm)	131	543	44	28	315	64	25	130	50	84	150	79	1,643
17: 4pm (4pm-5pm)	98	435	28	31	339	53	42	124	51	111	149	78	1,539
18: 5pm (5pm-6pm)	184	437	28	44	365	115	26	203	30	131	168	111	1,842
19: 6pm (6pm-7pm)	84	410	23	36	282	74	23	136	42	79	119	72	1,380
20: 7pm (7pm-8pm)	80	296	24	15	254	72	15	104	36	73	92	60	1,121
21: 8pm (8pm-9pm)	86	251	20	32	161	93	15	97	17	50	67	52	941
22: 9pm (9pm-10pm)	43	131	13	9	92	21	4	40	8	28	44	41	474
23: 10pm (10pm-11pm)	18	68	6	1	54	7	1	19	2	9	9	8	202
24: 11pm (11pm-12am)	3	37	6	2	30	4	1	5	2	4	15	6	115

TURNING MOVEMENT PERCENTAGE

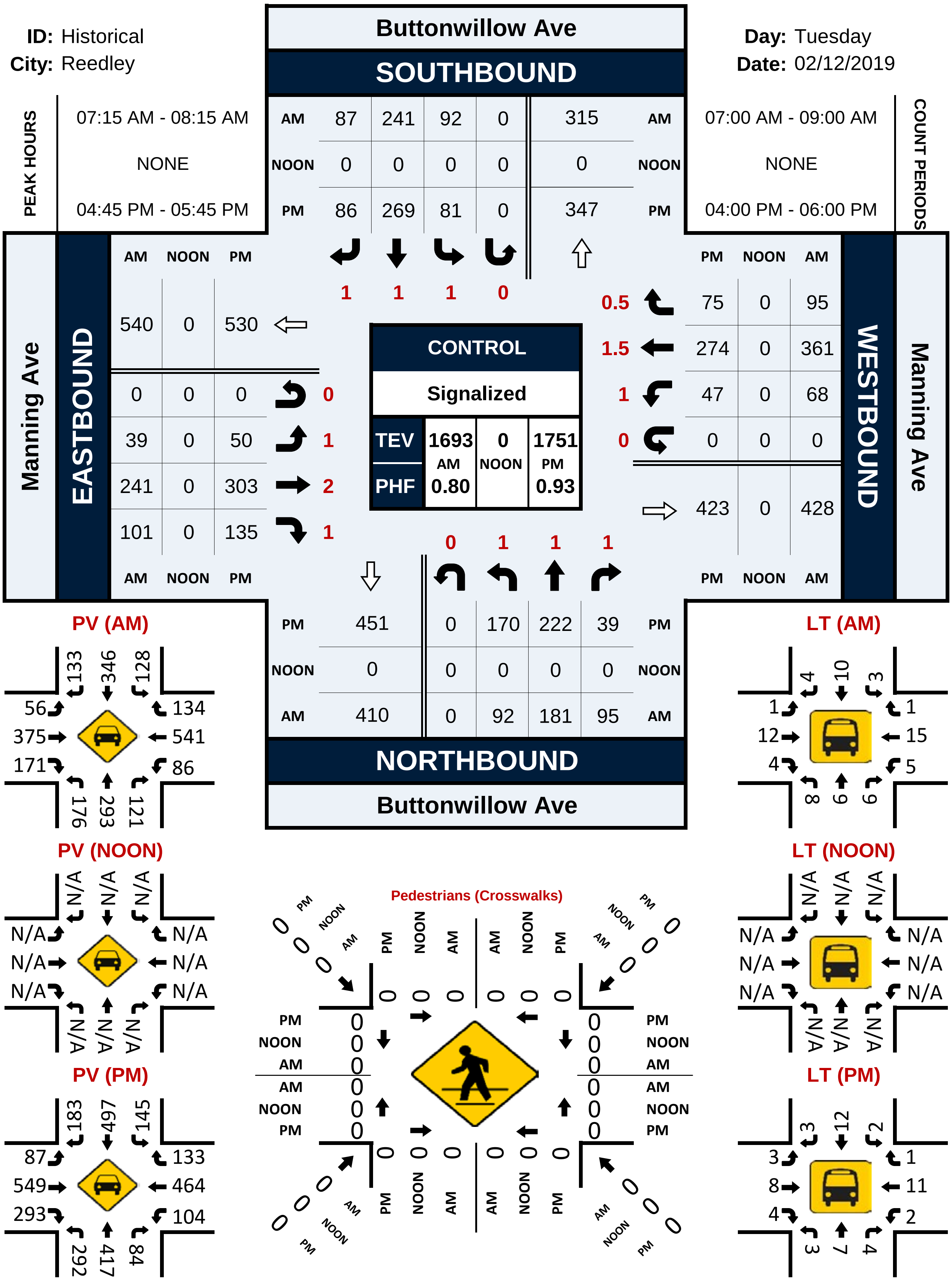
	West Leg - Manning/Frankwood			East Leg - Manning/Frankwood			South Leg - Manning/Frankwood			North Leg - Manning/Frankwood		
Day Part	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right
00: All Day (12am-12am)	18%	76%	6%	7%	78%	16%	17%	66%	17%	26%	44%	31%
01: 12am (12am-1am)	6%	89%	6%	8%	75%	17%	50%	50%	0%	30%	40%	30%
02: 1am (1am-2am)	4%	92%	4%	0%	86%	14%	50%	50%	0%	50%	50%	0%
03: 2am (2am-3am)	13%	88%	0%	0%	100%	0%	50%	25%	25%	67%	33%	0%
04: 3am (3am-4am)	7%	93%	0%	0%	100%	0%	100%	0%	0%	20%	20%	60%
05: 4am (4am-5am)	4%	84%	12%	0%	96%	4%	0%	80%	20%	20%	30%	50%
06: 5am (5am-6am)	0%	92%	8%	2%	91%	7%	50%	43%	7%	15%	66%	19%
07: 6am (6am-7am)	17%	76%	7%	6%	86%	8%	25%	62%	13%	14%	65%	21%
08: 7am (7am-8am)	21%	73%	6%	8%	80%	12%	25%	59%	16%	12%	45%	43%
09: 8am (8am-9am)	20%	73%	7%	5%	84%	10%	27%	63%	10%	27%	47%	25%
10: 9am (9am-10am)	10%	83%	6%	5%	85%	10%	29%	53%	18%	16%	54%	30%
11: 10am (10am-11am)	13%	82%	4%	5%	84%	11%	26%	57%	17%	28%	44%	29%
12: 11am (11am-12noon)	14%	78%	8%	5%	87%	8%	26%	58%	16%	36%	41%	23%
13: 12pm (12noon-1pm)	14%	78%	7%	7%	80%	13%	11%	71%	18%	31%	35%	34%
14: 1pm (1pm-2pm)	11%	81%	8%	8%	75%	18%	24%	60%	17%	30%	43%	27%
15: 2pm (2pm-3pm)	17%	77%	6%	6%	75%	20%	13%	69%	18%	21%	45%	34%
16: 3pm (3pm-4pm)	18%	76%	6%	7%	77%	16%	12%	63%	24%	27%	48%	25%
17: 4pm (4pm-5pm)	17%	78%	5%	7%	80%	13%	19%	57%	24%	33%	44%	23%
18: 5pm (5pm-6pm)	28%	67%	4%	8%	70%	22%	10%	78%	12%	32%	41%	27%
19: 6pm (6pm-7pm)	16%	79%	4%	9%	72%	19%	11%	68%	21%	29%	44%	27%
20: 7pm (7pm-8pm)	20%	74%	6%	4%	74%	21%	10%	67%	23%	32%	41%	27%
21: 8pm (8pm-9pm)	24%	70%	6%	11%	56%	33%	12%	75%	13%	30%	40%	31%
22: 9pm (9pm-10pm)	23%	70%	7%	7%	75%	17%	8%	77%	15%	25%	39%	36%
23: 10pm (10pm-11pm)	20%	74%	7%	2%	87%	11%	5%	86%	9%	35%	35%	31%
24: 11pm (11pm-12am)	7%	80%	13%	6%	83%	11%	13%	63%	25%	16%	60%	24%

Buttonwillow Ave & Manning Ave

Peak Hour Turning Movement Count

ID: Historical
City: Reedley

Day: Tuesday
Date: 02/12/2019



Day Type

1: Analysis Week (Tu-Th)

TURNING MOVEMENT COUNTS

Day Part	West Leg - Manning/Alta			East Leg - Manning/Alta			South Leg - Manning/Alta			North Leg - Manning/Alta			
	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right	Total
00: All Day (12am-12am)	570	2,789	1,019	536	2,432	256	1,004	1,457	559	248	1,386	492	12,748
06: 5am (5am-6am)	2	31	8	8	31	9	8	41	5	4	38	5	190
07: 6am (6am-7am)	25	51	16	27	116	25	38	79	42	8	66	10	503
08: 7am (7am-8am)	65	101	97	48	311	43	127	91	22	10	121	66	1,102
09: 8am (8am-9am)	14	98	36	32	157	15	66	107	23	9	73	37	667
10: 9am (9am-10am)	8	119	35	24	168	11	43	59	14	9	62	42	594
11: 10am (10am-11am)	32	99	61	22	160	13	40	73	13	15	87	26	641
12: 11am (11am-12noon)	33	115	64	29	127	10	52	78	34	10	81	21	654
13: 12pm (12noon-1pm)	29	151	73	24	135	11	56	79	41	12	81	26	718
14: 1pm (1pm-2pm)	28	153	67	27	127	18	46	85	37	15	78	24	705
15: 2pm (2pm-3pm)	34	223	55	36	137	13	52	100	28	11	86	31	806
16: 3pm (3pm-4pm)	45	307	74	45	214	17	78	93	48	18	96	37	1,072
17: 4pm (4pm-5pm)	43	307	118	45	166	9	50	93	52	43	116	29	1,071
18: 5pm (5pm-6pm)	47	286	101	46	142	23	113	173	48	35	123	48	1,185
19: 6pm (6pm-7pm)	36	226	56	39	124	14	105	77	38	12	106	33	866
20: 7pm (7pm-8pm)	48	166	60	27	137	8	52	76	29	11	65	18	697
21: 8pm (8pm-9pm)	39	127	47	25	88	4	29	62	41	10	35	19	526
22: 9pm (9pm-10pm)	19	86	22	8	42	3	23	41	14	6	31	10	305
23: 10pm (10pm-11pm)	10	53	10	5	20	4	9	30	7	3	14	2	167
24: 11pm (11pm-12am)	3	31	8	6	14	-	6	6	11	-	9	4	98
01: 12am (12am-1am)	4	20	2	3	4	-	6	3	3	-	6	-	51
02: 1am (1am-2am)	2	11	-	6	1	-	-	3	2	2	2	-	29
03: 2am (2am-3am)	2	7	-	2	1	-	-	1	1	-	3	-	17
04: 3am (3am-4am)	-	7	3	-	4	-	1	4	-	-	6	-	25
05: 4am (4am-5am)	2	12	6	1	6	-	5	6	10	3	1	-	52

TURNING MOVEMENT PERCENTAGE

Day Part	West Leg - Manning/Alta			East Leg - Manning/Alta			South Leg - Manning/Alta			North Leg - Manning/Alta		
	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right
00: All Day (12am-12am)	13%	64%	23%	17%	75%	8%	33%	48%	19%	12%	65%	23%
06: 5am (5am-6am)	5%	76%	20%	17%	65%	19%	15%	76%	9%	9%	81%	11%
07: 6am (6am-7am)	27%	55%	17%	16%	69%	15%	24%	50%	26%	10%	79%	12%
08: 7am (7am-8am)	25%	38%	37%	12%	77%	11%	53%	38%	9%	5%	61%	34%
09: 8am (8am-9am)	9%	66%	24%	16%	77%	7%	34%	55%	12%	8%	61%	31%
10: 9am (9am-10am)	5%	73%	22%	12%	83%	5%	37%	51%	12%	8%	55%	37%
11: 10am (10am-11am)	17%	52%	32%	11%	82%	7%	32%	58%	10%	12%	68%	20%
12: 11am (11am-12noon)	16%	54%	30%	17%	77%	6%	32%	48%	21%	9%	72%	19%
13: 12pm (12noon-1pm)	11%	60%	29%	14%	79%	6%	32%	45%	23%	10%	68%	22%
14: 1pm (1pm-2pm)	11%	62%	27%	16%	74%	10%	27%	51%	22%	13%	67%	21%
15: 2pm (2pm-3pm)	11%	71%	18%	19%	74%	7%	29%	56%	16%	9%	67%	24%
16: 3pm (3pm-4pm)	11%	72%	17%	16%	78%	6%	36%	42%	22%	12%	64%	25%
17: 4pm (4pm-5pm)	9%	66%	25%	20%	75%	4%	26%	48%	27%	23%	62%	15%
18: 5pm (5pm-6pm)	11%	66%	23%	22%	67%	11%	34%	52%	14%	17%	60%	23%
19: 6pm (6pm-7pm)	11%	71%	18%	22%	70%	8%	48%	35%	17%	8%	70%	22%
20: 7pm (7pm-8pm)	18%	61%	22%	16%	80%	5%	33%	48%	18%	12%	69%	19%
21: 8pm (8pm-9pm)	18%	60%	22%	21%	75%	3%	22%	47%	31%	16%	55%	30%
22: 9pm (9pm-10pm)	15%	68%	17%	15%	79%	6%	29%	53%	18%	13%	66%	21%
23: 10pm (10pm-11pm)	14%	73%	14%	17%	69%	14%	20%	65%	15%	16%	74%	11%
24: 11pm (11pm-12am)	7%	74%	19%	30%	70%	0%	26%	26%	48%	0%	69%	31%
01: 12am (12am-1am)	15%	77%	8%	43%	57%	0%	50%	25%	25%	0%	100%	0%
02: 1am (1am-2am)	15%	85%	0%	86%	14%	0%	0%	60%	40%	50%	50%	0%
03: 2am (2am-3am)	22%	78%	0%	67%	33%	0%	0%	50%	50%	0%	100%	0%
04: 3am (3am-4am)	0%	70%	30%	0%	100%	0%	20%	80%	0%	0%	100%	0%
05: 4am (4am-5am)	10%	60%	30%	14%	86%	0%	24%	29%	48%	75%	25%	0%

Day Type

1: Analysis Week (Tu-Th)

TURNING MOVEMENT COUNTS

Day Part	West Leg - Manning/Hill			East Leg - Manning/Hill			South Leg - Manning/Hill			North Leg - Manning/Hill			Total
	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right	
00: All Day (12am-12am)	713	2,563	49	22	2,300	149	55	217	40	179	182	553	7,022
01: 12am (12am-1am)	11	16	-	-	4	-	2	-	-	-	-	-	33
03: 2am (2am-3am)	1	7	-	-	1	-	-	-	-	-	-	-	9
04: 3am (3am-4am)	2	4	-	-	2	-	-	-	-	-	-	-	8
06: 5am (5am-6am)	16	50	-	-	32	-	-	8	-	-	-	35	141
07: 6am (6am-7am)	22	44	-	-	101	2	7	28	-	2	-	54	260
08: 7am (7am-8am)	13	101	2	-	312	6	2	5	4	23	4	57	529
09: 8am (8am-9am)	38	99	2	-	151	5	2	13	-	13	13	20	356
10: 9am (9am-10am)	27	109	5	6	130	11	-	8	4	17	5	37	359
11: 10am (10am-11am)	21	77	7	-	125	9	5	10	6	9	7	31	307
12: 11am (11am-12noon)	26	104	5	-	95	12	2	4	-	15	-	30	293
13: 12pm (12noon-1pm)	23	140	8	-	122	7	9	18	-	10	9	28	374
14: 1pm (1pm-2pm)	42	155	-	4	112	9	12	-	-	24	5	28	391
15: 2pm (2pm-3pm)	32	196	2	5	146	9	4	17	-	11	8	35	465
16: 3pm (3pm-4pm)	60	270	8	-	205	11	6	14	-	21	12	41	648
17: 4pm (4pm-5pm)	78	253	7	-	170	9	7	10	-	12	47	21	614
18: 5pm (5pm-6pm)	83	273	6	-	131	17	5	14	-	6	22	48	605
19: 6pm (6pm-7pm)	50	206	6	5	156	8	2	20	9	5	16	29	512
20: 7pm (7pm-8pm)	69	132	-	-	132	14	1	10	3	5	5	24	395
21: 8pm (8pm-9pm)	37	138	2	-	89	22	2	9	6	-	9	16	330
22: 9pm (9pm-10pm)	16	103	-	-	35	5	3	14	-	4	-	9	189
24: 11pm (11pm-12am)	17	24	-	-	12	-	-	-	-	-	3	2	58
23: 10pm (10pm-11pm)	15	40	-	3	17	-	-	2	-	2	3	6	88
02: 1am (1am-2am)	10	7	-	-	3	-	-	-	-	-	-	3	23
05: 4am (4am-5am)	7	16	-	-	3	-	-	3	-	-	-	4	33

TURNING MOVEMENT PERCENTAGE

Day Part	West Leg - Manning/Hill			East Leg - Manning/Hill			South Leg - Manning/Hill			North Leg - Manning/Hill		
	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right
00: All Day (12am-12am)	21%	77%	1%	1%	93%	6%	18%	70%	13%	20%	20%	61%
01: 12am (12am-1am)	41%	59%	0%	0%	100%	0%	100%	0%	0%	-	-	-
03: 2am (2am-3am)	13%	88%	0%	0%	100%	0%	-	-	-	-	-	-
04: 3am (3am-4am)	33%	67%	0%	0%	100%	0%	-	-	-	-	-	-
06: 5am (5am-6am)	24%	76%	0%	0%	100%	0%	0%	100%	0%	0%	0%	100%
07: 6am (6am-7am)	33%	67%	0%	0%	98%	2%	20%	80%	0%	4%	0%	96%
08: 7am (7am-8am)	11%	87%	2%	0%	98%	2%	18%	45%	36%	27%	5%	68%
09: 8am (8am-9am)	27%	71%	1%	0%	97%	3%	13%	87%	0%	28%	28%	43%
10: 9am (9am-10am)	19%	77%	4%	4%	88%	7%	0%	67%	33%	29%	8%	63%
11: 10am (10am-11am)	20%	73%	7%	0%	93%	7%	24%	48%	29%	19%	15%	66%
12: 11am (11am-12noon)	19%	77%	4%	0%	89%	11%	33%	67%	0%	33%	0%	67%
13: 12pm (12noon-1pm)	13%	82%	5%	0%	95%	5%	33%	67%	0%	21%	19%	60%
14: 1pm (1pm-2pm)	21%	79%	0%	3%	90%	7%	100%	0%	0%	42%	9%	49%
15: 2pm (2pm-3pm)	14%	85%	1%	3%	91%	6%	19%	81%	0%	20%	15%	65%
16: 3pm (3pm-4pm)	18%	80%	2%	0%	95%	5%	30%	70%	0%	28%	16%	55%
17: 4pm (4pm-5pm)	23%	75%	2%	0%	95%	5%	41%	59%	0%	15%	59%	26%
18: 5pm (5pm-6pm)	23%	75%	2%	0%	89%	11%	26%	74%	0%	8%	29%	63%
19: 6pm (6pm-7pm)	19%	79%	2%	3%	92%	5%	6%	65%	29%	10%	32%	58%
20: 7pm (7pm-8pm)	34%	66%	0%	0%	90%	10%	7%	71%	21%	15%	15%	71%
21: 8pm (8pm-9pm)	21%	78%	1%	0%	80%	20%	12%	53%	35%	0%	36%	64%
22: 9pm (9pm-10pm)	13%	87%	0%	0%	88%	13%	18%	82%	0%	31%	0%	69%
24: 11pm (11pm-12am)	41%	59%	0%	0%	100%	0%	-	-	-	0%	60%	40%
23: 10pm (10pm-11pm)	27%	73%	0%	15%	85%	0%	0%	100%	0%	18%	27%	55%
02: 1am (1am-2am)	59%	41%	0%	0%	100%	0%	-	-	-	0%	0%	100%
05: 4am (4am-5am)	30%	70%	0%	0%	100%	0%	0%	100%	0%	0%	0%	100%

Day Type

1: Analysis Week (Tu-Th)

TURNING MOVEMENT COUNTS

Day Part	West Leg - Manning/Hill Valley EB Left	EB Thru	EB Right	East Leg - Manning/Hill Valley WB Left	WB Thru	WB Right	South Leg - Manning/Hill Valley NB Left	NB Thru	NB Right	North Leg - Manning/Hill Valley SB Left	SB Thru	SB Right	Total
00: All Day (12am-12am)	478	470	550	33	295	32	456	1,850	36	55	1,816	492	6,563
03: 2am (2am-3am)	4	-	2	-	1	-	-	-	-	-	1	-	8
08: 7am (7am-8am)	33	9	70	-	53	5	41	173	-	5	247	111	747
09: 8am (8am-9am)	26	12	39	-	24	-	37	87	2	4	85	32	348
11: 10am (10am-11am)	13	22	24	2	21	3	49	76	8	-	60	24	302
12: 11am (11am-12noon)	32	23	16	3	21	-	19	78	3	6	79	21	301
13: 12pm (12noon-1pm)	40	20	28	6	18	-	19	91	2	4	74	30	332
14: 1pm (1pm-2pm)	38	44	42	3	18	-	13	89	-	6	115	22	390
15: 2pm (2pm-3pm)	24	61	43	2	12	4	25	98	-	-	138	37	444
16: 3pm (3pm-4pm)	38	61	34	2	17	5	33	171	-	11	195	39	606
17: 4pm (4pm-5pm)	39	42	45	2	11	-	43	128	2	5	196	22	535
18: 5pm (5pm-6pm)	31	48	53	6	12	5	33	172	4	6	135	19	524
19: 6pm (6pm-7pm)	28	46	27	2	12	9	17	140	3	7	153	39	483
20: 7pm (7pm-8pm)	9	30	29	2	8	-	20	76	5	5	65	15	264
21: 8pm (8pm-9pm)	21	17	35	-	14	-	24	61	-	-	43	11	226
23: 10pm (10pm-11pm)	5	2	8	2	3	-	4	36	-	-	11	3	74
10: 9am (9am-10am)	28	14	29	-	20	-	33	90	3	-	70	37	324
22: 9pm (9pm-10pm)	29	5	10	-	3	-	8	36	-	-	23	7	121
06: 5am (5am-6am)	20	2	-	-	3	-	4	67	-	-	34	8	138
07: 6am (6am-7am)	6	4	17	-	19	-	35	150	1	-	62	18	312
24: 11pm (11pm-12am)	9	3	5	-	-	-	-	15	-	-	5	4	41
01: 12am (12am-1am)	-	-	1	-	-	-	2	13	-	-	3	-	19
02: 1am (1am-2am)	-	-	7	-	-	-	-	2	-	-	2	-	11
04: 3am (3am-4am)	-	-	1	-	-	-	-	1	-	-	4	-	6
05: 4am (4am-5am)	-	2	2	-	-	-	1	4	-	-	5	-	14

TURNING MOVEMENT PERCENTAGE

Day Part	West Leg - Manning/Hill Valley EB Left	EB Thru	EB Right	East Leg - Manning/Hill Valley WB Left	WB Thru	WB Right	South Leg - Manning/Hill Valley NB Left	NB Thru	NB Right	North Leg - Manning/Hill Valley SB Left	SB Thru	SB Right
00: All Day (12am-12am)	32%	31%	37%	9%	82%	9%	19%	79%	2%	2%	77%	21%
03: 2am (2am-3am)	67%	0%	33%	0%	100%	0%	-	-	-	0%	100%	0%
08: 7am (7am-8am)	29%	8%	63%	0%	91%	9%	19%	81%	0%	1%	68%	31%
09: 8am (8am-9am)	34%	16%	51%	0%	100%	0%	29%	69%	2%	3%	70%	26%
11: 10am (10am-11am)	22%	37%	41%	8%	81%	12%	37%	57%	6%	0%	71%	29%
12: 11am (11am-12noon)	45%	32%	23%	13%	88%	0%	19%	78%	3%	6%	75%	20%
13: 12pm (12noon-1pm)	45%	23%	32%	25%	75%	0%	17%	81%	2%	4%	69%	28%
14: 1pm (1pm-2pm)	31%	35%	34%	14%	86%	0%	13%	87%	0%	4%	80%	15%
15: 2pm (2pm-3pm)	19%	48%	34%	11%	67%	22%	20%	80%	0%	0%	79%	21%
16: 3pm (3pm-4pm)	29%	46%	26%	8%	71%	21%	16%	84%	0%	4%	80%	16%
17: 4pm (4pm-5pm)	31%	33%	36%	15%	85%	0%	25%	74%	1%	2%	88%	10%
18: 5pm (5pm-6pm)	23%	36%	40%	26%	52%	22%	16%	82%	2%	4%	84%	12%
19: 6pm (6pm-7pm)	28%	46%	27%	9%	52%	39%	11%	88%	2%	4%	77%	20%
20: 7pm (7pm-8pm)	13%	44%	43%	20%	80%	0%	20%	75%	5%	6%	76%	18%
21: 8pm (8pm-9pm)	29%	23%	48%	0%	100%	0%	28%	72%	0%	0%	80%	20%
23: 10pm (10pm-11pm)	33%	13%	53%	40%	60%	0%	10%	90%	0%	0%	79%	21%
10: 9am (9am-10am)	39%	20%	41%	0%	100%	0%	26%	71%	2%	0%	65%	35%
22: 9pm (9pm-10pm)	66%	11%	23%	0%	100%	0%	18%	82%	0%	0%	77%	23%
06: 5am (5am-6am)	91%	9%	0%	0%	100%	0%	6%	94%	0%	0%	81%	19%
07: 6am (6am-7am)	22%	15%	63%	0%	100%	0%	19%	81%	1%	0%	78%	23%
24: 11pm (11pm-12am)	53%	18%	29%	-	-	-	0%	100%	0%	0%	56%	44%
01: 12am (12am-1am)	0%	0%	100%	-	-	-	13%	87%	0%	0%	100%	0%
02: 1am (1am-2am)	0%	0%	100%	-	-	-	0%	100%	0%	0%	100%	0%
04: 3am (3am-4am)	0%	0%	100%	-	-	-	0%	100%	0%	0%	100%	0%
05: 4am (4am-5am)	0%	50%	50%	-	-	-	20%	80%	0%	0%	100%	0%

Day Type

1: Analysis Week (Tu-Th)

TURNING MOVEMENT COUNTS

	West Leg - Manning/SR 63			East Leg - Manning/SR 63			South Leg - Manning/SR 63			North Leg - Manning/SR 63			
Day Part	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right	Total
00: All Day (12am-12am)	191	183	179	81	128	13	141	801	103	23	764	85	2,692
08: 7am (7am-8am)	4	6	1	2	37	5	2	49	38	-	86	22	252
09: 8am (8am-9am)	-	6	8	-	11	-	2	38	6	-	24	7	102
10: 9am (9am-10am)	1	14	5	6	8	3	9	46	-	-	39	7	138
12: 11am (11am-12noon)	13	10	15	4	9	-	11	39	4	-	39	-	144
13: 12pm (12noon-1pm)	3	11	14	2	7	-	9	49	2	-	29	10	136
14: 1pm (1pm-2pm)	28	16	10	12	-	-	6	52	13	-	42	11	190
15: 2pm (2pm-3pm)	26	8	22	8	5	-	6	38	7	-	48	11	179
16: 3pm (3pm-4pm)	30	29	14	4	7	-	15	61	8	5	82	3	258
17: 4pm (4pm-5pm)	15	24	10	17	-	-	10	56	3	-	51	5	191
19: 6pm (6pm-7pm)	37	6	15	11	6	-	17	59	-	4	54	-	209
21: 8pm (8pm-9pm)	3	7	13	-	-	-	8	32	-	4	18	3	88
05: 4am (4am-5am)	-	-	-	-	-	-	-	-	-	-	21	-	21
06: 5am (5am-6am)	-	-	-	-	-	-	3	19	-	-	4	-	26
07: 6am (6am-7am)	-	-	4	12	-	-	22	63	16	-	57	-	174
11: 10am (10am-11am)	-	7	13	-	9	-	13	47	-	4	38	-	131
18: 5pm (5pm-6pm)	29	15	4	11	9	-	7	58	11	-	56	-	200
20: 7pm (7pm-8pm)	7	15	16	-	3	-	4	52	-	-	35	-	132
23: 10pm (10pm-11pm)	-	-	2	-	4	-	2	9	-	-	5	1	23
22: 9pm (9pm-10pm)	-	8	-	-	-	-	3	16	-	-	23	3	53
03: 2am (2am-3am)	-	-	-	-	-	-	2	-	-	-	-	-	2
01: 12am (12am-1am)	-	-	-	-	-	-	-	4	-	-	1	-	5
02: 1am (1am-2am)	-	-	-	-	-	-	-	-	-	-	-	-	-
04: 3am (3am-4am)	-	-	-	-	-	-	-	3	-	-	13	-	16
24: 11pm (11pm-12am)	-	-	3	-	-	-	-	9	-	-	1	-	13

TURNING MOVEMENT PERCENTAGE

	West Leg - Manning/SR 63			East Leg - Manning/SR 63			South Leg - Manning/SR 63			North Leg - Manning/SR 63		
Day Part	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right
00: All Day (12am-12am)	35%	33%	32%	36%	58%	6%	13%	77%	10%	3%	88%	10%
08: 7am (7am-8am)	36%	55%	9%	5%	84%	11%	2%	55%	43%	0%	80%	20%
09: 8am (8am-9am)	0%	43%	57%	0%	100%	0%	4%	83%	13%	0%	77%	23%
10: 9am (9am-10am)	5%	70%	25%	35%	47%	18%	16%	84%	0%	0%	85%	15%
12: 11am (11am-12noon)	34%	26%	39%	31%	69%	0%	20%	72%	7%	0%	100%	0%
13: 12pm (12noon-1pm)	11%	39%	50%	22%	78%	0%	15%	82%	3%	0%	74%	26%
14: 1pm (1pm-2pm)	52%	30%	19%	100%	0%	0%	8%	73%	18%	0%	79%	21%
15: 2pm (2pm-3pm)	46%	14%	39%	62%	38%	0%	12%	75%	14%	0%	81%	19%
16: 3pm (3pm-4pm)	41%	40%	19%	36%	64%	0%	18%	73%	10%	6%	91%	3%
17: 4pm (4pm-5pm)	31%	49%	20%	100%	0%	0%	14%	81%	4%	0%	91%	9%
19: 6pm (6pm-7pm)	64%	10%	26%	65%	35%	0%	22%	78%	0%	7%	93%	0%
21: 8pm (8pm-9pm)	13%	30%	57%	-	-	-	20%	80%	0%	16%	72%	12%
05: 4am (4am-5am)	-	-	-	-	-	-	-	-	-	0%	100%	0%
06: 5am (5am-6am)	-	-	-	-	-	-	14%	86%	0%	0%	100%	0%
07: 6am (6am-7am)	0%	0%	100%	100%	0%	0%	22%	62%	16%	0%	100%	0%
11: 10am (10am-11am)	0%	35%	65%	0%	100%	0%	22%	78%	0%	10%	90%	0%
18: 5pm (5pm-6pm)	60%	31%	8%	55%	45%	0%	9%	76%	14%	0%	100%	0%
20: 7pm (7pm-8pm)	18%	39%	42%	0%	100%	0%	7%	93%	0%	0%	100%	0%
23: 10pm (10pm-11pm)	0%	0%	100%	0%	100%	0%	18%	82%	0%	0%	83%	17%
22: 9pm (9pm-10pm)	0%	100%	0%	-	-	-	16%	84%	0%	0%	88%	12%
03: 2am (2am-3am)	-	-	-	-	-	-	100%	0%	0%	-	-	-
01: 12am (12am-1am)	-	-	-	-	-	-	0%	100%	0%	0%	100%	0%
02: 1am (1am-2am)	-	-	-	-	-	-	-	-	-	-	-	-
04: 3am (3am-4am)	-	-	-	-	-	-	0%	100%	0%	0%	100%	0%
24: 11pm (11pm-12am)	0%	0%	100%	-	-	-	0%	100%	0%	0%	100%	0%

Synchro LOS Worksheets

Existing AM

Existing PM

Intersection						
Int Delay, s/veh	2.1					
Movement	**EBT**	**EBR**	**WBL**	**WBT**	**NBL**	**NBR**
Lane Configurations						
Traffic Vol, veh/h	69	9	74	315	17	30
Future Vol, veh/h	69	9	74	315	17	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	78	10	84	358	19	34

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	78	0	604	78
Stage 1	-	-	-	-	78	-
Stage 2	-	-	-	-	526	-
Critical Hdwy	-	-	4.14	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.236	-	3.536	3.336
Pot Cap-1 Maneuver	-	0	1508	-	458	977
Stage 1	-	0	-	-	940	-
Stage 2	-	0	-	-	589	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	1508	-	426	977
Mov Cap-2 Maneuver	-	-	-	-	426	-
Stage 1	-	-	-	-	874	-
Stage 2	-	-	-	-	589	-

Approach	EB		WB		NB	
HCM Control Delay, s	0		1.4		10.9	
HCM LOS					B	

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	666	-	1508	-
HCM Lane V/C Ratio	0.08	-	0.056	-
HCM Control Delay (s)	10.9	-	7.5	0
HCM Lane LOS	B	-	A	A
HCM 95th %tile Q(veh)	0.3	-	0.2	-

Intersection	
Intersection Delay, s/veh	10.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	5	162	54	8	7	71	226	5	7	217	28
Future Vol, veh/h	18	5	162	54	8	7	71	226	5	7	217	28
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	20	6	184	61	9	8	81	257	6	8	247	32
Number of Lanes	0	1	0	0	1	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	1	1
HCM Control Delay	11.3	10.8	10.4	10.4
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	10%	78%	100%	0%	0%
Vol Thru, %	0%	100%	94%	3%	12%	0%	100%	72%
Vol Right, %	0%	0%	6%	88%	10%	0%	0%	28%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	71	151	80	185	69	7	145	100
LT Vol	71	0	0	18	54	7	0	0
Through Vol	0	151	75	5	8	0	145	72
RT Vol	0	0	5	162	7	0	0	28
Lane Flow Rate	81	171	91	210	78	8	164	114
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.143	0.28	0.148	0.334	0.149	0.014	0.272	0.182
Departure Headway (Hd)	6.387	5.879	5.835	5.726	6.831	6.469	5.961	5.762
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	562	611	614	629	525	553	603	623
Service Time	4.122	3.614	3.57	3.465	4.577	4.207	3.699	3.5
HCM Lane V/C Ratio	0.144	0.28	0.148	0.334	0.149	0.014	0.272	0.183
HCM Control Delay	10.2	10.9	9.6	11.3	10.8	9.3	10.9	9.8
HCM Lane LOS	B	B	A	B	B	A	B	A
HCM 95th-tile Q	0.5	1.1	0.5	1.5	0.5	0	1.1	0.7

Intersection	
Intersection Delay, s/veh	13.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	19	1	54	62	39	46	68	252	3	3	472	24
Future Vol, veh/h	19	1	54	62	39	46	68	252	3	3	472	24
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	22	1	61	70	44	52	77	286	3	3	536	27
Number of Lanes	0	1	0	0	1	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	1	1
HCM Control Delay	10.9	13.1	11.3	15.2
HCM LOS	B	B	B	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	26%	42%	100%	0%	0%
Vol Thru, %	0%	100%	97%	1%	27%	0%	100%	87%
Vol Right, %	0%	0%	3%	73%	31%	0%	0%	13%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	68	168	87	74	147	3	315	181
LT Vol	68	0	0	19	62	3	0	0
Through Vol	0	168	84	1	39	0	315	157
RT Vol	0	0	3	54	46	0	0	24
Lane Flow Rate	77	191	99	84	167	3	358	206
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.145	0.332	0.171	0.16	0.324	0.006	0.597	0.339
Departure Headway (Hd)	6.761	6.252	6.228	6.829	6.975	6.516	6.008	5.914
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	529	573	573	522	515	548	601	606
Service Time	4.525	4.015	3.991	4.606	4.742	4.272	3.764	3.67
HCM Lane V/C Ratio	0.146	0.333	0.173	0.161	0.324	0.005	0.596	0.34
HCM Control Delay	10.7	12.1	10.3	10.9	13.1	9.3	17.3	11.7
HCM Lane LOS	B	B	B	B	B	A	C	B
HCM 95th-tile Q	0.5	1.4	0.6	0.6	1.4	0	3.9	1.5

Intersection	
Intersection Delay, s/veh	13.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	16	57	7	0	0	33	296	3	12	594	33
Future Vol, veh/h	14	16	57	7	0	0	33	296	3	12	594	33
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	16	18	65	8	0	0	38	336	3	14	675	38
Number of Lanes	0	1	0	0	1	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	1	1
HCM Control Delay	10.7	10.5	10.8	15.3
HCM LOS	B	B	B	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	16%	100%	100%	0%	0%
Vol Thru, %	0%	100%	97%	18%	0%	0%	100%	86%
Vol Right, %	0%	0%	3%	66%	0%	0%	0%	14%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	33	197	102	87	7	12	396	231
LT Vol	33	0	0	14	7	12	0	0
Through Vol	0	197	99	16	0	0	396	198
RT Vol	0	0	3	57	0	0	0	33
Lane Flow Rate	38	224	116	99	8	14	450	262
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.065	0.357	0.183	0.179	0.017	0.022	0.661	0.378
Departure Headway (Hd)	6.236	5.732	5.711	6.534	7.655	5.788	5.285	5.185
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	577	630	631	552	469	612	675	685
Service Time	3.943	3.439	3.419	4.244	5.371	3.588	3.084	2.983
HCM Lane V/C Ratio	0.066	0.356	0.184	0.179	0.017	0.023	0.667	0.382
HCM Control Delay	9.4	11.6	9.7	10.7	10.5	8.7	17.9	11.2
HCM Lane LOS	A	B	A	B	B	A	C	B
HCM 95th-tile Q	0.2	1.6	0.7	0.6	0.1	0.1	5	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	59	305	177	49	505	140	246	159	40	169	208	82
Future Volume (veh/h)	59	305	177	49	505	140	246	159	40	169	208	82
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	63	324	188	52	537	149	262	169	43	180	221	87
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	133	1070	477	121	1037	462	352	409	101	339	355	135
Arrive On Green	0.08	0.31	0.31	0.07	0.30	0.30	0.10	0.15	0.15	0.10	0.14	0.14
Sat Flow, veh/h	1753	3497	1560	1753	3497	1560	3401	2777	688	3401	2475	945
Grp Volume(v), veh/h	63	324	188	52	537	149	262	105	107	180	154	154
Grp Sat Flow(s),veh/h/ln	1753	1749	1560	1753	1749	1560	1700	1749	1717	1700	1749	1671
Q Serve(g_s), s	2.7	5.6	7.5	2.2	10.1	5.9	5.9	4.3	4.5	4.0	6.5	6.8
Cycle Q Clear(g_c), s	2.7	5.6	7.5	2.2	10.1	5.9	5.9	4.3	4.5	4.0	6.5	6.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.40	1.00		0.57
Lane Grp Cap(c), veh/h	133	1070	477	121	1037	462	352	257	253	339	251	240
V/C Ratio(X)	0.47	0.30	0.39	0.43	0.52	0.32	0.75	0.41	0.42	0.53	0.61	0.64
Avail Cap(c_a), veh/h	334	2442	1089	334	2442	1089	669	444	436	669	444	424
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	34.9	20.9	21.6	35.2	23.0	21.6	34.3	30.5	30.6	33.7	31.7	31.8
Incr Delay (d2), s/veh	1.0	0.6	1.9	0.9	1.5	1.4	1.2	3.5	3.8	0.5	8.1	9.5
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	1.1	2.1	2.6	0.9	3.8	2.1	2.3	1.9	1.9	1.5	3.1	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.9	21.5	23.5	36.1	24.5	23.0	35.5	34.0	34.4	34.2	39.8	41.3
LnGrp LOS	D	C	C	D	C	C	D	C	C	C	D	D
Approach Vol, veh/h		575			738			474			488	
Approach Delay, s/veh		23.7			25.0			34.9			38.2	
Approach LOS		C			C			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.6	32.0	15.3	18.8	13.4	31.3	15.0	19.1
Change Period (Y+Rc), s	* 7.2	7.9	* 7.2	7.5	7.4	7.9	* 7.2	7.5
Max Green Setting (Gmax), s	* 15	55.0	* 16	20.0	15.0	55.0	* 16	20.0
Max Q Clear Time (g_c+I1), s	4.2	9.5	7.9	8.8	4.7	12.1	6.0	6.5
Green Ext Time (p_c), s	0.0	7.6	0.3	2.4	0.0	11.3	0.2	1.8

Intersection Summary	
HCM 6th Ctrl Delay	29.6
HCM 6th LOS	C

Notes

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

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	139	71	94	24	36	34	215	229	34	20	392	266
Future Volume (veh/h)	139	71	94	24	36	34	215	229	34	20	392	266
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	146	75	99	25	38	36	226	241	36	21	413	280
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	309	121	361	121	150	101	284	1353	200	71	643	432
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.16	0.44	0.44	0.04	0.32	0.32
Sat Flow, veh/h	801	523	1560	118	646	437	1753	3057	451	1753	2003	1345
Grp Volume(v), veh/h	221	0	99	99	0	0	226	136	141	21	360	333
Grp Sat Flow(s),veh/h/ln	1324	0	1560	1201	0	0	1753	1749	1760	1753	1749	1599
Q Serve(g_s), s	0.0	0.0	2.5	0.2	0.0	0.0	6.0	2.3	2.3	0.6	8.5	8.6
Cycle Q Clear(g_c), s	7.8	0.0	2.5	8.0	0.0	0.0	6.0	2.3	2.3	0.6	8.5	8.6
Prop In Lane	0.66		1.00	0.25		0.36	1.00		0.26	1.00		0.84
Lane Grp Cap(c), veh/h	430	0	361	371	0	0	284	774	779	71	561	513
V/C Ratio(X)	0.51	0.00	0.27	0.27	0.00	0.00	0.80	0.18	0.18	0.29	0.64	0.65
Avail Cap(c_a), veh/h	843	0	806	808	0	0	725	1265	1273	725	1265	1157
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	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.1	0.0	15.3	15.3	0.0	0.0	19.5	8.2	8.2	22.5	14.0	14.1
Incr Delay (d2), s/veh	1.0	0.0	0.4	0.1	0.0	0.0	1.9	0.1	0.1	0.8	1.3	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	2.0	0.0	0.8	0.8	0.0	0.0	2.3	0.7	0.7	0.2	2.9	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.2	0.0	15.7	15.4	0.0	0.0	21.4	8.3	8.3	23.4	15.4	15.6
LnGrp LOS	B	A	B	B	A	A	C	A	A	C	B	B
Approach Vol, veh/h		320			99			503			714	
Approach Delay, s/veh		17.4			15.4			14.2			15.7	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.8	20.1		16.4	6.0	26.0		16.4
Change Period (Y+Rc), s	4.0	4.6		* 5.2	4.0	4.6		* 5.2
Max Green Setting (Gmax), s	20.0	35.0		* 25	20.0	35.0		* 25
Max Q Clear Time (g_c+I1), s	8.0	10.6		10.0	2.6	4.3		9.8
Green Ext Time (p_c), s	0.2	4.9		0.2	0.0	1.7		1.5

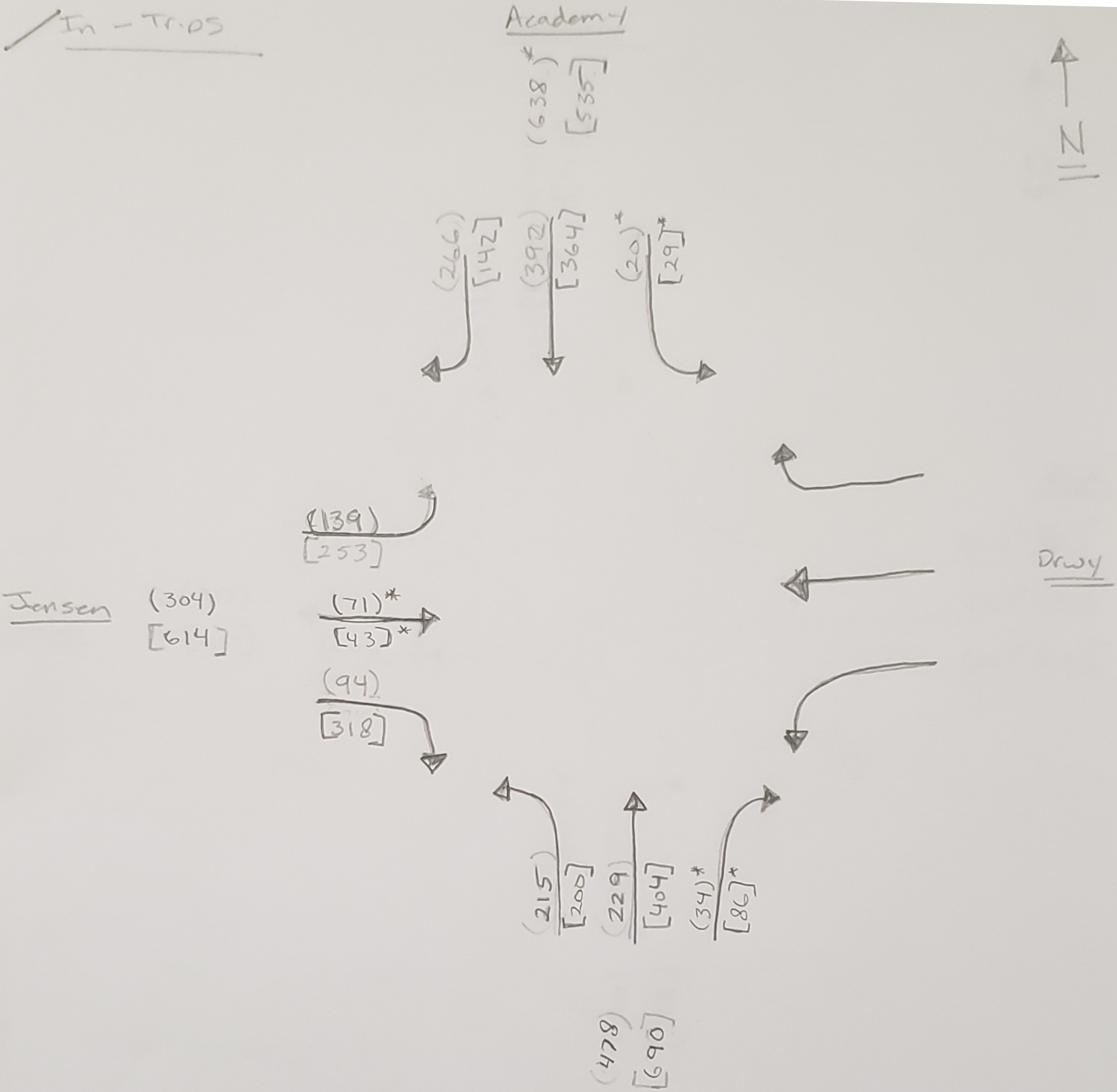
Intersection Summary			
HCM 6th Ctrl Delay			15.6
HCM 6th LOS			B

Notes

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

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

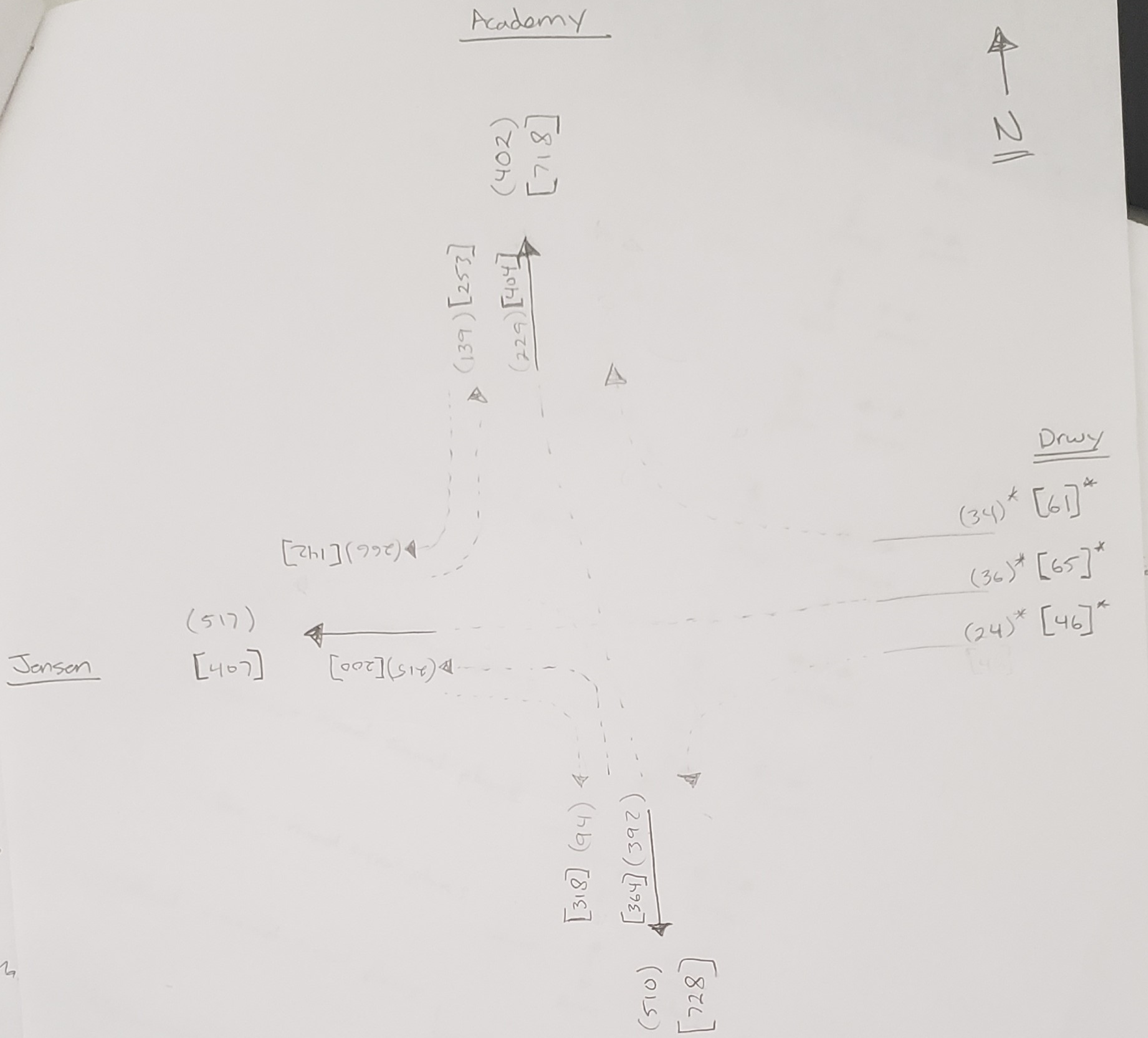
In - Trips



Page

1/2

5/26/2020



Page
2/2

5/26/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	14	10	78	32	231	7	246	43	114	267	6
Future Volume (veh/h)	16	14	10	78	32	231	7	246	43	114	267	6
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	17	15	11	82	34	243	7	259	45	120	281	6
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	290	218	110	494	166	443	0	888	152	0	1042	22
Arrive On Green	0.28	0.28	0.28	0.28	0.28	0.28	0.00	0.30	0.30	0.00	0.30	0.30
Sat Flow, veh/h	362	768	389	930	585	1560	0	2986	512	0	3501	75
Grp Volume(v), veh/h	43	0	0	116	0	243	0	150	154	0	140	147
Grp Sat Flow(s),veh/h/ln	1519	0	0	1515	0	1560	0	1749	1749	0	1749	1827
Q Serve(g_s), s	0.0	0.0	0.0	0.6	0.0	3.5	0.0	1.8	1.8	0.0	1.6	1.6
Cycle Q Clear(g_c), s	0.5	0.0	0.0	1.4	0.0	3.5	0.0	1.8	1.8	0.0	1.6	1.6
Prop In Lane	0.40		0.26	0.71		1.00	0.00		0.29	0.00		0.04
Lane Grp Cap(c), veh/h	619	0	0	660	0	443	0	520	520	0	520	544
V/C Ratio(X)	0.07	0.00	0.00	0.18	0.00	0.55	0.00	0.29	0.30	0.00	0.27	0.27
Avail Cap(c_a), veh/h	1525	0	0	1619	0	1458	0	2287	2287	0	2287	2390
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	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	7.0	0.0	0.0	7.3	0.0	8.1	0.0	7.2	7.2	0.0	7.2	7.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	1.1	0.0	0.3	0.3	0.0	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	0.1	0.0	0.0	0.3	0.0	0.8	0.0	0.4	0.4	0.0	0.4	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.1	0.0	0.0	7.5	0.0	9.2	0.0	7.5	7.6	0.0	7.5	7.4
LnGrp LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		43			359			304			287	
Approach Delay, s/veh		7.1			8.6			7.5			7.4	
Approach LOS		A			A			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	13.1		13.7	0.0	13.1		13.7				
Change Period (Y+Rc), s	4.0	5.1		6.1	4.0	5.1		6.1				
Max Green Setting (Gmax), s	20.0	35.0		25.0	20.0	35.0		25.0				
Max Q Clear Time (g_c+I1), s	0.0	3.6		5.5	0.0	3.8		2.5				
Green Ext Time (p_c), s	0.0	1.6		1.4	0.0	1.8		0.2				
Intersection Summary												
HCM 6th Ctrl Delay			7.9									
HCM 6th LOS			A									

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	121	88	40	153	38	56	186	51	36	255	34
Future Volume (vph)	39	121	88	40	153	38	56	186	51	36	255	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	5.6	5.6	5.6	5.6	5.6	5.9	5.9		5.9	5.9	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1736	1827	1553	1736	1827	1553	1736	3359		1736	3409	
Flt Permitted	0.66	1.00	1.00	0.68	1.00	1.00	0.78	1.00		0.78	1.00	
Satd. Flow (perm)	1197	1827	1553	1234	1827	1553	1433	3359		1433	3409	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	41	127	93	42	161	40	59	196	54	38	268	36
RTOR Reduction (vph)	0	0	59	0	0	27	0	43	0	0	23	0
Lane Group Flow (vph)	41	127	34	42	161	13	59	207	0	38	281	0
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2		2	2		2	4			4		
Actuated Green, G (s)	7.8	7.8	7.8	7.8	7.8	7.8	5.1	5.1		5.1	5.1	
Effective Green, g (s)	7.8	7.8	7.8	7.8	7.8	7.8	5.1	5.1		5.1	5.1	
Actuated g/C Ratio	0.32	0.32	0.32	0.32	0.32	0.32	0.21	0.21		0.21	0.21	
Clearance Time (s)	5.6	5.6	5.6	5.6	5.6	5.6	5.9	5.9		5.9	5.9	
Vehicle Extension (s)	4.5	4.5	4.5	4.5	4.5	4.5	0.2	0.2		0.2	0.2	
Lane Grp Cap (vph)	382	584	496	394	584	496	299	702		299	712	
v/s Ratio Prot		0.07			c0.09			0.06			c0.08	
v/s Ratio Perm	0.03		0.02	0.03		0.01	0.04			0.03		
v/c Ratio	0.11	0.22	0.07	0.11	0.28	0.03	0.20	0.30		0.13	0.39	
Uniform Delay, d1	5.8	6.1	5.8	5.8	6.2	5.7	8.0	8.1		7.8	8.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.3	0.1	0.2	0.4	0.0	0.1	0.1		0.1	0.1	
Delay (s)	6.1	6.4	5.9	6.1	6.6	5.7	8.1	8.2		7.9	8.5	
Level of Service	A	A	A	A	A	A	A	A		A	A	
Approach Delay (s)		6.2			6.4			8.2			8.4	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	24.4	Sum of lost time (s)	11.5
Intersection Capacity Utilization	67.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Intersection Delay, s/veh	11.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	75	41	3	42	72	20	210	3	68	340	6
Future Vol, veh/h	10	75	41	3	42	72	20	210	3	68	340	6
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	11	85	47	3	48	82	23	239	3	77	386	7
Number of Lanes	0	1	0	0	1	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	1	1
HCM Control Delay	11.4	10.9	10.6	11.6
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	8%	3%	100%	0%	0%
Vol Thru, %	0%	100%	96%	60%	36%	0%	100%	95%
Vol Right, %	0%	0%	4%	33%	62%	0%	0%	5%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	20	140	73	126	117	68	227	119
LT Vol	20	0	0	10	3	68	0	0
Through Vol	0	140	70	75	42	0	227	113
RT Vol	0	0	3	41	72	0	0	6
Lane Flow Rate	23	159	83	143	133	77	258	136
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.042	0.271	0.14	0.256	0.23	0.137	0.419	0.22
Departure Headway (Hd)	6.634	6.126	6.096	6.44	6.241	6.371	5.863	5.828
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	539	585	587	557	574	563	613	616
Service Time	4.38	3.871	3.842	4.19	3.993	4.11	3.602	3.566
HCM Lane V/C Ratio	0.043	0.272	0.141	0.257	0.232	0.137	0.421	0.221
HCM Control Delay	9.7	11.1	9.8	11.4	10.9	10.1	12.8	10.2
HCM Lane LOS	A	B	A	B	B	B	B	B
HCM 95th-tile Q	0.1	1.1	0.5	1	0.9	0.5	2.1	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↑↱		↰	↑↱	
Traffic Volume (veh/h)	35	498	7	17	934	67	9	95	12	130	165	68
Future Volume (veh/h)	35	498	7	17	934	67	9	95	12	130	165	68
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	37	524	7	18	983	71	9	100	13	137	174	72
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	103	1674	22	59	1485	107	32	353	45	185	490	195
Arrive On Green	0.06	0.47	0.47	0.03	0.45	0.45	0.02	0.11	0.11	0.11	0.20	0.20
Sat Flow, veh/h	1753	3534	47	1753	3308	239	1753	3119	399	1753	2442	972
Grp Volume(v), veh/h	37	259	272	18	520	534	9	55	58	137	123	123
Grp Sat Flow(s),veh/h/ln	1753	1749	1832	1753	1749	1798	1753	1749	1769	1753	1749	1666
Q Serve(g_s), s	1.4	6.5	6.5	0.7	16.4	16.4	0.4	2.0	2.1	5.3	4.3	4.5
Cycle Q Clear(g_c), s	1.4	6.5	6.5	0.7	16.4	16.4	0.4	2.0	2.1	5.3	4.3	4.5
Prop In Lane	1.00		0.03	1.00		0.13	1.00		0.23	1.00		0.58
Lane Grp Cap(c), veh/h	103	829	868	59	785	807	32	198	200	185	351	334
V/C Ratio(X)	0.36	0.31	0.31	0.30	0.66	0.66	0.28	0.28	0.29	0.74	0.35	0.37
Avail Cap(c_a), veh/h	621	1115	1169	621	1115	1147	621	744	752	621	744	708
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	31.9	11.5	11.5	33.3	15.2	15.2	34.2	28.6	28.7	30.6	24.2	24.3
Incr Delay (d2), s/veh	0.8	0.5	0.4	1.1	2.0	2.0	1.7	2.3	2.4	2.2	1.8	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	0.6	2.2	2.3	0.3	5.8	5.9	0.2	0.9	0.9	2.2	1.7	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.7	11.9	11.9	34.3	17.3	17.2	35.9	31.0	31.1	32.8	26.1	26.4
LnGrp LOS	C	B	B	C	B	B	D	C	C	C	C	C
Approach Vol, veh/h		568			1072			122			383	
Approach Delay, s/veh		13.3			17.5			31.4			28.6	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.3	20.2	8.1	37.0	11.5	14.0	6.4	38.7
Change Period (Y+Rc), s	4.0	6.0	4.0	5.3	4.0	6.0	4.0	5.3
Max Green Setting (Gmax), s	25.0	30.0	25.0	45.0	25.0	30.0	25.0	45.0
Max Q Clear Time (g_c+I1), s	2.4	6.5	3.4	18.4	7.3	4.1	2.7	8.5
Green Ext Time (p_c), s	0.0	2.8	0.0	13.2	0.1	1.1	0.0	6.4

Intersection Summary	
HCM 6th Ctrl Delay	19.2
HCM 6th LOS	B

Notes

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

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	2	95	5	6	210	7	13	92	6	8	122	37
Future Vol, veh/h	2	95	5	6	210	7	13	92	6	8	122	37
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	2	108	6	7	239	8	15	105	7	9	139	42
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.1	10.5	9.3	9.7
HCM LOS	A	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	12%	2%	3%	5%
Vol Thru, %	83%	93%	94%	73%
Vol Right, %	5%	5%	3%	22%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	111	102	223	167
LT Vol	13	2	6	8
Through Vol	92	95	210	122
RT Vol	6	5	7	37
Lane Flow Rate	126	116	253	190
Geometry Grp	1	1	1	1
Degree of Util (X)	0.179	0.163	0.344	0.259
Departure Headway (Hd)	5.118	5.056	4.887	4.921
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	694	702	730	723
Service Time	3.202	3.137	2.956	2.997
HCM Lane V/C Ratio	0.182	0.165	0.347	0.263
HCM Control Delay	9.3	9.1	10.5	9.7
HCM Lane LOS	A	A	B	A
HCM 95th-tile Q	0.6	0.6	1.5	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	343	16	29	424	26	20	32	36	20	71	43
Future Volume (veh/h)	51	343	16	29	424	26	20	32	36	20	71	43
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	58	390	18	33	482	30	23	36	41	23	81	49
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	155	858	39	103	744	46	77	120	136	77	164	99
Arrive On Green	0.09	0.25	0.25	0.06	0.22	0.22	0.04	0.15	0.15	0.04	0.15	0.15
Sat Flow, veh/h	1753	3404	157	1753	3344	208	1753	785	894	1753	1074	650
Grp Volume(v), veh/h	58	200	208	33	251	261	23	0	77	23	0	130
Grp Sat Flow(s),veh/h/ln	1753	1749	1813	1753	1749	1803	1753	0	1680	1753	0	1724
Q Serve(g_s), s	1.6	4.9	4.9	0.9	6.6	6.6	0.6	0.0	2.0	0.6	0.0	3.5
Cycle Q Clear(g_c), s	1.6	4.9	4.9	0.9	6.6	6.6	0.6	0.0	2.0	0.6	0.0	3.5
Prop In Lane	1.00		0.09	1.00		0.12	1.00		0.53	1.00		0.38
Lane Grp Cap(c), veh/h	155	441	457	103	389	401	77	0	256	77	0	263
V/C Ratio(X)	0.37	0.45	0.46	0.32	0.65	0.65	0.30	0.00	0.30	0.30	0.00	0.49
Avail Cap(c_a), veh/h	697	1216	1261	697	1216	1254	697	0	835	697	0	856
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.6	15.9	15.9	22.7	17.8	17.8	23.3	0.0	18.9	23.3	0.0	19.5
Incr Delay (d2), s/veh	1.5	0.7	0.7	1.8	1.8	1.8	2.2	0.0	0.7	2.2	0.0	1.4
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	0.6	1.5	1.6	0.4	2.2	2.3	0.3	0.0	0.7	0.3	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.1	16.6	16.6	24.5	19.6	19.6	25.5	0.0	19.6	25.5	0.0	21.0
LnGrp LOS	C	B	B	C	B	B	C	A	B	C	A	C
Approach Vol, veh/h		466			545			100			153	
Approach Delay, s/veh		17.4			19.9			20.9			21.7	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.2	14.7	9.4	19.0	7.2	14.7	8.0	20.5
Change Period (Y+Rc), s	5.0	7.0	5.0	7.8	5.0	7.0	5.0	7.8
Max Green Setting (Gmax), s	20.0	25.0	20.0	35.0	20.0	25.0	20.0	35.0
Max Q Clear Time (g_c+I1), s	2.6	5.5	3.6	8.6	2.6	4.0	2.9	6.9
Green Ext Time (p_c), s	0.0	0.5	0.1	2.6	0.0	0.3	0.0	2.0

Intersection Summary	
HCM 6th Ctrl Delay	19.3
HCM 6th LOS	B

Intersection	
Intersection Delay, s/veh	9.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	27	21	55	109	7	54	61	37	6	63	7
Future Vol, veh/h	0	27	21	55	109	7	54	61	37	6	63	7
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	0	28	22	58	115	7	57	64	39	6	66	7
Number of Lanes	0	1	1	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	2
HCM Control Delay	8.1	10.2	9	9.1
HCM LOS	A	B	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	47%	0%	0%	0%	32%	8%
Vol Thru, %	53%	0%	100%	0%	64%	83%
Vol Right, %	0%	100%	0%	100%	4%	9%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	115	37	27	21	171	76
LT Vol	54	0	0	0	55	6
Through Vol	61	0	27	0	109	63
RT Vol	0	37	0	21	7	7
Lane Flow Rate	121	39	28	22	180	80
Geometry Grp	7	7	7	7	6	6
Degree of Util (X)	0.185	0.049	0.043	0.029	0.265	0.119
Departure Headway (Hd)	5.501	4.561	5.392	4.687	5.298	5.354
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	651	783	662	761	677	668
Service Time	3.24	2.3	3.138	2.432	3.336	3.398
HCM Lane V/C Ratio	0.186	0.05	0.042	0.029	0.266	0.12
HCM Control Delay	9.5	7.5	8.4	7.6	10.2	9.1
HCM Lane LOS	A	A	A	A	B	A
HCM 95th-tile Q	0.7	0.2	0.1	0.1	1.1	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	134	320	83	3	333	19	91	87	4	44	117	209
Future Volume (veh/h)	134	320	83	3	333	19	91	87	4	44	117	209
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	141	337	87	3	351	20	96	92	4	46	123	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	172	1097	930	8	871	50	134	172	7	116	169	
Arrive On Green	0.10	0.60	0.60	0.00	0.51	0.51	0.08	0.10	0.10	0.07	0.09	0.00
Sat Flow, veh/h	1753	1841	1560	1753	1725	98	1753	1751	76	1753	1841	1560
Grp Volume(v), veh/h	141	337	87	3	0	371	96	0	96	46	123	0
Grp Sat Flow(s),veh/h/ln	1753	1841	1560	1753	0	1823	1753	0	1827	1753	1841	1560
Q Serve(g_s), s	7.7	8.8	2.3	0.2	0.0	12.3	5.2	0.0	4.9	2.4	6.3	0.0
Cycle Q Clear(g_c), s	7.7	8.8	2.3	0.2	0.0	12.3	5.2	0.0	4.9	2.4	6.3	0.0
Prop In Lane	1.00		1.00	1.00		0.05	1.00		0.04	1.00		1.00
Lane Grp Cap(c), veh/h	172	1097	930	8	0	921	134	0	179	116	169	
V/C Ratio(X)	0.82	0.31	0.09	0.36	0.00	0.40	0.72	0.00	0.54	0.40	0.73	
Avail Cap(c_a), veh/h	271	1097	930	271	0	921	271	0	377	271	380	
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	42.9	9.7	8.4	48.1	0.0	14.9	43.8	0.0	41.6	43.5	42.9	0.0
Incr Delay (d2), s/veh	5.3	0.7	0.2	9.2	0.0	1.3	2.7	0.0	3.9	0.8	9.1	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	3.5	3.4	0.8	0.1	0.0	5.1	2.3	0.0	2.3	1.1	3.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.2	10.4	8.6	57.3	0.0	16.2	46.5	0.0	45.6	44.3	52.0	0.0
LnGrp LOS	D	B	A	E	A	B	D	A	D	D	D	
Approach Vol, veh/h		565			374			192			169	A
Approach Delay, s/veh		19.5			16.6			46.0			49.9	
Approach LOS		B			B			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.7	63.2	13.3	14.8	14.5	54.4	12.7	15.4
Change Period (Y+Rc), s	* 5.2	5.4	5.9	5.9	5.0	5.4	* 6.3	* 5.9
Max Green Setting (Gmax), s	* 15	25.0	15.0	20.0	15.0	25.0	* 15	* 20
Max Q Clear Time (g_c+I1), s	2.2	10.8	7.2	8.3	9.7	14.3	4.4	6.9
Green Ext Time (p_c), s	0.0	2.9	0.1	0.6	0.1	2.3	0.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	26.5
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	141	377	147	8	857	271	161	245	6	62	51	33
Future Volume (veh/h)	141	377	147	8	857	271	161	245	6	62	51	33
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	148	397	155	8	902	285	169	258	0	65	54	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	179	2107	940	28	1352	426	200	443		115	273	
Arrive On Green	0.10	0.60	0.60	0.02	0.52	0.52	0.11	0.13	0.00	0.07	0.08	0.00
Sat Flow, veh/h	1753	3497	1560	1753	2616	825	1753	3497	1560	1753	3497	1560
Grp Volume(v), veh/h	148	397	155	8	602	585	169	258	0	65	54	0
Grp Sat Flow(s),veh/h/ln	1753	1749	1560	1753	1749	1692	1753	1749	1560	1753	1749	1560
Q Serve(g_s), s	8.5	5.2	4.5	0.5	26.0	26.2	9.7	7.1	0.0	3.7	1.5	0.0
Cycle Q Clear(g_c), s	8.5	5.2	4.5	0.5	26.0	26.2	9.7	7.1	0.0	3.7	1.5	0.0
Prop In Lane	1.00		1.00	1.00		0.49	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	179	2107	940	28	903	874	200	443		115	273	
V/C Ratio(X)	0.83	0.19	0.16	0.29	0.67	0.67	0.84	0.58		0.56	0.20	
Avail Cap(c_a), veh/h	342	2107	940	342	1024	991	342	1024		342	1024	
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	0.00
Uniform Delay (d), s/veh	45.2	9.1	9.0	49.9	18.3	18.3	44.5	42.2	0.0	46.5	44.2	0.0
Incr Delay (d2), s/veh	3.7	0.2	0.3	2.1	3.9	4.1	3.7	0.5	0.0	1.6	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	3.7	1.7	1.3	0.2	9.9	9.7	4.2	2.9	0.0	1.6	0.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.9	9.3	9.3	51.9	22.2	22.4	48.2	42.7	0.0	48.1	44.4	0.0
LnGrp LOS	D	A	A	D	C	C	D	D		D	D	
Approach Vol, veh/h		700			1195			427	A		119	A
Approach Delay, s/veh		17.7			22.5			44.9			46.4	
Approach LOS		B			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.7	13.7	14.4	58.6	10.7	18.7	5.6	67.5
Change Period (Y+Rc), s	4.0	5.7	4.0	5.7	4.0	5.7	4.0	5.7
Max Green Setting (Gmax), s	20.0	30.0	20.0	60.0	20.0	30.0	20.0	60.0
Max Q Clear Time (g_c+I1), s	11.7	3.5	10.5	28.2	5.7	9.1	2.5	7.2
Green Ext Time (p_c), s	0.1	0.1	0.1	24.8	0.0	0.8	0.0	9.1

Intersection Summary	
HCM 6th Ctrl Delay	26.2
HCM 6th LOS	C

Notes

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

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	337	51	133	879	12	253	143	174	41	223	57
Future Volume (veh/h)	18	337	51	133	879	12	253	143	174	41	223	57
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	20	383	58	151	999	14	288	162	198	47	253	65
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	59	812	122	182	1188	17	320	249	305	101	291	75
Arrive On Green	0.03	0.27	0.27	0.10	0.34	0.34	0.18	0.33	0.33	0.06	0.21	0.21
Sat Flow, veh/h	1753	3049	458	1753	3531	49	1753	754	921	1753	1413	363
Grp Volume(v), veh/h	20	218	223	151	495	518	288	0	360	47	0	318
Grp Sat Flow(s),veh/h/ln	1753	1749	1758	1753	1749	1832	1753	0	1675	1753	0	1775
Q Serve(g_s), s	1.1	10.8	10.9	8.7	26.9	26.9	16.5	0.0	18.8	2.7	0.0	17.8
Cycle Q Clear(g_c), s	1.1	10.8	10.9	8.7	26.9	26.9	16.5	0.0	18.8	2.7	0.0	17.8
Prop In Lane	1.00		0.26	1.00		0.03	1.00		0.55	1.00		0.20
Lane Grp Cap(c), veh/h	59	466	469	182	588	616	320	0	554	101	0	365
V/C Ratio(X)	0.34	0.47	0.48	0.83	0.84	0.84	0.90	0.00	0.65	0.47	0.00	0.87
Avail Cap(c_a), veh/h	427	817	822	427	817	856	427	0	554	427	0	432
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.5	31.6	31.6	45.1	31.5	31.5	41.1	0.0	29.3	46.9	0.0	39.5
Incr Delay (d2), s/veh	1.2	1.6	1.7	3.7	5.8	5.6	15.3	0.0	4.4	1.2	0.0	18.9
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	0.5	4.4	4.5	3.7	11.2	11.7	8.1	0.0	7.7	1.1	0.0	9.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.7	33.2	33.3	48.8	37.3	37.1	56.4	0.0	33.7	48.1	0.0	58.4
LnGrp LOS	D	C	C	D	D	D	E	A	C	D	A	E
Approach Vol, veh/h		461			1164			648			365	
Approach Delay, s/veh		34.0			38.7			43.8			57.1	
Approach LOS		C			D			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.7	35.2	23.7	28.1	8.5	42.4	10.9	40.9
Change Period (Y+Rc), s	5.0	7.8	5.0	7.0	5.0	7.8	5.0	7.0
Max Green Setting (Gmax), s	25.0	48.0	25.0	25.0	25.0	48.0	25.0	25.0
Max Q Clear Time (g_c+I1), s	10.7	12.9	18.5	19.8	3.1	28.9	4.7	20.8
Green Ext Time (p_c), s	0.1	5.0	0.2	1.3	0.0	5.7	0.0	1.4

Intersection Summary	
HCM 6th Ctrl Delay	41.7
HCM 6th LOS	D

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	426	116	103	871	32	52	30	165	91	103	113
Future Volume (veh/h)	80	426	116	103	871	32	52	30	165	91	103	113
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	84	448	122	108	917	34	55	32	174	96	108	119
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	122	879	237	138	1161	518	94	44	239	131	364	308
Arrive On Green	0.07	0.32	0.32	0.08	0.33	0.33	0.05	0.18	0.18	0.07	0.20	0.20
Sat Flow, veh/h	1753	2722	735	1753	3497	1560	1753	248	1350	1753	1841	1560
Grp Volume(v), veh/h	84	287	283	108	917	34	55	0	206	96	108	119
Grp Sat Flow(s),veh/h/ln	1753	1749	1708	1753	1749	1560	1753	0	1598	1753	1841	1560
Q Serve(g_s), s	2.3	6.5	6.6	3.0	11.6	0.7	1.5	0.0	6.0	2.6	2.4	3.2
Cycle Q Clear(g_c), s	2.3	6.5	6.6	3.0	11.6	0.7	1.5	0.0	6.0	2.6	2.4	3.2
Prop In Lane	1.00		0.43	1.00		1.00	1.00		0.84	1.00		1.00
Lane Grp Cap(c), veh/h	122	564	551	138	1161	518	94	0	283	131	364	308
V/C Ratio(X)	0.69	0.51	0.51	0.78	0.79	0.07	0.58	0.00	0.73	0.74	0.30	0.39
Avail Cap(c_a), veh/h	197	632	618	244	1357	605	179	0	588	197	696	590
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	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.3	13.4	13.5	22.1	14.8	11.2	22.6	0.0	19.0	22.2	16.7	17.1
Incr Delay (d2), s/veh	6.7	0.7	0.7	9.3	2.8	0.1	5.6	0.0	3.6	7.8	0.5	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	1.0	2.0	2.0	1.4	3.7	0.2	0.7	0.0	2.0	1.3	1.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.0	14.1	14.2	31.5	17.6	11.2	28.2	0.0	22.6	30.0	17.2	17.9
LnGrp LOS	C	B	B	C	B	B	C	A	C	C	B	B
Approach Vol, veh/h		654			1059			261			323	
Approach Delay, s/veh		16.1			18.8			23.8			21.2	
Approach LOS		B			B			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.1	12.7	8.3	19.8	7.1	13.7	7.9	20.2				
Change Period (Y+Rc), s	4.5	4.0	4.5	4.0	4.5	4.0	4.5	4.0				
Max Green Setting (Gmax), s	5.5	18.0	6.8	17.7	5.0	18.5	5.5	19.0				
Max Q Clear Time (g_c+I1), s	4.6	8.0	5.0	8.6	3.5	5.2	4.3	13.6				
Green Ext Time (p_c), s	0.0	0.7	0.0	2.1	0.0	0.8	0.0	2.6				
Intersection Summary												
HCM 6th Ctrl Delay			18.9									
HCM 6th LOS			B									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	560	25	60	767	128	132	86	90	134	41	39
Future Volume (veh/h)	62	560	25	60	767	128	132	86	90	134	41	39
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	70	636	28	68	872	145	150	98	102	152	47	44
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	134	1332	59	133	1169	194	416	246	256	321	260	243
Arrive On Green	0.08	0.39	0.39	0.08	0.39	0.39	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	1753	3412	150	1753	3001	499	1285	826	860	1164	875	819
Grp Volume(v), veh/h	70	326	338	68	508	509	150	0	200	152	0	91
Grp Sat Flow(s),veh/h/ln	1753	1749	1814	1753	1749	1751	1285	0	1686	1164	0	1693
Q Serve(g_s), s	3.2	11.7	11.8	3.1	21.0	21.0	8.3	0.0	8.0	10.1	0.0	3.4
Cycle Q Clear(g_c), s	3.2	11.7	11.8	3.1	21.0	21.0	11.6	0.0	8.0	18.0	0.0	3.4
Prop In Lane	1.00		0.08	1.00		0.28	1.00		0.51	1.00		0.48
Lane Grp Cap(c), veh/h	134	683	708	133	681	682	416	0	501	321	0	503
V/C Ratio(X)	0.52	0.48	0.48	0.51	0.75	0.75	0.36	0.00	0.40	0.47	0.00	0.18
Avail Cap(c_a), veh/h	417	832	863	417	832	833	416	0	501	321	0	503
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.3	19.2	19.2	37.4	22.1	22.1	26.3	0.0	23.6	30.8	0.0	21.9
Incr Delay (d2), s/veh	1.2	1.2	1.2	1.1	4.6	4.6	2.4	0.0	2.4	4.9	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	1.3	4.3	4.5	1.3	8.2	8.2	2.6	0.0	3.2	3.0	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.5	20.4	20.4	38.5	26.7	26.7	28.7	0.0	25.9	35.7	0.0	22.7
LnGrp LOS	D	C	C	D	C	C	C	A	C	D	A	C
Approach Vol, veh/h		734			1085			350			243	
Approach Delay, s/veh		22.1			27.4			27.1			30.8	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.8	39.6		31.7	12.8	39.6		31.7				
Change Period (Y+Rc), s	6.4	6.8		6.7	6.4	6.8		6.7				
Max Green Setting (Gmax), s	20.0	40.0		25.0	20.0	40.0		25.0				
Max Q Clear Time (g_c+I1), s	5.2	23.0		13.6	5.1	13.8		20.0				
Green Ext Time (p_c), s	0.1	9.7		3.1	0.0	7.6		0.8				

Intersection Summary		
HCM 6th Ctrl Delay		26.1
HCM 6th LOS		C

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	135	277	10	193	423	117	98	181	88	37	232	183
Future Volume (veh/h)	135	277	10	193	423	117	98	181	88	37	232	183
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	142	292	11	203	445	123	103	191	93	39	244	193
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	180	804	30	252	745	204	131	485	411	58	408	346
Arrive On Green	0.10	0.23	0.23	0.14	0.27	0.27	0.07	0.26	0.26	0.03	0.22	0.22
Sat Flow, veh/h	1753	3437	129	1753	2712	744	1753	1841	1560	1753	1841	1560
Grp Volume(v), veh/h	142	148	155	203	286	282	103	191	93	39	244	193
Grp Sat Flow(s),veh/h/ln	1753	1749	1817	1753	1749	1707	1753	1841	1560	1753	1841	1560
Q Serve(g_s), s	4.1	3.7	3.7	5.9	7.4	7.5	3.0	4.5	2.4	1.1	6.2	5.7
Cycle Q Clear(g_c), s	4.1	3.7	3.7	5.9	7.4	7.5	3.0	4.5	2.4	1.1	6.2	5.7
Prop In Lane	1.00		0.07	1.00		0.44	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	180	409	425	252	481	469	131	485	411	58	408	346
V/C Ratio(X)	0.79	0.36	0.36	0.81	0.59	0.60	0.79	0.39	0.23	0.67	0.60	0.56
Avail Cap(c_a), veh/h	470	771	801	672	771	752	403	811	688	336	811	688
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	22.8	16.7	16.7	21.6	16.4	16.4	23.7	15.8	15.1	24.9	18.2	18.0
Incr Delay (d2), s/veh	2.9	1.1	1.1	2.3	2.5	2.6	3.9	1.1	0.6	4.9	3.0	3.0
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	1.4	1.4	2.3	2.9	2.8	1.2	1.7	0.8	0.5	2.6	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.7	17.9	17.8	23.9	18.9	19.1	27.6	16.9	15.6	29.9	21.2	21.0
LnGrp LOS	C	B	B	C	B	B	C	B	B	C	C	C
Approach Vol, veh/h		445			771			387			476	
Approach Delay, s/veh		20.4			20.3			19.5			21.8	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.4	18.8	5.7	18.2	11.5	16.7	7.9	16.1
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5
Max Green Setting (Gmax), s	14.0	23.0	10.0	23.0	20.0	23.0	12.0	23.0
Max Q Clear Time (g_c+I1), s	6.1	9.5	3.1	6.5	7.9	5.7	5.0	8.2
Green Ext Time (p_c), s	0.0	4.8	0.0	2.2	0.1	2.6	0.0	3.4

Intersection Summary	
HCM 6th Ctrl Delay	20.5
HCM 6th LOS	C

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	251	22	41	431	64	40	95	25	90	343	330
Future Volume (veh/h)	71	251	22	41	431	64	40	95	25	90	343	330
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	75	264	23	43	454	67	42	100	26	95	361	347
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	95	514	45	51	444	65	50	368	96	122	556	471
Arrive On Green	0.05	0.31	0.31	0.03	0.28	0.28	0.03	0.26	0.26	0.07	0.30	0.30
Sat Flow, veh/h	1753	1669	145	1753	1568	231	1753	1409	366	1753	1841	1560
Grp Volume(v), veh/h	75	0	287	43	0	521	42	0	126	95	361	347
Grp Sat Flow(s),veh/h/ln	1753	0	1815	1753	0	1799	1753	0	1775	1753	1841	1560
Q Serve(g_s), s	2.2	0.0	6.9	1.3	0.0	15.0	1.3	0.0	3.0	2.8	9.0	10.6
Cycle Q Clear(g_c), s	2.2	0.0	6.9	1.3	0.0	15.0	1.3	0.0	3.0	2.8	9.0	10.6
Prop In Lane	1.00		0.08	1.00		0.13	1.00		0.21	1.00		1.00
Lane Grp Cap(c), veh/h	95	0	559	51	0	509	50	0	463	122	556	471
V/C Ratio(X)	0.79	0.00	0.51	0.84	0.00	1.02	0.84	0.00	0.27	0.78	0.65	0.74
Avail Cap(c_a), veh/h	496	0	559	397	0	509	496	0	1005	496	1042	883
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.8	0.0	15.1	25.6	0.0	19.0	25.6	0.0	15.6	24.3	16.1	16.6
Incr Delay (d2), s/veh	5.4	0.0	0.7	12.4	0.0	45.9	12.7	0.0	0.3	4.0	1.3	2.3
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	1.0	0.0	2.5	0.7	0.0	11.8	0.7	0.0	1.2	1.2	3.6	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.2	0.0	15.8	37.9	0.0	64.9	38.3	0.0	15.9	28.3	17.3	18.9
LnGrp LOS	C	A	B	D	A	F	D	A	B	C	B	B
Approach Vol, veh/h		362			564			168			803	
Approach Delay, s/veh		18.8			62.8			21.5			19.3	
Approach LOS		B			E			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.1	19.6	7.9	18.4	5.8	20.9	5.7	20.6
Change Period (Y+Rc), s	* 4.2	4.6	* 4.2	4.6	* 4.2	* 4.6	* 4.2	4.6
Max Green Setting (Gmax), s	* 15	15.0	* 15	30.0	* 12	* 15	* 15	30.0
Max Q Clear Time (g_c+I1), s	4.2	17.0	4.8	5.0	3.3	8.9	3.3	12.6
Green Ext Time (p_c), s	0.1	0.0	0.1	0.7	0.0	0.7	0.0	3.4

Intersection Summary		
HCM 6th Ctrl Delay		32.3
HCM 6th LOS		C

Notes

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

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	241	101	68	361	95	92	181	95	92	241	87
Future Volume (veh/h)	39	241	101	68	361	95	92	181	95	92	241	87
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	41	254	106	72	380	100	97	191	100	97	254	92
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	52	1764	787	92	1448	377	124	299	254	124	299	254
Arrive On Green	0.03	0.50	0.50	0.05	0.53	0.53	0.07	0.16	0.16	0.07	0.16	0.16
Sat Flow, veh/h	1753	3497	1560	1753	2746	714	1753	1841	1560	1753	1841	1560
Grp Volume(v), veh/h	41	254	106	72	240	240	97	191	100	97	254	92
Grp Sat Flow(s),veh/h/ln	1753	1749	1560	1753	1749	1712	1753	1841	1560	1753	1841	1560
Q Serve(g_s), s	1.9	3.1	2.9	3.3	6.1	6.2	4.4	7.9	4.6	4.4	10.9	4.3
Cycle Q Clear(g_c), s	1.9	3.1	2.9	3.3	6.1	6.2	4.4	7.9	4.6	4.4	10.9	4.3
Prop In Lane	1.00		1.00	1.00		0.42	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	52	1764	787	92	922	903	124	299	254	124	299	254
V/C Ratio(X)	0.79	0.14	0.13	0.78	0.26	0.27	0.78	0.64	0.39	0.78	0.85	0.36
Avail Cap(c_a), veh/h	303	1764	787	303	922	903	281	341	289	281	341	289
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	39.0	10.7	10.7	37.9	10.5	10.5	37.0	31.7	30.3	37.0	32.9	30.2
Incr Delay (d2), s/veh	9.3	0.0	0.1	5.3	0.7	0.7	4.1	2.8	0.8	4.1	15.8	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	0.9	1.1	0.9	1.5	2.1	2.1	1.9	3.5	1.7	1.9	5.9	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.3	10.8	10.7	43.2	11.2	11.2	41.1	34.5	31.1	41.1	48.8	30.9
LnGrp LOS	D	B	B	D	B	B	D	C	C	D	D	C
Approach Vol, veh/h		401			552			388			443	
Approach Delay, s/veh		14.6			15.4			35.3			43.4	
Approach LOS		B			B			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.4	47.2	9.7	17.7	8.3	45.4	9.7	17.7
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5
Max Green Setting (Gmax), s	14.0	22.0	13.0	15.0	14.0	22.0	13.0	15.0
Max Q Clear Time (g_c+I1), s	3.9	8.2	6.4	9.9	5.3	5.1	6.4	12.9
Green Ext Time (p_c), s	0.0	1.8	0.0	0.5	0.0	1.4	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	26.5
HCM 6th LOS	C

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	101	97	48	311	43	127	91	22	10	121	66
Future Volume (veh/h)	65	101	97	48	311	43	127	91	22	10	121	66
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	74	115	110	55	353	49	144	103	25	11	138	75
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	373	332	318	502	608	84	442	471	114	516	369	201
Arrive On Green	0.38	0.38	0.38	0.38	0.38	0.38	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	967	865	827	1137	1582	220	1150	1431	347	1242	1121	610
Grp Volume(v), veh/h	74	0	225	55	0	402	144	0	128	11	0	213
Grp Sat Flow(s),veh/h/ln	967	0	1692	1137	0	1801	1150	0	1778	1242	0	1731
Q Serve(g_s), s	2.7	0.0	4.0	1.5	0.0	7.4	4.6	0.0	2.2	0.3	0.0	3.9
Cycle Q Clear(g_c), s	10.2	0.0	4.0	5.5	0.0	7.4	8.5	0.0	2.2	2.4	0.0	3.9
Prop In Lane	1.00		0.49	1.00		0.12	1.00		0.20	1.00		0.35
Lane Grp Cap(c), veh/h	373	0	650	502	0	692	442	0	585	516	0	570
V/C Ratio(X)	0.20	0.00	0.35	0.11	0.00	0.58	0.33	0.00	0.22	0.02	0.00	0.37
Avail Cap(c_a), veh/h	879	0	1536	1097	0	1635	1108	0	1615	1235	0	1572
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.2	0.0	9.2	11.1	0.0	10.2	14.0	0.0	10.2	11.0	0.0	10.7
Incr Delay (d2), s/veh	0.4	0.0	0.5	0.4	0.0	3.0	1.6	0.0	0.7	0.1	0.0	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	0.5	0.0	0.9	0.3	0.0	2.2	1.0	0.0	0.6	0.1	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.7	0.0	9.7	11.5	0.0	13.2	15.6	0.0	10.9	11.1	0.0	12.5
LnGrp LOS	B	A	A	B	A	B	B	A	B	B	A	B
Approach Vol, veh/h		299			457			272			224	
Approach Delay, s/veh		10.9			13.0			13.4			12.4	
Approach LOS		B			B			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		19.8		22.1		19.8		22.1				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		38.0		38.0		38.0		38.0				
Max Q Clear Time (g_c+I1), s		5.9		9.4		10.5		12.2				
Green Ext Time (p_c), s		3.3		6.7		3.3		2.5				
Intersection Summary												
HCM 6th Ctrl Delay			12.5									
HCM 6th LOS			B									

Intersection	
Intersection Delay, s/veh	9.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	13	101	2	0	312	6	2	5	4	23	4	57
Future Vol, veh/h	13	101	2	0	312	6	2	5	4	23	4	57
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	15	115	2	0	355	7	2	6	5	26	5	65
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.6	10.8	8.2	8.5
HCM LOS	A	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	18%	11%	0%	27%
Vol Thru, %	45%	87%	98%	5%
Vol Right, %	36%	2%	2%	68%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	11	116	318	84
LT Vol	2	13	0	23
Through Vol	5	101	312	4
RT Vol	4	2	6	57
Lane Flow Rate	12	132	361	95
Geometry Grp	1	1	1	1
Degree of Util (X)	0.017	0.169	0.438	0.126
Departure Headway (Hd)	5.028	4.622	4.364	4.738
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	710	776	828	756
Service Time	3.071	2.652	2.387	2.771
HCM Lane V/C Ratio	0.017	0.17	0.436	0.126
HCM Control Delay	8.2	8.6	10.8	8.5
HCM Lane LOS	A	A	B	A
HCM 95th-tile Q	0.1	0.6	2.3	0.4

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	33	9	70	0	53	5	41	173	0	5	247	111
Future Vol, veh/h	33	9	70	0	53	5	41	173	0	5	247	111
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
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	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	38	10	80	0	60	6	47	197	0	6	281	126

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	680	647	344	692	710	197	407	0	0	197	0	0
Stage 1	356	356	-	291	291	-	-	-	-	-	-	-
Stage 2	324	291	-	401	419	-	-	-	-	-	-	-
Critical Hdwy	7.14	6.54	6.24	7.14	6.54	6.24	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.14	5.54	-	6.14	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.14	5.54	-	6.14	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.536	4.036	3.336	3.536	4.036	3.336	2.236	-	-	2.236	-	-
Pot Cap-1 Maneuver	362	387	694	356	356	839	1141	-	-	1364	-	-
Stage 1	657	625	-	713	668	-	-	-	-	-	-	-
Stage 2	684	668	-	622	587	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	298	367	694	296	337	839	1141	-	-	1364	-	-
Mov Cap-2 Maneuver	298	367	-	296	337	-	-	-	-	-	-	-
Stage 1	627	621	-	680	637	-	-	-	-	-	-	-
Stage 2	587	637	-	538	583	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.4	17.4	1.6	0.1
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1141	-	-	474	355	1364	-	-
HCM Lane V/C Ratio	0.041	-	-	0.269	0.186	0.004	-	-
HCM Control Delay (s)	8.3	0	-	15.4	17.4	7.7	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1.1	0.7	0	-	-

Intersection												
Int Delay, s/veh	2.3											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	6	1	2	37	5	2	49	38	0	86	22
Future Vol, veh/h	4	6	1	2	37	5	2	49	38	0	86	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
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	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	5	7	1	2	42	6	2	56	43	0	98	25

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	217	214	111	197	205	78	123	0	0	99	0	0
Stage 1	111	111	-	82	82	-	-	-	-	-	-	-
Stage 2	106	103	-	115	123	-	-	-	-	-	-	-
Critical Hdwy	7.14	6.54	6.24	7.14	6.54	6.24	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.14	5.54	-	6.14	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.14	5.54	-	6.14	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.536	4.036	3.336	3.536	4.036	3.336	2.236	-	-	2.236	-	-
Pot Cap-1 Maneuver	735	680	937	758	688	977	1452	-	-	1481	-	-
Stage 1	889	800	-	921	823	-	-	-	-	-	-	-
Stage 2	895	806	-	885	790	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	696	679	937	750	687	977	1452	-	-	1481	-	-
Mov Cap-2 Maneuver	696	679	-	750	687	-	-	-	-	-	-	-
Stage 1	888	800	-	920	822	-	-	-	-	-	-	-
Stage 2	843	805	-	876	790	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.2	10.4	0.2	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1452	-	-	703	714	1481	-	-
HCM Lane V/C Ratio	0.002	-	-	0.018	0.07	-	-	-
HCM Control Delay (s)	7.5	0	-	10.2	10.4	0	-	-
HCM Lane LOS	A	A	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0	-	-

Intersection						
Int Delay, s/veh	2.8					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	296	17	24	119	21	95
Future Vol, veh/h	296	17	24	119	21	95
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	336	19	27	135	24	108

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	336	0	525	336
Stage 1	-	-	-	-	336	-
Stage 2	-	-	-	-	189	-
Critical Hdwy	-	-	4.14	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.236	-	3.536	3.336
Pot Cap-1 Maneuver	-	0	1212	-	509	701
Stage 1	-	0	-	-	719	-
Stage 2	-	0	-	-	838	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	1212	-	497	701
Mov Cap-2 Maneuver	-	-	-	-	497	-
Stage 1	-	-	-	-	702	-
Stage 2	-	-	-	-	838	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.3	11.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	653	-	1212	-
HCM Lane V/C Ratio	0.202	-	0.023	-
HCM Control Delay (s)	11.9	-	8	0
HCM Lane LOS	B	-	A	A
HCM 95th %tile Q(veh)	0.8	-	0.1	-

Intersection	
Intersection Delay, s/veh	10
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	47	94	9	14	12	109	205	21	21	173	17
Future Vol, veh/h	23	47	94	9	14	12	109	205	21	21	173	17
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	26	53	107	10	16	14	124	233	24	24	197	19
Number of Lanes	0	1	0	0	1	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	1	1
HCM Control Delay	11	9.5	9.9	9.6
HCM LOS	B	A	A	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	14%	26%	100%	0%	0%
Vol Thru, %	0%	100%	76%	29%	40%	0%	100%	77%
Vol Right, %	0%	0%	24%	57%	34%	0%	0%	23%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	109	137	89	164	35	21	115	75
LT Vol	109	0	0	23	9	21	0	0
Through Vol	0	137	68	47	14	0	115	58
RT Vol	0	0	21	94	12	0	0	17
Lane Flow Rate	124	155	102	186	40	24	131	85
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.21	0.242	0.153	0.3	0.069	0.042	0.21	0.132
Departure Headway (Hd)	6.109	5.603	5.437	5.796	6.278	6.262	5.756	5.594
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	591	645	664	621	571	573	625	642
Service Time	3.809	3.303	3.137	3.524	4.012	3.985	3.479	3.317
HCM Lane V/C Ratio	0.21	0.24	0.154	0.3	0.07	0.042	0.21	0.132
HCM Control Delay	10.4	10.1	9.1	11	9.5	9.3	10	9.2
HCM Lane LOS	B	B	A	B	A	A	A	A
HCM 95th-tile Q	0.8	0.9	0.5	1.3	0.2	0.1	0.8	0.5

Intersection	
Intersection Delay, s/veh	11.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	39	22	64	9	17	19	63	373	56	25	270	15
Future Vol, veh/h	39	22	64	9	17	19	63	373	56	25	270	15
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	44	25	73	10	19	22	72	424	64	28	307	17
Number of Lanes	0	1	0	0	1	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	1	1
HCM Control Delay	11.6	10.2	11.7	10.9
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	31%	20%	100%	0%	0%
Vol Thru, %	0%	100%	69%	18%	38%	0%	100%	86%
Vol Right, %	0%	0%	31%	51%	42%	0%	0%	14%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	63	249	180	125	45	25	180	105
LT Vol	63	0	0	39	9	25	0	0
Through Vol	0	249	124	22	17	0	180	90
RT Vol	0	0	56	64	19	0	0	15
Lane Flow Rate	72	283	205	142	51	28	205	119
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.123	0.447	0.311	0.258	0.096	0.051	0.337	0.193
Departure Headway (Hd)	6.197	5.691	5.472	6.537	6.764	6.431	5.924	5.823
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	579	633	658	550	529	557	607	616
Service Time	3.929	3.423	3.203	4.279	4.513	4.167	3.66	3.559
HCM Lane V/C Ratio	0.124	0.447	0.312	0.258	0.096	0.05	0.338	0.193
HCM Control Delay	9.8	13	10.7	11.6	10.2	9.5	11.7	10
HCM Lane LOS	A	B	B	B	B	A	B	A
HCM 95th-tile Q	0.4	2.3	1.3	1	0.3	0.2	1.5	0.7

Intersection	
Intersection Delay, s/veh	10
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	36	12	37	2	12	2	44	458	0	0	320	9
Future Vol, veh/h	36	12	37	2	12	2	44	458	0	0	320	9
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	41	14	42	2	14	2	50	520	0	0	364	10
Number of Lanes	0	1	0	0	1	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	1	1
HCM Control Delay	10.5	9.7	9.4	10.7
HCM LOS	B	A	A	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	42%	12%	0%	0%	0%
Vol Thru, %	0%	100%	100%	14%	75%	100%	100%	92%
Vol Right, %	0%	0%	0%	44%	12%	0%	0%	8%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	44	229	229	85	16	0	213	116
LT Vol	44	0	0	36	2	0	0	0
Through Vol	0	229	229	12	12	0	213	107
RT Vol	0	0	0	37	2	0	0	9
Lane Flow Rate	50	260	260	97	18	0	242	131
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.081	0.384	0.255	0.173	0.034	0	0.364	0.196
Departure Headway (Hd)	5.813	5.309	3.528	6.465	6.719	5.41	5.41	5.355
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	613	674	1004	558	536	0	659	664
Service Time	3.583	3.079	1.297	4.166	4.422	3.196	3.196	3.142
HCM Lane V/C Ratio	0.082	0.386	0.259	0.174	0.034	0	0.367	0.197
HCM Control Delay	9.1	11.4	7.5	10.5	9.7	8.2	11.3	9.5
HCM Lane LOS	A	B	A	B	A	N	B	A
HCM 95th-tile Q	0.3	1.8	1	0.6	0.1	0	1.7	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	544	251	60	466	149	224	205	98	155	208	59
Future Volume (veh/h)	60	544	251	60	466	149	224	205	98	155	208	59
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	63	573	264	63	491	157	236	216	103	163	219	62
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	132	1161	518	132	1152	514	333	340	156	327	390	108
Arrive On Green	0.07	0.33	0.33	0.07	0.32	0.32	0.10	0.14	0.14	0.09	0.14	0.14
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	3456	2364	1087	3456	2750	760
Grp Volume(v), veh/h	63	573	264	63	491	157	236	160	159	163	140	141
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1728	1777	1675	1728	1777	1734
Q Serve(g_s), s	2.8	10.7	11.1	2.8	8.9	6.1	5.5	7.0	7.4	3.7	6.0	6.3
Cycle Q Clear(g_c), s	2.8	10.7	11.1	2.8	8.9	6.1	5.5	7.0	7.4	3.7	6.0	6.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.65	1.00		0.44
Lane Grp Cap(c), veh/h	132	1161	518	132	1152	514	333	255	241	327	252	246
V/C Ratio(X)	0.48	0.49	0.51	0.48	0.43	0.31	0.71	0.63	0.66	0.50	0.55	0.58
Avail Cap(c_a), veh/h	324	2368	1056	324	2368	1056	649	430	406	649	430	420
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	36.7	22.3	22.5	36.7	21.9	20.9	36.2	33.3	33.4	35.5	33.0	33.1
Incr Delay (d2), s/veh	1.0	1.2	2.8	1.0	0.9	1.2	1.0	8.4	10.1	0.4	6.4	7.1
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	1.2	4.1	4.0	1.2	3.4	2.2	2.2	3.3	3.4	1.5	2.8	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.7	23.5	25.3	37.7	22.8	22.1	37.2	41.7	43.5	36.0	39.4	40.2
LnGrp LOS	D	C	C	D	C	C	D	D	D	D	D	D
Approach Vol, veh/h		900			711			555			444	
Approach Delay, s/veh		25.0			24.0			40.3			38.4	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.3	34.9	15.2	19.2	13.5	34.7	15.0	19.4
Change Period (Y+Rc), s	* 7.2	7.9	* 7.2	7.5	7.4	7.9	* 7.2	7.5
Max Green Setting (Gmax), s	* 15	55.0	* 16	20.0	15.0	55.0	* 16	20.0
Max Q Clear Time (g_c+I1), s	4.8	13.1	7.5	8.3	4.8	10.9	5.7	9.4
Green Ext Time (p_c), s	0.0	13.9	0.2	2.3	0.0	10.5	0.2	2.5

Intersection Summary		
HCM 6th Ctrl Delay		30.3
HCM 6th LOS		C

Notes

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

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	253	43	318	46	65	61	200	404	86	29	364	142
Future Volume (veh/h)	253	43	318	46	65	61	200	404	86	29	364	142
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	266	45	335	48	68	64	211	425	91	31	383	149
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	318	36	624	73	96	53	260	936	199	93	572	219
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.15	0.33	0.33	0.05	0.23	0.23
Sat Flow, veh/h	528	89	1560	0	240	133	1753	2870	610	1753	2471	948
Grp Volume(v), veh/h	311	0	335	180	0	0	211	258	258	31	270	262
Grp Sat Flow(s),veh/h/ln	618	0	1560	373	0	0	1753	1749	1731	1753	1749	1670
Q Serve(g_s), s	0.0	0.0	10.3	0.0	0.0	0.0	7.3	7.3	7.4	1.1	8.8	9.0
Cycle Q Clear(g_c), s	25.0	0.0	10.3	25.0	0.0	0.0	7.3	7.3	7.4	1.1	8.8	9.0
Prop In Lane	0.86		1.00	0.27		0.36	1.00		0.35	1.00		0.57
Lane Grp Cap(c), veh/h	354	0	624	222	0	0	260	570	565	93	405	386
V/C Ratio(X)	0.88	0.00	0.54	0.81	0.00	0.00	0.81	0.45	0.46	0.33	0.67	0.68
Avail Cap(c_a), veh/h	354	0	624	222	0	0	561	979	969	561	979	935
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	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.3	0.0	14.3	15.6	0.0	0.0	25.8	16.6	16.7	28.5	21.8	21.9
Incr Delay (d2), s/veh	21.6	0.0	1.0	18.6	0.0	0.0	2.4	0.6	0.6	0.8	2.1	2.3
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	6.6	0.0	3.3	2.6	0.0	0.0	3.0	2.7	2.7	0.4	3.5	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.9	0.0	15.3	34.3	0.0	0.0	28.1	17.3	17.3	29.3	23.9	24.2
LnGrp LOS	D	A	B	C	A	A	C	B	B	C	C	C
Approach Vol, veh/h		646			180			727			563	
Approach Delay, s/veh		28.6			34.3			20.4			24.3	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.3	19.1		30.2	7.3	25.0		30.2				
Change Period (Y+Rc), s	4.0	4.6		* 5.2	4.0	4.6		* 5.2				
Max Green Setting (Gmax), s	20.0	35.0		* 25	20.0	35.0		* 25				
Max Q Clear Time (g_c+I1), s	19.3	11.0		27.0	3.1	9.4		27.0				
Green Ext Time (p_c), s	0.2	3.5		0.0	0.0	3.4		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		25.1
HCM 6th LOS		C

Notes

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

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	20	7	86	14	143	10	390	91	183	391	10
Future Volume (veh/h)	9	20	7	86	14	143	10	390	91	183	391	10
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	9	21	7	91	15	151	11	411	96	193	412	11
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	214	319	85	561	74	416	0	881	204	0	1087	29
Arrive On Green	0.27	0.27	0.27	0.27	0.27	0.27	0.00	0.31	0.31	0.00	0.31	0.31
Sat Flow, veh/h	173	1198	320	1160	277	1560	0	2819	653	0	3480	93
Grp Volume(v), veh/h	37	0	0	106	0	151	0	253	254	0	207	216
Grp Sat Flow(s),veh/h/ln	1691	0	0	1437	0	1560	0	1749	1723	0	1749	1824
Q Serve(g_s), s	0.0	0.0	0.0	1.0	0.0	2.1	0.0	3.1	3.2	0.0	2.5	2.5
Cycle Q Clear(g_c), s	0.4	0.0	0.0	1.5	0.0	2.1	0.0	3.1	3.2	0.0	2.5	2.5
Prop In Lane	0.24		0.19	0.86		1.00	0.00		0.38	0.00		0.05
Lane Grp Cap(c), veh/h	619	0	0	634	0	416	0	546	538	0	546	570
V/C Ratio(X)	0.06	0.00	0.00	0.17	0.00	0.36	0.00	0.46	0.47	0.00	0.38	0.38
Avail Cap(c_a), veh/h	1684	0	0	1586	0	1466	0	2301	2268	0	2301	2400
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	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	7.3	0.0	0.0	7.7	0.0	7.9	0.0	7.4	7.4	0.0	7.1	7.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	0.5	0.0	0.6	0.6	0.0	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	0.1	0.0	0.0	0.3	0.0	0.4	0.0	0.7	0.7	0.0	0.5	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.3	0.0	0.0	7.8	0.0	8.5	0.0	8.0	8.0	0.0	7.6	7.6
LnGrp LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		37			257			507			423	
Approach Delay, s/veh		7.3			8.2			8.0			7.6	
Approach LOS		A			A			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	13.4		13.2	0.0	13.4		13.2				
Change Period (Y+Rc), s	4.0	5.1		6.1	4.0	5.1		6.1				
Max Green Setting (Gmax), s	20.0	35.0		25.0	20.0	35.0		25.0				
Max Q Clear Time (g_c+I1), s	0.0	4.5		4.1	0.0	5.2		2.4				
Green Ext Time (p_c), s	0.0	2.5		1.0	0.0	3.2		0.1				
Intersection Summary												
HCM 6th Ctrl Delay			7.9									
HCM 6th LOS			A									

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	147	79	55	90	37	69	316	69	35	355	80
Future Volume (vph)	77	147	79	55	90	37	69	316	69	35	355	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	5.6	5.6	5.6	5.6	5.6	5.9	5.9		5.9	5.9	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1736	1827	1553	1736	1827	1553	1736	3378		1736	3376	
Flt Permitted	0.70	1.00	1.00	0.66	1.00	1.00	0.78	1.00		0.78	1.00	
Satd. Flow (perm)	1271	1827	1553	1203	1827	1553	1433	3378		1433	3376	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	81	155	83	58	95	39	73	333	73	37	374	84
RTOR Reduction (vph)	0	0	57	0	0	27	0	42	0	0	43	0
Lane Group Flow (vph)	81	155	26	58	95	12	73	364	0	37	415	0
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2		2	2		2	4			4		
Actuated Green, G (s)	7.7	7.7	7.7	7.7	7.7	7.7	5.1	5.1		5.1	5.1	
Effective Green, g (s)	7.7	7.7	7.7	7.7	7.7	7.7	5.1	5.1		5.1	5.1	
Actuated g/C Ratio	0.32	0.32	0.32	0.32	0.32	0.32	0.21	0.21		0.21	0.21	
Clearance Time (s)	5.6	5.6	5.6	5.6	5.6	5.6	5.9	5.9		5.9	5.9	
Vehicle Extension (s)	4.5	4.5	4.5	4.5	4.5	4.5	0.2	0.2		0.2	0.2	
Lane Grp Cap (vph)	402	578	492	381	578	492	300	708		300	708	
v/s Ratio Prot		c0.08			0.05			0.11			c0.12	
v/s Ratio Perm	0.06		0.02	0.05		0.01	0.05			0.03		
v/c Ratio	0.20	0.27	0.05	0.15	0.16	0.03	0.24	0.51		0.12	0.59	
Uniform Delay, d1	6.1	6.2	5.8	6.0	6.0	5.7	8.0	8.5		7.8	8.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	0.4	0.1	0.3	0.2	0.0	0.2	0.3		0.1	0.8	
Delay (s)	6.5	6.6	5.8	6.3	6.2	5.8	8.1	8.8		7.9	9.5	
Level of Service	A	A	A	A	A	A	A	A		A	A	
Approach Delay (s)		6.4			6.1			8.7			9.3	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	24.3	Sum of lost time (s)	11.5
Intersection Capacity Utilization	66.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Intersection Delay, s/veh	13.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	67	51	2	41	68	24	404	1	66	374	7
Future Vol, veh/h	18	67	51	2	41	68	24	404	1	66	374	7
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	20	76	58	2	47	77	27	459	1	75	425	8
Number of Lanes	0	1	0	0	1	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	1	1
HCM Control Delay	13	12	14.4	13.4
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	13%	2%	100%	0%	0%
Vol Thru, %	0%	100%	99%	49%	37%	0%	100%	95%
Vol Right, %	0%	0%	1%	38%	61%	0%	0%	5%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	24	269	136	136	111	66	249	132
LT Vol	24	0	0	18	2	66	0	0
Through Vol	0	269	135	67	41	0	249	125
RT Vol	0	0	1	51	68	0	0	7
Lane Flow Rate	27	306	154	155	126	75	283	150
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.052	0.538	0.271	0.304	0.243	0.142	0.496	0.261
Departure Headway (Hd)	6.842	6.332	6.327	7.072	6.936	6.818	6.308	6.27
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	521	566	564	505	513	524	567	570
Service Time	4.621	4.11	4.105	4.864	4.732	4.596	4.086	4.048
HCM Lane V/C Ratio	0.052	0.541	0.273	0.307	0.246	0.143	0.499	0.263
HCM Control Delay	10	16.3	11.5	13	12	10.7	15.2	11.3
HCM Lane LOS	A	C	B	B	B	B	C	B
HCM 95th-tile Q	0.2	3.2	1.1	1.3	0.9	0.5	2.7	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	106	717	8	18	492	112	7	188	32	120	207	47
Future Volume (veh/h)	106	717	8	18	492	112	7	188	32	120	207	47
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	112	755	8	19	518	118	7	198	34	126	218	49
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	196	1392	15	63	898	204	26	413	70	203	681	150
Arrive On Green	0.11	0.39	0.39	0.04	0.32	0.32	0.01	0.14	0.14	0.12	0.24	0.24
Sat Flow, veh/h	1753	3545	38	1753	2832	642	1753	2993	505	1753	2849	628
Grp Volume(v), veh/h	112	372	391	19	319	317	7	114	118	126	132	135
Grp Sat Flow(s),veh/h/ln	1753	1749	1834	1753	1749	1725	1753	1749	1750	1753	1749	1728
Q Serve(g_s), s	3.7	10.0	10.0	0.6	9.3	9.4	0.2	3.7	3.8	4.2	3.8	3.9
Cycle Q Clear(g_c), s	3.7	10.0	10.0	0.6	9.3	9.4	0.2	3.7	3.8	4.2	3.8	3.9
Prop In Lane	1.00		0.02	1.00		0.37	1.00		0.29	1.00		0.36
Lane Grp Cap(c), veh/h	196	687	720	63	555	547	26	241	241	203	418	413
V/C Ratio(X)	0.57	0.54	0.54	0.30	0.58	0.58	0.27	0.47	0.49	0.62	0.32	0.33
Avail Cap(c_a), veh/h	721	1294	1357	721	1294	1276	721	862	863	721	862	852
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	25.6	14.2	14.2	28.6	17.3	17.4	29.6	24.2	24.2	25.6	19.0	19.1
Incr Delay (d2), s/veh	1.0	1.4	1.4	1.0	2.0	2.1	2.1	4.4	4.6	1.2	1.3	1.4
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	1.4	3.4	3.6	0.3	3.4	3.4	0.1	1.6	1.7	1.6	1.4	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.6	15.7	15.6	29.5	19.4	19.4	31.7	28.6	28.9	26.8	20.4	20.5
LnGrp LOS	C	B	B	C	B	B	C	C	C	C	C	C
Approach Vol, veh/h		875			655			239			393	
Approach Delay, s/veh		17.0			19.7			28.8			22.5	
Approach LOS		B			B			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	4.9	20.5	10.8	24.6	11.0	14.4	6.2	29.2				
Change Period (Y+Rc), s	4.0	6.0	4.0	5.3	4.0	6.0	4.0	5.3				
Max Green Setting (Gmax), s	25.0	30.0	25.0	45.0	25.0	30.0	25.0	45.0				
Max Q Clear Time (g_c+I1), s	2.2	5.9	5.7	11.4	6.2	5.8	2.6	12.0				
Green Ext Time (p_c), s	0.0	3.1	0.1	7.9	0.1	2.6	0.0	9.7				
Intersection Summary												
HCM 6th Ctrl Delay			20.1									
HCM 6th LOS			C									
Notes												

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

Intersection	
Intersection Delay, s/veh	11.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	20	236	9	13	106	4	14	151	11	17	180	11
Future Vol, veh/h	20	236	9	13	106	4	14	151	11	17	180	11
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	23	268	10	15	120	5	16	172	13	19	205	13
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	13	10.4	11.2	11.8
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	8%	8%	11%	8%
Vol Thru, %	86%	89%	86%	87%
Vol Right, %	6%	3%	3%	5%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	176	265	123	208
LT Vol	14	20	13	17
Through Vol	151	236	106	180
RT Vol	11	9	4	11
Lane Flow Rate	200	301	140	236
Geometry Grp	1	1	1	1
Degree of Util (X)	0.311	0.455	0.222	0.364
Departure Headway (Hd)	5.6	5.438	5.724	5.543
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	640	662	625	648
Service Time	3.65	3.483	3.778	3.592
HCM Lane V/C Ratio	0.313	0.455	0.224	0.364
HCM Control Delay	11.2	13	10.4	11.8
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	1.3	2.4	0.8	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	407	7	38	335	35	3	89	25	52	76	62
Future Volume (veh/h)	43	407	7	38	335	35	3	89	25	52	76	62
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	49	462	8	43	381	40	3	101	28	59	86	70
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	137	720	12	125	632	66	11	212	59	155	221	180
Arrive On Green	0.08	0.20	0.20	0.07	0.20	0.20	0.01	0.15	0.15	0.09	0.24	0.24
Sat Flow, veh/h	1753	3518	61	1753	3196	334	1753	1387	385	1753	939	764
Grp Volume(v), veh/h	49	229	241	43	207	214	3	0	129	59	0	156
Grp Sat Flow(s),veh/h/ln	1753	1749	1830	1753	1749	1781	1753	0	1772	1753	0	1703
Q Serve(g_s), s	1.4	6.2	6.2	1.2	5.6	5.6	0.1	0.0	3.4	1.6	0.0	4.0
Cycle Q Clear(g_c), s	1.4	6.2	6.2	1.2	5.6	5.6	0.1	0.0	3.4	1.6	0.0	4.0
Prop In Lane	1.00		0.03	1.00		0.19	1.00		0.22	1.00		0.45
Lane Grp Cap(c), veh/h	137	358	375	125	346	352	11	0	271	155	0	400
V/C Ratio(X)	0.36	0.64	0.64	0.34	0.60	0.61	0.26	0.00	0.48	0.38	0.00	0.39
Avail Cap(c_a), veh/h	682	1190	1245	682	1190	1212	682	0	861	682	0	828
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.5	18.7	18.7	22.7	18.8	18.8	25.4	0.0	19.9	22.1	0.0	16.6
Incr Delay (d2), s/veh	1.6	1.9	1.8	1.6	1.7	1.7	11.7	0.0	1.3	1.5	0.0	0.6
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	0.5	2.1	2.2	0.5	1.9	2.0	0.1	0.0	1.3	0.6	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.0	20.6	20.6	24.3	20.4	20.5	37.1	0.0	21.2	23.6	0.0	17.2
LnGrp LOS	C	C	C	C	C	C	D	A	C	C	A	B
Approach Vol, veh/h		519			464			132			215	
Approach Delay, s/veh		20.9			20.8			21.5			18.9	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.3	19.1	9.0	18.0	9.6	14.9	8.7	18.3
Change Period (Y+Rc), s	5.0	7.0	5.0	7.8	5.0	7.0	5.0	7.8
Max Green Setting (Gmax), s	20.0	25.0	20.0	35.0	20.0	25.0	20.0	35.0
Max Q Clear Time (g_c+I1), s	2.1	6.0	3.4	7.6	3.6	5.4	3.2	8.2
Green Ext Time (p_c), s	0.0	0.7	0.1	2.1	0.1	0.5	0.1	2.3

Intersection Summary	
HCM 6th Ctrl Delay	20.6
HCM 6th LOS	C

Intersection	
Intersection Delay, s/veh	8.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	63	61	62	22	3	23	45	53	13	58	1
Future Vol, veh/h	2	63	61	62	22	3	23	45	53	13	58	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	2	66	64	65	23	3	24	47	56	14	61	1
Number of Lanes	0	1	1	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	2
HCM Control Delay	8.1	9.2	8.3	9
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	34%	0%	3%	0%	71%	18%
Vol Thru, %	66%	0%	97%	0%	25%	81%
Vol Right, %	0%	100%	0%	100%	3%	1%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	68	53	65	61	87	72
LT Vol	23	0	2	0	62	13
Through Vol	45	0	63	0	22	58
RT Vol	0	53	0	61	3	1
Lane Flow Rate	72	56	68	64	92	76
Geometry Grp	7	7	7	7	6	6
Degree of Util (X)	0.107	0.07	0.099	0.08	0.136	0.112
Departure Headway (Hd)	5.384	4.51	5.197	4.478	5.365	5.319
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	666	794	690	799	669	674
Service Time	3.112	2.238	2.926	2.207	3.396	3.35
HCM Lane V/C Ratio	0.108	0.071	0.099	0.08	0.138	0.113
HCM Control Delay	8.8	7.6	8.5	7.6	9.2	9
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.4	0.2	0.3	0.3	0.5	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	118	290	56	8	259	20	83	95	8	35	90	108
Future Volume (veh/h)	118	290	56	8	259	20	83	95	8	35	90	108
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	124	305	59	8	273	21	87	100	8	37	95	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	154	1105	936	21	888	68	131	159	13	103	152	
Arrive On Green	0.09	0.60	0.60	0.01	0.53	0.53	0.07	0.09	0.09	0.06	0.08	0.00
Sat Flow, veh/h	1753	1841	1560	1753	1688	130	1753	1682	135	1753	1841	1560
Grp Volume(v), veh/h	124	305	59	8	0	294	87	0	108	37	95	0
Grp Sat Flow(s),veh/h/ln	1753	1841	1560	1753	0	1817	1753	0	1817	1753	1841	1560
Q Serve(g_s), s	6.7	7.7	1.5	0.4	0.0	8.9	4.7	0.0	5.6	2.0	4.8	0.0
Cycle Q Clear(g_c), s	6.7	7.7	1.5	0.4	0.0	8.9	4.7	0.0	5.6	2.0	4.8	0.0
Prop In Lane	1.00		1.00	1.00		0.07	1.00		0.07	1.00		1.00
Lane Grp Cap(c), veh/h	154	1105	936	21	0	957	131	0	171	103	152	
V/C Ratio(X)	0.81	0.28	0.06	0.38	0.00	0.31	0.67	0.00	0.63	0.36	0.63	
Avail Cap(c_a), veh/h	271	1105	936	271	0	957	271	0	375	271	380	
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	43.4	9.3	8.1	47.6	0.0	13.0	43.7	0.0	42.3	43.9	43.1	0.0
Incr Delay (d2), s/veh	3.8	0.6	0.1	4.2	0.0	0.8	2.2	0.0	5.9	0.8	6.5	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	3.0	3.0	0.5	0.2	0.0	3.6	2.1	0.0	2.7	0.9	2.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.2	9.9	8.2	51.7	0.0	13.8	45.9	0.0	48.2	44.7	49.6	0.0
LnGrp LOS	D	A	A	D	A	B	D	A	D	D	D	
Approach Vol, veh/h		488			302			195			132	A
Approach Delay, s/veh		19.2			14.8			47.2			48.2	
Approach LOS		B			B			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.4	63.6	13.1	13.9	13.5	56.5	12.0	15.1
Change Period (Y+Rc), s	* 5.2	5.4	5.9	5.9	5.0	5.4	* 6.3	* 5.9
Max Green Setting (Gmax), s	* 15	25.0	15.0	20.0	15.0	25.0	* 15	* 20
Max Q Clear Time (g_c+I1), s	2.4	9.7	6.7	6.8	8.7	10.9	4.0	7.6
Green Ext Time (p_c), s	0.0	2.6	0.1	0.5	0.1	2.1	0.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	26.3
HCM 6th LOS	C

Notes

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

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	659	253	13	443	78	167	163	7	163	268	62
Future Volume (veh/h)	62	659	253	13	443	78	167	163	7	163	268	62
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	65	694	266	14	466	82	176	172	0	172	282	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	147	1534	684	48	1137	199	219	430		214	421	
Arrive On Green	0.08	0.44	0.44	0.03	0.38	0.38	0.12	0.12	0.00	0.12	0.12	0.00
Sat Flow, veh/h	1753	3497	1560	1753	2975	521	1753	3497	1560	1753	3497	1560
Grp Volume(v), veh/h	65	694	266	14	273	275	176	172	0	172	282	0
Grp Sat Flow(s),veh/h/ln	1753	1749	1560	1753	1749	1747	1753	1749	1560	1753	1749	1560
Q Serve(g_s), s	2.4	9.3	7.8	0.5	7.7	7.8	6.6	3.0	0.0	6.4	5.2	0.0
Cycle Q Clear(g_c), s	2.4	9.3	7.8	0.5	7.7	7.8	6.6	3.0	0.0	6.4	5.2	0.0
Prop In Lane	1.00		1.00	1.00		0.30	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	147	1534	684	48	668	668	219	430		214	421	
V/C Ratio(X)	0.44	0.45	0.39	0.29	0.41	0.41	0.80	0.40		0.80	0.67	
Avail Cap(c_a), veh/h	522	3122	1393	522	1561	1560	522	1561		522	1561	
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	0.00
Uniform Delay (d), s/veh	29.3	13.2	12.8	32.0	15.2	15.2	28.6	27.2	0.0	28.7	28.3	0.0
Incr Delay (d2), s/veh	0.8	0.8	1.4	1.2	1.8	1.9	2.6	0.2	0.0	2.6	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	0.9	3.0	2.3	0.2	2.8	2.8	2.6	1.1	0.0	2.5	1.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.1	14.0	14.2	33.3	17.0	17.1	31.2	27.4	0.0	31.3	29.0	0.0
LnGrp LOS	C	B	B	C	B	B	C	C		C	C	
Approach Vol, veh/h		1025			562			348	A		454	A
Approach Delay, s/veh		15.1			17.5			29.3			29.9	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.4	13.8	9.6	31.4	12.2	14.0	5.8	35.2
Change Period (Y+Rc), s	4.0	5.7	4.0	5.7	4.0	5.7	4.0	5.7
Max Green Setting (Gmax), s	20.0	30.0	20.0	60.0	20.0	30.0	20.0	60.0
Max Q Clear Time (g_c+I1), s	8.6	7.2	4.4	9.8	8.4	5.0	2.5	11.3
Green Ext Time (p_c), s	0.2	0.9	0.0	13.4	0.2	0.5	0.0	18.1

Intersection Summary		
HCM 6th Ctrl Delay		20.5
HCM 6th LOS		C

Notes

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

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	609	204	175	348	26	81	211	203	14	166	20
Future Volume (veh/h)	44	609	204	175	348	26	81	211	203	14	166	20
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	50	692	232	199	395	30	92	240	231	16	189	23
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	104	914	306	231	1410	107	127	210	202	50	321	39
Arrive On Green	0.06	0.36	0.36	0.13	0.43	0.43	0.07	0.24	0.24	0.03	0.20	0.20
Sat Flow, veh/h	1753	2572	862	1753	3295	249	1753	862	830	1753	1610	196
Grp Volume(v), veh/h	50	470	454	199	209	216	92	0	471	16	0	212
Grp Sat Flow(s),veh/h/ln	1753	1749	1686	1753	1749	1796	1753	0	1691	1753	0	1805
Q Serve(g_s), s	2.8	24.4	24.4	11.4	8.0	8.0	5.3	0.0	25.0	0.9	0.0	11.0
Cycle Q Clear(g_c), s	2.8	24.4	24.4	11.4	8.0	8.0	5.3	0.0	25.0	0.9	0.0	11.0
Prop In Lane	1.00		0.51	1.00		0.14	1.00		0.49	1.00		0.11
Lane Grp Cap(c), veh/h	104	621	599	231	748	769	127	0	411	50	0	360
V/C Ratio(X)	0.48	0.76	0.76	0.86	0.28	0.28	0.73	0.00	1.15	0.32	0.00	0.59
Avail Cap(c_a), veh/h	426	816	787	426	816	838	426	0	411	426	0	439
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	46.8	29.2	29.2	43.7	19.1	19.1	46.7	0.0	38.9	49.0	0.0	37.3
Incr Delay (d2), s/veh	1.3	4.9	5.1	3.6	0.2	0.2	3.0	0.0	90.4	1.4	0.0	3.8
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	1.2	10.1	9.8	4.9	3.0	3.1	2.3	0.0	20.0	0.4	0.0	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.1	34.1	34.3	47.3	19.3	19.3	49.7	0.0	129.3	50.3	0.0	41.1
LnGrp LOS	D	C	C	D	B	B	D	A	F	D	A	D
Approach Vol, veh/h		974			624			563			228	
Approach Delay, s/veh		34.9			28.3			116.3			41.7	
Approach LOS		C			C			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.6	44.3	12.4	27.5	11.1	51.8	7.9	32.0
Change Period (Y+Rc), s	5.0	7.8	5.0	7.0	5.0	7.8	5.0	7.0
Max Green Setting (Gmax), s	25.0	48.0	25.0	25.0	25.0	48.0	25.0	25.0
Max Q Clear Time (g_c+I1), s	13.4	26.4	7.3	13.0	4.8	10.0	2.9	27.0
Green Ext Time (p_c), s	0.2	10.1	0.1	1.5	0.0	2.3	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	53.0
HCM 6th LOS	D

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	703	80	127	496	85	89	147	82	91	99	56
Future Volume (veh/h)	69	703	80	127	496	85	89	147	82	91	99	56
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	73	740	84	134	522	89	94	155	86	96	104	59
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	101	854	97	169	1079	481	120	323	179	122	537	455
Arrive On Green	0.06	0.27	0.27	0.10	0.31	0.31	0.07	0.29	0.29	0.07	0.29	0.29
Sat Flow, veh/h	1753	3166	359	1753	3497	1560	1753	1112	617	1753	1841	1560
Grp Volume(v), veh/h	73	409	415	134	522	89	94	0	241	96	104	59
Grp Sat Flow(s),veh/h/ln	1753	1749	1776	1753	1749	1560	1753	0	1730	1753	1841	1560
Q Serve(g_s), s	2.5	13.8	13.8	4.6	7.5	2.6	3.3	0.0	7.1	3.3	2.6	1.7
Cycle Q Clear(g_c), s	2.5	13.8	13.8	4.6	7.5	2.6	3.3	0.0	7.1	3.3	2.6	1.7
Prop In Lane	1.00		0.20	1.00		1.00	1.00		0.36	1.00		1.00
Lane Grp Cap(c), veh/h	101	472	479	169	1079	481	120	0	502	122	537	455
V/C Ratio(X)	0.72	0.87	0.87	0.79	0.48	0.18	0.79	0.00	0.48	0.79	0.19	0.13
Avail Cap(c_a), veh/h	155	499	507	192	1079	481	141	0	502	155	549	465
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	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.7	21.6	21.6	27.4	17.4	15.7	28.5	0.0	18.2	28.4	16.5	16.2
Incr Delay (d2), s/veh	9.3	14.3	14.2	17.9	0.3	0.2	21.5	0.0	3.3	18.2	0.2	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	1.2	6.7	6.8	2.6	2.5	0.8	1.9	0.0	2.8	2.0	1.1	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.0	35.9	35.8	45.3	17.8	15.9	50.0	0.0	21.4	46.6	16.7	16.3
LnGrp LOS	D	D	D	D	B	B	D	A	C	D	B	B
Approach Vol, veh/h		897			745			335			259	
Approach Delay, s/veh		36.0			22.5			29.4			27.7	
Approach LOS		D			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.8	22.0	10.5	20.7	8.7	22.1	8.1	23.1
Change Period (Y+Rc), s	4.5	4.0	4.5	4.0	4.5	4.0	4.5	4.0
Max Green Setting (Gmax), s	5.5	18.0	6.8	17.7	5.0	18.5	5.5	19.0
Max Q Clear Time (g_c+I1), s	5.3	9.1	6.6	15.8	5.3	4.6	4.5	9.5
Green Ext Time (p_c), s	0.0	0.8	0.0	0.9	0.0	0.6	0.0	2.3

Intersection Summary	
HCM 6th Ctrl Delay	29.6
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↱		↰	↱	
Traffic Volume (veh/h)	17	796	127	43	528	55	35	33	116	60	30	41
Future Volume (veh/h)	17	796	127	43	528	55	35	33	116	60	30	41
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	19	905	144	49	600	62	40	38	132	68	34	47
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	60	1204	192	114	1374	142	427	108	375	345	209	289
Arrive On Green	0.03	0.40	0.40	0.06	0.43	0.43	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	1753	3022	481	1753	3200	330	1297	361	1254	1196	700	967
Grp Volume(v), veh/h	19	524	525	49	327	335	40	0	170	68	0	81
Grp Sat Flow(s),veh/h/ln	1753	1749	1754	1753	1749	1781	1297	0	1615	1196	0	1667
Q Serve(g_s), s	0.9	21.5	21.5	2.2	11.0	11.0	2.0	0.0	6.9	4.0	0.0	3.0
Cycle Q Clear(g_c), s	0.9	21.5	21.5	2.2	11.0	11.0	5.0	0.0	6.9	10.9	0.0	3.0
Prop In Lane	1.00		0.27	1.00		0.19	1.00		0.78	1.00		0.58
Lane Grp Cap(c), veh/h	60	697	699	114	751	765	427	0	482	345	0	498
V/C Ratio(X)	0.32	0.75	0.75	0.43	0.44	0.44	0.09	0.00	0.35	0.20	0.00	0.16
Avail Cap(c_a), veh/h	419	836	838	419	836	851	427	0	482	345	0	498
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.5	21.6	21.6	37.6	16.8	16.8	23.5	0.0	23.0	27.3	0.0	21.6
Incr Delay (d2), s/veh	1.1	4.8	4.7	1.0	0.9	0.9	0.4	0.0	2.0	1.3	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	0.4	8.4	8.4	0.9	3.9	4.0	0.6	0.0	2.6	1.2	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.6	26.4	26.4	38.6	17.7	17.7	23.9	0.0	25.0	28.5	0.0	22.3
LnGrp LOS	D	C	C	D	B	B	C	A	C	C	A	C
Approach Vol, veh/h		1068			711			210			149	
Approach Delay, s/veh		26.6			19.1			24.8			25.2	
Approach LOS		C			B			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.3	42.7		31.7	11.8	40.1		31.7				
Change Period (Y+Rc), s	6.4	6.8		6.7	6.4	6.8		6.7				
Max Green Setting (Gmax), s	20.0	40.0		25.0	20.0	40.0		25.0				
Max Q Clear Time (g_c+I1), s	2.9	13.0		8.9	4.2	23.5		12.9				
Green Ext Time (p_c), s	0.0	7.7		2.4	0.0	9.8		0.9				
Intersection Summary												
HCM 6th Ctrl Delay			23.9									
HCM 6th LOS			C									

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	161	401	26	167	306	66	45	235	132	91	207	77
Future Volume (veh/h)	161	401	26	167	306	66	45	235	132	91	207	77
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	169	422	27	176	322	69	47	247	139	96	218	81
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	213	773	49	222	679	144	68	409	347	121	465	394
Arrive On Green	0.12	0.23	0.23	0.13	0.24	0.24	0.04	0.22	0.22	0.07	0.25	0.25
Sat Flow, veh/h	1753	3338	213	1753	2872	608	1753	1841	1560	1753	1841	1560
Grp Volume(v), veh/h	169	220	229	176	194	197	47	247	139	96	218	81
Grp Sat Flow(s),veh/h/ln	1753	1749	1802	1753	1749	1731	1753	1841	1560	1753	1841	1560
Q Serve(g_s), s	4.5	5.4	5.4	4.7	4.6	4.7	1.3	5.9	3.7	2.6	4.9	2.0
Cycle Q Clear(g_c), s	4.5	5.4	5.4	4.7	4.6	4.7	1.3	5.9	3.7	2.6	4.9	2.0
Prop In Lane	1.00		0.12	1.00		0.35	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	213	405	417	222	414	410	68	409	347	121	465	394
V/C Ratio(X)	0.79	0.54	0.55	0.79	0.47	0.48	0.69	0.60	0.40	0.79	0.47	0.21
Avail Cap(c_a), veh/h	506	829	854	722	829	820	433	872	739	361	872	739
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	20.7	16.4	16.4	20.6	15.9	16.0	23.0	17.0	16.1	22.2	15.4	14.3
Incr Delay (d2), s/veh	2.5	2.4	2.4	2.4	1.8	1.9	4.6	3.1	1.6	4.3	1.6	0.5
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	1.7	2.0	2.0	1.8	1.8	1.8	0.6	2.4	1.3	1.1	1.9	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.2	18.8	18.8	23.0	17.7	17.8	27.7	20.0	17.7	26.5	16.9	14.8
LnGrp LOS	C	B	B	C	B	B	C	C	B	C	B	B
Approach Vol, veh/h		618			567			433			395	
Approach Delay, s/veh		20.0			19.4			20.1			18.8	
Approach LOS		C			B			C			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.9	16.0	7.4	15.3	10.2	15.7	5.9	16.8				
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5				
Max Green Setting (Gmax), s	14.0	23.0	10.0	23.0	20.0	23.0	12.0	23.0				
Max Q Clear Time (g_c+I1), s	6.5	6.7	4.6	7.9	6.7	7.4	3.3	6.9				
Green Ext Time (p_c), s	0.0	3.6	0.0	3.0	0.1	3.8	0.0	2.4				
Intersection Summary												
HCM 6th Ctrl Delay			19.6									
HCM 6th LOS			B									
Notes												
User approved pedestrian interval to be less than phase max green.												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	184	437	28	44	365	115	26	203	30	131	168	111
Future Volume (veh/h)	184	437	28	44	365	115	26	203	30	131	168	111
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	194	460	29	46	384	121	27	214	32	138	177	117
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	242	633	40	56	353	111	32	295	44	177	500	424
Arrive On Green	0.14	0.37	0.37	0.03	0.26	0.26	0.02	0.19	0.19	0.10	0.27	0.27
Sat Flow, veh/h	1753	1713	108	1753	1342	423	1753	1565	234	1753	1841	1560
Grp Volume(v), veh/h	194	0	489	46	0	505	27	0	246	138	177	117
Grp Sat Flow(s),veh/h/ln	1753	0	1821	1753	0	1765	1753	0	1799	1753	1841	1560
Q Serve(g_s), s	6.1	0.0	13.2	1.5	0.0	15.0	0.9	0.0	7.3	4.4	4.4	3.4
Cycle Q Clear(g_c), s	6.1	0.0	13.2	1.5	0.0	15.0	0.9	0.0	7.3	4.4	4.4	3.4
Prop In Lane	1.00		0.06	1.00		0.24	1.00		0.13	1.00		1.00
Lane Grp Cap(c), veh/h	242	0	673	56	0	464	32	0	340	177	500	424
V/C Ratio(X)	0.80	0.00	0.73	0.82	0.00	1.09	0.84	0.00	0.72	0.78	0.35	0.28
Avail Cap(c_a), veh/h	461	0	673	369	0	464	461	0	947	461	969	821
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.8	0.0	15.5	27.4	0.0	21.0	27.9	0.0	21.7	25.0	16.7	16.3
Incr Delay (d2), s/veh	2.3	0.0	3.9	10.7	0.0	67.5	18.9	0.0	2.9	2.8	0.4	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	2.5	0.0	5.3	0.7	0.0	14.1	0.5	0.0	3.2	1.9	1.8	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.1	0.0	19.3	38.1	0.0	88.5	46.8	0.0	24.7	27.8	17.2	16.7
LnGrp LOS	C	A	B	D	A	F	D	A	C	C	B	B
Approach Vol, veh/h		683			551			273			432	
Approach Delay, s/veh		21.3			84.3			26.9			20.4	
Approach LOS		C			F			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.1	19.6	10.0	15.4	6.0	25.7	5.2	20.1				
Change Period (Y+Rc), s	* 4.2	4.6	* 4.2	4.6	* 4.2	* 4.6	* 4.2	4.6				
Max Green Setting (Gmax), s	* 15	15.0	* 15	30.0	* 12	* 15	* 15	30.0				
Max Q Clear Time (g_c+I1), s	8.1	17.0	6.4	9.3	3.5	15.2	2.9	6.4				
Green Ext Time (p_c), s	0.1	0.0	0.1	1.4	0.0	0.0	0.0	1.4				
Intersection Summary												
HCM 6th Ctrl Delay			39.8									
HCM 6th LOS			D									

Notes

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

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	303	135	47	274	75	170	222	39	81	269	86
Future Volume (veh/h)	50	303	135	47	274	75	170	222	39	81	269	86
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	53	319	142	49	288	79	179	234	41	85	283	91
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	67	1595	711	62	1234	332	215	436	370	109	324	275
Arrive On Green	0.04	0.46	0.46	0.04	0.45	0.45	0.12	0.24	0.24	0.06	0.18	0.18
Sat Flow, veh/h	1753	3497	1560	1753	2724	734	1753	1841	1560	1753	1841	1560
Grp Volume(v), veh/h	53	319	142	49	183	184	179	234	41	85	283	91
Grp Sat Flow(s),veh/h/ln	1753	1749	1560	1753	1749	1709	1753	1841	1560	1753	1841	1560
Q Serve(g_s), s	2.4	4.4	4.4	2.2	5.2	5.3	8.1	9.0	1.7	3.9	12.1	4.1
Cycle Q Clear(g_c), s	2.4	4.4	4.4	2.2	5.2	5.3	8.1	9.0	1.7	3.9	12.1	4.1
Prop In Lane	1.00		1.00	1.00		0.43	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	67	1595	711	62	792	774	215	436	370	109	324	275
V/C Ratio(X)	0.79	0.20	0.20	0.80	0.23	0.24	0.83	0.54	0.11	0.78	0.87	0.33
Avail Cap(c_a), veh/h	303	1595	711	303	792	774	281	436	370	281	341	289
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	38.6	13.2	13.2	38.8	13.5	13.6	34.7	27.0	24.2	37.4	32.5	29.2
Incr Delay (d2), s/veh	7.5	0.0	0.1	8.3	0.7	0.7	11.8	1.1	0.1	4.5	20.2	0.6
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	1.2	1.6	1.4	1.0	1.9	1.9	4.0	3.8	0.6	1.7	6.9	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.2	13.2	13.3	47.1	14.2	14.3	46.5	28.1	24.3	42.0	52.7	29.7
LnGrp LOS	D	B	B	D	B	B	D	C	C	D	D	C
Approach Vol, veh/h		514			416			454			459	
Approach Delay, s/veh		16.6			18.1			35.0			46.1	
Approach LOS		B			B			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.1	41.2	9.0	23.7	6.8	41.4	13.9	18.8
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5
Max Green Setting (Gmax), s	14.0	22.0	13.0	15.0	14.0	22.0	13.0	15.0
Max Q Clear Time (g_c+I1), s	4.4	7.3	5.9	11.0	4.2	6.4	10.1	14.1
Green Ext Time (p_c), s	0.0	1.3	0.0	0.4	0.0	1.8	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	28.9
HCM 6th LOS	C

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	286	101	46	142	23	113	173	48	35	123	48
Future Volume (veh/h)	47	286	101	46	142	23	113	173	48	35	123	48
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	53	325	115	52	161	26	128	197	55	40	140	55
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	527	488	173	327	581	94	472	471	132	427	428	168
Arrive On Green	0.38	0.38	0.38	0.38	0.38	0.38	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	1178	1299	459	934	1546	250	1169	1385	387	1110	1258	494
Grp Volume(v), veh/h	53	0	440	52	0	187	128	0	252	40	0	195
Grp Sat Flow(s),veh/h/ln	1178	0	1758	934	0	1796	1169	0	1771	1110	0	1752
Q Serve(g_s), s	1.4	0.0	8.8	2.1	0.0	3.1	3.9	0.0	4.6	1.2	0.0	3.5
Cycle Q Clear(g_c), s	4.5	0.0	8.8	10.9	0.0	3.1	7.4	0.0	4.6	5.8	0.0	3.5
Prop In Lane	1.00		0.26	1.00		0.14	1.00		0.22	1.00		0.28
Lane Grp Cap(c), veh/h	527	0	661	327	0	675	472	0	603	427	0	596
V/C Ratio(X)	0.10	0.00	0.67	0.16	0.00	0.28	0.27	0.00	0.42	0.09	0.00	0.33
Avail Cap(c_a), veh/h	1143	0	1580	815	0	1614	1124	0	1592	1046	0	1574
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.7	0.0	11.0	15.5	0.0	9.2	13.1	0.0	10.7	13.0	0.0	10.4
Incr Delay (d2), s/veh	0.1	0.0	1.9	0.9	0.0	0.8	1.2	0.0	1.8	0.4	0.0	1.4
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	0.3	0.0	2.3	0.4	0.0	0.8	0.8	0.0	1.4	0.3	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.9	0.0	12.9	16.4	0.0	10.0	14.3	0.0	12.5	13.4	0.0	11.7
LnGrp LOS	B	A	B	B	A	B	B	A	B	B	A	B
Approach Vol, veh/h		493			239			380			235	
Approach Delay, s/veh		12.7			11.4			13.1			12.0	
Approach LOS		B			B			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		20.4		21.9		20.4		21.9				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		38.0		38.0		38.0		38.0				
Max Q Clear Time (g_c+I1), s		7.8		12.9		9.4		10.8				
Green Ext Time (p_c), s		3.3		3.0		5.0		4.6				
Intersection Summary												
HCM 6th Ctrl Delay			12.5									
HCM 6th LOS			B									

Intersection	
Intersection Delay, s/veh	10.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	60	270	8	0	205	11	6	14	0	21	12	41
Future Vol, veh/h	60	270	8	0	205	11	6	14	0	21	12	41
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	68	307	9	0	233	13	7	16	0	24	14	47
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11.8	9.8	8.9	8.9
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	30%	18%	0%	28%
Vol Thru, %	70%	80%	95%	16%
Vol Right, %	0%	2%	5%	55%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	20	338	216	74
LT Vol	6	60	0	21
Through Vol	14	270	205	12
RT Vol	0	8	11	41
Lane Flow Rate	23	384	245	84
Geometry Grp	1	1	1	1
Degree of Util (X)	0.035	0.484	0.316	0.12
Departure Headway (Hd)	5.581	4.54	4.636	5.139
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	637	791	773	694
Service Time	3.652	2.576	2.676	3.198
HCM Lane V/C Ratio	0.036	0.485	0.317	0.121
HCM Control Delay	8.9	11.8	9.8	8.9
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	0.1	2.7	1.4	0.4

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	38	61	34	2	17	5	33	171	0	11	195	39
Future Vol, veh/h	38	61	34	2	17	5	33	171	0	11	195	39
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
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	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	43	69	39	2	19	6	38	194	0	13	222	44

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	553	540	244	594	562	194	266	0	0	194	0	0
Stage 1	270	270	-	270	270	-	-	-	-	-	-	-
Stage 2	283	270	-	324	292	-	-	-	-	-	-	-
Critical Hdwy	7.14	6.54	6.24	7.14	6.54	6.24	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.14	5.54	-	6.14	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.14	5.54	-	6.14	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.536	4.036	3.336	3.536	4.036	3.336	2.236	-	-	2.236	-	-
Pot Cap-1 Maneuver	441	446	790	414	433	842	1286	-	-	1367	-	-
Stage 1	731	682	-	731	682	-	-	-	-	-	-	-
Stage 2	720	682	-	684	667	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	408	426	790	333	414	842	1286	-	-	1367	-	-
Mov Cap-2 Maneuver	408	426	-	333	414	-	-	-	-	-	-	-
Stage 1	707	674	-	707	659	-	-	-	-	-	-	-
Stage 2	671	659	-	577	660	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16	13.5	1.3	0.3
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1286	-	-	476	453	1367	-	-
HCM Lane V/C Ratio	0.029	-	-	0.318	0.06	0.009	-	-
HCM Control Delay (s)	7.9	0	-	16	13.5	7.7	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1.4	0.2	0	-	-

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	29	14	4	7	0	15	61	8	5	82	3
Future Vol, veh/h	30	29	14	4	7	0	15	61	8	5	82	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
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	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	34	33	16	5	8	0	17	69	9	6	93	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	219	219	95	239	216	74	96	0	0	78	0	0
Stage 1	107	107	-	108	108	-	-	-	-	-	-	-
Stage 2	112	112	-	131	108	-	-	-	-	-	-	-
Critical Hdwy	7.14	6.54	6.24	7.14	6.54	6.24	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.14	5.54	-	6.14	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.14	5.54	-	6.14	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.536	4.036	3.336	3.536	4.036	3.336	2.236	-	-	2.236	-	-
Pot Cap-1 Maneuver	733	676	956	711	678	982	1485	-	-	1508	-	-
Stage 1	894	803	-	893	802	-	-	-	-	-	-	-
Stage 2	888	799	-	868	802	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	718	665	956	665	667	982	1485	-	-	1508	-	-
Mov Cap-2 Maneuver	718	665	-	665	667	-	-	-	-	-	-	-
Stage 1	883	800	-	882	792	-	-	-	-	-	-	-
Stage 2	869	789	-	815	799	-	-	-	-	-	-	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	10.6			10.5			1.3			0.4		
HCM LOS	B			B								

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1485	-	-	730	666	1508	-	-
HCM Lane V/C Ratio	0.011	-	-	0.114	0.019	0.004	-	-
HCM Control Delay (s)	7.5	0	-	10.6	10.5	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.1	0	-	-

STREETLIGHT InSight

Turning Movements Validation White Paper

Version 1.0
Published December 2018

Validation of Turning Movement Accuracy with StreetLight InSight® Metrics

This white paper provides technical detail about use of *StreetLight InSight* to calculate turning movement ratios. It focuses on validation of these unique, Big-Data derived travel pattern analytics against publicly available turning movement ratios derived from traffic counts. This paper assumes the reader has basic familiarity with StreetLight methodology and Metrics. This and other background can be found at streetlightdata.com.

Table of Contents

Overview and Motivation

This white paper describes the results of an accuracy validation study comparing Metrics derived from *StreetLight InSight* to public, external data sources. For this white paper, we validated link to link origin-destination data from *StreetLight InSight* for intersections against publicly available intersection turning movement counts from the Champaign County Regional Planning Commission's Champaign Urbana Urbanized Area Transportation Study (CUUTAS) in Illinois and the Maryland State Highway Administration (MDSHA).

Turning movement counts are performed regularly by many throughout the transportation industry. They are a key input to signal timing or retiming efforts, traffic impact studies, corridor studies, and more. Traditionally, they require temporary set up and maintenance of specialized video or other equipment, which can cost ~$1,200/intersection to measure for a two-day count.[1] Collection costs can be so high that many agencies only collect data for a few hours (e.g: only from 4 to 5 PM). This leaves agencies blind to travel patterns at a time when peak periods are expanding and congestion occurs over several hours during the day. In addition, the temporary sampling requires "expanding" the sample to represent an entire year, which creates inaccuracies and is not sensitive to variation from seasons or special events. Finally, collecting these counts can put staff in harm's way near busy roads.

Deriving intersection turning movements from Big Data can save the industry money and time while reducing risk of injury to staff. In addition, when turning counts are easily and readily available, they can be utilized for more studies and ultimately enable better transportation decisions.

Data Sources and Methods

CUUTAS Intersection Counts

CUUTAS provides an open data portal that includes vehicle turning movement counts for particular intersections in Champaign and Urbana.[2] The turning movement counts are provided at each intersection for three select hours of the day during the AM, noon, and PM periods. For this white paper, we used intersections with relatively recent counts (2015 or 2016).

Maryland State Highway Administration Intersection Counts

MDSHA provided 15-minute turning movement counts for intersections located along Maryland State Highways and U.S. Highways.[3] The counts were collected for 24 hours on a Tuesday, Wednesday, or Thursday. To compare against StreetLight's analytics, we aggregated Maryland SHA's 15-minute counts to hourly counts for one full day.

[1] http://www.mikeontraffic.com/traffic-data-inc-2016-price-list/
[2] https://ccrpc.org/data/vehicle-turning-movement-counts/
[3] http://maps.roads.maryland.gov/itms_public/

StreetLight InSight Origin-Destination Analysis

For this validation work, we ran *StreetLight InSight* Origin-Destination Analyses (which allows calculation of turning movements) twice for each intersection in order to utilize two different data sources: Location-Based Services (LBS) data, which is created by smartphone apps, and Navigation-GPS data, which is created by connected cars and trucks as well as turn-by-turn navigation tools. StreetLight's Origin-Destination Analysis describes relative trip volumes between designated Zones. As described below, it can be used to calculate turning movements. For a full description of StreetLight data sources and methodology, see the detailed documentation available on the StreetLight website.[4]

Both Navigation-GPS and LBS data have strengths and weaknesses. Known sources of error, differences, and methods to deal with them include:

1. Potential demographic bias and other sampling issues with the LBS data: For LBS data used to derive turning movements and other metrics, StreetLight normalizes for bias using the US Census. There are details of this method in other resources on the StreetLight Data website. [5] In short, if ten devices "live" on a block with 100 people, each of those devices is scaled up by a factor of 10. If ten devices "live" on a block with 50 people, each is scaled by a factor of 5. This adjusts for variation in geographic distribution of mobile devices captured, which is correlated with demographic factors such as income.
2. GPS sample size and bias – For Navigation-GPS data from personal devices, the sample size is smaller and we cannot follow a device for more than one trip. Therefore, we cannot normalize it as described above for the LBS data. Thus, we expect to find more demographic and geographic bias with the navigation-GPS data.
3. Short sampling window for CUUTAS & MDSHA data – MDSHA and CUUTAS only collected turning movement data for a few hours on one day. We mitigated this source of difference by matching the time-of-day window. However, since StreetLight's data was for several months, we cannot mitigate bias that comes from any irregularities on that single-day when CUUTAS and MDSHA counts were collected. This may introduce bias if that particular day was unusual, that year had dramatic seasonal variations, etc.
4. Different years: All StreetLight analytics covered 2017, whereas MDSHA and CUUTAS data covered 2015-2017. Since conditions at the intersections may have changed during this time, this may introduce some error.

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[4] https://www.streetlightdata.com/methodology-data-sources-white-paper
[5] https://www.streetlightdata.com/methodology-data-sources-white-paper

In short, none of the sources can be called "ground truth" since all are samples. Thus, we do not speak of "error" when comparing one source to another, instead we speak in terms of "difference". We do not expect the results to be exactly the same. We consider the validation successful if the results are highly correlated and the mean difference is relatively small.

Data Collection and Analysis: Single Intersection at University / Goodwin

In this section, we present a detailed look at the methodology for one intersection. We repeated the process 11 additional intersections for this validation study.

We performed an Origin-Destination analysis within the *StreetLight InSight* platform to create a turning movement analysis. Four zones were drawn for each intersection, one for each leg of the intersection, and marked as both an origin and destination, as shown below in Figure 1. A vehicle driving through the intersection will be seen on the inbound road as the origin, and on the outbound road as the destination. The Origin-Destination Analysis results can then easily be reorganized as hourly intersection turning movements.

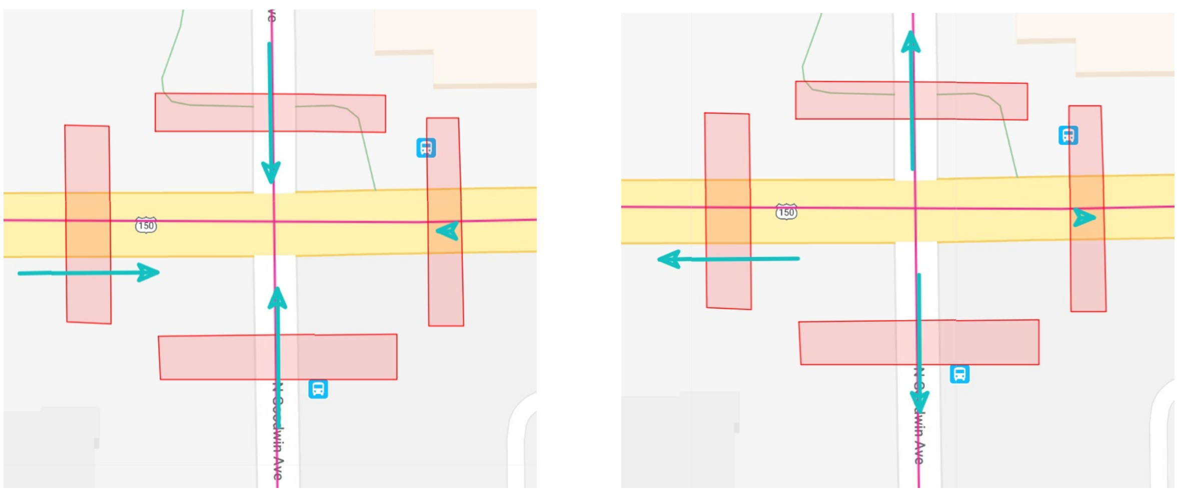


Figure 1: Left - Origin Zones for University Ave/Goodwin Ave. Right - Destination Zones for University Ave/Goodwin Ave

The *StreetLight InSight* Origin-Destination Analyses were run using 10 months of data in 2017; data was segmented by type of day (weekday vs weekend) and by each hour of the day.

StreetLight InSight can provide estimated trip counts for each turning movement if an analysis is calibrated with existing count data for intersection legs or StreetLight AADT Metrics. If no calibration is used, the output is a normalized index describing the relative volume of trips is given for each Origin-Destination pair. As this volume estimation process would introduce a second potential source of error, the validation was completed by using turning ratios to compare CUUTAS and StreetLight's data. More information about StreetLight AADT is available online[6], as are detailed instructions on calibrating Origin-Destination analyses using StreetLight AADT or local traffic count data.

After running the Origin-Destination Analysis for each intersection in *StreetLight InSight*, we calculated a turning ratio for each turning movement on an inbound road for each hour. The ratio is equal to the StreetLight index for that movement, divided by the sum of all indices for that road during that hour. This is described by the equation:

$$Ratio = \frac{T_l}{\sum T_{l,r,s}}$$

where T is the indexed value of the vehicles making each turn, and the subscripts "l, r, s" designate all possible left-turn, right-turn, and straight-ahead movements.

We repeated this process for the CUUTAS counts to obtain turning ratios, and compared these ratios for the hours of 7 AM, 12 PM, and 5 PM (when CUUTAS took measurements) against the StreetLight ratios for the same hours.

Each analysis had a different sample size. In general, LBS data had 25x the sample size as the CUUTAS counts, and GPS Data had 2-3x the sample size, as reflected in the University Ave example shown in Table 1:

Table 1: Sample Size for Three Data Sources for University Ave/Goodwin Ave

Source	Sample Trips Analyzed (counts/hour * hours * days)	Time Period Analyzed
O-D with Navigation-GPS (Personal) via *StreetLight InSight*	41,910	January - December 2017
O-D with LBS via *StreetLight InSight*	375,654	January - October 2017
CUUTAS	14,941	1 day, 2017

Results: University / Goodwin

Location- Based Services data showed a strong, positive correlation (R^2 = 0.94) between the intersection Origin-Destination Analysis and CUUTAS turning movement ratios, as shown in Figure 2

[6] https://www.streetlightdata.com/aadt-white-paper

below. We calculated R^2 as follows: Each turning movement for each time period studied creates a point. For example, northbound turning left between 7 and 8 AM is one point and northbound turning right between 7 and 8AM is a second point.

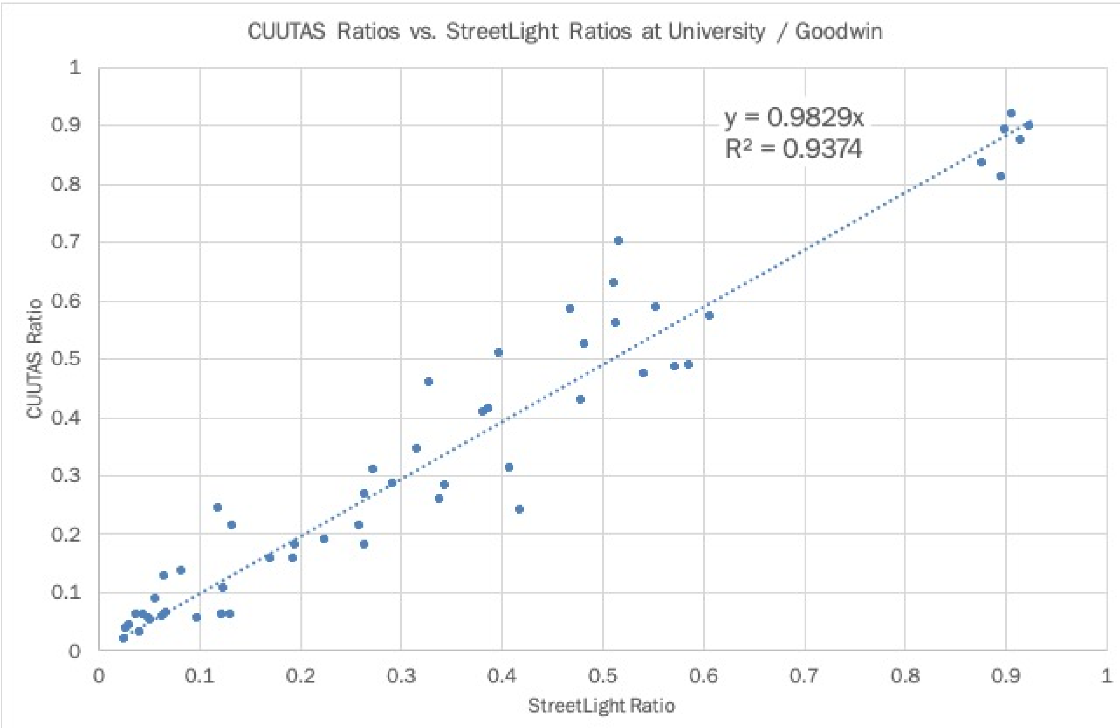


Figure 2: Correlation between StreetLight LBS OD and CUUTAS Turning Ratios for University and Goodwin Avenue. Each dot represents a turning movement ratio for an hour. For example "NB turning left, 7-8AM."

In addition, we calculated the Route Mean Square Difference (RMSD) between the CUUTAS ratios and the StreetLight ratios. The equation for this is:

$$RMSD = \sqrt{\frac{\sum_{i=1}^{n}(S_i - MC_i)^2}{n}}$$

where S_i is the StreetLight measured ratio, and MC_i is the ratio measured by MDSHA or CUUTAS.

The result for this intersection is 0.066. This means that the average difference between CUUTAS and StreetLight for an individual turning ratio is +/- 0.066 (Note that turning ratios range between 0 and 1). The average turning ratio is 0.34 for both sources. This does not mean that StreetLight has an average error or 6.6%, as we do not know which source is more correct, StreetLight or CUUTAS. Instead, it indicates that, in general, the two results are quite close.

Note that the GPS turning ratios had worse results with an R^2 of 0.63 and an RMSD of 0.19. This performance was similar to that for other intersections, especially smaller intersections where the low GPS sample size became more of a constraint. Therefore, we do not include GPS results for the remainder of the paper and recommend LBS data when doing generalized turning movements.

Expanding the Sample of Intersections

For further validation, we ran Origin–Destination Analyses on three more CUUTAS intersections and on seven intersections in Maryland. Next, we compared the turning ratios for each turning movement-day part combination. As each intersection had an average of twelve turning movements, and between three and twenty-four comparison hours, in total, this covered over 2,480 points of comparison.[7]

Again, as shown in Figure 3, the correlation is very strong with an R^2 of 0.9.

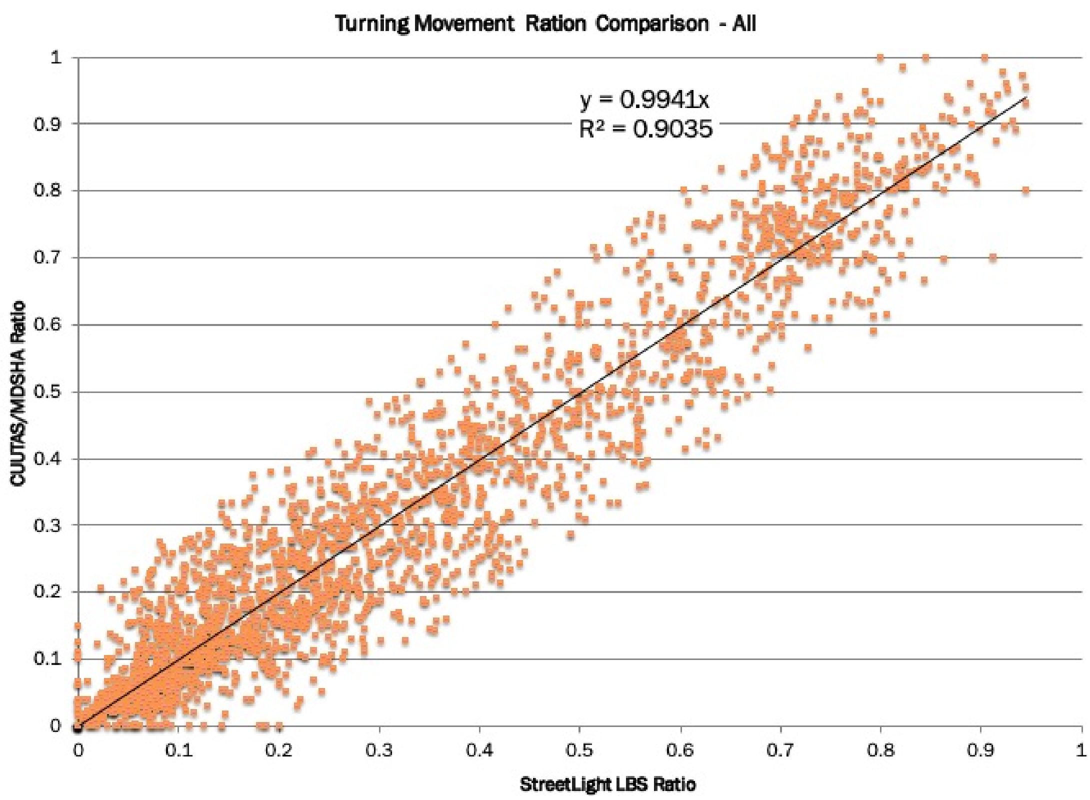


Figure 3: Correlation between StreetLight LBS OD and CUUTAS/MDSHA Turning Ratios for eleven intersections. Each dot represents a turning movement ratio for an hour. For example, "NB turning left, 7-8AM."

[7] NB: In the course of running all intersection, some missing or inaccurate data was detected. For example, left-turn ratios were reported by MDSHA and CUUTAS where no left turn was possible. We carefully removed these intersections from comparison where possible, since they were probably mis-labeled. Because it is not possible to check each movement within a reasonable time frame, we also eliminated the top and bottom 2% of differences from our comparison as outliers probably resulting from human error.

The RMSD for all points is 0.079, similar to the result for University/Goodwin. As shown in Table 2, below, the results are reasonably consistent for Maryland and CUUTAS data.

Table 2 – R2 and RMSD broken out by comparison source data.

	Turning Movement/Day Part Combinations	RMSD	R2
Maryland	2187	0.078	0.91
CUUTAS	171	0.086	0.88
ALL	2358	0.079	0.90

Conclusions

We conclude that *StreetLight InSight's* Origin-Destination Analysis with LBS data is a good method for finding intersection turning movement ratios. It delivers additional value because practitioners can gather the information using an entire year of travel data with only a few minutes of set-up. This makes it a good alternative to temporary turning ratio data collection, especially when combined with local AADT/traffic count data or with StreetLight AADT to generate turning counts. Using LBS data for the O-D Analysis produces better results than with GPS personal data, as was expected due to LBS' larger and better normalized sample.

Please contact us at info@streetlightdata.com if you have questions or suggestions for further validation work.

Appendix C.
Bicycle Level of Traffic Stress (LTS) Methodology and Criteria

Methodology

The criteria used for analyzing Bicycle Level of Traffic Stress (LTS) in the Eastside Corridor Transportation Improvement Study (ECTIS) are provided herein. Due to the mixture of land use contexts between incorporated and unincorporated areas within the study area, this study uses different methodologies for roadways within incorporated versus unicorporated areas. Both methodologies are based on Mineta Transportation Institute (MTI) methodology presented in MTI Report 11-19, *Low Stress Bicycling and Network Connectivity (2012).*

To analyze LTS within incorporated areas, the study uses the standard MTI methodology, while facilities in unincorporated areas were analyzed using LTS methodology specific to rural facilities. The rural-specific methodology is based on the Mineta methdology, as adopted by Oregon Department of Transportation (ODOT), reported in ODOT's *Analysis Procedure Manual Version 2, 14.4.7 Multimodal Analysis, Bicycle Level of Traffic Stress, Rural Applications* (2017). The Bicycle LTS methodology and analysis criteria employed in the ECTIS level of traffic stress analysis are described in the following sections.

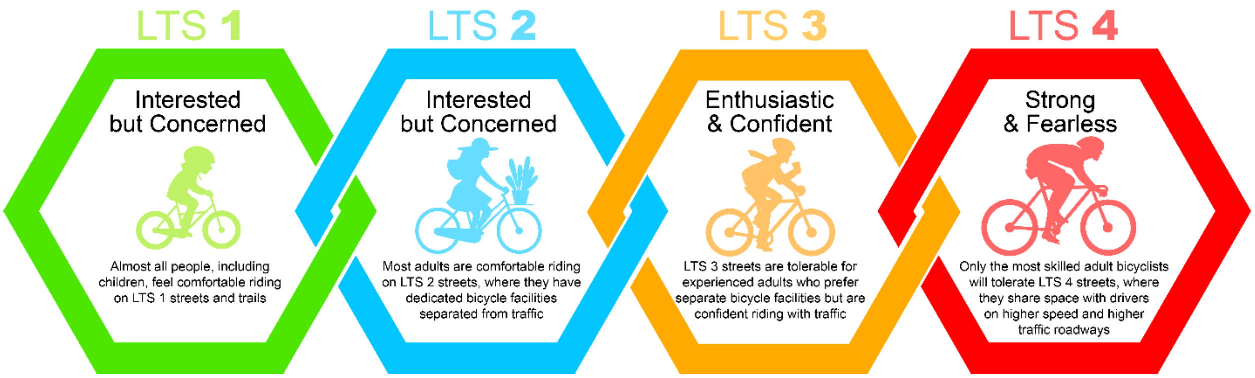
Bicycle LTS analyzes roadway segments, intersection approaches with right turn lanes, and unsignalized intersections using infrastructure characteristics such as:

- Type of bikeway, and separation between bicycle and vehicle traffic, if applicable;
- Number of vehicle lanes, or daily traffic volumes;
- Presence of median;
- Posted speed limit;
- Intersection control type (i.e., stop signs, traffic signals or roundabouts); and
- Configuration of right-turn lanes at intersections.

Bicycle LTS is a suitability rating system that assesses comfort and convenience of transportation facilities from the perspective of the user. The methodology also allows planning practitioners to assess connectivity within a roadway network and identify gaps that may discourage users from traversing roadways by bicycle.

Based on the infrastructure characteristics of the roadway, a score of one through four is assigned to roadway segments, intersection approaches, and intersection crossings. An LTS score of one indicates the lowest stress or most comfortable experience, while an LTS score of four suggests the highest stress or least comfortable experience. Each LTS score and the types of users typically associated with each facility type are described in Table C-1. In asessing the criteria for analyzing traffic stress of roadway infratsucture, Bicycle LTS operates under the "worst case principle," meaning the the highest stress score among the criterion considered will decide the score of that segment, crossing or approach.

Table C-1. Level of Traffic Stress Score Descriptions



Bicycle LTS Analysis Criteria

Segment LTS

Incorporated Areas

Segment LTS takes into account infrastructure characteristics such as speed limit, roadway widths (i.e., number of lanes), separation from vehicular traffic, and frequency of bike lane blockage, if applicable. Table C-2 and Table C-3 present the criteria for analyzing roadway segments with on-stress bicycle facilities, such as Class II bicycle lanes in the incorporated areas. Class I shared-use paths and Class IV bikeways are automatically assigned LTS scores of one due to adequate separation from vehicular traffic to result in a low stress experience.

Table C-4 presents the criteria for analyzing segments in mixed traffic conditions within incorporated areas. As Class III bicycle routes share the roadway with vehicles, these segments are analyzed using the mixed traffic criteria.

Table C-2: Bicycle LTS Criteria for Bicycle Lanes Alongside a Parking Lane in Incorporated Areas

	LTS 1	LTS 2	LTS 3	LTS 4
Street width (through lanes per direction)	1	No effect	2 or more	No effect
Sum of bicycle lane width and parking lane width[1]	15 feet or more	14 to 14.5 feet	13.5 feet or less	No effect
Speed Limit or Prevailing Speed	Up to 25 mph	30 mph	35 mph	40 mph or more
Bike Lane Blockage	Rare	No effect	Frequent	No effect

[1]Includes marked buffer and paved gutter, if present

Table C-3: Bicycle LTS Criteria for Bicycle Lanes Not Alongside a Parking Lane in Incorporated Areas

	LTS 1	LTS 2	LTS 3	LTS 4
Street width (through lanes per direction)	1	No effect	2 or more	No effect
Bicycle lane width[1]	6 feet or more	Less than 6 feet	No effect	No effect
Speed Limit or Prevailing Speed	Up to 30 mph	No effect	35 mph	40 mph or more
Bike Lane Blockage	Rare	No effect	Frequent	No effect

[1]Includes marked buffer and paved gutter, if present

Table C-4: Bicycle LTS Criteria for Mixed Traffic Segments in Incorporated Areas

Posted Speed Limit	Street Width			
	2-3 Lanes (no CL)[1]	2-3 Lanes (w/ CL)[2]	4-5 Lanes	6+ Lanes
Up to 25 mph	LTS 1	LTS 2	LTS 3	LTS 4
30 mph	LTS 2	LTS 3	LTS 4	LTS 4
35+ mph	LTS 4	LTS 4	LTS 4	LTS 4

1 No centerline present
2 centerline present

Unincorporated Areas

Table C-5 presents the criteria for analyzing roadway segments in the unincorporated areas of the study area. Rural roadways typically feature fewer travel lanes, higher speeds of 45 mph or more, and lower traffic volumes than would be seen in incorporated, or more urban areas. Rural roadways also generally do not feature on-street bicycle facilities, and bicyclists are required to either share the roadway with vehicles, or utilize the shoulder. Thus, the rural segment criteria analyzes paved shoulder width and daily traffic volume (vpd), rather than speed and number of travel lanes.

Table C-5. Bicycle LTS Criteria for Segments in Unincorporated Areas

Daily Volume (vpd)	Paved Shoulder Width			
	0 to less than 2 feet	2 to 4 feet	4 to 6 feet	Greater than 6 feet
Less than 400	LTS 2	LTS 2	LTS 2	LTS 2
400 – 500	LTS 3	LTS 2	LTS 2	LTS 2
1500 – 7000[3]	LTS 4	LTS 3	LTS 2	LTS 2
More than 7000	LTS 4	LTS 4	LTS 3	LTS 3

1 Adequate stopping sight distances on curves and grades assumed. A high frequency of sharper curves and short vertical transitions can increase the stress level especially on roadways with less than 6' shoulders. Engineering judgment will be needed to determine what impact this will have on the LTS level on a particular segment.
2 Segments with flashing warning beacons announcing presence of bicyclists (typically done on narrower long bridges or tunnels) may, depending on judgment, reduce the LTS by one, but no less than LTS 2.
3 Over 1500 AADT, the Oregon Bicycle and Pedestrian Design Guide indicates the need for shoulders.

Intersection Crossing LTS

Incorporated Areas

Crossing roadways with muliple lanes and/or high speed traffic can be a barrier to bicyclists, such as children or the elderly, who cannot move quickly enough through an intersection to avoid high stress conflict with vehicles. Intersection Crossing LTS in the unincorporated areas of the study area analyzes speed limit and the number of lanes of the street being crossed. Additionally, presence of a median refuge is taken into account, as it can provide refuge space to a crossing bicyclist and lower traffic stress. Signalized crossings generally provide adequate crossing time for a bicyclist. Thus, unless there is data to suggest a signalized crossing poses barrier, only unsignalized crossings are considered. The criteria for analyzing intersection crossings in incorporated areas are presented in Table C-6 and Table C-7.

Table C-6: Bicycle LTS Criteria for Unsignalized Crossings with a Median Refuge of at least 6 feet in Incorporated Areas

Speed Limit of Street Being Crossed	Width of Street Being Crossed		
	Up to 3 lanes	4-5 lanes	6+ lanes
Up to 25 mph	LTS 1	LTS 1	LTS 2
30 mph	LTS 1	LTS 2	LST 3
35 mph	LTS 2	LST 3	LTS 4
40+	LST 3	LTS 4	LTS 4

Table C-7: Bicycle LTS Criteria for Unsignalized Crossings without a Median in Incorporated Areas

Speed Limit of Street Being Crossed	Width of Street Being Crossed		
	Up to 3 lanes	4-5 lanes	6+ lanes
Up to 25 mph	LTS 1	LTS 2	LTS 4
30 mph	LTS 1	LTS 2	LTS 4
35 mph	LTS 2	LST 3	LTS 4
40+	LST 3	LTS 4	LTS 4

Unincorporated Areas

Similarly to the Segment LTS criteria in incorporated areas, Crossing LTS in the unincorporated areas takes into account daily traffic volumes rather than speed of the roadway being crossed. This criteria also only considers unsignalized intersection crossings. Table C-8 presents the criteria for analyzing Bicycle LTS at unsignalized intersection crossings in the unincorporated areas of the study area. The criterion showing n/a indicate that the number of travel lanes and vpd corresponding to that cell are not applicable to roadways. For example, it is highly unlikely for a 6+ lane roadway to be built to accommodate less than 400 vpd. In the event it did exist, the traffic stress would be considered low at only 400 vpd in traffic volumes.

Table C-8: Bicycle LTS Criteria for Unsignalized Intersection Crossings in Unincorporated Areas[1]

Daily Volume (vpd)	Width of Street Being Crossed		
	Up to 3 lanes	4-5 lanes	6+ lanes
Less than 400	LTS 2	n/a	n/a
400 – 500	LTS 2	n/a	n/a
1500 – 7000[3]	LTS 2	LST 3	n/a
More than 7000	LST 3	LTS 4	LTS 4

Intersection Approach LTS

Intersection Approach LTS criteria is the same for roadways within incorporated and unincorporated areas; however, there are very few roadways within the unincorporated areas of the study with right turn lanes.

Within mixed traffic environments, approaches resulted in high stress due to turn pocket lengths of longer than 75 feet, the existence of a through-right lane, a dual right lane or a free right. In these cases, the length of time bicyclists are exposed to right turning traffic and the uncertainty caused by lane configurations other than a single right-turn lane result in high stress.

Similarly, for approaches along segments with bike lanes, high levels of traffic stress result along lengthy turn pockets, or in locations with dual right lanes, through-right lanes or free rights. Additionally, when the bike lane is "trapped" along the right side of the right turn pocket, or dropped completely at the intersection approach, this resuls in high stress. Moreover, the configuration of the bike lane at the approach impacts traffic stress. For example, the lowest traffic stress results when the bicycle lane is configured to continue straight, without the lane shifting direction to accommodate a right turn pocket. In instances where bike lanes are designed to veer to the left at the approach, traffic stress is higher. Table C-9 presents the criteria for analyzing LTS of intersection approaches with bicycle lanes, and Table C-10 presents the criteria for analyzing approaches in mixed traffic.

Table C-9: Bicycle LTS Criteria for Intersection Approaches Along Bicycle Lanes

Configuration	LTS
Single right-turn lane up to 150 ft long starting abruptly while bicycle lane continues straight AND intersection angle/curb radius such that turning speed is ≤15 mph	LTS ≥2
Single right-turn lane longer than 150 ft starting abruptly while bicycle lane continues straight AND intersection angle/curb radius such that turning speed is ≤15 mph	LTS ≥3
Single right-turn lane with bicycle lane that shifts to the left AND intersection angle/curb radius such that turning speed is ≤15 mph	LTS ≥3
Single right-turn lane with any other configuration OR dual right-turn lanes OR right-turn lane along with a combined through/right lane	LTS 4

Table C-10: Bicycle LTS Criteria for Intersection Approaches Along Mixed Traffic Segments

Configuration	LTS
Single right-turn lane up to 75 ft long AND intersection angle/curb radius such that turning speed is ≤15 mph	(No effect)
Single right-turn lane between 75 ft and 150 ft long AND intersection angle/curb radius such that turning speed is ≤15 mph	LTS ≥3
Any other configuration	LTS 4

Appendix D. Manning and Academy Avenue Access Points

Existing access points for Manning Avenue and Academy Avenue were reviewed for this study and are listed in the following tables. The large number of driveways and intersections that occur along the study corridors were taken into account as recommendations were developed.

Table D-1 presents the list of access points for Manning Avenue. Table D-2 presents the list of access points for Academy Avenue.

Table D-1: Manning Avenue Access Points

Point	Corridor	Cross Street	Type of Access	Coordinates
1	Manning Ave	SR 99	On Ramp	36.60539, -119.66049
2	Manning Ave	SR 99	On Ramp	36.60545, -119.65987
3	Manning Ave	SR 99	Off Ramp	36.60523, -119.65897
4	Manning Ave	Shell Parking Entrance	Driveway	36.60551, -119.65832
5	Manning Ave	Vineyard Pl	Driveway	36.60551, -119.65783
6	Manning Ave	Vineyard Pl	Intersection	36.60541, -119.65717
7	Manning Ave	El Michoacano Entrance	Driveway	36.60554, -119.65637
8	Manning Ave	The Worship Centre Church	Driveway	36.60525, -119.65617
9	Manning Ave	Golden State Blvd	Intersection	36.60541, -119.65483
10	Manning Ave	PPS Packagine Entrance	Driveway	36.60559, -119.65164
11	Manning Ave	Palogix Entrance	Driveway	36.60526, -119.65161
12	Manning Ave	Palogix Entrance	Driveway	36.60528, -119.64966
13	Manning Ave	Private Driveway	Driveway	36.60559, -119.64975
14	Manning Ave	De Wolf Ave	Intersection	36.60545, -119.64654
15	Manning Ave	S Leonard Ave	Intersection	36.60529, -119.63754
16	Manning Ave	Circle K Ranch Entrance	Driveway	36.60549, -119.63417
17	Manning Ave	Circle K Ranch Entrance	Driveway	36.60548, -119.63417
18	Manning Ave	Circle K Ranch Entrance	Driveway	36.6055, -119.63305
19	Manning Ave	Private Driveway	Driveway	36.6052, -119.61658
20	Manning Ave	L & H Manufacturing	Driveway	36.60522, -119.61446
21	Manning Ave	Private Driveway	Driveway	36.60546, -119.61189
22	Manning Ave	Private Driveway	Driveway	36.60547, -119.61118
23	Manning Ave	Private Driveway	Driveway	36.60518, -119.61137
24	Manning Ave	McCall Ave	Driveway	36.60533, -119.61067
25	Manning Ave	Private Driveway	Driveway	36.60516, -119.6102
26	Manning Ave	Private Driveway	Driveway	36.60545, -119.60965
27	Manning Ave	Private Driveway	Driveway	36.60542, -119.60293
28	Manning Ave	Private Driveway	Driveway	36.6054, -119.60192
29	Manning Ave	Private Driveway	Driveway	36.60523, -119.59543
30	Manning Ave	S Del Rey Ave	Intersection	36.60493, -119.59298
31	Manning Ave	Private Driveway	Driveway	36.60522, -119.59298
32	Manning Ave	Private Driveway	Driveway	36.60524, -119.5916

Point	Corridor	Cross Street	Type of Access	Coordinates
33	Manning Ave	Private Driveway	Driveway	36.60521, -119.58728
34	Manning Ave	Private Driveway	Driveway	36.6052, -119.58695
35	Manning Ave	Private Driveway	Driveway	36.60493, -119.58395
36	Manning Ave	Private Driveway	Driveway	36.60493, -119.58332
37	Manning Ave	S Indianola Ave	Intersection	36.60521, -119.58394
38	Manning Ave	Private Driveway	Driveway	36.60524, -119.58155
39	Manning Ave	Private Driveway	Driveway	36.60525, -119.58124
40	Manning Ave	Private Driveway	Driveway	36.60499, -119.57551
41	Manning Ave	S Bethel Ave	Intersection	36.60513, -119.57486
42	Manning Ave	Private Driveway	Driveway	36.60526, -119.5743
43	Manning Ave	Private Driveway	Driveway	36.60528, -119.57401
44	Manning Ave	Private Driveway	Driveway	36.60493, -119.57016
45	Manning Ave	McClarty Farms Entrance	Driveway	36.60526, -119.56584
46	Manning Ave	Private Driveway	Driveway	36.60493, -119.56485
47	Manning Ave	Private Driveway	Driveway	36.60488, -119.56265
48	Manning Ave	Private Driveway	Driveway	36.60517, -119.56196
49	Manning Ave	Private Driveway	Driveway	36.60489, -119.56142
50	Manning Ave	Private Driveway	Driveway	36.60514, -119.56059
51	Manning Ave	Private Driveway	Driveway	36.60489, -119.56128
52	Manning Ave	Private Driveway	Driveway	36.60488, -119.56081
53	Manning Ave	Private Driveway	Driveway	36.60488, -119.56024
54	Manning Ave	Private Driveway	Driveway	36.60516, -119.55904
55	Manning Ave	Private Driveway	Driveway	36.60486, -119.5591
56	Manning Ave	Private Driveway	Driveway	36.60513, -119.55783
57	Manning Ave	S Academy Ave	Intersection	36.60501, -119.55688
58	Manning Ave	Private Driveway	Driveway	36.60514, -119.55573
59	Manning Ave	Private Driveway	Driveway	36.60515, -119.5553
60	Manning Ave	Private Driveway	Driveway	36.60487, -119.55532
61	Manning Ave	Private Driveway	Driveway	36.60513, -119.55233
62	Manning Ave	Private Driveway	Driveway	36.60513, -119.55169
63	Manning Ave	Private Driveway	Driveway	36.6051, -119.55107
64	Manning Ave	Private Driveway	Driveway	36.6051, -119.55057
65	Manning Ave	Private Driveway	Driveway	36.6051, -119.54922
66	Manning Ave	Private Driveway	Driveway	36.60508, -119.54829
67	Manning Ave	S Mendocino Ave	Intersection	36.60493, -119.54785
68	Manning Ave	R-N Market Entrance	Driveway	36.60476, -119.54683
69	Manning Ave	Private Driveway	Driveway	36.60476, -119.54563
70	Manning Ave	Starbucks Driveway	Driveway	36.6051, -119.54472
71	Manning Ave	StorMax of Parlier Entrance	Driveway	36.60506, -119.54362

Point	Corridor	Cross Street	Type of Access	Coordinates
72	Manning Ave	S Whitner Ave	Intersection	36.60476, -119.5434
73	Manning Ave	Madsen Ave	Intersection	36.605, -119.53884
74	Manning Ave	Orit Ave	Intersection	36.60494, -119.53486
75	Manning Ave	Private Driveway	Driveway	36.60462, -119.5332
76	Manning Ave	Private Driveway	Driveway	36.60497, -119.53187
77	Manning Ave	Private Driveway	Driveway	36.60492, -119.53072
78	Manning Ave	S Newmark Ave	Intersection	36.60474, -119.52994
79	Manning Ave	Sunwest Fruit Entrance	Driveway	36.60486, -119.52918
80	Manning Ave	Sunwest Fruit Entrance	Driveway	36.60487, -119.52836
81	Manning Ave	K St	Intersection	36.60486, -119.52773
82	Manning Ave	Private Driveway	Driveway	36.60483, -119.52724
83	Manning Ave	Private Driveway	Driveway	36.60483, -119.5269
84	Manning Ave	J St	Intersection	36.60483, -119.5261
85	Manning Ave	Private Driveway	Driveway	36.6048, -119.52522
86	Manning Ave	Private Driveway	Driveway	36.6048, -119.52503
87	Manning Ave	Private Driveway	Driveway	36.60479, -119.52361
88	Manning Ave	Private Driveway	Driveway	36.60479, -119.52341
89	Manning Ave	Private Driveway	Driveway	36.60476, -119.52204
90	Manning Ave	S Zediker Ave	Intersection	36.60461, -119.521
91	Manning Ave	Private Driveway	Driveway	36.6045, -119.51706
92	Manning Ave	S Riverbend Ave	Intersection	36.60464, -119.51147
93	Manning Ave	Private Driveway	Driveway	36.60478, -119.50891
94	Manning Ave	Private Driveway	Driveway	36.60476, -119.50694
95	Manning Ave	S Smith Ave	Intersection	36.60456, -119.50246
96	Manning Ave	Private Driveway	Driveway	36.60439, -119.5003
97	Manning Ave	Private Driveway	Driveway	36.60469, -119.49924
98	Manning Ave	Private Driveway	Driveway	36.60464, -119.49418
99	Manning Ave	Private Driveway	Driveway	36.60466, -119.49355
100	Manning Ave	Private Driveway	Driveway	36.60464, -119.49205
101	Manning Ave	Private Driveway	Driveway	36.60465, -119.48776
102	Manning Ave	Private Driveway	Driveway	36.60461, -119.48675
103	Manning Ave	Private Driveway	Driveway	36.60463, -119.48588
104	Manning Ave	S Lac Jac Ave	Intersection	36.60445, -119.48445
105	Manning Ave	Private Driveway	Driveway	36.60458, -119.48239
106	Manning Ave	Private Driveway	Driveway	36.60431, -119.48227
107	Manning Ave	Private Driveway	Driveway	36.6043, -119.47997
108	Manning Ave	Private Driveway	Driveway	36.60457, -119.47828
109	Manning Ave	Private Driveway	Driveway	36.60458, -119.47766
110	Manning Ave	Private Driveway	Driveway	36.60455, -119.47582

Point	Corridor	Cross Street	Type of Access	Coordinates
111	Manning Ave	S Rio Vista Ave	Intersection	36.60423, -119.4755
112	Manning Ave	Ash Ave	Intersection	36.60422, -119.47308
113	Manning Ave	S Nurmi Ave	Intersection	36.60437, -119.4722
114	Manning Ave	Private Driveway	Driveway	36.60423, -119.47157
115	Manning Ave	Kings River Rd	Intersection	36.60444, -119.46901
116	Manning Ave	Private Driveway	Driveway	36.60337, -119.46441
117	Manning Ave	Private Driveway	Driveway	36.60294, -119.46336
118	Manning Ave	Manning Ave	Intersection	36.60207, -119.46136
119	Manning Ave	Private Driveway	Driveway	36.60228, -119.46102
120	Manning Ave	Private Driveway	Driveway	36.6027, -119.46069
121	Manning Ave	Private Driveway	Driveway	36.6031, -119.46039
122	Manning Ave	Private Driveway	Driveway	36.60412, -119.45968
123	Manning Ave	Private Driveway	Driveway	36.60403, -119.45895
124	Manning Ave	Private Driveway	Driveway	36.60408, -119.45841
125	Manning Ave	N Reed Ave	Intersection	36.60422, -119.45775
126	Manning Ave	Private Driveway	Driveway	36.60411, -119.45699
127	Manning Ave	Private Driveway	Driveway	36.60432, -119.45741
128	Manning Ave	Private Driveway	Driveway	36.60409, -119.45655
129	Manning Ave	Private Driveway	Driveway	36.60409, -119.4562
130	Manning Ave	Private Driveway	Driveway	36.60429, -119.45611
131	Manning Ave	Private Driveway	Driveway	36.60428, -119.45573
132	Manning Ave	Private Driveway	Driveway	36.60407, -119.4552
133	Manning Ave	Private Driveway	Driveway	36.6043, -119.45484
134	Manning Ave	Private Driveway	Driveway	36.60429, -119.45442
135	Manning Ave	Private Driveway	Driveway	36.60408, -119.45466
136	Manning Ave	Private Driveway	Driveway	36.60409, -119.45423
137	Manning Ave	Private Driveway	Driveway	36.6043, -119.45422
138	Manning Ave	Private Driveway	Driveway	36.6043, -119.45401
139	Manning Ave	Private Driveway	Driveway	36.60429, -119.45392
140	Manning Ave	Private Driveway	Driveway	36.6043, -119.45359
141	Manning Ave	San Joaquin Cir	Intersection	36.60432, -119.45347
142	Manning Ave	Private Driveway	Driveway	36.6043, -119.45318
143	Manning Ave	Private Driveway	Driveway	36.60429, -119.45282
144	Manning Ave	Private Driveway	Driveway	36.60408, -119.45278
145	Manning Ave	Private Driveway	Driveway	36.60429, -119.45259
146	Manning Ave	Private Driveway	Driveway	36.60429, -119.45235
147	Manning Ave	Private Driveway	Driveway	36.60429, -119.45225
148	Manning Ave	Private Driveway	Driveway	36.60429, -119.45204
149	Manning Ave	Private Driveway	Driveway	36.60429, -119.4518

Point	Corridor	Cross Street	Type of Access	Coordinates
150	Manning Ave	Private Driveway	Driveway	36.60429, -119.45127
151	Manning Ave	Private Driveway	Driveway	36.6043, -119.45108
152	Manning Ave	Private Driveway	Driveway	36.60409, -119.45114
153	Manning Ave	Private Driveway	Driveway	36.6041, -119.45096
154	Manning Ave	Private Driveway	Driveway	36.60428, -119.45076
155	Manning Ave	Private Driveway	Driveway	36.60428, -119.45055
156	Manning Ave	N Acacia Ave	Intersection	36.60407, -119.4504
157	Manning Ave	Private Driveway	Driveway	36.60428, -119.45031
158	Manning Ave	Private Driveway	Driveway	36.60428, -119.45017
159	Manning Ave	Private Driveway	Driveway	36.60409, -119.45004
160	Manning Ave	Private Driveway	Driveway	36.60428, -119.44986
161	Manning Ave	Private Driveway	Driveway	36.60409, -119.4498
162	Manning Ave	Private Driveway	Driveway	36.60429, -119.44963
163	Manning Ave	Private Driveway	Driveway	36.60409, -119.44945
164	Manning Ave	Private Driveway	Driveway	36.6043, -119.44938
165	Manning Ave	Private Driveway	Driveway	36.60409, -119.44925
166	Manning Ave	Private Driveway	Driveway	36.60408, -119.44906
167	Manning Ave	N Frankwood Ave	Intersection	36.60417, -119.44871
168	Manning Ave	Private Driveway	Driveway	36.60427, -119.44823
169	Manning Ave	Private Driveway	Driveway	36.60429, -119.44806
170	Manning Ave	Private Driveway	Driveway	36.60408, -119.44845
171	Manning Ave	Private Driveway	Driveway	36.60407, -119.44794
172	Manning Ave	Private Driveway	Driveway	36.60429, -119.44773
173	Manning Ave	Private Driveway	Driveway	36.60408, -119.44768
174	Manning Ave	Private Driveway	Driveway	36.60408, -119.44734
175	Manning Ave	Private Driveway	Driveway	36.60429, -119.44703
176	Manning Ave	Private Driveway	Driveway	36.60408, -119.44713
177	Manning Ave	Private Driveway	Driveway	36.6043, -119.44681
178	Manning Ave	Private Driveway	Driveway	36.60407, -119.44691
179	Manning Ave	Del Altair Ave	Intersection	36.60417, -119.44649
180	Manning Ave	Private Driveway	Driveway	36.60407, -119.44614
181	Manning Ave	Private Driveway	Driveway	36.60408, -119.44595
182	Manning Ave	Private Driveway	Driveway	36.60408, -119.44559
183	Manning Ave	Private Driveway	Driveway	36.60407, -119.4454
184	Manning Ave	Private Driveway	Driveway	36.60408, -119.44521
185	Manning Ave	Private Driveway	Driveway	36.60408, -119.4451
186	Manning Ave	Private Driveway	Driveway	36.60407, -119.44478
187	Manning Ave	N East Ave	Intersection	36.60408, -119.44426
188	Manning Ave	Private Driveway	Driveway	36.60406, -119.44346

Point	Corridor	Cross Street	Type of Access	Coordinates
189	Manning Ave	Private Driveway	Driveway	36.60406, -119.44313
190	Manning Ave	Private Driveway	Driveway	36.60406, -119.44282
191	Manning Ave	N Sunset Ave	Intersection	36.60415, -119.44202
192	Manning Ave	Private Driveway	Driveway	36.60406, -119.4414
193	Manning Ave	Private Driveway	Driveway	36.60425, -119.44093
194	Manning Ave	Private Driveway	Driveway	36.60406, -119.4411
195	Manning Ave	Private Driveway	Driveway	36.60406, -119.44083
196	Manning Ave	Private Driveway	Driveway	36.60429, -119.44046
197	Manning Ave	Private Driveway	Driveway	36.60405, -119.44039
198	Manning Ave	N Columbia Ave	Intersection	36.60415, -119.43977
199	Manning Ave	Private Driveway	Driveway	36.60426, -119.43939
200	Manning Ave	Private Driveway	Driveway	36.60426, -119.43907
201	Manning Ave	Private Driveway	Driveway	36.60401, -119.43822
202	Manning Ave	N Fisher Ave	Intersection	36.60427, -119.43827
203	Manning Ave	Private Driveway	Driveway	36.60425, -119.43756
204	Manning Ave	Private Driveway	Driveway	36.60399, -119.43754
205	Manning Ave	N Pecan Ave	Intersection	36.60426, -119.43699
206	Manning Ave	Private Driveway	Driveway	36.60401, -119.43636
207	Manning Ave	Private Driveway	Driveway	36.60424, -119.4364
208	Manning Ave	N Hemlock Ave	Intersection	36.60425, -119.43592
209	Manning Ave	Private Driveway	Driveway	36.60424, -119.43565
210	Manning Ave	Private Driveway	Driveway	36.60424, -119.43534
211	Manning Ave	N Haney Ave	Intersection	36.60399, -119.43533
212	Manning Ave	Private Driveway	Driveway	36.60423, -119.43497
213	Manning Ave	Private Driveway	Driveway	36.60424, -119.4348
214	Manning Ave	Private Driveway	Driveway	36.604, -119.4349
215	Manning Ave	Private Driveway	Driveway	36.60399, -119.43435
216	Manning Ave	Private Driveway	Driveway	36.60423, -119.4345
217	Manning Ave	Private Driveway	Driveway	36.60423, -119.43423
218	Manning Ave	N Kady Ave	Intersection	36.604, -119.4342
219	Manning Ave	N Kady Ave	Intersection	36.60426, -119.43368
220	Manning Ave	Private Driveway	Driveway	36.60399, -119.43346
221	Manning Ave	Private Driveway	Driveway	36.60426, -119.43326
222	Manning Ave	Private Driveway	Driveway	36.60427, -119.43311
223	Manning Ave	Private Driveway	Driveway	36.60427, -119.43246
224	Manning Ave	Private Driveway	Driveway	36.60399, -119.43245
225	Manning Ave	Private Driveway	Driveway	36.60398, -119.43199
226	Manning Ave	Private Driveway	Driveway	36.60426, -119.43157
227	Manning Ave	S Buttonwillow Ave	Intersection	36.60413, -119.43086

Point	Corridor	Cross Street	Type of Access	Coordinates
228	Manning Ave	Private Driveway	Driveway	36.60397, -119.43005
229	Manning Ave	Private Driveway	Driveway	36.60398, -119.42938
230	Manning Ave	Private Driveway	Driveway	36.60398, -119.42871
231	Manning Ave	Private Driveway	Driveway	36.60417, -119.42519
232	Manning Ave	Zumwalt Ave	Intersection	36.60404, -119.42192
233	Manning Ave	Private Driveway	Driveway	36.60401, -119.42138
234	Manning Ave	Private Driveway	Driveway	36.60416, -119.42127
235	Manning Ave	Private Driveway	Driveway	36.60417, -119.4182
236	Manning Ave	Private Driveway	Driveway	36.60414, -119.41472
237	Manning Ave	Private Driveway	Driveway	36.60396, -119.41431
238	Manning Ave	S Englehart Ave	Intersection	36.60406, -119.41298
239	Manning Ave	Private Driveway	Driveway	36.60397, -119.41216
240	Manning Ave	Private Driveway	Driveway	36.60394, -119.40751
241	Manning Ave	Private Driveway	Driveway	36.60394, -119.40665
242	Manning Ave	Private Driveway	Driveway	36.60408, -119.40612
243	Manning Ave	Private Driveway	Driveway	36.60407, -119.40518
244	Manning Ave	Private Driveway	Driveway	36.60407, -119.40468
245	Manning Ave	S Pedersen Ave	Intersection	36.60395, -119.40392
246	Manning Ave	Private Driveway	Driveway	36.6039, -119.40183
247	Manning Ave	Private Driveway	Driveway	36.60413, -119.39566
248	Manning Ave	S Alta Ave	Intersection	36.60396, -119.39492
249	Manning Ave	Private Driveway	Driveway	36.60402, -119.3943
250	Manning Ave	Private Driveway	Driveway	36.60401, -119.39349
251	Manning Ave	Private Driveway	Driveway	36.60401, -119.39286
252	Manning Ave	Private Driveway	Driveway	36.60393, -119.38751
253	Manning Ave	Private Driveway	Driveway	36.60394, -119.38723
254	Manning Ave	Private Driveway	Driveway	36.60387, -119.38507
255	Manning Ave	Private Driveway	Driveway	36.6038, -119.379
256	Manning Ave	Private Driveway	Driveway	36.60363, -119.37808
257	Manning Ave	Crawford Ave	Intersection	36.60368, -119.3767
258	Manning Ave	Private Driveway	Driveway	36.60377, -119.37574
259	Manning Ave	Private Driveway	Driveway	36.60376, -119.37526
260	Manning Ave	Private Driveway	Driveway	36.60361, -119.37533
261	Manning Ave	Private Driveway	Driveway	36.60374, -119.37462
262	Manning Ave	Private Driveway	Driveway	36.60373, -119.37406
263	Manning Ave	Private Driveway	Driveway	36.60372, -119.37329
264	Manning Ave	Private Driveway	Driveway	36.60371, -119.37201
265	Manning Ave	Private Driveway	Driveway	36.60367, -119.36924
266	Manning Ave	Private Driveway	Driveway	36.60364, -119.36794

Point	Corridor	Cross Street	Type of Access	Coordinates
267	Manning Ave	Porter Ave	Intersection	36.60351, -119.36779
268	Manning Ave	Porter Ave	Intersection	36.60364, -119.36731
269	Manning Ave	Sheridan Ave	Intersection	36.60355, -119.36309
270	Manning Ave	Private Driveway	Driveway	36.60356, -119.36106
271	Manning Ave	Private Driveway	Driveway	36.60346, -119.35578
272	Manning Ave	Hansen Ave	Intersection	36.60343, -119.35429
273	Manning Ave	Private Driveway	Driveway	36.60311, -119.34556
274	Manning Ave	Hill Ave	Intersection	36.6031, -119.34067
275	Manning Ave	Monson Ave	Intersection	36.60302, -119.33173
276	Manning Ave	Private Driveway	Driveway	36.60304, -119.328
277	Manning Ave	Private Driveway	Driveway	36.60301, -119.32556
278	Manning Ave	S Anchor Ave	Intersection	36.60291, -119.32275
279	Manning Ave	Private Driveway	Driveway	36.60283, -119.31972
280	Manning Ave	Jacobs Ave	Intersection	36.60281, -119.31381
281	Manning Ave	Private Driveway	Driveway	36.60283, -119.31125
282	Manning Ave	Private Driveway	Driveway	36.60281, -119.30756
283	Manning Ave	S Hills Valley Rd	Intersection	36.6027, -119.30484
284	Ave 448	Rd 124	Intersection	36.60261, -119.29598
285	Ave 448	Rd 128	Intersection	36.60245, -119.28697

Table D-2: Academy Avenue Access Points

Point	Corridor	Cross Street	Type of Access	Coordinates
1	Academy Ave	Tollhouse Rd	Intersection	36.87366, -119.55749
2	Academy Ave	E Deep Ave	Intersection	36.87021, -119.55738
3	Academy Ave	E Shepherd Ave	Intersection	36.86653, -119.55731
4	Academy Ave	Keeler Ln	Intersection	36.85732, -119.55725
5	Academy Ave	Private Driveway	Driveway	36.85553, -119.55726
6	Academy Ave	Private Driveway	Driveway	36.85368, -119.55724
7	Academy Ave	Private Driveway	Driveway	36.85245, -119.55725
8	Academy Ave	Private Driveway	Driveway	36.85141, -119.55726
9	Academy Ave	Private Driveway	Driveway	36.85068, -119.55732
10	Academy Ave	Private Driveway	Driveway	36.84866, -119.55728
11	Academy Ave	Private Driveway	Driveway	36.84691, -119.55723
12	Academy Ave	Private Driveway	Driveway	36.84134, -119.55724
13	Academy Ave	Herndon Ave	Intersection	36.83714, -119.55576
14	Academy Ave	Private Driveway	Driveway	36.83613, -119.55592
15	Academy Ave	E Paul Ave	Intersection	36.8318, -119.55594
16	Academy Ave	Private Driveway	Driveway	36.83003, -119.55575
17	Academy Ave	E Sierra Ave	Intersection	36.82832, -119.55601

Point	Corridor	Cross Street	Type of Access	Coordinates
18	Academy Ave	Private Driveway	Driveway	36.82693, -119.55569
19	Academy Ave	Private Driveway	Driveway	36.82574, -119.55578
20	Academy Ave	Private Driveway	Driveway	36.82476, -119.55577
21	Academy Ave	E Bullard Ave	Intersection	36.8227, -119.5558
22	Academy Ave	Private Driveway	Driveway	36.81727, -119.55586
23	Academy Ave	Private Driveway	Driveway	36.80983, -119.55574
24	Academy Ave	Private Driveway	Driveway	36.80889, -119.5557
25	Academy Ave	Private Driveway	Driveway	36.8085, -119.55572
26	Academy Ave	E Shaw Ave	Intersection	36.80813, -119.55591
27	Academy Ave	Private Driveway	Driveway	36.80759, -119.5557
28	Academy Ave	Private Driveway	Driveway	36.80576, -119.55572
29	Academy Ave	E Santa Ana Ave	Intersection	36.80467, -119.55613
30	Academy Ave	E Rialto Ave	Intersection	36.80246, -119.55572
31	Academy Ave	Private Driveway	Driveway	36.80197, -119.55613
32	Academy Ave	E Gettysburg Ave	Intersection	36.80099, -119.55578
33	Academy Ave	E Gettysburg Ave	Intersection	36.80086, -119.5561
34	Academy Ave	Private Driveway	Driveway	36.80001, -119.55574
35	Academy Ave	Private Driveway	Driveway	36.79988, -119.5561
36	Academy Ave	Private Driveway	Driveway	36.79943, -119.5561
37	Academy Ave	Private Driveway	Driveway	36.79902, -119.5561
38	Academy Ave	Private Driveway	Driveway	36.79857, -119.55608
39	Academy Ave	E Ashcroft Ave	Intersection	36.79811, -119.5559
40	Academy Ave	Private Driveway	Driveway	36.79683, -119.55607
41	Academy Ave	Private Driveway	Driveway	36.79611, -119.55606
42	Academy Ave	Private Driveway	Driveway	36.79594, -119.55605
43	Academy Ave	E Richert Ave	Intersection	36.79613, -119.55567
44	Academy Ave	Private Driveway	Driveway	36.79547, -119.55603
45	Academy Ave	Private Driveway	Driveway	36.79519, -119.55602
46	Academy Ave	Private Driveway	Driveway	36.79503, -119.55603
47	Academy Ave	Private Driveway	Driveway	36.79466, -119.55602
48	Academy Ave	Private Driveway	Driveway	36.79421, -119.55604
49	Academy Ave	E Ashlan Ave	Intersection	36.79365, -119.55586
50	Academy Ave	Private Driveway	Driveway	36.79203, -119.55566
51	Academy Ave	Private Driveway	Driveway	36.79142, -119.55568
52	Academy Ave	Private Driveway	Driveway	36.79135, -119.55568
53	Academy Ave	Private Driveway	Driveway	36.79054, -119.55569
54	Academy Ave	Private Driveway	Driveway	36.79045, -119.55568
55	Academy Ave	Private Driveway	Driveway	36.79011, -119.55568
56	Academy Ave	E Saginaw Way	Intersection	36.78855, -119.55568
57	Academy Ave	Private Driveway	Driveway	36.78735, -119.55572
58	Academy Ave	Private Driveway	Driveway	36.78644, -119.5557
59	Academy Ave	Private Driveway	Driveway	36.78598, -119.55607

Point	Corridor	Cross Street	Type of Access	Coordinates
60	Academy Ave	Private Driveway	Driveway	36.78507, -119.55606
61	Academy Ave	Private Driveway	Driveway	36.78455, -119.55606
62	Academy Ave	Private Driveway	Driveway	36.78397, -119.55605
63	Academy Ave	Private Driveway	Driveway	36.78323, -119.55572
64	Academy Ave	Private Driveway	Driveway	36.7828, -119.55572
65	Academy Ave	Private Driveway	Driveway	36.78252, -119.55603
66	Academy Ave	Private Driveway	Driveway	36.78232, -119.55606
67	Academy Ave	Private Driveway	Driveway	36.78194, -119.55606
68	Academy Ave	Private Driveway	Driveway	36.78182, -119.55607
69	Academy Ave	Private Driveway	Driveway	36.78094, -119.55606
70	Academy Ave	Private Driveway	Driveway	36.77985, -119.55605
71	Academy Ave	Private Driveway	Driveway	36.77916, -119.55589
72	Academy Ave	Private Driveway	Driveway	36.77559, -119.55609
73	Academy Ave	Private Driveway	Driveway	36.77533, -119.55611
74	Academy Ave	Private Driveway	Driveway	36.77441, -119.55611
75	Academy Ave	Private Driveway	Driveway	36.77375, -119.55576
76	Academy Ave	Private Driveway	Driveway	36.77367, -119.55575
77	Academy Ave	Private Driveway	Driveway	36.77186, -119.55568
78	Academy Ave	Private Driveway	Driveway	36.77086, -119.5561
79	Academy Ave	Private Driveway	Driveway	36.77009, -119.55575
80	Academy Ave	Private Driveway	Driveway	36.77009, -119.55575
81	Academy Ave	Private Driveway	Driveway	36.76896, -119.55623
82	Academy Ave	Private Driveway	Driveway	36.76859, -119.55584
83	Academy Ave	Private Driveway	Driveway	36.7669, -119.55628
84	Academy Ave	E McKinley Ave	Intersection	36.76463, -119.55608
85	Academy Ave	Private Driveway	Driveway	36.76434, -119.55591
86	Academy Ave	Private Driveway	Driveway	36.76431, -119.55623
87	Academy Ave	Private Driveway	Driveway	36.76395, -119.55591
88	Academy Ave	Private Driveway	Driveway	36.76391, -119.55626
89	Academy Ave	Private Driveway	Driveway	36.7629, -119.55594
90	Academy Ave	Private Driveway	Driveway	36.76224, -119.5559
91	Academy Ave	Private Driveway	Driveway	36.76198, -119.55623
92	Academy Ave	Private Driveway	Driveway	36.76184, -119.55588
93	Academy Ave	Private Driveway	Driveway	36.76156, -119.55592
94	Academy Ave	Private Driveway	Driveway	36.7615, -119.55591
95	Academy Ave	Private Driveway	Driveway	36.76131, -119.55591
96	Academy Ave	Private Driveway	Driveway	36.76122, -119.55591
97	Academy Ave	Private Driveway	Driveway	36.76101, -119.5559
98	Academy Ave	Private Driveway	Driveway	36.76058, -119.55626
99	Academy Ave	Private Driveway	Driveway	36.76008, -119.55624
100	Academy Ave	Private Driveway	Driveway	36.75998, -119.55588
101	Academy Ave	Private Driveway	Driveway	36.75878, -119.55625

Point	Corridor	Cross Street	Type of Access	Coordinates
102	Academy Ave	Private Driveway	Driveway	36.75788, -119.55593
103	Academy Ave	Private Driveway	Driveway	36.75728, -119.5559
104	Academy Ave	Private Driveway	Driveway	36.75635, -119.55624
105	Academy Ave	Private Driveway	Driveway	36.75624, -119.55625
106	Academy Ave	Private Driveway	Driveway	36.75509, -119.55633
107	Academy Ave	Private Driveway	Driveway	36.7551, -119.55592
108	Academy Ave	Private Driveway	Driveway	36.75443, -119.55624
109	Academy Ave	Private Driveway	Driveway	36.75237, -119.55587
110	Academy Ave	Private Driveway	Driveway	36.75116, -119.55626
111	Academy Ave	Private Driveway	Driveway	36.75093, -119.55626
112	Academy Ave	Belmont Ave	Intersection	36.75009, -119.55607
113	Academy Ave	Private Driveway	Driveway	36.74956, -119.55593
114	Academy Ave	Private Driveway	Driveway	36.74824, -119.55634
115	Academy Ave	Private Driveway	Driveway	36.74638, -119.55597
116	Academy Ave	Private Driveway	Driveway	36.74619, -119.55596
117	Academy Ave	Private Driveway	Driveway	36.74482, -119.55601
118	Academy Ave	Private Driveway	Driveway	36.74473, -119.556
119	Academy Ave	Private Driveway	Driveway	36.74459, -119.55601
120	Academy Ave	E Tulare Ave	Intersection	36.74301, -119.55623
121	Academy Ave	Private Driveway	Driveway	36.73935, -119.55611
122	Academy Ave	E Kings Cayon Rd	Intersection	36.73601, -119.5563
123	Academy Ave	Private Driveway	Driveway	36.73532, -119.55613
124	Academy Ave	Private Driveway	Driveway	36.73531, -119.55651
125	Academy Ave	Private Driveway	Driveway	36.73458, -119.55649
126	Academy Ave	Private Driveway	Driveway	36.73431, -119.55652
127	Academy Ave	Private Driveway	Driveway	36.73283, -119.55618
128	Academy Ave	Private Driveway	Driveway	36.73233, -119.55618
129	Academy Ave	Private Driveway	Driveway	36.73056, -119.5562
130	Academy Ave	Private Driveway	Driveway	36.73035, -119.55619
131	Academy Ave	Private Driveway	Driveway	36.73004, -119.5562
132	Academy Ave	Private Driveway	Driveway	36.72856, -119.55662
133	Academy Ave	E Butler Ave	Intersection	36.72851, -119.55622
134	Academy Ave	Private Driveway	Driveway	36.727, -119.55625
135	Academy Ave	Private Driveway	Driveway	36.7261, -119.55626
136	Academy Ave	Private Driveway	Driveway	36.7257, -119.55626
137	Academy Ave	Private Driveway	Driveway	36.72558, -119.55625
138	Academy Ave	Private Driveway	Driveway	36.72469, -119.55628
139	Academy Ave	Private Driveway	Driveway	36.72484, -119.55663
140	Academy Ave	Private Driveway	Driveway	36.72469, -119.55626
141	Academy Ave	E Switch Ave	Intersection	36.72212, -119.5563
142	Academy Ave	E California Ave	Intersection	36.72125, -119.55631
143	Academy Ave	Private Driveway	Driveway	36.71998, -119.55666

Point	Corridor	Cross Street	Type of Access	Coordinates
144	Academy Ave	Private Driveway	Driveway	36.71882, -119.55671
145	Academy Ave	Geary Ave	Intersection	36.7185, -119.55638
146	Academy Ave	Private Driveway	Driveway	36.71817, -119.55637
147	Academy Ave	Private Driveway	Driveway	36.71809, -119.55635
148	Academy Ave	Private Driveway	Driveway	36.71796, -119.55637
149	Academy Ave	Florence Ave	Intersection	36.71762, -119.55637
150	Academy Ave	Private Driveway	Driveway	36.71728, -119.55638
151	Academy Ave	Private Driveway	Driveway	36.71701, -119.55669
152	Academy Ave	Private Driveway	Driveway	36.71673, -119.5567
153	Academy Ave	Private Driveway	Driveway	36.71702, -119.55638
154	Academy Ave	Private Driveway	Driveway	36.71681, -119.55639
155	Academy Ave	Private Driveway	Driveway	36.71647, -119.5567
156	Academy Ave	Private Driveway	Driveway	36.71634, -119.55671
157	Academy Ave	Private Driveway	Driveway	36.71615, -119.55638
158	Academy Ave	Private Driveway	Driveway	36.71595, -119.55673
159	Academy Ave	Private Driveway	Driveway	36.71592, -119.55638
160	Academy Ave	Private Driveway	Driveway	36.71567, -119.55639
161	Academy Ave	Private Driveway	Driveway	36.71529, -119.55639
162	Academy Ave	Private Driveway	Driveway	36.71516, -119.55671
163	Academy Ave	Private Driveway	Driveway	36.71501, -119.55639
164	Academy Ave	Private Driveway	Driveway	36.71478, -119.55639
165	Academy Ave	Private Driveway	Driveway	36.71468, -119.5567
166	Academy Ave	Private Driveway	Driveway	36.71457, -119.55639
167	Academy Ave	Private Driveway	Driveway	36.71427, -119.55639
168	Academy Ave	Church Ave	Intersection	36.714, -119.55637
169	Academy Ave	Church Ave	Intersection	36.71307, -119.55739
170	Academy Ave	Private Driveway	Driveway	36.71274, -119.55709
171	Academy Ave	Private Driveway	Driveway	36.71244, -119.55703
172	Academy Ave	Private Driveway	Driveway	36.71225, -119.55734
173	Academy Ave	Private Driveway	Driveway	36.71189, -119.55723
174	Academy Ave	Private Driveway	Driveway	36.71167, -119.55719
175	Academy Ave	3rd St	Intersection	36.71083, -119.55703
176	Academy Ave	Private Driveway	Driveway	36.71086, -119.55673
177	Academy Ave	Private Driveway	Driveway	36.7103, -119.55661
178	Academy Ave	Private Driveway	Driveway	36.71007, -119.55657
179	Academy Ave	Private Driveway	Driveway	36.70976, -119.5565
180	Academy Ave	Private Driveway	Driveway	36.70956, -119.55646
181	Academy Ave	Private Driveway	Driveway	36.70934, -119.55641
182	Academy Ave	5th St	Intersection	36.70912, -119.55653
183	Academy Ave	Private Driveway	Driveway	36.70837, -119.55616
184	Academy Ave	Private Driveway	Driveway	36.70833, -119.55651
185	Academy Ave	Jensen Ave	Intersection	36.70785, -119.55621

Point	Corridor	Cross Street	Type of Access	Coordinates
186	Academy Ave	Private Driveway	Driveway	36.70742, -119.55597
187	Academy Ave	Private Driveway	Driveway	36.70722, -119.5559
188	Academy Ave	Private Driveway	Driveway	36.70691, -119.55619
189	Academy Ave	Private Driveway	Driveway	36.70691, -119.55584
190	Academy Ave	7th St	Intersection	36.70653, -119.55591
191	Academy Ave	Private Driveway	Driveway	36.7058, -119.55562
192	Academy Ave	Private Driveway	Driveway	36.70579, -119.55595
193	Academy Ave	Private Driveway	Driveway	36.70544, -119.55585
194	Academy Ave	8th St	Intersection	36.70523, -119.55565
195	Academy Ave	Private Driveway	Driveway	36.70481, -119.55542
196	Academy Ave	Private Driveway	Driveway	36.70484, -119.55578
197	Academy Ave	Private Driveway	Driveway	36.70465, -119.5557
198	Academy Ave	Private Driveway	Driveway	36.70447, -119.55566
199	Academy Ave	Private Driveway	Driveway	36.70438, -119.55533
200	Academy Ave	9th St	Intersection	36.70393, -119.55538
201	Academy Ave	Private Driveway	Driveway	36.70349, -119.55548
202	Academy Ave	Private Driveway	Driveway	36.70348, -119.55516
203	Academy Ave	Private Driveway	Driveway	36.70316, -119.55541
204	Academy Ave	10th St	Intersection	36.70261, -119.55515
205	Academy Ave	Private Driveway	Driveway	36.70248, -119.55497
206	Academy Ave	Private Driveway	Driveway	36.7024, -119.55528
207	Academy Ave	Private Driveway	Driveway	36.70217, -119.55525
208	Academy Ave	Private Driveway	Driveway	36.7015, -119.55512
209	Academy Ave	11th St	Intersection	36.70131, -119.5549
210	Academy Ave	Private Driveway	Driveway	36.70094, -119.55499
211	Academy Ave	Private Driveway	Driveway	36.7009, -119.55466
212	Academy Ave	Private Driveway	Driveway	36.70061, -119.55489
213	Academy Ave	Private Driveway	Driveway	36.70036, -119.55459
214	Academy Ave	12th St	Intersection	36.7, -119.55476
215	Academy Ave	Private Driveway	Driveway	36.69983, -119.55464
216	Academy Ave	Annadale Ave	Intersection	36.69948, -119.55421
217	Academy Ave	Private Driveway	Driveway	36.69923, -119.55404
218	Academy Ave	Private Driveway	Driveway	36.69886, -119.55405
219	Academy Ave	Private Driveway	Driveway	36.69858, -119.55405
220	Academy Ave	Private Driveway	Driveway	36.69842, -119.55427
221	Academy Ave	Private Driveway	Driveway	36.69843, -119.55404
222	Academy Ave	Private Driveway	Driveway	36.69832, -119.55404
223	Academy Ave	Private Driveway	Driveway	36.69819, -119.55428
224	Academy Ave	Private Driveway	Driveway	36.698, -119.55404
225	Academy Ave	Almond Ave	Intersection	36.69768, -119.55429
226	Academy Ave	Private Driveway	Driveway	36.6975, -119.55403
227	Academy Ave	Private Driveway	Driveway	36.69735, -119.55403

Point	Corridor	Cross Street	Type of Access	Coordinates
228	Academy Ave	Private Driveway	Driveway	36.6973, -119.55428
229	Academy Ave	Private Driveway	Driveway	36.69716, -119.55426
230	Academy Ave	Private Driveway	Driveway	36.69693, -119.55426
231	Academy Ave	Private Driveway	Driveway	36.69674, -119.55427
232	Academy Ave	Private Driveway	Driveway	36.69649, -119.55401
233	Academy Ave	Private Driveway	Driveway	36.69634, -119.55426
234	Academy Ave	Edgar Ave	Intersection	36.69586, -119.55416
235	Academy Ave	Private Driveway	Driveway	36.69525, -119.55428
236	Academy Ave	Cherry Ave	Intersection	36.69405, -119.55416
237	Academy Ave	Private Driveway	Driveway	36.69378, -119.55427
238	Academy Ave	Private Driveway	Driveway	36.69346, -119.55426
239	Academy Ave	Private Driveway	Driveway	36.69322, -119.55428
240	Academy Ave	Private Driveway	Driveway	36.69307, -119.55425
241	Academy Ave	Private Driveway	Driveway	36.69299, -119.55402
242	Academy Ave	Private Driveway	Driveway	36.69284, -119.55426
243	Academy Ave	Private Driveway	Driveway	36.6927, -119.55402
244	Academy Ave	North Ave	Intersection	36.69222, -119.55413
245	Academy Ave	Private Driveway	Driveway	36.6912, -119.55451
246	Academy Ave	Private Driveway	Driveway	36.69031, -119.55482
247	Academy Ave	Private Driveway	Driveway	36.68976, -119.55476
248	Academy Ave	Private Driveway	Driveway	36.6861, -119.55593
249	Academy Ave	Sanger Ave	Intersection	36.68613, -119.55627
250	Academy Ave	Private Driveway	Driveway	36.6856, -119.55612
251	Academy Ave	Muscat Ave	Intersection	36.68513, -119.55621
252	Academy Ave	Private Driveway	Driveway	36.68462, -119.55665
253	Academy Ave	Private Driveway	Driveway	36.68455, -119.55634
254	Academy Ave	Private Driveway	Driveway	36.68395, -119.55667
255	Academy Ave	Private Driveway	Driveway	36.68364, -119.55633
256	Academy Ave	Private Driveway	Driveway	36.6831, -119.55667
257	Academy Ave	Private Driveway	Driveway	36.68285, -119.55667
258	Academy Ave	Private Driveway	Driveway	36.68219, -119.55633
259	Academy Ave	Commerce Ave	Intersection	36.68145, -119.55641
260	Academy Ave	Private Driveway	Driveway	36.68021, -119.55674
261	Academy Ave	E Central Ave	Intersection	36.67774, -119.55657
262	Academy Ave	Private Driveway	Driveway	36.67682, -119.55636
263	Academy Ave	Private Driveway	Driveway	36.67616, -119.5564
264	Academy Ave	Private Driveway	Driveway	36.67409, -119.55642
265	Academy Ave	Private Driveway	Driveway	36.67353, -119.55637
266	Academy Ave	Private Driveway	Driveway	36.67228, -119.55632
267	Academy Ave	Private Driveway	Driveway	36.67046, -119.55631
268	Academy Ave	Private Driveway	Driveway	36.66979, -119.5567
269	Academy Ave	Private Driveway	Driveway	36.66816, -119.55623

Point	Corridor	Cross Street	Type of Access	Coordinates
270	Academy Ave	Private Driveway	Driveway	36.66505, -119.55662
271	Academy Ave	E American Ave	Intersection	36.66319, -119.55642
272	Academy Ave	Private Driveway	Driveway	36.65903, -119.55669
273	Academy Ave	Private Driveway	Driveway	36.65684, -119.55674
274	Academy Ave	E Jefferson Ave	Intersection	36.65594, -119.55654
275	Academy Ave	Private Driveway	Driveway	36.65465, -119.55633
276	Academy Ave	Private Driveway	Driveway	36.65404, -119.55673
277	Academy Ave	Private Driveway	Driveway	36.65373, -119.55673
278	Academy Ave	Private Driveway	Driveway	36.65395, -119.55639
279	Academy Ave	Private Driveway	Driveway	36.65363, -119.55674
280	Academy Ave	Private Driveway	Driveway	36.65329, -119.55675
281	Academy Ave	Private Driveway	Driveway	36.65304, -119.55676
282	Academy Ave	Private Driveway	Driveway	36.65259, -119.55676
283	Academy Ave	Private Driveway	Driveway	36.65232, -119.55678
284	Academy Ave	Private Driveway	Driveway	36.65079, -119.55637
285	Academy Ave	Private Driveway	Driveway	36.64935, -119.55632
286	Academy Ave	E Lincoln Ave	Intersection	36.64866, -119.5565
287	Academy Ave	Private Driveway	Driveway	36.64779, -119.55674
288	Academy Ave	Private Driveway	Driveway	36.64345, -119.5567
289	Academy Ave	Private Driveway	Driveway	36.64321, -119.5567
290	Academy Ave	Private Driveway	Driveway	36.64173, -119.55666
291	Academy Ave	Private Driveway	Driveway	36.64152, -119.55666
292	Academy Ave	Private Driveway	Driveway	36.64076, -119.55632
293	Academy Ave	Private Driveway	Driveway	36.64022, -119.55668
294	Academy Ave	Private Driveway	Driveway	36.63984, -119.55672
295	Academy Ave	Private Driveway	Driveway	36.63835, -119.55646
296	Academy Ave	Private Driveway	Driveway	36.63756, -119.55678
297	Academy Ave	Private Driveway	Driveway	36.63482, -119.55651
298	Academy Ave	E Adams Ave	Intersection	36.63413, -119.55667
299	Academy Ave	Private Driveway	Driveway	36.62631, -119.5565
300	Academy Ave	Private Driveway	Driveway	36.6265, -119.55687
301	Academy Ave	Private Driveway	Driveway	36.6261, -119.55685
302	Academy Ave	Private Driveway	Driveway	36.62537, -119.55689
303	Academy Ave	Private Driveway	Driveway	36.62337, -119.55692
304	Academy Ave	Private Driveway	Driveway	36.62322, -119.55656
305	Academy Ave	Private Driveway	Driveway	36.62304, -119.55693
306	Academy Ave	Private Driveway	Driveway	36.62299, -119.55658
307	Academy Ave	Private Driveway	Driveway	36.6206, -119.557
308	Academy Ave	Private Driveway	Driveway	36.62008, -119.55701
309	Academy Ave	E South Ave	Intersection	36.6196, -119.55679
310	Academy Ave	Private Driveway	Driveway	36.61808, -119.55696
311	Academy Ave	Private Driveway	Driveway	36.61555, -119.55693

Point	Corridor	Cross Street	Type of Access	Coordinates
312	Academy Ave	Sierra Ave	Intersection	36.61526, -119.55664
313	Academy Ave	E Parlier Ave	Intersection	36.61233, -119.55682
314	Academy Ave	Private Driveway	Driveway	36.61196, -119.55663
315	Academy Ave	E Young Ave	Intersection	36.60958, -119.55686
316	Academy Ave	Private Driveway	Driveway	36.60763, -119.5567
317	Academy Ave	Private Driveway	Driveway	36.60563, -119.55673
318	Academy Ave	Manning Ave	Intersection	36.60501, -119.55687
319	Academy Ave	S Academy Ave	Intersection	36.59823, -119.557
320	Academy Ave	Private Driveway	Driveway	36.59775, -119.55703
321	Academy Ave	Private Driveway	Driveway	36.59688, -119.55689
322	Academy Ave	Private Driveway	Driveway	36.59642, -119.55691
323	Academy Ave	Private Driveway	Driveway	36.59523, -119.55695
324	Academy Ave	E Dinuba Ave	Intersection	36.59054, -119.55705
325	Academy Ave	Private Driveway	Driveway	36.58983, -119.55694
326	Academy Ave	Private Driveway	Driveway	36.58808, -119.55699
327	Academy Ave	Private Driveway	Driveway	36.58745, -119.55718
328	Academy Ave	Private Driveway	Driveway	36.58649, -119.55691
329	Academy Ave	Private Driveway	Driveway	36.58497, -119.55682
330	Academy Ave	Private Driveway	Driveway	36.58426, -119.55707
331	Academy Ave	E Huntsman Ave	Intersection	36.58324, -119.557
332	Academy Ave	Private Driveway	Driveway	36.58254, -119.55692
333	Academy Ave	Private Driveway	Driveway	36.57602, -119.5572
334	Academy Ave	Private Driveway	Driveway	36.57273, -119.55687
335	Academy Ave	Private Driveway	Driveway	36.57252, -119.55706
336	Academy Ave	Private Driveway	Driveway	36.57142, -119.5568
337	Academy Ave	Private Driveway	Driveway	36.57093, -119.557
338	Academy Ave	Private Driveway	Driveway	36.57049, -119.55679
339	Academy Ave	E Rose Ave	Intersection	36.56868, -119.55676
340	Academy Ave	Private Driveway	Driveway	36.56724, -119.55656
341	Academy Ave	Private Driveway	Driveway	36.56697, -119.55688
342	Academy Ave	Private Driveway	Driveway	36.56692, -119.55654
343	Academy Ave	Private Driveway	Driveway	36.56455, -119.55656
344	Academy Ave	Private Driveway	Driveway	36.56343, -119.55671
345	Academy Ave	E Nebraska Ave	Intersection	36.5614, -119.5566
346	Academy Ave	Private Driveway	Driveway	36.56029, -119.55655
347	Academy Ave	Private Driveway	Driveway	36.55723, -119.55656
348	Academy Ave	Private Driveway	Driveway	36.55536, -119.55673
349	Academy Ave	Private Driveway	Driveway	36.55427, -119.55655
350	Academy Ave	Private Driveway	Driveway	36.55258, -119.55652
351	Academy Ave	Private Driveway	Driveway	36.55258, -119.55672
352	Academy Ave	Private Driveway	Driveway	36.55169, -119.55675
353	Academy Ave	Private Driveway	Driveway	36.55138, -119.55653

Point	Corridor	Cross Street	Type of Access	Coordinates
354	Academy Ave	Private Driveway	Driveway	36.55022, -119.5567
355	Academy Ave	Private Driveway	Driveway	36.55001, -119.55652
356	Academy Ave	Private Driveway	Driveway	36.54735, -119.55653
357	Academy Ave	Private Driveway	Driveway	36.5472, -119.55676
358	Academy Ave	E Mountain View Ave	Intersection	36.54676, -119.55663
359	Academy Ave	Private Driveway	Driveway	36.54605, -119.55674
360	Academy Ave	Private Driveway	Driveway	36.54589, -119.55659
361	Academy Ave	Private Driveway	Driveway	36.54507, -119.55657
362	Academy Ave	Private Driveway	Driveway	36.54238, -119.55679
363	Academy Ave	Private Driveway	Driveway	36.54178, -119.5566
364	Academy Ave	E Caruthers Ave	Intersection	36.53964, -119.5568
365	Academy Ave	Private Driveway	Driveway	36.53965, -119.55663
366	Academy Ave	Private Driveway	Driveway	36.53868, -119.55687
367	Academy Ave	Private Driveway	Driveway	36.5379, -119.55666
368	Academy Ave	Private Driveway	Driveway	36.53712, -119.55687
369	Academy Ave	Private Driveway	Driveway	36.53604, -119.55688
370	Academy Ave	Private Driveway	Driveway	36.53607, -119.55669
371	Academy Ave	Private Driveway	Driveway	36.53438, -119.55671
372	Academy Ave	Private Driveway	Driveway	36.53412, -119.55668
373	Academy Ave	Private Driveway	Driveway	36.53384, -119.5567
374	Academy Ave	Private Driveway	Driveway	36.53359, -119.55671
375	Academy Ave	Private Driveway	Driveway	36.53329, -119.55671
376	Academy Ave	Private Driveway	Driveway	36.53282, -119.55674
377	Academy Ave	Private Driveway	Driveway	36.53268, -119.55687
378	Academy Ave	Kamm Ave	Intersection	36.53241, -119.5568
379	Academy Ave	Silverbrooke St	Intersection	36.53149, -119.5568
380	Academy Ave	Private Driveway	Driveway	36.53063, -119.55671
381	Academy Ave	Howard St	Intersection	36.53018, -119.55676
382	Academy Ave	Skansen St	Intersection	36.52926, -119.55674
383	Academy Ave	Private Driveway	Driveway	36.52837, -119.55697
384	Academy Ave	Harold St	Intersection	36.52698, -119.55694
385	Academy Ave	Private Driveway	Driveway	36.52619, -119.55701
386	Academy Ave	Vineyard Way	Intersection	36.52578, -119.55697
387	Academy Ave	Private Driveway	Driveway	36.5255, -119.55699
388	Academy Ave	E Stroud Ave	Intersection	36.52515, -119.55684
389	Academy Ave	Private Driveway	Driveway	36.52423, -119.55702
390	Academy Ave	Private Driveway	Driveway	36.52295, -119.55677
391	Academy Ave	Private Driveway	Driveway	36.52284, -119.55698
392	Academy Ave	Private Driveway	Driveway	36.52264, -119.55697
393	Academy Ave	Windsor Dr	Intersection	36.52255, -119.55676
394	Academy Ave	Winter St	Intersection	36.52186, -119.55676
395	Academy Ave	Private Driveway	Driveway	36.5219, -119.55702

Point	Corridor	Cross Street	Type of Access	Coordinates
396	Academy Ave	Private Driveway	Driveway	36.52153, -119.55679
397	Academy Ave	Ventura St	Intersection	36.52105, -119.55681
398	Academy Ave	Private Driveway	Driveway	36.52079, -119.55681
399	Academy Ave	Private Driveway	Driveway	36.52052, -119.55683
400	Academy Ave	Union St	Intersection	36.52002, -119.55692
401	Academy Ave	Private Driveway	Driveway	36.51974, -119.55682
402	Academy Ave	Private Driveway	Driveway	36.51949, -119.55681
403	Academy Ave	Private Driveway	Driveway	36.51896, -119.55708
404	Academy Ave	Tulare St	Intersection	36.51894, -119.55683
405	Academy Ave	Private Driveway	Driveway	36.51824, -119.55652

Appendix E. VISSIM Simulation Calibration Analysis

This appendix presents the results of the VISSIM simulation baseline calibration analysis. This will serve to provide requisite technical traffic support information.

Project Description

The Eastside Corridor Model limits are based upon two corridors, Academy Avenue Corridor and Manning Avenue Corridor. The Academy Avenue corridor extends approximately 27 miles from State Route (SR) 99 in Kingsburg to SR 168 near Clovis. Along this route, Academy Avenue passes through the cities of Parlier and Sanger, operating as a collector/arterial roadway. Manning Avenue corridor extends approximately 24 miles from Golden State Boulevard in the southern city limits of Fowler to SR 63, south of the City of Orange Cove. Along this route, Manning Avenue passes through Parlier and Reedley, operating as a collector/arterial roadway.

Baseline Data Collection

Generation of future baseline (no-build) traffic forecasts for intersection operations are based on the Existing AM and PM specification counts using NCHRP 255 delta method, based on 2019 and 2035 model outputs from Fresno Council of Governments.

VISSIM Micro-simulation

VISSIM micro-simulation software (developed by PTV, Inc.) will be used to simulate the corridor operations under both baseline and future year's conditions. Before the Eastside Corridor Model can be used to determine operational performance of proposed corridor improvements it must be calibrated to emulate current conditions. Calibration was performed by modifying inputs after existing conditions were coded within the model. These modifications involved driver behaviors and lane utilization base on field and engineering judgement. Both AM and PM peak hours were validated based on several criteria per micro-simulation guidelines.

All VISSIM microsimulation runs were based on a minimum 10-minute seeding time, 60 minute analysis time (divided into four 15-minute intervals), and reflect an average of 5 multiple runs.

Validation Criteria

The following validation criteria were used to verify validation of the networks to existing conditions

- Vehicle Throughput – Intersection Approaches within ±10%
- Vehicle Travel Times within ±10%

Validation Procedure

The existing network was validated by adjusting driver behavior, emergency stopping distance, lane change behavior, continuous vehicle routing and signal timing. Signal timings plans sets were provide by respective agency and coded into the network. These parameters were adjusted until the travel times and vehicle throughput were within the ±10% threshold.

VISSIM Baseline Network Results

The VISSIM baseline network micro-simulation results were compared with field observation data. Summary performance measures were examined to verify the baseline simulation was calibrated to field conditions.

Corridor Travel Times

Do to the unavailability of National Performance Management Research Data Set (NPMRDS) data within the Eastside Corridor Model limits, travel times were derived from field travel time runs. Therefore, the following speed-based performance metrics for passenger and truck vehicles will not be performed:

- Buffer time,
- Buffer Time Index,
- Congestion and Operational Efficiency,
- Percent of Corridor Congested, and
- Percent of Corridor Reliable.

Field Travel Times

Academy Avenue corridor extends approximately 27 miles from State Route (SR) 168 near Clovis to Sierra Street in Kingsburg. Along this route, Academy Avenue passes through the cities of Parlier and Sanger, operating as a collector/arterial roadway. Manning Avenue corridor extends approximately 24 miles from Golden State Boulevard in southern city limits of Fowler to SR 63, south of the City of Orange Cove.

Field travel times (floating car) were performed during estimated AM and PM peak hour time frames on March 2nd and March 3rd of 2020. Per corridor, one full cycle is defined as a round trip, therefore, two-round trips were conducted per corridor for each AM and PM peak hours.

This data was summarized into eight segments (16 segments for one complete corridor) that a motorist would experience on an average day. To measure the effectiveness of travel times, a threshold of ±10% of the total floating car travel time is compared to the micro-simulation (VISSIM) total. The model is considered to be calibrated if the total travel time volume for the segments lies within ±10% the floating car travel time.

Table E-1 through Table E-4 present the AM and PM peak hour field travel time data to the network travel times.

Table E-1. Travel Time Comparison – Manning Ave AM Peak Hour

#	Segment Limits	Distance Travel (miles)	Floating Car (sec)	VISSIM (sec)	Difference
Eastbound Direction					
1	Golden State Blvd to McCall Ave	2.44	158	158	0%
2	McCall Ave to Academy Ave	2.97	209	206	2%
3	Academy Ave to Lac Jac Ave	4.00	282	286	-2%
4	Reed Ave to SR63	9.44	742	785	-5%
Westbound Direction					
5	SR 63 to Reed Ave	9.44	776	797	-3%
6	Lac Jac Ave to Academy Ave	4.00	343	332	3%
7	Academy Ave to McCall Ave	2.97	182	189	-4%
8	McCall Ave to Golden State Blvd	2.44	195	188	3%

Table E-2. Travel Time Comparison – Academy Ave AM Peak Hour

#	Segment Limits	Distance Travel (miles)	Floating Car (sec)	VISSIM (sec)	Difference
Southbound Direction					
1	SR 168 to SR 180	9.48	651	660	-1%
2	SR 180 to Manning Ave	9.07	726	727	0%
3	Manning Ave to Mt View Ave	4.01	308	325	-5%
4	Mt View Ave to Sierra St	2.00	200	202	-1%
Northbound Direction					
5	Sierra St to Mt View Ave	2.00	195	185	5%
6	Mt View Ave to Manning Ave	4.01	303	307	-1%
7	Manning Ave to SR 180	9.07	729	727	0%
8	SR 180 to SR 168	9.48	638	647	-1%

Table E-3. Travel Time Comparison – Manning Ave PM Peak Hour

#	Segment Limits	Distance Travel (miles)	Floating Car (sec)	VISSIM (sec)	Difference
Eastbound Direction					
1	Golden State Blvd to McCall Ave	2.44	172	180	-4%
2	McCall Ave to Academy Ave	2.97	192	193	-1%
3	Academy Ave to Lac Jac Ave	4.00	308	309	0%
4	Reed Ave to SR63	9.44	827	853	-3%
Westbound Direction					
5	SR 63 to Reed Ave	9.44	815	838	-3%
6	Lac Jac Ave to Academy Ave	4.00	302	304	-1%
7	Academy Ave to McCall Ave	2.97	200	200	0%
8	McCall Ave to Golden State Blvd	2.44	164	162	1%

Table E-4. Travel Time Comparison – Academy Ave PM Peak Hour

#	Segment Limits	Distance Travel (miles)	Floating Car (sec)	VISSIM (sec)	Difference
Southbound Direction					
1	SR 168 to SR 180	9.48	6781	663	2%
2	SR 180 to Manning Ave	9.07	755	785	-4%
3	Manning Ave to Mt View Ave	4.01	301	317	-5%
4	Mt View Ave to Sierra St	2.00	231	216	7%
Northbound Direction					
5	Sierra St to Mt View Ave	2.00	212	206	3%
6	Mt View Ave to Manning Ave	4.01	325	337	-4%
7	Manning Ave to SR 180	9.07	772	823	-6%
8	SR 180 to SR 168	9.48	642	653	-2%

Vehicle Throughput

Another validation criteria is vehicle throughput. This can be through a specific intersection or segment of corridor. To measure the effectiveness of throughput, a threshold of ±10% of the total intersection counts is compared to the micro-simulation total. The model is considered to be calibrated if the total volume for the intersections lies within ±10% the field count.

Table E-5 presents the vehicle throughput for the key intersections.

Table E-5. Key Intersections Throughput Comparison

#	Intersection	Intersection Total								Actual	
		AM Peak Hour				PM Peak Hour					
		-5%	Existing Count	VISSIM Count	5%	-5%	Existing Count	VISSIM Count	5%	AM	PM
1	SR 168/Academy Ave	488	514	520	540	543	572	585	601	1.2%	2.3%
2	Shaw Ave/Academy Ave	768	808	767	848	708	745	713	782	*-5.1%*	-4.3%
3	Ashlan Ave/Academy Ave	991	1,043	988	1,095	923	972	953	1,021	*-5.3%*	-2.0%
4	McKinley Ave/Academy Ave	1,012	1,065	1,015	1,118	885	932	881	979	-4.7%	*-5.5%*
5	SR 180/Academy Ave	2,032	2,139	2,079	2,246	2,355	2,479	2,387	2,603	-2.8%	-3.7%
6	Jensen Ave/Academy Ave	1,476	1,554	1,575	1,632	1,910	2,011	1,977	2,112	1.4%	-1.7%
7	Annadale Ave/Academy Ave	1,011	1,064	1,039	1,117	1,286	1,354	1,361	1,422	-2.3%	0.5%
8	North Ave/Academy Ave	1,042	1,097	1,129	1,152	1,339	1,409	1,463	1,479	2.9%	3.8%
9	Adams Ave/Academy Ave	846	890	866	935	1,067	1,123	1,132	1,179	-2.7%	0.8%
10	Manning Ave/Academy Ave	1,935	2,037	2,058	2,139	1,951	2,054	2,111	2,157	1.0%	2.8%
11	Rose Ave/Academy Ave	573	603	621	633	733	772	792	811	3.0%	2.6%
12	Mt View Ave/Academy Ave	1,055	1,111	1,127	1,167	1,113	1,172	1,166	1,231	1.4%	-0.5%
13	Kamm Ave/10th Ave (Academy Ave)	425	447	446	469	386	406	424	426	-0.2%	4.4%
14	Sierra St/10th Ave (Academy Ave)	1,372	1,444	1,472	1,516	1,112	1,170	1,150	1,229	1.9%	-1.7%
15	Manning Ave/Golden State Blvd	2,241	2,359	2,313	2,477	2,221	2,338	2,333	2,455	-1.9%	-0.2%
16	Manning Ave/McCall Ave	2,205	2,321	2,357	2,437	1,996	2,101	2,192	2,206	1.6%	4.3%
17	Manning Ave/Mendocino Ave	2,073	2,182	2,263	2,291	2,018	2,124	2,186	2,230	3.7%	2.9%
18	Manning Ave/Lac Jac Ave	2,018	2,124	2,224	2,230	1,787	1,881	1,936	1,975	4.7%	2.9%
19	Manning Ave/Reed Ave	1,875	1,974	2,057	2,073	1,818	1,914	1,964	2,010	4.2%	2.6%
20	Manning Ave/Frankwood Ave	1,713	1,803	1,784	1,893	1,750	1,842	1,827	1,934	-1.1%	-0.8%
21	Manning Ave/Buttonwillow Ave	1,608	1,693	1,650	1,778	1,663	1,751	1,745	1,839	-2.5%	-0.3%
22	Manning Ave/Alta Ave	1,047	1,102	1,068	1,157	1,126	1,185	1,196	1,244	-3.1%	0.9%
23	Manning Ave/Hill Ave	503	529	547	555	616	648	636	680	3.4%	-1.9%
24	Manning Ave/Hills Valley Rd	710	747	754	784	576	606	596	636	0.9%	-1.7%
25	Manning Ave/SR 63	239	252	253	265	245	258	256	271	0.4%	-0.8%

Future Conditions

The model is considered to be calibrated if the total travel time and vehicle throughput metrics fall within ±10% threshold. Meeting this metric, the application of the validated network is applied for the future and future with improvements scenarios. The measure of effectiveness for these scenarios will focus on total travel time for each corridor and compared against floating car, existing, future network and future network with improvements VISSIM outputs.

Table E-6 and Table E-7 present the total travel times comparisons for each study corridor by orientation (direction) and by peak hour.

Table E-6. AM Scenario Travel Time Comparisons

Segment Limits	Floating Car	Exiting (VISSIM)	Future Network (VISSIM)	Future Network Improvements (VISSIM)
Manning Avenue - AM Scenarios				
Eastbound Direction				
Golden State Blvd to SR63	0:23:10	0:23:55	0:25:40	0:25:11
Westbound Direction				
SR 63 to Golden State Blvd	0:24:56	0:25:06	0:27:56	0:27:54
Academy Avenue - AM Scenarios				
Southbound Direction				
SR168 to Sierra St	0:31:24	0:31:54	0:35:59	0:33:51
Northbound Direction				
Sierra St to SR168	0:31:03	0:31:06	0:31:30	0:31:07

Table E-7. PM Scenario Travel Time Comparisons

Segment Limits	Floating Car	Exiting (VISSIM)	Future Network (VISSIM)	Future Network Improvements (VISSIM)
Manning Avenue - PM Scenarios				
Eastbound Direction				
Golden State Blvd to SR63	0:24:58	0:25:35	0:34:35	0:31:00
Westbound Direction				
SR 63 to Golden State Blvd	0:24:41	0:25:04	0:24:51	0:24:04
Academy Avenue - PM Scenarios				
Southbound Direction				
SR168 to Sierra St	0:32:44	0:33:01	0:34:13	0:34:31
Northbound Direction				
Sierra St to SR168	0:32:30	0:33:40	0:34:18	0:34:06

Conclusion

Measures of effectiveness for this model calibration are travel times and throughput. The key measure of effectiveness is corridor travel times. This measure of effectiveness is the primary focus of the model calibration effort. This measure shows that travel times are comparable to the data collected. The secondary criteria of vehicle throughput validation results shows a reasonable correspondence with validation count data set.

Appendix F.
Future Operations Analysis

Synchro LOS Worksheets

Future AM

Future PM

Intersection	
Int Delay, s/veh	2.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	92	12	137	584	17	30
Future Vol, veh/h	92	12	137	584	17	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	100	13	149	635	18	33

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	100	0	1033	100
Stage 1	-	-	-	-	100	-
Stage 2	-	-	-	-	933	-
Critical Hdwy	-	-	4.14	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.236	-	3.536	3.336
Pot Cap-1 Maneuver	-	0	1480	-	255	950
Stage 1	-	0	-	-	919	-
Stage 2	-	0	-	-	380	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	1480	-	215	950
Mov Cap-2 Maneuver	-	-	-	-	215	-
Stage 1	-	-	-	-	776	-
Stage 2	-	-	-	-	380	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.5	14.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	425	-	1480	-
HCM Lane V/C Ratio	0.12	-	0.101	-
HCM Control Delay (s)	14.6	-	7.7	0
HCM Lane LOS	B	-	A	A
HCM 95th %tile Q(veh)	0.4	-	0.3	-

Intersection	
Intersection Delay, s/veh	15.3
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	7	221	130	19	17	84	268	6	12	370	48
Future Vol, veh/h	25	7	221	130	19	17	84	268	6	12	370	48
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, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	27	8	240	141	21	18	91	291	7	13	402	52
Number of Lanes	0	1	0	0	1	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	1	1
HCM Control Delay	17.1	16	13.3	15.7
HCM LOS	C	C	B	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	10%	78%	100%	0%	0%
Vol Thru, %	0%	100%	94%	3%	11%	0%	100%	72%
Vol Right, %	0%	0%	6%	87%	10%	0%	0%	28%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	84	179	95	253	166	12	247	171
LT Vol	84	0	0	25	130	12	0	0
Through Vol	0	179	89	7	19	0	247	123
RT Vol	0	0	6	221	17	0	0	48
Lane Flow Rate	91	194	104	275	180	13	268	186
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.196	0.389	0.206	0.527	0.4	0.028	0.528	0.356
Departure Headway (Hd)	7.733	7.217	7.171	6.899	7.983	7.606	7.09	6.888
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	464	497	499	523	451	470	507	521
Service Time	5.489	4.972	4.927	4.651	5.74	5.359	4.843	4.641
HCM Lane V/C Ratio	0.196	0.39	0.208	0.526	0.399	0.028	0.529	0.357
HCM Control Delay	12.4	14.5	11.8	17.1	16	10.6	17.6	13.4
HCM Lane LOS	B	B	B	C	C	B	C	B
HCM 95th-tile Q	0.7	1.8	0.8	3	1.9	0.1	3	1.6

Intersection	
Intersection Delay, s/veh	25.7
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	1	64	76	48	57	73	272	3	5	714	36
Future Vol, veh/h	22	1	64	76	48	57	73	272	3	5	714	36
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, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	24	1	70	83	52	62	79	296	3	5	776	39
Number of Lanes	0	1	0	0	1	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	1	1
HCM Control Delay	12.3	15.9	12.9	35.5
HCM LOS	B	C	B	E

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	25%	42%	100%	0%	0%
Vol Thru, %	0%	100%	97%	1%	27%	0%	100%	87%
Vol Right, %	0%	0%	3%	74%	31%	0%	0%	13%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	73	181	94	87	181	5	476	274
LT Vol	73	0	0	22	76	5	0	0
Through Vol	0	181	91	1	48	0	476	238
RT Vol	0	0	3	64	57	0	0	36
Lane Flow Rate	79	197	102	95	197	5	517	298
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.166	0.384	0.198	0.201	0.42	0.011	0.927	0.526
Departure Headway (Hd)	7.523	7.01	6.987	7.656	7.691	6.963	6.452	6.358
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	477	514	514	469	468	517	564	572
Service Time	5.262	4.749	4.726	5.403	5.433	4.663	4.152	4.058
HCM Lane V/C Ratio	0.166	0.383	0.198	0.203	0.421	0.01	0.917	0.521
HCM Control Delay	11.8	14.1	11.5	12.3	15.9	9.7	47.1	15.9
HCM Lane LOS	B	B	B	B	C	A	E	C
HCM 95th-tile Q	0.6	1.8	0.7	0.7	2	0	11.6	3.1

Intersection	
Intersection Delay, s/veh	25.4
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	16	57	27	0	0	39	350	4	17	831	46
Future Vol, veh/h	14	16	57	27	0	0	39	350	4	17	831	46
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, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	15	17	62	29	0	0	42	380	4	18	903	50
Number of Lanes	0	1	0	0	1	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	1	1
HCM Control Delay	11.5	11.5	12.4	32.9
HCM LOS	B	B	B	D

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	16%	100%	100%	0%	0%
Vol Thru, %	0%	100%	97%	18%	0%	0%	100%	86%
Vol Right, %	0%	0%	3%	66%	0%	0%	0%	14%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	39	233	121	87	27	17	554	323
LT Vol	39	0	0	14	27	17	0	0
Through Vol	0	233	117	16	0	0	554	277
RT Vol	0	0	4	57	0	0	0	46
Lane Flow Rate	42	254	131	95	29	18	602	351
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.079	0.437	0.225	0.187	0.067	0.031	0.935	0.535
Departure Headway (Hd)	6.703	6.197	6.174	7.119	8.196	6.092	5.587	5.487
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	534	581	581	503	437	588	650	657
Service Time	4.448	3.943	3.919	4.87	5.954	3.823	3.319	3.218
HCM Lane V/C Ratio	0.079	0.437	0.225	0.189	0.066	0.031	0.926	0.534
HCM Control Delay	10	13.7	10.7	11.5	11.5	9	44.5	14.4
HCM Lane LOS	A	B	B	B	B	A	E	B
HCM 95th-tile Q	0.3	2.2	0.9	0.7	0.2	0.1	12.6	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	370	215	71	737	204	324	209	53	280	345	136
Future Volume (veh/h)	72	370	215	71	737	204	324	209	53	280	345	136
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	78	402	234	77	801	222	352	227	58	304	375	148
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, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	117	1262	563	117	1254	560	413	527	132	367	435	169
Arrive On Green	0.07	0.36	0.36	0.07	0.36	0.36	0.12	0.19	0.19	0.11	0.18	0.18
Sat Flow, veh/h	1753	3497	1560	1753	3497	1560	3401	2772	693	3401	2460	957
Grp Volume(v), veh/h	78	402	234	77	801	222	352	141	144	304	265	258
Grp Sat Flow(s),veh/h/ln	1753	1749	1560	1753	1749	1560	1700	1749	1716	1700	1749	1668
Q Serve(g_s), s	4.7	9.0	12.2	4.7	20.7	11.6	11.0	7.7	8.0	9.5	16.0	16.3
Cycle Q Clear(g_c), s	4.7	9.0	12.2	4.7	20.7	11.6	11.0	7.7	8.0	9.5	16.0	16.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.40	1.00		0.57
Lane Grp Cap(c), veh/h	117	1262	563	117	1254	560	413	333	327	367	309	295
V/C Ratio(X)	0.67	0.32	0.42	0.66	0.64	0.40	0.85	0.42	0.44	0.83	0.86	0.87
Avail Cap(c_a), veh/h	242	1772	790	242	1772	790	486	333	327	486	322	307
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	49.5	25.1	26.1	49.5	29.0	26.0	46.7	38.7	38.8	47.4	43.4	43.5
Incr Delay (d2), s/veh	2.4	0.5	1.8	2.4	2.0	1.7	10.6	2.9	3.2	6.8	23.3	26.6
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	2.0	3.6	4.5	2.0	8.3	4.2	5.0	3.4	3.5	4.2	8.5	8.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.9	25.6	27.9	51.9	30.9	27.7	57.4	41.7	42.0	54.2	66.7	70.1
LnGrp LOS	D	C	C	D	C	C	E	D	D	D	E	E
Approach Vol, veh/h		714			1100			637			827	
Approach Delay, s/veh		29.2			31.7			50.4			63.2	
Approach LOS		C			C			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.4	47.1	20.4	26.7	14.6	46.8	18.9	28.2
Change Period (Y+Rc), s	* 7.2	7.9	* 7.2	7.5	7.4	7.9	* 7.2	7.5
Max Green Setting (Gmax), s	* 15	55.0	* 16	20.0	15.0	55.0	* 16	20.0
Max Q Clear Time (g_c+I1), s	6.7	14.2	13.0	18.3	6.7	22.7	11.5	10.0
Green Ext Time (p_c), s	0.0	9.7	0.2	0.8	0.0	16.3	0.2	2.1

Intersection Summary	
HCM 6th Ctrl Delay	42.7
HCM 6th LOS	D

Notes

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

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	166	85	112	24	36	34	327	349	52	27	528	358
Future Volume (veh/h)	166	85	112	24	36	34	327	349	52	27	528	358
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	180	92	122	26	39	37	355	379	57	29	574	389
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, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	200	68	442	51	71	40	387	1571	234	81	678	459
Arrive On Green	0.28	0.28	0.28	0.28	0.28	0.28	0.22	0.51	0.51	0.05	0.34	0.34
Sat Flow, veh/h	469	240	1560	0	251	143	1753	3052	455	1753	1994	1352
Grp Volume(v), veh/h	272	0	122	102	0	0	355	216	220	29	503	460
Grp Sat Flow(s),veh/h/ln	709	0	1560	394	0	0	1753	1749	1759	1753	1749	1597
Q Serve(g_s), s	0.0	0.0	5.4	0.0	0.0	0.0	17.5	6.0	6.1	1.4	23.6	23.6
Cycle Q Clear(g_c), s	25.0	0.0	5.4	25.0	0.0	0.0	17.5	6.0	6.1	1.4	23.6	23.6
Prop In Lane	0.66		1.00	0.25		0.36	1.00		0.26	1.00		0.85
Lane Grp Cap(c), veh/h	268	0	442	163	0	0	387	900	905	81	594	543
V/C Ratio(X)	1.01	0.00	0.28	0.63	0.00	0.00	0.92	0.24	0.24	0.36	0.85	0.85
Avail Cap(c_a), veh/h	268	0	442	163	0	0	397	900	905	397	693	633
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	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.8	0.0	24.6	26.2	0.0	0.0	33.6	11.9	11.9	40.9	27.0	27.0
Incr Delay (d2), s/veh	58.6	0.0	0.4	5.7	0.0	0.0	24.8	0.1	0.1	1.0	8.6	9.4
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	10.1	0.0	2.0	1.8	0.0	0.0	9.8	2.2	2.3	0.6	10.7	9.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	93.4	0.0	25.0	31.9	0.0	0.0	58.4	12.0	12.0	41.9	35.7	36.4
LnGrp LOS	F	A	C	C	A	A	E	B	B	D	D	D
Approach Vol, veh/h		394			102			791			992	
Approach Delay, s/veh		72.2			31.9			32.8			36.2	
Approach LOS		E			C			C			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.5	34.6		30.2	8.1	50.1		30.2				
Change Period (Y+Rc), s	4.0	4.6		* 5.2	4.0	4.6		* 5.2				
Max Green Setting (Gmax), s	20.0	35.0		* 25	20.0	35.0		* 25				
Max Q Clear Time (g_c+I1), s	19.5	25.6		27.0	3.4	8.1		27.0				
Green Ext Time (p_c), s	0.0	4.5		0.0	0.0	2.8		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		41.1
HCM 6th LOS		D

Notes

User approved pedestrian interval to be less than phase max green.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	20	14	82	34	243	13	458	80	171	400	9
Future Volume (veh/h)	23	20	14	82	34	243	13	458	80	171	400	9
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	25	22	15	89	37	264	14	498	87	186	435	10
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, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	210	168	84	366	129	366	50	889	397	287	1361	31
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.03	0.25	0.25	0.16	0.39	0.39
Sat Flow, veh/h	405	716	358	962	549	1560	1753	3497	1560	1753	3495	80
Grp Volume(v), veh/h	62	0	0	126	0	264	14	498	87	186	217	228
Grp Sat Flow(s),veh/h/ln	1479	0	0	1511	0	1560	1753	1749	1560	1753	1749	1826
Q Serve(g_s), s	0.0	0.0	0.0	1.4	0.0	6.8	0.3	5.4	1.9	4.3	3.8	3.8
Cycle Q Clear(g_c), s	1.2	0.0	0.0	2.8	0.0	6.8	0.3	5.4	1.9	4.3	3.8	3.8
Prop In Lane	0.40		0.24	0.71		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	462	0	0	495	0	366	50	889	397	287	681	711
V/C Ratio(X)	0.13	0.00	0.00	0.25	0.00	0.72	0.28	0.56	0.22	0.65	0.32	0.32
Avail Cap(c_a), veh/h	926	0	0	989	0	892	802	2799	1249	802	1400	1462
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.3	0.0	0.0	13.8	0.0	15.4	20.8	14.2	12.9	17.1	9.3	9.3
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.3	0.0	2.7	3.0	0.6	0.3	2.4	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	0.4	0.0	0.0	0.9	0.0	2.2	0.2	1.8	0.6	1.7	1.1	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.4	0.0	0.0	14.1	0.0	18.1	23.8	14.7	13.2	19.5	9.6	9.6
LnGrp LOS	B	A	A	B	A	B	C	B	B	B	A	A
Approach Vol, veh/h		62			390			599			631	
Approach Delay, s/veh		13.4			16.8			14.7			12.5	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.3	22.1		16.3	11.2	16.2		16.3				
Change Period (Y+Rc), s	4.0	5.1		6.1	4.0	5.1		6.1				
Max Green Setting (Gmax), s	20.0	35.0		25.0	20.0	35.0		25.0				
Max Q Clear Time (g_c+I1), s	2.3	5.8		8.8	6.3	7.4		3.2				
Green Ext Time (p_c), s	0.0	2.6		1.5	0.4	3.7		0.3				

Intersection Summary			
HCM 6th Ctrl Delay			14.3
HCM 6th LOS			B

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	150	109	41	157	39	94	311	85	52	371	50
Future Volume (vph)	48	150	109	41	157	39	94	311	85	52	371	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	5.6	5.6	5.6	5.6	5.6	5.9	5.9		5.9	5.9	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1736	1827	1553	1736	1827	1553	1736	3360		1736	3410	
Flt Permitted	0.65	1.00	1.00	0.65	1.00	1.00	0.89	1.00		0.89	1.00	
Satd. Flow (perm)	1186	1827	1553	1195	1827	1553	1624	3360		1624	3410	
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)	52	163	118	45	171	42	102	338	92	57	403	54
RTOR Reduction (vph)	0	0	58	0	0	28	0	57	0	0	24	0
Lane Group Flow (vph)	52	163	60	45	171	14	102	373	0	57	433	0
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2		2	2		2	4			4		
Actuated Green, G (s)	8.0	8.0	8.0	8.0	8.0	8.0	4.5	4.5		4.5	4.5	
Effective Green, g (s)	8.0	8.0	8.0	8.0	8.0	8.0	4.5	4.5		4.5	4.5	
Actuated g/C Ratio	0.33	0.33	0.33	0.33	0.33	0.33	0.19	0.19		0.19	0.19	
Clearance Time (s)	5.6	5.6	5.6	5.6	5.6	5.6	5.9	5.9		5.9	5.9	
Vehicle Extension (s)	4.5	4.5	4.5	4.5	4.5	4.5	0.2	0.2		0.2	0.2	
Lane Grp Cap (vph)	395	609	517	398	609	517	304	630		304	639	
v/s Ratio Prot		0.09			c0.09			0.11			c0.13	
v/s Ratio Perm	0.04		0.04	0.04		0.01	0.06			0.04		
v/c Ratio	0.13	0.27	0.12	0.11	0.28	0.03	0.34	0.59		0.19	0.68	
Uniform Delay, d1	5.6	5.9	5.5	5.5	5.9	5.4	8.5	8.9		8.2	9.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	0.4	0.2	0.2	0.4	0.0	0.2	1.0		0.1	2.3	
Delay (s)	5.8	6.3	5.7	5.8	6.3	5.4	8.7	9.9		8.3	11.3	
Level of Service	A	A	A	A	A	A	A	A		A	B	
Approach Delay (s)		6.0			6.1			9.7			11.0	
Approach LOS		A			A			A			B	

Intersection Summary			
HCM 2000 Control Delay	8.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	24.0	Sum of lost time (s)	11.5
Intersection Capacity Utilization	67.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Intersection Delay, s/veh	24
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	83	45	4	59	101	57	594	8	102	508	9
Future Vol, veh/h	11	83	45	4	59	101	57	594	8	102	508	9
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, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	12	90	49	4	64	110	62	646	9	111	552	10
Number of Lanes	0	1	0	0	1	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	1	1
HCM Control Delay	15.6	16.1	29.8	21.7
HCM LOS	C	C	D	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	8%	2%	100%	0%	0%
Vol Thru, %	0%	100%	96%	60%	36%	0%	100%	95%
Vol Right, %	0%	0%	4%	32%	62%	0%	0%	5%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	57	396	206	139	164	102	339	178
LT Vol	57	0	0	11	4	102	0	0
Through Vol	0	396	198	83	59	0	339	169
RT Vol	0	0	8	45	101	0	0	9
Lane Flow Rate	62	430	224	151	178	111	368	194
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.132	0.858	0.445	0.351	0.399	0.239	0.741	0.388
Departure Headway (Hd)	7.693	7.178	7.15	8.374	8.053	7.758	7.243	7.207
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	465	504	504	429	446	462	497	498
Service Time	5.452	4.937	4.909	6.144	5.819	5.518	5.003	4.967
HCM Lane V/C Ratio	0.133	0.853	0.444	0.352	0.399	0.24	0.74	0.39
HCM Control Delay	11.6	39.8	15.6	15.6	16.1	13	28.1	14.5
HCM Lane LOS	B	E	C	C	C	B	D	B
HCM 95th-tile Q	0.5	9	2.3	1.6	1.9	0.9	6.2	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	614	9	20	1119	80	28	294	37	292	370	153
Future Volume (veh/h)	43	614	9	20	1119	80	28	294	37	292	370	153
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	47	667	10	22	1216	87	30	320	40	317	402	166
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, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	99	1527	23	63	1365	98	78	474	59	347	739	301
Arrive On Green	0.06	0.43	0.43	0.04	0.41	0.41	0.04	0.15	0.15	0.20	0.30	0.30
Sat Flow, veh/h	1753	3527	53	1753	3310	237	1753	3131	388	1753	2423	988
Grp Volume(v), veh/h	47	331	346	22	642	661	30	178	182	317	289	279
Grp Sat Flow(s),veh/h/ln	1753	1749	1831	1753	1749	1798	1753	1749	1771	1753	1749	1663
Q Serve(g_s), s	2.8	14.0	14.0	1.3	36.1	36.3	1.8	10.2	10.3	18.8	14.6	14.9
Cycle Q Clear(g_c), s	2.8	14.0	14.0	1.3	36.1	36.3	1.8	10.2	10.3	18.8	14.6	14.9
Prop In Lane	1.00		0.03	1.00		0.13	1.00		0.22	1.00		0.59
Lane Grp Cap(c), veh/h	99	757	793	63	721	742	78	265	268	347	533	507
V/C Ratio(X)	0.47	0.44	0.44	0.35	0.89	0.89	0.39	0.67	0.68	0.91	0.54	0.55
Avail Cap(c_a), veh/h	413	757	793	413	742	763	413	494	501	413	533	507
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	48.5	21.0	21.0	49.9	28.9	29.0	49.3	42.5	42.6	41.7	30.7	30.8
Incr Delay (d2), s/veh	1.3	0.8	0.8	1.2	13.5	13.4	1.2	8.7	9.0	20.6	2.7	3.0
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	5.5	5.8	0.6	16.7	17.2	0.8	4.8	5.0	9.7	6.2	6.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.8	21.9	21.8	51.1	42.4	42.4	50.5	51.2	51.6	62.3	33.4	33.8
LnGrp LOS	D	C	C	D	D	D	D	D	D	E	C	C
Approach Vol, veh/h		724			1325			390			885	
Approach Delay, s/veh		23.7			42.6			51.3			43.9	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.7	38.3	10.0	49.1	25.0	22.1	7.8	51.2
Change Period (Y+Rc), s	4.0	6.0	4.0	5.3	4.0	6.0	4.0	5.3
Max Green Setting (Gmax), s	25.0	30.0	25.0	45.0	25.0	30.0	25.0	45.0
Max Q Clear Time (g_c+I1), s	13.8	16.9	4.8	38.3	20.8	12.3	3.3	16.0
Green Ext Time (p_c), s	0.0	5.2	0.0	5.5	0.2	3.7	0.0	8.0

Intersection Summary	
HCM 6th Ctrl Delay	39.8
HCM 6th LOS	D

Notes

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

Intersection	
Intersection Delay, s/veh	18.2
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	153	8	6	225	7	32	227	15	19	290	88
Future Vol, veh/h	3	153	8	6	225	7	32	227	15	19	290	88
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, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	3	166	9	7	245	8	35	247	16	21	315	96
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	13.5	15.7	16.3	22.9
HCM LOS	B	C	C	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	12%	2%	3%	5%
Vol Thru, %	83%	93%	95%	73%
Vol Right, %	5%	5%	3%	22%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	274	164	238	397
LT Vol	32	3	6	19
Through Vol	227	153	225	290
RT Vol	15	8	7	88
Lane Flow Rate	298	178	259	432
Geometry Grp	1	1	1	1
Degree of Util (X)	0.526	0.341	0.478	0.718
Departure Headway (Hd)	6.355	6.878	6.658	5.988
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	566	521	538	604
Service Time	4.419	4.952	4.727	4.044
HCM Lane V/C Ratio	0.527	0.342	0.481	0.715
HCM Control Delay	16.3	13.5	15.7	22.9
HCM Lane LOS	C	B	C	C
HCM 95th-tile Q	3	1.5	2.6	6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	377	18	54	795	49	93	149	168	50	178	108
Future Volume (veh/h)	56	377	18	54	795	49	93	149	168	50	178	108
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	61	410	20	59	864	53	101	162	183	54	193	117
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, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	129	1074	52	127	1055	65	155	186	210	122	232	141
Arrive On Green	0.07	0.32	0.32	0.07	0.32	0.32	0.09	0.24	0.24	0.07	0.22	0.22
Sat Flow, veh/h	1753	3395	165	1753	3347	205	1753	789	891	1753	1073	651
Grp Volume(v), veh/h	61	211	219	59	451	466	101	0	345	54	0	310
Grp Sat Flow(s),veh/h/ln	1753	1749	1811	1753	1749	1804	1753	0	1680	1753	0	1724
Q Serve(g_s), s	2.7	7.6	7.6	2.6	19.3	19.3	4.5	0.0	16.0	2.4	0.0	13.9
Cycle Q Clear(g_c), s	2.7	7.6	7.6	2.6	19.3	19.3	4.5	0.0	16.0	2.4	0.0	13.9
Prop In Lane	1.00		0.09	1.00		0.11	1.00		0.53	1.00		0.38
Lane Grp Cap(c), veh/h	129	553	573	127	551	568	155	0	395	122	0	372
V/C Ratio(X)	0.47	0.38	0.38	0.46	0.82	0.82	0.65	0.00	0.87	0.44	0.00	0.83
Avail Cap(c_a), veh/h	433	756	783	433	756	780	433	0	519	433	0	532
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.0	21.5	21.5	36.0	25.6	25.6	35.7	0.0	29.8	36.2	0.0	30.3
Incr Delay (d2), s/veh	2.7	0.4	0.4	2.6	5.1	5.0	4.5	0.0	12.2	2.5	0.0	7.5
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	1.2	2.8	2.9	1.1	7.7	7.9	2.0	0.0	7.2	1.0	0.0	6.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.6	21.9	21.9	38.6	30.7	30.6	40.2	0.0	42.0	38.7	0.0	37.9
LnGrp LOS	D	C	C	D	C	C	D	A	D	D	A	D
Approach Vol, veh/h		491			976			446			364	
Approach Delay, s/veh		24.0			31.1			41.6			38.0	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.2	24.5	11.0	33.3	10.6	26.0	10.9	33.4
Change Period (Y+Rc), s	5.0	7.0	5.0	7.8	5.0	7.0	5.0	7.8
Max Green Setting (Gmax), s	20.0	25.0	20.0	35.0	20.0	25.0	20.0	35.0
Max Q Clear Time (g_c+I1), s	6.5	15.9	4.7	21.3	4.4	18.0	4.6	9.6
Green Ext Time (p_c), s	0.2	1.1	0.1	4.2	0.1	1.0	0.1	2.1

Intersection Summary	
HCM 6th Ctrl Delay	32.7
HCM 6th LOS	C

Intersection	
Intersection Delay, s/veh	25
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	50	39	75	149	10	169	191	116	30	316	35
Future Vol, veh/h	0	50	39	75	149	10	169	191	116	30	316	35
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, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	0	54	42	82	162	11	184	208	126	33	343	38
Number of Lanes	0	1	1	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	2
HCM Control Delay	11.7	19.7	24.6	31.8
HCM LOS	B	C	C	D

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	47%	0%	0%	0%	32%	8%
Vol Thru, %	53%	0%	100%	0%	64%	83%
Vol Right, %	0%	100%	0%	100%	4%	9%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	360	116	50	39	234	381
LT Vol	169	0	0	0	75	30
Through Vol	191	0	50	0	149	316
RT Vol	0	116	0	39	10	35
Lane Flow Rate	391	126	54	42	254	414
Geometry Grp	7	7	7	7	6	6
Degree of Util (X)	0.764	0.213	0.125	0.089	0.545	0.795
Departure Headway (Hd)	7.033	6.078	8.247	7.523	7.719	6.91
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	513	589	434	475	468	522
Service Time	4.787	3.831	6.017	5.292	5.776	4.962
HCM Lane V/C Ratio	0.762	0.214	0.124	0.088	0.543	0.793
HCM Control Delay	29.2	10.5	12.2	11	19.7	31.8
HCM Lane LOS	D	B	B	B	C	D
HCM 95th-tile Q	6.7	0.8	0.4	0.3	3.2	7.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↱	↰	↑↱		↰	↑↱		↰	↑	↱
Traffic Volume (veh/h)	199	474	123	7	814	46	91	87	4	100	265	474
Future Volume (veh/h)	199	474	123	7	814	46	91	87	4	100	265	474
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	216	515	134	8	885	50	99	95	4	109	288	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, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	248	922	781	21	644	36	135	288	12	154	331	
Arrive On Green	0.14	0.50	0.50	0.01	0.37	0.37	0.08	0.16	0.16	0.09	0.18	0.00
Sat Flow, veh/h	1753	1841	1560	1753	1726	97	1753	1754	74	1753	1841	1560
Grp Volume(v), veh/h	216	515	134	8	0	935	99	0	99	109	288	0
Grp Sat Flow(s),veh/h/ln	1753	1841	1560	1753	0	1823	1753	0	1827	1753	1841	1560
Q Serve(g_s), s	11.7	18.8	4.6	0.4	0.0	36.2	5.4	0.0	4.6	5.9	14.8	0.0
Cycle Q Clear(g_c), s	11.7	18.8	4.6	0.4	0.0	36.2	5.4	0.0	4.6	5.9	14.8	0.0
Prop In Lane	1.00		1.00	1.00		0.05	1.00		0.04	1.00		1.00
Lane Grp Cap(c), veh/h	248	922	781	21	0	681	135	0	300	154	331	
V/C Ratio(X)	0.87	0.56	0.17	0.38	0.00	1.37	0.74	0.00	0.33	0.71	0.87	
Avail Cap(c_a), veh/h	271	922	781	271	0	681	271	0	377	271	380	
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	40.8	16.8	13.2	47.6	0.0	30.4	43.8	0.0	35.8	43.0	38.7	0.0
Incr Delay (d2), s/veh	22.3	2.4	0.5	4.2	0.0	177.2	2.9	0.0	1.0	2.2	18.9	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	6.5	8.0	1.6	0.2	0.0	48.5	2.4	0.0	2.1	2.6	8.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.1	19.2	13.7	51.7	0.0	207.6	46.7	0.0	36.8	45.3	57.6	0.0
LnGrp LOS	E	B	B	D	A	F	D	A	D	D	E	
Approach Vol, veh/h		865			943			198			397	A
Approach Delay, s/veh		29.3			206.3			41.8			54.2	
Approach LOS		C			F			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.4	54.0	13.3	23.3	18.7	41.6	14.8	21.8				
Change Period (Y+Rc), s	* 5.2	5.4	5.9	5.9	5.0	5.4	* 6.3	* 5.9				
Max Green Setting (Gmax), s	* 15	25.0	15.0	20.0	15.0	25.0	* 15	* 20				
Max Q Clear Time (g_c+I1), s	12.4	20.8	7.4	16.8	13.7	38.2	7.9	6.6				
Green Ext Time (p_c), s	0.0	1.9	0.1	0.7	0.0	0.0	0.1	0.5				
Intersection Summary												
HCM 6th Ctrl Delay			103.9									
HCM 6th LOS			F									

Notes

User approved pedestrian interval to be less than phase max green.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	243	650	254	10	1102	348	845	1287	32	261	214	139
Future Volume (veh/h)	243	650	254	10	1102	348	845	1287	32	261	214	139
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	264	707	276	11	1198	378	918	1399	0	284	233	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, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	235	1804	805	34	1056	327	235	702		235	702	
Arrive On Green	0.13	0.52	0.52	0.02	0.40	0.40	0.13	0.20	0.00	0.13	0.20	0.00
Sat Flow, veh/h	1753	3497	1560	1753	2630	813	1753	3497	1560	1753	3497	1560
Grp Volume(v), veh/h	264	707	276	11	788	788	918	1399	0	284	233	0
Grp Sat Flow(s),veh/h/ln	1753	1749	1560	1753	1749	1694	1753	1749	1560	1753	1749	1560
Q Serve(g_s), s	20.0	18.3	15.5	0.9	60.0	60.0	20.0	30.0	0.0	20.0	8.5	0.0
Cycle Q Clear(g_c), s	20.0	18.3	15.5	0.9	60.0	60.0	20.0	30.0	0.0	20.0	8.5	0.0
Prop In Lane	1.00		1.00	1.00		0.48	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	235	1804	805	34	702	680	235	702		235	702	
V/C Ratio(X)	1.12	0.39	0.34	0.32	1.12	1.16	3.91	1.99		1.21	0.33	
Avail Cap(c_a), veh/h	235	1804	805	235	702	680	235	702		235	702	
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	0.00
Uniform Delay (d), s/veh	64.7	21.9	21.3	72.3	44.7	44.7	64.7	59.7	0.0	64.7	51.1	0.0
Incr Delay (d2), s/veh	96.5	0.5	1.0	2.0	72.8	86.8	1320.5	451.5	0.0	127.4	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	14.9	7.3	5.6	0.4	38.7	40.1	94.7	56.8	0.0	17.0	3.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	161.2	22.5	22.2	74.2	117.5	131.5	1385.2	511.2	0.0	192.1	51.2	0.0
LnGrp LOS	F	C	C	E	F	F	F	F		F	D	
Approach Vol, veh/h		1247			1587			2317	A		517	A
Approach Delay, s/veh		51.8			124.2			857.5			128.6	
Approach LOS		D			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	24.0	35.7	24.0	65.7	24.0	35.7	6.9	82.8
Change Period (Y+Rc), s	4.0	5.7	4.0	5.7	4.0	5.7	4.0	5.7
Max Green Setting (Gmax), s	20.0	30.0	20.0	60.0	20.0	30.0	20.0	60.0
Max Q Clear Time (g_c+I1), s	22.0	10.5	22.0	62.0	22.0	32.0	2.9	20.3
Green Ext Time (p_c), s	0.0	0.7	0.0	0.0	0.0	0.0	0.0	17.2

Intersection Summary		
HCM 6th Ctrl Delay		408.4
HCM 6th LOS		F

Notes

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

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	386	58	173	1144	16	448	253	308	45	247	63
Future Volume (veh/h)	21	386	58	173	1144	16	448	253	308	45	247	63
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	23	420	63	188	1243	17	487	275	335	49	268	68
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, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	62	870	130	214	1315	18	347	260	317	91	281	71
Arrive On Green	0.04	0.28	0.28	0.12	0.37	0.37	0.20	0.34	0.34	0.05	0.20	0.20
Sat Flow, veh/h	1753	3053	455	1753	3532	48	1753	755	920	1753	1417	359
Grp Volume(v), veh/h	23	239	244	188	615	645	487	0	610	49	0	336
Grp Sat Flow(s),veh/h/ln	1753	1749	1759	1753	1749	1832	1753	0	1675	1753	0	1776
Q Serve(g_s), s	1.6	14.3	14.5	13.3	43.0	43.0	25.0	0.0	43.4	3.4	0.0	23.6
Cycle Q Clear(g_c), s	1.6	14.3	14.5	13.3	43.0	43.0	25.0	0.0	43.4	3.4	0.0	23.6
Prop In Lane	1.00		0.26	1.00		0.03	1.00		0.55	1.00		0.20
Lane Grp Cap(c), veh/h	62	498	501	214	651	682	347	0	577	91	0	352
V/C Ratio(X)	0.37	0.48	0.49	0.88	0.95	0.95	1.40	0.00	1.06	0.54	0.00	0.96
Avail Cap(c_a), veh/h	347	665	669	347	665	697	347	0	577	347	0	352
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	59.5	37.4	37.4	54.4	38.4	38.4	50.6	0.0	41.4	58.3	0.0	50.0
Incr Delay (d2), s/veh	1.4	1.6	1.6	8.1	22.2	21.6	197.6	0.0	53.8	1.8	0.0	36.9
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	0.7	6.1	6.2	6.1	21.1	22.0	29.6	0.0	25.5	1.5	0.0	13.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.9	39.0	39.1	62.6	60.5	59.9	248.2	0.0	95.2	60.2	0.0	86.9
LnGrp LOS	E	D	D	E	E	E	F	A	F	E	A	F
Approach Vol, veh/h		506			1448			1097			385	
Approach Delay, s/veh		40.0			60.5			163.1			83.5	
Approach LOS		D			E			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.4	43.8	30.0	32.0	9.4	54.8	11.6	50.4
Change Period (Y+Rc), s	5.0	7.8	5.0	7.0	5.0	7.8	5.0	7.0
Max Green Setting (Gmax), s	25.0	48.0	25.0	25.0	25.0	48.0	25.0	25.0
Max Q Clear Time (g_c+I1), s	15.3	16.5	27.0	25.6	3.6	45.0	5.4	45.4
Green Ext Time (p_c), s	0.2	5.5	0.0	0.0	0.0	1.9	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	92.8
HCM 6th LOS	F

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	511	139	125	1057	39	88	51	279	199	226	248
Future Volume (veh/h)	96	511	139	125	1057	39	88	51	279	199	226	248
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	104	555	151	136	1149	42	96	55	303	216	246	270
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, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	132	743	201	171	1033	461	122	69	378	150	544	461
Arrive On Green	0.08	0.27	0.27	0.10	0.30	0.30	0.07	0.28	0.28	0.09	0.30	0.30
Sat Flow, veh/h	1753	2719	737	1753	3497	1560	1753	245	1352	1753	1841	1560
Grp Volume(v), veh/h	104	356	350	136	1149	42	96	0	358	216	246	270
Grp Sat Flow(s),veh/h/ln	1753	1749	1708	1753	1749	1560	1753	0	1597	1753	1841	1560
Q Serve(g_s), s	3.8	12.0	12.0	4.9	19.0	1.3	3.5	0.0	13.4	5.5	7.0	9.5
Cycle Q Clear(g_c), s	3.8	12.0	12.0	4.9	19.0	1.3	3.5	0.0	13.4	5.5	7.0	9.5
Prop In Lane	1.00		0.43	1.00		1.00	1.00		0.85	1.00		1.00
Lane Grp Cap(c), veh/h	132	478	466	171	1033	461	122	0	447	150	544	461
V/C Ratio(X)	0.79	0.75	0.75	0.80	1.11	0.09	0.79	0.00	0.80	1.44	0.45	0.59
Avail Cap(c_a), veh/h	150	481	470	185	1033	461	136	0	447	150	544	461
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	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.2	21.4	21.4	28.4	22.7	16.4	29.5	0.0	21.5	29.4	18.4	19.3
Incr Delay (d2), s/veh	21.3	6.2	6.6	19.6	64.3	0.1	23.4	0.0	14.0	232.3	0.6	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	2.2	5.0	5.0	2.8	15.7	0.4	2.1	0.0	5.9	11.9	2.9	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.6	27.6	27.9	48.0	87.0	16.5	52.8	0.0	35.6	261.8	19.0	21.2
LnGrp LOS	D	C	C	D	F	B	D	A	D	F	B	C
Approach Vol, veh/h		810			1327			454			732	
Approach Delay, s/veh		30.7			80.8			39.2			91.5	
Approach LOS		C			F			D			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.0	22.0	10.8	21.6	9.0	23.0	9.4	23.0				
Change Period (Y+Rc), s	4.5	4.0	4.5	4.0	4.5	4.0	4.5	4.0				
Max Green Setting (Gmax), s	5.5	18.0	6.8	17.7	5.0	18.5	5.5	19.0				
Max Q Clear Time (g_c+I1), s	7.5	15.4	6.9	14.0	5.5	11.5	5.8	21.0				
Green Ext Time (p_c), s	0.0	0.5	0.0	1.4	0.0	1.5	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			65.2									
HCM 6th LOS			E									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↱		↰	↱	
Traffic Volume (veh/h)	78	705	31	61	0	130	133	87	91	143	44	42
Future Volume (veh/h)	78	705	31	61	0	130	133	87	91	143	44	42
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	85	766	34	66	0	141	145	95	99	155	48	46
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, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	153	1146	51	138	572	511	461	269	280	373	282	270
Arrive On Green	0.09	0.34	0.34	0.08	0.00	0.33	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	1753	3411	151	1753	1749	1560	1281	826	860	1170	864	828
Grp Volume(v), veh/h	85	393	407	66	0	141	145	0	194	155	0	94
Grp Sat Flow(s),veh/h/ln	1753	1749	1813	1753	1749	1560	1281	0	1686	1170	0	1692
Q Serve(g_s), s	3.6	14.7	14.8	2.8	0.0	5.1	7.0	0.0	6.7	8.9	0.0	3.0
Cycle Q Clear(g_c), s	3.6	14.7	14.8	2.8	0.0	5.1	10.0	0.0	6.7	15.6	0.0	3.0
Prop In Lane	1.00		0.08	1.00		1.00	1.00		0.51	1.00		0.49
Lane Grp Cap(c), veh/h	153	587	609	138	572	511	461	0	550	373	0	551
V/C Ratio(X)	0.56	0.67	0.67	0.48	0.00	0.28	0.31	0.00	0.35	0.42	0.00	0.17
Avail Cap(c_a), veh/h	457	912	946	457	912	814	461	0	550	373	0	551
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.6	21.8	21.8	33.8	0.0	19.1	22.0	0.0	19.7	25.6	0.0	18.4
Incr Delay (d2), s/veh	1.2	3.1	3.0	1.0	0.0	0.7	1.8	0.0	1.8	3.4	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	1.4	5.6	5.8	1.1	0.0	1.7	2.1	0.0	2.6	2.6	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.8	24.9	24.8	34.8	0.0	19.8	23.8	0.0	21.5	29.0	0.0	19.1
LnGrp LOS	C	C	C	C	A	B	C	A	C	C	A	B
Approach Vol, veh/h		885			207			339			249	
Approach Delay, s/veh		25.8			24.5			22.5			25.3	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.1	31.9		31.7	12.4	32.6		31.7				
Change Period (Y+Rc), s	6.4	6.8		6.7	6.4	6.8		6.7				
Max Green Setting (Gmax), s	20.0	40.0		25.0	20.0	40.0		25.0				
Max Q Clear Time (g_c+I1), s	15.6	7.1		12.0	4.8	16.8		17.6				
Green Ext Time (p_c), s	0.1	1.6		3.3	0.0	9.0		1.1				

Intersection Summary	
HCM 6th Ctrl Delay	24.9
HCM 6th LOS	C

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	135	277	10	206	451	125	122	226	110	52	325	257
Future Volume (veh/h)	135	277	10	206	451	125	122	226	110	52	325	257
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	147	301	11	224	490	136	133	246	120	57	353	279
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, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	185	749	27	269	720	199	168	593	503	71	491	416
Arrive On Green	0.11	0.22	0.22	0.15	0.27	0.27	0.10	0.32	0.32	0.04	0.27	0.27
Sat Flow, veh/h	1753	3441	125	1753	2708	747	1753	1841	1560	1753	1841	1560
Grp Volume(v), veh/h	147	153	159	224	315	311	133	246	120	57	353	279
Grp Sat Flow(s),veh/h/ln	1753	1749	1818	1753	1749	1706	1753	1841	1560	1753	1841	1560
Q Serve(g_s), s	5.2	4.8	4.8	7.9	10.3	10.4	4.7	6.7	3.6	2.1	11.1	10.2
Cycle Q Clear(g_c), s	5.2	4.8	4.8	7.9	10.3	10.4	4.7	6.7	3.6	2.1	11.1	10.2
Prop In Lane	1.00		0.07	1.00		0.44	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	185	381	396	269	465	454	168	593	503	71	491	416
V/C Ratio(X)	0.80	0.40	0.40	0.83	0.68	0.68	0.79	0.41	0.24	0.80	0.72	0.67
Avail Cap(c_a), veh/h	384	630	655	549	630	614	329	663	562	274	663	562
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	27.9	21.4	21.4	26.2	21.0	21.0	28.2	16.9	15.9	30.4	21.2	20.9
Incr Delay (d2), s/veh	3.0	1.5	1.4	2.6	3.7	3.9	3.1	1.0	0.5	7.6	4.5	4.0
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	2.1	1.9	2.0	3.2	4.3	4.3	2.0	2.6	1.2	1.0	4.9	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.9	22.9	22.8	28.8	24.7	25.0	31.4	17.9	16.4	38.0	25.7	24.9
LnGrp LOS	C	C	C	C	C	C	C	B	B	D	C	C
Approach Vol, veh/h		459			850			499			689	
Approach Delay, s/veh		25.4			25.9			21.1			26.4	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.7	21.5	6.6	25.1	13.8	18.4	10.1	21.5
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5
Max Green Setting (Gmax), s	14.0	23.0	10.0	23.0	20.0	23.0	12.0	23.0
Max Q Clear Time (g_c+I1), s	7.2	12.4	4.1	8.7	9.9	6.8	6.7	13.1
Green Ext Time (p_c), s	0.0	4.5	0.0	2.8	0.1	2.6	0.0	3.9

Intersection Summary	
HCM 6th Ctrl Delay	25.0
HCM 6th LOS	C

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	306	27	50	522	77	40	95	25	92	353	339
Future Volume (veh/h)	86	306	27	50	522	77	40	95	25	92	353	339
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	93	333	29	54	567	84	43	103	27	100	384	368
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, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	119	503	44	66	425	63	52	379	99	129	577	489
Arrive On Green	0.07	0.30	0.30	0.04	0.27	0.27	0.03	0.27	0.27	0.07	0.31	0.31
Sat Flow, veh/h	1753	1669	145	1753	1567	232	1753	1406	369	1753	1841	1560
Grp Volume(v), veh/h	93	0	362	54	0	651	43	0	130	100	384	368
Grp Sat Flow(s),veh/h/ln	1753	0	1815	1753	0	1799	1753	0	1774	1753	1841	1560
Q Serve(g_s), s	2.9	0.0	9.6	1.7	0.0	15.0	1.4	0.0	3.2	3.1	10.0	11.7
Cycle Q Clear(g_c), s	2.9	0.0	9.6	1.7	0.0	15.0	1.4	0.0	3.2	3.1	10.0	11.7
Prop In Lane	1.00		0.08	1.00		0.13	1.00		0.21	1.00		1.00
Lane Grp Cap(c), veh/h	119	0	547	66	0	488	52	0	478	129	577	489
V/C Ratio(X)	0.78	0.00	0.66	0.81	0.00	1.33	0.83	0.00	0.27	0.78	0.67	0.75
Avail Cap(c_a), veh/h	475	0	547	380	0	488	475	0	962	475	998	846
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.4	0.0	16.9	26.4	0.0	20.2	26.7	0.0	15.9	25.2	16.5	17.1
Incr Delay (d2), s/veh	4.1	0.0	2.9	8.6	0.0	164.2	11.9	0.0	0.3	3.8	1.3	2.4
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	1.2	0.0	3.9	0.8	0.0	27.7	0.7	0.0	1.2	1.4	4.1	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.5	0.0	19.8	35.0	0.0	184.4	38.6	0.0	16.2	28.9	17.8	19.5
LnGrp LOS	C	A	B	D	A	F	D	A	B	C	B	B
Approach Vol, veh/h		455			705			173			852	
Approach Delay, s/veh		21.7			172.9			21.8			19.8	
Approach LOS		C			F			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.0	19.6	8.3	19.5	6.3	21.3	5.8	21.9
Change Period (Y+Rc), s	* 4.2	4.6	* 4.2	4.6	* 4.2	* 4.6	* 4.2	4.6
Max Green Setting (Gmax), s	* 15	15.0	* 15	30.0	* 12	* 15	* 15	30.0
Max Q Clear Time (g_c+I1), s	4.9	17.0	5.1	5.2	3.7	11.6	3.4	13.7
Green Ext Time (p_c), s	0.1	0.0	0.1	0.7	0.0	0.6	0.0	3.6

Intersection Summary	
HCM 6th Ctrl Delay	69.8
HCM 6th LOS	E

Notes

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

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	330	138	110	586	154	98	194	102	140	367	133
Future Volume (veh/h)	53	330	138	110	586	154	98	194	102	140	367	133
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	58	359	150	120	637	167	107	211	111	152	399	145
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, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	74	1544	689	151	1331	349	136	287	244	187	341	289
Arrive On Green	0.04	0.44	0.44	0.09	0.49	0.49	0.08	0.16	0.16	0.11	0.19	0.19
Sat Flow, veh/h	1753	3497	1560	1753	2742	718	1753	1841	1560	1753	1841	1560
Grp Volume(v), veh/h	58	359	150	120	406	398	107	211	111	152	399	145
Grp Sat Flow(s),veh/h/ln	1753	1749	1560	1753	1749	1711	1753	1841	1560	1753	1841	1560
Q Serve(g_s), s	2.7	5.2	4.8	5.4	12.6	12.6	4.9	8.8	5.2	6.9	15.0	6.8
Cycle Q Clear(g_c), s	2.7	5.2	4.8	5.4	12.6	12.6	4.9	8.8	5.2	6.9	15.0	6.8
Prop In Lane	1.00		1.00	1.00		0.42	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	74	1544	689	151	849	831	136	287	244	187	341	289
V/C Ratio(X)	0.79	0.23	0.22	0.79	0.48	0.48	0.79	0.73	0.46	0.81	1.17	0.50
Avail Cap(c_a), veh/h	303	1544	689	303	849	831	281	341	289	281	341	289
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	38.4	14.1	14.0	36.3	14.0	14.0	36.7	32.6	31.0	35.4	33.0	29.6
Incr Delay (d2), s/veh	6.7	0.1	0.1	3.6	1.9	2.0	3.8	6.1	1.1	6.1	103.6	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	1.2	1.9	1.6	2.3	4.6	4.5	2.1	4.2	1.9	3.1	16.1	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.2	14.1	14.1	39.9	15.9	15.9	40.5	38.7	32.1	41.5	136.6	30.7
LnGrp LOS	D	B	B	D	B	B	D	D	C	D	F	C
Approach Vol, veh/h		567			924			429			696	
Approach Delay, s/veh		17.3			19.0			37.4			93.8	
Approach LOS		B			B			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.4	43.8	12.6	17.1	11.0	40.3	10.3	19.5
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5
Max Green Setting (Gmax), s	14.0	22.0	13.0	15.0	14.0	22.0	13.0	15.0
Max Q Clear Time (g_c+I1), s	4.7	14.6	8.9	10.8	7.4	7.2	6.9	17.0
Green Ext Time (p_c), s	0.0	2.3	0.0	0.5	0.0	2.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	41.6
HCM 6th LOS	D

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	134	208	200	59	385	53	188	135	33	15	180	98
Future Volume (veh/h)	134	208	200	59	385	53	188	135	33	15	180	98
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	146	226	217	64	418	58	204	147	36	16	196	107
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, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	315	376	361	324	690	96	380	557	136	482	436	238
Arrive On Green	0.44	0.44	0.44	0.44	0.44	0.44	0.39	0.39	0.39	0.39	0.39	0.39
Sat Flow, veh/h	904	863	829	932	1582	219	1059	1428	350	1182	1120	611
Grp Volume(v), veh/h	146	0	443	64	0	476	204	0	183	16	0	303
Grp Sat Flow(s),veh/h/ln	904	0	1692	932	0	1801	1059	0	1778	1182	0	1731
Q Serve(g_s), s	10.2	0.0	13.8	3.9	0.0	14.0	12.2	0.0	4.8	0.6	0.0	8.9
Cycle Q Clear(g_c), s	24.2	0.0	13.8	17.7	0.0	14.0	21.1	0.0	4.8	5.5	0.0	8.9
Prop In Lane	1.00		0.49	1.00		0.12	1.00		0.20	1.00		0.35
Lane Grp Cap(c), veh/h	315	0	738	324	0	785	380	0	693	482	0	675
V/C Ratio(X)	0.46	0.00	0.60	0.20	0.00	0.61	0.54	0.00	0.26	0.03	0.00	0.45
Avail Cap(c_a), veh/h	419	0	932	431	0	993	551	0	980	673	0	954
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.2	0.0	14.9	21.6	0.0	14.9	23.4	0.0	14.3	16.2	0.0	15.6
Incr Delay (d2), s/veh	1.7	0.0	1.3	1.1	0.0	2.9	4.5	0.0	0.8	0.1	0.0	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	2.0	0.0	4.3	0.8	0.0	5.0	3.0	0.0	1.7	0.2	0.0	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.9	0.0	16.2	22.7	0.0	17.8	27.8	0.0	15.1	16.3	0.0	17.6
LnGrp LOS	C	A	B	C	A	B	C	A	B	B	A	B
Approach Vol, veh/h		589			540			387			319	
Approach Delay, s/veh		18.6			18.4			21.8			17.5	
Approach LOS		B			B			C			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		32.9		36.1		32.9		36.1				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		38.0		38.0		38.0		38.0				
Max Q Clear Time (g_c+I1), s		10.9		19.7		23.1		26.2				
Green Ext Time (p_c), s		4.7		6.7		3.8		3.9				
Intersection Summary												
HCM 6th Ctrl Delay			19.0									
HCM 6th LOS			B									

Intersection	
Intersection Delay, s/veh	10.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	116	2	0	374	7	6	16	13	23	4	57
Future Vol, veh/h	15	116	2	0	374	7	6	16	13	23	4	57
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, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	16	126	2	0	407	8	7	17	14	25	4	62
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.9	12.1	8.5	8.7
HCM LOS	A	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	17%	11%	0%	27%
Vol Thru, %	46%	87%	98%	5%
Vol Right, %	37%	2%	2%	68%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	35	133	381	84
LT Vol	6	15	0	23
Through Vol	16	116	374	4
RT Vol	13	2	7	57
Lane Flow Rate	38	145	414	91
Geometry Grp	1	1	1	1
Degree of Util (X)	0.055	0.191	0.511	0.125
Departure Headway (Hd)	5.182	4.755	4.446	4.937
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	687	752	808	723
Service Time	3.24	2.799	2.481	2.988
HCM Lane V/C Ratio	0.055	0.193	0.512	0.126
HCM Control Delay	8.5	8.9	12.1	8.7
HCM Lane LOS	A	A	B	A
HCM 95th-tile Q	0.2	0.7	3	0.4

Intersection	
Int Delay, s/veh	6.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	44	12	94	0	111	10	41	173	0	5	247	111
Future Vol, veh/h	44	12	94	0	111	10	41	173	0	5	247	111
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
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, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	48	13	102	0	121	11	45	188	0	5	268	121

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	683	617	329	674	677	188	389	0	0	188	0	0
Stage 1	339	339	-	278	278	-	-	-	-	-	-	-
Stage 2	344	278	-	396	399	-	-	-	-	-	-	-
Critical Hdwy	7.14	6.54	6.24	7.14	6.54	6.24	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.14	5.54	-	6.14	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.14	5.54	-	6.14	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.536	4.036	3.336	3.536	4.036	3.336	2.236	-	-	2.236	-	-
Pot Cap-1 Maneuver	361	403	708	366	372	849	1159	-	-	1374	-	-
Stage 1	671	636	-	724	677	-	-	-	-	-	-	-
Stage 2	667	677	-	625	599	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	253	384	708	294	354	849	1159	-	-	1374	-	-
Mov Cap-2 Maneuver	253	384	-	294	354	-	-	-	-	-	-	-
Stage 1	642	633	-	693	648	-	-	-	-	-	-	-
Stage 2	513	648	-	521	596	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.7	19.9	1.6	0.1
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1159	-	-	444	372	1374	-	-
HCM Lane V/C Ratio	0.038	-	-	0.367	0.354	0.004	-	-
HCM Control Delay (s)	8.2	0	-	17.7	19.9	7.6	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1.7	1.6	0	-	-

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	26	4	2	37	5	4	102	79	0	125	32
Future Vol, veh/h	17	26	4	2	37	5	4	102	79	0	125	32
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
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, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	18	28	4	2	40	5	4	111	86	0	136	35

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	339	359	154	332	333	154	171	0	0	197	0	0
Stage 1	154	154	-	162	162	-	-	-	-	-	-	-
Stage 2	185	205	-	170	171	-	-	-	-	-	-	-
Critical Hdwy	7.14	6.54	6.24	7.14	6.54	6.24	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.14	5.54	-	6.14	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.14	5.54	-	6.14	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.536	4.036	3.336	3.536	4.036	3.336	2.236	-	-	2.236	-	-
Pot Cap-1 Maneuver	611	564	887	618	584	887	1394	-	-	1364	-	-
Stage 1	844	766	-	835	760	-	-	-	-	-	-	-
Stage 2	812	728	-	827	753	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	574	562	887	590	582	887	1394	-	-	1364	-	-
Mov Cap-2 Maneuver	574	562	-	590	582	-	-	-	-	-	-	-
Stage 1	841	766	-	832	758	-	-	-	-	-	-	-
Stage 2	762	726	-	793	753	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.7	11.4	0.2	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1394	-	-	585	606	1364	-	-
HCM Lane V/C Ratio	0.003	-	-	0.087	0.079	-	-	-
HCM Control Delay (s)	7.6	0	-	11.7	11.4	0	-	-
HCM Lane LOS	A	A	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.3	0	-	-

Intersection	
Int Delay, s/veh	5.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	592	34	39	194	41	185
Future Vol, veh/h	592	34	39	194	41	185
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	643	37	42	211	45	201

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	643	0	938	643
Stage 1	-	-	-	-	643	-
Stage 2	-	-	-	-	295	-
Critical Hdwy	-	-	4.14	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.236	-	3.536	3.336
Pot Cap-1 Maneuver	-	0	932	-	291	470
Stage 1	-	0	-	-	520	-
Stage 2	-	0	-	-	751	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	932	-	276	470
Mov Cap-2 Maneuver	-	-	-	-	276	-
Stage 1	-	-	-	-	493	-
Stage 2	-	-	-	-	751	-

Approach	EB		WB		NB	
HCM Control Delay, s	0		1.5		25.3	
HCM LOS					D	

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	417	-	932	-
HCM Lane V/C Ratio	0.589	-	0.045	-
HCM Control Delay (s)	25.3	-	9	0
HCM Lane LOS	D	-	A	A
HCM 95th %tile Q(veh)	3.7	-	0.1	-

Intersection	
Intersection Delay, s/veh	12.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	61	122	27	42	36	178	335	34	27	218	21
Future Vol, veh/h	30	61	122	27	42	36	178	335	34	27	218	21
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, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	33	66	133	29	46	39	193	364	37	29	237	23
Number of Lanes	0	1	0	0	1	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	1	1
HCM Control Delay	14.4	12.1	12.9	11.6
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	14%	26%	100%	0%	0%
Vol Thru, %	0%	100%	77%	29%	40%	0%	100%	78%
Vol Right, %	0%	0%	23%	57%	34%	0%	0%	22%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	178	223	146	213	105	27	145	94
LT Vol	178	0	0	30	27	27	0	0
Through Vol	0	223	112	61	42	0	145	73
RT Vol	0	0	34	122	36	0	0	21
Lane Flow Rate	193	243	158	232	114	29	158	102
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.364	0.423	0.268	0.428	0.227	0.059	0.294	0.185
Departure Headway (Hd)	6.78	6.269	6.103	6.661	7.15	7.201	6.689	6.529
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	528	570	586	537	499	495	534	546
Service Time	4.553	4.042	3.875	4.444	4.946	4.986	4.474	4.313
HCM Lane V/C Ratio	0.366	0.426	0.27	0.432	0.228	0.059	0.296	0.187
HCM Control Delay	13.4	13.6	11.1	14.4	12.1	10.4	12.3	10.8
HCM Lane LOS	B	B	B	B	B	B	B	B
HCM 95th-tile Q	1.7	2.1	1.1	2.1	0.9	0.2	1.2	0.7

Intersection	
Intersection Delay, s/veh	13.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	42	24	69	11	20	22	88	521	78	30	328	18
Future Vol, veh/h	42	24	69	11	20	22	88	521	78	30	328	18
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, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	46	26	75	12	22	24	96	566	85	33	357	20
Number of Lanes	0	1	0	0	1	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	1	1
HCM Control Delay	12.6	11.1	15	12.3
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	31%	21%	100%	0%	0%
Vol Thru, %	0%	100%	69%	18%	38%	0%	100%	86%
Vol Right, %	0%	0%	31%	51%	42%	0%	0%	14%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	88	347	252	135	53	30	219	127
LT Vol	88	0	0	42	11	30	0	0
Through Vol	0	347	174	24	20	0	219	109
RT Vol	0	0	78	69	22	0	0	18
Lane Flow Rate	96	378	274	147	58	33	238	138
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.17	0.618	0.431	0.287	0.117	0.062	0.415	0.238
Departure Headway (Hd)	6.401	5.894	5.674	7.037	7.305	6.79	6.283	6.182
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	560	612	632	509	489	526	570	579
Service Time	4.15	3.643	3.423	4.802	5.082	4.549	4.041	3.94
HCM Lane V/C Ratio	0.171	0.618	0.434	0.289	0.119	0.063	0.418	0.238
HCM Control Delay	10.5	17.8	12.7	12.6	11.1	10	13.5	10.9
HCM Lane LOS	B	C	B	B	B	A	B	B
HCM 95th-tile Q	0.6	4.2	2.2	1.2	0.4	0.2	2	0.9

Intersection	
Intersection Delay, s/veh	11.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	36	12	37	4	26	4	63	656	0	0	392	11
Future Vol, veh/h	36	12	37	4	26	4	63	656	0	0	392	11
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, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	39	13	40	4	28	4	68	713	0	0	426	12
Number of Lanes	0	1	0	0	1	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	1	1
HCM Control Delay	11.3	10.6	11.7	12.3
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	42%	12%	0%	0%	0%
Vol Thru, %	0%	100%	100%	14%	76%	100%	100%	92%
Vol Right, %	0%	0%	0%	44%	12%	0%	0%	8%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	63	328	328	85	34	0	261	142
LT Vol	63	0	0	36	4	0	0	0
Through Vol	0	328	328	12	26	0	261	131
RT Vol	0	0	0	37	4	0	0	11
Lane Flow Rate	68	357	357	92	37	0	284	154
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.116	0.554	0.377	0.18	0.074	0	0.459	0.247
Departure Headway (Hd)	6.102	5.597	3.811	7.012	7.238	5.823	5.823	5.768
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	591	649	948	512	494	0	619	622
Service Time	3.802	3.297	1.511	4.758	4.99	3.559	3.559	3.504
HCM Lane V/C Ratio	0.115	0.55	0.377	0.18	0.075	0	0.459	0.248
HCM Control Delay	9.6	15	8.8	11.3	10.6	8.6	13.4	10.4
HCM Lane LOS	A	B	A	B	B	N	B	B
HCM 95th-tile Q	0.4	3.4	1.8	0.7	0.2	0	2.4	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	87	790	365	76	593	190	339	311	148	197	264	75
Future Volume (veh/h)	87	790	365	76	593	190	339	311	148	197	264	75
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	95	859	397	83	645	207	368	338	161	214	287	82
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	123	1406	627	120	1393	621	429	431	202	279	383	108
Arrive On Green	0.07	0.40	0.40	0.07	0.39	0.39	0.12	0.18	0.18	0.08	0.14	0.14
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	3456	2351	1099	3456	2740	768
Grp Volume(v), veh/h	95	859	397	83	645	207	368	254	245	214	184	185
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1728	1777	1673	1728	1777	1732
Q Serve(g_s), s	5.7	21.0	22.1	5.0	14.7	10.0	11.4	14.9	15.3	6.6	10.9	11.2
Cycle Q Clear(g_c), s	5.7	21.0	22.1	5.0	14.7	10.0	11.4	14.9	15.3	6.6	10.9	11.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.66	1.00		0.44
Lane Grp Cap(c), veh/h	123	1406	627	120	1393	621	429	326	307	279	249	242
V/C Ratio(X)	0.77	0.61	0.63	0.69	0.46	0.33	0.86	0.78	0.80	0.77	0.74	0.76
Avail Cap(c_a), veh/h	245	1790	798	245	1790	798	490	326	307	490	325	317
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	50.0	26.3	26.6	49.8	24.7	23.2	46.9	42.5	42.7	49.2	45.1	45.2
Incr Delay (d2), s/veh	3.8	1.6	3.8	2.7	0.9	1.1	11.5	15.0	17.5	1.7	14.3	16.3
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	2.6	8.4	8.3	2.2	5.9	3.6	5.3	7.5	7.4	2.8	5.5	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.8	27.9	30.4	52.5	25.5	24.4	58.4	57.4	60.1	50.9	59.4	61.5
LnGrp LOS	D	C	C	D	C	C	E	E	E	D	E	E
Approach Vol, veh/h		1351			935			867			583	
Approach Delay, s/veh		30.4			27.7			58.6			56.9	
Approach LOS		C			C			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.6	51.1	20.8	22.8	15.0	50.7	16.0	27.5				
Change Period (Y+Rc), s	* 7.2	7.9	* 7.2	7.5	7.4	7.9	* 7.2	7.5				
Max Green Setting (Gmax), s	* 15	55.0	* 16	20.0	15.0	55.0	* 16	20.0				
Max Q Clear Time (g_c+I1), s	7.0	24.1	13.4	13.2	7.7	16.7	8.6	17.3				
Green Ext Time (p_c), s	0.0	19.1	0.2	2.1	0.0	14.1	0.2	1.3				

Intersection Summary		
HCM 6th Ctrl Delay		40.4
HCM 6th LOS		D

Notes

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

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	288	49	361	46	65	61	264	533	113	38	478	187
Future Volume (veh/h)	288	49	361	46	65	61	264	533	113	38	478	187
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	313	53	392	50	71	66	287	579	123	41	520	203
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, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	271	30	530	62	82	45	331	1179	250	108	698	271
Arrive On Green	0.34	0.34	0.34	0.34	0.34	0.34	0.19	0.41	0.41	0.06	0.28	0.28
Sat Flow, veh/h	529	90	1560	0	240	131	1753	2872	608	1753	2461	956
Grp Volume(v), veh/h	366	0	392	187	0	0	287	352	350	41	369	354
Grp Sat Flow(s),veh/h/ln	619	0	1560	372	0	0	1753	1749	1731	1753	1749	1669
Q Serve(g_s), s	0.0	0.0	16.3	0.0	0.0	0.0	11.7	10.9	11.0	1.7	14.1	14.2
Cycle Q Clear(g_c), s	25.0	0.0	16.3	25.0	0.0	0.0	11.7	10.9	11.0	1.7	14.1	14.2
Prop In Lane	0.86		1.00	0.27		0.35	1.00		0.35	1.00		0.57
Lane Grp Cap(c), veh/h	301	0	530	188	0	0	331	718	711	108	496	473
V/C Ratio(X)	1.22	0.00	0.74	0.99	0.00	0.00	0.87	0.49	0.49	0.38	0.74	0.75
Avail Cap(c_a), veh/h	301	0	530	188	0	0	477	832	824	477	832	794
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	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.0	0.0	21.4	21.7	0.0	0.0	28.9	16.0	16.0	33.1	23.9	24.0
Incr Delay (d2), s/veh	123.3	0.0	5.5	63.2	0.0	0.0	8.3	0.6	0.6	0.8	2.4	2.6
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	15.5	0.0	6.2	5.5	0.0	0.0	5.4	4.1	4.0	0.7	5.7	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	151.3	0.0	26.9	84.9	0.0	0.0	37.3	16.6	16.6	34.0	26.3	26.6
LnGrp LOS	F	A	C	F	A	A	D	B	B	C	C	C
Approach Vol, veh/h		758			187			989			764	
Approach Delay, s/veh		87.0			84.9			22.6			26.8	
Approach LOS		F			F			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	17.9	25.5		30.2	8.5	34.8		30.2				
Change Period (Y+Rc), s	4.0	4.6		* 5.2	4.0	4.6		* 5.2				
Max Green Setting (Gmax), s	20.0	35.0		* 25	20.0	35.0		* 25				
Max Q Clear Time (g_c+I1), s	13.7	16.2		27.0	3.7	13.0		27.0				
Green Ext Time (p_c), s	0.2	4.7		0.0	0.0	4.7		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		46.2
HCM 6th LOS		D

Notes

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

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	31	11	89	14	148	13	503	117	244	521	13
Future Volume (veh/h)	14	31	11	89	14	148	13	503	117	244	521	13
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	15	34	12	97	15	161	14	547	127	265	566	14
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, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	138	207	59	369	46	281	50	968	432	341	1545	38
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.03	0.28	0.28	0.19	0.44	0.44
Sat Flow, veh/h	197	1147	329	1195	257	1560	1753	3497	1560	1753	3488	86
Grp Volume(v), veh/h	61	0	0	112	0	161	14	547	127	265	284	296
Grp Sat Flow(s),veh/h/ln	1674	0	0	1453	0	1560	1753	1749	1560	1753	1749	1825
Q Serve(g_s), s	0.0	0.0	0.0	1.5	0.0	4.1	0.3	5.8	2.8	6.3	4.7	4.7
Cycle Q Clear(g_c), s	1.3	0.0	0.0	2.7	0.0	4.1	0.3	5.8	2.8	6.3	4.7	4.7
Prop In Lane	0.25		0.20	0.87		1.00	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	404	0	0	416	0	281	50	968	432	341	774	808
V/C Ratio(X)	0.15	0.00	0.00	0.27	0.00	0.57	0.28	0.56	0.29	0.78	0.37	0.37
Avail Cap(c_a), veh/h	1022	0	0	961	0	894	804	2805	1251	804	1403	1464
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.2	0.0	0.0	15.7	0.0	16.4	20.8	13.5	12.4	16.7	8.1	8.1
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.3	0.0	1.8	3.0	0.5	0.4	3.8	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	0.4	0.0	0.0	0.9	0.0	1.4	0.2	1.9	0.8	2.4	1.3	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.4	0.0	0.0	16.1	0.0	18.2	23.7	14.0	12.8	20.5	8.4	8.4
LnGrp LOS	B	A	A	B	A	B	C	B	B	C	A	A
Approach Vol, veh/h		61			273			688			845	
Approach Delay, s/veh		15.4			17.3			14.0			12.2	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.2	24.4		14.0	12.5	17.2		14.0				
Change Period (Y+Rc), s	4.0	5.1		6.1	4.0	5.1		6.1				
Max Green Setting (Gmax), s	20.0	35.0		25.0	20.0	35.0		25.0				
Max Q Clear Time (g_c+I1), s	2.3	6.7		6.1	8.3	7.8		3.3				
Green Ext Time (p_c), s	0.0	3.6		1.1	0.6	4.2		0.2				

Intersection Summary			
HCM 6th Ctrl Delay			13.7
HCM 6th LOS			B

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	147	79	61	100	41	88	403	88	48	485	109
Future Volume (vph)	77	147	79	61	100	41	88	403	88	48	485	109
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	5.6	5.6	5.6	5.6	5.6	5.9	5.9		5.9	5.9	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1736	1827	1553	1736	1827	1553	1736	3378		1736	3376	
Flt Permitted	0.69	1.00	1.00	0.66	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1255	1827	1553	1198	1827	1553	1736	3378		1736	3376	
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)	84	160	86	66	109	45	96	438	96	52	527	118
RTOR Reduction (vph)	0	0	58	0	0	30	0	42	0	0	43	0
Lane Group Flow (vph)	84	160	28	66	109	15	96	492	0	52	602	0
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Split	NA		Split	NA	
Protected Phases		2			2		4!	4!		4!	4!	
Permitted Phases	2		2	2		2						
Actuated Green, G (s)	7.8	7.8	7.8	7.8	7.8	7.8	4.9	4.9		4.9	4.9	
Effective Green, g (s)	7.8	7.8	7.8	7.8	7.8	7.8	4.9	4.9		4.9	4.9	
Actuated g/C Ratio	0.32	0.32	0.32	0.32	0.32	0.32	0.20	0.20		0.20	0.20	
Clearance Time (s)	5.6	5.6	5.6	5.6	5.6	5.6	5.9	5.9		5.9	5.9	
Vehicle Extension (s)	4.5	4.5	4.5	4.5	4.5	4.5	0.2	0.2		0.2	0.2	
Lane Grp Cap (vph)	404	588	500	386	588	500	351	683		351	683	
v/s Ratio Prot		c0.09			0.06		0.06	0.15		0.03	c0.18	
v/s Ratio Perm	0.07		0.02	0.06		0.01						
v/c Ratio	0.21	0.27	0.06	0.17	0.19	0.03	0.27	0.72		0.15	0.88	
Uniform Delay, d1	6.0	6.1	5.7	5.9	5.9	5.6	8.1	9.0		7.9	9.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	0.4	0.1	0.4	0.3	0.0	0.2	3.0		0.1	12.4	
Delay (s)	6.4	6.5	5.7	6.2	6.2	5.7	8.3	12.1		8.0	21.8	
Level of Service	A	A	A	A	A	A	A	B		A	C	
Approach Delay (s)		6.3			6.1			11.5			20.8	
Approach LOS		A			A			B			C	

Intersection Summary			
HCM 2000 Control Delay	13.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	24.2	Sum of lost time (s)	11.5
Intersection Capacity Utilization	67.1%	ICU Level of Service	C
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	35.4
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	79	60	2	41	68	33	556	1	126	717	13
Future Vol, veh/h	21	79	60	2	41	68	33	556	1	126	717	13
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, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	23	86	65	2	45	74	36	604	1	137	779	14
Number of Lanes	0	1	0	0	1	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	1	1
HCM Control Delay	16.9	14.5	28.5	46.3
HCM LOS	C	B	D	E

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	13%	2%	100%	0%	0%
Vol Thru, %	0%	100%	99%	49%	37%	0%	100%	95%
Vol Right, %	0%	0%	1%	38%	61%	0%	0%	5%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	33	371	186	160	111	126	478	252
LT Vol	33	0	0	21	2	126	0	0
Through Vol	0	371	185	79	41	0	478	239
RT Vol	0	0	1	60	68	0	0	13
Lane Flow Rate	36	403	203	174	121	137	520	274
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.079	0.826	0.415	0.408	0.283	0.287	1.015	0.532
Departure Headway (Hd)	7.896	7.382	7.378	8.436	8.434	7.545	7.031	6.994
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	453	492	486	426	425	475	514	515
Service Time	5.658	5.143	5.139	6.202	6.205	5.304	4.79	4.753
HCM Lane V/C Ratio	0.079	0.819	0.418	0.408	0.285	0.288	1.012	0.532
HCM Control Delay	11.3	36.6	15.3	16.9	14.5	13.3	70.2	17.5
HCM Lane LOS	B	E	C	C	B	B	F	C
HCM 95th-tile Q	0.3	8.1	2	1.9	1.1	1.2	14.4	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	142	960	11	26	717	163	18	481	82	207	357	81
Future Volume (veh/h)	142	960	11	26	717	163	18	481	82	207	357	81
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	154	1043	12	28	779	177	20	523	89	225	388	88
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, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	184	1451	17	74	982	223	58	674	114	256	958	215
Arrive On Green	0.10	0.41	0.41	0.04	0.35	0.35	0.03	0.23	0.23	0.15	0.34	0.34
Sat Flow, veh/h	1753	3541	41	1753	2831	643	1753	2991	507	1753	2838	637
Grp Volume(v), veh/h	154	515	540	28	481	475	20	305	307	225	238	238
Grp Sat Flow(s),veh/h/ln	1753	1749	1833	1753	1749	1725	1753	1749	1749	1753	1749	1726
Q Serve(g_s), s	9.4	26.8	26.8	1.7	27.0	27.0	1.2	17.8	18.0	13.7	11.3	11.6
Cycle Q Clear(g_c), s	9.4	26.8	26.8	1.7	27.0	27.0	1.2	17.8	18.0	13.7	11.3	11.6
Prop In Lane	1.00		0.02	1.00		0.37	1.00		0.29	1.00		0.37
Lane Grp Cap(c), veh/h	184	717	751	74	607	598	58	394	394	256	591	583
V/C Ratio(X)	0.84	0.72	0.72	0.38	0.79	0.79	0.34	0.77	0.78	0.88	0.40	0.41
Avail Cap(c_a), veh/h	402	722	757	402	722	712	402	482	482	402	591	583
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	47.8	26.9	26.9	50.8	32.1	32.1	51.5	39.6	39.7	45.6	27.7	27.7
Incr Delay (d2), s/veh	3.8	4.3	4.1	1.2	6.8	6.9	1.3	10.7	11.0	8.5	1.4	1.4
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	4.2	11.3	11.8	0.7	11.9	11.7	0.5	8.4	8.5	6.3	4.7	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.7	31.2	31.0	52.0	38.9	39.0	52.8	50.3	50.7	54.1	29.0	29.1
LnGrp LOS	D	C	C	D	D	D	D	D	D	D	C	C
Approach Vol, veh/h		1209			984			632			701	
Approach Delay, s/veh		33.7			39.3			50.6			37.1	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.6	42.8	15.4	43.1	19.9	30.5	8.6	50.0
Change Period (Y+Rc), s	4.0	6.0	4.0	5.3	4.0	6.0	4.0	5.3
Max Green Setting (Gmax), s	25.0	30.0	25.0	45.0	25.0	30.0	25.0	45.0
Max Q Clear Time (g_c+I1), s	3.2	13.6	11.4	29.0	15.7	20.0	3.7	28.8
Green Ext Time (p_c), s	0.0	4.9	0.1	8.8	0.2	4.6	0.0	9.6

Intersection Summary	
HCM 6th Ctrl Delay	39.0
HCM 6th LOS	D

Notes

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

Intersection	
Intersection Delay, s/veh	21.8
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	22	260	10	17	136	5	26	285	21	29	310	19
Future Vol, veh/h	22	260	10	17	136	5	26	285	21	29	310	19
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, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	24	283	11	18	148	5	28	310	23	32	337	21
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	20.7	14.7	22.6	25.1
HCM LOS	C	B	C	D

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	8%	8%	11%	8%
Vol Thru, %	86%	89%	86%	87%
Vol Right, %	6%	3%	3%	5%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	332	292	158	358
LT Vol	26	22	17	29
Through Vol	285	260	136	310
RT Vol	21	10	5	19
Lane Flow Rate	361	317	172	389
Geometry Grp	1	1	1	1
Degree of Util (X)	0.674	0.617	0.357	0.72
Departure Headway (Hd)	6.725	7.001	7.481	6.664
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	538	517	479	545
Service Time	4.761	5.042	5.546	4.701
HCM Lane V/C Ratio	0.671	0.613	0.359	0.714
HCM Control Delay	22.6	20.7	14.7	25.1
HCM Lane LOS	C	C	B	D
HCM 95th-tile Q	5	4.1	1.6	5.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	590	10	63	556	58	7	222	62	93	136	111
Future Volume (veh/h)	62	590	10	63	556	58	7	222	62	93	136	111
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	67	641	11	68	604	63	8	241	67	101	148	121
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, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	146	883	15	147	805	84	29	293	81	173	275	225
Arrive On Green	0.08	0.25	0.25	0.08	0.25	0.25	0.02	0.21	0.21	0.10	0.29	0.29
Sat Flow, veh/h	1753	3518	60	1753	3197	333	1753	1386	385	1753	937	766
Grp Volume(v), veh/h	67	319	333	68	330	337	8	0	308	101	0	269
Grp Sat Flow(s),veh/h/ln	1753	1749	1830	1753	1749	1781	1753	0	1771	1753	0	1703
Q Serve(g_s), s	2.5	11.6	11.7	2.6	12.2	12.2	0.3	0.0	11.6	3.8	0.0	9.3
Cycle Q Clear(g_c), s	2.5	11.6	11.7	2.6	12.2	12.2	0.3	0.0	11.6	3.8	0.0	9.3
Prop In Lane	1.00		0.03	1.00		0.19	1.00		0.22	1.00		0.45
Lane Grp Cap(c), veh/h	146	439	459	147	440	448	29	0	375	173	0	500
V/C Ratio(X)	0.46	0.73	0.73	0.46	0.75	0.75	0.28	0.00	0.82	0.59	0.00	0.54
Avail Cap(c_a), veh/h	502	876	917	502	876	892	502	0	634	502	0	610
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.5	23.9	24.0	30.5	24.1	24.1	33.9	0.0	26.3	30.1	0.0	20.7
Incr Delay (d2), s/veh	2.2	2.3	2.2	2.3	2.6	2.6	5.1	0.0	4.5	3.1	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	1.0	4.4	4.6	1.1	4.6	4.7	0.2	0.0	4.8	1.6	0.0	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.7	26.2	26.2	32.7	26.7	26.7	39.0	0.0	30.8	33.3	0.0	21.6
LnGrp LOS	C	C	C	C	C	C	D	A	C	C	A	C
Approach Vol, veh/h		719			735			316			370	
Approach Delay, s/veh		26.8			27.2			31.0			24.8	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.2	27.5	10.8	25.4	11.9	21.8	10.9	25.3
Change Period (Y+Rc), s	5.0	7.0	5.0	7.8	5.0	7.0	5.0	7.8
Max Green Setting (Gmax), s	20.0	25.0	20.0	35.0	20.0	25.0	20.0	35.0
Max Q Clear Time (g_c+I1), s	2.3	11.3	4.5	14.2	5.8	13.6	4.6	13.7
Green Ext Time (p_c), s	0.0	1.1	0.1	3.4	0.2	1.2	0.1	3.3

Intersection Summary	
HCM 6th Ctrl Delay	27.2
HCM 6th LOS	C

Intersection	
Intersection Delay, s/veh	14.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	112	109	92	33	4	59	116	137	60	269	5
Future Vol, veh/h	4	112	109	92	33	4	59	116	137	60	269	5
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, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	4	122	118	100	36	4	64	126	149	65	292	5
Number of Lanes	0	1	1	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	2
HCM Control Delay	11.4	13.4	11.8	20.6
HCM LOS	B	B	B	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	34%	0%	3%	0%	71%	18%
Vol Thru, %	66%	0%	97%	0%	26%	81%
Vol Right, %	0%	100%	0%	100%	3%	1%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	175	137	116	109	129	334
LT Vol	59	0	4	0	92	60
Through Vol	116	0	112	0	33	269
RT Vol	0	137	0	109	4	5
Lane Flow Rate	190	149	126	118	140	363
Geometry Grp	7	7	7	7	6	6
Degree of Util (X)	0.35	0.237	0.244	0.205	0.288	0.647
Departure Headway (Hd)	6.619	5.735	6.961	6.228	7.402	6.411
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	538	619	512	571	488	559
Service Time	4.415	3.53	4.76	4.027	5.402	4.498
HCM Lane V/C Ratio	0.353	0.241	0.246	0.207	0.287	0.649
HCM Control Delay	13	10.3	12	10.7	13.4	20.6
HCM Lane LOS	B	B	B	B	B	C
HCM 95th-tile Q	1.6	0.9	0.9	0.8	1.2	4.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	227	558	108	21	675	52	83	95	8	83	214	256
Future Volume (veh/h)	227	558	108	21	675	52	83	95	8	83	214	256
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	247	607	117	23	734	57	90	103	9	90	233	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, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	271	944	800	50	656	51	132	232	20	148	280	
Arrive On Green	0.15	0.51	0.51	0.03	0.39	0.39	0.08	0.14	0.14	0.08	0.15	0.00
Sat Flow, veh/h	1753	1841	1560	1753	1686	131	1753	1669	146	1753	1841	1560
Grp Volume(v), veh/h	247	607	117	23	0	791	90	0	112	90	233	0
Grp Sat Flow(s),veh/h/ln	1753	1841	1560	1753	0	1817	1753	0	1814	1753	1841	1560
Q Serve(g_s), s	13.4	23.2	3.8	1.3	0.0	37.7	4.9	0.0	5.5	4.8	11.9	0.0
Cycle Q Clear(g_c), s	13.4	23.2	3.8	1.3	0.0	37.7	4.9	0.0	5.5	4.8	11.9	0.0
Prop In Lane	1.00		1.00	1.00		0.07	1.00		0.08	1.00		1.00
Lane Grp Cap(c), veh/h	271	944	800	50	0	707	132	0	252	148	280	
V/C Ratio(X)	0.91	0.64	0.15	0.46	0.00	1.12	0.68	0.00	0.44	0.61	0.83	
Avail Cap(c_a), veh/h	271	944	800	271	0	707	271	0	374	271	380	
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	40.3	17.2	12.4	46.4	0.0	29.6	43.7	0.0	38.3	42.8	39.9	0.0
Incr Delay (d2), s/veh	31.7	3.4	0.4	2.4	0.0	71.5	2.3	0.0	1.9	1.5	13.2	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	10.0	1.3	0.6	0.0	29.5	2.2	0.0	2.5	2.1	6.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.1	20.5	12.8	48.8	0.0	101.1	46.0	0.0	40.3	44.3	53.1	0.0
LnGrp LOS	E	C	B	D	A	F	D	A	D	D	D	
Approach Vol, veh/h		971			814			202			323	A
Approach Delay, s/veh		32.7			99.6			42.9			50.7	
Approach LOS		C			F			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.0	55.2	13.2	20.7	20.0	43.1	14.5	19.4
Change Period (Y+Rc), s	* 5.2	5.4	5.9	5.9	5.0	5.4	* 6.3	* 5.9
Max Green Setting (Gmax), s	* 15	25.0	15.0	20.0	15.0	25.0	* 15	* 20
Max Q Clear Time (g_c+I1), s	3.3	25.2	6.9	13.9	15.4	39.7	6.8	7.5
Green Ext Time (p_c), s	0.0	0.0	0.1	0.9	0.0	0.0	0.1	0.6

Intersection Summary		
HCM 6th Ctrl Delay		59.7
HCM 6th LOS		E

Notes

User approved pedestrian interval to be less than phase max green.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	1020	392	16	553	97	548	535	23	687	1129	261
Future Volume (veh/h)	96	1020	392	16	553	97	548	535	23	687	1129	261
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	104	1109	426	17	601	105	596	582	0	747	1227	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, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	128	1504	671	50	1148	200	274	819		274	819	
Arrive On Green	0.07	0.43	0.43	0.03	0.39	0.39	0.16	0.23	0.00	0.16	0.23	0.00
Sat Flow, veh/h	1753	3497	1560	1753	2977	519	1753	3497	1560	1753	3497	1560
Grp Volume(v), veh/h	104	1109	426	17	352	354	596	582	0	747	1227	0
Grp Sat Flow(s),veh/h/ln	1753	1749	1560	1753	1749	1747	1753	1749	1560	1753	1749	1560
Q Serve(g_s), s	7.5	33.9	27.4	1.2	19.9	20.0	20.0	19.6	0.0	20.0	30.0	0.0
Cycle Q Clear(g_c), s	7.5	33.9	27.4	1.2	19.9	20.0	20.0	19.6	0.0	20.0	30.0	0.0
Prop In Lane	1.00		1.00	1.00		0.30	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	128	1504	671	50	674	674	274	819		274	819	
V/C Ratio(X)	0.81	0.74	0.64	0.34	0.52	0.52	2.18	0.71		2.73	1.50	
Avail Cap(c_a), veh/h	274	1638	730	274	819	818	274	819		274	819	
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	0.00
Uniform Delay (d), s/veh	58.6	30.5	28.6	61.1	30.3	30.3	54.1	45.1	0.0	54.1	49.1	0.0
Incr Delay (d2), s/veh	4.7	2.9	3.9	1.5	2.9	2.9	542.0	2.5	0.0	788.7	230.7	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	3.4	13.8	10.3	0.5	8.4	8.5	49.6	8.4	0.0	68.4	38.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.3	33.4	32.6	62.6	33.2	33.2	596.1	47.6	0.0	842.8	279.8	0.0
LnGrp LOS	E	C	C	E	C	C	F	D		F	F	
Approach Vol, veh/h		1639			723			1178	A		1974	A
Approach Delay, s/veh		35.1			33.9			325.1			492.8	
Approach LOS		D			C			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	24.0	35.7	13.3	55.1	24.0	35.7	7.6	60.8
Change Period (Y+Rc), s	4.0	5.7	4.0	5.7	4.0	5.7	4.0	5.7
Max Green Setting (Gmax), s	20.0	30.0	20.0	60.0	20.0	30.0	20.0	60.0
Max Q Clear Time (g_c+I1), s	22.0	32.0	9.5	22.0	22.0	21.6	3.2	35.9
Green Ext Time (p_c), s	0.0	0.0	0.1	16.4	0.0	1.5	0.0	19.2

Intersection Summary	
HCM 6th Ctrl Delay	260.8
HCM 6th LOS	F

Notes

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

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	886	297	276	548	41	90	235	226	31	364	44
Future Volume (veh/h)	64	886	297	276	548	41	90	235	226	31	364	44
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	70	963	323	300	596	45	98	255	246	34	396	48
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, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	99	944	315	323	1629	123	121	186	180	76	307	37
Arrive On Green	0.06	0.37	0.37	0.18	0.49	0.49	0.07	0.22	0.22	0.04	0.19	0.19
Sat Flow, veh/h	1753	2576	859	1753	3296	248	1753	861	830	1753	1610	195
Grp Volume(v), veh/h	70	652	634	300	316	325	98	0	501	34	0	444
Grp Sat Flow(s),veh/h/ln	1753	1749	1686	1753	1749	1796	1753	0	1691	1753	0	1806
Q Serve(g_s), s	5.1	48.0	48.0	22.1	14.6	14.6	7.2	0.0	28.4	2.5	0.0	25.0
Cycle Q Clear(g_c), s	5.1	48.0	48.0	22.1	14.6	14.6	7.2	0.0	28.4	2.5	0.0	25.0
Prop In Lane	1.00		0.51	1.00		0.14	1.00		0.49	1.00		0.11
Lane Grp Cap(c), veh/h	99	641	618	323	864	888	121	0	366	76	0	345
V/C Ratio(X)	0.71	1.02	1.03	0.93	0.37	0.37	0.81	0.00	1.37	0.45	0.00	1.29
Avail Cap(c_a), veh/h	335	641	618	335	864	888	335	0	366	335	0	345
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	60.7	41.5	41.5	52.6	20.4	20.4	60.1	0.0	51.3	61.1	0.0	53.0
Incr Delay (d2), s/veh	3.5	39.9	43.0	30.4	0.3	0.3	4.8	0.0	182.1	1.5	0.0	149.8
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	2.3	26.3	25.9	12.0	5.6	5.8	3.3	0.0	30.1	1.1	0.0	25.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.2	81.4	84.4	83.0	20.7	20.7	64.9	0.0	233.4	62.6	0.0	202.8
LnGrp LOS	E	F	F	F	C	C	E	A	F	E	A	F
Approach Vol, veh/h		1356			941			599			478	
Approach Delay, s/veh		81.9			40.6			205.8			192.8	
Approach LOS		F			D			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	29.1	55.8	14.0	32.0	12.4	72.5	10.7	35.4				
Change Period (Y+Rc), s	5.0	7.8	5.0	7.0	5.0	7.8	5.0	7.0				
Max Green Setting (Gmax), s	25.0	48.0	25.0	25.0	25.0	48.0	25.0	25.0				
Max Q Clear Time (g_c+I1), s	24.1	50.0	9.2	27.0	7.1	16.6	4.5	30.4				
Green Ext Time (p_c), s	0.1	0.0	0.1	0.0	0.1	3.6	0.0	0.0				

Intersection Summary		
HCM 6th Ctrl Delay		108.1
HCM 6th LOS		F

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	836	95	208	812	139	162	267	149	172	187	106
Future Volume (veh/h)	82	836	95	208	812	139	162	267	149	172	187	106
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	89	909	103	226	883	151	176	290	162	187	203	115
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, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	113	862	98	183	1092	487	135	307	172	148	524	444
Arrive On Green	0.06	0.27	0.27	0.10	0.31	0.31	0.08	0.28	0.28	0.08	0.28	0.28
Sat Flow, veh/h	1753	3166	359	1753	3497	1560	1753	1109	620	1753	1841	1560
Grp Volume(v), veh/h	89	502	510	226	883	151	176	0	452	187	203	115
Grp Sat Flow(s),veh/h/ln	1753	1749	1776	1753	1749	1560	1753	0	1729	1753	1841	1560
Q Serve(g_s), s	3.3	17.7	17.7	6.8	15.1	4.8	5.0	0.0	16.6	5.5	5.8	3.7
Cycle Q Clear(g_c), s	3.3	17.7	17.7	6.8	15.1	4.8	5.0	0.0	16.6	5.5	5.8	3.7
Prop In Lane	1.00		0.20	1.00		1.00	1.00		0.36	1.00		1.00
Lane Grp Cap(c), veh/h	113	476	484	183	1092	487	135	0	479	148	524	444
V/C Ratio(X)	0.79	1.05	1.05	1.23	0.81	0.31	1.31	0.00	0.94	1.26	0.39	0.26
Avail Cap(c_a), veh/h	148	476	484	183	1092	487	135	0	479	148	524	444
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	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.0	23.6	23.7	29.1	20.6	17.0	30.0	0.0	23.0	29.8	18.7	18.0
Incr Delay (d2), s/veh	18.2	56.3	56.0	142.7	4.6	0.4	180.7	0.0	29.3	160.2	0.5	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	1.8	13.7	13.9	9.8	5.8	1.5	8.6	0.0	9.6	8.8	2.4	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.2	79.9	79.6	171.8	25.2	17.4	210.7	0.0	52.3	190.0	19.2	18.3
LnGrp LOS	D	F	F	F	C	B	F	A	D	F	B	B
Approach Vol, veh/h		1101			1260			628			505	
Approach Delay, s/veh		77.2			50.5			96.7			82.2	
Approach LOS		E			D			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.0	22.0	11.3	21.7	9.5	22.5	8.7	24.3				
Change Period (Y+Rc), s	4.5	4.0	4.5	4.0	4.5	4.0	4.5	4.0				
Max Green Setting (Gmax), s	5.5	18.0	6.8	17.7	5.0	18.5	5.5	19.0				
Max Q Clear Time (g_c+I1), s	7.5	18.6	8.8	19.7	7.0	7.8	5.3	17.1				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	1.2	0.0	1.1				

Intersection Summary	
HCM 6th Ctrl Delay	71.8
HCM 6th LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	908	145	66	805	84	37	35	122	77	39	53
Future Volume (veh/h)	19	908	145	66	805	84	37	35	122	77	39	53
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	21	987	158	72	875	91	40	38	133	84	42	58
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, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	64	1240	198	133	1438	150	389	103	359	323	200	276
Arrive On Green	0.04	0.41	0.41	0.08	0.45	0.45	0.29	0.29	0.29	0.29	0.29	0.29
Sat Flow, veh/h	1753	3020	483	1753	3197	332	1274	359	1256	1195	700	967
Grp Volume(v), veh/h	21	571	574	72	479	487	40	0	171	84	0	100
Grp Sat Flow(s),veh/h/ln	1753	1749	1754	1753	1749	1781	1274	0	1615	1195	0	1667
Q Serve(g_s), s	1.0	25.0	25.0	3.5	18.1	18.1	2.2	0.0	7.4	5.3	0.0	4.0
Cycle Q Clear(g_c), s	1.0	25.0	25.0	3.5	18.1	18.1	6.1	0.0	7.4	12.7	0.0	4.0
Prop In Lane	1.00		0.28	1.00		0.19	1.00		0.78	1.00		0.58
Lane Grp Cap(c), veh/h	64	718	720	133	787	801	389	0	462	323	0	477
V/C Ratio(X)	0.33	0.80	0.80	0.54	0.61	0.61	0.10	0.00	0.37	0.26	0.00	0.21
Avail Cap(c_a), veh/h	401	800	803	401	800	815	389	0	462	323	0	477
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	41.1	22.5	22.6	38.9	18.2	18.2	26.0	0.0	24.9	30.0	0.0	23.7
Incr Delay (d2), s/veh	1.1	6.5	6.6	1.3	2.1	2.1	0.5	0.0	2.3	1.9	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	0.4	10.0	10.1	1.4	6.6	6.7	0.7	0.0	2.9	1.6	0.0	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.2	29.1	29.1	40.2	20.3	20.3	26.6	0.0	27.2	31.9	0.0	24.7
LnGrp LOS	D	C	C	D	C	C	C	A	C	C	A	C
Approach Vol, veh/h		1166			1038			211			184	
Approach Delay, s/veh		29.3			21.7			27.1			28.0	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.6	46.1		31.7	13.0	42.7		31.7
Change Period (Y+Rc), s	6.4	6.8		6.7	6.4	6.8		6.7
Max Green Setting (Gmax), s	20.0	40.0		25.0	20.0	40.0		25.0
Max Q Clear Time (g_c+I1), s	3.0	20.1		9.4	5.5	27.0		14.7
Green Ext Time (p_c), s	0.0	10.2		2.3	0.1	8.9		1.0

Intersection Summary			
HCM 6th Ctrl Delay			26.0
HCM 6th LOS			C

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	174	435	28	207	379	82	58	301	169	130	296	110
Future Volume (veh/h)	174	435	28	207	379	82	58	301	169	130	296	110
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	189	473	30	225	412	89	63	327	184	141	322	120
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, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	232	746	47	271	704	151	79	457	387	178	561	475
Arrive On Green	0.13	0.22	0.22	0.15	0.25	0.25	0.05	0.25	0.25	0.10	0.30	0.30
Sat Flow, veh/h	1753	3340	211	1753	2865	614	1753	1841	1560	1753	1841	1560
Grp Volume(v), veh/h	189	247	256	225	250	251	63	327	184	141	322	120
Grp Sat Flow(s),veh/h/ln	1753	1749	1803	1753	1749	1730	1753	1841	1560	1753	1841	1560
Q Serve(g_s), s	6.5	8.0	8.0	7.8	7.9	8.0	2.2	10.1	6.3	4.9	9.2	3.6
Cycle Q Clear(g_c), s	6.5	8.0	8.0	7.8	7.9	8.0	2.2	10.1	6.3	4.9	9.2	3.6
Prop In Lane	1.00		0.12	1.00		0.35	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	232	391	403	271	429	425	79	457	387	178	561	475
V/C Ratio(X)	0.81	0.63	0.64	0.83	0.58	0.59	0.80	0.72	0.47	0.79	0.57	0.25
Avail Cap(c_a), veh/h	393	645	664	562	645	638	337	678	575	281	678	575
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	26.3	21.9	21.9	25.6	20.7	20.8	29.5	21.4	20.0	27.4	18.3	16.3
Incr Delay (d2), s/veh	2.6	3.6	3.5	2.5	2.7	2.8	6.7	4.4	1.9	3.2	2.0	0.6
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	2.6	3.2	3.4	3.2	3.2	3.2	1.0	4.4	2.3	2.1	3.8	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.0	25.5	25.5	28.1	23.4	23.6	36.2	25.9	21.9	30.6	20.3	16.9
LnGrp LOS	C	C	C	C	C	C	D	C	C	C	C	B
Approach Vol, veh/h		692			726			574			583	
Approach Delay, s/veh		26.4			24.9			25.7			22.1	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.3	19.8	10.3	20.0	13.6	18.4	6.8	23.5
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5
Max Green Setting (Gmax), s	14.0	23.0	10.0	23.0	20.0	23.0	12.0	23.0
Max Q Clear Time (g_c+I1), s	8.5	10.0	6.9	12.1	9.8	10.0	4.2	11.2
Green Ext Time (p_c), s	0.0	4.1	0.0	3.4	0.1	3.9	0.0	3.2

Intersection Summary		
HCM 6th Ctrl Delay		24.9
HCM 6th LOS		C

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	213	506	32	53	444	140	26	207	31	133	170	113
Future Volume (veh/h)	213	506	32	53	444	140	26	207	31	133	170	113
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	232	550	35	58	483	152	28	225	34	145	185	123
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, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	281	630	40	72	334	105	33	303	46	185	517	438
Arrive On Green	0.16	0.37	0.37	0.04	0.25	0.25	0.02	0.19	0.19	0.11	0.28	0.28
Sat Flow, veh/h	1753	1712	109	1753	1342	422	1753	1562	236	1753	1841	1560
Grp Volume(v), veh/h	232	0	585	58	0	635	28	0	259	145	185	123
Grp Sat Flow(s),veh/h/ln	1753	0	1821	1753	0	1765	1753	0	1798	1753	1841	1560
Q Serve(g_s), s	7.7	0.0	18.1	2.0	0.0	15.0	1.0	0.0	8.2	4.9	4.9	3.7
Cycle Q Clear(g_c), s	7.7	0.0	18.1	2.0	0.0	15.0	1.0	0.0	8.2	4.9	4.9	3.7
Prop In Lane	1.00		0.06	1.00		0.24	1.00		0.13	1.00		1.00
Lane Grp Cap(c), veh/h	281	0	670	72	0	439	33	0	348	185	517	438
V/C Ratio(X)	0.82	0.00	0.87	0.80	0.00	1.45	0.86	0.00	0.74	0.78	0.36	0.28
Avail Cap(c_a), veh/h	436	0	670	349	0	439	436	0	894	436	915	775
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.5	0.0	17.8	28.7	0.0	22.7	29.5	0.0	22.9	26.3	17.4	16.9
Incr Delay (d2), s/veh	4.0	0.0	12.2	7.4	0.0	213.9	20.3	0.0	3.1	2.7	0.4	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	3.2	0.0	8.7	0.9	0.0	31.6	0.6	0.0	3.6	2.1	2.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.5	0.0	29.9	36.1	0.0	236.6	49.8	0.0	26.1	29.1	17.8	17.3
LnGrp LOS	C	A	C	D	A	F	D	A	C	C	B	B
Approach Vol, veh/h		817			693			287			453	
Approach Delay, s/veh		29.5			219.8			28.4			21.3	
Approach LOS		C			F			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.9	19.6	10.6	16.3	6.7	26.8	5.3	21.5
Change Period (Y+Rc), s	* 4.2	4.6	* 4.2	4.6	* 4.2	* 4.6	* 4.2	4.6
Max Green Setting (Gmax), s	* 15	15.0	* 15	30.0	* 12	* 15	* 15	30.0
Max Q Clear Time (g_c+I1), s	9.7	17.0	6.9	10.2	4.0	20.1	3.0	6.9
Green Ext Time (p_c), s	0.2	0.0	0.1	1.5	0.0	0.0	0.0	1.5

Intersection Summary	
HCM 6th Ctrl Delay	86.3
HCM 6th LOS	F

Notes

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

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	434	193	82	476	130	204	267	47	114	380	122
Future Volume (veh/h)	72	434	193	82	476	130	204	267	47	114	380	122
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	78	472	210	89	517	141	222	290	51	124	413	133
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, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	100	1373	612	114	1088	295	259	449	381	156	341	289
Arrive On Green	0.06	0.39	0.39	0.06	0.40	0.40	0.15	0.24	0.24	0.09	0.19	0.19
Sat Flow, veh/h	1753	3497	1560	1753	2719	738	1753	1841	1560	1753	1841	1560
Grp Volume(v), veh/h	78	472	210	89	332	326	222	290	51	124	413	133
Grp Sat Flow(s),veh/h/ln	1753	1749	1560	1753	1749	1708	1753	1841	1560	1753	1841	1560
Q Serve(g_s), s	3.6	7.7	7.7	4.1	11.4	11.5	10.0	11.5	2.1	5.6	15.0	6.2
Cycle Q Clear(g_c), s	3.6	7.7	7.7	4.1	11.4	11.5	10.0	11.5	2.1	5.6	15.0	6.2
Prop In Lane	1.00		1.00	1.00		0.43	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	100	1373	612	114	700	684	259	449	381	156	341	289
V/C Ratio(X)	0.78	0.34	0.34	0.78	0.47	0.48	0.86	0.65	0.13	0.80	1.21	0.46
Avail Cap(c_a), veh/h	303	1373	612	303	700	684	281	449	381	281	341	289
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	37.7	17.3	17.3	37.3	18.0	18.0	33.7	27.5	23.9	36.2	33.0	29.4
Incr Delay (d2), s/veh	4.9	0.1	0.3	4.3	2.3	2.4	19.7	3.0	0.1	3.5	119.3	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	1.6	2.9	2.5	1.8	4.4	4.4	5.4	5.1	0.7	2.4	17.6	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.6	17.4	17.5	41.6	20.3	20.4	53.4	30.4	24.1	39.7	152.3	30.3
LnGrp LOS	D	B	B	D	C	C	D	C	C	D	F	C
Approach Vol, veh/h		760			747			563			670	
Approach Delay, s/veh		20.0			22.9			38.9			107.3	
Approach LOS		C			C			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.6	36.9	11.2	24.3	9.3	36.3	16.0	19.5
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5
Max Green Setting (Gmax), s	4.0	22.0	13.0	15.0	14.0	22.0	13.0	15.0
Max Q Clear Time (g_c+I1), s	5.6	13.5	7.6	13.5	6.1	9.7	12.0	17.0
Green Ext Time (p_c), s	0.0	2.0	0.0	0.2	0.0	2.6	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	46.0
HCM 6th LOS	D

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	513	181	65	202	33	176	270	75	48	169	66
Future Volume (veh/h)	84	513	181	65	202	33	176	270	75	48	169	66
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	91	558	197	71	220	36	191	293	82	52	184	72
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, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	531	628	222	157	746	122	374	504	141	283	459	179
Arrive On Green	0.48	0.48	0.48	0.48	0.48	0.48	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	1106	1299	459	698	1543	252	1106	1384	387	992	1259	493
Grp Volume(v), veh/h	91	0	755	71	0	256	191	0	375	52	0	256
Grp Sat Flow(s),veh/h/ln	1106	0	1758	698	0	1795	1106	0	1771	992	0	1752
Q Serve(g_s), s	4.2	0.0	30.6	7.4	0.0	6.8	12.2	0.0	13.4	3.5	0.0	8.6
Cycle Q Clear(g_c), s	11.0	0.0	30.6	38.0	0.0	6.8	20.8	0.0	13.4	16.9	0.0	8.6
Prop In Lane	1.00		0.26	1.00		0.14	1.00		0.22	1.00		0.28
Lane Grp Cap(c), veh/h	531	0	850	157	0	868	374	0	645	283	0	638
V/C Ratio(X)	0.17	0.00	0.89	0.45	0.00	0.30	0.51	0.00	0.58	0.18	0.00	0.40
Avail Cap(c_a), veh/h	531	0	850	157	0	868	506	0	856	401	0	847
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.6	0.0	18.4	35.9	0.0	12.2	26.4	0.0	20.2	27.0	0.0	18.6
Incr Delay (d2), s/veh	0.2	0.0	11.7	7.6	0.0	0.7	4.1	0.0	3.2	1.3	0.0	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	12.4	1.6	0.0	2.3	3.3	0.0	5.3	0.9	0.0	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.8	0.0	30.1	43.5	0.0	13.0	30.5	0.0	23.3	28.3	0.0	20.4
LnGrp LOS	B	A	C	D	A	B	C	A	C	C	A	C
Approach Vol, veh/h		846			327			566			308	
Approach Delay, s/veh		28.6			19.6			25.7			21.7	
Approach LOS		C			B			C			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		34.6		44.0		34.6		44.0				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		38.0		38.0		38.0		38.0				
Max Q Clear Time (g_c+I1), s		18.9		40.0		22.8		32.6				
Green Ext Time (p_c), s		3.7		0.0		5.9		3.2				
Intersection Summary												
HCM 6th Ctrl Delay			25.3									
HCM 6th LOS			C									

Intersection	
Intersection Delay, s/veh	12.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	72	324	10	0	239	13	9	21	0	38	22	74
Future Vol, veh/h	72	324	10	0	239	13	9	21	0	38	22	74
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, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	78	352	11	0	260	14	10	23	0	41	24	80
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	14.6	11.2	9.5	10.1
HCM LOS	B	B	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	30%	18%	0%	28%
Vol Thru, %	70%	80%	95%	16%
Vol Right, %	0%	2%	5%	55%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	30	406	252	134
LT Vol	9	72	0	38
Through Vol	21	324	239	22
RT Vol	0	10	13	74
Lane Flow Rate	33	441	274	146
Geometry Grp	1	1	1	1
Degree of Util (X)	0.055	0.588	0.384	0.223
Departure Headway (Hd)	6.087	4.799	5.042	5.506
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	590	741	718	654
Service Time	4.108	2.897	3.042	3.52
HCM Lane V/C Ratio	0.056	0.595	0.382	0.223
HCM Control Delay	9.5	14.6	11.2	10.1
HCM Lane LOS	A	B	B	B
HCM 95th-tile Q	0.2	3.9	1.8	0.8

Intersection												
Int Delay, s/veh	6.7											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	54	87	48	6	49	14	33	171	0	11	195	39
Future Vol, veh/h	54	87	48	6	49	14	33	171	0	11	195	39
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
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, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	59	95	52	7	53	15	36	186	0	12	212	42

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	549	515	233	589	536	186	254	0	0	186	0	0
Stage 1	257	257	-	258	258	-	-	-	-	-	-	-
Stage 2	292	258	-	331	278	-	-	-	-	-	-	-
Critical Hdwy	7.14	6.54	6.24	7.14	6.54	6.24	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.14	5.54	-	6.14	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.14	5.54	-	6.14	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.536	4.036	3.336	3.536	4.036	3.336	2.236	-	-	2.236	-	-
Pot Cap-1 Maneuver	443	461	801	417	448	851	1300	-	-	1377	-	-
Stage 1	743	691	-	742	691	-	-	-	-	-	-	-
Stage 2	712	691	-	678	677	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	382	442	801	316	430	851	1300	-	-	1377	-	-
Mov Cap-2 Maneuver	382	442	-	316	430	-	-	-	-	-	-	-
Stage 1	720	684	-	719	670	-	-	-	-	-	-	-
Stage 2	624	670	-	541	670	-	-	-	-	-	-	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	18.2			14.3			1.3			0.3		
HCM LOS	C			B								

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1300	-	-	475	462	1377	-	-
HCM Lane V/C Ratio	0.028	-	-	0.432	0.162	0.009	-	-
HCM Control Delay (s)	7.8	0	-	18.2	14.3	7.6	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	2.1	0.6	0	-	-

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	53	51	25	4	7	0	34	137	18	7	113	4
Future Vol, veh/h	53	51	25	4	7	0	34	137	18	7	113	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
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, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	58	55	27	4	8	0	37	149	20	8	123	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	378	384	125	415	376	159	127	0	0	169	0	0
Stage 1	141	141	-	233	233	-	-	-	-	-	-	-
Stage 2	237	243	-	182	143	-	-	-	-	-	-	-
Critical Hdwy	7.14	6.54	6.24	7.14	6.54	6.24	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.14	5.54	-	6.14	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.14	5.54	-	6.14	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.536	4.036	3.336	3.536	4.036	3.336	2.236	-	-	2.236	-	-
Pot Cap-1 Maneuver	576	546	920	544	552	881	1447	-	-	1396	-	-
Stage 1	857	776	-	766	708	-	-	-	-	-	-	-
Stage 2	762	701	-	815	775	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	555	527	920	473	533	881	1447	-	-	1396	-	-
Mov Cap-2 Maneuver	555	527	-	473	533	-	-	-	-	-	-	-
Stage 1	833	771	-	745	688	-	-	-	-	-	-	-
Stage 2	732	681	-	730	770	-	-	-	-	-	-	-

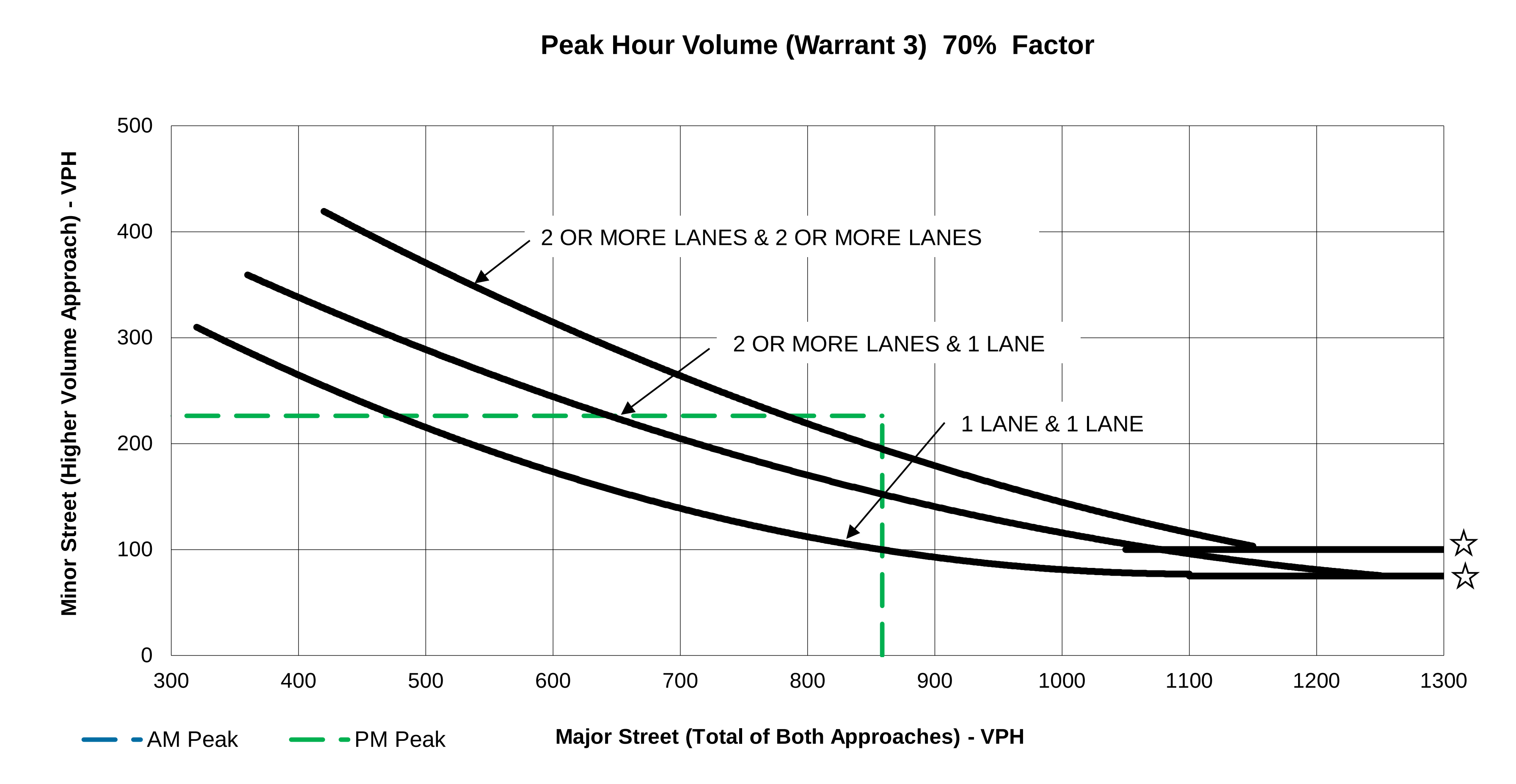
Approach	EB	WB	NB	SB
HCM Control Delay, s	13	12.2	1.4	0.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1447	-	-	588	509	1396	-	-
HCM Lane V/C Ratio	0.026	-	-	0.238	0.023	0.005	-	-
HCM Control Delay (s)	7.6	0	-	13	12.2	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.9	0.1	0	-	-

CA MUTCD Worksheets

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
400	265	400	340	400	N/A
500	210	500	290	500	375
600	180	600	240	600	310
700	150	700	200	700	260
800	90	800	175	800	220
900	100	900	140	900	180
1000	85	1000	120	1000	150
1100	75	1100	95	1150	100
1200	75	1200	80	1200	100
1300	75	1250	75	1300	100

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*

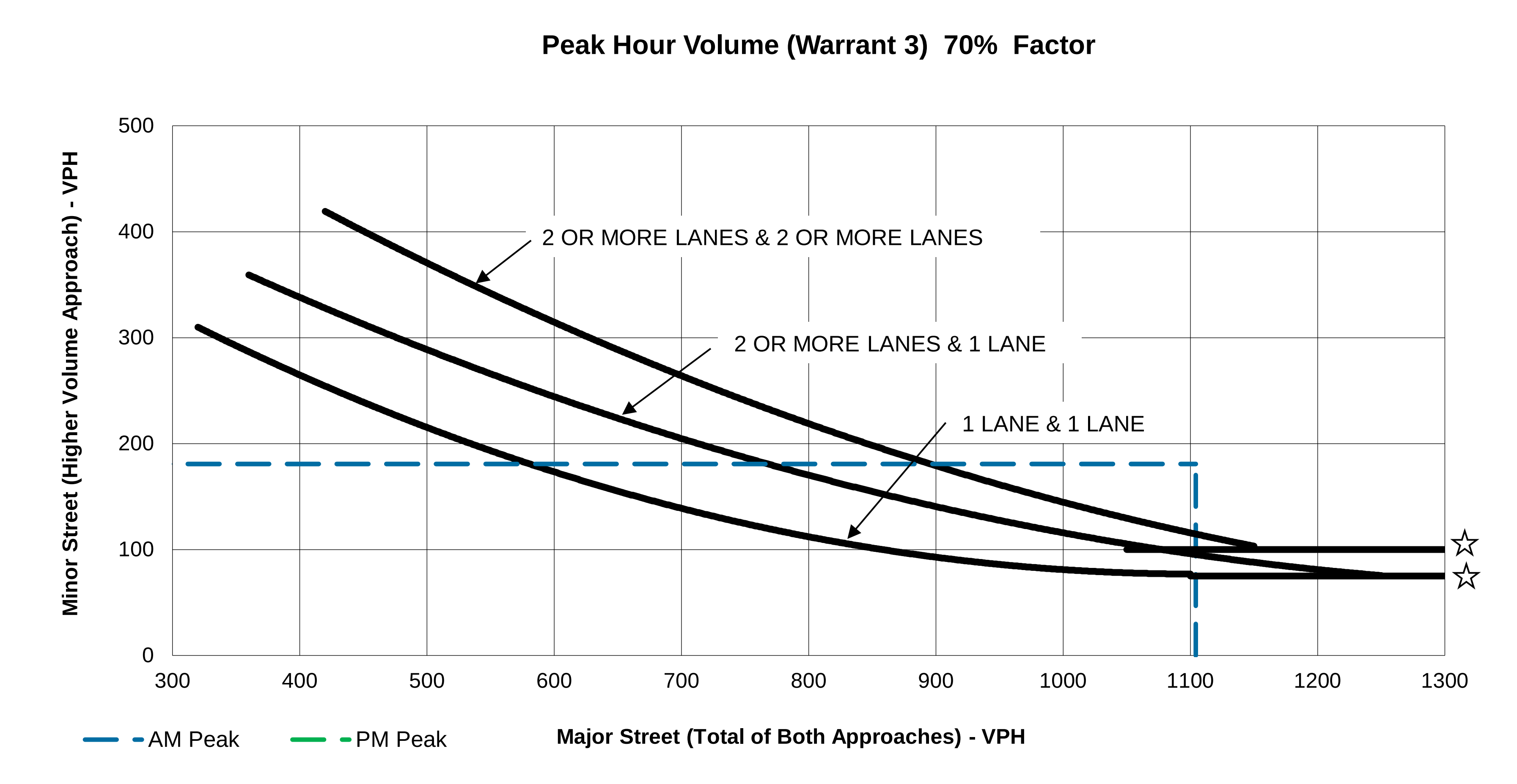


☆ NOTE:
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

SCENARIO (AM/PM)	(#1) Cumulative 2045		
			Number of Lanes
Major Approach	SR 168		1
Minor Approach	Academy Ave		1
	AM Peak	PM Peak	
Major St. Volume:	0	859	
Minor St. Volume:	0	226	
Warrant Met?:	-	Yes	

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
400	265	400	340	400	N/A
500	210	500	290	500	375
600	180	600	240	600	310
700	150	700	200	700	260
800	90	800	175	800	220
900	100	900	140	900	180
1000	85	1000	120	1000	150
1100	75	1100	95	1150	100
1200	75	1200	80	1200	100
1300	75	1250	75	1300	100

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*

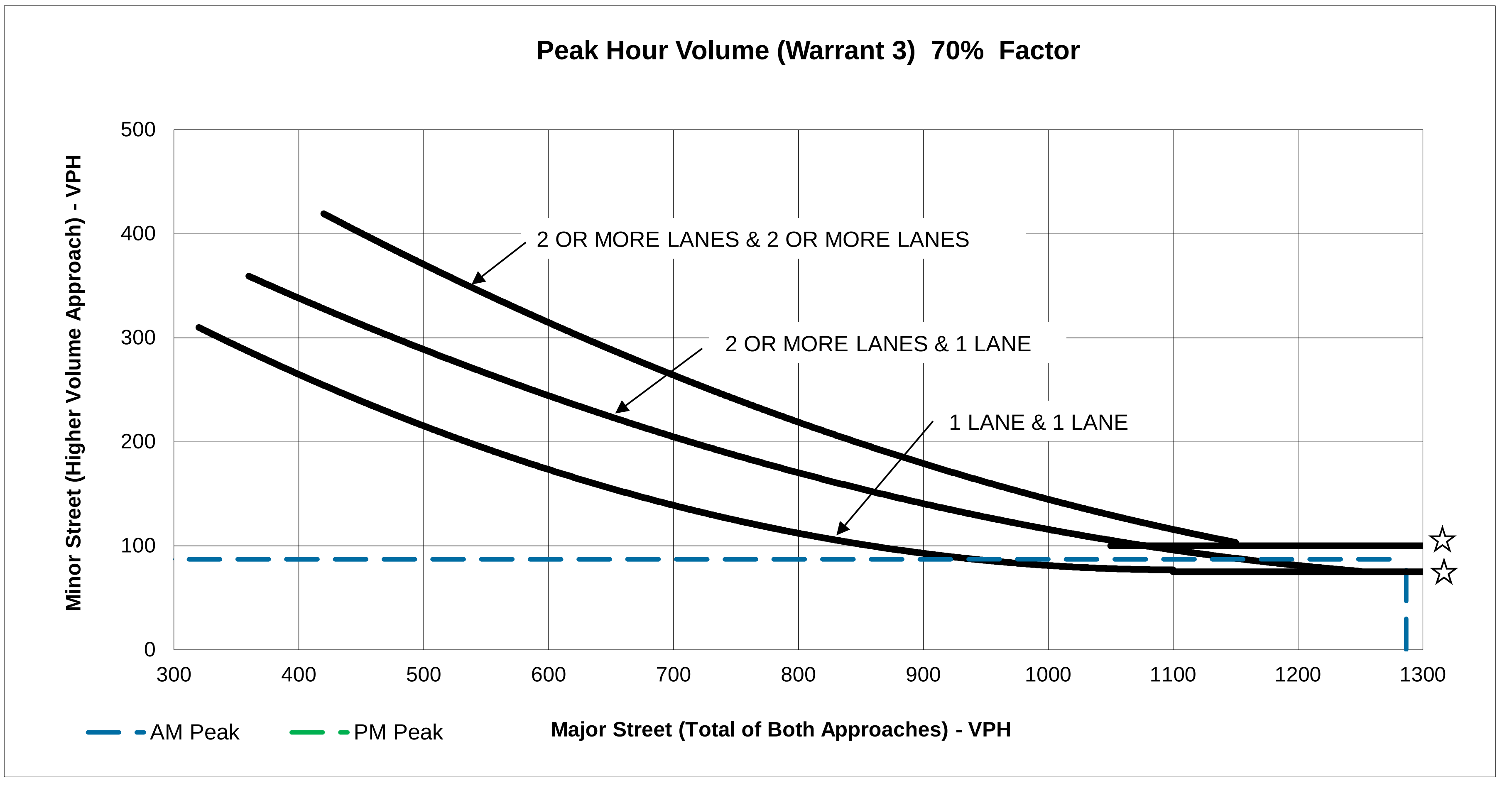


☆ NOTE:
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

SCENARIO (AM/PM)	(#3) Cumulative 2045		
			Number of Lanes
Major Approach	Academy Ave		2
Minor Approach	Ashlan Ave		1
	AM Peak	PM Peak	
Major St. Volume:	1,104	0	
Minor St. Volume:	181	0	
Warrant Met?:	Yes	-	

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
400	265	400	340	400	N/A
500	210	500	290	500	375
600	180	600	240	600	310
700	150	700	200	700	260
800	90	800	175	800	220
900	100	900	140	900	180
1000	85	1000	120	1000	150
1100	75	1100	95	1150	100
1200	75	1200	80	1200	100
1300	75	1250	75	1300	100

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*

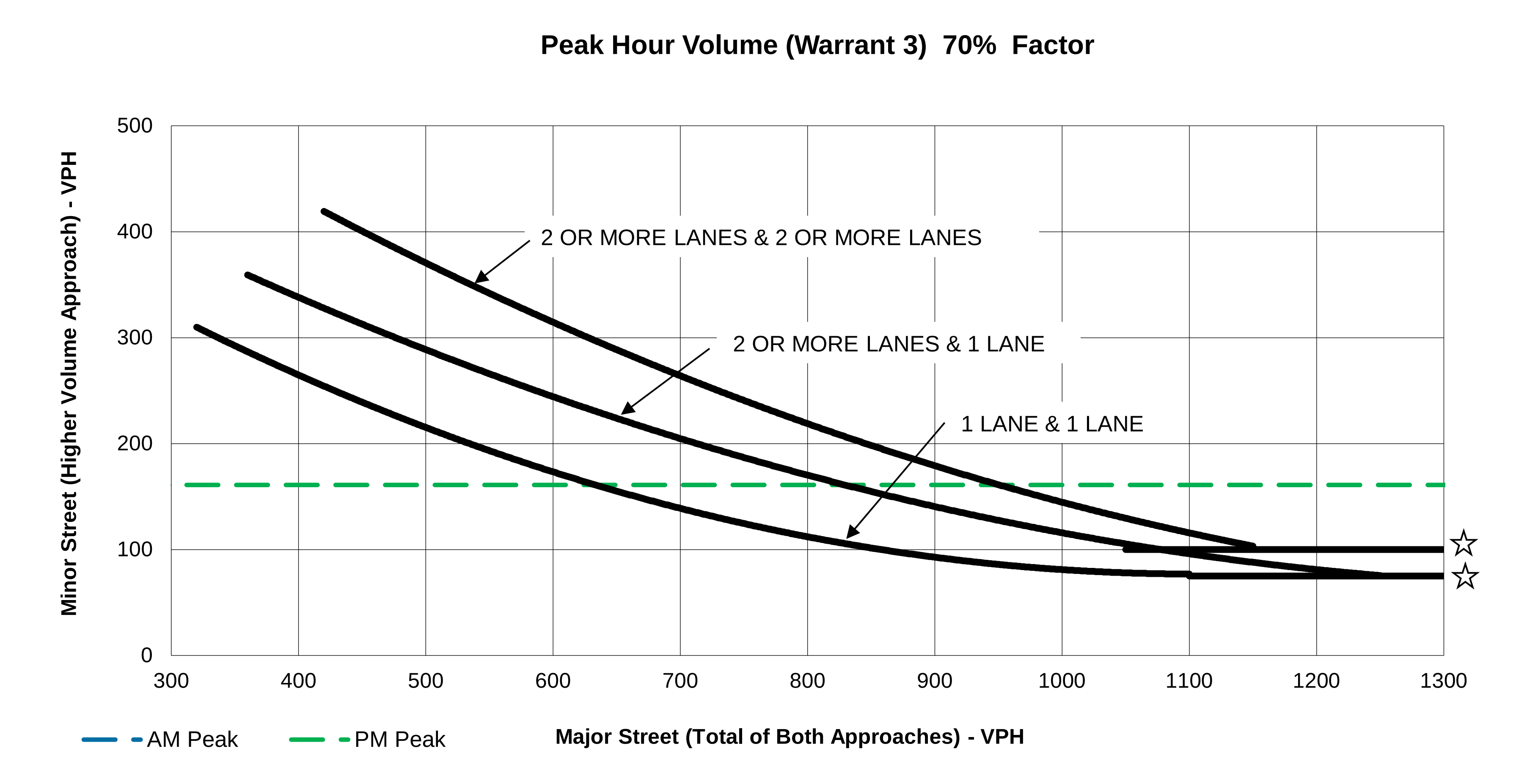


☆ NOTE:
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

SCENARIO (AM/PM)	(#4) Cumulative 2045		
			Number of Lanes
Major Approach	Academy Ave		2
Minor Approach	McKinley Ave		1
	AM Peak	PM Peak	
Major St. Volume:	1,287	0	
Minor St. Volume:	87	0	
Warrant Met?:	Yes	-	

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
400	265	400	340	400	N/A
500	210	500	290	500	375
600	180	600	240	600	310
700	150	700	200	700	260
800	90	800	175	800	220
900	100	900	140	900	180
1000	85	1000	120	1000	150
1100	75	1100	95	1150	100
1200	75	1200	80	1200	100
1300	75	1250	75	1300	100

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*



☆ NOTE:
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

SCENARIO (AM/PM)	(#9) Cumulative 2045		
			Number of Lanes
Major Approach	Academy Ave		2
Minor Approach	Adams Ave		1
	AM Peak	PM Peak	
Major St. Volume:	0	1,447	
Minor St. Volume:	0	161	
Warrant Met?:	-	Yes	

Queuing Worksheets

Summary of All Intervals

Start Time	9:00
End Time	10:15
Total Time (min)	75
Time Recorded (min)	60
# of Intervals	2
# of Recorded Intervals	1
Vehs Entered	45704
Vehs Exited	45629
Starting Vehs	970
Ending Vehs	1045
Travel Distance (mi)	14823
Travel Time (hr)	3257.8
Total Delay (hr)	2811.0
Total Stops	38566
Fuel Used (gal)	1154.7

Interval #0 Information Seeding

Start Time	9:00
End Time	9:15
Total Time (min)	15

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	9:15
End Time	10:15
Total Time (min)	60

Volumes adjusted by Growth Factors.

Vehs Entered	45704
Vehs Exited	45629
Starting Vehs	970
Ending Vehs	1045
Travel Distance (mi)	14823
Travel Time (hr)	3257.8
Total Delay (hr)	2811.0
Total Stops	38566
Fuel Used (gal)	1154.7

Intersection: 1: Academy Ave & SR 168

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	74	36
Average Queue (ft)	15	10
95th Queue (ft)	52	25
Link Distance (ft)	450	653
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: Shaw Ave & Academy Ave

Movement	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LTR	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	124	95	58	74	78	31	79	103
Average Queue (ft)	61	48	33	45	32	7	56	47
95th Queue (ft)	112	75	51	70	61	27	81	77
Link Distance (ft)	229	208		368	368		461	461
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			195			200		
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 3: Ashlan Ave & Academy Ave

Movement	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LTR	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	72	77	74	97	56	31	202	160
Average Queue (ft)	28	41	36	47	35	4	84	57
95th Queue (ft)	48	64	57	74	55	20	140	104
Link Distance (ft)	427	351		506	506		500	500
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			190			200		
Storage Blk Time (%)							0	
Queuing Penalty (veh)							0	

Intersection: 4: McKinley Ave & Academy Ave

Movement	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LTR	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	79	45	53	78	68	48	139	138
Average Queue (ft)	35	15	22	45	30	19	75	63
95th Queue (ft)	63	39	49	67	55	45	117	107
Link Distance (ft)	327	395		549	549		688	688
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			195			190		
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 5: SR 180 & Academy Ave

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	T	R	L	L	T	TR
Maximum Queue (ft)	122	183	167	88	140	305	266	97	208	246	132	212
Average Queue (ft)	60	117	76	46	52	187	150	49	121	164	69	67
95th Queue (ft)	109	185	153	78	103	267	224	84	214	228	123	140
Link Distance (ft)		1290	1290			1285	1285				1200	1200
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	615			695	560			630	285	285		
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 5: SR 180 & Academy Ave

Movement	SB	SB	SB	SB
Directions Served	L	L	T	TR
Maximum Queue (ft)	242	243	297	295
Average Queue (ft)	87	125	151	179
95th Queue (ft)	181	197	239	272
Link Distance (ft)			1659	1659
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	500	500		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: Jensen Ave/driveway & Academy Ave

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	351	53	140	229	273	149	149	258	308
Average Queue (ft)	132	33	53	158	81	39	29	141	152
95th Queue (ft)	236	50	114	248	224	90	80	225	256
Link Distance (ft)	509	509	135		516	516		694	694
Upstream Blk Time (%)			1						
Queuing Penalty (veh)			0						
Storage Bay Dist (ft)				205			125		
Storage Blk Time (%)				5				8	
Queuing Penalty (veh)				9				2	

Intersection: 7: Annadale Ave & Academy Ave

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	LTR	LT	R	LT	TR	LT	TR
Maximum Queue (ft)	53	105	104	610	581	326	334
Average Queue (ft)	19	55	50	388	356	326	334
95th Queue (ft)	46	92	91	556	518	326	334
Link Distance (ft)	460		601	595	595	327	327
Upstream Blk Time (%)				0	0	100	100
Queuing Penalty (veh)				0	0	0	0
Storage Bay Dist (ft)		275					
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 8: North Ave & Academy Ave

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	71	117	70	54	127	51	104	105	60	66	135	126
Average Queue (ft)	30	46	30	24	62	17	32	47	27	20	62	24
95th Queue (ft)	65	92	54	53	109	46	73	90	57	48	111	61
Link Distance (ft)		564			464			456	456		632	632
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150		120	125		125	135			100		
Storage Blk Time (%)		0			0						1	
Queuing Penalty (veh)		0			0						1	

Intersection: 9: Adams Ave & Academy Ave

Movement	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LTR	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	96	73	53	126	79	54	109	89
Average Queue (ft)	39	44	30	70	47	34	62	45
95th Queue (ft)	64	65	50	100	73	56	94	73
Link Distance (ft)	788	1001		744	744		888	888
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			200			180		
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 10: Manning Ave & Academy Ave

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	76	241	220	219	586	539	73	255	219	220	342	280
Average Queue (ft)	39	144	103	27	347	310	22	136	89	186	177	127
95th Queue (ft)	72	226	215	115	545	489	60	213	175	251	339	230
Link Distance (ft)		709	709		638	638		757	757		804	804
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	195			195			205			195		
Storage Blk Time (%)		2			29			1		14	1	
Queuing Penalty (veh)		1			6			0		27	2	

Intersection: 11: Rose Ave & Academy Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	67	132	117	128
Average Queue (ft)	40	56	62	70
95th Queue (ft)	60	102	102	111
Link Distance (ft)	591	661	605	626
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 12: Mt. View Ave & Academy Ave

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	134	180	138	116	346	325	125	445	97	350
Average Queue (ft)	46	106	54	42	200	172	79	179	39	161
95th Queue (ft)	91	164	118	79	286	262	141	316	84	278
Link Distance (ft)		1014	1014		1001	1001		825		710
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	305			255			100		250	
Storage Blk Time (%)					2		9	31		2
Queuing Penalty (veh)					1		29	29		1

Intersection: 13: Kamm Ave & Academy Ave

Movement	EB	EB	WB	NB	NB	SB
Directions Served	LT	R	LTR	LT	R	LTR
Maximum Queue (ft)	72	55	110	156	47	206
Average Queue (ft)	30	24	55	80	27	91
95th Queue (ft)	52	49	95	132	48	151
Link Distance (ft)	825		870	883		779
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		145			245	
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 14: Sierra St & 10th Ave

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	TR	L	T	R
Maximum Queue (ft)	182	388	355	10	481	109	171	120	621	195
Average Queue (ft)	105	174	19	1	464	68	87	73	376	193
95th Queue (ft)	171	334	124	6	480	109	155	137	604	200
Link Distance (ft)		702			442		760		606	
Upstream Blk Time (%)					78				3	
Queuing Penalty (veh)					0				0	
Storage Bay Dist (ft)	535		335	60		85		95		170
Storage Blk Time (%)		1	0		69	12	9	2	39	18
Queuing Penalty (veh)		3	0		5	11	8	17	225	65

Intersection: 15: Manning Ave & Golden State Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	TR	L	T	T	R	L
Maximum Queue (ft)	225	717	710	310	289	1169	1180	180	1008	984	244	245
Average Queue (ft)	211	401	321	29	30	1123	1126	179	991	639	8	244
95th Queue (ft)	256	743	684	155	172	1219	1219	182	1007	1215	81	250
Link Distance (ft)		921	921			1135	1135		969	969		
Upstream Blk Time (%)						40	53		99	0		
Queuing Penalty (veh)						0	0		0	0		
Storage Bay Dist (ft)	200			285	265			155			220	220
Storage Blk Time (%)	54	0	1	0		63		86	22	18	0	80
Queuing Penalty (veh)	174	0	2	0		6		552	182	6	0	85

Intersection: 15: Manning Ave & Golden State Blvd

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	792	686	225
Average Queue (ft)	562	428	7
95th Queue (ft)	840	831	74
Link Distance (ft)	1090	1090	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			200
Storage Blk Time (%)			0
Queuing Penalty (veh)			0

Intersection: 16: Manning Ave & McCall Ave

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	52	208	198	200	470	429	120	697	104	399
Average Queue (ft)	21	153	109	164	333	281	116	668	44	224
95th Queue (ft)	47	212	191	246	463	411	126	689	97	357
Link Distance (ft)		648	648		724	724		645		687
Upstream Blk Time (%)								83		
Queuing Penalty (veh)								0		
Storage Bay Dist (ft)	195			175			95		80	
Storage Blk Time (%)		2		8	30		65	24	6	53
Queuing Penalty (veh)		0		47	52		363	107	19	24

Intersection: 17: Manning Ave & Mendocino Ave

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	T	R	L	TR	L	T	R
Maximum Queue (ft)	150	168	167	260	803	752	175	124	157	124	1278	175
Average Queue (ft)	63	103	89	176	485	465	57	48	92	124	1255	174
95th Queue (ft)	116	157	150	325	843	818	168	94	152	126	1275	178
Link Distance (ft)		1391	1391		1870	1870			1126		1226	
Upstream Blk Time (%)											97	
Queuing Penalty (veh)											0	
Storage Bay Dist (ft)	260			235			150	115		100		150
Storage Blk Time (%)				0	46	56	0	2	3	92	9	2
Queuing Penalty (veh)				0	58	22	0	8	3	437	38	7

Intersection: 18: Manning Ave & Lac Jac Ave

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	135	283	270	116	307	229	120	160	159	54
Average Queue (ft)	60	160	126	60	164	149	72	72	79	27
95th Queue (ft)	108	248	231	102	247	232	123	143	141	58
Link Distance (ft)		862	862		977	977		745		801
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	285			255			95		250	
Storage Blk Time (%)		0			1		4	4		
Queuing Penalty (veh)		0			0		7	5		

Intersection: 19: Manning Ave & Reed Ave

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	115	177	118	189	278	172	129	335	130	124	479	125
Average Queue (ft)	63	70	33	97	145	89	74	99	58	36	167	90
95th Queue (ft)	107	125	80	176	220	164	132	218	121	79	334	152
Link Distance (ft)		1390	1390		803			771			607	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	230			165		250	105		105	100		100
Storage Blk Time (%)				2	2		6	8	0		13	1
Queuing Penalty (veh)				9	12		19	17	0		39	5

Intersection: 20: Manning Ave & Frankwood Ave

Movement	EB	EB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	T	R
Maximum Queue (ft)	124	214	125	841	114	208	134	542	155
Average Queue (ft)	53	115	71	808	35	66	81	212	117
95th Queue (ft)	101	194	158	829	73	132	146	421	181
Link Distance (ft)		631		778		483		527	
Upstream Blk Time (%)				96				1	
Queuing Penalty (veh)				0				0	
Storage Bay Dist (ft)	100		100		90		110		130
Storage Blk Time (%)		11	1	72	0	3	1	18	4
Queuing Penalty (veh)		10	4	36	1	1	5	77	16

Intersection: 21: Manning Ave & Buttonwillow Ave

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	TR	L	T	R	L	T
Maximum Queue (ft)	123	192	123	81	128	323	287	155	227	44	95	455
Average Queue (ft)	39	96	38	32	72	176	134	68	93	21	85	359
95th Queue (ft)	79	152	87	69	119	280	233	129	180	37	110	524
Link Distance (ft)		604	604			902			551			403
Upstream Blk Time (%)												40
Queuing Penalty (veh)												0
Storage Bay Dist (ft)	125			80	130		620	130		205	70	
Storage Blk Time (%)	0	1	0	0	1	18		2	3		33	49
Queuing Penalty (veh)	1	1	1	1	5	99		5	7		166	134

Intersection: 21: Manning Ave & Buttonwillow Ave

Movement	SB
Directions Served	R
Maximum Queue (ft)	95
Average Queue (ft)	68
95th Queue (ft)	131
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	70
Storage Blk Time (%)	1
Queuing Penalty (veh)	8

Intersection: 22: Manning Ave & Alta Ave

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	125	339	124	273	134	244	139	280
Average Queue (ft)	89	146	51	134	85	78	17	106
95th Queue (ft)	143	272	109	233	137	165	62	204
Link Distance (ft)		896		910		588		632
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	100		100		110		115	
Storage Blk Time (%)	15	12	1	13	6	1		6
Queuing Penalty (veh)	62	16	3	8	11	3		1

Intersection: 23: Manning Ave & Hill Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	75	103	54	109
Average Queue (ft)	39	68	27	22
95th Queue (ft)	67	99	45	59
Link Distance (ft)	921	897	482	541
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 24: Manning Ave & Hills Valley Rd

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	98	98	31	52
Average Queue (ft)	46	37	7	2
95th Queue (ft)	77	67	26	17
Link Distance (ft)	959	859	526	464
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 25: Manning & SR 63

Movement	EB	WB
Directions Served	LTR	LTR
Maximum Queue (ft)	41	44
Average Queue (ft)	12	20
95th Queue (ft)	27	37
Link Distance (ft)	755	408
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 3428

Summary of All Intervals

Start Time	4:00
End Time	5:15
Total Time (min)	75
Time Recorded (min)	60
# of Intervals	2
# of Recorded Intervals	1
Vehs Entered	47458
Vehs Exited	47273
Starting Vehs	982
Ending Vehs	1167
Travel Distance (mi)	15377
Travel Time (hr)	2880.4
Total Delay (hr)	2419.4
Total Stops	37447
Fuel Used (gal)	1078.6

Interval #0 Information Seeding

Start Time	4:00
End Time	4:15
Total Time (min)	15

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	4:15
End Time	5:15
Total Time (min)	60

Volumes adjusted by Growth Factors.

Vehs Entered	47458
Vehs Exited	47273
Starting Vehs	982
Ending Vehs	1167
Travel Distance (mi)	15377
Travel Time (hr)	2880.4
Total Delay (hr)	2419.4
Total Stops	37447
Fuel Used (gal)	1078.6

Intersection: 1: Academy Ave & SR 168

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	74	146
Average Queue (ft)	25	69
95th Queue (ft)	66	123
Link Distance (ft)	450	653
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: Shaw Ave & Academy Ave

Movement	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LTR	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	98	153	93	79	78	53	107	55
Average Queue (ft)	54	46	50	47	45	17	46	23
95th Queue (ft)	82	86	76	70	73	44	73	48
Link Distance (ft)	229	208		368	368		461	461
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			195			200		
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 3: Ashlan Ave & Academy Ave

Movement	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LTR	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	74	52	54	106	120	53	97	67
Average Queue (ft)	38	25	34	62	46	23	51	34
95th Queue (ft)	60	47	52	92	76	46	79	50
Link Distance (ft)	427	351		506	506		500	500
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			190			200		
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 4: McKinley Ave & Academy Ave

Movement	EB	WB	NB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	T	TR	T	TR
Maximum Queue (ft)	56	78	68	104	79	92	54
Average Queue (ft)	32	26	34	67	49	54	31
95th Queue (ft)	58	58	54	92	71	82	53
Link Distance (ft)	327	395		549	549	688	688
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)			195				
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 5: SR 180 & Academy Ave

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	T	R	L	L	T	TR
Maximum Queue (ft)	120	349	294	160	224	225	214	74	293	307	317	353
Average Queue (ft)	69	180	148	68	74	149	123	40	173	206	130	172
95th Queue (ft)	103	285	242	120	151	218	207	62	281	300	244	276
Link Distance (ft)		1290	1290			1285	1285				1200	1200
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	615			695	560			630	285	285		
Storage Blk Time (%)									0	2	0	
Queuing Penalty (veh)									0	3	1	

Intersection: 5: SR 180 & Academy Ave

Movement	SB	SB	SB	SB
Directions Served	L	L	T	TR
Maximum Queue (ft)	141	155	245	207
Average Queue (ft)	57	92	100	101
95th Queue (ft)	113	141	181	172
Link Distance (ft)			1659	1659
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	500	500		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: Jensen Ave/driveway & Academy Ave

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	314	187	150	229	325	170	150	290	270
Average Queue (ft)	146	85	71	134	104	74	36	138	124
95th Queue (ft)	236	151	123	234	213	134	86	214	217
Link Distance (ft)	509	509	135		516	516		694	694
Upstream Blk Time (%)			1						
Queuing Penalty (veh)			0						
Storage Bay Dist (ft)				205			125		
Storage Blk Time (%)				3				10	
Queuing Penalty (veh)				7				4	

Intersection: 7: Annadale Ave & Academy Ave

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LTR	LT	R	LT	TR	LT
Maximum Queue (ft)	30	109	83	557	542	301
Average Queue (ft)	9	46	41	412	366	301
95th Queue (ft)	25	79	78	555	506	301
Link Distance (ft)	460		457	538	538	327
Upstream Blk Time (%)				3	0	
Queuing Penalty (veh)				0	0	
Storage Bay Dist (ft)		275				
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 8: North Ave & Academy Ave

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	107	96	67	76	94	52	144	142	81	103	132	128
Average Queue (ft)	46	55	27	38	32	15	50	48	27	24	72	56
95th Queue (ft)	79	99	55	72	64	44	118	102	61	65	124	111
Link Distance (ft)		564			464			456	456		632	632
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150		120	125		125	135			100		
Storage Blk Time (%)							3	0		1	2	
Queuing Penalty (veh)							5	0		2	1	

Intersection: 9: Adams Ave & Academy Ave

Movement	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LTR	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	120	68	49	95	116	56	131	120
Average Queue (ft)	50	32	20	69	49	38	73	65
95th Queue (ft)	87	50	45	98	85	59	113	102
Link Distance (ft)	788	1001		744	744		888	888
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			200			180		
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 10: Manning Ave & Academy Ave

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	220	413	370	220	397	338	230	287	274	219	326	306
Average Queue (ft)	144	231	194	32	229	193	23	188	153	140	127	94
95th Queue (ft)	243	369	321	120	342	324	92	270	246	220	220	187
Link Distance (ft)		709	709		638	638		757	757		804	804
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	195			195			205			195		
Storage Blk Time (%)	2	8			13			8		4	0	
Queuing Penalty (veh)	11	12			3			2		8	0	

Intersection: 11: Rose Ave & Academy Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	118	74	155	164
Average Queue (ft)	64	43	73	79
95th Queue (ft)	98	69	119	126
Link Distance (ft)	591	661	605	626
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 12: Mt. View Ave & Academy Ave

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	139	251	193	95	267	254	32	248	120	201
Average Queue (ft)	45	149	96	46	148	115	11	143	65	99
95th Queue (ft)	90	226	176	88	224	187	34	230	122	161
Link Distance (ft)		1014	1014		1001	1001		825		710
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	305			255			100		250	
Storage Blk Time (%)					0			20		
Queuing Penalty (veh)					0			1		

Intersection: 13: Kamm Ave & Academy Ave

Movement	EB	EB	WB	NB	NB	SB
Directions Served	LT	R	LTR	LT	R	LTR
Maximum Queue (ft)	103	74	70	84	59	142
Average Queue (ft)	41	39	36	40	33	78
95th Queue (ft)	68	61	61	66	56	120
Link Distance (ft)	825		870	883		779
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		145			245	
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 14: Sierra St & 10th Ave

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	TR	L	T	R
Maximum Queue (ft)	295	353	59	84	481	110	175	120	327	194
Average Queue (ft)	151	170	7	8	460	44	69	54	133	55
95th Queue (ft)	273	298	32	36	472	94	129	121	232	192
Link Distance (ft)		702			442		760		606	
Upstream Blk Time (%)					75					
Queuing Penalty (veh)					0					
Storage Bay Dist (ft)	535		335	60		85		95		170
Storage Blk Time (%)		0			66	2	4	4	20	2
Queuing Penalty (veh)		1			14	2	3	18	69	7

Intersection: 15: Manning Ave & Golden State Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	TR	L	T	T	L	T
Maximum Queue (ft)	225	493	402	310	46	205	180	180	1008	969	245	1153
Average Queue (ft)	81	230	175	57	5	136	108	179	993	553	244	1117
95th Queue (ft)	201	378	310	181	23	198	186	180	1011	1201	245	1139
Link Distance (ft)		921	921			1135	1135		969	969		1090
Upstream Blk Time (%)									99	0		99
Queuing Penalty (veh)									0	0		0
Storage Bay Dist (ft)	200			285	265			155			220	
Storage Blk Time (%)		11	1	0				86	4	1	86	3
Queuing Penalty (veh)		10	5	0				229	23	0	487	21

Intersection: 15: Manning Ave & Golden State Blvd

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	1105	225
Average Queue (ft)	965	74
95th Queue (ft)	1365	246
Link Distance (ft)	1090	
Upstream Blk Time (%)	0	
Queuing Penalty (veh)	0	
Storage Bay Dist (ft)		200
Storage Blk Time (%)	17	0
Queuing Penalty (veh)	44	1

Intersection: 16: Manning Ave & McCall Ave

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	220	593	605	200	322	267	120	697	104	739
Average Queue (ft)	93	378	363	170	176	130	94	669	31	711
95th Queue (ft)	226	573	554	220	296	220	150	686	82	731
Link Distance (ft)		648	648		724	724		645		687
Upstream Blk Time (%)								82		90
Queuing Penalty (veh)								0		0
Storage Bay Dist (ft)	195			175			95		80	
Storage Blk Time (%)	0	35		14	2		16	68	3	79
Queuing Penalty (veh)	0	23		39	7		72	61	12	25

Intersection: 17: Manning Ave & Mendocino Ave

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	T	R	L	TR	L	T	R
Maximum Queue (ft)	285	490	510	260	555	510	175	140	476	125	604	175
Average Queue (ft)	124	312	307	222	257	202	56	113	224	120	266	112
95th Queue (ft)	314	484	460	295	504	412	137	176	391	135	524	232
Link Distance (ft)		1391	1391		1870	1870			1126		1226	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	260			235			150	115		100		150
Storage Blk Time (%)	0	27		36	0	6	0	23	29	68	8	0
Queuing Penalty (veh)	0	22		145	0	9	0	94	47	198	21	0

Intersection: 18: Manning Ave & Lac Jac Ave

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	94	330	320	134	245	217	73	156	136	96
Average Queue (ft)	23	191	156	55	152	122	29	46	45	36
95th Queue (ft)	64	292	272	105	232	200	69	95	96	76
Link Distance (ft)		862	862		977	977		745		801
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	285			255			95		250	
Storage Blk Time (%)		0			0			2		
Queuing Penalty (veh)		0			0			1		

Intersection: 19: Manning Ave & Reed Ave

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	131	173	171	174	187	155	129	537	130	125	278	125
Average Queue (ft)	71	79	71	89	107	61	55	162	78	73	124	52
95th Queue (ft)	116	134	132	143	170	142	114	335	146	126	222	108
Link Distance (ft)		1390	1390		803			771			607	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	230			165		250	105		105	100		100
Storage Blk Time (%)				0	0		0	17	1	5	10	0
Queuing Penalty (veh)				1	2		0	38	4	19	24	0

Intersection: 20: Manning Ave & Frankwood Ave

Movement	EB	EB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	T	R
Maximum Queue (ft)	125	683	125	841	114	272	134	164	116
Average Queue (ft)	109	367	69	802	21	139	74	61	34
95th Queue (ft)	146	710	157	830	73	231	119	120	73
Link Distance (ft)		631		778		483		527	
Upstream Blk Time (%)		13		96					
Queuing Penalty (veh)		0		0					
Storage Bay Dist (ft)	100		100		90		110		130
Storage Blk Time (%)	11	31	0	77	0	25	1	1	0
Queuing Penalty (veh)	61	66	0	41	0	6	2	3	0

Intersection: 21: Manning Ave & Buttonwillow Ave

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	TR	L	T	R	L	T
Maximum Queue (ft)	149	240	148	88	155	226	213	155	480	230	94	455
Average Queue (ft)	54	120	72	47	52	145	96	119	153	27	78	367
95th Queue (ft)	116	193	147	86	108	212	193	179	326	119	114	503
Link Distance (ft)		604	604			902			551			403
Upstream Blk Time (%)												29
Queuing Penalty (veh)												0
Storage Bay Dist (ft)	125			80	130		620	130		205	70	
Storage Blk Time (%)	0	5	3	2	0	13		13	5	0	21	54
Queuing Penalty (veh)	0	4	5	4	0	57		42	13	0	107	128

Intersection: 21: Manning Ave & Buttonwillow Ave

Movement	SB
Directions Served	R
Maximum Queue (ft)	95
Average Queue (ft)	69
95th Queue (ft)	120
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	70
Storage Blk Time (%)	1
Queuing Penalty (veh)	6

Intersection: 22: Manning Ave & Alta Ave

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	125	582	124	384	134	289	53	199
Average Queue (ft)	50	260	62	112	108	150	24	74
95th Queue (ft)	117	456	125	260	165	255	53	139
Link Distance (ft)		896		910		588		632
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	100		100		110		115	
Storage Blk Time (%)	0	31	15	5	5	10		2
Queuing Penalty (veh)	1	26	35	3	18	17		1

Intersection: 23: Manning Ave & Hill Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	122	102	55	76
Average Queue (ft)	65	53	22	37
95th Queue (ft)	100	81	46	66
Link Distance (ft)	921	897	482	541
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 24: Manning Ave & Hills Valley Rd

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	122	53	31	50
Average Queue (ft)	52	29	6	3
95th Queue (ft)	91	48	24	20
Link Distance (ft)	959	859	526	464
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 25: Manning & SR 63

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	63	25	27	23
Average Queue (ft)	24	9	4	1
95th Queue (ft)	48	28	19	8
Link Distance (ft)	755	408	473	351
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 2508

Mitigation Worksheets

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	609	204	175	348	26	81	211	203	14	166	20
Future Volume (veh/h)	44	609	204	175	348	26	81	211	203	14	166	20
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	50	692	232	199	395	30	92	240	231	16	189	23
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	127	883	394	236	1037	78	172	390	330	54	233	28
Arrive On Green	0.07	0.25	0.25	0.13	0.31	0.31	0.10	0.21	0.21	0.03	0.14	0.14
Sat Flow, veh/h	1753	3497	1560	1753	3295	249	1753	1841	1560	1753	1610	196
Grp Volume(v), veh/h	50	692	232	199	209	216	92	240	231	16	0	212
Grp Sat Flow(s),veh/h/ln	1753	1749	1560	1753	1749	1796	1753	1841	1560	1753	0	1805
Q Serve(g_s), s	1.8	12.3	8.7	7.4	6.2	6.3	3.3	7.9	9.2	0.6	0.0	7.6
Cycle Q Clear(g_c), s	1.8	12.3	8.7	7.4	6.2	6.3	3.3	7.9	9.2	0.6	0.0	7.6
Prop In Lane	1.00		1.00	1.00		0.14	1.00		1.00	1.00		0.11
Lane Grp Cap(c), veh/h	127	883	394	236	550	565	172	390	330	54	0	261
V/C Ratio(X)	0.39	0.78	0.59	0.84	0.38	0.38	0.54	0.62	0.70	0.30	0.00	0.81
Avail Cap(c_a), veh/h	209	951	424	236	550	565	209	390	330	209	0	270
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	1.00
Uniform Delay (d), s/veh	29.7	23.3	22.0	28.3	17.9	17.9	28.8	23.9	24.4	31.7	0.0	27.8
Incr Delay (d2), s/veh	0.7	5.0	3.4	22.4	0.5	0.4	1.0	5.1	9.2	1.1	0.0	19.4
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	0.7	4.9	3.1	4.2	2.1	2.2	1.3	3.5	3.8	0.2	0.0	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.4	28.4	25.4	50.7	18.3	18.3	29.7	29.1	33.6	32.9	0.0	47.1
LnGrp LOS	C	C	C	D	B	B	C	C	C	C	A	D
Approach Vol, veh/h		974			624			563			228	
Approach Delay, s/veh		27.8			28.6			31.0			46.1	
Approach LOS		C			C			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	24.7	11.6	16.7	9.8	28.9	7.1	21.2
Change Period (Y+Rc), s	5.0	7.8	5.0	7.0	5.0	7.8	5.0	7.0
Max Green Setting (Gmax), s	9.0	18.2	8.0	10.0	8.0	19.2	8.0	10.0
Max Q Clear Time (g_c+I1), s	9.4	14.3	5.3	9.6	3.8	8.3	2.6	11.2
Green Ext Time (p_c), s	0.0	2.6	0.0	0.1	0.0	1.6	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	30.5
HCM 6th LOS	C

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	184	437	28	44	365	115	26	203	30	131	168	111
Future Volume (veh/h)	184	437	28	44	365	115	26	203	30	131	168	111
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	194	460	29	46	384	121	27	214	32	138	177	117
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	237	741	47	56	443	139	31	258	39	174	453	384
Arrive On Green	0.14	0.43	0.43	0.03	0.33	0.33	0.02	0.16	0.16	0.10	0.25	0.25
Sat Flow, veh/h	1753	1713	108	1753	1342	423	1753	1565	234	1753	1841	1560
Grp Volume(v), veh/h	194	0	489	46	0	505	27	0	246	138	177	117
Grp Sat Flow(s),veh/h/ln	1753	0	1821	1753	0	1765	1753	0	1799	1753	1841	1560
Q Serve(g_s), s	7.0	0.0	13.5	1.7	0.0	17.4	1.0	0.0	8.6	5.0	5.2	4.0
Cycle Q Clear(g_c), s	7.0	0.0	13.5	1.7	0.0	17.4	1.0	0.0	8.6	5.0	5.2	4.0
Prop In Lane	1.00		0.06	1.00		0.24	1.00		0.13	1.00		1.00
Lane Grp Cap(c), veh/h	237	0	788	56	0	582	31	0	297	174	453	384
V/C Ratio(X)	0.82	0.00	0.62	0.82	0.00	0.87	0.86	0.00	0.83	0.79	0.39	0.30
Avail Cap(c_a), veh/h	292	0	968	116	0	745	97	0	316	211	453	384
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.3	0.0	14.3	31.2	0.0	20.4	31.8	0.0	26.2	28.6	20.4	19.9
Incr Delay (d2), s/veh	11.6	0.0	0.8	10.2	0.0	8.7	21.8	0.0	16.0	12.9	0.5	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	3.5	0.0	4.9	0.8	0.0	7.8	0.6	0.0	4.8	2.7	2.2	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.9	0.0	15.0	41.5	0.0	29.2	53.6	0.0	42.2	41.5	21.0	20.4
LnGrp LOS	D	A	B	D	A	C	D	A	D	D	C	C
Approach Vol, veh/h		683			551			273			432	
Approach Delay, s/veh		21.8			30.2			43.3			27.4	
Approach LOS		C			C			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.0	26.0	10.6	15.3	6.3	32.7	5.4	20.6				
Change Period (Y+Rc), s	* 4.2	4.6	* 4.2	4.6	* 4.2	* 4.6	* 4.2	4.6				
Max Green Setting (Gmax), s	* 11	27.4	* 7.8	11.4	* 4.3	* 35	* 3.6	15.6				
Max Q Clear Time (g_c+I1), s	9.0	19.4	7.0	10.6	3.7	15.5	3.0	7.2				
Green Ext Time (p_c), s	0.1	2.0	0.0	0.1	0.0	2.7	0.0	0.9				
Intersection Summary												
HCM 6th Ctrl Delay			28.5									
HCM 6th LOS			C									

Notes

User approved pedestrian interval to be less than phase max green.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations								
Traffic Volume (veh/h)	592	34	39	194	41	185		
Future Volume (veh/h)	592	34	39	194	41	185		
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		
Work Zone On Approach	No			No	No			
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841		
Adj Flow Rate, veh/h	643	37	42	211	45	201		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	4	4	4	4	4	4		
Cap, veh/h	899	762	423	899	320	284		
Arrive On Green	0.49	0.49	0.49	0.49	0.18	0.18		
Sat Flow, veh/h	1841	1560	748	1841	1753	1560		
Grp Volume(v), veh/h	643	37	42	211	45	201		
Grp Sat Flow(s),veh/h/ln	1841	1560	748	1841	1753	1560		
Q Serve(g_s), s	7.5	0.3	1.3	1.8	0.6	3.3		
Cycle Q Clear(g_c), s	7.5	0.3	8.8	1.8	0.6	3.3		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	899	762	423	899	320	284		
V/C Ratio(X)	0.71	0.05	0.10	0.23	0.14	0.71		
Avail Cap(c_a), veh/h	2221	1882	961	2221	1154	1027		
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	5.5	3.7	8.9	4.0	9.4	10.5		
Incr Delay (d2), s/veh	1.1	0.0	0.1	0.1	0.2	3.2		
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	0.0	0.1	0.3	0.1	0.9		
Unsig. Movement Delay, s/veh								
LnGrp Delay(d),s/veh	6.6	3.7	9.0	4.2	9.6	13.7		
LnGrp LOS	A	A	A	A	A	B		
Approach Vol, veh/h	680			253	246			
Approach Delay, s/veh	6.4			5.0	13.0			
Approach LOS	A			A	B			
Timer - Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		17.9				17.9		9.5
Change Period (Y+Rc), s		4.5				4.5		4.5
Max Green Setting (Gmax), s		33.0				33.0		18.0
Max Q Clear Time (g_c+I1), s		9.5				10.8		5.3
Green Ext Time (p_c), s		3.9				1.5		0.6
Intersection Summary								
HCM 6th Ctrl Delay			7.5					
HCM 6th LOS			A					

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	1	64	76	48	57	73	272	3	5	714	36
Future Volume (veh/h)	22	1	64	76	48	57	73	272	3	5	714	36
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	24	1	70	83	52	62	79	296	3	5	776	39
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, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	178	32	215	250	96	90	136	1472	15	12	1167	59
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.08	0.41	0.41	0.01	0.34	0.34
Sat Flow, veh/h	249	176	1189	551	528	496	1753	3547	36	1753	3388	170
Grp Volume(v), veh/h	95	0	0	197	0	0	79	146	153	5	400	415
Grp Sat Flow(s),veh/h/ln	1614	0	0	1575	0	0	1753	1749	1834	1753	1749	1810
Q Serve(g_s), s	0.0	0.0	0.0	2.1	0.0	0.0	1.5	1.8	1.8	0.1	6.6	6.6
Cycle Q Clear(g_c), s	1.7	0.0	0.0	3.9	0.0	0.0	1.5	1.8	1.8	0.1	6.6	6.6
Prop In Lane	0.25		0.74	0.42		0.31	1.00		0.02	1.00		0.09
Lane Grp Cap(c), veh/h	425	0	0	436	0	0	136	725	761	12	602	623
V/C Ratio(X)	0.22	0.00	0.00	0.45	0.00	0.00	0.58	0.20	0.20	0.42	0.66	0.67
Avail Cap(c_a), veh/h	939	0	0	958	0	0	263	952	999	258	947	980
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	12.1	0.0	0.0	12.9	0.0	0.0	15.1	6.3	6.3	16.8	9.5	9.5
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.7	0.0	0.0	3.9	0.1	0.1	21.9	1.3	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	0.4	0.0	0.0	1.0	0.0	0.0	0.6	0.4	0.5	0.1	1.3	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.4	0.0	0.0	13.6	0.0	0.0	19.1	6.5	6.5	38.7	10.7	10.7
LnGrp LOS	B	A	A	B	A	A	B	A	A	D	B	B
Approach Vol, veh/h		95			197			378			820	
Approach Delay, s/veh		12.4			13.6			9.1			10.9	
Approach LOS		B			B			A			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.7	18.6		10.6	7.1	16.2		10.6				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	18.5		18.0	5.1	18.4		18.0				
Max Q Clear Time (g_c+I1), s	2.1	3.8		3.7	3.5	8.6		5.9				
Green Ext Time (p_c), s	0.0	1.4		0.3	0.0	3.1		0.7				
Intersection Summary												
HCM 6th Ctrl Delay			10.9									
HCM 6th LOS			B									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	16	57	27	0	0	39	350	4	17	831	46
Future Volume (veh/h)	14	16	57	27	0	0	39	350	4	17	831	46
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	15	17	62	29	0	0	42	380	4	18	903	50
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, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	154	35	109	390	0	0	86	1575	17	41	1410	78
Arrive On Green	0.10	0.10	0.10	0.10	0.00	0.00	0.05	0.44	0.44	0.02	0.42	0.42
Sat Flow, veh/h	206	334	1046	1542	0	0	1753	3545	37	1753	3369	187
Grp Volume(v), veh/h	94	0	0	29	0	0	42	187	197	18	469	484
Grp Sat Flow(s),veh/h/ln	1587	0	0	1542	0	0	1753	1749	1834	1753	1749	1807
Q Serve(g_s), s	1.2	0.0	0.0	0.0	0.0	0.0	0.7	2.1	2.1	0.3	6.7	6.7
Cycle Q Clear(g_c), s	1.8	0.0	0.0	0.5	0.0	0.0	0.7	2.1	2.1	0.3	6.7	6.7
Prop In Lane	0.16		0.66	1.00		0.00	1.00		0.02	1.00		0.10
Lane Grp Cap(c), veh/h	298	0	0	390	0	0	86	777	815	41	732	756
V/C Ratio(X)	0.32	0.00	0.00	0.07	0.00	0.00	0.49	0.24	0.24	0.44	0.64	0.64
Avail Cap(c_a), veh/h	1037	0	0	999	0	0	306	1292	1355	284	1270	1312
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	13.4	0.0	0.0	12.9	0.0	0.0	14.6	5.5	5.5	15.2	7.3	7.3
Incr Delay (d2), s/veh	0.6	0.0	0.0	0.1	0.0	0.0	4.3	0.2	0.2	7.4	0.9	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	0.5	0.0	0.0	0.1	0.0	0.0	0.3	0.2	0.2	0.2	0.9	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.0	0.0	0.0	12.9	0.0	0.0	18.9	5.6	5.6	22.6	8.2	8.2
LnGrp LOS	B	A	A	B	A	A	B	A	A	C	A	A
Approach Vol, veh/h		94			29			426			971	
Approach Delay, s/veh		14.0			12.9			6.9			8.5	
Approach LOS		B			B			A			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.2	18.5		7.8	6.0	17.7		7.8				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.1	23.3		18.1	5.5	22.9		18.1				
Max Q Clear Time (g_c+I1), s	2.3	4.1		3.8	2.7	8.7		2.5				
Green Ext Time (p_c), s	0.0	1.7		0.3	0.0	4.5		0.1				

Intersection Summary		
HCM 6th Ctrl Delay		8.5
HCM 6th LOS		A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	87	790	365	76	593	190	339	311	120	197	264	75
Future Volume (veh/h)	87	790	365	76	593	190	339	311	120	197	264	75
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	95	859	397	83	645	207	368	338	130	214	287	82
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, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	134	1265	564	129	1249	557	444	604	270	284	440	196
Arrive On Green	0.08	0.36	0.36	0.07	0.36	0.36	0.13	0.17	0.17	0.08	0.13	0.13
Sat Flow, veh/h	1753	3497	1560	1753	3497	1560	3401	3497	1560	3401	3497	1560
Grp Volume(v), veh/h	95	859	397	83	645	207	368	338	130	214	287	82
Grp Sat Flow(s),veh/h/ln	1753	1749	1560	1753	1749	1560	1700	1749	1560	1700	1749	1560
Q Serve(g_s), s	5.1	20.1	21.1	4.5	14.1	9.5	10.2	8.6	7.3	6.0	7.6	4.7
Cycle Q Clear(g_c), s	5.1	20.1	21.1	4.5	14.1	9.5	10.2	8.6	7.3	6.0	7.6	4.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	134	1265	564	129	1249	557	444	604	270	284	440	196
V/C Ratio(X)	0.71	0.68	0.70	0.64	0.52	0.37	0.83	0.56	0.48	0.75	0.65	0.42
Avail Cap(c_a), veh/h	236	1421	634	221	1385	618	696	937	418	450	684	305
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	43.6	26.1	26.4	43.5	24.5	23.0	41.0	36.6	36.1	43.3	40.3	39.0
Incr Delay (d2), s/veh	2.6	2.5	6.1	2.0	1.2	1.5	2.5	2.8	4.5	1.5	5.5	4.8
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	2.2	7.9	7.9	1.9	5.4	3.4	4.1	3.6	2.9	2.4	3.4	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.2	28.6	32.5	45.5	25.7	24.5	43.5	39.4	40.6	44.9	45.8	43.8
LnGrp LOS	D	C	C	D	C	C	D	D	D	D	D	D
Approach Vol, veh/h		1351			935			836			583	
Approach Delay, s/veh		31.0			27.2			41.4			45.2	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.3	42.9	19.8	19.7	14.8	42.4	15.3	24.2
Change Period (Y+Rc), s	* 7.2	7.9	* 7.2	7.5	7.4	7.9	* 7.2	7.5
Max Green Setting (Gmax), s	* 12	39.3	* 20	18.9	13.0	38.3	* 13	25.9
Max Q Clear Time (g_c+I1), s	6.5	23.1	12.2	9.6	7.1	16.1	8.0	10.6
Green Ext Time (p_c), s	0.0	11.9	0.4	2.6	0.0	10.8	0.2	4.6

Intersection Summary	
HCM 6th Ctrl Delay	34.6
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	288	49	361	46	65	61	264	533	113	38	478	187
Future Volume (veh/h)	288	49	361	46	65	61	264	533	113	38	478	187
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	313	53	392	50	71	66	287	579	123	41	520	203
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, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	484	550	466	152	205	156	337	1215	257	113	727	283
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.19	0.42	0.42	0.06	0.30	0.30
Sat Flow, veh/h	1232	1841	1560	271	687	523	1753	2872	608	1753	2461	956
Grp Volume(v), veh/h	313	53	392	187	0	0	287	352	350	41	369	354
Grp Sat Flow(s),veh/h/ln	1232	1841	1560	1481	0	0	1753	1749	1731	1753	1749	1669
Q Serve(g_s), s	9.5	1.3	15.2	0.4	0.0	0.0	10.2	9.4	9.4	1.4	12.2	12.3
Cycle Q Clear(g_c), s	15.1	1.3	15.2	5.6	0.0	0.0	10.2	9.4	9.4	1.4	12.2	12.3
Prop In Lane	1.00		1.00	0.27		0.35	1.00		0.35	1.00		0.57
Lane Grp Cap(c), veh/h	484	550	466	513	0	0	337	740	733	113	517	493
V/C Ratio(X)	0.65	0.10	0.84	0.36	0.00	0.00	0.85	0.48	0.48	0.36	0.71	0.72
Avail Cap(c_a), veh/h	593	712	604	635	0	0	543	947	938	543	947	904
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	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.1	16.4	21.2	17.8	0.0	0.0	25.2	13.5	13.5	29.0	20.3	20.4
Incr Delay (d2), s/veh	1.9	0.1	8.5	0.2	0.0	0.0	3.9	0.5	0.5	0.7	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	4.2	0.5	6.1	2.0	0.0	0.0	4.3	3.3	3.3	0.6	4.7	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.0	16.4	29.7	18.0	0.0	0.0	29.1	14.0	14.0	29.7	22.3	22.5
LnGrp LOS	C	B	C	B	A	A	C	B	B	C	C	C
Approach Vol, veh/h		758			187			989			764	
Approach Delay, s/veh		26.0			18.0			18.4			22.8	
Approach LOS		C			B			B			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	16.4	23.7		24.5	8.2	31.9		24.5				
Change Period (Y+Rc), s	4.0	4.6		* 5.2	4.0	4.6		* 5.2				
Max Green Setting (Gmax), s	20.0	35.0		* 25	20.0	35.0		* 25				
Max Q Clear Time (g_c+I1), s	12.2	14.3		7.6	3.4	11.4		17.2				
Green Ext Time (p_c), s	0.3	4.8		0.7	0.0	4.8		2.1				
Intersection Summary												
HCM 6th Ctrl Delay			21.7									
HCM 6th LOS			C									
Notes												

User approved pedestrian interval to be less than phase max green.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	79	60	2	41	68	33	556	1	126	717	13
Future Volume (veh/h)	21	79	60	2	41	68	33	556	1	126	717	13
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	23	86	65	2	45	74	36	604	1	137	779	14
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, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	155	150	104	120	105	168	75	1025	2	196	1248	22
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.04	0.29	0.29	0.11	0.36	0.36
Sat Flow, veh/h	143	905	625	12	631	1014	1753	3582	6	1753	3515	63
Grp Volume(v), veh/h	174	0	0	121	0	0	36	295	310	137	388	405
Grp Sat Flow(s),veh/h/ln	1673	0	0	1658	0	0	1753	1749	1840	1753	1749	1829
Q Serve(g_s), s	0.9	0.0	0.0	0.0	0.0	0.0	0.6	4.5	4.5	2.3	5.7	5.7
Cycle Q Clear(g_c), s	2.9	0.0	0.0	2.0	0.0	0.0	0.6	4.5	4.5	2.3	5.7	5.7
Prop In Lane	0.13		0.37	0.02		0.61	1.00		0.00	1.00		0.03
Lane Grp Cap(c), veh/h	409	0	0	393	0	0	75	501	527	196	621	649
V/C Ratio(X)	0.43	0.00	0.00	0.31	0.00	0.00	0.48	0.59	0.59	0.70	0.62	0.62
Avail Cap(c_a), veh/h	1087	0	0	1078	0	0	289	1017	1070	312	1040	1088
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	12.0	0.0	0.0	11.6	0.0	0.0	14.5	9.5	9.5	13.2	8.3	8.3
Incr Delay (d2), s/veh	0.7	0.0	0.0	0.4	0.0	0.0	4.6	1.1	1.1	4.5	1.0	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	0.7	0.0	0.0	0.5	0.0	0.0	0.3	0.9	0.9	0.8	0.9	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.7	0.0	0.0	12.1	0.0	0.0	19.1	10.6	10.5	17.7	9.3	9.3
LnGrp LOS	B	A	A	B	A	A	B	B	B	B	A	A
Approach Vol, veh/h		174			121			641			930	
Approach Delay, s/veh		12.7			12.1			11.0			10.5	
Approach LOS		B			B			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.0	13.4		9.6	5.8	15.5		9.6				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.5	18.0		18.0	5.1	18.4		18.0				
Max Q Clear Time (g_c+I1), s	4.3	6.5		4.9	2.6	7.7		4.0				
Green Ext Time (p_c), s	0.0	2.4		0.6	0.0	3.1		0.4				
Intersection Summary												
HCM 6th Ctrl Delay			11.0									
HCM 6th LOS			B									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	614	9	20	1119	80	28	294	37	292	370	153
Future Volume (veh/h)	43	614	9	20	1119	80	28	294	37	292	370	153
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	47	667	10	22	1216	87	30	320	40	317	402	166
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, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	68	1373	21	42	1307	583	52	596	74	352	876	357
Arrive On Green	0.04	0.39	0.39	0.02	0.37	0.37	0.03	0.19	0.19	0.20	0.36	0.36
Sat Flow, veh/h	1753	3527	53	1753	3497	1560	1753	3131	388	1753	2423	988
Grp Volume(v), veh/h	47	331	346	22	1216	87	30	178	182	317	289	279
Grp Sat Flow(s),veh/h/ln	1753	1749	1831	1753	1749	1560	1753	1749	1771	1753	1749	1663
Q Serve(g_s), s	2.3	12.4	12.4	1.1	28.9	3.2	1.5	7.9	8.1	15.3	11.0	11.2
Cycle Q Clear(g_c), s	2.3	12.4	12.4	1.1	28.9	3.2	1.5	7.9	8.1	15.3	11.0	11.2
Prop In Lane	1.00		0.03	1.00		1.00	1.00		0.22	1.00		0.59
Lane Grp Cap(c), veh/h	68	681	713	42	1307	583	52	333	337	352	632	601
V/C Ratio(X)	0.69	0.49	0.49	0.53	0.93	0.15	0.58	0.53	0.54	0.90	0.46	0.46
Avail Cap(c_a), veh/h	101	681	713	111	1331	594	119	333	337	374	632	601
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	41.1	20.0	20.0	41.9	26.1	18.0	41.5	31.6	31.7	33.8	21.2	21.3
Incr Delay (d2), s/veh	11.5	0.5	0.5	10.0	11.6	0.1	9.7	6.0	6.1	23.2	0.5	0.6
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	1.2	4.6	4.9	0.6	12.8	1.1	0.7	3.7	3.8	8.3	4.1	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.6	20.5	20.5	51.9	37.6	18.1	51.2	37.7	37.8	57.0	21.7	21.8
LnGrp LOS	D	C	C	D	D	B	D	D	D	E	C	C
Approach Vol, veh/h		724			1325			390			885	
Approach Delay, s/veh		22.6			36.6			38.8			34.4	
Approach LOS		C			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.1	35.3	7.9	36.4	21.9	20.5	6.6	37.7
Change Period (Y+Rc), s	4.5	4.0	4.5	4.0	4.5	4.0	4.5	4.0
Max Green Setting (Gmax), s	5.9	29.1	5.0	33.0	18.5	16.5	5.5	32.5
Max Q Clear Time (g_c+I1), s	3.5	13.2	4.3	30.9	17.3	10.1	3.1	14.4
Green Ext Time (p_c), s	0.0	2.7	0.0	1.5	0.1	0.9	0.0	3.5

Intersection Summary	
HCM 6th Ctrl Delay	33.2
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	199	474	123	7	814	46	91	87	4	100	265	474
Future Volume (veh/h)	199	474	123	7	814	46	91	87	4	100	265	474
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	216	515	134	8	885	50	99	95	4	109	288	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, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	234	872	739	21	1241	553	143	294	12	164	338	
Arrive On Green	0.13	0.47	0.47	0.01	0.35	0.35	0.08	0.17	0.17	0.09	0.18	0.00
Sat Flow, veh/h	1753	1841	1560	1753	3497	1560	1753	1754	74	1753	1841	1560
Grp Volume(v), veh/h	216	515	134	8	885	50	99	0	99	109	288	0
Grp Sat Flow(s),veh/h/ln	1753	1841	1560	1753	1749	1560	1753	0	1827	1753	1841	1560
Q Serve(g_s), s	11.0	18.4	4.5	0.4	19.7	1.9	4.9	0.0	4.3	5.4	13.6	0.0
Cycle Q Clear(g_c), s	11.0	18.4	4.5	0.4	19.7	1.9	4.9	0.0	4.3	5.4	13.6	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.04	1.00		1.00
Lane Grp Cap(c), veh/h	234	872	739	21	1241	553	143	0	306	164	338	
V/C Ratio(X)	0.92	0.59	0.18	0.38	0.71	0.09	0.69	0.00	0.32	0.67	0.85	
Avail Cap(c_a), veh/h	234	872	739	117	1241	553	158	0	335	240	417	
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	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	38.5	17.3	13.6	44.1	25.1	19.4	40.2	0.0	33.0	39.4	35.5	0.0
Incr Delay (d2), s/veh	38.1	2.9	0.5	4.1	3.5	0.3	8.5	0.0	1.0	1.7	14.7	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	7.0	7.9	1.6	0.2	8.3	0.7	2.4	0.0	1.9	2.3	7.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	76.7	20.2	14.2	48.2	28.6	19.7	48.7	0.0	33.9	41.2	50.3	0.0
LnGrp LOS	E	C	B	D	C	B	D	A	C	D	D	
Approach Vol, veh/h		865			943			198			397	A
Approach Delay, s/veh		33.4			28.3			41.3			47.8	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.3	48.0	13.2	22.5	17.0	37.3	14.7	21.0
Change Period (Y+Rc), s	* 5.2	5.4	5.9	5.9	5.0	5.4	* 6.3	* 5.9
Max Green Setting (Gmax), s	* 6	33.1	8.1	20.4	12.0	27.3	* 12	* 17
Max Q Clear Time (g_c+I1), s	2.4	20.4	6.9	15.6	13.0	21.7	7.4	6.3
Green Ext Time (p_c), s	0.0	4.5	0.0	0.9	0.0	3.6	0.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	34.4
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	243	650	254	10	1102	348	845	1287	32	261	214	139
Future Volume (veh/h)	243	650	254	10	1102	348	845	1287	32	261	214	139
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	264	707	276	11	1198	378	918	1399	0	284	233	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, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	262	1312	585	69	1114	497	973	1324		262	592	
Arrive On Green	0.08	0.38	0.38	0.02	0.32	0.32	0.29	0.38	0.00	0.08	0.17	0.00
Sat Flow, veh/h	3401	3497	1560	3401	3497	1560	3401	3497	1560	3401	3497	1560
Grp Volume(v), veh/h	264	707	276	11	1198	378	918	1399	0	284	233	0
Grp Sat Flow(s),veh/h/ln	1700	1749	1560	1700	1749	1560	1700	1749	1560	1700	1749	1560
Q Serve(g_s), s	10.0	20.6	17.5	0.4	41.4	28.3	34.3	49.2	0.0	10.0	7.7	0.0
Cycle Q Clear(g_c), s	10.0	20.6	17.5	0.4	41.4	28.3	34.3	49.2	0.0	10.0	7.7	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	262	1312	585	69	1114	497	973	1324		262	592	
V/C Ratio(X)	1.01	0.54	0.47	0.16	1.08	0.76	0.94	1.06		1.09	0.39	
Avail Cap(c_a), veh/h	262	1312	585	209	1114	497	1046	1324		262	592	
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	0.00
Uniform Delay (d), s/veh	60.0	31.8	30.8	62.6	44.3	39.8	45.4	40.4	0.0	60.0	48.0	0.0
Incr Delay (d2), s/veh	58.0	1.3	2.3	0.4	49.8	10.5	15.1	41.3	0.0	80.3	0.2	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	6.3	8.5	6.6	0.2	24.5	11.7	15.7	27.2	0.0	7.1	3.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	118.0	33.1	33.1	63.0	94.1	50.4	60.5	81.7	0.0	140.3	48.2	0.0
LnGrp LOS	F	C	C	E	F	D	E	F		F	D	
Approach Vol, veh/h		1247			1587			2317	A		517	A
Approach Delay, s/veh		51.1			83.4			73.3			98.8	
Approach LOS		D			F			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	41.2	27.7	14.0	47.1	14.0	54.9	6.6	54.5
Change Period (Y+Rc), s	4.0	5.7	4.0	5.7	4.0	5.7	4.0	5.7
Max Green Setting (Gmax), s	40.0	19.2	10.0	41.4	10.0	49.2	8.0	43.4
Max Q Clear Time (g_c+I1), s	36.3	9.7	12.0	43.4	12.0	51.2	2.4	22.6
Green Ext Time (p_c), s	0.9	0.5	0.0	0.0	0.0	0.0	0.0	12.0

Intersection Summary	
HCM 6th Ctrl Delay	73.6
HCM 6th LOS	E

Notes

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

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	886	297	276	548	41	90	235	226	31	364	44
Future Volume (veh/h)	64	886	297	276	548	41	90	235	226	31	364	44
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	70	963	323	300	596	45	98	255	246	34	396	48
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, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	90	1017	453	328	1492	665	122	505	428	58	438	371
Arrive On Green	0.05	0.29	0.29	0.19	0.43	0.43	0.07	0.27	0.27	0.03	0.24	0.24
Sat Flow, veh/h	1753	3497	1560	1753	3497	1560	1753	1841	1560	1753	1841	1560
Grp Volume(v), veh/h	70	963	323	300	596	45	98	255	246	34	396	48
Grp Sat Flow(s),veh/h/ln	1753	1749	1560	1753	1749	1560	1753	1841	1560	1753	1841	1560
Q Serve(g_s), s	3.1	21.3	14.7	13.3	9.3	1.3	4.4	9.2	10.8	1.5	16.5	1.9
Cycle Q Clear(g_c), s	3.1	21.3	14.7	13.3	9.3	1.3	4.4	9.2	10.8	1.5	16.5	1.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	90	1017	453	328	1492	665	122	505	428	58	438	371
V/C Ratio(X)	0.78	0.95	0.71	0.91	0.40	0.07	0.80	0.51	0.58	0.58	0.90	0.13
Avail Cap(c_a), veh/h	197	1017	453	328	1492	665	122	505	428	111	458	388
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	37.1	27.5	25.1	31.5	15.7	13.4	36.3	24.2	24.7	37.7	29.3	23.7
Incr Delay (d2), s/veh	13.5	17.0	5.2	29.0	0.2	0.0	31.1	3.6	5.5	8.9	20.7	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	1.6	10.1	5.4	7.7	3.1	0.4	2.8	4.1	4.1	0.7	9.1	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.6	44.4	30.3	60.6	15.9	13.4	67.3	27.8	30.3	46.6	50.0	23.9
LnGrp LOS	D	D	C	E	B	B	E	C	C	D	D	C
Approach Vol, veh/h		1356			941			599			478	
Approach Delay, s/veh		41.4			30.0			35.3			47.1	
Approach LOS		D			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.1	25.7	19.3	27.0	10.0	22.8	8.5	37.8				
Change Period (Y+Rc), s	4.5	4.0	4.5	4.0	4.5	4.0	4.5	4.0				
Max Green Setting (Gmax), s	5.0	20.2	14.8	23.0	5.5	19.7	8.9	28.9				
Max Q Clear Time (g_c+I1), s	3.5	12.8	15.3	23.3	6.4	18.5	5.1	11.3				
Green Ext Time (p_c), s	0.0	1.3	0.0	0.0	0.0	0.3	0.0	3.3				
Intersection Summary												
HCM 6th Ctrl Delay			37.9									
HCM 6th LOS			D									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	836	95	208	812	139	162	267	149	172	187	106
Future Volume (veh/h)	82	836	95	208	812	139	162	267	149	172	187	106
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	89	909	103	226	883	151	176	290	162	187	203	115
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, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	114	1057	471	265	1357	605	213	397	337	225	410	347
Arrive On Green	0.07	0.30	0.30	0.15	0.39	0.39	0.12	0.22	0.22	0.13	0.22	0.22
Sat Flow, veh/h	1753	3497	1560	1753	3497	1560	1753	1841	1560	1753	1841	1560
Grp Volume(v), veh/h	89	909	103	226	883	151	176	290	162	187	203	115
Grp Sat Flow(s),veh/h/ln	1753	1749	1560	1753	1749	1560	1753	1841	1560	1753	1841	1560
Q Serve(g_s), s	4.2	20.5	4.1	10.5	17.3	5.5	8.2	12.3	7.6	8.7	8.1	5.2
Cycle Q Clear(g_c), s	4.2	20.5	4.1	10.5	17.3	5.5	8.2	12.3	7.6	8.7	8.1	5.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	114	1057	471	265	1357	605	213	397	337	225	410	347
V/C Ratio(X)	0.78	0.86	0.22	0.85	0.65	0.25	0.83	0.73	0.48	0.83	0.50	0.33
Avail Cap(c_a), veh/h	217	1168	521	337	1406	627	276	397	337	289	411	348
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	38.6	27.6	21.9	34.7	21.0	17.4	36.0	30.6	28.8	35.7	28.5	27.3
Incr Delay (d2), s/veh	10.8	6.2	0.2	15.5	1.0	0.2	14.8	11.2	4.9	14.9	0.9	0.6
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	2.0	8.7	1.4	5.3	6.4	1.8	4.1	6.2	3.1	4.6	3.6	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.4	33.8	22.1	50.2	22.0	17.6	50.7	41.8	33.6	50.6	29.4	27.9
LnGrp LOS	D	C	C	D	C	B	D	D	C	D	C	C
Approach Vol, veh/h		1101			1260			628			505	
Approach Delay, s/veh		34.0			26.5			42.2			36.9	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.2	22.1	17.2	29.3	14.7	22.7	10.0	36.5
Change Period (Y+Rc), s	4.5	4.0	4.5	4.0	4.5	4.0	4.5	4.0
Max Green Setting (Gmax), s	13.8	18.1	16.1	28.0	13.2	18.7	10.4	33.7
Max Q Clear Time (g_c+I1), s	10.7	14.3	12.5	22.5	10.2	10.1	6.2	19.3
Green Ext Time (p_c), s	0.1	0.7	0.2	2.8	0.1	1.0	0.1	5.2

Intersection Summary	
HCM 6th Ctrl Delay	33.2
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	213	506	32	53	444	140	26	207	31	133	170	113
Future Volume (veh/h)	213	506	32	53	444	140	26	207	31	133	170	113
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	232	550	35	58	483	152	28	225	34	145	185	123
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, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	275	782	662	73	569	482	33	270	41	181	474	402
Arrive On Green	0.16	0.42	0.42	0.04	0.31	0.31	0.02	0.17	0.17	0.10	0.26	0.26
Sat Flow, veh/h	1753	1841	1560	1753	1841	1560	1753	1562	236	1753	1841	1560
Grp Volume(v), veh/h	232	550	35	58	483	152	28	0	259	145	185	123
Grp Sat Flow(s),veh/h/ln	1753	1841	1560	1753	1841	1560	1753	0	1798	1753	1841	1560
Q Serve(g_s), s	8.8	16.7	0.9	2.2	16.8	5.1	1.1	0.0	9.5	5.5	5.7	4.3
Cycle Q Clear(g_c), s	8.8	16.7	0.9	2.2	16.8	5.1	1.1	0.0	9.5	5.5	5.7	4.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.13	1.00		1.00
Lane Grp Cap(c), veh/h	275	782	662	73	569	482	33	0	310	181	474	402
V/C Ratio(X)	0.84	0.70	0.05	0.80	0.85	0.32	0.86	0.00	0.83	0.80	0.39	0.31
Avail Cap(c_a), veh/h	329	968	821	126	739	626	141	0	353	226	474	402
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	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.9	16.1	11.6	32.4	22.1	18.0	33.4	0.0	27.3	29.9	20.9	20.4
Incr Delay (d2), s/veh	13.5	1.6	0.0	7.3	7.3	0.4	20.1	0.0	14.3	11.9	0.5	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	4.5	6.5	0.3	1.1	7.7	1.8	0.6	0.0	5.2	2.9	2.4	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.4	17.8	11.6	39.7	29.4	18.4	53.5	0.0	41.6	41.8	21.4	20.9
LnGrp LOS	D	B	B	D	C	B	D	A	D	D	C	C
Approach Vol, veh/h		817			693			287			453	
Approach Delay, s/veh		24.2			27.9			42.7			27.8	
Approach LOS		C			C			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.9	25.7	11.3	16.4	7.0	33.6	5.5	22.2				
Change Period (Y+Rc), s	* 4.2	4.6	* 4.2	4.6	* 4.2	* 4.6	* 4.2	4.6				
Max Green Setting (Gmax), s	* 13	27.4	* 8.8	13.4	* 4.9	* 36	* 5.5	16.7				
Max Q Clear Time (g_c+I1), s	10.8	18.8	7.5	11.5	4.2	18.7	3.1	7.7				
Green Ext Time (p_c), s	0.1	2.3	0.0	0.3	0.0	3.1	0.0	1.0				
Intersection Summary												
HCM 6th Ctrl Delay			28.4									
HCM 6th LOS			C									

Notes

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

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	434	193	82	476	130	204	267	47	114	380	122
Future Volume (veh/h)	72	434	193	82	476	130	204	267	47	114	380	122
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	78	472	210	89	517	141	222	290	51	124	413	133
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, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	98	1113	496	113	888	241	270	402	341	157	540	241
Arrive On Green	0.06	0.32	0.32	0.06	0.33	0.33	0.15	0.22	0.22	0.09	0.15	0.15
Sat Flow, veh/h	1753	3497	1560	1753	2719	738	1753	1841	1560	1753	3497	1560
Grp Volume(v), veh/h	78	472	210	89	332	326	222	290	51	124	413	133
Grp Sat Flow(s),veh/h/ln	1753	1749	1560	1753	1749	1708	1753	1841	1560	1753	1749	1560
Q Serve(g_s), s	2.4	5.9	5.8	2.8	8.7	8.8	6.7	8.0	1.5	3.8	6.2	4.3
Cycle Q Clear(g_c), s	2.4	5.9	5.8	2.8	8.7	8.8	6.7	8.0	1.5	3.8	6.2	4.3
Prop In Lane	1.00		1.00	1.00		0.43	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	98	1113	496	113	571	558	270	402	341	157	540	241
V/C Ratio(X)	0.80	0.42	0.42	0.79	0.58	0.59	0.82	0.72	0.15	0.79	0.77	0.55
Avail Cap(c_a), veh/h	127	1113	496	159	571	558	319	438	372	191	579	258
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	25.7	14.8	14.8	25.4	15.4	15.4	22.5	19.9	17.4	24.5	22.3	21.5
Incr Delay (d2), s/veh	17.2	0.2	0.5	10.2	4.3	4.4	11.8	4.9	0.2	13.2	5.4	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	2.0	1.8	1.3	3.3	3.3	3.3	3.5	0.5	2.0	2.7	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.8	15.0	15.2	35.6	19.7	19.9	34.3	24.8	17.5	37.7	27.8	23.3
LnGrp LOS	D	B	B	D	B	B	C	C	B	D	C	C
Approach Vol, veh/h		760			747			563			670	
Approach Delay, s/veh		17.9			21.6			27.9			28.7	
Approach LOS		B			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.1	22.5	8.9	16.5	7.5	22.0	12.5	13.0
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5
Max Green Setting (Gmax), s	4.0	14.9	6.0	13.1	5.0	13.9	10.0	9.1
Max Q Clear Time (g_c+I1), s	4.4	10.8	5.8	10.0	4.8	7.9	8.7	8.2
Green Ext Time (p_c), s	0.0	1.2	0.0	0.4	0.0	1.7	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	23.6
HCM 6th LOS	C

Notes

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

Appendix G.
Induced Demand Benefit Results

Based on the research cited in National Cooperative Highway Research Program (NCHRP) Report 552, Guidelines for Analysis of Investment in Bicycle Facilities, the bicycle facilities proposed in the Eastside Corridor Transportation Improvement Study (ECTIS) may result in induced demand for the new facilities among both existing and new bicyclists. The methodology describes an approach for estimating the induced demand associated with a given bicycle facility improvement and translates the projected increase in demand to monetized benefits related to mobility, health, recreation, and decreased auto use. This appendix describes the application of the NCHRP 552 methodology for this project, and the anticipated benefits in terms of induced demand and monetized benefits associated with the proposed bicycle facilities.

Methodology

To estimate the induced demand benefits associated with the bicycle improvements proposed in The ECTIS, the project team utilized the NCHRP 552 methodology, as well as Census population and commute pattern data, and NHTS average trip length estimates.

The NCHRP 552 methodology is centered on several assumptions (NCHRP 552, Appendix A):

1. Existing Bicyclists near a new facility will shift from the existing nearby facility to the new facility.
2. The new facility will result in induced number of Bicyclists as a function of the number of existing Bicyclists, relative to the attractiveness of the proposed facility (i.e. Class I shared-use path vs. Class II bicycle lanes).
3. People are more likely to ride a bicycle if they live within 1.5 miles of a facility than if they live outside that distance.

The methodology suggests that existing bicycle commute mode share can be utilized to estimate the number of existing and future bicycle ridership based on low, moderate, and high likelihood multipliers and the population within 1.5 mile, 1 mile, and 0.5 mile buffers that surround a facility.[4] The total rate of adult bicycling ranges from a low estimate, based on the Census commute share, to a high estimate, based on 0.6 percent plus three times the Census commute share.[5] Moreover, the highest likelihood of a member of the population to use the facility exists if they live within a .5 mile buffer around the facility. Thus, demand is reported at low, medium, and high estimates for the populations at each buffer distance. Each buffer area—at 0.5, 1 and 1.5 mile distances from the proposed bicycle improvement are created using a network-based analysis in a GIS environment.

To project the future bicycling demand, the population near the proposed improvements was estimated using 2018 American Community Survey (ACS) population estimates by Census block group and distance buffers of 0.5 miles, 1 mile and 1.5 miles, based on the NCHRP Report 552 methodology. The buffer areas are then intersected with the block groups to establish the proportion of the entire block group within a given buffer distance area. The total population within each buffer distance near the proposed

[4] NCHRP Report 552, Appendix B.

[5] NCHRP Report 552, Appendix A.

improvements was estimated by multiplying the proportion of area of each buffer to the area of the whole block by the estimated block population.[6]

Induced Demand Benefits – Bicycle Mode Shift

To project the induced demand associated with the proposed bicycle facilities, the analysis presented herein applies the sketch planning method described in Appendix A and B of NCHRP Report 552. Using the population estimated near each facility segment (calculated using the methodology discussed in the previous section), Census bicycle commute share estimates, and the NCHRP 552 methodology, induced demand associated with the bicycle facilities proposed within the study area is estimated.

Per the NCHRP 552 methodology, the anticipated mobility benefits associated with various facility types are different based on the relative attractiveness of the facility. Thus, induced demand was estimated independently for separated facilities (Class I shared-use paths and Class IV bikeways) and on-street facilities (Class II bicycle lanes) to accurately capture the total population at each buffer distance from the facility type.

Table G-1 presents the existing population and induced demand antcipated to result from the separated and on-street facilities facilities proposed across the study area.

Table G-1. Existing Population & Induced Demand Analysis

Analysis Category	Separated Facilities[1]	Class II Facilities[2]
Existing Population and Estimated Existing Demand		
Percentage of Population, Adult (> 18 years)[3]	71.40%	71.40%
Percentage of Population, Child (< 18years)[3]	29%	29%
Total Existing Population[4]		
Total Existing Population near Facility, 2400m	60,102	109,466
Total Existing Population near Facility, 1600m	40,989	69,288
Total Existing Population near Facility, 800m	16,734	30,908
Total Existing Adult Population[5]		
Adult Existing Population near Facility, 2400m	42,913	78,159
Adult Existing Population near Facility, 1600m	29,266	49,472
Adult Existing Population near Facility, 800m	11,948	22,068
Existing Bicyclist Commuters [6]		
Existing Adult Bicyclist Commuter Population near Facility, 2400m	361	657
Existing Adult Bicyclist Commuter Population near Facility, 1600m	246	416
Existing Adult Bicyclist Commuter Population near Facility, 800m	100	185
Existing Adult Bicyclists (Non-Commuters)[7]		
Existing Adult Bicyclists, High		
Existing Adult Bicycling Rates, High 2400m	1,030	1,876
Existing Adult Bicycling Rates, High 1600m	702	1,187

[6] Population Near Facility at given buffer distance = population of entire block group x area of intersected block group/area of entire block group.

Analysis Category	Separated Facilities[1]	Class II Facilities[2]
Existing Adult Bicycling Rates, High 800m	287	530
Existing Adult Bicyclists, Moderate		
Existing Adult Bicycling Rates, Moderate 2400m	481	875
Existing Adult Bicycling Rates, Moderate 1600m	328	554
Existing Adult Bicycling Rates, Moderate 800m	134	247
Existing Adult Bicyclists, Low		
Existing Adult Bicycling Rates, Low 2400m	257	469
Existing Adult Bicycling Rates, Low 1600m	176	297
Existing Adult Bicycling Rates, Low 800m	72	132
Existing Child Bicyclists[8]		
Total Existing Child Bicyclists, 2400m	344	626
Total Existing Child Bicyclists, 1600m	234	396
Total Existing Child Bicyclists, 800m	96	177
Bicycling Rates & Likelihood Multipliers By Buffer Distance		
Bicycle Commute Mode Share[9]	0.60%	0.60%
Children Bicycle Percentage[10]	2.00%	2.00%
Adult Bicycling Rate, High[11]	2.40%	2.40%
Adult Bicycling Rate, Moderate[11]	1.12%	1.12%
Adult Bicycling Rate, Low[11]	0.60%	0.60%
Likelihood Multiplier, 2400m[12]	0.15	0.15
Likelihood Multiplier, 1600m[12]	0.44	0.44
Likelihood Multiplier, 800m[12]	0.51	0.51
Estimated Induced Demand		
Total New Bicyclist Commuters[13]		
Total New Bicyclist Commuters, 2400m	54	99
Total New Bicyclist Commuters, 1600m	108	183
Total New Bicyclist Commuters, 800m	51	95
New Adult Bicyclists (Non-Commuters)[14]		
Total New Adult Bicyclists (Non-Commuters), High Estimate		
Total New Adult Bicyclists, High 2400m	154	281
Total New Adult Bicyclists, High 1600m	309	522
Total New Adult Bicyclists, High 800m	146	270
Total New Adult Bicyclists (Non-Commuters), Moderate Estimate		
Total New Adult Bicyclists, Moderate 2400m	72	131
Total New Adult Bicyclists, Moderate 1600m	144	244
Total New Adult Bicyclists, Moderate 800m	68	126
Total New Adult Bicyclists (Non-Commuters), Low Estimate		
Total New Adult Bicyclists, Low 2400m	39	70
Total New Adult Bicyclists, Low 1600m	77	131
Total New Adult Bicyclists, Low 800m	37	68

Analysis Category	Separated Facilities[1]	Class II Facilities[2]
Total New Child Bicyclists [15]		
Total New Child Bicyclists, 2400m	52	94
Total New Child Bicyclists, 1600m	103	174
Total New Child Bicyclists, 800m	49	90
Induced Demand Estimates Summary		
Total New Bicyclist Commuters[16]	214	376
Total New Adult Bicyclists (Non-Commuters)[17]		
High Estimate	610	1,074
Moderate Estimate	285	501
Low Estimate	152	268
Total New Child Bicyclists [18]	204	358
Total New Bicyclists [19]		
High Estimate	**1,027**	**1,808**
Moderate Estimate	**702**	**1,236**
Low Estimate	**569**	**1,003**

1 Bikeways analyzed as separated facilities include: Class I shared-use paths and Class IV bikeways
2 Bikeways analyzed as Class II facilities include standard Class II bicycle lanes and Class II buffered bicycle lanes
3 US Census Bureau, American Community Survey 5-Year Estimates, 2018
4 US Census population estimates within a given buffer distance from proposed facility
5 Population near facility x adult population percentage
6 Population near facility x bicycle commute mode share
7 Adult population near facility at given buffer distance x adult bicycling rate
8 Existing child population near facility at a given buffer distance x child bicycling rate
9 American Community Survey (ACS) Commuting Characteristics for Fresno County, Ca, 5-Year Estimates, 2018
10 National Household Transportation Survey (NHTS), 2017
11 High Estimate Rate = .06% + 3(Census Bicycle Commute Mode Share); Medium Estimate Rate = 0.4% +1.2(Census Bicycle Commute Mode Share); Low Estimate Rate = Census Commute Mode Share
12 Established by NCHRP 552 research; see Appendix B
13 Existing bicycle commuters x likelihood multiplier for given buffer distance
14 Existing adult Bicyclists (non-commuter) x likelihood multiplier for given buffer distance at low, medium and high estimates
15 Existing Child Bicyclists x likelihood multipliers for given buffer distance
16 Sum of new commuter Bicyclists at each buffer distance
17 Sum of new adult Bicyclists (non-commuters) at each buffer distances for low, medium and high estimate levels
18 Sum of new child Bicyclists at each buffer distance
19 Sum of total new commuter Bicyclists, total new child Bicyclists and total new adult Bicyclists (non-commuters) at high medium and low estimate levels

Monetized Benefits

The NCHRP 552 methodology presents guidance on translating their demand and benefits research to a benefit cost analysis approach for bicycle facility investments.[7] This methodology results in annual monetized benefits associated with mobility, health, recreation, and decreased auto use expected to result from new bicycle facilities. Each of the benefit types anticipated to be associated with the induced demand anticipated for the bicycle facilities proposed in The ECTIS are described in the following sections.

Mobility Benefits

Mobility benefits represent the time cost associated with shift to given bicycle facility type for the total number of commute trips over a commute year for new and existing bicyclist commuters[8]. This approach is based on stated preference analysis findings that establish the number of minutes, on average, bicycle commuters are willing to spend to access various facility types, as well as an hourly value of time assumption. The resulting calculation represents a per-trip benefit by facility type. The annualized mobility benefits take into account the estimated existing and induced demand to reflect the time in dollars that a new or existing bicyclist commuter is willing to spend to access the new facility. The estimated mobility benefits associated with the facilities proposed in The ECTIS are presented in Table G-2.

Table G-2. Mobility Benefit Summary – All Facilities

	Separated Facilities	Class II Facilities	All Facilities
Existing Bicyclist Commuters	707	1258	1965
Total New Bicyclist Commuters	214	376	590
Value of Time[1]	$13.65	$13.65	$13.65
Weeks per Year	47	47	47
Day per Week	5	5	5
Trips	2	2	2
Number Minutes Commuter Willing to Spend to Access Facility[2]	20.38	18.02	Specific to facility
Per Trip Benefit[3]	$4.64	$4.10	Specific to facility
Annual Mobility Benefit Per Facility Type[4]	**$2,006,980**	**$3,148,372**	**$5,155,353**

Notes:
1 2016 Caltrans Economic Vehicle Operation Cost Parameters
2 NCHRP Report 552 Appendix D
3 Number Minutes Commuter Willing to Spend to Access Facility x (Value of Time/60)
4 Number Minutes Commuter Willing to Spend to Access Facility x (Value of Time/60) x (existing bicycle commuters + new bicycle commuters) x 47 commute weeks per year x 5 commute days per week x 2 commute trips per day

[7] NCHRP Report 552, Chapter 4.

[8] NCHRP Report 552, Chapter 4; NCHRP Report 552 Appendix D.

Health Benefits

Health benefits represent the cost savings from physical activity benefits associated with induced demand anticipated to result from the proposed bicycle facilities. An annual per capita cost savings of $128, representing health benefit cost savings.[9] The annual health benefit is calculated by multiplying the annual per capita cost savings by the total number of new Bicyclists anticipated with the proposed bicycle facilities. Annual health benefits are presented in Table G-3.

Table G-3. Health Benefit Summary - All Facilities

	Separated Facilities	Class II Facilities	All Facilities
Total New Bicyclists, High	1027	1808	2835
Total New Bicyclists, Moderate	702	1236	1938
Total New Bicyclists, Low	569	1003	1572
Annual Per Capita Cost Savings from Physical Activity[1]	$128	$128	$128
Annual Health Benefits[2]			
Annual Health Benefit, High	**$131,456**	**$231,424**	**$362,880**
Annual Health Benefit, Moderate	$89,856	$158,208	$248,064
Annual Health Benefit, Low	$72,832	$128,384	$201,216

Notes:
1 NCHRP Report 552, Appendix E
2 total new Bicyclists x $128 (annual per capita cost savings from physical activity)

[9] NCHRP Report 552, Chapter 4; Appendix E, reflects the median value of 10 studies on health-related annual per capita cost savings for physical activity associated with induced bicycle use

Recreation Benefits

Recreation benefits represent the cost savings related to recreational activity for new Bicyclists induced by the new bicycle facilities. The cost of a typical day of recreation, valued at $10 for 1 hour of recreation activity, is based on a variety of outdoor recreational activities. The average adult cycling day, for example, includes roughly 40 minutes of cycling, in addition to some preparation and clean up time.[10] To calculate annualized health benefits, the number of new commuters is subtracted from the number of new Bicyclists, then multiplied by the typical recreation day cost. The number of new commuters is subtracted from the number of new Bicyclists, because the value of the facility to new commuters is already accounted for in the mobility benefit. Anticipated recreation benefits associated with induced demand resulting from the proposed facilities is shown in Table G-4.

Table G-4. Recreation Benefit – All Facilities

	Separated Facilities	Class II Facilities	All Facilities
Total New Bicyclists, High	1027	1808	2835
Total New Bicyclists, Moderate	702	1236	1938
Total New Bicyclists, Low	569	1003	1572
Total New Bicyclist Commuters, 2400m	214	376	590
New Recreation Bicyclists [1]			
Total New Recreation Bicyclists, High	813	1432	2245
Total New Recreation Bicyclists, Moderate	488	860	1348
Total New Recreation Bicyclists, Low	355	627	982
Value of an Hour of Recreation	$10	$10	$10
Annual Recreation Benefit, High	**$2,967,450**	**$5,226,800**	**$8,194,250**
Annual Recreation Benefit, Moderate	$1,781,200	$3,139,000	$4,920,200
Annual Recreation Benefit, Low	$1,295,750	$2,288,550	$3,584,300

Notes:
1 Total number of new Bicyclists – total number of new bicyclist commuters
2 Cost of "typical" recreation day, valued at $10 x 365 x (total new Bicyclists – total new commuters)

Decreased Auto Use Benefits

Decreased auto use benefits include the benefits associated with user cost savings, reduced congestion and reduced air pollution. This benefit is calculated based on the benefit per mile associated with vehicle to bicycle mode shift as a function of location and time of day, with congestion savings ranging from 0 to 5 cents per mile and pollution savings ranging from 1 to 5 cents per mile depending on conditions.[11] The low end is used for small town and/or rural areas, which is the value used for the analysis in this study. The overall savings per mile is estimated at 1 cent for small town/rural geographies.

[10] NCHRP Report 552, Appendix G

[11] Documented in NCHRP Report 552 Appendix G

To calculate the annual decreased auto use benefit, the number of new commuters is multiplied by the average round trip length, savings per mile, 47 weeks per year, 5 days per week, and 2 trips per day. These benefits are presented in Table G-5.

Table G-5. Decreased Auto Use Benefits - All Facilities

	Separated Facilities	Class II Facilities	All Facilities
Total New Commuters	214	376	590
Net Benefit Per Mile, Small Town/Rural [1]	$ 0.01	$0.01	$0.01
Average Trip Length[2]	12.20	12.20	12.20
Weeks per Year	47	47	47
Days a Week	5	5	5
Annual Decreased Auto Use Benefit[3]	**$12,243**	**$21,561**	**$33,803**

Notes:
1 NCHRP Report 552, Appendix G
2 2017 National Household Transportation Survey (NHTS) Average trip length by Urban/Rural Indicator for average of Small Town, Suburban and Rural and 2010 Census division classification "Pacific"
3 New commuters x trip length x 47 weeks per year x 5 days per week x 2 trips per day

Vehicle Miles Traveled (VMT) Reduction

In addition to the monetized benefits associated with decreased auto use, these benefits can also be described in terms of VMT reduction. The estimated VMT reduction can be utilized as an input to calculate air quality benefits using other methods, as well as provides another metric to use as a lens to view decreased auto use benefits associated with bicycle mode shift. VMT reduction benefits are shown in Table G-6.

Table G-6. VMT Reduction Benefits – All Facilities

	Separated Facilities	Class II Facilities	All Facilities
New Commuters	214	376	590
Daily Commute Trips [1]	427	752	1,179
Annual Commute Trips [2]	100,349	176,729	277,078
Average Trip Length [3]	12.20	12.20	12.20
Daily VMT [4]	**5,210**	**9,175**	**14,385**
Annual VMT [5]	**1,224,259**	**2,156,088**	**3,380,347**

Notes:
[1] Number of daily commuter x 2 commute trips per day
[2] Number of daily commute trips x 365 days per year
[3] 2017 National Household Transportation Survey (NHTS) Average trip length by Urban/Rural Indicator for average of Small Town, Suburban and Rural and 2010 Census division classification "Pacific"
[4] Daily commute trips x average trip length
[5] Annual commute trips x average trip length

Summary of Monetized Induced Demand Benefits

Table G-7 presents a combined summary of the annualized benefits associated with the two facility types proposed across the study area, representing the estimated mobility, health, recreation, and decreased auto use benefits associated with the proposed bicycle facilities discussed in previous sections. For the purposes of this analysis, the high estimate is used due to the conservative population estimates used, which reflect 2018 population and do not account for future land use growth across the study area. As seen, the total anticipated benefits associated with the proposed bicycle facilities range from $8,974,672 to $13,746,286.

Additionally, the annualized benefits described in Table G-7 should be adjusted to account for the life cycle of the proposed facilities, which is assumed to be a 20-year life cycle. Assuming a 20-year life span, and incorporating a four percent discount rate or P/A Factor to reflect the present worth of future dollars[12], the adjusted benefit is estimated at $191,759,853 for the life cycle of the proposed improvements.

Table G-7. Total Induced Demand Benefits for All Facilities

Bicycle Facility Benefits	Separated Facilities	Class II Facilities	All Facilities
Annual Mobility Benefit, Off-Street and On-Street Facilities	**$2,006,980**	**$3,148,372**	**$5,155,353**
Annual Health Benefit			
High Estimate	$131,456	$231,424	$362,880
Moderate Estimate	$89,856	$158,208	$ 248,064
Low Estimate	$72,832	$128,384	$ 201,216
Annual Recreation Benefit			
High Estimate	$2,967,450	$5,226,800	$8,194,250
Moderate Estimate	$1,781,200	$3,139,000	$4,920,200
Low Estimate	$1,295,750	$2,288,550	$3,584,300
Annual Decreased Auto Use Benefit	**$12,242.59**	**$21,560.88**	**$33,803.48**
Total Annual Benefit, High	**$5,118,129**	**$8,628,157**	**$13,746,286**
Total Annual Benefit, Moderate	**$3,890,279**	**$6,467,141**	**$10,357,420**
Total Annual Benefit, Low	**$3,387,805**	**$5,586,867**	**$8,974,672**
20-Year Life Cycle Benefit	**$71,397,584**	**$120,362,269**	**$191,759,853**

[12] Consistent with Caltrans Economic Parameters for Transportation Economics B/C Analysis

Appendix H. Economic Analysis Methodology

Introduction

As part of the evaluation of the multiple benefits to be derived from the identified project recommendations for the study corridor, we also look at the future economic impact on the Fresno region from implementation of the plan's projects by the various jurisdictions. While the overall analysis presented in the report includes monetization of the many of quantifiable benefits of the proposed improvements, such as improved safety and air quality, this analysis focuses on the ways project implementation can strengthen the regional transportation system and enhance economic growth.

An economic impact analysis shows how the regional impacts/benefits of the recommended improvements from the Eastside Corridor Study help achieve the economic goals in various economic development plans to increase jobs, housing and people within the study area. The recommended transportation investments for the Eastside study area are primarily multi-modal solutions focused on safety improvements related to collisions at intersections (lighting, signage, and signalization) and on solutions to increase opportunities for bicycle and pedestrian travel and safety for these users.

An economic impact analysis of the corridors' improvements was conducted and is presented in terms of regional impacts for gross regional product (GRP), jobs, and personal income. To analyze these impacts the economic impacts a model of the economy, called "impact analysis for planning" or IMPLAN was deployed.

Project Expenditures

This report analyzes the economic impacts associated with the recommended investments identified across the plan timeline. While the plan is said to act as a guide for investment decisions over a 20-year timeframe, the specific timeline for implementation for any given project or package of projects in uncertain and will largely be determined by funding availability. Thus, we talk about total impacts over the life of plan implementation instead of a year-by-year impact analysis. In addition, some recommended improvement costs could not be estimated in this corridor level plan and so have not been included, indicating that the calculated impacts are conservative and will likely be higher.

The estimate of project expenditures is based on planning level assumptions for similar types of projects. Cost estimates were developed as a separate part of the overall study and provided to RGS. These estimates are based on recent local project costs that assume typical costs associated with construction projects (e.g. traffic control, earthwork, signs, utility coordination) as well as typical engineering design, administration, construction management, and contingency. Cost estimates are in 2020 dollars. Actual project cost estimates would be determined at the time each project went through final design and funding and could vary substantially from these estimates due to prevailing economic conditions or other specific factors that may affect actual costs, including acquisition of right-or-way or road widening. Total project costs have been estimated at $62 million.

Methodology

To analyze the economic impacts of these investments we utilize a model of the economy, called "impact analysis for planning" or IMPLAN.[13] This model is in a sense a general accounting system of transactions between industries, businesses, and consumers that estimates the range of economic impacts. Using the IMPLAN modelling software we can create complete, extremely detailed Social Accounting Matrices and Multiplier Models of the Fresno County economy that enables in-depth examination of the impacts of the projects. This model enables us to examine the impact structure of each investment. For example, in the case of a construction project, we can trace the project expenditures through the supply chain, from the construction contractor and its employees (direct impacts), to its suppliers and to their employees and onward to further levels of suppliers, employees, and their suppliers (indirect impacts). It also enables us to examine the effects from all the associated income to employees and their household purchases (induced impacts). The model thereby allows us to generate an estimate of how the original investment is multiplied through additional activity in the economy.

IMPLAN was developed in the late-1970s by the United States Forest Service and researchers at the University of Minnesota. The software was initially based on input-output accounts whose analysis was pioneered in the Nobel Prize winning work of Wassily Leontief. As the software evolved, it began using Social Accounting Matrices to incorporate transactions among institutional agents in its analysis. Currently, IMPLAN is among the most widely used economic impact modeling systems. It provides a transparent and detailed approximation of economic impacts that is widely utilized by businesses and government agencies.

We note that not all needs in the various projects' supply chains will be able to be filled with Fresno County. For example, a construction company may need specialized equipment that is only available in another county, state or nation. It may also choose to acquire supplies from other areas if more competitive prices are offered elsewhere. The workers themselves may commute from outside the County, representing an import of labor. Spending that occurs outside of the County is a leakage from the system and reduces the local economic impact, so detailed data on business and consumer purchases are sometimes used to adjust the project multipliers in the IMPLAN model. Even with these necessary adjustments, it is important to remember that the underlying model depends on structural relationships developed from data at a particular moment. As firms enter or exit the County's economy, they may change those structures. Similarly, new technologies and changes in resource endowments can transform the local economic structure. Those changes are typically gradual, but during periods of technological or structural change they can contribute to significant differences in estimated multipliers for models created from one year to the next. We assume that all initial project spending occurs within Fresno County and then allow the model to estimate the leakage. In the case of the Fresno region, this leakage is minor and does not significantly impact the conclusions.

In addition to the trade flows of goods and services, the model incorporates estimates of workers who commute from other counties. That allows us to account for out-of-county workers whose household spending is mostly close to their residences rather than in their place of employment. Because supply chains and worker profiles differ across industries, it is important to allocate projects to specific

[13] Specifically, in this analysis we use IMPLAN PRO Version 3.1 with calendar year 2018 data.

industries. Most of the improvement recommendations in this study are construction related and thus all projects' initial investments are in employment sector 54, construction of new highways/streets. The employment estimates are measured on a job count basis for wage-and-salary workers and for self-proprietors regardless of the number of hours worked and are reported on an annual basis reflecting the number of full-time and part-time jobs generated annually. Thus, jobs are expressed as job years.

Project Impacts

The full range of economic contribution from spending associated with the Eastside plan's investments, known as the Total Effect, is the sum of the direct, indirect, and induced effects. These terms are more fully defined below:

- **Direct Effects** are the changes in sales (output), value (value-added), wages (personal income), and jobs (employment) directly supported by the plan's investments.
- I**ndirect Effects** represent the iterative impacts of inter-industry transactions as supplying industries respond to demand from the sector(s) where the initial expenditures occurred. An example of an indirect impact would be sales from a cement company suppling a construction firm directly funded by the projects.
- **Induced Effects** reflect the expenditures made by recipients of wages in the direct and indirect industries. Examples of induced impacts include employees' expenditures on items such as retail purchases, housing, food, education, banking, and insurance.

These effects are expressed in terms of employment, labor income, valued added, and output and are further defined below:

- **Employment** is the number of full- and part-time jobs based on an annual average of monthly jobs. In other words, employment is measured as a full year of employment. Thus, 3 temporary jobs that lasted for 4 months are reported as 1 job year.
- **Labor Income** is the sum of employee compensation and proprietor income. Employee compensation includes wages, salaries, benefits, and all other employer contributions, while proprietor income consists of payments received by self-employed individuals, and unincorporated business owners.
- **Output** represents the value of industry production. It accounts for the total change in the value of production in an industry for a given time. Output varies as a measure across industries. For agriculture and service sectors, the value of production equals their sales. For manufacturers, the value of production is sales plus or minus any change in inventories. While for retail and wholesale trade, the value of production equals their gross margin and not their gross sales.
- **Value added** is industry production (output) less the cost of intermediate inputs. It consists of labor income, business profits, and taxes. An industry's value added equals its contribution to Gross Regional/Domestic Product. Therefore, the sum of all industries' value added equals the Gross Regional Product.

While the expenditures would occur in the area defined by the Eastside corridor study, the economic impact would be region wide. The direct economic impact on the Fresno County economy of the $62 million initial investment in projects are estimated through the model to generate about 286 direct job years and $19.8 million in direct labor income over the planning horizon. When considering indirect and induced impacts, the initial investment supports 474 job years for full-time equivalent jobs, nearly $30 million in labor income and close to $53 million of value added gross regional product, for a total economic effect of $1 billion, and a total multiplier effect of 1.57. The impact details are shown in the following table.

Table H-1. Economic Impact Summary

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	286.4	19,823,253.0	34,124,399.9	63,193,439.2
Indirect Effect	72.0	4,464,898.7	8,272,034.2	18,016,922.1
Induced Effect	115.3	5,509,590.7	10,428,902.9	17,826,064.5
Total Effect	473.6	29,797,742.4	52,825,337.0	99,036,425.8

While the main beneficiaries of increased job opportunities will be construction workers, some job increases due to increased spending by construction workers will include restaurants, real estate firms, hospitals, truck transportation, wholesale goods, and auto repair firms.

The top ten industries for the indirect and induced impacts are shown in the table below:

Table H-2. Top Ten Industries by Employment Impact

Sector	Description	Total Employment	Total Labor Income	Total Value Added	Total Output
54	Construction of new highways and streets	286.4	19,823,253	34,124,400	63,193,439
510	Limited-service restaurants	7.6	179,552	296,412	614,764
447	Other real estate	7.1	225,018	683,696	1,519,108
417	Truck transportation	7.1	572,569.3	623,193	1,268,352
490	Hospitals	6.4	588,993	704,109	1,235,886
509	Full-service restaurants	6.2	160,275	249,818	429,924
396	Wholesale - Other durable goods merchant wholesalers	6.0	435,838	727,241	1,430,613
472	Employment services	5.2	227,312	362,575	557,970
493	Individual and family services	4.3	95,952	94,278	153,697
512	Automotive repair and maintenance, except car washes	4.3	263,560	307,802	452,970

Conclusions and Other Impacts

Finally, as it enhances accessibility, these infrastructure investments will benefit the County's overall quality of life. Some quality-of-life benefits are monetized as part of the overall cost/benefit analyses in the report; however, the full regional economic competitive benefit many be many times greater.

Recent studies of these long-term impacts in Southern California suggest that the competitive impacts could be more than double the project construction and operation impacts alone. These are long-term benefits that will endure beyond the projects' life. The many long-term benefits from this sort of investment are, among others:

- Reduced travel times because of investments alleviating congestion,
- Expanded labor markets across the County, and the region so that labor may move more efficiently through a variety of transit modes,
- Enhance the competitiveness and efficiency of the County's goods movement system.

Therefore, despite the value and importance of the projects' immediate impacts, focusing on those alone omits potential effects from enhancing the region's attractiveness as a business location, including viability for corporate headquarters and growing high-wage job opportunities because of increased connectivity. Benefits may also include supporting the region's travel and tourism industry. In the case of Fresno County, and particularly the job profile of the study corridor, large employers and job centers are primarily in the agricultural and manufacturing sectors, with wider regional employment in finance, health care, and education. With the former, facilitation of goods movement and potential conflicts/congestion attributable to a mix of truck, car, and non-motorized travel would be important to assess – while the latter would suggest alleviating commute traffic and providing alternatives to solo car travel would be paramount to enhance regional economic competitive advantage.

This more detailed analysis of the economic benefit of network and operational improvements in the corridor as they may relate to economic competitiveness are beyond the scope of this study; however, we include this qualitative discussion of anticipated future benefits as a starting point for future, more detailed analyses using economic multipliers and secondary data for jobs and output by employment sector, transportation reliance factors, and calculated future employment capacity and land-use changes as this data is developed for potential future funding opportunities or specific project level analysis. Application and discussion of these economic multipliers will be essential to expand the discussion beyond the benefits of the initial investment in infrastructure that we present here.

Appendix I.
Community Outreach

Date	February 20, 2020	Project:	**Eastside Corridor Plan**
Time:	2:30 p.m.		
Location:	Fresno Council of Governments Ash Room 2035 Tulare St. Suite 201 Fresno, CA 93721		
Call-in:	Toll-Free: 888-636-3807 Participant Code: 322383		
Subject:	Project Kick-Off Meeting	From:	Jim Damkowitch

I. Introductions

- Project Team
- Fresno Council of Governments
- Stakeholder Cities and County
- Caltrans

II. Steering Committee Formation

- Purpose / Role (see handout)
- Meetings

III. Communications

- Day to day communications
  - E-mail, Conference calls, Virtual meetings, File access
- Check-in Meetings
- Public Information / Workshops

IV. Project Schedule

- See handout

V. Project Scope Tasks

1. Steering Committee Formation
2. Review Existing Plans (see handout)
3. Assess Existing Conditions (see handout)
4. Develop Goals and Objectives
5. Develop Public Outreach Plan
6. Conduct Public Outreach
7. Transportation Improvement Recommendations (see handout)
8. Draft/Final Eastside Corridor Transportation Improvement Study
9. Presentations
10. Project Management

VI. **Project Goals**

- Provide a prioritized list of implementable safety and multimodal improvements that support connectivity that both the public and stakeholder agencies can support.
- Develop multimodal infrastructure that will provide all requisite technical information to inform future competitive grant applications and other funding sources (SB-1, ATP, HSIP, etc.)

VII. **Constraints and Opportunities**

VIII. **Action Items (Today)**

- Share Relevant Planning Documents
- Share GIS Files
- Share established Stakeholder List

IX. **Next Steps – February-March**

- Steering Committee Formation
  - *Rincon* lead:
- Develop Public Outreach Plan
  - *Rincon* lead + GHD
- Field Review gather available data & schedule data collection efforts
  - *GHD* lead:
- Document of Land Use, Demographic and Economic Data/Information
  - *Mintier Harnish* lead:
  - *RGS* support:
- Document of Performance Metrics
  - *GHD* lead:
- Develop micro-simulation analysis tool
  - *GHD* lead:
- Perform baseline safety and multimodal operations analyses
  - *GHD* lead:
- Plan 1st Workshop slated for April/May
  - *Rincon* lead + *GHD* support

X. **Questions & Answers**

XI. **Adjourn**

Steering Committee Kick-off Meeting Handout

Stakeholder Committee members have a very important role to perform in the development of the Eastside Corridor Plan. Stakeholder Committee members will provide overall guidance and specific feedback on project deliverables. Stakeholder Committee members should also be actively involved in the public participation effort and helping generate interest in the Eastside Corridor Plan effort.

What is the role of the Stakeholder Committee?

The Stakeholder Committee will serve in an important advisory role for the Eastside Corridor Plan process, generating input and ideas from a wide variety of perspectives. As a member of the Stakeholder Committee, members are invited to assist with the following activities throughout the course of the project:

- Provide information and feedback related to multimodal transportation needs, constraints, and opportunities
- Assist the consulting team and FCOG with public outreach, including helping connect with community members and groups
- Participate at outreach events (workshops, pop-up events) – volunteer basis.
- Promote the Eastside Corridor Plan process to increase community awareness of opportunities to be involved
- Provide other general guidance to FCOG and consulting team on various aspects of the Eastside Corridor Plan process

Additional activities may be identified as the project evolves. Authority to approve the Eastside Corridor Plan rests with the FCOG Governing Board.

What commitments are we requesting of Stakeholder Committee members?

Meetings will be scheduled to seek input from Stakeholder Committee members at key points during the Eastside Corridor Plan process, for example, prior to public outreach events. Each meeting is expected to last two hours or less. Stakeholder Committee members will serve in a volunteer capacity.

How will the Public Outreach Effort be used for the Eastside Corridor Plan?

The outreach effort will have two facets. First, we want to engage the community in identifying problem areas on the transportation network. Where do they see issues that hinder mobility and safety for pedestrians, bicyclists, motorists, and persons with disabilities? The Consultant team will combine this input with our technical analysis to identify improvement concepts. The community will then be asked to identify which of these improvement concepts they can support or not and why. The Stakeholder Committee will be utilized in both phases.

Steering Committee Meeting Handout
Task 3.1 – Data Retrieval, Collection and Processing

- Published Caltrans Volumes and Highway Performance Monitoring System (HPMS) Data
- Local agency or FCOG traffic counts
- New Traffic Counts
- National Performance Monitoring Research Data Set (Inrix Speed Data)
- Travel time surveys
- Longitudinal Employment and Housing Dynamics (LEHD) Data
- SWITRS Collision Data
- Roadway Infrastructure Inventory Data

Task 3.2 – Operational and Safety Analysis of Existing Conditions

- Roadway Operations Assessments (LOS, delay, travel time reliability, et.)
- VISSIM Micro-simulation Model Development
- Transit Assessment
- Arterial Vehicle Collision Reduction Analysis
- Arterial Pedestrian/Bike Collision Analysis
- Level of Traffic Stress Analysis
- Environmental Screen Analysis
- Economic and Demographic profile – including interviews with local business owners/leaders, economic development professionals, and industry specific interest groups.

Task 7.1 – Future Year Travel Demand and **Future Year Corridor Operations**

- Travel Forecasts and VISSIM Microsimulation of Future Year Corridor Operations
- Collision Reductions (Predictive Method)
- Pedestrian/Bicycle Collision Analysis Performance Summary
- Active Transportation Mode Share Shift Analysis
- Transit Accessibility Analysis Performance
- Air Quality and Climate Change Greenhouse Gas Emissions
- Climate Adaptation Summary using Caltrans Vulnerability Interactive Mapping Tool and CalEnviroScreen 3.0

Task 7.8 – Preferred Improvement Package

- Improvement Benefits (based on Caltrans 2018 Economic Parameters)
- Improvement Planning Level Cost Estimates
- Economic Development Analysis (using IMPLAN)
- Benefit-Cost

B-C Summary Matrix

Analysis Purpose	Measure of Effectiveness	Model/Analysis Tool: FCOG Travel Demand Model	Microsimulation	Level of Traffic Stress	NCHRP 552 Method	HSM Part C CMFs (iSATe)	SB-1 Emissions Calculator	GIS Analysis	Online Mapping Tools	Literature Review	NPMRDS/PeMS	Monetize for Benefit/Cost
Baseline Travel Demand	Trips, Ridership, VMT											Yes
Future Travel Demand	Trips, Ridership, VMT											Yes
Roadway Operations	Delay, TTI, Buffer Time, BTI											Yes
Transit Ridership	Ridership, VMT											Yes
Pedestrian/Bike Connectivity	Access Indices											No
Pedestrian/Bike Mode Shift	Trips, VMT											Yes
Safety	Collision Reduction & Rates											Yes
Air Quality	Emissions (Criteria & GHG)											Yes
EJ/Social Equity	Access, Benefit/Burden											No
Economic Development	GRP, Jobs, Income											No
Health	Vehicle Miles Traveled											Yes
Adaptation	Network Vulnerability											No

Legend — *Direct or Indirect Application*

Steering Committee Meeting Handout
TASK 2.1 Literature Review – Information Exchange

The Consultant Team will gather existing documents prepared for or by Fresno COG and state and local government agencies. These documents would include:

- The most current General Plan and associated Circulation, Land Use and Housing Elements for incorporated Cities (Kingsburg, Selma, Fowler, Parlier, Reedley, Orange Cove, Sanger and Clovis) and County of Fresno;
- Local Community and Specific Plans;
- Economic Development Plans;
- Southeast Corridor Study (Centennial Engineering, 1996);
- State Route 99/Mt. View/Mendocino Avenue Feasibility Study;
- Fresno COG Regional Transportation Plan (RTP), Fresno County Regional Active Transportation Plan (ATP), and associated Regional, State and Federal Transportation Improvement Program documents (RTIP/STIP/FTIP);
- Short and long range transit plans (SRTP/LRTP) for Fresno County Rural Transportation Agency (FCRTA);
- Fresno County Regional Bicycle & Recreational Trails Master Plan;
- California High Speed Rail Documents;
- Transit Development Plans;
- GIS data and aerial photos;
- Local Agency Design and improvement standards;
- Intelligent Transportation System (ITS) Strategic Deployment Plan;
- Recent project study reports (PSR);
- Recent traffic impact studies (TIS);
- Transportation Concept Reports (TCR) for State Route 99 and State Route 168;
- California Transportation Plan (CTP) 2040 update;
- 2018 Business Plan by California High-Speed Rail Authority;
- San Joaquin Valley Goods Movement Sustainable Implementation Plan and,
- Other relevant plans/studies identified by the Steering Committee.

Other documents/information/data the Consultant Team either has or will be using/requesting:

- CTC SB-1 Solutions for Congested Corridors Guidelines
- Caltans Corridor Planning Guidebook (2018);
- CalEnviroScreen 3.0;
- Longitudinal Employment Housing Dynamics (LEHD) data
- US Census data and the most recent American Community Survey;
- Caltrans and city/county traffic count data;
- Fresno COG Regional Travel Demand Forecast Model;
- Traffic/pedestrian/bicycle counts;
- Business profiles for affected neighborhoods and districts;

Project Schedule presented to the Steering Committee

W Workshops (x2) | M Project Team Check-In | P Presentations

M Stakeholder Meeting | D Deliverable Milestone

PROJECT SCHEDULE

	Task Description	February	March	April	May	June	July	August	September	October	November	December	January
Task 1	**Project Initiation and Steering Committee Formation**												
1.1	Steering Committee Formation		M										
Task 2	**Review Existing Plans**												
2.1	Literature Review		D										
2.2	Demographic Information			D									
2.3	Existing and Projected Future Land Use Patterns			D									
2.4	Overview of Land Use Policies and Ordinances			D									
2.5	Inventory of Transportation Facilities and Corridor Access Points		D										
2.6	Overview and Consideration of Improvements Projects (RTP, FTIP and RTIP)		D										
2.7	Economic Assessment		D										
Task 3	**Assess Existing Conditions**												
3.1	Data Retrieval, Collection and Processing		D										
3.2	Operational Analysis of Existing Conditions				D								
3.3	Collision Analysis			D									
3.4	Active Transportation Connectivity Analysis			D									
3.5	Environmental Screen Analysis				D								
3.6	Existing Economic Conditions				D								
3.7	Assess Existing Economic Conditions				D								
Task 4	**Develop Goals and Objectives**												
4.1	Develop Goals and Objectives					D							

4.2	Overall Vision for the Corridors				D																				
Task 5	**Develop Public Outreach Plan**																								
5.1	Public Outreach Plan							D																	
5.2	Develop a Public Outreach Plan					D																			
5.3	Project Branding					D																			
Task 6	**Conduct Public Outreach**																								
6.1	Project Webpage						D																		
6.2	Social Media Language						D																		
6.3	Participatory Mapping						D																		
6.4	Public Workshops									W										W					
6.5	Pop-up Events					D													D						
6.6	Stakeholder Meetings					M				M				M				M					M		
6.7	Fresno COG Board Presentations																						P	P	
Task 7	**Transportation Improvement Recommendations**																								
7.1	Future Year Travel Demand						D																		
7.2	Future Year Corridor Operations									D															
7.3	Collision Reductions (Predictive Method)									D															
7.4	Active Transportation Mode Share Shift Analysis									D															
7.5	Transit Accessibility Analysis Performance									D															
7.6	Air Quality and Climate Change Greenhouse Gas Emissions											D													
7.7	Climate Adaptation Summary											D													
7.8	Preferred Improvement Package													D											
7.9	Improvement Benefits														D										
7.10	Improvement Planning Level Cost Estimates														D										
7.11	Economic Development Analysis														D										
7.12	Benefit-Cost															D									
Task 8	**Public Review for ECTIS**																								
8.1	Update Draft Study																				D				
Task 9	**Presentations**																								
9.1	Present Final Study																						D		
Task 10	**Project Management**																								
10.1	Project Management and Coordination																								
10.2	Project Initiation/Meetings																								
10.3	Bi-Weekly Conference Calls		M		M		M		M		M		M		M		M		M		M		M		

Fresno Council of Governments

2035 Tulare St., Ste. 201 tel 559-233-4148
Fresno, California 93721 fax 559-233-9645

www.fresnocog.org

Blossom Trail Festival – Sanger, March 7, 2020
Summary of Comments:

Transportation Improvements

- ✓ Wider roads with medians
- ✓ Bike lanes
- ✓ Buffer lanes
- ✓ More transit
- ✓ Commuter options
- ✓ How long does it take to get through the corridor (Manning Ave and Academy Ave)

Community Comments

- ✓ Construction phasing important. Finish one job before starting another.
- ✓ Street improvements needed
- ✓ Between Lincoln and American [Academy] need flashing lights at stop signs
- ✓ 14th/Park intersection, there is a tree that blocks the view when turning
- ✓ North Avenue/Academy Avenue: need more lighting, similar to Fulton Street in downtown Fresno
- ✓ Striping needs to be improved between Kingsburg and Parlier (Academy Ave), there are areas that are hard to see [centerlines, fog lines, stop markings]
- ✓ Academy Avenue should be wider; traffic is bad in Sanger
- ✓ Incorporate bike lanes
- ✓ Reed Avenue should be improved to alleviate Academy Avenue corridor [alternative congestion]
- ✓ Manning Ave/Mendocino Ave has had past sight distance problems
- ✓ ADA compliance need for decent sidewalks on both sides of Academy near Church and by railroad tracks
- ✓ Academy Ave @ Carol, north of Sanger (??)
- ✓ Pedestrian access into Sanger from north is limited, especially on the east side of Academy needs to be improved
- ✓ Sidewalk uneven (trip hazard) – bad for wheel chairs on east side of Academy
- ✓ Drunk drivers on State Route 180 near at Academy (recent fatality)
- ✓ Signal needed at Central/Academy (busy 4 way stop)
- ✓ Need to resurface Central between Academy – Newman
- ✓ Manning Avenue is crowded

Please Join Us

Our first Public Workshop for this exciting project.

Monday July 20, 2020 from 6:00 to 7:00 PM via **Zoom**

https://zoom.us/j/98094250798?pwd=d2FvSHJSQTN2dlg2Q3dZL3publByZz09

Meeting ID: 980 9425 0798 | Password: 914948

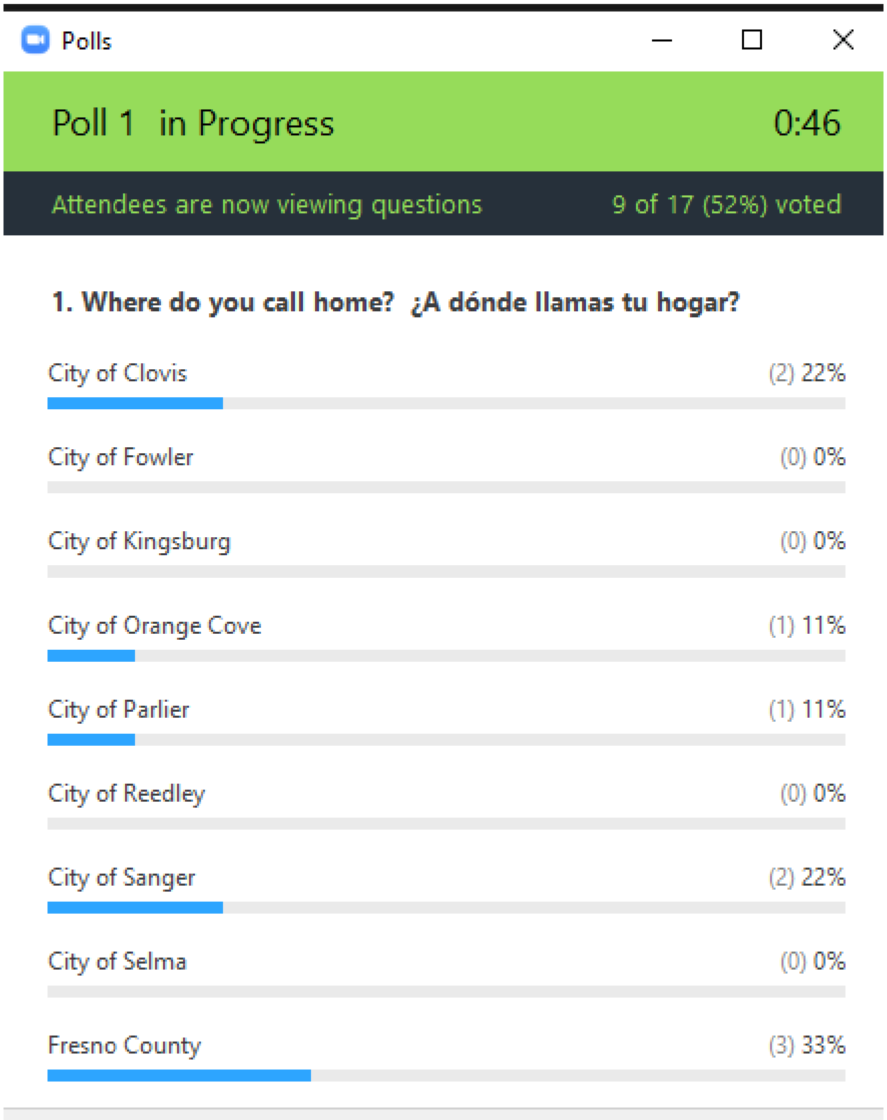
The Project:

Academy and Manning Avenues need your help! We are looking for ways to make these corridors safer and work better for everyone. Whether you ride a bike, commute on the corridors, live and walk along or near the corridors, use to get to the mountains – we want to hear from you.
Visit our website at http://fcogeastsidecorridor.rinconconsultants.com/ or click on the logo above. Use our interactive map to provide comments, sign up to learn more, and tell a friend!

During this *virtual workshop* the ETCIS Team will be providing information on the project and the data we have collected, but we need to know what **you know** about your community and your corridors. Join us to help make your community | commute | bike ride | path to school | walk **better and safer**. This will be an interactive event and only fun if **YOU** join us.

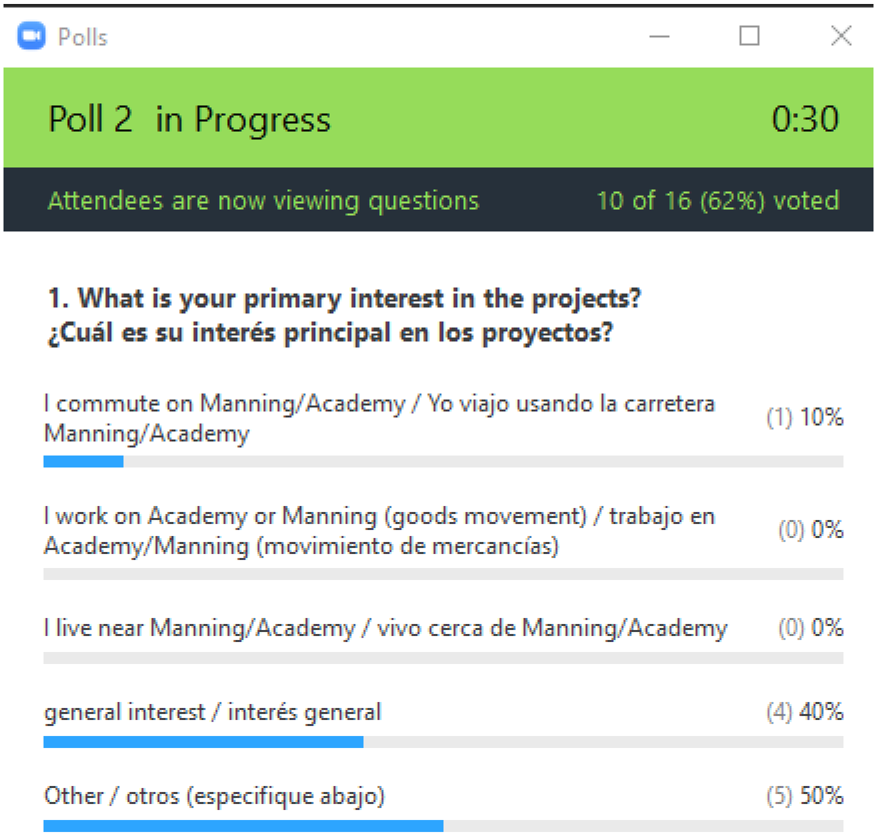
Please visit the website ahead of the meeting and use the interactive map to tell us what you know and have observed on these routes. For more information, reach out to Jennifer Soliz at 559-233-4148 x 223 or email at jsoliz@fresnocog.org

We hope to see you Monday July 20, 2020 @ 6 PM



Chat Results (Other)

None



Chat Results (other)

From Leslie to Everyone: 06:10 PM: Connectivity for DUCs

From Tina Sumner to Everyone: 06:11 PM: Active Transportation on the corridors.

From Jeff O'Neal to Everyone: 06:11 PM: City Planner for the City of Parlier

Presentation Comments (Chat)

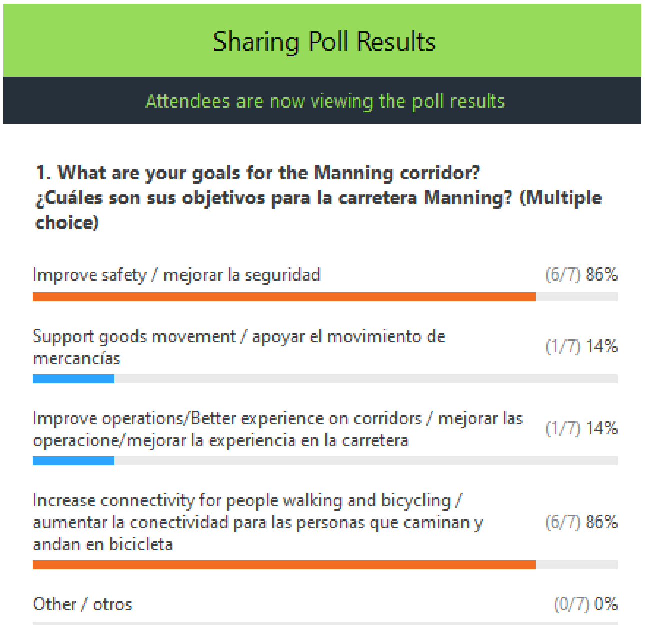
From Tina Sumner to Everyone: 06:17 PM: What is the time period for the collision data?

Reply from Eric VB to Everyone: 06:19 PM: Last 5 years of State data 2013-2018

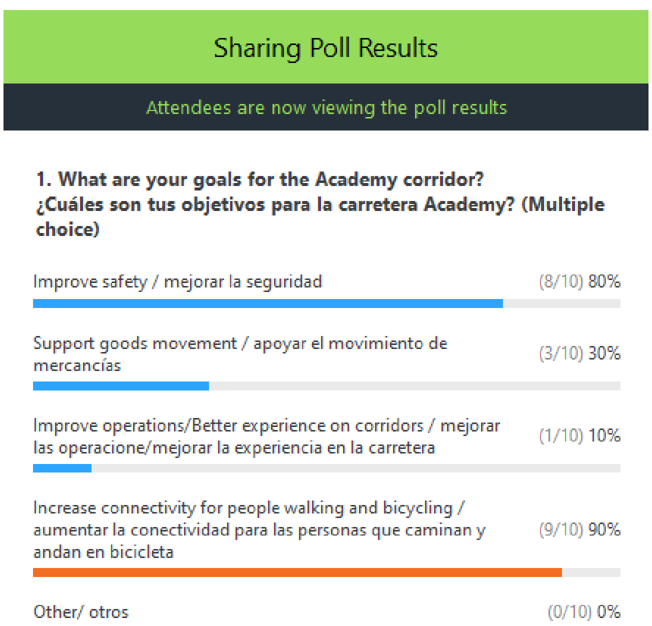
From Eric VB to Everyone: 06:26 PM: Here is the ETCIS website link:

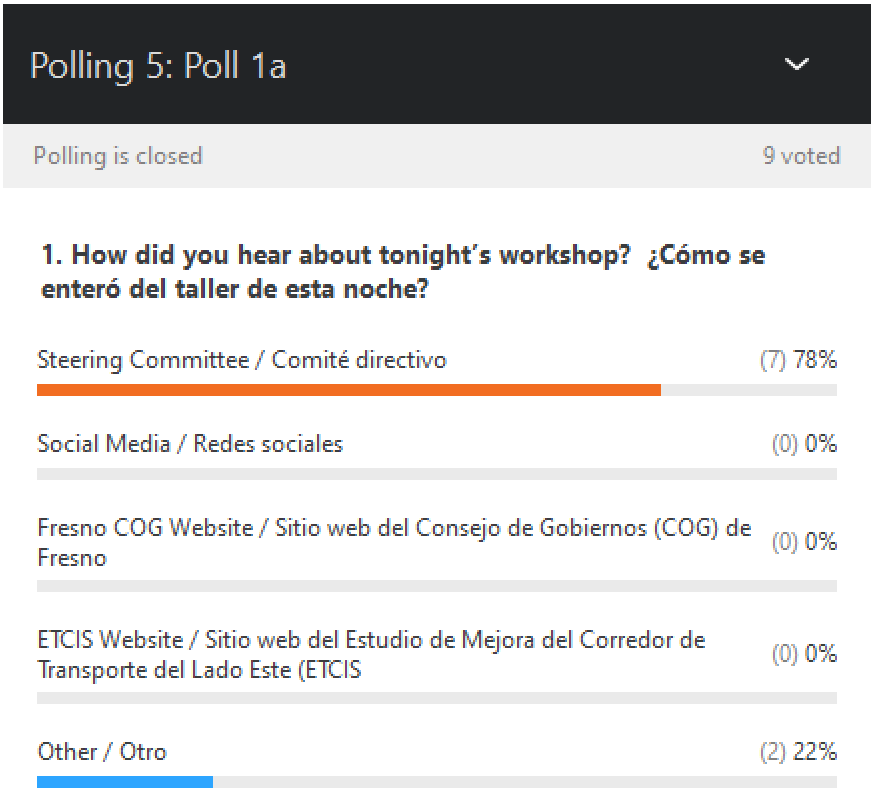
http://fcogeastsidecorridor.rinconconsultants.com/

Manning Avenue Poll:



Academy Avenue Poll:





General Discussion

Nick Paladino: safe passage for bikes. Good on Academy Shepherd to Kingsburg, Manning, Parlier to Reedley – need to accommodate bikes, needs improvement

From Rob Terry to Everyone: 06:39 PM: Improved safety for ATP

Leslie: focus on areas that have not had connectivity, complete streets, equitable access, access for farm labor camps, innovative ways to use public transportation, identify barriers to walking, shade, curb and gutter -during rain so not walking in mud/puddles

Try to find ways to reach out to those using and walking the corridor

From David Padilla to Everyone: 06:41 PM: Adding to Rob's comments, is improved lighting along the corridors as well.

From Tina Sumner to Everyone: 06:43 PM: Working with the local jurisdictions to make sure that adequate right of way is reserved for bike lanes and at intersections, space for bike pockets.

Jeff O'Neal: better coordination between cities, county, and Caltrans. Parlier is unique in that it is on both corridors. Want to see improvement, maintenance of any improvements and how that will be funded. How to get funds to the agency that is responsible for maintaining that portion of the corridor.

Janice Harms: shoulders inconsistent south of Sanger for biking, Needs improvement to avoid flats and falls.

Nick P. – interactive mapping tool is hard to use

From Tina Sumner to Everyone: 06:49 PM: The Fresno Cycling Club could host a Zoom meeting for club members to discuss the corridors.

From Eric VB to Everyone: 06:52 PM: I can be reached at evonberg@rinconconsultants.com

From Rob Terry to Everyone: 06:53 PM: thank you

From Scott Lau to Everyone: 06:53 PM: Thank you everyone.

From Jennifer Soliz to Everyone: 06:53 PM: Thank you

From Brian Spaunhurst to Everyone: 06:53 PM: Thank you all! Great info!

From David Padilla to Everyone: 06:54 PM: Thank you!!!

Please Join Us for Public Workshop #2

Thursday November 5, 2020 from 1:00 to 2:00 PM via **Zoom**

https://zoom.us/j/97665947254?pwd=U0FLWTgvZDV0QkxGb2RZcmtLQnVSUT09

Meeting ID: 976 6594 7254| Password: 819200

The Project:

Academy and Manning Avenues need your help! We are looking for ways to make these corridors safer and work better for everyone. Whether you ride a bike, commute on the corridors, live and walk along or near the corridors, use to get to the mountains – we want to hear from you.
Visit our website at http://fcogeastsidecorridor.rinconconsultants.com/ or click on the logo above for more information on the project.

During this *virtual workshop* the ETCIS Team will be providing information on the project and the data we have collected and want your feedback on the information and our analysis of this information. The study is intended to determine the future transportation needs for people using all modes of travel along these corridors This will be an interactive event and only fun if **YOU** join us.

Please visit the website ahead of the meeting to learn more about the project. For more information, reach out to Jennifer Soliz at 559-233-4148 x 223 or email at jsoliz@fresnocog.org

We hope to see you Thursday November 5, 2020 @ 1:00 PM

Fresno Council of Governments

Workshop 2 Notes

Twenty-four total attendees (see attached screenshots)

Provided access to Spanish interpretation but it was not utilized.

Kendra Ramsey provided a presentation on the project and the draft project report.

Brian Spanhurst: Does level of stress data apply to Class II bike lanes/shoulders?

> We are looking at improving the stress level from 4 down to 3 with improvements not requiring additional ROW. We will look at different options to accomplish this.
>
> LTS is at 4 since speed limit is above 40 MPH. Nick – his type of cyclist does not need a Class IV on roads with lower traffic counts. He recommends at least a 6-foot shoulder to make it safer/feel safer.
>
> Do not expect to see family/casual riders on these types of roads/facilities (the two corridors).

Brian – asked Rob Terry about roundabout at Lac Jac, or elsewhere in Reedley?

> Rob – just started Manning Avenue improvements so the recommendations in the report would be in the 15-20-year future.
>
> Lac Jac Avenue is outside the Reedley SOI
>
> Curb extensions for traffic calming – these are a tough sell in Reedley, especially on Manning Avenue.

Nick – why no bike lanes on Manning east of Reedley?

> We will take a second look at continuing bike lanes on Manning.

Nick – requested bike lanes on Academy from Herndon to Shaw Avenue, this section already has 6-foot shoulders. Class II Bike Lane starts south of Shaw on Academy.

Signage on Academy indicates the Begin/End of Class II Bike Lane at south side of Shaw at Academy

Nick – improvements on Kamm Ave.

Cheryl Senn – how are you engaging the public on this project?

> Through these workshops, the project website, and social media.

Thank you Kendra! Great job!

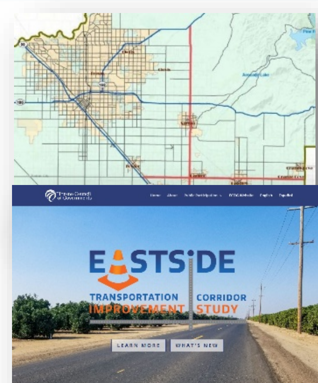
Draft ETCIS Report Available Now

Just click on the logo for access

The Draft ETCIS Report is now available for review and comment. We encourage you to read the draft report and provide comments by <u>January 21, 2021</u>.

The draft report and form for providing comments are both available on the project website: http://fcogeastsidecorridor.rinconconsultants.com/ **or just click on the logo above for access.**

<u>The Project:</u>



Academy and Manning Avenues need your help! We are looking for ways to make these corridors safer and work better for everyone. Whether you ride a bike, commute on the corridors, live and walk along or near the corridors, use to get to the mountains – we want your input on our draft report.

Reminder: Comments on the report due by **January 21, 2021**

We appreciate everyone's input throughout this process and look forward to reviewing all your comments on the draft report as we get near the finish line.

If you have any questions, please reach out to Jennifer Soliz at 559-233-4148 x 223 or via email at jsoliz@fresnocog.org

Fresno Council of Governments

Attendees:
Derek Sylvester—City of Sanger
Jeff O'Neil—City of Parlier
Dave Peters—City of Fowler
Kai Han - FCOG
Jeaneen Cervantes—FCOG
Tina Sumner—Fresno Cycling Club
Leslie Martinez – Leadership Counsel for Justice & Accountability
Greg Newman—Clovis Chamber
Brian Spaunhurst—Fresno County
David Padilla - Caltrans
Project Team: Kendra, Kim, Jennifer, Kristine, Eric

Meeting Notes:

- Ideas for holding pop-up events:
  - Farmers Market Clovis, Sanger
  - Street Fair in Sanger
  - Community zoom meetings
  - Distributing flyers in communities
  - Fresno Cycling Club Zoom

- Concurrent project taking place in Parlier, suggestion to coordinate the two projects. (Being done)
- Identified a need to secure ROW with the jurisdictions and coordinating with jurisdictions on accomplishing this. (Project team noted that this is a planning-level project to suggest improvements, a full process involving local agencies would take place prior to implementation)
- Clovis Chamber asked to be provided an *easy read* info description or short statement, snippet for steering committee members and others to make use of
- Fresno Co. Trails Committee – put a poll out to gain information 200+ comments, suggested this project could do a similar survey
- Traffic counts: how did the team conduct these during COVID-19? (Explanation provided)
- Ideas for additional partnerships or groups to reach out to or assist in outreach
  - Dolores Huerta Foundation in Sanger – work with youth and women of color.
  - Trying to get to clinics, United Health Centers in Parlier, other?
  - Box Center – maxco – owner Max Flaming: https://maxcopackaging.com/about/
  - Rotary, other service organizations
  - Britz operation (Big Ag) – ag and chemical production
  - School districts – bussing

Results of Poll Question: What are your goals for the corridor? (Multiple Choice)
Answer 1: Improve safety 6/7
Answer 2: Support goods movement 3/7
Answer 3: Improve operations/better experience on corridors 5/7
Answer 4: Increase connectivity for walking and bicycling 7/7
Answer 5: Other *Responses:* Ensuring that unincorporated communities are included in the project; limiting turning movements on the corridor

Outreach Blurb requested:

Academy and Manning Avenues need your help! We are looking for ways to make these corridors safer and work better for everyone. Whether you ride a bike, commute on the corridors, live and walk along or near the corridors, use to get to the mountains – we want to hear from you. Visit our website at http://fcogeastsidecorridor.rinconconsultants.com/ or click on the logo. Use our interactive map to provide comments, sign up to learn more, and tell a friend.

ETCIS Steering Committee attendee list:

Brian Spanhurst – Fresno County
David Peters – Kingsburg and Fowler Traffic Engineer
Jennifer Soliz – FCOG Project Manager
Kendra Ramsey – GHD Project Manger
Eric VonBerg – Rincon Consultants Public Outreach Manager
Jeff O'Neal – City of Parlier Planner
Moses Stites – Rural Transit Agency
Jamaica Gentry – Caltrans Planning D6
David Brletic – City of Sanger
Gloria Hensley – Fresno County Transportation Planner

Kendra Ramsey made a presentation on the status of the project and findings from the team's research on existing conditions.

Meeting Comments:

Dave Peters – what is the limit for the Manning Corridor on the west side? Are Manning/99 interchange improvements going to be included in the report?

> Kendra – the interchange is the starting point of the project and will get back to Dave with any details after researching.

Kendra requested for steering committee members to review the existing conditions report and provide any comments or corrections to the team.

ETCIS Final Stakeholder Meeting attendee list:

1. Brian Spaunhurst – Fresno County
2. Dave Brletic – City of Sanger
3. Dave Peters – City of Fowler/City of Kingsburg
4. Gloria Hensley – Fresno County
5. Tina Sumner – Active Transportation Representative
6. Moses Stites – Fresno County Rural Transit Agency
7. Rob Terry – City of Reedley
8. Jeff O'Neal – City of Parlier
9. Kristine Cai – Fresno COG
10. Jennifer Soliz – Fresno COG
11. Kendra Ramsey – GHD
12. Eric VonBerg – Rincon Consultants
13. Kim Anderson - RGS

Presentation made by Kendra Ramsey of GHD

Brian Spaunhurst: Could we please revisit the cycling section? I have a few questions perhaps Tina can help with answering.

How are the benefits broken down regarding bike commutes on induced demand benefits?

> Kendra, most mode shift focuses on shift to shorter trips in a City to grocery store or library

Tina Sumner – Academy is heavily used road for the cycling community. Need for proper Class II facilities along the whole route to increase safety, specifically at the intersections.

Separate facilities (Class I) are nice, but not used by cyclists due to slower traffic on Class I (strollers, kids, recreational riders), cyclists prefer the Class II facilities.

Tina – how will local jurisdictions use this report as projects come forward?

> Kendra – The report provides the legwork for new projects to piggyback on to identify new projects for the RTP. First step is to identify a need in a specific area. This is a tool for use in identifying needs and assisting with information needed by Caltrans for scoping a project. This includes the public outreach done for this project that is needed for grant funding.

Tina – Is adoption through the normal FCOG process? Yes, it will be accepted by the FCOG committees and then made available to the local jurisdictions for their use.

Kristine Cai – Have the local jurisdictions used this for their RTP recommended projects?

> Rob Terry – yes, looked to see how they compare to the existing list, and where there are differences on their current list. Very helpful for small cities without the budget to conduct this work. Especially for the safety and ATP projects.

Tina – can there be a link to the ATP/Cycling issues on the website?

> Can be searched and TOC can direct readers to specific sections.

Table I-1: Businesses Contacted Along Academy Avenue

Business	Address	City/Area	Contact	Contact Date	Notes
Del Monte Fresh Produce Company	1810 S. Academy Ave.	Sanger	Rob Savage, vp transportation	9/23/2020 11:00	made several attempts to get through to shipping or admin but directory didn't work. Left voicemail message for VP of transportation in Florida; logistics person in Florida -Rob Savage - Jeff Daniel (See below) stated he thought this facility was in the process of closing.
Gibson Wine Company	1720 S. Academy Ave	Sanger	Jeff Daniel, General Manager	9/23/2020 10:49	They are putting in a tasting facility - outdoor venue/covered venue/200 people. They would like to see turn lanes, north avenue to academy. Access from North Ave to open lot on southwest corner where administrative parking and truck enter/exit for turning and accessing dock. This works well for them. Entering off of north street is fine. Signals never work at Academy and North, causes accidents - turn signals operation, bike lane might need easement may not be possible for them. he hasn't seen any bicycle traffic. left turn lane from academy or from North might facilitate flow when an event occurs, as they open their tasting room and anticipate increased traffic for events.
Western Grain and Milling	1489 K Street, or 1075 North Avenue, one block south of Academy, might use Academy for transportation	Sanger			might actually be the poultry company below.

Pitman Poultry Farms	might be the actual occupant at 1489 K Street	Sanger		9/23/2020 12:41	sent email to mary@maryschickens.com no way to reach an actual person with the number listed
Sanger Cold Storage	1150 K Street	Sanger	Manuel	9/24/2020 13:08	left message (also for Van-G Logistics)

Table I-2: Businesses Contacted Along Manning Avenue

Business	Address	City/Area	Contact	Contact Date	Notes
McClarty Farms	12330 Manning Ave	Parlier	also at 8067 s. bethel ave, selma		they have a cold storage on east mountain view in kingsburg
CMC Farms	8487 Manning Ave	Fresno			too far west?
JB Hunt	3124 Manning Ave	Fowler		9/23/2020	might need to find another number - rang many times and then disconnected
Palogix International	3194 E. Manning Ave at corner of Golden State Bl.	Fowler		9/23/2020 14:47	left a message for Travis in Logistics
Van-G Logistics	8000 E. Manning	Fowler	Manuel	9/24/2020 13:08	left message (also for Sanger Cold Storage)
Circle K Ranch	8640 E. Manning	Selma	Andrew	9/24/2020 13:10	left message
L&H Manufacturing	9739 Manning	Selma	?	9/24/2020 1:12:00 PM; 10/6/2020 9 am	he will call back when he has time; left a message - still not sure what this person's name is, sort of muffled on his vm message.
World Oil Environmental Svcs	14287 Manning	Parlier		9/24/2020 13:13	No answer
Sunwest Fruit	740 Tuolumne St./755 Manning	Parlier		9/28/2020 9:43:00 AM; 10/6/2020 10:05	The back of their large facility is adjacent to Manning - probably use it to circulate; called & left message 9/28; called and left message 10/6
Okino Farms	15636 Manning Ave	Parlier		9/28/2020 9:55:00 AM; 10/6/2020 10:00	called and spoke to someone in sales; they took a message for the manager; called back and left a message again -- no return call.

Thonesen Farms	16023 Manning Ave	Reedley	9/28/2020 10:10	called but not sure this is a good number
Ballantine Produce Co.	8686 S. Rio Vista Ave (backs up to Manning)	Reedley	9/28/2020 10:13:00 AM; 10/6/2020 10:14	called but could not get a person; called again and couldn't reach a person or leave a message
Pacific Trellis Fruit	1500 Manning	Reedley	10/6/2020	could not get through on this number or find another number