

Monroe Street Neighborhood Greenway Concept Plan

Traffic Impact Analysis Summary

PREPARED FOR: Gail Curtis, Oregon Department of
Transportation

COPY TO: Brett Kelper, City of Milwaukie

PREPARED BY: Reza Farhoodi, CH2M HILL
Celena Stone, CH2M HILL
Catherine Ciarlo, CH2M HILL

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Background

The City of Milwaukie is developing a Concept Plan for the Monroe Street Neighborhood Greenway. In order to minimize cut-through traffic and reduce vehicle volumes to levels compatible with neighborhood greenway facilities, partial closure diverters are being considered along Monroe Street at the following locations:

- Monroe/OR 224
- Monroe/37th Avenue
- Monroe/42nd Avenue
- Monroe/Linwood Avenue

This memorandum describes the potential transportation system impacts of these diverters. Results may also be used to help inform consideration of changing Monroe Street's functional classification from a collector status road to a local road, should that change be desired as an outcome of the Monroe Street Neighborhood Greenway project.

Assumptions

The models for this traffic analysis were created by drawing a scaled roadway network into Synchro traffic modeling software. Roadway information including speed limits, loop locations and spacing, lane delineation, and storage lengths were derived from Google Earth and site visits. A professional traffic count firm (Quality Counts) was hired to provide counts for study intersections. **Appendix A** includes raw traffic volumes from January 2015, along with 2012 counts provided in the 2013 Milwaukie TSP. Minor intersection volumes were achieved by balancing the volumes and using Trip Generation manuals for supermarkets and shopping center within the study area. Existing signal timing was provided by ODOT and the City of Milwaukie and is also contained in Appendix A.

The project team collected traffic counts at several key intersections within and just outside of the project study area during the PM peak hour (the highest traffic volume over a one-hour period at a given location occurring during the afternoon commute) in January 2015, in addition to signal timing information at several signalized intersections. Using an annual trip growth rate assumption of 0.6% (per the City of Milwaukie TSP), the existing counts were extrapolated to determine the 2035 base case scenario if no improvements are made.

The list of study intersections is as follows:

- OR 224 and Harrison Street

- OR 224 and Monroe Street
- OR 224 and Oak Street
- Harrison Street and 32nd Avenue
- Oak Street/Railroad Avenue/Monroe Street
- Harrison Street and 37th Avenue
- Monroe Street and 37th Avenue
- Railroad Avenue and 37th Avenue
- Harrison Street and 42nd Avenue
- Monroe Street and 42nd Avenue
- King Road and 43rd Avenue
- King Road and Home Avenue
- Harrison Street and Home Avenue
- Monroe Street and Home Avenue
- King Road and Linwood Avenue
- Monroe Street and Linwood Avenue
- Railroad Avenue/Harmony Road and Linwood Avenue

Variation from Original Scope of Work

The original Traffic Impact Analysis scope of work included the following two alternatives for study:

Alternative 1

Partial diversion at four intersections along Monroe Street, including OR 224, 37th Avenue, 42nd Avenue, and Linwood Avenue

Alternative 2

Alternative 1 plus select intersection treatment(s) at Oak/Monroe/Railroad, possibly including:

- Realignment of the T-intersection allow free movement from Monroe to Oak
- All-way stop control
- Signalization of the intersection

However, in order to better respond to community feedback, the project team modified the alternatives studied as part of this analysis to capture critical distinctions. The revised model analyzed the following alternatives:

Alternative 1

Partial diversion at OR 224, 37th Avenue, and Linwood Avenue, plus traffic calming improvement

Alternative 2

Partial diversion at OR 224, 42nd Avenue and Linwood Avenue.

These changes (specifically, the separate analysis of diversion at 37th and 42nd) were made to test the respective impacts of two alternatives that have emerged during Project Advisory Committee (PAC) and public comment on the proposed design. Alternative 1 reflects the original greenway concept on Monroe Street.

Alternative 2 now analyzes a proposed “Washington Street Alignment” for bicycles, which re-routes eastbound bicycle traffic from Oak Street along a multi-use path through the currently undeveloped McFarland site, and then onto Washington Street before returning to Monroe at Home Avenue or Garrett Drive (*routing not yet finalized*). This alternative eliminates the diverter at 37th contained in Alternative 1, but includes a diverter at 42nd instead to discourage cut-through traffic east of 42nd on Monroe Street.

In the original scope, Alternative 2 was designed to analyze operations and safety at the Oak/Monroe/Railroad T-intersection. Currently, traffic on Oak Street traveling eastbound has no stop control when turning left onto Railroad Avenue or right onto Monroe Street. This free-flow movement helps clear traffic from the congested area at OR 224 near the Milwaukie Marketplace shopping center, but can create a hazard for pedestrians who are crossing at the T-intersection. Although this traffic impact analysis does not focus specifically on alterations to traffic circulation at the T-intersection, the project team recommends further consideration of signalization at that intersection and the nearby Oak Street/Campbell Street intersection to improve crossing safety.

Base Case

The base case model network assumed no improvements, in order to provide a basis for comparison with the project alternatives. The 2015 base network used existing traffic volumes, which were then extrapolated to create the 2035 forecast network.

Alternative 1 (Monroe-Only Alignment)

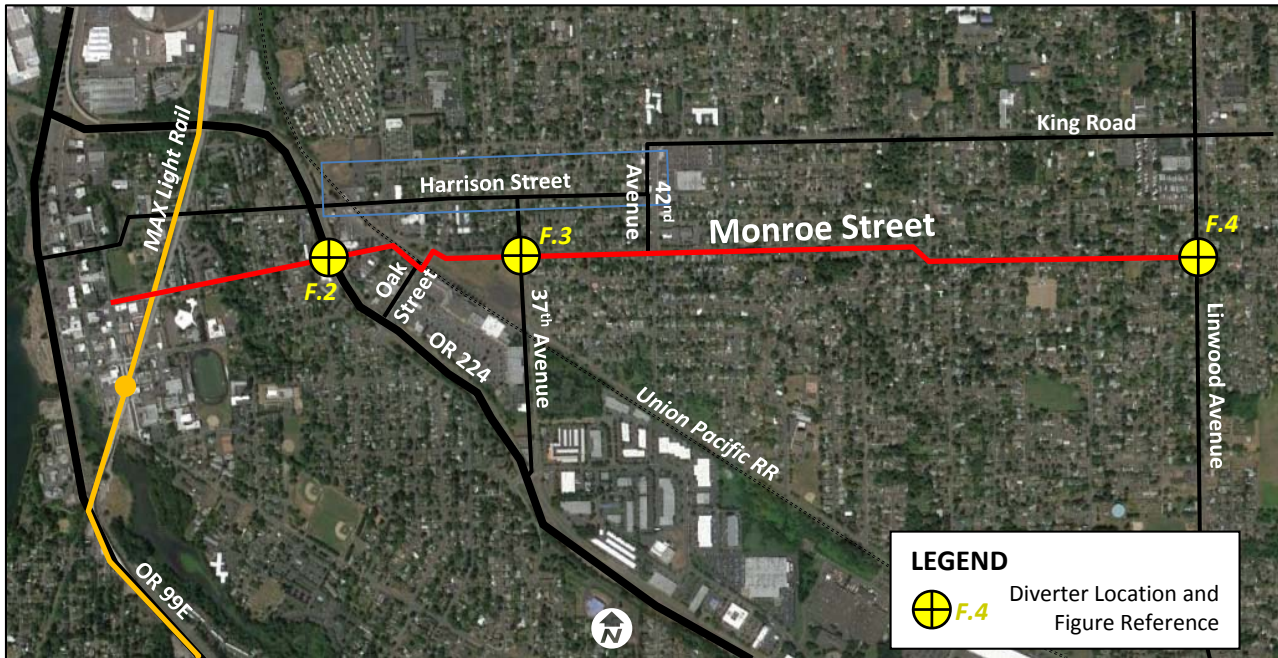
Alternative 1 includes the Neighborhood Greenway route identified in the 2007 Milwaukie TSP, which is a continuous east-west route along Monroe Street stretching from 21st Avenue in downtown Milwaukie to Linwood Avenue at the eastern city limit. Where Monroe Street is interrupted by the UPRR tracks, the greenway route detours briefly onto Campbell Street and Oak Street.

Neighborhood greenways are intended to have average volumes of 1500 vehicles per day (vpd) or below (with up to 3,000 vpd in limited sections) and 85th percentile speeds of 25 miles per hour or less with 20 mph preferred¹. The city of Portland has an even more stringent standard of 1,000 vpd or below.² This route is currently designated as a collector street in the TSP, which allows for up to 8,000 vehicles per day. In an effort to meet the project goals of reduced traffic volumes and speeds, partial diverters have been proposed to discourage cut-through traffic along Monroe Street. As shown on Figure 1, these are located at OR 224, 37th Avenue, and Linwood Avenue.

¹ National Association of City Transportation Officials, *Urban Bikeway Design Guide*, 2013.

² City of Portland, *Portland Neighborhood Greenways – Goals*, 2013. Available at <http://nacto.org/wp-content/uploads/2012/06/City-of-Portland-2010-Neighborhood-Greenway-Goals.pdf>

FIGURE 1: Alternative 1 – Monroe-Only Alignment



With these changes in place, analysis shows that most of today’s cut-through traffic on Monroe would shift north to Harrison Street/King Road and Railroad Avenue to travel through the study area. Local traffic would use parallel streets to reach their ultimate destination along Monroe.

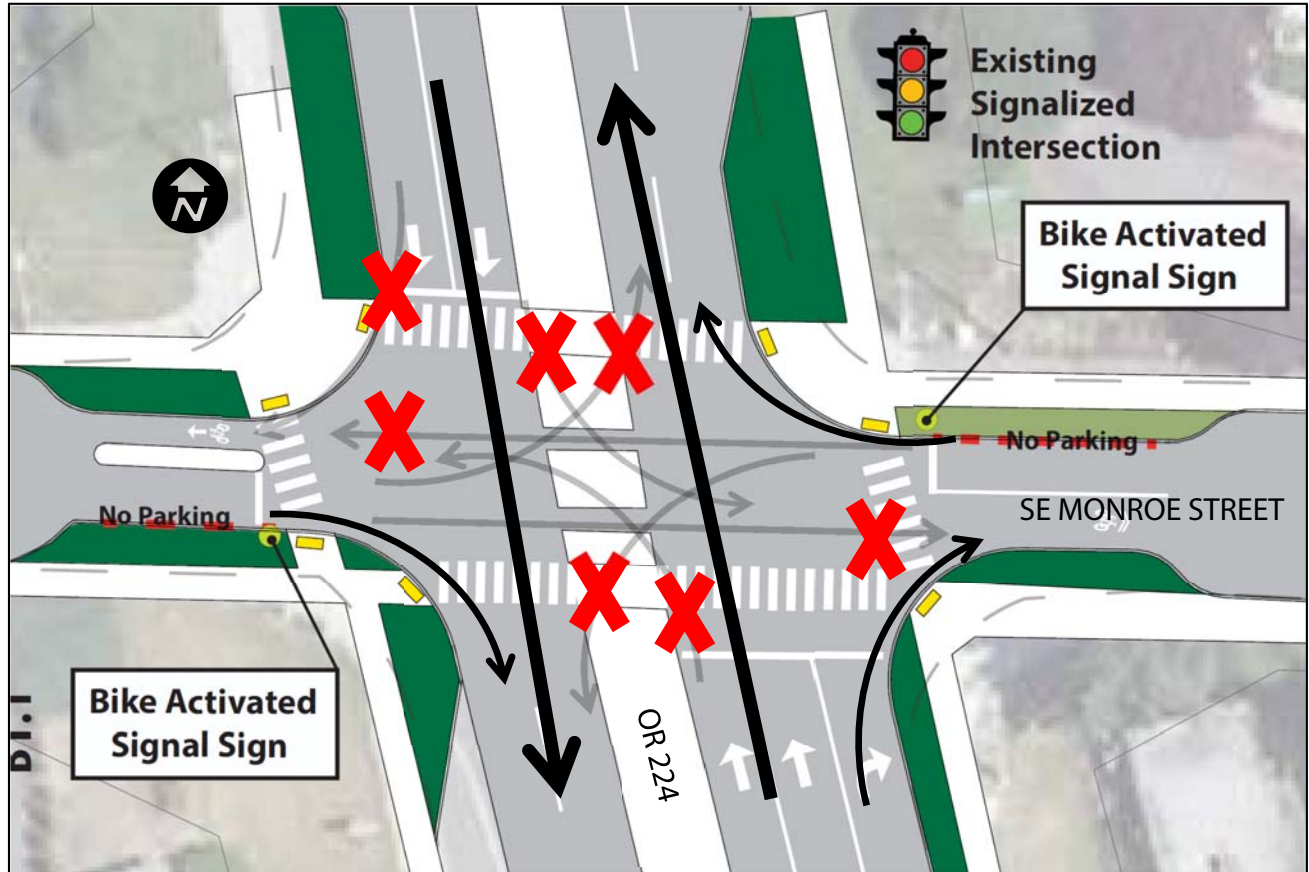
Detailed Description of OR 224/Monroe diverters

A median diverter is proposed for the OR/224 intersection to prevent any through movement on Monroe across OR 224, except for bicycles. As shown in Figure 2, the diverter would also prohibit all left turns from Monroe Street onto OR 224 and from OR 224 onto Monroe Street. Right-in/right-out movements would be allowed at the east leg of the intersection. Traffic on eastbound OR 224 intending to access local medical offices in this area would use either use Harrison Street or Oak Street eastbound to access Campbell Street. The median diverter would serve as a refuge island for pedestrians in the middle of the intersection, occupying the space that was formerly used for left turn only lanes. The refuge areas would include user-activated push button signals for pedestrians who need more time to cross the highway.

A partial closure diverter would also be installed at the west leg of the intersection, preventing any motor vehicles from making right turns from OR 224 southbound to Monroe Street westbound toward downtown, while also allowing for a new curb extension to replace the existing southbound right turn only lane. Motor vehicles would be allowed to exit the neighborhood onto OR 224 southbound only, but bicycles would be allowed to cross OR 224 and continue straight on Monroe.

These diverters combined would reduce cut-through traffic entering the Historic Milwaukie neighborhood and would reduce crossing distance for pedestrians. Motor vehicle traffic could use the nearby signals at Harrison Street and Oak Street for local access.

FIGURE 2: Traffic Flow Impacts of Proposed Diverter at OR 224/Monroe Street

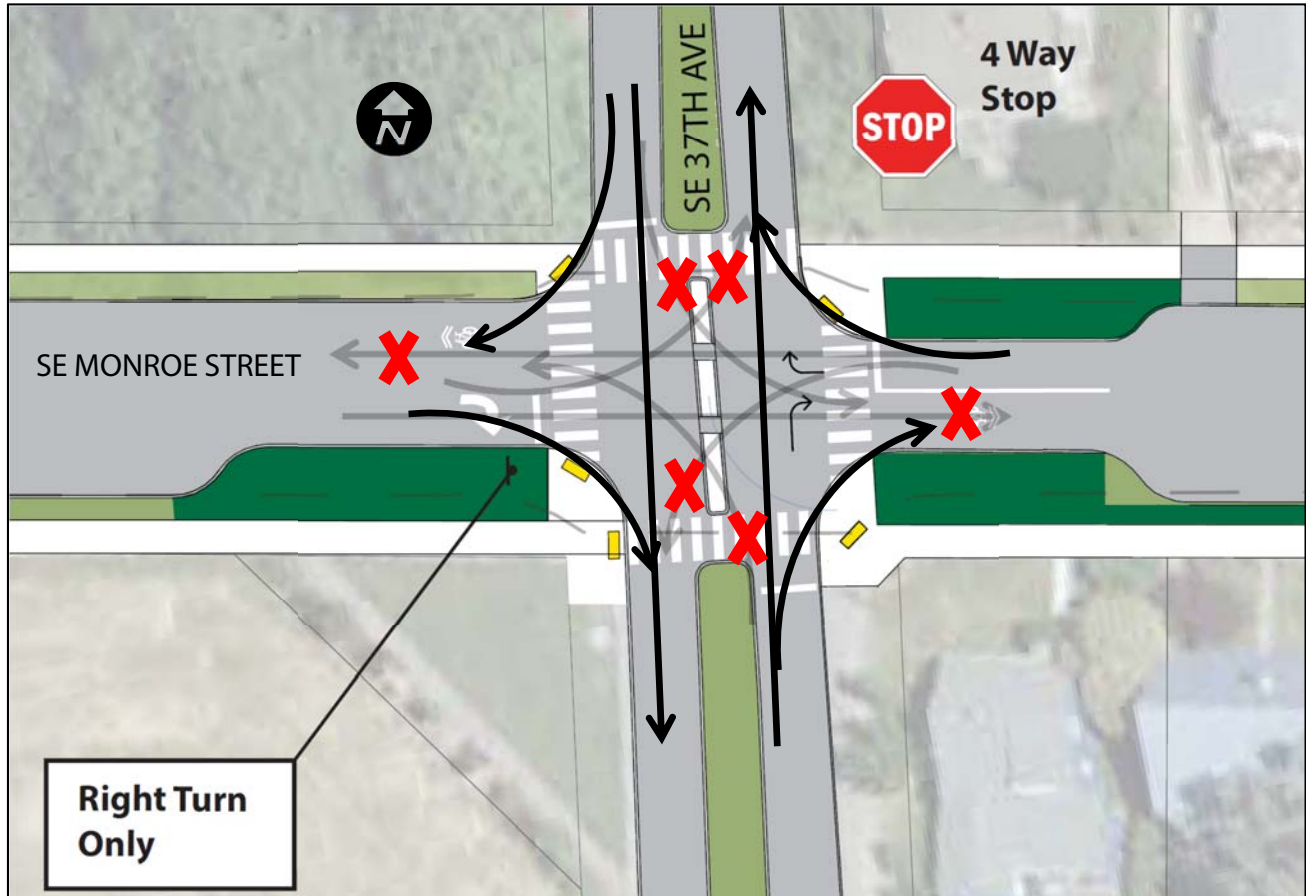


Note: Black arrows represent permitted movements; gray arrows represent movements that would be prevented.

37th Avenue/Monroe Street diverter

In order to reduce cut-through traffic, a median diverter would be installed at 37th Avenue that would prohibit motor vehicle travel across 37th but allow bicycle riders to continue along Monroe Street (see Figure 3). Motorists traveling north or south on 37th would be provided right-in/right-out access to Monroe Street. Future modifications such as intersection realignment near the UPRR crossing would be considered to encourage through traffic on Oak Street to connect to Harrison Street via Railroad Avenue to continue east.

FIGURE 3: Traffic Flow Impacts of Proposed Diverter at Monroe Street/37th Avenue

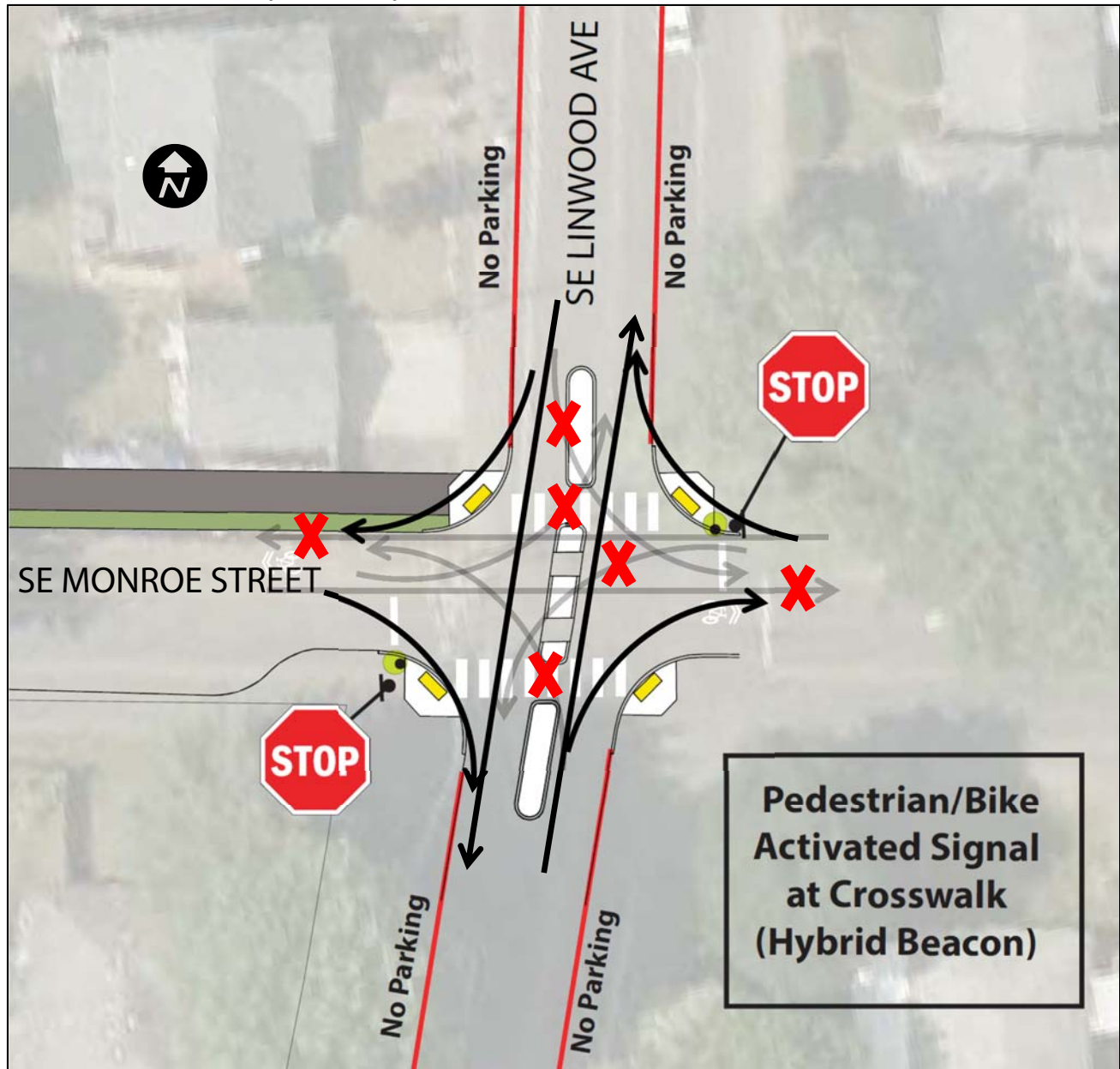


Note: Black arrows represent permitted movements; gray arrows represent movements that would be prevented.

Linwood Avenue/Monroe Street diverter

A median diverter and refuge island would be installed at Linwood Avenue, allowing for right-in/right-out motor vehicle access onto Monroe Street while preventing through traffic on Monroe Street from traveling through the intersection across Linwood, except for bicycles (see Figure 4). Motorists would be prevented from turning left onto Linwood Avenue, in an effort to discourage cut-through traffic from using Monroe Street. Left turns would be prohibited from Linwood Avenue to Monroe Street in either direction. The refuge islands, along with improved crosswalks, curb extensions, and pedestrian-activated signals, would greatly improve crossing safety at this intersection. Local traffic would rely on side streets such as Home Avenue or Stanley Avenue to access destinations within the neighborhood.

FIGURE 4: Traffic Flow Impacts of Proposed Diverter at Monroe Street/Linwood Avenue



Note: Black arrows represent permitted movements; gray arrows represent movements that would be prevented.

Alternative 2 (Washington Street Alignment)

This alternative was introduced after members of the community and the Project Advisory Committee raised concerns about proposed auto diversion at 37th Avenue and the impacts it would have on vehicle access. The section of Monroe Street between Oak Street and 42nd Avenue has the highest volumes along the proposed greenway (outside of the Oak Street railroad crossing) because many commuters use Monroe Street to cut through the neighborhood and bypass congestion on Harrison Street and King Road. In response to these concerns, several community advocates suggested a route for bicycle traffic that deviates from the proposed greenway. This route assumes a new path through the undeveloped McFarland site along the UPRR tracks to connect with Washington Street at 37th. Bicycle travel would shift over to Washington (instead of Monroe) between the end of the new path and either Garrett Drive or Home Avenue (via Ada Lane). This route would be contingent on constructing a multi-use path paralleling the Union Pacific tracks through the vacant McFarland site to connect Campbell Street with Washington Street, as proposed in the ongoing *Moving Forward Milwaukie* plan. It would also require an improved bicycle and pedestrian crossing at 37th Avenue.

With this alternative, Monroe Street would continue to function as a higher-volume collector (rather than a neighborhood greenway) between the Monroe/Oak/Railroad intersection and 42nd Avenue, where a diverter would be installed (instead of a 37th Avenue diverter) to deter cut-through auto traffic on Monroe between 42nd and Linwood. Through traffic heading east would shift to King Road via 42nd Avenue. Figure 5 shows the route alignment and the location of proposed diverters at OR 224, 42nd Avenue, and Linwood Avenue.

FIGURE 5: Alternative 2 – Washington Street Alignment



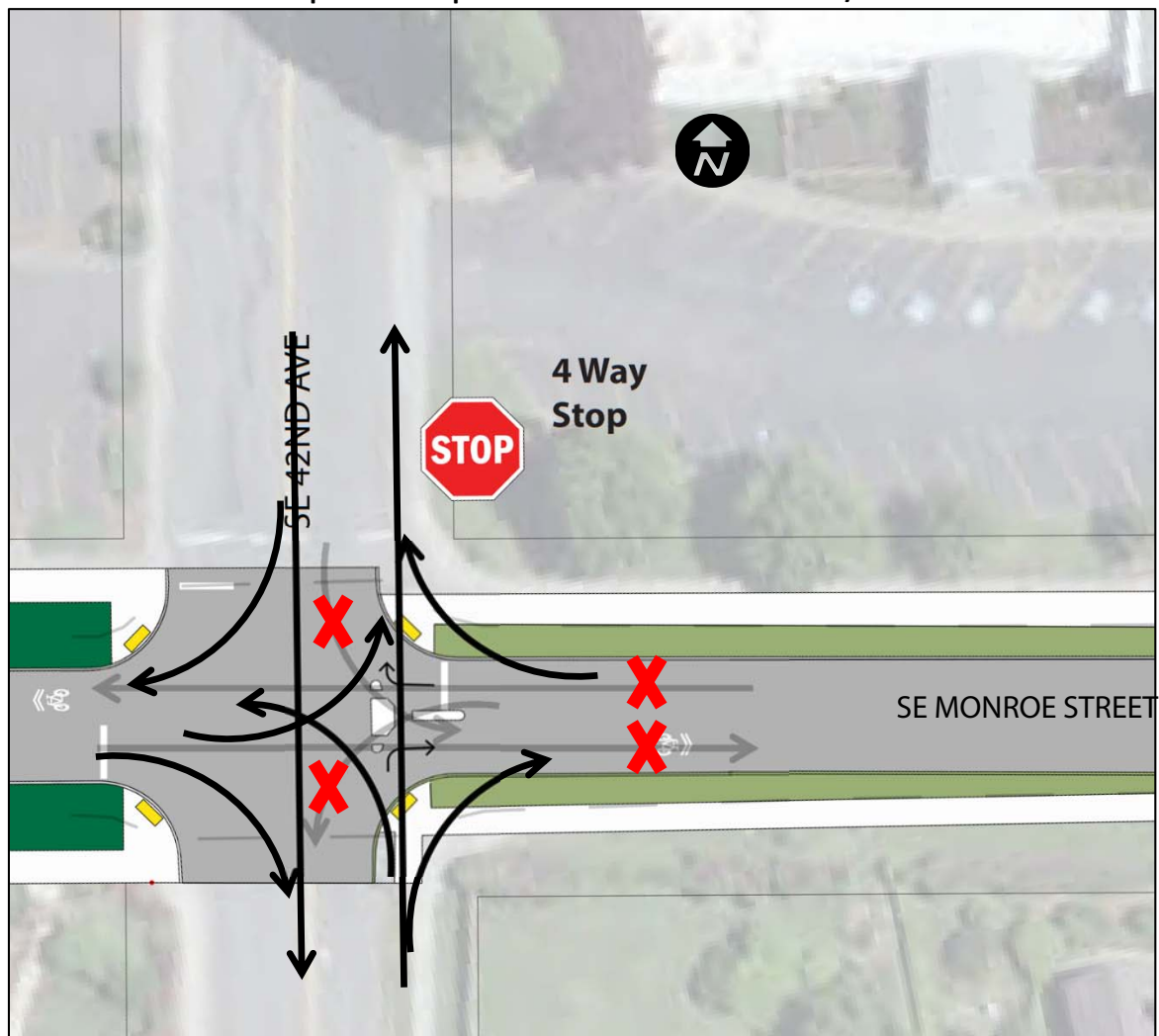
OR 224/Monroe Street diverter

Diversion measures at OR 224 would be identical to Alternative 1.

42nd Avenue/Monroe Street diverter

In order to reduce cut-through traffic and create neighborhood greenway conditions on Monroe between 42nd and Linwood, a right-in/right-out diverter would be installed at the intersection of 42nd Avenue and Monroe Street (see Figure 6). This would prevent motor vehicle traffic from continuing straight on Monroe Street, making the eastern leg of the intersection accessible only via right turns onto or off of northbound 42nd Avenue. Eastbound through traffic would turn left at 42nd Avenue to access King Road and continue east. Westbound traffic headed towards OR 224 and points west and north would turn right onto 42nd Avenue to access Harrison Street to continue west. Local traffic would primarily use Jackson Street or other parallel routes to access destinations between 42nd Avenue and Linwood Avenue. Alternatively, motorists could use King Road and turn onto the local side street closest to their final destination.

FIGURE 6: Traffic Flow Impacts of Proposed Diverter at Monroe Street/42nd Avenue



Note: Black arrows represent permitted movements; gray arrows represent movements that would be prevented.

Linwood Avenue/Monroe Street diverter

Diversion measures at Linwood Avenue would be identical to Alternative 1.

Scenario Versions

In addition to the base case, three scenarios encompassing a range of improvements were modeled for each alternative, for 2015 (where appropriate) and for the 2035 forecast year. **Appendix B** includes the Synchro reports for each scenario within Alternatives 1 and 2 at each study intersection.

Version A – Diversion with Existing Conditions

This scenario would implement the proposed diversion measures and retain existing roadway conditions elsewhere within the network.

In addition to the 2035 forecast year, Version A was also modeled using the 2015 PM peak hour network.

Version B – Diversion plus Specific TSP Improvements

This scenario would include the components of Version A while also implementing specific project improvements found in the City TSP to improve traffic operations.

- **OR 224 and Oak Street Intersection Improvements.** This project would add left-turn lanes and protected signal phasing on the Oak Street approaches and is projected to be built sometime between 2018 and 2024.
- **OR 224 and Harrison Street Intersection Improvements.** This project would add left-turn lanes and protected signal phasing the Harrison Street approaches and is projected to be built sometime between 2025 and 2032.
- **Harrison Street and 42nd Avenue Intersection Improvements.** This project would signalize the current four-way stop controlled intersection to facilitate the dominant traffic movement between the west and north legs of the intersection.
- **Harrison Street and King Road Connection.** This project would enhance the connection between King Road and Harrison Street in tandem with the previous signalization project. However, the TSP did not include further description of the improvements and therefore it was not directly integrated into Version B. It is projected to be built sometime between 2025 and 2032.
- **Linwood Avenue and King Road Intersection Improvements.** This project would implement protected/permissive left-turn phasing (flashing yellow arrows) for northbound and southbound approaches on Linwood Avenue. It is projected to be built sometime between 2025 and 2032.

Version C – Diversion plus Signal Optimization and Network Efficiency Improvements throughout the Study Area

This scenario optimized all signal phasing and cycle lengths at each signalized intersection within the study area, including the OR 224 signals at Harrison, Monroe, and Oak streets under ODOT jurisdiction. In an effort to create the most efficient network, some revisions in this version included modifying or removing certain TSP projects that were found to create further adverse impacts on operations instead of improving them, such as at the OR 224/Harrison Street and OR 224/Oak Street intersections. At Oak Street, the proposed protected left turns for Oak Street were converted to protected/permitted left turns.

This scenario also updated lane configurations on eastbound Harrison Street at the new 42nd Avenue/Harrison Street signal (left turn and through-right lanes), and added protected/permitted left-turn signals (Flashing Yellow Arrows) at both the Linwood Avenue/King Road and 43rd Avenue/King Road intersections in the east and westbound directions. The signal phasing at 32nd Avenue/Harrison Street was also modified to coordinate with the nearby OR 224/Harrison Street intersection and improve traffic flow on Harrison Street.

At existing signals under City jurisdiction, the pedestrian timing was updated to meet current Manual of Uniform Traffic Control Design (MUTCD) standards for walking speed of 3.5 feet per second for the flashing

“don’t walk” phase. This version also added more advanced stop bar detection and reduced gap times to improve signal efficiency.

State Highway System (OR 224) – Conditions, Impacts and Recommendations

Existing Conditions

The Milwaukie Expressway (OR 224) is a state highway and major commuter thoroughfare with limited access for much of its length between OR 99E and Interstate 205. However, there are three tightly spaced intersections in central Milwaukie (from north to south: Harrison Street, Monroe Street, Oak Street). Both the Harrison Street and Oak Street intersections experience heavy traffic; much of it is destined for the Milwaukie Marketplace shopping center at the latter signal. A significant number of vehicles turn left from southbound OR 224 to head eastbound on Harrison Street during the afternoon peak. Regardless of the Monroe Street Greenway project, traffic congestion is expected to demonstrably worsen between now and 2035, with the greatest delays expected at the Harrison Street intersection.

Impacts to Operations

Generally, the modifications made to the OR 224/Monroe Street intersection are not projected to cause significant impact to current traffic operations (year 2015). This is primarily due to low existing demand at that intersection, and the ability for the adjacent intersections at Harrison and Oak streets to absorb the additional traffic that can no longer turn onto Monroe.

Over the longer term, ODOT has identified the worsening congestion at the intersection at OR 224 and Harrison Street as a significant problem, in part because of the queuing that occurs for drivers wishing to turn left from southbound OR 224 to eastbound Harrison Street. This analysis shows that the OR 224/Harrison intersection is projected to fail in 2035 due to anticipated growth in traffic volume – whether or not the Monroe Street Greenway Project is implemented.

Accordingly, more helpful information about impacts of the Monroe Street Greenway project can be ascertained by looking at average delay to determine how well intersections function.

- **OR 224 and Harrison**

Long-term traffic operations at Harrison Street are not expected to significantly worsen beyond forecasted conditions in the year 2035 if the diverter at OR 224/Monroe is installed.

However, unrelated to the Monroe project, adding the TSP-proposed protected left turn signals in both the eastbound and westbound direction on Harrison Street would exacerbate queuing and approach delays (as shown in in Version B model results) unless right-of-way was acquired to construct additional through lanes. Version C removed these protected left turns, which showed fewer negative impacts on traffic operations.

Ultimately, the OR 224/Harrison intersection is projected to fail in the forecast year scenario unless an additional left turn lane is added in the southbound direction (OR 224) and a right turn pocket is constructed for westbound traffic on Harrison Street. Both of these projects would require property acquisition. Again, however, this condition exists whether or not the Monroe Street Greenway project is implemented.

- **OR 224 and Oak**

The Oak Street intersection continues to be an area of concern, as it is also expected to see an increase in traffic by 2035. Generally, this traffic analysis shows that neither of the Monroe Street Greenway alternatives has a significant impact on intersection beyond already forecasted conditions.

As in the case of Harrison, however, the analysis of Version B shows that converting the existing permitted left turns to protected left turn signals in both the eastbound and westbound direction on Oak Street (as proposed in the TSP) would exacerbate queuing and approach delays.

Table 1 below summarizes the impacts at each of the ODOT intersections, which Appendix C documents in greater detail.

TABLE 1: OR 224 Traffic System Impacts

Level of service is a qualitative metric describing operational conditions at intersections and their perception by users that represents a service measure and is based solely on average vehicle delay.

Volume to capacity ratio is the ratio of traffic volume to capacity at each intersection. A V/C ratio approaching 1.0 indicates that intersection is reaching capacity and soon will not be able to process the volume arriving in the given time.

Average (approach) delay is the average stopped-time delay at an intersection plus the average time lost because of deceleration to and acceleration from a stop.

Scenario		OR 224/Harrison			OR 224/Monroe			OR 224/Oak		
		Level of Service	Volume/Capacity Ratio	Average delay in seconds	Level of Service	Volume/Capacity Ratio	Average delay in seconds	Level of Service	Volume/Capacity Ratio	Average delay in seconds
Base Case	2015	D	1.01	50	A	0.75	7.5	C	0.91	34.1
	2035	F	1.15	89.1	A	0.84	9.9	D	1.04	44.6
Alternative 1	Version A 2015	E	1.03	59	A	0.73	5.5	D	0.89	37.9
	Version A 2035	F	1.19	96.7	A	0.82	8.5	D	1.00	50.2
	Version B 2035	F	1.31	167.6	A	0.83	9.5	F	1.07	117.4
	Version C 2035	F	1.14	89.8	A	0.83	7.4	F	1.11	97
Alternative 2	Version A 2015	E	1.04	61.2	A	0.74	5.4	D	0.93	35.3
	Version A 2035	F	1.21	105	A	0.83	6.7	D	1.07	45.3
	Version B 2035	F	1.31	172.6	A	0.83	9.3	E	1.03	55.6
	Version C 2035	F	1.15	95.8	A	0.83	7.5	E	1.06	70

Recommendations

- Implementing diversion at Monroe Street is not expected to adversely impact traffic operations on the state highway network beyond what is forecasted in the 2035 base case scenario, so either Alternative 1 or Alternative 2 is recommended to advance project objectives.
- However, two projects included in the Milwaukie TSP – protected left turns at the Harrison Street and Oak Street intersections – were found to exacerbate delays in this area. These projects were analyzed in Scenario Version B.
 - Reducing the number of through lanes at the OR 224/Harrison Street intersection in order to install dedicated, protected left turn lanes. (Impacts on traffic operations outweigh the benefits of this project due to the forecasted through volumes being up to nine times higher than left turn volumes, even with the implementation of diversion at OR 224/Monroe Street). It is recommended that this project *not* be implemented.
 - If signal upgrades are implemented at the OR 224/Oak Street intersection, protected/permitted left turns are recommended (instead of protected left turns as specified in the TSP), omitting the permitted left turn phase when a pedestrian push-button signal is activated to enhance crossing safety.

Local Street System – Conditions, Impacts and Recommendations

Existing Conditions

Local circulation within the study area is impacted by limited street connectivity and the existence of OR 224 and the Union Pacific railroad tracks. Traffic on the local street network is concentrated at the few available through streets, including Oak Street, Harrison Street, 37th Avenue and Linwood Avenue. Harrison Street and King Road are the major east-west arterial streets through the study area, located two to four blocks north of Monroe Street, and are connected by a two-block section of 42nd Avenue. The intersection at Harrison Street and 42nd Avenue is all-way stop controlled, but increasing traffic has made it a candidate for future signalization according to the TSP. Linwood Avenue is the major north-south arterial within the study area, located at the eastern city boundary, and experiences the greatest congestion within the local street network, specifically at the intersections with King Road and Harmony Road/Railroad Avenue. Monroe Street is a collector route throughout its entire length in Milwaukie and provides an east-west alternative route to Harrison Street/King Road.

Impacts to Operations

Generally, the implementation of diversion on Monroe in either Alternative 1 or Alternative 2 does not cause significant adverse effects on present day operations for most of the local network. However, there may be some localized traffic impacts as a result of changes in prevailing travel patterns.

- The majority of cut-through traffic shifted away from Monroe is expected to use Railroad Avenue and Harrison Street/King Road to bypass the diverters – although a small number of motorists may use parallel neighborhood streets such as Jackson if their ultimate destination is within the local neighborhood.
- Both alternatives will exacerbate existing conditions at the Harrison Street/42nd Avenue all-way stop. (As noted above, this intersection has already been identified in the TSP as a candidate for upgrading with a signal). Addition of a signal in the model (under Versions B and C) greatly improved the function of the 42nd/Harrison intersection.
- Traffic congestion on Harrison is greater with a diverter at 37th than with one at 42nd. A diverter at 37th would cause major impacts at the 37th/Harrison Street intersection (currently a two-way stop controlled intersection for 37th Avenue, resulting in safety issues and delay at that intersection. Diversion at 42nd/Monroe, however, does not cause negative impacts at 37th and Harrison.
- Both alternatives generally work well to establish Monroe Street as a local access route, moving through traffic onto parallel arterial/collector routes. The bi-directional nature of the proposed diverters is important to establish Monroe Street as a local route between either 37th and Linwood (in Alternative 1) or 42nd and Linwood (Alternative 2). Alternative 2 generally shows fewer impacts on local neighborhood streets as it preserves the prevailing through travel route between Monroe Street and King Road via 42nd Avenue.
- Because left turns and through movements at Linwood Avenue would be prohibited in both alternatives, the project would slightly increase the amount traffic using side streets such as Home Avenue or Stanley Avenue to access King Road. However, because most eastbound through traffic is shifted over to Harrison due to diversion at 37th Avenue or 42nd Avenue, any increase in volume is expected to be small, consisting primarily of local traffic generated by residences in the Linwood and Hector Campbell neighborhoods. Westbound traffic will also be reduced as the forced right turn at either 37th or 42nd Avenue will remove direct access to OR 224 from this section of Monroe and attract more volume to nearby arterials.
- The signal at Linwood Avenue and King Road (already a known hot spot) would fail in 2015 under either alternative – but this failure is already projected in 2035 without the Monroe Street

Greenway project. The project recommends adding protected/permitted left turn signals (flashing yellow arrows) on all approaches and making other signal timing improvements at Linwood Avenue/King Road to mitigate impacts from traffic diversion. The signal upgrades were shown to slightly improve operations at that intersection (from LOS F to D in 2035 with the Monroe greenway implemented).

Table 2 below summarizes projected traffic impacts at several key Milwaukie intersections, which Appendix C documents in greater detail.

TABLE 2: City Traffic System Impacts

Level of service is a qualitative metric describing operational conditions at intersections and their perception by users that represents a service measure and is based solely on average vehicle delay.

Volume to capacity (V/C) ratio is the ratio of traffic volume to capacity at each intersection. A V/C ratio approaching 1.0 indicates that intersection is reaching capacity and soon will not be able to process the volume arriving in the given time.

Average (approach) delay is the average stopped-time delay at an intersection plus the average time lost because of deceleration to and acceleration from a stop.

Scenario		SE 32 nd /Harrison			SE 37 th /Harrison			
		Level of Service	Volume/Capacity Ratio	Average delay in seconds	Level of Service	Volume/Capacity Ratio	Average delay in seconds	
Base Case	2015	A	0.52	7.7	B	0.31 ¹	3.3	
	2035	A	0.58	8.4	B	0.40 ¹	3.9	
Alternative 1	Version A	2015	A	0.52	7.7	D	0.69 ¹	7.6
		2035	A	0.58	8.5	E	0.98 ¹	15
	Version B	2035	A	0.56	8.4	E	0.98 ¹	15
	Version C	2035	B	0.49	17.8	E	1.02 ¹	16.5
Alternative 2	Version A	2015	A	0.53	7.7	C	0.48 ¹	5
		2035	A	0.59	8.5	C	0.60 ¹	6.5
	Version B	2035	A	0.57	8.1	C	0.60 ¹	6.5
	Version C	2035	B	0.51	12.4	C	0.60 ¹	6.5

Notes:

¹V/C ratio for unsignalized intersections is reported for the most congested turning movement (direction with the highest V/C ratio at the intersection).

TABLE 2 (Continued): City Traffic System Impacts

Scenario		SE 42 nd /Harrison			SE King/Linwood			
		Level of Service	Volume/Capacity Ratio	Average delay in seconds	Level of Service	Volume/Capacity Ratio	Average delay in seconds	
Base Case	2015	C	1.0 ¹	23.3	E	0.96	72.8	
	2035	E	1.03 ¹	37	F	1.07	116	
Alternative 1	Version A	2015	F	1.22 ¹	66.9	F	1.10	118.7
		2035	F	1.39 ¹	102.6	F	1.24	157.5
	Version B	2035	B	0.80	16.5	E	1.08	61
	Version C	2035	A	0.78	8.5	D	0.99	49.2
Alternative 2	Version A	2015	E	1.05 ¹	40.4	F	1.04	95.9
		2035	F	1.20 ¹	64.5	F	1.15	131.3
	Version B	2035	B	0.82	16.1	D	0.98	50.9
	Version C	2035	B	0.81	11.1	D	0.94	41.9

Notes:

¹ V/C ratio for unsignalized intersections is reported for the most congested turning movement (direction with the highest V/C ratio at the intersection).

Recommendations

Overall, the diversion measures included as part of the Monroe Street Greenway project are not expected to create significant impact to the local street system.

While there may be localized impacts caused by diverted traffic, many of these can be mitigated by improving signal operations and implementing efficiencies to create an overall higher-performing network. If diversion is implemented on Monroe Street to achieve greenway project objectives, it is recommended that the improvements contained in Version C be put in place as well.

The proposed signal at 42nd Avenue/Harrison Street is a key improvement that will help improve traffic flow between Harrison Street and King Road compared to the existing all-way stop. These benefits are magnified once Monroe Street is closed to through traffic at 37th or 42nd. Lane reconfiguration is possible at this intersection without acquiring new right-of-way; however this may require the eastbound through movement to shift laterally through the intersection.

Conclusion: Summary Analysis and Recommendations

State Highway System

This traffic analysis does not indicate significant adverse impact from this project on the state highway system. In particular, diversion at the OR 224/Monroe Street intersection is not expected to degrade traffic operations at the nearby Oak Street and Harrison Street intersections due to the lack of demand at the Monroe Street intersection. The other improvements proposed in either Alternative 1 or 2 can be implemented without impacting through traffic on OR 224. Overall, Alternative 1 and Alternative 2 would result in less than 9 seconds of delay on OR 224 in 2015 and would cause further negligible increase in delay in 2035, compared to the base case scenario with no improvements.

Diversion at 37th shows a higher likelihood than diversion at 42nd of causing slight increases in westbound traffic on Harrison Street at the OR 224 intersection.

According to the traffic impact analysis, the most significant impacts on the state system would be caused by a proposed TSP project (independent of the Monroe Street Greenway) to convert one lane in each direction on the Harrison Street approach to an exclusive protected left turn lane. This would result in significant impacts and delay at the OR 224/Harrison Street intersection and is not recommended for implementation due to the significant delays that would be incurred by through traffic on Harrison Street that will have its lanes reduced from two to one.

- **Recommendation:** Neither alternative has a substantial impact on OR 224. Benefits of the project include improving operational efficiency on OR 224, creating a safer pedestrian crossing at Monroe and reducing cut-through traffic on Monroe to advance greenway objectives. Implementation of Alternative 2 (as opposed to Alternative 1) is recommended due to local system impacts described later in this memo.

Harrison Street/King Road

Traffic conditions at the all-way stop intersection at Harrison Street and 42nd Avenue are expected to worsen by 2035 whether or not this project is implemented, with LOS being reduced from C to E and average delay increasing from 23 to 37 seconds, leading to greater congestion and longer queuing times. Both alternatives would cause significant impacts on the intersection, particularly in Alternative 1 where more traffic will be using Harrison Street coming from the west. Placing the diverter at 37th Avenue will cause the intersection to fail immediately, with average delay increasing to 68 seconds in 2015 and 103 seconds in 2035.

- **Recommendation:** Implement Alternative 2 (diversion at 42nd) instead of Alternative 1 (diversion at 37th) to avoid major impacts at 37th/Harrison
- **Recommendation:** As recommended in the Milwaukie TSP, install a signal at 42nd/Harrison to solve delay, queuing and safety issues. Following installation of a signal, the safety and capacity of the intersection can be significantly improved by optimizing signal phasing and reconfiguring the lanes to facilitate the dominant travel flow between the north and west legs
- **Recommendation:** Where King Road intersects Linwood Avenue, the City should consider adding an eastbound and westbound protected/permitted left turn signal to reduce delays and queuing

Other Local Streets

The traffic impact analysis shows that both Alternatives 1 and 2 would have little or no effect on north-south streets such as Home Avenue, Stanley Avenue and Linwood Avenue, despite diversion being implemented at Linwood Avenue/Monroe Street. This can be attributed to most of the volume on Monroe Street having been reduced further upstream by diversion at 37th Avenue or 42nd Avenue, depending on the alternative chosen. In addition, both Alternatives 1 and 2 are likely to result in a slight increase in traffic on Jackson Street as motorists attempt to go around the diverter. However, most will choose to use Harrison Street or Railroad Avenue based on the higher capacity and direct nature of those routes.

If diversion is installed at 37th or 42nd, additional diversion at Linwood/Monroe is important to prevent cut-through traffic from winding through neighborhood streets (including Home and Stanley) to cross Linwood at Monroe rather than staying on Harrison/King to cross Linwood.

- **Recommendation:** Implement diversion at Linwood Avenue/Monroe Street to prevent eastbound cut-through traffic from winding back over to Monroe from Harrison/King on neighborhood streets.

Finally, the project team recommends further consideration of signalization at the Oak Street/Monroe Street/Railroad Avenue intersection and the nearby Oak Street/Campbell Street intersection to improve crossing safety. Because of the location of the nearby rail crossing, installing coordinated signals would likely minimize the risk of vehicles at either intersection queuing over the tracks, compared to all-way stop control at the T-intersection.

- **Recommendation:** Consider signalizing the Oak/Monroe/Railroad crossing to improve crossing safety for bicycles and pedestrians (needs further study and coordination with UPRR)

List of Appendices

Appendix T1: Traffic Counts and Signal Timing

This appendix includes afternoon peak hour traffic counts at several intersections conducted primarily in early 2015, with 2012 counts from the Milwaukie TSP in certain locations. Signal timing information from ODOT and the city TSP is also included.

Appendix T2: Synchro Reports

This appendix includes the Synchro traffic model report outputs for each of the scenarios as described in the text of this memorandum, with data on the estimated level of impacts on traffic operations at key intersections.

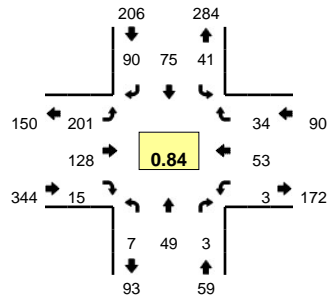
Appendix T3: Table of ODOT Analysis Results

This appendix summarizes detailed traffic operations impacts at the three intersections within ODOT jurisdiction (OR 224 at Harrison Street, Monroe Street and Oak Street).

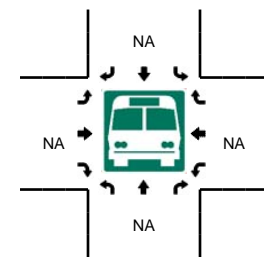
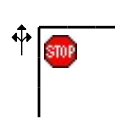
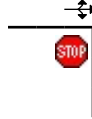
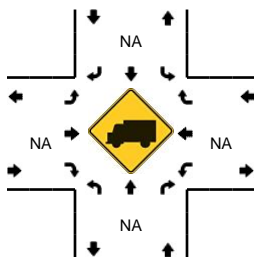
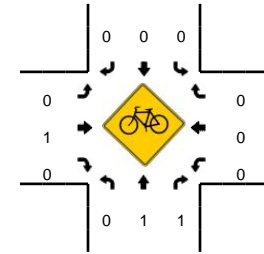
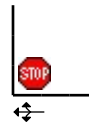
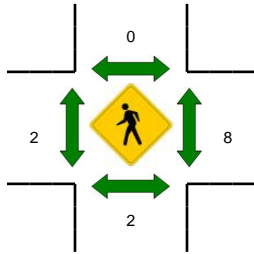
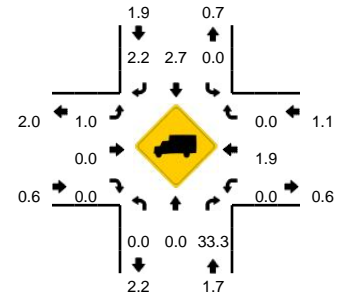
Appendix T1: Traffic Counts and Signal Timing

LOCATION: SE 42nd Ave -- SE Monroe St
CITY/STATE: Milwaukie , OR

QC JOB #: 13168501
DATE: Wed, Jan 21 2015



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Peak 15-Min: 5:10 PM -- 5:25 PM

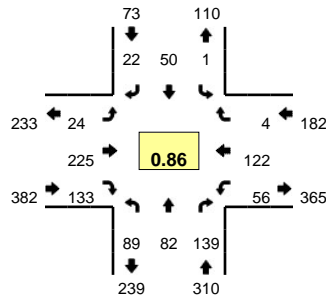


5-Min Count Period Beginning At	SE 42nd Ave (Northbound)				SE 42nd Ave (Southbound)				SE Monroe St (Eastbound)				SE Monroe St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	2	4	1	0	2	1	1	0	12	7	1	0	0	5	1	0	37	
4:05 PM	0	4	0	0	0	3	8	0	19	12	2	0	0	5	4	0	57	
4:10 PM	1	2	0	0	3	6	6	0	27	12	2	0	0	5	2	0	66	
4:15 PM	0	4	0	0	3	4	8	0	14	4	1	0	0	3	2	0	43	
4:20 PM	1	6	0	0	5	2	7	0	21	7	0	0	0	7	2	0	58	
4:25 PM	0	3	0	0	3	9	5	0	17	20	0	0	0	5	5	0	67	
4:30 PM	0	0	0	0	4	5	7	0	16	5	2	0	0	3	5	0	47	
4:35 PM	2	3	2	0	4	4	7	0	4	6	2	0	0	2	1	0	37	
4:40 PM	0	3	0	0	3	8	8	0	22	16	1	0	1	2	1	0	65	
4:45 PM	1	4	0	0	1	8	11	0	17	6	2	0	1	6	3	0	60	
4:50 PM	1	3	0	0	4	2	8	0	22	7	0	0	0	3	3	0	53	
4:55 PM	1	5	0	0	4	8	5	0	15	6	3	0	0	2	3	0	52	642
5:00 PM	0	3	0	0	6	6	8	0	23	7	1	0	0	4	0	0	58	663
5:05 PM	0	7	1	0	3	5	8	0	10	7	2	0	0	7	2	0	52	658
5:10 PM	1	6	0	0	2	8	11	0	18	13	1	0	0	9	1	0	70	662
5:15 PM	1	7	0	0	5	4	6	0	21	20	0	0	0	7	6	0	77	696
5:20 PM	0	5	0	0	2	8	6	0	16	15	1	0	1	3	4	0	61	699
5:25 PM	1	4	1	0	5	5	9	0	21	8	0	0	1	2	0	0	57	689
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5:50 PM	0	5	1	0	4	2	11	0	13	7	2	0	1	2	1	0	49	675
5:55 PM	1	4	0	0	3	4	5	0	16	9	2	0	0	4	5	0	53	676
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	8	72	0	0	36	80	92	0	220	192	8	0	4	76	44	0	832	
Heavy Trucks	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	4	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad																		
Stopped Buses																		

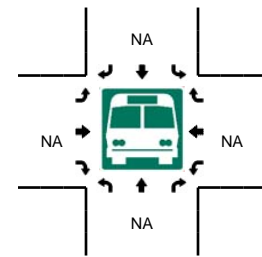
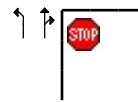
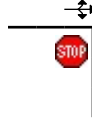
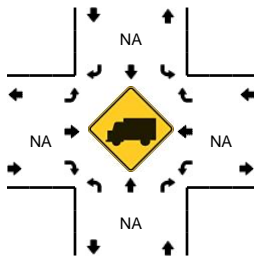
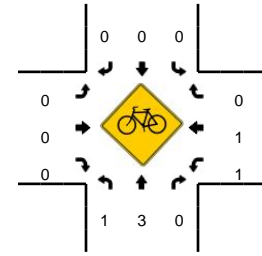
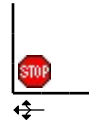
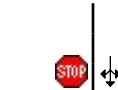
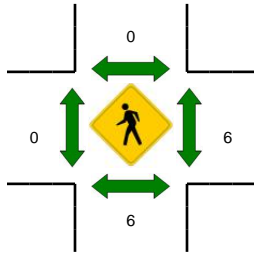
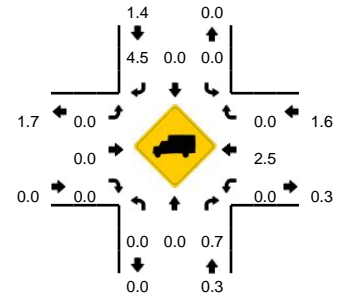
Comments:

LOCATION: SE 37th Ave -- SE Monroe St
CITY/STATE: Milwaukie, OR

QC JOB #: 13168502
DATE: Wed, Jan 21 2015



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Peak 15-Min: 5:10 PM -- 5:25 PM

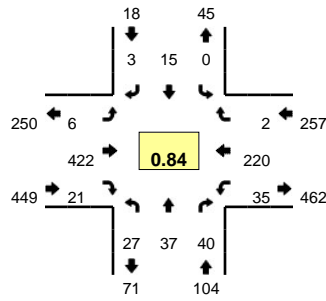


5-Min Count Period Beginning At	SE 37th Ave (Northbound)				SE 37th Ave (Southbound)				SE Monroe St (Eastbound)				SE Monroe St (Westbound)				Total	Hourly Totals
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4:15 PM	9	5	9	0	0	5	0	0	1	8	6	0	6	7	0	0	56	
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4:50 PM	13	6	9	0	0	4	0	0	3	20	14	0	3	10	0	0	82	
4:55 PM	8	11	11	0	0	6	1	0	0	13	8	0	2	10	0	0	70	902
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5:55 PM	9	3	6	0	0	5	1	0	2	20	7	0	3	9	0	0	65	885
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	92	64	184	0	4	52	20	0	28	304	152	0	64	128	8	0	1100	
Heavy Trucks	0	0	0		0	0	0		0	0	0		0	4	0		4	
Pedestrians		12				0				0				12			24	
Bicycles	0	1	0		0	0	0		0	0	0		0	0	0		1	
Railroad																		
Stopped Buses																		

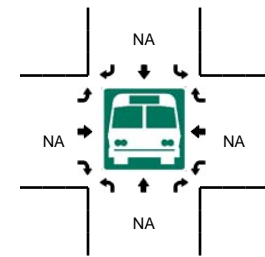
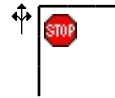
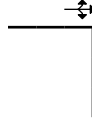
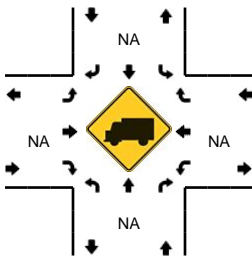
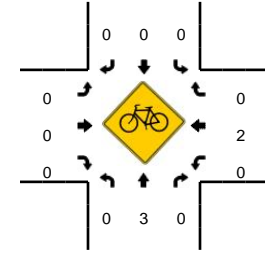
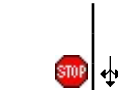
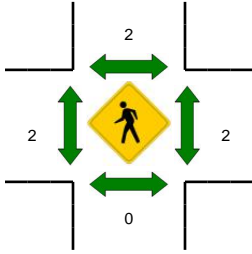
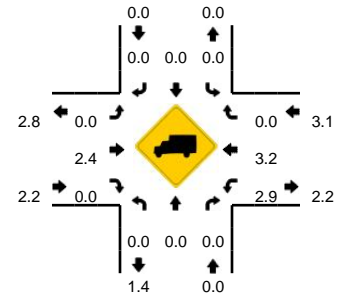
Comments:

LOCATION: SE 37th Ave -- SE Harrison St
CITY/STATE: Milwaukie, OR

QC JOB #: 13168503
DATE: Wed, Jan 21 2015



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Peak 15-Min: 5:10 PM -- 5:25 PM

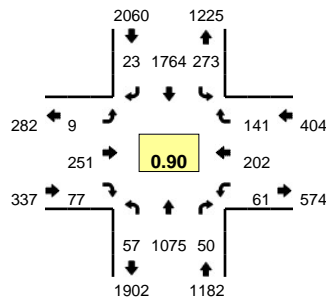


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	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	1	3	1	0	1	3	0	0	0	21	1	0	1	10	0	0	42	
4:05 PM	4	2	7	0	0	2	0	0	0	29	1	0	2	17	0	0	64	
4:10 PM	0	3	4	0	0	2	0	0	1	32	0	0	3	15	0	0	60	
4:15 PM	0	1	3	0	0	0	0	0	0	31	2	0	3	15	0	0	55	
4:20 PM	1	3	4	0	0	0	1	0	0	26	3	0	5	19	0	0	62	
4:25 PM	1	1	4	0	0	0	0	0	2	31	2	0	3	17	0	0	61	
4:30 PM	0	2	3	0	0	1	0	0	0	29	2	0	2	15	0	0	54	
4:35 PM	1	2	1	0	0	0	3	0	0	6	3	0	5	14	0	0	35	
4:40 PM	5	4	5	0	0	2	0	0	0	46	2	0	0	15	0	0	79	
4:45 PM	2	3	3	0	0	1	0	0	0	32	0	0	2	19	0	0	62	
4:50 PM	1	5	3	0	0	2	0	0	0	35	0	0	3	21	0	0	70	
4:55 PM	1	4	5	0	0	1	0	0	0	38	3	0	2	14	0	0	68	712
5:00 PM	3	1	3	0	0	1	0	0	2	34	0	0	1	15	0	0	60	730
5:05 PM	4	4	2	0	0	0	0	0	0	3	1	0	6	17	0	0	37	703
5:10 PM	2	3	7	0	0	1	0	0	0	41	1	0	1	23	1	0	80	723
5:15 PM	2	2	2	0	0	2	0	0	2	48	3	0	4	20	0	0	85	753
5:20 PM	1	1	3	0	0	2	1	0	0	49	3	0	1	19	0	0	80	771
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5:30 PM	2	6	3	0	0	0	0	0	1	37	2	0	4	21	0	0	76	794
5:35 PM	4	0	2	0	0	2	1	0	0	35	3	0	4	17	1	0	69	828
5:40 PM	1	2	1	0	0	1	0	0	0	35	3	0	5	20	1	0	69	818
5:45 PM	0	4	3	0	0	1	2	0	0	29	3	0	6	18	0	0	66	822
5:50 PM	2	1	1	0	0	2	0	0	1	33	2	0	3	23	1	0	69	821
5:55 PM	1	3	1	0	0	1	0	0	0	33	1	0	2	17	0	0	59	812
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	20	24	48	0	0	20	4	0	8	552	28	0	24	248	4	0	980	
Heavy Trucks	0	0	0		0	0	0		0	12	0		0	8	0		20	
Pedestrians		0				0				4				4			8	
Bicycles	0	1	0		0	0	0		0	0	0		0	0	0		1	
Railroad																		
Stopped Buses																		

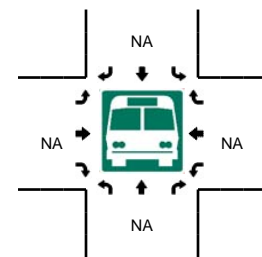
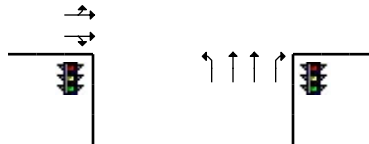
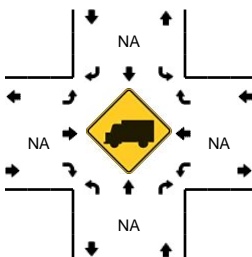
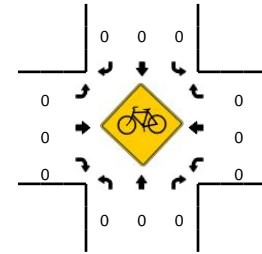
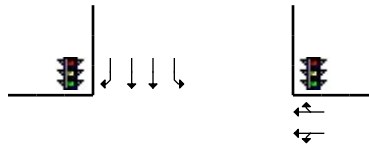
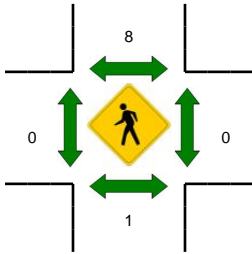
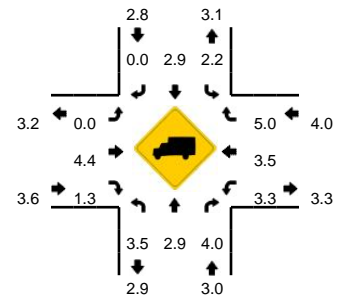
Comments:

LOCATION: OR 224 -- SE Harrison St
CITY/STATE: Milwaukie, OR

QC JOB #: 13168504
DATE: Wed, Jan 21 2015



Peak-Hour: 4:40 PM -- 5:40 PM
Peak 15-Min: 5:15 PM -- 5:30 PM

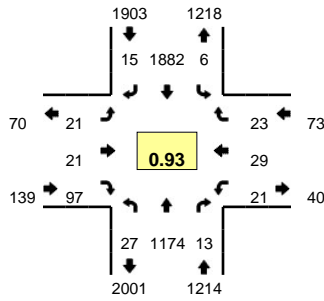


5-Min Count Period Beginning At	OR 224 (Northbound)				OR 224 (Southbound)				SE Harrison St (Eastbound)				SE Harrison St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	3	64	8	0	18	120	4	0	1	22	7	0	7	19	10	0	283	
4:05 PM	5	112	5	0	20	155	0	0	13	8	4	0	6	8	12	0	348	
4:10 PM	7	79	3	0	21	107	2	0	1	26	9	0	8	19	7	0	289	
4:15 PM	1	120	6	0	19	170	2	0	1	16	6	0	5	9	3	0	358	
4:20 PM	2	99	4	0	24	126	1	0	0	20	4	0	13	21	14	0	328	
4:25 PM	4	87	4	0	23	140	1	0	1	16	6	0	5	20	5	0	312	
4:30 PM	8	97	3	0	21	126	2	0	0	17	4	0	5	19	7	0	309	
4:35 PM	1	102	4	0	13	170	1	0	0	0	0	0	0	0	0	0	291	
4:40 PM	4	103	3	0	24	129	5	0	2	37	11	0	4	21	23	0	366	
4:45 PM	5	97	4	0	22	141	2	0	2	23	6	0	4	10	20	0	336	
4:50 PM	7	66	2	0	20	128	2	0	2	17	9	0	11	25	13	0	302	
4:55 PM	7	101	4	0	23	166	1	0	0	11	3	0	5	15	6	0	342	3864
5:00 PM	4	67	3	0	25	145	1	0	0	23	3	0	5	20	6	0	302	3883
5:05 PM	3	107	4	0	0	159	1	0	0	0	0	0	0	0	1	0	275	3810
5:10 PM	5	91	3	0	23	109	1	0	1	53	11	0	5	30	15	0	347	3868
5:15 PM	7	97	4	0	38	196	3	0	0	22	10	0	6	11	9	0	403	3913
5:20 PM	3	70	6	0	34	137	4	0	0	18	3	0	9	24	13	0	321	3906
5:25 PM	5	115	9	0	19	168	3	0	0	19	6	0	4	16	13	0	377	3971
5:30 PM	6	74	6	0	23	135	0	0	0	12	6	0	6	19	14	0	301	3963
5:35 PM	1	87	2	0	22	151	0	0	2	16	9	0	2	11	8	0	311	3983
5:40 PM	7	76	0	0	15	121	1	0	0	31	7	0	10	18	10	0	296	3913
5:45 PM	5	93	4	0	32	153	0	0	0	11	5	0	6	12	10	0	331	3908
5:50 PM	4	67	2	0	24	121	0	0	1	22	7	0	7	25	10	0	290	3896
5:55 PM	2	67	1	0	13	127	3	0	1	17	3	0	2	15	8	0	259	3813
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	60	1128	76	0	364	2004	40	0	0	236	76	0	76	204	140	0	4404	
Heavy Trucks	0	36	8		12	44	0		0	20	0		0	8	12		140	
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Railroad																		
Stopped Buses																		

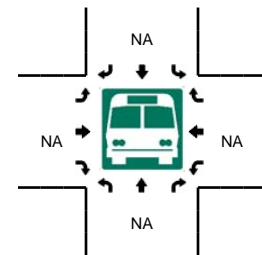
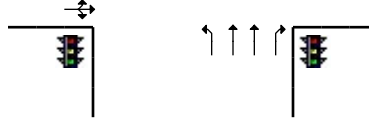
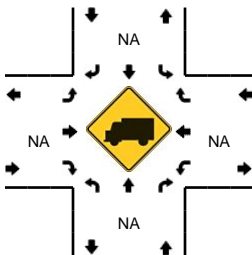
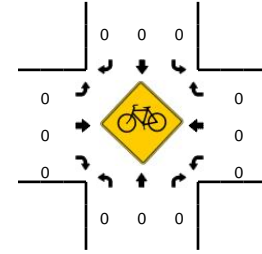
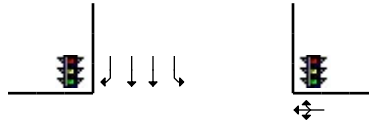
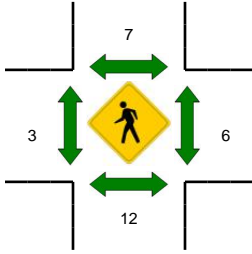
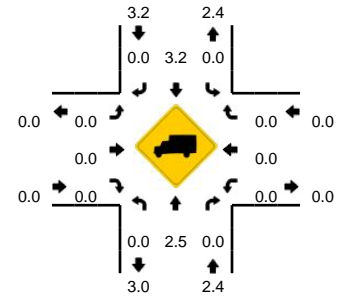
Comments:

LOCATION: OR 224 -- SE Monroe St
CITY/STATE: Milwaukie, OR

QC JOB #: 13168505
DATE: Wed, Jan 21 2015



Peak-Hour: 4:35 PM -- 5:35 PM
Peak 15-Min: 5:05 PM -- 5:20 PM

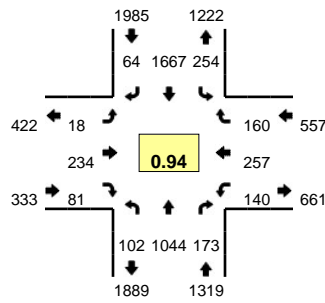


5-Min Count Period Beginning At	OR 224 (Northbound)				OR 224 (Southbound)				SE Monroe St (Eastbound)				SE Monroe St (Westbound)				Total	Hourly Totals	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U			
4:00 PM	3	75	1	0	1	139	1	0	1	5	11	0	0	1	0	0	0	238	
4:05 PM	4	114	1	0	2	158	0	0	0	2	7	0	0	3	2	2	0	295	
4:10 PM	0	82	2	0	0	118	1	0	3	2	3	0	0	2	2	4	0	219	
4:15 PM	1	127	0	0	1	180	1	0	0	3	8	0	0	2	4	3	0	330	
4:20 PM	2	98	0	0	2	130	2	0	1	3	4	0	0	3	2	2	0	249	
4:25 PM	2	103	2	0	0	152	0	0	1	2	6	0	0	1	3	0	0	272	
4:30 PM	3	97	1	0	0	128	0	0	1	0	2	0	0	0	2	1	0	235	
4:35 PM	2	113	1	0	2	165	1	0	1	3	13	0	0	0	1	3	0	305	
4:40 PM	3	99	0	0	1	144	1	0	0	0	11	0	0	1	3	4	0	267	
4:45 PM	3	104	1	0	0	142	2	0	2	2	8	0	0	3	0	0	0	267	
4:50 PM	1	74	2	0	0	156	2	0	3	2	5	0	0	0	3	2	0	250	
4:55 PM	1	111	3	0	0	166	1	0	0	3	6	0	0	2	3	1	0	297	3224
5:00 PM	1	70	0	1	0	132	0	0	2	5	3	0	0	3	2	2	0	221	3207
5:05 PM	1	119	2	0	1	163	0	0	1	0	15	0	0	0	0	1	0	303	3215
5:10 PM	4	94	1	0	1	143	3	0	3	2	16	0	0	4	4	2	0	277	3273
5:15 PM	0	103	0	0	0	203	1	0	0	1	3	0	0	3	3	1	0	318	3261
5:20 PM	2	76	1	0	1	143	1	0	5	0	6	0	0	4	6	3	0	248	3260
5:25 PM	4	130	1	0	0	186	1	0	2	0	4	0	0	0	1	0	0	329	3317
5:30 PM	4	81	1	0	0	139	2	0	2	3	7	0	0	1	3	4	0	247	3329
5:35 PM	2	88	3	0	0	162	3	0	2	0	11	0	0	1	1	0	0	273	3297
5:40 PM	3	78	1	0	3	140	3	0	2	1	13	0	0	2	0	1	0	247	3277
5:45 PM	0	100	2	0	0	159	1	0	4	2	4	0	0	1	0	0	0	273	3283
5:50 PM	3	66	0	0	0	135	1	0	1	1	8	0	0	0	0	1	0	216	3249
5:55 PM	3	71	1	0	1	133	1	0	0	0	4	0	0	1	1	1	0	217	3169
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total		
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U			
All Vehicles	20	1264	12	0	8	2036	16	0	16	12	136	0	0	28	28	16	0	3592	
Heavy Trucks	0	28	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	128	
Pedestrians		0				8				0					16			24	
Bicycles	0	0	0		0	0	0		0	0	0			0	0	0		0	
Railroad																			
Stopped Buses																			

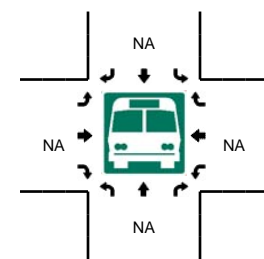
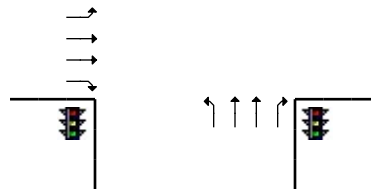
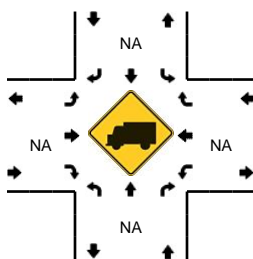
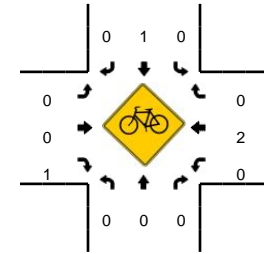
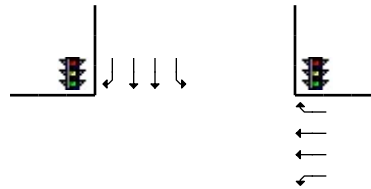
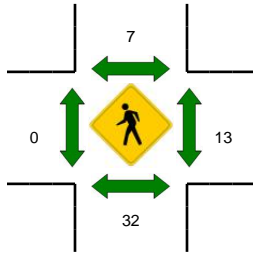
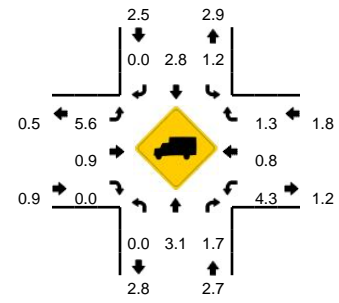
Comments:

LOCATION: OR 224 -- SE Oak St
CITY/STATE: Milwaukie, OR

QC JOB #: 13168506
DATE: Wed, Jan 21 2015



Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 5:15 PM -- 5:30 PM

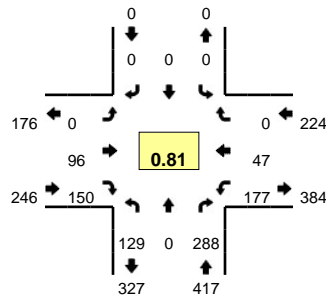


5-Min Count Period Beginning At	OR 224 (Northbound)				OR 224 (Southbound)				SE Oak St (Eastbound)				SE Oak St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	6	72	9	0	19	137	5	0	3	15	8	0	7	18	14	0	313	
4:05 PM	7	95	14	0	13	149	7	0	3	14	13	0	5	18	13	0	351	
4:10 PM	11	80	10	0	20	112	5	0	3	17	7	0	18	29	14	0	326	
4:15 PM	13	103	12	0	21	151	6	0	0	16	7	0	13	16	14	0	372	
4:20 PM	9	85	15	0	30	108	4	0	2	30	5	0	11	24	10	0	333	
4:25 PM	12	96	15	0	18	131	2	0	2	12	5	0	9	10	13	0	325	
4:30 PM	7	78	8	0	19	115	4	0	0	21	8	0	21	27	17	0	325	
4:35 PM	11	105	20	0	26	147	3	0	2	11	11	0	4	12	17	0	369	
4:40 PM	7	77	19	0	20	136	5	0	1	24	3	0	16	33	15	0	356	
4:45 PM	7	92	14	0	23	119	4	0	2	20	2	0	13	19	15	0	330	
4:50 PM	3	60	8	0	20	143	5	0	2	20	8	0	12	20	14	0	315	
4:55 PM	6	106	21	0	22	151	4	0	3	8	1	0	8	12	9	0	351	4066
5:00 PM	7	75	11	0	17	116	7	0	0	24	8	0	16	24	7	0	312	4065
5:05 PM	12	103	21	0	18	138	2	0	1	20	8	0	7	17	8	0	355	4069
5:10 PM	8	80	11	0	26	145	4	0	2	25	9	0	15	26	15	0	366	4109
5:15 PM	11	82	11	0	19	163	8	0	2	20	5	0	9	16	18	0	364	4101
5:20 PM	11	78	13	0	24	135	6	0	2	27	5	0	12	31	12	0	356	4124
5:25 PM	11	108	16	1	20	159	12	0	1	14	13	0	7	20	13	0	395	4194
5:30 PM	12	72	8	0	26	126	2	0	1	11	3	0	12	30	17	0	320	4189
5:35 PM	8	76	16	0	16	163	1	0	1	18	3	0	5	22	12	0	341	4161
5:40 PM	9	55	11	0	17	116	2	0	5	18	4	0	13	14	17	0	281	4086
5:45 PM	7	88	7	0	17	155	4	0	1	10	4	0	12	12	11	0	328	4084
5:50 PM	5	65	7	0	15	120	4	0	1	16	4	0	14	26	7	0	284	4053
5:55 PM	2	62	8	0	17	128	3	0	1	17	5	0	6	14	8	0	271	3973
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	132	1072	160	4	252	1828	104	0	20	244	92	0	112	268	172	0	4460	
Heavy Trucks	0	40	4		4	36	0		0	0	0		0	4	0		88	
Pedestrians		8				8				0				0			16	
Bicycles	0	0	0		0	0	0		0	0	1		0	0	0		1	
Railroad																		
Stopped Buses																		

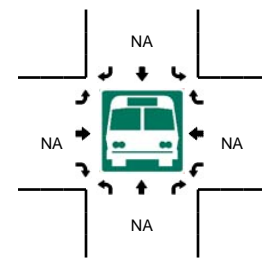
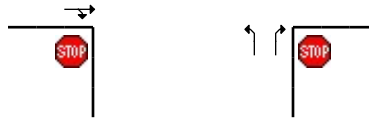
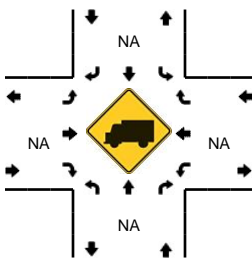
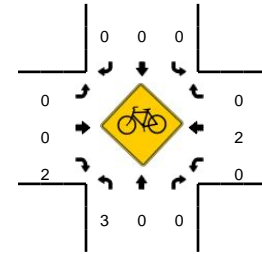
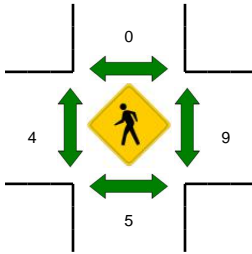
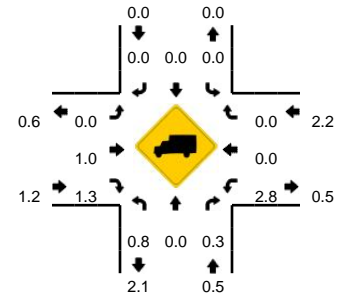
Comments:

LOCATION: SE Oak St -- SE Monroe St/SE Railroad Ave
CITY/STATE: Milwaukie, OR

QC JOB #: 13168507
DATE: Wed, Jan 21 2015



Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 5:10 PM -- 5:25 PM

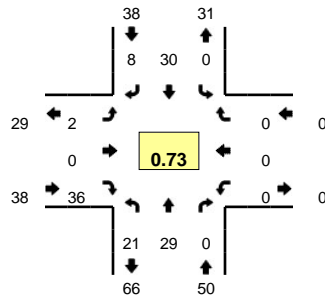


5-Min Count Period Beginning At	SE Oak St (Northbound)				SE Oak St (Southbound)				SE Monroe St/SE Railroad Ave (Eastbound)				SE Monroe St/SE Railroad Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	4	0	19	0	0	0	0	0	0	9	9	0	15	4	0	0	60	
4:05 PM	9	0	17	0	0	0	0	0	0	7	11	0	13	4	0	0	61	
4:10 PM	15	0	22	0	0	0	0	0	0	9	16	0	19	5	0	0	86	
4:15 PM	6	0	15	0	0	0	0	0	0	4	14	0	10	5	0	0	54	
4:20 PM	15	0	31	0	0	0	0	0	0	9	8	0	18	5	0	0	86	
4:25 PM	13	0	23	0	0	0	0	0	0	6	7	0	10	7	0	0	66	
4:30 PM	15	0	26	0	0	0	0	0	0	11	12	0	11	4	0	0	79	
4:35 PM	5	0	18	0	0	0	0	0	0	3	9	0	12	3	0	0	50	
4:40 PM	18	0	29	0	0	0	0	0	0	10	23	0	16	5	0	0	101	
4:45 PM	11	0	21	0	0	0	0	0	0	12	15	0	16	4	0	0	79	
4:50 PM	8	0	25	0	0	0	0	0	0	12	12	0	15	7	0	0	79	
4:55 PM	7	0	17	0	0	0	0	0	0	5	8	0	13	6	0	0	56	857
5:00 PM	10	0	28	0	0	0	0	0	0	8	9	0	13	2	0	0	70	867
5:05 PM	3	0	2	0	0	0	0	0	0	3	4	0	5	3	0	0	20	826
5:10 PM	25	0	43	0	0	0	0	0	0	5	19	0	22	1	0	0	115	855
5:15 PM	6	0	29	0	0	0	0	0	0	6	15	0	21	2	0	0	79	880
5:20 PM	8	0	28	0	0	0	0	0	0	11	13	0	15	6	0	0	81	875
5:25 PM	13	0	22	0	0	0	0	0	0	10	11	0	18	4	0	0	78	887
5:30 PM	11	0	20	0	0	0	0	0	0	8	11	0	16	6	0	0	72	880
5:35 PM	11	0	17	0	0	0	0	0	0	6	3	0	16	1	0	0	54	884
5:40 PM	13	0	28	0	0	0	0	0	0	7	15	0	13	6	0	0	82	865
5:45 PM	4	0	21	0	0	0	0	0	0	5	16	0	10	3	0	0	59	845
5:50 PM	9	0	18	0	0	0	0	0	0	8	8	0	13	4	0	0	60	826
5:55 PM	9	0	18	0	0	0	0	0	0	7	14	0	15	8	0	0	71	841
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	156	0	400	0	0	0	0	0	0	88	188	0	232	36	0	0	1100	
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4	
Pedestrians	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4	
Bicycles	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
Railroad																		
Stopped Buses																		

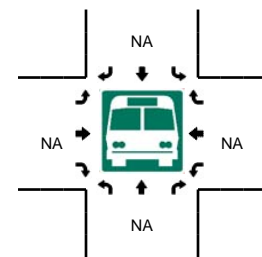
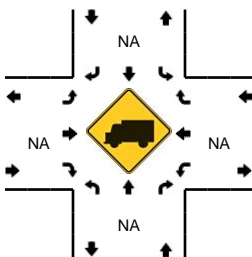
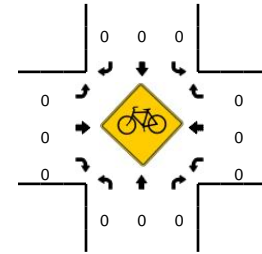
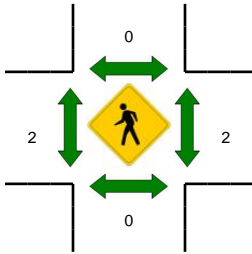
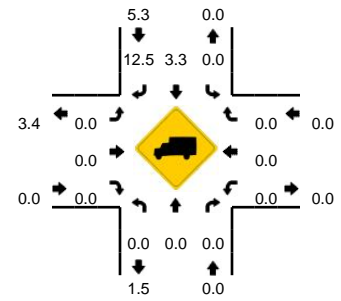
Comments:

LOCATION: SE Home Ave -- SE Harrison St
CITY/STATE: Milwaukie, OR

QC JOB #: 13168508
DATE: Wed, Jan 21 2015



Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 5:15 PM -- 5:30 PM

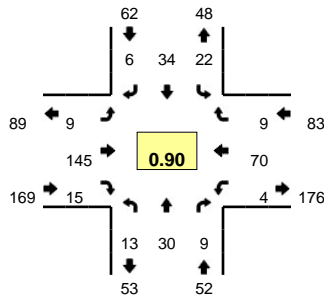


5-Min Count Period Beginning At	SE Home Ave (Northbound)				SE Home Ave (Southbound)				SE Harrison St (Eastbound)				SE Harrison St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	1	1	0	0	0	2	1	0	1	0	2	0	0	0	0	0	8	
4:05 PM	2	5	0	0	0	3	0	0	0	0	3	0	0	0	0	0	13	
4:10 PM	0	1	0	0	0	1	0	0	0	0	2	0	0	0	0	0	4	
4:15 PM	0	3	0	0	0	3	0	0	1	0	2	0	0	0	0	0	9	
4:20 PM	1	2	0	0	0	3	0	0	0	0	2	0	0	0	0	0	8	
4:25 PM	1	2	0	0	0	7	0	0	0	0	3	0	0	0	0	0	13	
4:30 PM	1	1	0	0	0	2	0	0	0	0	1	0	0	0	0	0	5	
4:35 PM	2	1	0	0	0	2	0	0	0	0	2	0	0	0	0	0	7	
4:40 PM	1	7	0	0	0	3	0	0	0	0	3	0	0	0	0	0	14	
4:45 PM	3	4	0	0	0	1	1	0	0	0	5	0	0	0	0	0	14	
4:50 PM	2	2	0	0	0	2	0	0	0	0	3	0	0	0	0	0	9	
4:55 PM	2	2	0	0	0	2	0	0	0	0	3	0	0	0	0	0	9	113
5:00 PM	1	1	0	0	0	2	1	0	1	0	3	0	0	0	0	0	9	114
5:05 PM	0	1	0	0	0	4	0	0	0	0	2	0	0	0	0	0	7	108
5:10 PM	1	0	0	0	0	2	1	0	1	0	0	0	0	0	0	0	5	109
5:15 PM	1	3	0	0	0	3	1	0	0	0	1	0	0	0	0	0	9	109
5:20 PM	3	6	0	0	0	0	1	0	0	0	6	0	0	0	0	0	16	117
5:25 PM	3	5	0	0	0	4	1	0	0	0	5	0	0	0	0	0	18	122
5:30 PM	1	1	0	0	0	1	1	0	0	0	3	0	0	0	0	0	7	124
5:35 PM	2	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	6	123
5:40 PM	2	4	0	0	0	5	1	0	0	0	5	0	0	0	0	0	17	126
5:45 PM	0	5	0	0	0	3	1	0	0	0	2	0	0	0	0	0	11	123
5:50 PM	0	0	0	0	0	2	0	0	0	0	4	0	0	0	0	0	6	120
5:55 PM	1	1	0	1	0	7	0	0	0	0	2	0	0	0	0	0	12	123
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	28	56	0	0	0	28	12	0	0	0	48	0	0	0	0	0	172	
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pedestrians		0				0					0					0	0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Railroad																		
Stopped Buses																		

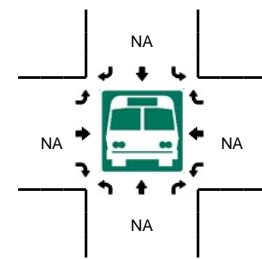
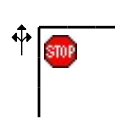
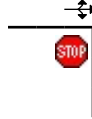
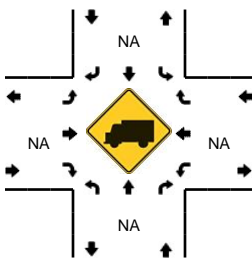
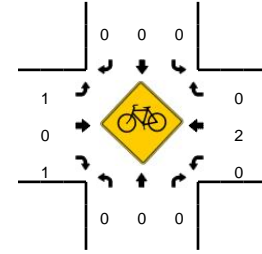
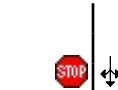
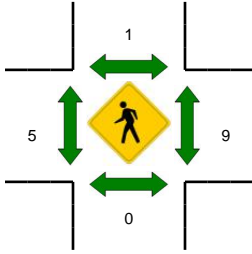
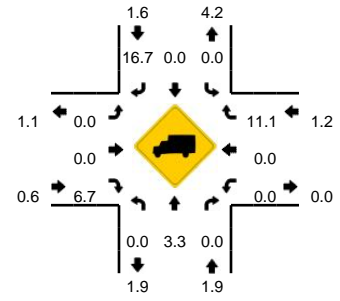
Comments:

LOCATION: SE Home Ave -- SE Monroe St
CITY/STATE: Milwaukie, OR

QC JOB #: 13168509
DATE: Wed, Jan 21 2015



Peak-Hour: 4:20 PM -- 5:20 PM
Peak 15-Min: 5:05 PM -- 5:20 PM

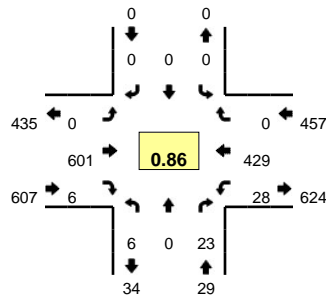


5-Min Count Period Beginning At	SE Home Ave (Northbound)				SE Home Ave (Southbound)				SE Monroe St (Eastbound)				SE Monroe St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	2	2	1	0	0	4	0	0	0	8	3	0	1	6	1	0	28	
4:05 PM	0	3	2	0	2	2	1	0	0	5	0	0	0	12	3	0	30	
4:10 PM	0	1	0	0	2	0	1	0	0	12	3	0	2	8	0	0	29	
4:15 PM	0	2	0	0	2	2	0	0	1	8	3	0	0	4	0	0	22	
4:20 PM	4	1	1	0	3	2	0	0	1	6	1	0	0	6	1	0	26	
4:25 PM	1	1	1	0	3	6	1	0	2	24	1	0	0	6	1	0	47	
4:30 PM	1	2	1	0	1	1	0	0	0	12	0	0	0	5	1	0	24	
4:35 PM	0	0	2	0	1	2	1	0	1	6	4	0	0	5	0	0	22	
4:40 PM	0	4	0	0	0	3	1	0	2	12	4	0	1	0	1	0	28	
4:45 PM	0	4	1	0	5	2	2	0	0	7	0	0	2	9	3	0	35	
4:50 PM	1	4	1	0	3	2	0	0	0	9	0	0	1	5	1	0	27	
4:55 PM	1	5	0	0	1	3	0	0	1	13	0	0	0	5	0	0	29	347
5:00 PM	0	2	0	0	4	2	0	0	0	12	0	0	0	6	0	0	26	345
5:05 PM	2	2	0	0	0	5	0	0	0	16	1	0	0	5	1	0	32	347
5:10 PM	1	1	1	0	0	2	1	0	1	9	2	0	0	7	0	0	25	343
5:15 PM	2	4	1	0	1	4	0	0	1	19	2	0	0	11	0	0	45	366
5:20 PM	0	3	0	0	0	2	0	0	3	9	4	0	1	2	1	0	25	365
5:25 PM	2	6	0	0	4	3	2	0	2	10	3	0	0	6	1	0	39	357
5:30 PM	1	2	1	0	3	2	0	0	0	4	1	0	1	3	0	0	18	351
5:35 PM	0	1	0	0	0	3	1	0	0	7	1	0	0	1	1	0	15	344
5:40 PM	0	4	1	0	2	3	2	0	0	9	3	0	0	8	2	0	34	350
5:45 PM	0	3	1	0	1	6	0	0	1	14	2	0	0	4	1	0	33	348
5:50 PM	0	0	0	0	3	1	0	0	0	8	0	0	1	5	0	0	18	339
5:55 PM	0	1	0	0	1	8	0	0	1	8	2	0	0	10	2	0	33	343
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	20	28	8	0	4	44	4	0	8	176	20	0	0	92	4	0	408	
Heavy Trucks	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad																		
Stopped Buses																		

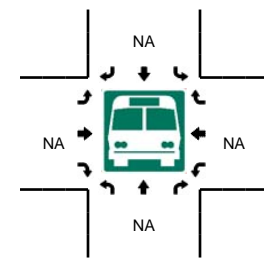
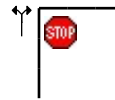
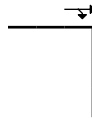
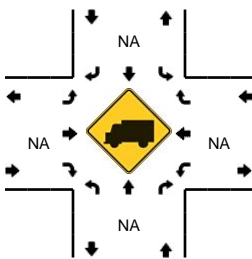
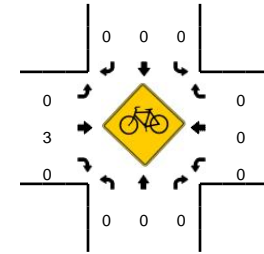
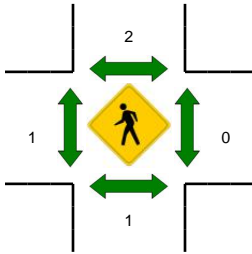
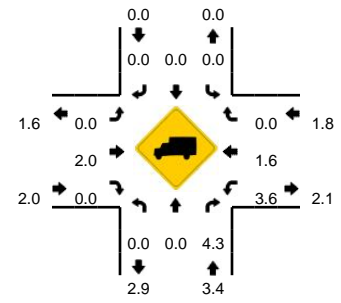
Comments:

LOCATION: SE Home Ave -- SE King Rd
CITY/STATE: Milwaukie, OR

QC JOB #: 13168510
DATE: Wed, Jan 21 2015



Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 5:15 PM -- 5:30 PM

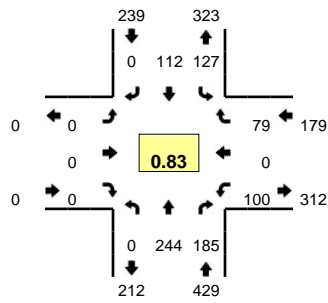


5-Min Count Period Beginning At	SE Home Ave (Northbound)				SE Home Ave (Southbound)				SE King Rd (Eastbound)				SE King Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	2	0	0	0	0	0	0	48	0	0	2	17	0	0	69	
4:05 PM	1	0	3	0	0	0	0	0	0	47	0	0	3	34	0	0	88	
4:10 PM	0	0	1	0	0	0	0	0	0	45	0	0	1	37	0	0	84	
4:15 PM	1	0	1	0	0	0	0	0	0	55	0	0	2	35	0	0	94	
4:20 PM	1	0	1	0	0	0	0	0	0	54	0	0	3	26	0	0	85	
4:25 PM	0	0	2	0	0	0	0	0	0	54	1	0	5	36	0	0	98	
4:30 PM	0	0	1	0	0	0	0	0	0	44	0	0	2	37	0	0	84	
4:35 PM	0	0	1	0	0	0	0	0	0	49	1	0	2	28	0	0	81	
4:40 PM	1	0	5	0	0	0	0	0	0	41	0	0	3	36	0	0	86	
4:45 PM	0	0	3	0	0	0	0	0	0	65	0	0	3	36	0	0	107	
4:50 PM	0	0	3	0	0	0	0	0	0	48	0	0	1	32	0	0	84	
4:55 PM	0	0	3	0	0	0	0	0	0	53	0	0	0	28	0	0	84	1044
5:00 PM	0	0	0	0	0	0	0	0	0	47	0	0	3	32	0	0	82	1057
5:05 PM	0	0	2	0	0	0	0	0	0	47	1	0	3	32	0	0	85	1054
5:10 PM	0	0	1	0	0	0	0	0	0	30	1	0	2	42	0	0	76	1046
5:15 PM	1	0	0	0	0	0	0	0	0	60	1	0	2	42	0	0	106	1058
5:20 PM	0	0	5	0	0	0	0	0	0	55	0	0	0	40	0	0	100	1073
5:25 PM	1	0	2	0	0	0	0	0	0	63	1	0	4	41	0	0	112	1087
5:30 PM	2	0	2	0	0	0	0	0	0	50	1	0	3	28	0	0	86	1089
5:35 PM	0	0	0	0	0	0	0	0	0	39	0	0	4	33	0	0	76	1084
5:40 PM	2	0	2	0	0	0	0	0	0	44	1	0	3	43	0	0	95	1093
5:45 PM	0	0	3	0	0	0	0	0	0	44	1	0	3	30	0	0	81	1067
5:50 PM	0	0	0	0	0	0	0	0	0	45	0	0	1	35	0	0	81	1064
5:55 PM	0	0	1	0	0	0	0	0	0	51	1	0	5	32	0	0	90	1070
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	8	0	28	0	0	0	0	0	0	712	8	0	24	492	0	0	1272	
Heavy Trucks	0	0	0	0	0	0	0	0	0	12	0	0	0	8	0	0	20	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad																		
Stopped Buses																		

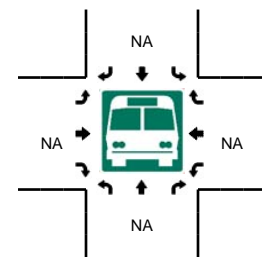
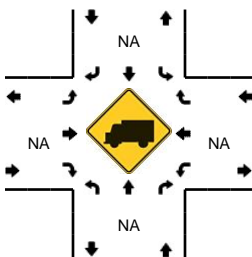
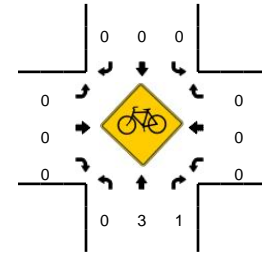
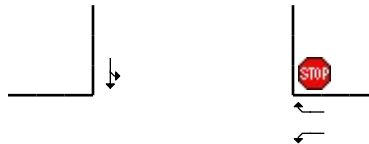
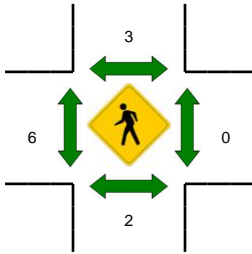
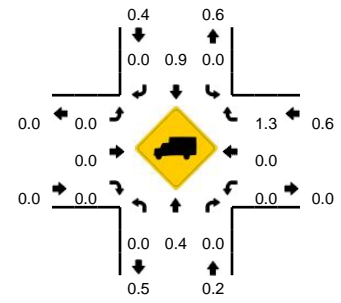
Comments:

LOCATION: SE 37th Ave -- SE Railroad Ave
CITY/STATE: Milwaukie, OR

QC JOB #: 13168511
DATE: Wed, Jan 21 2015



Peak-Hour: 4:20 PM -- 5:20 PM
Peak 15-Min: 4:40 PM -- 4:55 PM

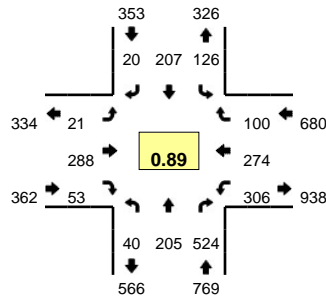


5-Min Count Period Beginning At	SE 37th Ave (Northbound)				SE 37th Ave (Southbound)				SE Railroad Ave (Eastbound)				SE Railroad Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	17	11	0	11	11	0	0	0	0	0	0	5	0	6	0	61	
4:05 PM	0	30	18	0	6	5	0	0	0	0	0	0	1	0	5	0	65	
4:10 PM	0	34	13	0	10	8	0	0	0	0	0	0	14	0	5	0	84	
4:15 PM	0	18	12	0	8	10	0	0	0	0	0	0	8	0	7	0	63	
4:20 PM	0	25	18	0	12	6	0	0	0	0	0	0	7	0	3	0	71	
4:25 PM	0	24	17	0	14	8	0	0	0	0	0	0	4	0	6	0	73	
4:30 PM	0	13	13	0	13	6	0	0	0	0	0	0	9	0	9	0	63	
4:35 PM	0	7	9	0	5	10	0	0	0	0	0	0	2	0	4	0	37	
4:40 PM	0	32	26	0	15	8	0	0	0	0	0	0	12	0	10	0	103	
4:45 PM	0	20	17	0	13	12	0	0	0	0	0	0	9	0	7	0	78	
4:50 PM	0	20	17	0	11	11	0	0	0	0	0	0	9	0	7	0	75	
4:55 PM	0	26	7	0	11	11	0	0	0	0	0	0	11	0	6	0	72	845
5:00 PM	0	16	16	0	5	7	0	0	0	0	0	0	10	0	7	0	61	845
5:05 PM	0	11	5	0	4	6	0	0	0	0	0	0	4	0	8	0	38	818
5:10 PM	0	33	26	0	8	16	0	0	0	0	0	0	5	0	6	0	94	828
5:15 PM	0	17	14	0	16	11	0	0	0	0	0	0	18	0	6	0	82	847
5:20 PM	0	18	6	0	15	7	0	0	0	0	0	0	15	0	10	0	71	847
5:25 PM	0	15	16	0	8	10	0	0	0	0	0	0	7	0	5	0	61	835
5:30 PM	0	9	13	0	9	8	0	0	0	0	0	0	10	0	10	0	59	831
5:35 PM	0	15	4	0	10	7	0	0	0	0	0	0	8	0	9	0	53	847
5:40 PM	0	13	14	0	10	11	0	0	0	0	0	0	3	0	4	0	55	799
5:45 PM	0	16	10	0	9	13	0	0	0	0	0	0	7	0	5	0	60	781
5:50 PM	0	11	10	0	7	6	0	0	0	0	0	0	12	0	14	0	60	766
5:55 PM	0	11	10	0	7	6	0	0	0	0	0	0	6	0	5	0	45	739
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	288	240	0	156	124	0	0	0	0	0	0	120	0	96	0	1024	
Heavy Trucks	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	8	
Pedestrians		0				12				4				0			16	
Bicycles	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
Railroad																		
Stopped Buses																		

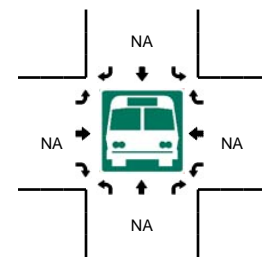
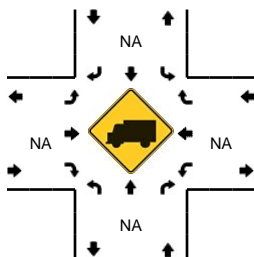
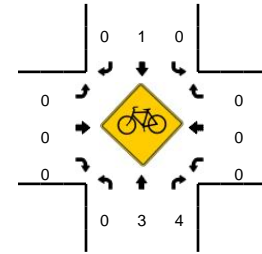
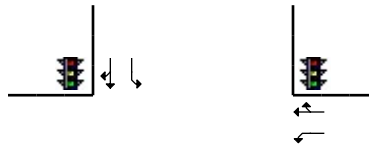
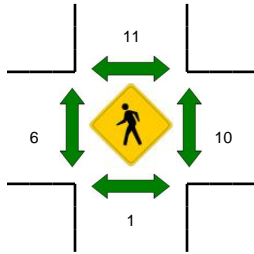
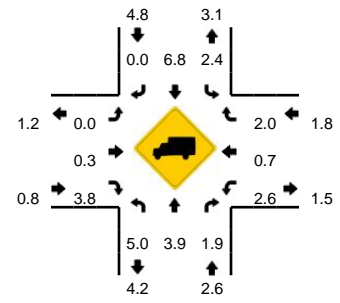
Comments:

LOCATION: SE Railroad Ave/SE Harmony Rd -- SE Linwood Ave/SE Harmony Rd
CITY/STATE: Milwaukie, OR

QC JOB #: 13196101
DATE: Tue, Feb 03 2015



Peak-Hour: 4:20 PM -- 5:20 PM
Peak 15-Min: 5:05 PM -- 5:20 PM

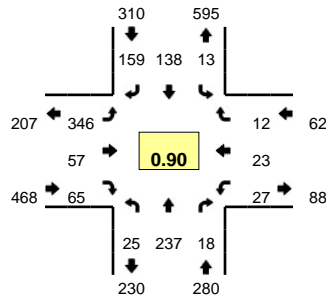


5-Min Count Period Beginning At	SE Railroad Ave/SE Harmony Rd (Northbound)				SE Railroad Ave/SE Harmony Rd (Southbound)				SE Linwood Ave/SE Harmony Rd (Eastbound)				SE Linwood Ave/SE Harmony Rd (Westbound)				Rd Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
3:50 PM	10	18	42	0	4	19	2	0	0	10	1	0	31	19	15	0	171	
3:55 PM	2	24	31	0	4	17	1	0	0	17	6	0	20	19	10	0	151	
4:00 PM	5	23	38	0	3	8	1	0	1	17	6	0	23	13	6	0	144	
4:05 PM	1	14	55	0	8	16	1	0	5	21	7	0	22	20	7	0	177	
4:10 PM	2	23	44	0	3	8	0	0	1	31	4	0	33	14	12	0	175	
4:15 PM	3	22	53	0	15	12	2	0	3	19	2	0	26	15	6	0	178	
4:20 PM	3	18	40	0	18	20	2	0	1	12	2	0	25	17	10	0	168	
4:25 PM	2	23	37	0	10	19	1	0	2	36	3	0	16	24	8	0	181	
4:30 PM	2	15	40	0	5	18	2	0	2	25	8	0	19	19	5	0	160	
4:35 PM	1	5	32	0	18	17	1	0	1	26	6	0	32	30	15	0	184	
4:40 PM	6	21	55	0	4	12	0	0	2	28	6	0	25	20	3	0	182	2019
4:45 PM	3	19	34	0	13	29	2	0	4	25	5	0	16	20	6	0	176	2047
4:50 PM	0	18	49	0	9	11	2	0	3	33	4	0	32	27	11	0	199	2075
4:55 PM	3	11	31	0	5	12	0	0	2	17	4	0	10	21	13	0	129	2053
5:00 PM	3	14	45	0	19	29	5	0	3	16	3	0	22	14	5	0	178	2087
5:05 PM	6	17	50	0	6	6	2	0	1	32	3	0	46	30	11	0	210	2120
5:10 PM	7	24	58	0	10	16	1	0	0	9	0	0	40	26	5	0	196	2141
5:15 PM	4	20	53	0	9	18	2	0	0	29	9	0	23	26	8	0	201	2164
5:20 PM	3	16	29	0	10	25	1	0	2	25	8	0	22	17	10	0	168	2164
5:25 PM	3	23	44	0	7	17	1	0	1	19	1	0	17	20	8	0	161	2144
5:30 PM	8	12	34	0	13	22	0	0	1	16	6	0	26	17	10	0	165	2149
5:35 PM	1	21	34	0	5	10	1	0	3	29	0	0	35	25	8	0	172	2137
5:40 PM	3	14	34	0	11	20	1	0	1	33	5	0	11	27	10	0	170	2125
5:45 PM	3	27	44	0	8	18	1	0	3	14	4	0	30	14	6	0	172	2121
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	68	244	644	0	100	160	20	0	4	280	48	0	436	328	96	0	2428	
Heavy Trucks	4	4	4		4	4	0		0	0	4		12	0	0		36	
Pedestrians						20				4				0				24
Bicycles	0	0	0		0	1	0		0	0	0		0	0	0			1
Railroad																		
Stopped Buses																		

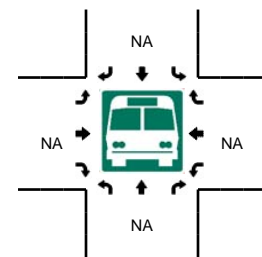
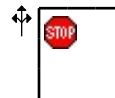
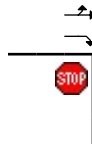
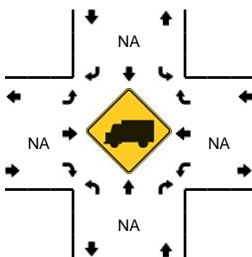
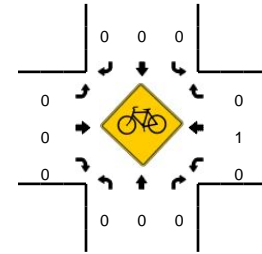
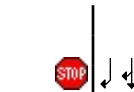
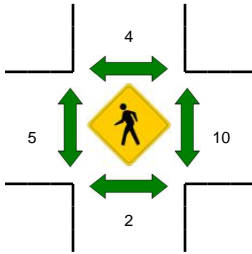
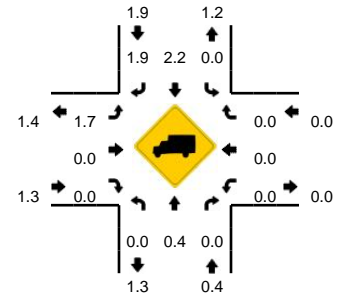
Comments:

LOCATION: SE 42nd Ave -- SE Harrison St
CITY/STATE: Milwaukie, OR

QC JOB #: 13196102
DATE: Tue, Feb 03 2015



Peak-Hour: 5:00 PM -- 6:00 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

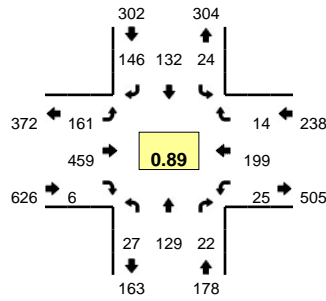


5-Min Count Period Beginning At	SE 42nd Ave (Northbound)				SE 42nd Ave (Southbound)				SE Harrison St (Eastbound)				SE Harrison St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:15 PM	0	26	1	0	1	16	17	0	24	3	4	0	1	0	1	0	94	
4:20 PM	1	25	2	0	1	10	6	0	20	3	3	0	3	0	2	0	76	
4:25 PM	2	28	0	0	1	7	12	0	20	3	4	0	0	2	1	0	80	
4:30 PM	0	20	0	0	0	15	14	0	21	1	3	0	2	2	0	0	78	
4:35 PM	1	24	2	0	1	13	7	0	28	4	4	0	0	1	0	0	85	
4:40 PM	3	15	2	0	3	14	13	0	26	4	6	0	4	1	0	0	91	977
4:45 PM	2	28	0	0	1	16	18	0	31	3	4	0	2	2	2	0	109	1002
4:50 PM	0	25	0	0	1	12	11	0	23	3	3	0	2	2	0	0	82	1009
4:55 PM	1	8	1	0	2	12	16	0	12	0	4	0	1	5	0	0	62	990
5:00 PM	3	26	4	0	1	11	17	0	31	5	6	0	1	1	1	0	107	1021
5:05 PM	1	36	2	0	0	10	13	0	33	2	5	0	1	5	1	0	109	1055
5:10 PM	3	26	1	0	2	4	11	0	30	6	6	0	3	1	3	0	96	1069
5:15 PM	1	15	1	0	1	12	13	0	28	7	5	0	3	2	0	0	88	1063
5:20 PM	1	17	0	0	3	18	14	0	26	4	4	0	2	4	2	0	95	1082
5:25 PM	1	9	1	0	2	9	16	0	32	4	9	0	2	1	1	0	87	1089
5:30 PM	3	20	2	0	0	11	11	0	21	1	4	0	0	0	3	0	76	1087
5:35 PM	4	21	2	0	0	14	8	0	34	4	8	0	2	2	0	0	99	1101
5:40 PM	2	20	2	0	0	10	17	0	32	9	3	0	4	2	1	0	102	1112
5:45 PM	1	17	1	0	1	15	13	0	34	7	7	0	3	2	0	0	101	1104
5:50 PM	3	16	1	0	1	12	18	0	25	4	6	0	3	2	0	0	91	1113
5:55 PM	2	14	1	0	2	12	8	0	20	4	2	0	3	1	0	0	69	1120
6:00 PM	1	20	0	0	1	3	8	0	26	3	1	0	3	1	1	0	68	1081
6:05 PM	1	16	1	0	1	10	12	0	21	3	4	0	4	1	0	0	74	1046
6:10 PM	1	19	1	0	1	11	8	0	31	3	8	0	3	2	0	0	88	1038
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	28	352	28	0	12	100	164	0	376	52	68	0	20	28	20	0	1248	
Heavy Trucks	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	8	
Pedestrians		0				8				8				8			24	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad																		
Stopped Buses																		

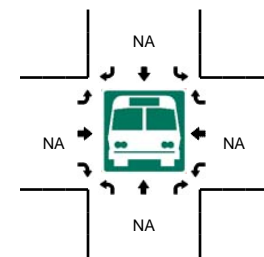
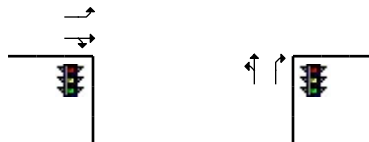
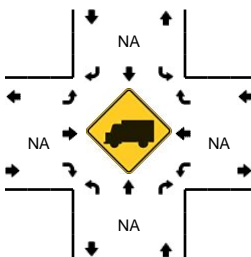
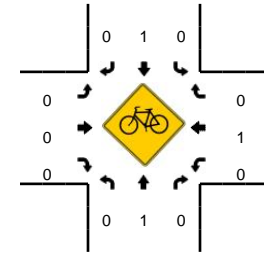
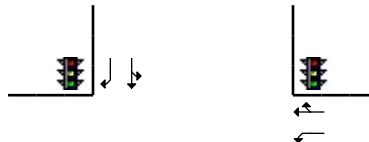
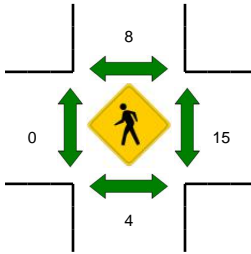
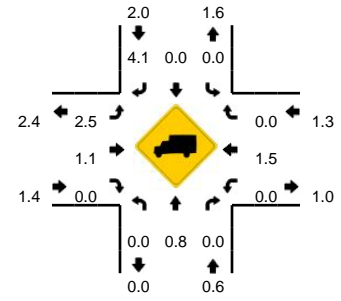
Comments:

LOCATION: SE 32nd Ave -- SE Harrison St
CITY/STATE: Milwaukie, OR

QC JOB #: 13196103
DATE: Tue, Feb 03 2015



Peak-Hour: 5:00 PM -- 6:00 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

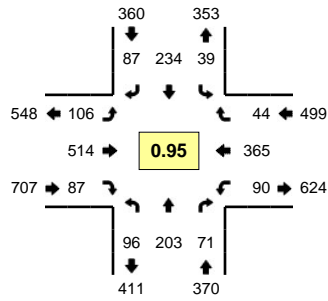


5-Min Count Period Beginning At	SE 32nd Ave (Northbound)				SE 32nd Ave (Southbound)				SE Harrison St (Eastbound)				SE Harrison St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:15 PM	1	11	3	0	0	8	15	0	16	35	0	0	1	18	0	0	108	
4:20 PM	4	7	1	0	1	14	13	0	7	25	0	0	2	11	0	0	85	
4:25 PM	6	9	4	0	2	20	11	0	4	19	0	0	0	9	1	0	85	
4:30 PM	6	13	5	0	3	13	11	0	10	33	0	0	2	9	0	0	105	
4:35 PM	3	7	0	0	1	9	17	0	13	31	1	0	2	13	0	0	97	
4:40 PM	2	13	1	0	1	15	16	0	6	47	1	0	2	23	1	0	128	1171
4:45 PM	3	17	0	0	1	12	13	0	12	38	1	0	0	21	2	0	120	1199
4:50 PM	0	4	4	0	1	9	10	0	12	16	1	0	3	13	1	0	74	1181
4:55 PM	0	8	3	0	3	12	10	0	8	17	0	0	3	17	2	0	83	1169
5:00 PM	2	14	1	0	2	14	13	0	24	43	0	0	3	23	2	0	141	1212
5:05 PM	2	11	2	0	1	7	13	0	19	52	0	0	4	12	1	0	124	1248
5:10 PM	3	15	1	0	4	10	15	0	9	31	2	0	0	21	0	0	111	1261
5:15 PM	1	8	1	0	2	9	10	0	18	48	0	0	1	18	0	0	116	1269
5:20 PM	3	11	3	0	2	16	21	0	14	30	0	0	3	21	1	0	125	1309
5:25 PM	2	11	2	0	2	12	11	0	9	39	1	0	3	13	4	0	109	1333
5:30 PM	3	10	1	0	2	10	6	0	14	31	1	0	2	15	1	0	96	1324
5:35 PM	1	10	2	0	1	13	11	0	8	44	0	0	2	16	0	0	108	1335
5:40 PM	2	11	2	0	3	9	11	0	16	43	2	0	1	12	0	0	112	1319
5:45 PM	5	7	3	0	3	10	5	0	12	38	0	0	2	22	1	0	108	1307
5:50 PM	3	13	4	0	1	13	16	0	9	27	0	0	2	18	1	0	107	1340
5:55 PM	0	8	0	0	1	9	14	0	9	33	0	0	2	8	3	0	87	1344
6:00 PM	0	11	3	0	3	14	9	0	9	23	0	0	1	14	0	0	87	1290
6:05 PM	4	11	2	0	2	10	10	0	7	37	0	0	2	14	0	0	99	1265
6:10 PM	4	6	0	0	3	9	3	0	11	30	0	0	1	13	1	0	81	1235
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	28	160	16	0	28	124	164	0	208	504	8	0	28	224	12	0	1504	
Heavy Trucks	0	0	0		0	0	4		4	4	0		0	0	0		12	
Pedestrians		0				12				0				12			24	
Bicycles	0	1	0		0	0	0		0	0	0		0	0	0		1	
Railroad																		
Stopped Buses																		

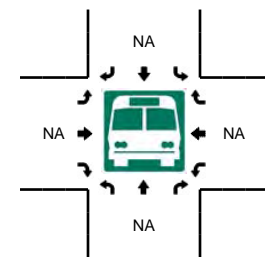
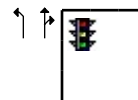
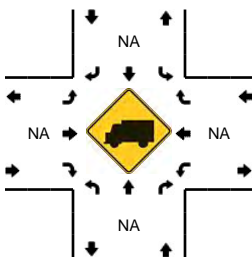
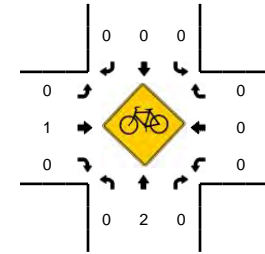
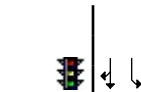
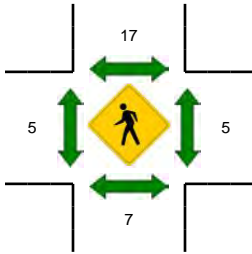
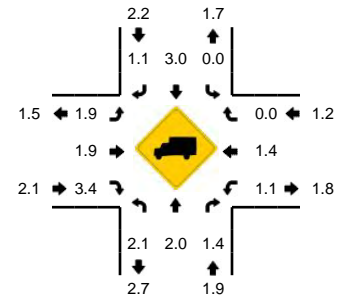
Comments:

LOCATION: Linwood Ave -- King Rd
CITY/STATE: Milwaukie, OR

QC JOB #: 10776902
DATE: Tue, Jun 12 2012



Peak-Hour: 5:00 PM -- 6:00 PM
Peak 15-Min: 5:30 PM -- 5:45 PM

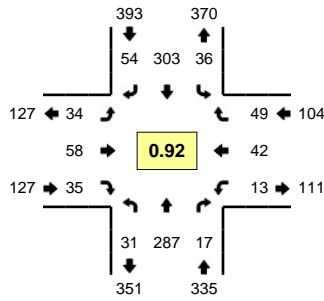


5-Min Count Period Beginning At	Linwood Ave (Northbound)				Linwood Ave (Southbound)				King Rd (Eastbound)				King Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	6	27	10	0	4	13	4	0	4	37	8	0	6	21	5	0	145	
4:05 PM	8	12	6	0	5	14	3	0	8	35	7	0	12	19	3	0	132	
4:10 PM	5	19	5	0	7	7	6	0	3	53	11	0	4	29	3	0	152	
4:15 PM	10	18	5	0	1	18	4	0	16	34	6	0	9	24	3	0	148	
4:20 PM	5	14	10	0	3	21	6	0	11	42	6	0	2	23	7	0	150	
4:25 PM	4	7	8	0	4	7	3	0	9	43	9	0	5	34	1	0	134	
4:30 PM	13	24	8	0	3	19	3	0	7	36	6	0	5	16	4	0	144	
4:35 PM	8	19	5	0	4	23	14	0	11	32	6	0	16	23	3	0	164	
4:40 PM	6	15	9	0	4	29	8	0	13	28	7	0	10	24	3	0	156	
4:45 PM	3	17	10	0	5	17	8	0	8	47	3	0	11	32	2	0	163	
4:50 PM	13	11	3	0	2	18	7	0	2	38	4	0	6	24	4	0	132	
4:55 PM	3	9	7	0	6	13	6	0	10	37	10	0	8	24	1	0	134	1754
5:00 PM	12	18	5	0	6	15	3	0	6	37	7	0	12	38	3	0	162	1771
5:05 PM	6	21	4	0	3	24	11	0	13	43	8	0	7	28	1	0	169	1808
5:10 PM	5	16	6	0	2	9	7	0	11	43	8	0	6	31	4	0	148	1804
5:15 PM	11	23	9	0	3	25	7	0	9	41	8	0	7	31	3	0	177	1833
5:20 PM	5	19	4	0	5	19	7	0	5	42	9	0	5	42	3	0	165	1848
5:25 PM	10	19	7	0	1	20	11	0	10	41	7	0	8	19	2	0	155	1869
5:30 PM	8	20	10	0	3	14	9	0	14	44	5	0	10	22	2	0	161	1886
5:35 PM	8	13	3	0	7	26	6	0	5	46	10	0	10	36	5	0	175	1897
5:40 PM	7	19	6	0	3	25	4	0	8	41	7	0	12	35	4	0	171	1912
5:45 PM	10	8	12	0	2	27	6	0	5	42	6	0	6	29	6	0	159	1908
5:50 PM	8	15	1	0	4	18	12	0	8	40	7	0	5	33	6	0	157	1933
5:55 PM	6	12	4	0	0	12	4	0	12	54	5	0	2	21	5	0	137	1936
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	92	208	76	0	52	260	76	0	108	524	88	0	128	372	44	0	2028	
Heavy Trucks	0	0	0	0	0	12	0	0	4	20	0	0	0	0	0	0	36	
Pedestrians		4				32				8				8			52	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad																		
Stopped Buses																		

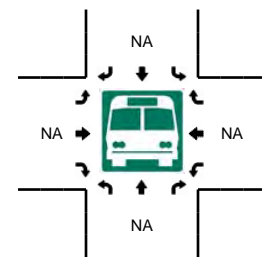
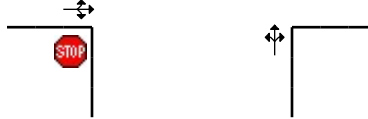
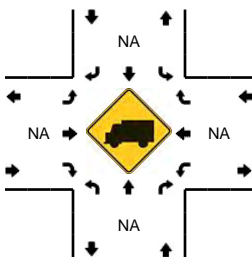
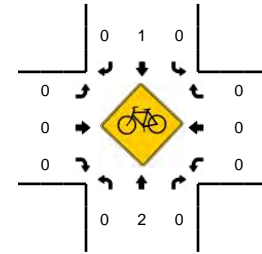
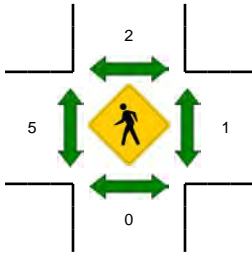
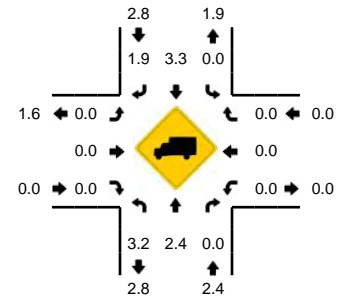
Comments:

LOCATION: Linwood Ave -- Monroe St
CITY/STATE: Milwaukie, OR

QC JOB #: 10776903
DATE: Tue, Jun 12 2012



Peak-Hour: 5:00 PM -- 6:00 PM
Peak 15-Min: 5:15 PM -- 5:30 PM



5-Min Count Period Beginning At	Linwood Ave (Northbound)				Linwood Ave (Southbound)				Monroe St (Eastbound)				Monroe St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	2	25	2	0	3	15	4	0	4	4	2	0	1	3	3	0	68	
4:05 PM	2	25	1	0	5	19	7	0	3	3	4	0	2	1	1	0	73	
4:10 PM	3	28	2	0	2	17	3	0	1	1	4	0	2	5	4	0	72	
4:15 PM	4	26	5	0	4	26	3	0	4	6	3	0	1	2	3	0	87	
4:20 PM	2	21	4	0	3	16	8	0	4	3	2	0	1	2	6	0	72	
4:25 PM	4	19	2	0	3	16	2	0	4	3	3	0	0	2	3	0	61	
4:30 PM	3	37	3	0	3	30	6	0	1	5	5	0	2	6	8	0	109	
4:35 PM	1	16	1	0	4	34	4	0	4	2	5	0	2	5	1	0	79	
4:40 PM	2	23	2	0	5	36	2	0	1	2	5	0	2	2	1	0	83	
4:45 PM	1	28	0	0	2	21	4	0	5	1	4	0	4	2	1	0	73	
4:50 PM	0	26	2	0	2	25	5	0	0	2	2	0	0	2	2	0	68	
4:55 PM	2	16	3	0	2	18	5	0	1	3	4	0	0	0	0	0	54	899
5:00 PM	1	27	1	0	5	20	5	0	4	5	2	0	0	1	6	0	77	908
5:05 PM	4	23	4	0	3	30	7	0	2	6	3	0	1	1	2	0	86	921
5:10 PM	1	27	1	0	0	17	2	0	1	3	6	0	2	5	2	0	67	916
5:15 PM	1	26	1	0	2	28	5	0	2	4	3	0	1	5	12	0	90	919
5:20 PM	3	37	1	0	4	25	2	0	1	3	2	0	1	4	4	0	87	934
5:25 PM	3	20	2	0	3	31	4	0	4	5	3	0	1	2	5	0	83	956
5:30 PM	4	25	3	0	5	17	7	0	4	9	2	0	0	4	3	0	83	930
5:35 PM	1	29	0	0	2	35	4	0	8	3	1	0	1	3	2	0	89	940
5:40 PM	2	12	2	0	4	33	5	0	2	3	3	0	0	2	4	0	72	929
5:45 PM	7	21	0	0	5	26	4	0	3	10	5	0	3	1	2	0	87	943
5:50 PM	1	17	2	0	2	27	5	0	1	3	0	0	2	5	3	0	68	943
5:55 PM	3	23	0	0	1	14	4	0	2	4	5	0	1	9	4	0	70	959
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
All Vehicles	28	332	16	0	36	336	44	0	28	48	32	0	12	44	84	0	1040	
Heavy Trucks	4	12	0		0	20	0		0	0	0		0	0	0		36	
Pedestrians		0				8				4				0			12	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Railroad																		
Stopped Buses																		

Comments:

Intersection Name: Route 224 @ Harrison

Controller 122049.2 Channel: 209 Drop: 11

System: TransCore TransSuite TCS

Controller Type: Voyage

Revision - Version -

TransCore Unified Controller Manager 10.0.3

Controller Function and Timing

Security, Sequence and Timing (Next/2/1, Next/2/2/3/A, Next/2/2/5)				
Security Code	0	0 = disabled, or 1000-9999	First All Red	8.0 0.0 to 25.5 seconds
Sequence	7	0 = sequential, 1 = quad left turn, 2-6 = special A-E, 7 = lead lag		
Power up Flash	0.0	0.0 - 25.5 seconds		

Initialization (Next/2/2/5)			Lead Lag (Next/2/2/3/A)			
Ring 1	Ring 2	Interval	Phases 1 - 2	Phases 3 - 4	Phases 5 - 6	Phases 7 - 8
1	5	0	2	2	2	2
Phase 1 - 8		0 = Red, 1 = Yel, 2 = Grn	0 = no reversal, 1 = reversal, 2 = by coord plan or clock			

(Next/2/2/3)		Phase Functions	(Next/2/2/1)								
Phase Used	1 2 - 4 5 6 - 8		Yellow Lock	- - - - -							
Restricted Phases	- - - - -		Min Recall	- 2 - - - 6 - -							
Exclusive Phases	- - - - -		Max Recall	- - - - -							
			Ped Recall	- - - - -							
			Red Lock	- - - - -							
			Max Out Recall Inhibit	1 2 3 4 5 6 7 8							
			Soft Recall	- - - - -							
			Free Walk Rest	- - - - -							
			Conditional Ped	- - - - -							
			Disable Inhibit Max Termination	- - - - -							
			Call To Non-Act 1	- - - - -							
			Call To Non-Act 2	- - - - -							

Phase Times (Next/2/2/2)									
Phase	1	2	3	4	5	6	7	8	
Movement	WB to	EB		SB	EB to	WB		NB	
Minimum Green	4	10	0	6	4	10	0	6	0 - 255 sec.
Passage	2.3	3.9	0.0	2.5	2.3	3.9	0.0	2.5	0.0 - 25.5 sec.
Yellow	3.5	5.0	0.0	3.5	3.5	5.0	0.0	3.5	0.0 - 25.5 sec.
Red Clearance	0.5	1.0	0.0	0.5	0.5	1.0	0.0	0.5	0.0 - 25.5 sec. or 0 - 255 sec.
Max 1	15	50	0	20	15	50	0	20	0 - 255 sec.
Max 2	15	50	0	20	15	50	0	20	0 - 255 sec.
Walk	0	10	0	8	0	7	0	9	0 - 255 sec.
Ped Clear	0	22	0	27	0	18	0	29	0 - 255 sec.
Seconds Per Actuation	0.0	1.2	0.0	0.0	0.0	1.2	0.0	0.0	0.0 - 25.5 sec.
Time Before Reduction	8	10	0	5	8	10	0	5	0 - 255 sec.
Time to Reduce	3	10	0	5	3	10	0	5	0 - 255 sec.
Minimum Gap	0.5	1.9	0.0	2.0	0.5	1.9	0.0	2.0	0.0 - 25.5 sec.
Max Variable Initial	4	15	0	6	4	15	0	6	0 - 255 sec.
Max Extend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec.
Auto Max	0	0	0	0	0	0	0	0	0 - 255 sec.
Advanced walk	0	0	0	0	0	0	0	0	0 - 255 sec.

Phase Times (Next/2/2/9/5)									
Inhibit Min Yellow									X = On
Red Decimal Off									X = On

Dual Entry (Next/2/2/9/3)

Mode	1	0 = off, 1 = on, 2 = Not Used, 3 = by coord plan, 4 = by time clock circuit 61
------	---	--

Dual Entry Ph -->	1	2	3	4	5	6	7	8	
Phase	0	0	0	8	0	0	0	8	0 = none, 1-8 = phase 1-8

Cond Service (Next/2/2/9/3/A)			5 Sec Head Logic (Next/2/2/9/4)						
	Mode	CS Max Time	X Omits Y		Anti-Trap			Yellow Blanking LT	
Phase			X:Y		Trap Protected Phase	Next Phase	Phase		
Phase 1	0	0							
Phase 3	0	0	6:1	0	1	0	< (5)	1	0
Phase 5	0	0	8:3	0	3	0	< (7)	3	0
Phase 7	0	0	2:5	0	5	0	< (1)	5	0
0 = off, 1 = C.S.On. 2 = C.S. on by TOD circuit 57, 3 = N/A, 4 = C.S. and C.R. On, 5 = C.R. on by TOD circuit 57.			4:7	0	7	0	< (3)	7	0
			0 = off, 1 = side call, 2 = no side call		X = On				

Other Controller Functions (Next/2/2/9/1, Next/2/2/9/5)

Inhibit Simultaneous Gap Out	1 - 3 4 5 - 7 8	
Last Car Passage	2	0 = recall phase, 1 = last car passage, 2 = NOT recall - Not last car passage
Red Revert (+2seconds)	0.0	0 - 25.5 sec.
Auto Ped Clear	Off	X = On
FDW thru Yellow	Off	X = On
Red Rest Delay	0.0	0 - 25.5 sec.
Change Sequence	Off	X = On (After a download without a power on - off cycle)
Advanced Flash Rate	60 FPM	0 = Disabled (60 FPM), 1 = 120 FPM
Ped Push Button Time	null	0 = Disable, 0 - 5 Seconds

Phase -->	1	2	3	4	5	6	7	8	
Red Clear Extension Detector	0	0	0	0	0	0	0	0	0 = none 1 - 32 = detector 1 - 32
Red Clear Extension Red Time	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0 - 25.5 sec.

Local Detectors (Next/2/2/4/1)

Detector Data

Detector	Description	Yellow Lock	Detector Inhibit	Call Phase	Extend Phase	Switch Phase	Delay Time	Stretch / Disconnect Time	Delay or Disconnect Mode
1				1	1	0	0	2.0	0
2				1	1	0	0	0.0	0
3				3	3	0	0	0.0	0
4				3	3	0	0	0.0	0
5				5	5	0	0	2.0	0
6				5	5	0	0	0.0	0
7				7	7	0	0	0.0	0
8				7	7	0	0	0.0	0
9				2	2	0	0	1.0	0
10				2	2	0	0	1.0	0
11				2	2	0	0	0.0	0
12				2	2	0	0	0.0	0
13				2	2	0	0	0.0	0
14				4	4	0	0	0.0	0
15				4	4	0	0	0.0	0
16				4	4	0	0	0.0	0
17				4	4	0	0	0.0	0
18				4	4	0	0	0.0	0
19				6	6	0	0	1.0	0
20				6	6	0	0	1.0	0
21				6	6	0	0	0.0	0
22				6	6	0	0	0.0	0
23				6	6	0	0	0.0	0
24				8	8	0	0	0.0	0
25				8	8	0	0	0.0	0
26				8	8	0	0	0.0	0
27				8	8	0	0	0.0	0
28				8	8	0	0	0.0	0
29				0	0	0	0	0.0	0
30				0	0	0	0	0.0	0
31				0	0	0	0	0.0	0
32				0	0	0	0	0.0	0

yellow lock, detector inhibit, - X = On; call, extend, phase - 0 = none 1 - 8 = phase 1 - 8; delay time - 0 - 255 sec
stretch / disconnect time - 0.0 - 25.5 sec.; delay or disconnect Mode - 0 -12

Local Detectors 33 - 64 (Next/2/2/4/6)

Detector Data

Detector	Description	Yellow Lock	Detector Inhibit	Call Phase	Extend Phase	Switch Phase	Delay Time	Stretch / Disconnect Time	Delay or Disconnect Mode
33		N/A	N/A	0	0	N/A	N/A	N/A	N/A
34		N/A	N/A	0	0	N/A	N/A	N/A	N/A
35		N/A	N/A	0	0	N/A	N/A	N/A	N/A
36		N/A	N/A	0	0	N/A	N/A	N/A	N/A
37		N/A	N/A	0	0	N/A	N/A	N/A	N/A
38		N/A	N/A	0	0	N/A	N/A	N/A	N/A
39		N/A	N/A	0	0	N/A	N/A	N/A	N/A
40		N/A	N/A	0	0	N/A	N/A	N/A	N/A
41		N/A	N/A	0	0	N/A	N/A	N/A	N/A
42		N/A	N/A	0	0	N/A	N/A	N/A	N/A
43		N/A	N/A	0	0	N/A	N/A	N/A	N/A
44		N/A	N/A	0	0	N/A	N/A	N/A	N/A
45		N/A	N/A	0	0	N/A	N/A	N/A	N/A
46		N/A	N/A	0	0	N/A	N/A	N/A	N/A
47		N/A	N/A	0	0	N/A	N/A	N/A	N/A
48		N/A	N/A	0	0	N/A	N/A	N/A	N/A
49		N/A	N/A	0	0	N/A	N/A	N/A	N/A
50		N/A	N/A	0	0	N/A	N/A	N/A	N/A
51		N/A	N/A	0	0	N/A	N/A	N/A	N/A
52		N/A	N/A	0	0	N/A	N/A	N/A	N/A
53		N/A	N/A	0	0	N/A	N/A	N/A	N/A
54		N/A	N/A	0	0	N/A	N/A	N/A	N/A
55		N/A	N/A	0	0	N/A	N/A	N/A	N/A
56		N/A	N/A	0	0	N/A	N/A	N/A	N/A
57		N/A	N/A	0	0	N/A	N/A	N/A	N/A
58		N/A	N/A	0	0	N/A	N/A	N/A	N/A
59		N/A	N/A	0	0	N/A	N/A	N/A	N/A
60		N/A	N/A	0	0	N/A	N/A	N/A	N/A
61		N/A	N/A	0	0	N/A	N/A	N/A	N/A
62		N/A	N/A	0	0	N/A	N/A	N/A	N/A
63		N/A	N/A	0	0	N/A	N/A	N/A	N/A
64		N/A	N/A	0	0	N/A	N/A	N/A	N/A

yellow lock, detector inhibit, - X = On; call, extend, phase - 0 = none 1 - 8 = phase 1 - 8; delay time - 0 - 255 sec
stretch / disconnect time - 0.0 - 25.5 sec.; delay or disconnect Mode - 0 -12

Detector Fail Monitor (Next/2/2/4/3)

	Fail Monitor Enable	Recall Phase	Min Counts	Max Counts	
Detector 1		0	0	0	
Detector 2		0	0	0	
Detector 3		0	0	0	
Detector 4		0	0	0	
Detector 5		0	0	0	
Detector 6		0	0	0	
Detector 7		0	0	0	
Detector 8		0	0	0	
Detector 9		0	0	0	
Detector 10		0	0	0	
Detector 11		0	0	0	
Detector 12		0	0	0	
Detector 13		0	0	0	
Detector 14		0	0	0	
Detector 15		0	0	0	fail monitor enable - X = On
Detector 16		0	0	0	recall phase - 0 = none 1 - 8 = phase 1 - 8
Detector 17		0	0	0	min, max counts - 0 - 999
Detector 18		0	0	0	
Detector 19		0	0	0	
Detector 20		0	0	0	
Detector 21		0	0	0	
Detector 22		0	0	0	
Detector 23		0	0	0	
Detector 24		0	0	0	
Detector 25		0	0	0	
Detector 26		0	0	0	
Detector 27		0	0	0	
Detector 28		0	0	0	
Detector 29		0	0	0	
Detector 30		0	0	0	
Detector 31		0	0	0	
Detector 32		0	0	0	

Detector Plans (Next/2/2/4/5)

Detector Plans (Next/2/2/4/5)										
Loop Number										
Plan Detectors		0	0	0	0	0	0	0	0	0 - 32, 0 = none, 1 - 32 = detectors 1- 32
Detector Plan 1	Call Phase	0	0	0	0	0	0	0	0	0 - 8, 0 = none, 1 - 8 = phase 1 - 8
	Extended Phase	0	0	0	0	0	0	0	0	
	Switch Phase	0	0	0	0	0	0	0	0	
	Delay Time	0	0	0	0	0	0	0	0	0 - 255 seconds
	Stretch / Disconnect Time	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 seconds
	Delay / Disconnect Mode	0	0	0	0	0	0	0	0	0 - 14
Detector Plan 2	Call Phase	0	0	0	0	0	0	0	0	0 - 8, 0 = none, 1 - 8 = phase 1 - 8
	Extended Phase	0	0	0	0	0	0	0	0	
	Switch Phase	0	0	0	0	0	0	0	0	
	Delay Time	0	0	0	0	0	0	0	0	0 - 255 seconds
	Stretch / Disconnect Time	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 seconds
	Delay / Disconnect Mode	0	0	0	0	0	0	0	0	0 - 14
Detector Plan 3	Call Phase	0	0	0	0	0	0	0	0	0 - 8, 0 = none, 1 - 8 = phase 1 - 8
	Extended Phase	0	0	0	0	0	0	0	0	
	Switch Phase	0	0	0	0	0	0	0	0	
	Delay Time	0	0	0	0	0	0	0	0	0 - 255 seconds
	Stretch / Disconnect Time	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 seconds
	Delay / Disconnect Mode	0	0	0	0	0	0	0	0	0 - 14

Detector Fail (Next/2/2/4/3)

Detector Fail Sample Period (all detectors)		0	0 - 255 minutes							
Dynamic Phase Length Fail Period		0	0 - 255 minutes							
Video Fail Inputs	1	2	3	4	5	6	7	8	0 = none, 1 - 8 = phase 1 - 8	
Phase Recalled	0	0	0	0	0	0	0	0		
System Detectors	1	2	3	4	5	6	7	8	0 = none, 1 - 32 = detector 1 - 32	
Local Detector	0	0	0	0	0	0	0	0		

Flash (Next/2/2/5)

Flash Entry						Flash Exit									
Ring 1		Ring 2		Interval		Ring 1		Ring 2		Interval					
0		0		red		1		5		0					
0 = none, phase 1 - 8				0 = red, 1 = yel, 2 = grn				0 = none, phase 1 - 8				0 = red, 1 = yel, 2 = grn			

Soft Flash (Next/2/2/5/A)

Phase	1	2	3	4	5	6	7	8					
	0	0	0	0	0	0	0	0	0				
Overlap	A	B	C	D	E	F	G	H	I	J	K	L	
	0	0	0	0	0	0	0	0	0	0	0	0	
0 = dark, 1=flash yel WIG, 2 = flash yel WAG, 3 = flash red WIG, 4 = flash red WAG													

Internal Logic	1	2	3	4	5	6	7	8	9	10	11	12	0 = normal, 1 = dark, 2 = flash WIG
Output	0	0	0	0	0	0	0	0	0	0	0	0	

Overlaps (Next/2/2/8/1)

Vehicle Overlaps	Phase or Movement	Phase or Movement								Extension Green	Clearance		A - D 0 = no overlap 1 = overlap 2 = 60 FPM 3 = Not ped overlap 4 = Comp Phase 5 = Prevent Ext 6 = Not Vehicle E - L 0 = no Overlap 1 = Overlap Green, Yellow, Red 0.0 - 25.5 sec
		1	2	3	4	5	6	7	8		Yellow	Red	
A		0	0	0	0	0	0	0	0	0.0	0.0	0.0	
B		0	0	0	0	0	0	0	0	0.0	0.0	0.0	
C		0	0	0	0	0	0	0	0	0.0	0.0	0.0	
D		0	0	0	0	0	0	0	0	0.0	0.0	0.0	
E		0	0	0	0	0	0	0	0	0.0	0.0	0.0	
F		0	0	0	0	0	0	0	0	0.0	0.0	0.0	
G		0	0	0	0	0	0	0	0	0.0	0.0	0.0	
H		0	0	0	0	0	0	0	0	0.0	0.0	0.0	
I		0	0	0	0	0	0	0	0	0.0	0.0	0.0	
J		0	0	0	0	0	0	0	0	0.0	0.0	0.0	
K		0	0	0	0	0	0	0	0	0.0	0.0	0.0	
L		0	0	0	0	0	0	0	0	0.0	0.0	0.0	

(Next/2/2/8/6/8)

Ped Overlaps (Next/2/2/8/5)

Overlap	Not Ped-Ped Overlaps								Ped Overlap	Phase	Recall	Walk	Ped Clear	Walk, Ped Clear 0 - 255 seconds
	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	<u>F</u>	<u>G</u>	<u>H</u>						
A	-	-	-	-	-	-	-	A	- - - - -		0	0		
B	-	-	-	-	-	-	-	B	- - - - -		0	0		
C	-	-	-	-	-	-	-	C	- - - - -		0	0		
D	-	-	-	-	-	-	-	D	- - - - -		0	0		
E	-	-	-	-	-	-	-	E	- - - - -		0	0		
F	-	-	-	-	-	-	-	F	- - - - -		0	0		
G	-	-	-	-	-	-	-	G	- - - - -		0	0		
H	-	-	-	-	-	-	-	H	- - - - -		0	0		

Advance Warning (Next/2/2/8/3)

	E	F	G	H	I	J	K	L	
Enable	0	0	0	0	0	0	0	0	0 = Disable, 1 = Enable
1st Conditional Overlaps	0	0	0	0	0	0	0	0	0 = None, 1 = OL E, 2 = OL F, 3 = OL G, 4 = OL H, 5 = OL I, 6 = OL J, 7 = OL K, 8 = OL L
2nd Conditional Overlaps	0	0	0	0	0	0	0	0	
Advance Deactivation Delay	0	0	0	0	0	0	0	0	0 - 99 sec

Flashing Yellow Left Turn Arrow (FYLTA) (Next/2/2/8/6)

Phase Pairs ->	1 - 2	3 - 4	5 - 6	7 - 8	
Enable	0	0	0	0	0 = off, 3 = 3 outputs, 4 = 4 outputs, 5 = 5 outputs
Even Omits Odd	0	0	0	0	0 / 1 / 2
Detector Switch Odd / Even	0	0	0	0	X = on, odd phase must be omitted
Red Transition	0.0	0.0	0.0	0.0	0.0 or 2.0 - 25.5 sec.
Red Extension	0.0	0.0	0.0	0.0	0.0 - 25.5 sec.
Return to GLTA	0	0	0	0	0 = off, 1 = max out, 2= yellow lock

Gap Dependent FYLTA					
Detector Input	0	0	0	0	0 = Disabled, 1 - 64 = Local Detector 1 - 64
Minimum Delay	0	0	0	0	0 - 255 seconds
Detector Gap Time	0.0	0.0	0.0	0.0	0 - 25.5 seconds.
Maximum Delay	0	0	0	0	0 - 255 seconds
Not Ped	0	0	0	0	

Dynamic Flashing Yellow Left Turn Arrow

Phase Pairs	1 - 2	3 - 4	5 - 6	7 - 8	
[Plan A] Detector Input	0	0	0	0	Detectors 1 - 64; 0 = disabled
Detector Gap Time	0.0	0.0	0.0	0.0	0.0 - 25.5
FYLTA Max Delay	0	0	0	0	0 - 255
FYLTA Min Delay	0	0	0	0	0 - 255
Not Ped Mode	0	0	0	0	0 - 4

[Plan B] Detector Input	0	0	0	0	Detectors 1 - 64; 0 = disabled
Detector Gap Time	0.0	0.0	0.0	0.0	0.0 - 25.5
FYLTA Max Delay	0	0	0	0	0 - 255
FYLTA Min Delay	0	0	0	0	0 - 255
Not Ped Mode	0	0	0	0	0 - 4

[Plan C] Detector Input	0	0	0	0	Detectors 1 - 64; 0 = disabled
Detector Gap Time	0.0	0.0	0.0	0.0	0.0 - 25.5
FYLTA Max Delay	0	0	0	0	0 - 255
FYLTA Min Delay	0	0	0	0	0 - 255
Not Ped Mode	0	0	0	0	0 - 4

[Plan D] Detector Input	0	0	0	0	Detectors 1 - 64; 0 = disabled
Detector Gap Time	0.0	0.0	0.0	0.0	0.0 - 25.5
FYLTA Max Delay	0	0	0	0	0 - 255
FYLTA Min Delay	0	0	0	0	0 - 255
Not Ped Mode	0	0	0	0	0 - 4

Service Plans 1 - 4 (Next/2/2/6)

Phase ->	1	2	3	4	5	6	7	8	
Call Mode	0	0	0	0	0	0	0	0	0
0 = actuated, 1 = omit, 2 = CNA, 3 = min recall, 4 = max recall, 5 = soft recall, 6 = ped recall, 7 = omit ped, 8 = red rest									
Min Green	0	0	0	0	0	0	0	0	0 - 255 sec
Passage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec.
Yellow	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec. or 3.0 - 25.5
Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec.
Walk	0	0	0	0	0	0	0	0	0 - 255 sec
Ped Clearance	0	0	0	0	0	0	0	0	0 - 255 sec

Call Mode	0	0	0	0	0	0	0	0	0
0 = actuated, 1 = omit, 2 = CNA, 3 = min recall, 4 = max recall, 5 = soft recall, 6 = ped recall, 7 = omit ped, 8 = red rest									
Min Green	0	0	0	0	0	0	0	0	0 - 255 sec
Passage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec.
Yellow	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec. or 3.0 - 25.5
Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec.
Walk	0	0	0	0	0	0	0	0	0 - 255 sec
Ped Clearance	0	0	0	0	0	0	0	0	0 - 255 sec

Call Mode	0	0	0	0	0	0	0	0	0
0 = actuated, 1 = omit, 2 = CNA, 3 = min recall, 4 = max recall, 5 = soft recall, 6 = ped recall, 7 = omit ped, 8 = red rest									
Min Green	0	0	0	0	0	0	0	0	0 - 255 sec
Passage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec.
Yellow	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec. or 3.0 - 25.5
Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec.
Walk	0	0	0	0	0	0	0	0	0 - 255 sec
Ped Clearance	0	0	0	0	0	0	0	0	0 - 255 sec

Call Mode	0	0	0	0	0	0	0	0	0
0 = actuated, 1 = omit, 2 = CNA, 3 = min recall, 4 = max recall, 5 = soft recall, 6 = ped recall, 7 = omit ped, 8 = red rest									
Min Green	0	0	0	0	0	0	0	0	0 - 255 sec
Passage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec.
Yellow	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec. or 3.0 - 25.5
Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec.
Walk	0	0	0	0	0	0	0	0	0 - 255 sec
Ped Clearance	0	0	0	0	0	0	0	0	0 - 255 sec

Service Plans 5 - 8 (Next/2/2/6)

Phase ->	1	2	3	4	5	6	7	8	
Call Mode	0	0	0	0	0	0	0	0	0
0 = actuated, 1 = omit, 2 = CNA, 3 = min recall, 4 = max recall, 5 = soft recall, 6 = ped recall, 7 = omit ped, 8 = red rest									
Min Green	0	0	0	0	0	0	0	0	0 - 255 sec
Passage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec.
Yellow	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec. or 3.0 - 25.5
Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec.
Walk	0	0	0	0	0	0	0	0	0 - 255 sec
Ped Clearance	0	0	0	0	0	0	0	0	0 - 255 sec

Call Mode	0	0	0	0	0	0	0	0	0
0 = actuated, 1 = omit, 2 = CNA, 3 = min recall, 4 = max recall, 5 = soft recall, 6 = ped recall, 7 = omit ped, 8 = red rest									
Min Green	0	0	0	0	0	0	0	0	0 - 255 sec
Passage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec.
Yellow	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec. or 3.0 - 25.5
Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec.
Walk	0	0	0	0	0	0	0	0	0 - 255 sec
Ped Clearance	0	0	0	0	0	0	0	0	0 - 255 sec

Call Mode	0	0	0	0	0	0	0	0	0
0 = actuated, 1 = omit, 2 = CNA, 3 = min recall, 4 = max recall, 5 = soft recall, 6 = ped recall, 7 = omit ped, 8 = red rest									
Min Green	0	0	0	0	0	0	0	0	0 - 255 sec
Passage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec.
Yellow	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec. or 3.0 - 25.5
Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec.
Walk	0	0	0	0	0	0	0	0	0 - 255 sec
Ped Clearance	0	0	0	0	0	0	0	0	0 - 255 sec

Call Mode	0	0	0	0	0	0	0	0	0
0 = actuated, 1 = omit, 2 = CNA, 3 = min recall, 4 = max recall, 5 = soft recall, 6 = ped recall, 7 = omit ped, 8 = red rest									
Min Green	0	0	0	0	0	0	0	0	0 - 255 sec
Passage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec.
Yellow	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec. or 3.0 - 25.5
Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec.
Walk	0	0	0	0	0	0	0	0	0 - 255 sec
Ped Clearance	0	0	0	0	0	0	0	0	0 - 255 sec

Max Plans (Next/2/2/7)

	Phase->	1	2	3	4	5	6	7	8	
MaxPlan 1	Normal Max	12	68	0	28	14	68	0	28	0 - 255 sec
	Fail Max	0	0	0	0	0	0	0	0	
	Max Extend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec
	Auto Max	0	0	0	0	0	0	0	0	0 - 255 sec
MaxPlan 2	Normal Max	18	44	0	26	18	44	0	26	0 - 255 sec
	Fail Max	0	0	0	0	0	0	0	0	
	Max Extend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec
	Auto Max	0	0	0	0	0	0	0	0	0 - 255 sec
MaxPlan 3	Normal Max	11	71	0	26	26	56	0	26	0 - 255 sec
	Fail Max	0	0	0	0	0	0	0	0	
	Max Extend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec
	Auto Max	0	0	0	0	0	0	0	0	0 - 255 sec
MaxPlan 4	Normal Max	0	0	0	0	0	0	0	0	0 - 255 sec
	Fail Max	0	0	0	0	0	0	0	0	
	Max Extend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec
	Auto Max	0	0	0	0	0	0	0	0	0 - 255 sec
MaxPlan 5	Normal Max	0	0	0	0	0	0	0	0	0 - 255 sec
	Fail Max	0	0	0	0	0	0	0	0	
	Max Extend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec
	Auto Max	0	0	0	0	0	0	0	0	0 - 255 sec
MaxPlan 6	Normal Max	0	0	0	0	0	0	0	0	0 - 255 sec
	Fail Max	0	0	0	0	0	0	0	0	
	Max Extend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec
	Auto Max	0	0	0	0	0	0	0	0	0 - 255 sec
MaxPlan 7	Normal Max	0	0	0	0	0	0	0	0	0 - 255 sec
	Fail Max	0	0	0	0	0	0	0	0	
	Max Extend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec
	Auto Max	0	0	0	0	0	0	0	0	0 - 255 sec
MaxPlan 8	Normal Max	0	0	0	0	0	0	0	0	0 - 255 sec
	Fail Max	0	0	0	0	0	0	0	0	
	Max Extend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec
	Auto Max	0	0	0	0	0	0	0	0	0 - 255 sec

CoordinationData

Coordination Modes (Next/2/3/1)

Flash Mode	33	0=off, 1=on, 33=time clock, 34=comm, 35=hardwire
Coordination Plan Mode	33	0=free, 1-32 = coord plan 1-32, 33=time clock, 34=comm, 35=hardwire
Offset Seeking Mode	2	0=add only, 1= dwell, 2=fastway
Late Ped	0	0 = off, 1 = on
Coord Walk Rest	0	0 = off, 1 = on, 2 = by tod circuit 160, 3 = end of walk, 4 = coord ped during perms
Zero Mode(TS2 only)	0	0=start of main street, 1=end of main street, 2=by TOD circuit 144, 3 = first green
(Next/2/3/4/1)		
Repeated Ped Service	0	0=off, 1=on (no coord ped), 2=on (beginning green coord ped), 3=on (coord ped always)
Omit Phase During Repeated Phase	- - - - -	-- = service allowed ; # = service prevented

Coordination Plans (Next/2/3/2)

Coord Plan	Coordination Phases		Cycle Length	Offset Time	Min Cycle Len Dwell Time	Permissive	Service Plan	Max Plan	
	Ring 1	Ring 2							
1	2	6	120	66	0	0	0	1	
2	2	6	100	76	0	0	0	2	
3	2	6	120	78	0	0	0	3	
4	0	0	0	0	0	0	0	0	
5	0	0	0	0	0	0	0	0	
6	0	0	0	0	0	0	0	0	
7	0	0	0	0	0	0	0	0	
8	0	0	0	0	0	0	0	0	
9	0	0	0	0	0	0	0	0	
10	0	0	0	0	0	0	0	0	
11	0	0	0	0	0	0	0	0	
12	0	0	0	0	0	0	0	0	
13	0	0	0	0	0	0	0	0	
14	0	0	0	0	0	0	0	0	
15	0	0	0	0	0	0	0	0	
16	0	0	0	0	0	0	0	0	
17	0	0	0	0	0	0	0	0	
18	0	0	0	0	0	0	0	0	
19	0	0	0	0	0	0	0	0	
20	0	0	0	0	0	0	0	0	
21	0	0	0	0	0	0	0	0	
22	0	0	0	0	0	0	0	0	
23	0	0	0	0	0	0	0	0	
24	0	0	0	0	0	0	0	0	
25	0	0	0	0	0	0	0	0	
26	0	0	0	0	0	0	0	0	
27	0	0	0	0	0	0	0	0	
28	0	0	0	0	0	0	0	0	
29	0	0	0	0	0	0	0	0	
30	0	0	0	0	0	0	0	0	
31	0	0	0	0	0	0	0	0	
32	0	0	0	0	0	0	0	0	
	0 - 8		0 - 255 sec				0 - 8		

Coordination Plans cont. (Next/2/3/2)

Coord Plan	Use FO for timing	Force Off / Split Times (TS2)								Yield Points / Actuated Times (TS2)	
		1	2	3	4	5	6	7	8	Ring 1	Ring 2
1		16	72	0	32	16	72	0	32	0	16
2		22	48	0	30	22	48	0	30	0	22
3		15	75	0	30	30	60	0	30	0	15
4		0	0	0	0	0	0	0	0	0	0
5		0	0	0	0	0	0	0	0	0	0
6		0	0	0	0	0	0	0	0	0	0
7		0	0	0	0	0	0	0	0	0	0
8		0	0	0	0	0	0	0	0	0	0
9		0	0	0	0	0	0	0	0	0	0
10		0	0	0	0	0	0	0	0	0	0
11		0	0	0	0	0	0	0	0	0	0
12		0	0	0	0	0	0	0	0	0	0
13		0	0	0	0	0	0	0	0	0	0
14		0	0	0	0	0	0	0	0	0	0
15		0	0	0	0	0	0	0	0	0	0
16		0	0	0	0	0	0	0	0	0	0
17		0	0	0	0	0	0	0	0	0	0
18		0	0	0	0	0	0	0	0	0	0
19		0	0	0	0	0	0	0	0	0	0
20		0	0	0	0	0	0	0	0	0	0
21		0	0	0	0	0	0	0	0	0	0
22		0	0	0	0	0	0	0	0	0	0
23		0	0	0	0	0	0	0	0	0	0
24		0	0	0	0	0	0	0	0	0	0
25		0	0	0	0	0	0	0	0	0	0
26		0	0	0	0	0	0	0	0	0	0
27		0	0	0	0	0	0	0	0	0	0
28		0	0	0	0	0	0	0	0	0	0
29		0	0	0	0	0	0	0	0	0	0
30		0	0	0	0	0	0	0	0	0	0
31		0	0	0	0	0	0	0	0	0	0
32		0	0	0	0	0	0	0	0	0	0
0 - 255 sec * = force offs and yield points											

Circuit Mapping (Next/2/3/3)

Circuit Map	Coord Plan	Time Clock Circuit							
		1	2	3	4	5	6	7	8
1	1	97	0	0	0	0	0	0	0
2	2	97	0	0	0	0	0	0	0
3	3	97	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0

coord plan - 0 = free, 1 - 32 = coord plan 1 - 32, 33 = any, 34 none selected
time clock circuits - 0 = not used, or circuits 6 - 199

Dynamic Phase Lengths (Next/2/3/4/4)

Phase ->	1	2	3	4	5	6	7	8	
Back Detector	1	1	1	1	1	1	1	1	0 = none, 1-32 = detector 1-32
Lane Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0 = none, 0.5 - 5.0
Check Out Detector	0	0	0	0	0	0	0	0	0 = none, 1-32 = detector 1-32
Coord Delta Force Off	Set A	0	0	0	0	0	0	0	0 - 255 sec
	Set B	0	0	0	0	0	0	0	
	Set C	0	0	0	0	0	0	0	
	Set D	0	0	0	0	0	0	0	
Free Delta Max	Set A	0	0	0	0	0	0	0	
	Set B	0	0	0	0	0	0	0	
	Set C	0	0	0	0	0	0	0	
	Set D	0	0	0	0	0	0	0	

Auto Permissive Min Green (Next/2/3/4/3)

Phase ->	1	2	3	4	5	6	7	8	
Auto Perm Min Green	0	0	0	0	0	0	0	0	0 - 255 sec.

Platoon Progression (Next/2/3/4/5)

Entry Local Only			Master Local Only		
Platoon Max	0	0 - 255 sec	Smoothing Factor	0.0	0.0 - 1.0
Min Platoon Green	0	0 - 255 sec			
Entry Detector Gap	0.0	0.0 - 25.5 sec			
Minimum Platoon Cycle	0	0 - 255 sec			

Inbound			Outbound		
Only for Entry Inbound Local or Master Local			Only for Entry Outbound Local or Master Local		
Entry IB Local also Last OB Local	0	0 - 50	Entry OB Local also Last IB Local	0	0 - 50
Speed	0	0 - 55 mph	Speed	0	0 - 55 mph
Distance from Entry Local	0	0 - 65000 feet	Distance from Entry Local	0	0 - 65000 feet

Entry Local Only				Entry Local Only			
Distance from Entry Local Detector	0		0 - 999 feet	Distance from Entry Local Detector	0		0 - 999 feet
Entry Local Detector	0	0	0 - 32	Entry Local Detector	0	0	0 - 32

Master Local				Master Local			
Master Mid - System Critical Detectors	0	0	0 - 16	Master Mid - System Critical Detectors	0	0	0 - 16

Force Off Percents

Inbound	1	3	4	5	7	8	Outbound	1	3	4	5	7	8
Split 1	0	0	0	0	0	0	Split 1	0	0	0	0	0	0
Split 2	0	0	0	0	0	0	Split 2	0	0	0	0	0	0
	0 - 100%							0 - 100%					

Time of Day Data (Next/2/4/1)

Day Program

	Day Prog	Time	Coord Plan or Circuit	Coord Plan # or Circuit #	Circuit Abbrev	State On/Off
1	1	06:00	Coord Plan	1	CL1	
2	1	09:30	Coord Plan	2	CL2	
3	1	14:45	Coord Plan	3	CL4	
4	1	18:30	Coord Plan	2	CL2	
5	1	20:00	Coord Plan	0	None / Coord Plan	
6	2	09:00	Coord Plan	2	CL2	
7	2	20:00	Coord Plan	0	None / Coord Plan	
8	0	00:00	Circuit	0	None / Coord Plan	
9	0	00:00	Circuit	0	None / Coord Plan	
10	0	00:00	Circuit	0	None / Coord Plan	
11	0	00:00	Circuit	0	None / Coord Plan	
12	0	00:00	Circuit	0	None / Coord Plan	
13	0	00:00	Circuit	0	None / Coord Plan	
14	0	00:00	Circuit	0	None / Coord Plan	
15	0	00:00	Circuit	0	None / Coord Plan	
16	0	00:00	Circuit	0	None / Coord Plan	
17	0	00:00	Circuit	0	None / Coord Plan	
18	0	00:00	Circuit	0	None / Coord Plan	
19	0	00:00	Circuit	0	None / Coord Plan	
20	0	00:00	Circuit	0	None / Coord Plan	
21	0	00:00	Circuit	0	None / Coord Plan	
22	0	00:00	Circuit	0	None / Coord Plan	
23	0	00:00	Circuit	0	None / Coord Plan	
24	0	00:00	Circuit	0	None / Coord Plan	
25	0	00:00	Circuit	0	None / Coord Plan	
26	0	00:00	Circuit	0	None / Coord Plan	
27	0	00:00	Circuit	0	None / Coord Plan	
28	0	00:00	Circuit	0	None / Coord Plan	
29	0	00:00	Circuit	0	None / Coord Plan	
30	0	00:00	Circuit	0	None / Coord Plan	
31	0	00:00	Circuit	0	None / Coord Plan	
32	0	00:00	Circuit	0	None / Coord Plan	
33	0	00:00	Circuit	0	None / Coord Plan	
34	0	00:00	Circuit	0	None / Coord Plan	
35	0	00:00	Circuit	0	None / Coord Plan	
36	0	00:00	Circuit	0	None / Coord Plan	
37	0	00:00	Circuit	0	None / Coord Plan	
38	0	00:00	Circuit	0	None / Coord Plan	
39	0	00:00	Circuit	0	None / Coord Plan	
40	0	00:00	Circuit	0	None / Coord Plan	
	1 - 15	hh:mm	X = On = Coord Plan	coord plan 0 - 32 or circuit 1-199		X = On

Time of Day Data (Next/2/4/1)

Day Program

	Day Prog	Time	Coord Plan or Circuit	Coord Plan # or Circuit #	Circuit Abbrev	State On/Off
41	0	00:00	Circuit	0	None / Coord Plan	
42	0	00:00	Circuit	0	None / Coord Plan	
43	0	00:00	Circuit	0	None / Coord Plan	
44	0	00:00	Circuit	0	None / Coord Plan	
45	0	00:00	Circuit	0	None / Coord Plan	
46	0	00:00	Circuit	0	None / Coord Plan	
47	0	00:00	Circuit	0	None / Coord Plan	
48	0	00:00	Circuit	0	None / Coord Plan	
49	0	00:00	Circuit	0	None / Coord Plan	
50	0	00:00	Circuit	0	None / Coord Plan	
51	0	00:00	Circuit	0	None / Coord Plan	
52	0	00:00	Circuit	0	None / Coord Plan	
53	0	00:00	Circuit	0	None / Coord Plan	
54	0	00:00	Circuit	0	None / Coord Plan	
55	0	00:00	Circuit	0	None / Coord Plan	
56	0	00:00	Circuit	0	None / Coord Plan	
57	0	00:00	Circuit	0	None / Coord Plan	
58	0	00:00	Circuit	0	None / Coord Plan	
59	0	00:00	Circuit	0	None / Coord Plan	
60	0	00:00	Circuit	0	None / Coord Plan	
61	0	00:00	Circuit	0	None / Coord Plan	
62	0	00:00	Circuit	0	None / Coord Plan	
63	0	00:00	Circuit	0	None / Coord Plan	
64	0	00:00	Circuit	0	None / Coord Plan	
65	0	00:00	Circuit	0	None / Coord Plan	
66	0	00:00	Circuit	0	None / Coord Plan	
67	0	00:00	Circuit	0	None / Coord Plan	
68	0	00:00	Circuit	0	None / Coord Plan	
69	0	00:00	Circuit	0	None / Coord Plan	
70	0	00:00	Circuit	0	None / Coord Plan	
71	0	00:00	Circuit	0	None / Coord Plan	
72	0	00:00	Circuit	0	None / Coord Plan	
73	0	00:00	Circuit	0	None / Coord Plan	
74	0	00:00	Circuit	0	None / Coord Plan	
75	0	00:00	Circuit	0	None / Coord Plan	
76	0	00:00	Circuit	0	None / Coord Plan	
77	0	00:00	Circuit	0	None / Coord Plan	
78	0	00:00	Circuit	0	None / Coord Plan	
79	0	00:00	Circuit	0	None / Coord Plan	
80	0	00:00	Circuit	0	None / Coord Plan	
	1 - 15	hh:mm	X = On = Coord Plan	coord plan 0 - 32 or circuit 1-199		X = On

Time of Day Data (Next/2/4/1)

Day Program

	Day Prog	Time	Coord Plan or Circuit	Coord Plan # or Circuit #	Circuit Abbrev	State On/Off
81	0	00:00	Circuit	0	None / Coord Plan	
82	0	00:00	Circuit	0	None / Coord Plan	
83	0	00:00	Circuit	0	None / Coord Plan	
84	0	00:00	Circuit	0	None / Coord Plan	
85	0	00:00	Circuit	0	None / Coord Plan	
86	0	00:00	Circuit	0	None / Coord Plan	
87	0	00:00	Circuit	0	None / Coord Plan	
88	0	00:00	Circuit	0	None / Coord Plan	
89	0	00:00	Circuit	0	None / Coord Plan	
90	0	00:00	Circuit	0	None / Coord Plan	
91	0	00:00	Circuit	0	None / Coord Plan	
92	0	00:00	Circuit	0	None / Coord Plan	
93	0	00:00	Circuit	0	None / Coord Plan	
94	0	00:00	Circuit	0	None / Coord Plan	
95	0	00:00	Circuit	0	None / Coord Plan	
96	0	00:00	Circuit	0	None / Coord Plan	
97	0	00:00	Circuit	0	None / Coord Plan	
98	0	00:00	Circuit	0	None / Coord Plan	
99	0	00:00	Circuit	0	None / Coord Plan	
100	0	00:00	Circuit	0	None / Coord Plan	
101	0	00:00	Circuit	0	None / Coord Plan	
102	0	00:00	Circuit	0	None / Coord Plan	
103	0	00:00	Circuit	0	None / Coord Plan	
104	0	00:00	Circuit	0	None / Coord Plan	
105	0	00:00	Circuit	0	None / Coord Plan	
106	0	00:00	Circuit	0	None / Coord Plan	
107	0	00:00	Circuit	0	None / Coord Plan	
108	0	00:00	Circuit	0	None / Coord Plan	
109	0	00:00	Circuit	0	None / Coord Plan	
110	0	00:00	Circuit	0	None / Coord Plan	
111	0	00:00	Circuit	0	None / Coord Plan	
112	0	00:00	Circuit	0	None / Coord Plan	
113	0	00:00	Circuit	0	None / Coord Plan	
114	0	00:00	Circuit	0	None / Coord Plan	
115	0	00:00	Circuit	0	None / Coord Plan	
116	0	00:00	Circuit	0	None / Coord Plan	
117	0	00:00	Circuit	0	None / Coord Plan	
118	0	00:00	Circuit	0	None / Coord Plan	
119	0	00:00	Circuit	0	None / Coord Plan	
120	0	00:00	Circuit	0	None / Coord Plan	
	1 - 15	hh:mm	X = On = Coord Plan	coord plan 0 - 32 or circuit 1-199		X = On

Time of Day Data (Next/2/4/1)

Day Program

	Day Prog	Time	Coord Plan or Circuit	Coord Plan # or Circuit #	Circuit Abbrev	State On/Off
121	0	00:00	Circuit	0	None / Coord Plan	
122	0	00:00	Circuit	0	None / Coord Plan	
123	0	00:00	Circuit	0	None / Coord Plan	
124	0	00:00	Circuit	0	None / Coord Plan	
125	0	00:00	Circuit	0	None / Coord Plan	
126	0	00:00	Circuit	0	None / Coord Plan	
127	0	00:00	Circuit	0	None / Coord Plan	
128	0	00:00	Circuit	0	None / Coord Plan	
129	0	00:00	Circuit	0	None / Coord Plan	
130	0	00:00	Circuit	0	None / Coord Plan	
131	0	00:00	Circuit	0	None / Coord Plan	
132	0	00:00	Circuit	0	None / Coord Plan	
133	0	00:00	Circuit	0	None / Coord Plan	
134	0	00:00	Circuit	0	None / Coord Plan	
135	0	00:00	Circuit	0	None / Coord Plan	
136	0	00:00	Circuit	0	None / Coord Plan	
137	0	00:00	Circuit	0	None / Coord Plan	
138	0	00:00	Circuit	0	None / Coord Plan	
139	0	00:00	Circuit	0	None / Coord Plan	
140	0	00:00	Circuit	0	None / Coord Plan	
141	0	00:00	Circuit	0	None / Coord Plan	
142	0	00:00	Circuit	0	None / Coord Plan	
143	0	00:00	Circuit	0	None / Coord Plan	
144	0	00:00	Circuit	0	None / Coord Plan	
145	0	00:00	Circuit	0	None / Coord Plan	
146	0	00:00	Circuit	0	None / Coord Plan	
147	0	00:00	Circuit	0	None / Coord Plan	
148	0	00:00	Circuit	0	None / Coord Plan	
149	0	00:00	Circuit	0	None / Coord Plan	
150	0	00:00	Circuit	0	None / Coord Plan	
151	0	00:00	Circuit	0	None / Coord Plan	
152	0	00:00	Circuit	0	None / Coord Plan	
153	0	00:00	Circuit	0	None / Coord Plan	
154	0	00:00	Circuit	0	None / Coord Plan	
155	0	00:00	Circuit	0	None / Coord Plan	
156	0	00:00	Circuit	0	None / Coord Plan	
157	0	00:00	Circuit	0	None / Coord Plan	
158	0	00:00	Circuit	0	None / Coord Plan	
159	0	00:00	Circuit	0	None / Coord Plan	
160	0	00:00	Circuit	0	None / Coord Plan	
	1 - 15	hh:mm	X = On = Coord Plan	coord plan 0 - 32 or circuit 1-199		X = On

Time of Day Data (Next/2/4/1)

Day Program

	Day Prog	Time	Coord Plan or Circuit	Coord Plan # or Circuit #	Circuit Abbrev	State On/Off
161	0	00:00	Circuit	0	None / Coord Plan	
162	0	00:00	Circuit	0	None / Coord Plan	
163	0	00:00	Circuit	0	None / Coord Plan	
164	0	00:00	Circuit	0	None / Coord Plan	
165	0	00:00	Circuit	0	None / Coord Plan	
166	0	00:00	Circuit	0	None / Coord Plan	
167	0	00:00	Circuit	0	None / Coord Plan	
168	0	00:00	Circuit	0	None / Coord Plan	
169	0	00:00	Circuit	0	None / Coord Plan	
170	0	00:00	Circuit	0	None / Coord Plan	
171	0	00:00	Circuit	0	None / Coord Plan	
172	0	00:00	Circuit	0	None / Coord Plan	
173	0	00:00	Circuit	0	None / Coord Plan	
174	0	00:00	Circuit	0	None / Coord Plan	
175	0	00:00	Circuit	0	None / Coord Plan	
176	0	00:00	Circuit	0	None / Coord Plan	
177	0	00:00	Circuit	0	None / Coord Plan	
178	0	00:00	Circuit	0	None / Coord Plan	
179	0	00:00	Circuit	0	None / Coord Plan	
180	0	00:00	Circuit	0	None / Coord Plan	
181	0	00:00	Circuit	0	None / Coord Plan	
182	0	00:00	Circuit	0	None / Coord Plan	
183	0	00:00	Circuit	0	None / Coord Plan	
184	0	00:00	Circuit	0	None / Coord Plan	
185	0	00:00	Circuit	0	None / Coord Plan	
186	0	00:00	Circuit	0	None / Coord Plan	
187	0	00:00	Circuit	0	None / Coord Plan	
188	0	00:00	Circuit	0	None / Coord Plan	
189	0	00:00	Circuit	0	None / Coord Plan	
190	0	00:00	Circuit	0	None / Coord Plan	
191	0	00:00	Circuit	0	None / Coord Plan	
192	0	00:00	Circuit	0	None / Coord Plan	
193	0	00:00	Circuit	0	None / Coord Plan	
194	0	00:00	Circuit	0	None / Coord Plan	
195	0	00:00	Circuit	0	None / Coord Plan	
196	0	00:00	Circuit	0	None / Coord Plan	
197	0	00:00	Circuit	0	None / Coord Plan	
198	0	00:00	Circuit	0	None / Coord Plan	
199	0	00:00	Circuit	0	None / Coord Plan	
200	0	00:00	Circuit	0	None / Coord Plan	
	1 - 15	hh:mm	X = On = Coord Plan	coord plan 0 - 32 or circuit 1-199		X = On

CIRCUIT OVERRIDES 1 - 100 (Next/2/4/4)

1 - Coord Line 1	CL1	2 = TOD	51 - Ped Omit 3	PO3	2 = TOD
2 - Coord Line 2	CL2	2 = TOD	52 - Ped Omit 4	PO4	2 = TOD
3 - Coord Line 4	CL4	2 = TOD	53 - Ped Omit 5	PO5	2 = TOD
4 - Coord Line 8	CL8	2 = TOD	54 - Ped Omit 6	PO6	2 = TOD
5 - Coord Line 16	C16	2 = TOD	55 - Ped Omit 7	PO7	2 = TOD
6 - Coordinated Operation	CRD	2 = TOD	56 - Ped Omit 8	PO8	2 = TOD
7 - Soft Flash	SFL	2 = TOD	57 - Conditional Service	CVS	2 = TOD
8 - Enable System Relays	ESR	2 = TOD	58 - Inhibit Simultaneous Gap Out	ISG	1 = On
9 - Call to Non Actuated Ring 1	CN1	2 = TOD	59 - Inhibit Hardwire	HWI	2 = TOD
10 - Call to Non Actuated Ring 2	CN2	2 = TOD	60 - Ped Override Mode	POM	1 = On
11 - Walk Rest Modifier	WRM	2 = TOD	61 - Dual Entry	DLE	1 = On
12 - Min Recall	MIN	2 = TOD	62 - Exclusive Ped	EPD	2 = TOD
13 - Max 2 Both Rings	MX2	2 = TOD	63 - Call to Time Clock Mode	CTC	2 = TOD
14 - Coord Inhibit Max Ring 1	IM1	2 = TOD	64 - Dual Enhanced Ped	DEP	2 = TOD
15 - Coord Inhibit Max Ring 2	IM2	2 = TOD	65 - Service Plan 1	SP1	2 = TOD
16 - Call to Free	CTF	2 = TOD	66 - Service Plan 2	SP2	2 = TOD
17 - TOD Output 1	TO1	2 = TOD	67 - Service Plan 3	SP3	2 = TOD
18 - TOD Output 2	TO2	2 = TOD	68 - Service Plan 4	SP4	2 = TOD
19 - TOD Output 3	TO3	2 = TOD	69 - Service Plan 5	SP5	2 = TOD
20 - TOD Output 4	TO4	2 = TOD	70 - Service Plan 6	SP6	2 = TOD
21 - TOD Output 5	TO5	2 = TOD	71 - Service Plan 7	SP7	2 = TOD
22 - TOD Output 6	TO6	2 = TOD	72 - Service Plan 8	SP8	2 = TOD
23 - TOD Output 7	TO7	2 = TOD	73 - Max Plan 1	MP1	2 = TOD
24 - TOD Output 8	TO8	2 = TOD	74 - Max Plan 2	MP2	2 = TOD
25 - Vehicle Call Phase 1	VC1	2 = TOD	75 - Max Plan 3	MP3	2 = TOD
26 - Vehicle Call Phase 2	VC2	2 = TOD	76 - Max Plan 4	MP4	2 = TOD
27 - Vehicle Call Phase 3	VC3	2 = TOD	77 - Max Plan 5	MP5	2 = TOD
28 - Vehicle Call Phase 4	VC4	2 = TOD	78 - Max Plan 6	MP6	2 = TOD
29 - Vehicle Call Phase 5	VC5	2 = TOD	79 - Max Plan 7	MP7	2 = TOD
30 - Vehicle Call Phase 6	VC6	2 = TOD	80 - Max Plan 8	MP8	2 = TOD
31 - Vehicle Call Phase 7	VC7	2 = TOD	81 - Transit Priority Max Group 1	TG1	2 = TOD
32 - Vehicle Call Phase 8	VC8	2 = TOD	82 - Transit Priority Max Group 2	TG2	2 = TOD
33 - Ped Call Phase 1	PC1	2 = TOD	83 - Transit Priority Max Group 3	TG3	2 = TOD
34 - Ped Call Phase 2	PC2	2 = TOD	84 - Transit Priority Max Group 4	TG4	2 = TOD
35 - Ped Call Phase 3	PC3	2 = TOD	85 - Transit Priority Max Group 5	TG5	2 = TOD
36 - Ped Call Phase 4	PC4	2 = TOD	86 - Transit Priority Max Group 6	TG6	2 = TOD
37 - Ped Call Phase 5	PC5	2 = TOD	87 - Transit Priority Max Group 7	TG7	2 = TOD
38 - Ped Call Phase 6	PC6	2 = TOD	88 - Transit Priority Max Group 8	TG8	2 = TOD
39 - Ped Call Phase 7	PC7	2 = TOD	89 - Inhibit Gap Reducing 1	GR1	2 = TOD
40 - Ped Call Phase 8	PC8	2 = TOD	90 - Inhibit Gap Reducing 2	GR2	2 = TOD
41 - Phase Omit 1	VO1	2 = TOD	91 - Inhibit Gap Reducing 3	GR3	2 = TOD
42 - Phase Omit 2	VO2	2 = TOD	92 - Inhibit Gap Reducing 4	GR4	2 = TOD
43 - Phase Omit 3	VO3	2 = TOD	93 - Inhibit Gap Reducing 5	GR5	2 = TOD
44 - Phase Omit 4	VO4	2 = TOD	94 - Inhibit Gap Reducing 6	GR6	2 = TOD
45 - Phase Omit 5	VO5	2 = TOD	95 - Inhibit Gap Reducing 7	GR7	2 = TOD
46 - Phase Omit 6	VO6	2 = TOD	96 - Inhibit Gap Reducing 8	GR8	2 = TOD
47 - Phase Omit 7	VO7	2 = TOD	97 - Lag 1	LG1	2 = TOD
48 - Phase Omit 8	VO8	2 = TOD	98 - Lag 3	LG3	2 = TOD
49 - Ped Omit 1	PO1	2 = TOD	99 - Lag 5	LG5	2 = TOD
50 - Ped Omit 2	PO2	2 = TOD	100 - Lag 7	LG8	2 = TOD

CIRCUIT OVERRIDES 101 - 199 (Next/2/4/4)

101 - Inhibit Overlap A	OLA	2 = TOD	151 - Coord Hold 7	HD7	2 = TOD
102 - Inhibit Overlap B	OLB	2 = TOD	152 - Coord Hold 8	HD8	2 = TOD
103 - Inhibit Overlap C	OLC	2 = TOD	153 - PE Priority Return B	PRB	2 = TOD
104 - Inhibit Overlap D	OLD	2 = TOD	154 - PE Priority Return C	PRC	2 = TOD
105 - Enable Schedule A Phone 1	AT1	2 = TOD	155 - PE Priority Return D	PRD	2 = TOD
106 - Enable Schedule A Phone 2	AT2	2 = TOD	156 - PE Priority Return E	PRE	2 = TOD
107 - Enable Schedule B Phone 1	BT1	2 = TOD	157 - Platoon Inbound	PPI	2 = TOD
108 - Enable Schedule B Phone 2	BT2	2 = TOD	158 - Platoon Outbound	PPO	2 = TOD
109 - Enable Schedule C Phone 1	CT1	2 = TOD	159 - Platoon Spl 2	PS2	2 = TOD
110 - Enable Schedule C Phone 2	CT2	2 = TOD	160 - Coord Walk Rest	CWR	2 = TOD
111 - Enable Volume to Call Phone 1	VT1	2 = TOD	161 - Dynamic Phase Length Short Inhibit 1	SL1	2 = TOD
112 - Enable Volume to Call Phone 1	VT2	2 = TOD	162 - Dynamic Phase Length Short Inhibit 2	SL2	2 = TOD
113 - Enable Volume Logging	EVL	1 = On	163 - Dynamic Phase Length Short Inhibit 3	SL3	2 = TOD
114 - Enable MOE Logging	EML	1 = On	164 - Dynamic Phase Length Short Inhibit 4	SL4	2 = TOD
115 - Detector Low Threshold Inhibit	DLI	2 = TOD	165 - Dynamic Phase Length Short Inhibit 5	SL5	2 = TOD
116 - Detector Continue Presence Inhibit	DPI	2 = TOD	166 - Dynamic Phase Length Short Inhibit 6	SL6	2 = TOD
117 - Inhibit Detector Based On Progmring	IND	2 = TOD	167 - Dynamic Phase Length Short Inhibit 7	SL7	2 = TOD
118 - Inhibit Detector Delay	IDD	2 = TOD	168 - Dynamic Phase Length Short Inhibit 8	SL8	2 = TOD
119 - Inhibit Conditional Ped	ICP	2 = TOD	169 - Coord Late Left Turn 1	CT1	2 = TOD
120 - Inhibit Transit Priority	ITP	2 = TOD	170 - Coord Late Left Turn 3	CT3	2 = TOD
121 - Red Rest Ring 1	RR1	2 = TOD	171 - Coord Late Left Turn 5	CT5	2 = TOD
122 - Red Rest Ring 2	RR2	2 = TOD	172 - Coord Late Left Turn 7	CT7	2 = TOD
123 - Omit Red Clear Ring 1	OR1	2 = TOD	173 - Dynamic Phase Length Enable A	DPA	1 = On
124 - Omit Red Clear Ring 2	OR2	2 = TOD	174 - Dynamic Phase Length Enable B	DPB	1 = On
125 - Ped Recycle Ring 1	PR1	2 = TOD	175 - Dynamic Phase Length Enable C	DPC	1 = On
126 - Ped Recycle Ring 2	PR2	2 = TOD	176 - Dynamic Phase Length Enable D	DPD	1 = On
127 - Enable MOE Log to Call Phone 1	MT1	2 = TOD	177 - Proactive Plan Select Average	PSA	2 = TOD
128 - Enable MOE Log to Call Phone 2	MT2	2 = TOD	178 - Proactive Plan Select Inbound	PSI	2 = TOD
129 - Transit Inhibit Short Time 1	IS1	2 = TOD	179 - Proactive Plan Select Outbound	PSO	2 = TOD
130 - Transit Inhibit Short Time 2	IS2	2 = TOD	180 - Split Variant Inbound	SVI	2 = TOD
131 - Transit Inhibit Short Time 3	IS3	2 = TOD	181 - Split Variant Outbound	SVO	2 = TOD
132 - Transit Inhibit Short Time 4	IS4	2 = TOD	182 - Disable Coord Walk Rest Ring 1	WR1	2 = TOD
133 - Transit Inhibit Short Time 5	IS5	2 = TOD	183 - Disable Coord Walk Rest Ring 2	WR2	2 = TOD
134 - Transit Inhibit Short Time 6	IS6	2 = TOD	184 - Proactive Plan Select New Look	NLK	2 = TOD
135 - Transit Inhibit Short Time 7	IS7	2 = TOD	185 - Disable Red Clearance Extension	DRX	2 = TOD
136 - Transit Inhibit Short Time 8	IS8	2 = TOD	186 - Detector Plan Line 1	DL1	2 = TOD
137 - Enable Transit Priority Logging	ETL	2 = TOD	187 - Detector Plan Line 2	DL2	2 = TOD
138 - Disable Flashing Yellow Arrow 1	DF1	2 = TOD	188 - Disable LRT 1 Vertical Flashing Bar	DV1	2 = TOD
139 - Disable Flashing Yellow Arrow 3	DF3	2 = TOD	189 - Disable LRT 2 Vertical Flashing Bar	DV2	2 = TOD
140 - Disable Flashing Yellow Arrow 5	DF5	2 = TOD	190 - Disable LRT 3 Vertical Flashing Bar	DV3	2 = TOD
141 - Disable Flashing Yellow Arrow 7	DF7	2 = TOD	191 - Disable LRT 4 Vertical Flashing Bar	DV4	2 = TOD
142 - Disable Auto Max	DAM	2 = TOD	192 - Datakey Enable	DKE	1 = On
143 - Disable Repeated Phase Service	DRS	2 = TOD	193 - Dynamic Phase Reversal Enable 1	DR1	2 = TOD
144 - End of Main Street	EMS	2 = TOD	194 - Dynamic Phase Reversal Enable 3	DR3	2 = TOD
145 - Coord Hold 1	HD1	2 = TOD	195 - Dynamic Phase Reversal Enable 5	DR5	2 = TOD
146 - Coord Hold 2	HD2	2 = TOD	196 - Dynamic Phase Reversal Enable 7	DR7	2 = TOD
147 - Coord Hold 3	HD3	2 = TOD	197 - Enable Coordination Log	ECL	1 = On
148 - Coord Hold 4	HD4	2 = TOD	198 - Disable Gap For FYLTA	DGF	2 = TOD
149 - Coord Hold 5	HD5	2 = TOD	199 - Coordination Auto Walk	CAW	2 = TOD
150 - Coord Hold 6	HD6	2 = TOD			

PREEMPTION SEQUENCE 1 - 4 (Next/2/5)

Seq	Interval	Instruction	Phases Serviced	Interval Time	Hold On Input	Output On	Output Mode	
1	1	197	- 2 - - 5 - - -	0	On	- - - - -	0	Instructions - 0 = service phases defined in phases location 1-9 = use special intervals 1-9 10 = preempt sequence allows fylta 11 = preempt interval disables fylta 15 = alternate trap protection 90 = go to all red 91 = turn cvm off 92 = turn cvm on 93 = enable ped service and phases defined in phases location 94 = disable ped service 96 = enable coordination w/peds 97 = enable coordination w/o peds 98 = return with no calls 99 = return with ped calls and phases defined in phases location 100 = jump to step defined in time location and input has to be active for jump 101 = use time as resettable gap timer and service phases defined in phases location 196 = coordination sync w/peds 197 = coordination sync w/o peds 200 = lrt phase service w/o peds 201 = lrt phase service w/peds 202 = priority return-queue/delay 216 = lrt coordination sync w/peds 217 = lrt coordination sync w/o peds Phases Serviced - phases 1 - 8 Interval Time - 0 - 255 sec or interval 1 - 10 Hold on Input - X = on Outputs On - output 1 - 8 Output Modes - 0 = all steady on 1 = all flash together 2 = odd flashes WIG, even flashes WAG 3 = 1 - 4 steady on, 5 - 8 all flash together
	2	98	- - - - -	0	Off	- - - - -	0	
	3	0	- - - - -	0	Off	- - - - -	0	
	4	0	- - - - -	0	Off	- - - - -	0	
	5	0	- - - - -	0	Off	- - - - -	0	
	6	0	- - - - -	0	Off	- - - - -	0	
	7	0	- - - - -	0	Off	- - - - -	0	
	8	0	- - - - -	0	Off	- - - - -	0	
	9	0	- - - - -	0	Off	- - - - -	0	
	10	0	- - - - -	0	Off	- - - - -	0	
2	1	197	- - - - 4 - - - -	0	On	- - - - -	0	
	2	98	- - - - -	0	Off	- - - - -	0	
	3	0	- - - - -	0	Off	- - - - -	0	
	4	0	- - - - -	0	Off	- - - - -	0	
	5	0	- - - - -	0	Off	- - - - -	0	
	6	0	- - - - -	0	Off	- - - - -	0	
	7	0	- - - - -	0	Off	- - - - -	0	
	8	0	- - - - -	0	Off	- - - - -	0	
	9	0	- - - - -	0	Off	- - - - -	0	
	10	0	- - - - -	0	Off	- - - - -	0	
3	1	197	1 - - - - 6 - -	0	On	- - - - -	0	
	2	98	- - - - -	0	Off	- - - - -	0	
	3	0	- - - - -	0	Off	- - - - -	0	
	4	0	- - - - -	0	Off	- - - - -	0	
	5	0	- - - - -	0	Off	- - - - -	0	
	6	0	- - - - -	0	Off	- - - - -	0	
	7	0	- - - - -	0	Off	- - - - -	0	
	8	0	- - - - -	0	Off	- - - - -	0	
	9	0	- - - - -	0	Off	- - - - -	0	
	10	0	- - - - -	0	Off	- - - - -	0	
4	1	197	- - - - - 8	0	On	- - - - -	0	
	2	98	- - - - -	0	Off	- - - - -	0	
	3	0	- - - - -	0	Off	- - - - -	0	
	4	0	- - - - -	0	Off	- - - - -	0	
	5	0	- - - - -	0	Off	- - - - -	0	
	6	0	- - - - -	0	Off	- - - - -	0	
	7	0	- - - - -	0	Off	- - - - -	0	
	8	0	- - - - -	0	Off	- - - - -	0	
	9	0	- - - - -	0	Off	- - - - -	0	
	10	0	- - - - -	0	Off	- - - - -	0	

PREEMPTION SEQUENCE 5 - 8 (Next/2/5)

Seq	Interval	Instruction	Phases Serviced	Interval Time	Hold On Input	Output On	Output Mode	
5	1	197	- - - 4 - - - -	15	Off	- - - - - - - -	0	Instructions - 0 = service phases defined in phases location 1-9 = use special intervals 1-9 10 = preempt sequence allows fylta 11 = preempt interval disables fylta 15 = alternate trap protection 90 = go to all red 91 = turn cvm off 92 = turn cvm on 93 = enable ped service and phases defined in phases location 94 = disable ped service 96 = enable coordination w/peds 97 = enable coordination w/o peds 98 = return with no calls 99 = return with ped calls and phases defined in phases location 100 = jump to step defined in time location and input has to be active for jump 101 = use time as resettable gap timer and service phases defined in phases location 196 = coordination sync w/peds 197 = coordination sync w/o peds 200 = lrt phase service w/o peds 201 = lrt phase service w/peds 202 = priority return-queue/delay 216 = lrt coordination sync w/peds 217 = lrt coordination sync w/o peds Phases Serviced - phases 1 - 8 Interval Time - 0 - 255 sec or interval 1 - 10 Hold on Input - X = on Outputs On - output 1 - 8 Output Modes - 0 = all steady on 1 = all flash together 2 = odd flashes WIG, even flashes WAG 3 = 1 - 4 steady on, 5 - 8 all flash together
	2	96	1 2 - - - - 6 - -	0	On	- - - - - - - -	0	
	3	98	- - - - - - - -	0	Off	- - - - - - - -	0	
	4	0	- - - - - - - -	0	Off	- - - - - - - -	0	
	5	0	- - - - - - - -	0	Off	- - - - - - - -	0	
	6	0	- - - - - - - -	0	Off	- - - - - - - -	0	
	7	0	- - - - - - - -	0	Off	- - - - - - - -	0	
	8	0	- - - - - - - -	0	Off	- - - - - - - -	0	
	9	0	- - - - - - - -	0	Off	- - - - - - - -	0	
	10	0	- - - - - - - -	0	Off	- - - - - - - -	0	
6	1	97	1 2 - 4 5 6 - 8	0	On	- - - - - - - -	0	
	2	98	- - - - - - - -	0	Off	- - - - - - - -	0	
	3	0	- - - - - - - -	0	Off	- - - - - - - -	0	
	4	0	- - - - - - - -	0	Off	- - - - - - - -	0	
	5	0	- - - - - - - -	0	Off	- - - - - - - -	0	
	6	0	- - - - - - - -	0	Off	- - - - - - - -	0	
	7	0	- - - - - - - -	0	Off	- - - - - - - -	0	
	8	0	- - - - - - - -	0	Off	- - - - - - - -	0	
	9	0	- - - - - - - -	0	Off	- - - - - - - -	0	
	10	0	- - - - - - - -	0	Off	- - - - - - - -	0	
7	1	0	- - - - - - - -	0	Off	- - - - - - - -	0	
	2	0	- - - - - - - -	0	Off	- - - - - - - -	0	
	3	0	- - - - - - - -	0	Off	- - - - - - - -	0	
	4	0	- - - - - - - -	0	Off	- - - - - - - -	0	
	5	0	- - - - - - - -	0	Off	- - - - - - - -	0	
	6	0	- - - - - - - -	0	Off	- - - - - - - -	0	
	7	0	- - - - - - - -	0	Off	- - - - - - - -	0	
	8	0	- - - - - - - -	0	Off	- - - - - - - -	0	
	9	0	- - - - - - - -	0	Off	- - - - - - - -	0	
	10	0	- - - - - - - -	0	Off	- - - - - - - -	0	
8	1	0	- - - - - - - -	0	Off	- - - - - - - -	0	
	2	0	- - - - - - - -	0	Off	- - - - - - - -	0	
	3	0	- - - - - - - -	0	Off	- - - - - - - -	0	
	4	0	- - - - - - - -	0	Off	- - - - - - - -	0	
	5	0	- - - - - - - -	0	Off	- - - - - - - -	0	
	6	0	- - - - - - - -	0	Off	- - - - - - - -	0	
	7	0	- - - - - - - -	0	Off	- - - - - - - -	0	
	8	0	- - - - - - - -	0	Off	- - - - - - - -	0	
	9	0	- - - - - - - -	0	Off	- - - - - - - -	0	
	10	0	- - - - - - - -	0	Off	- - - - - - - -	0	

SEQUENCE TIMING (Next/2/5/0)

Sequence		1	2	3	4	5	6	7	8		
Input Memory										X = on	
Input Priority		6	6	6	6	8	5	0	0	0 = lowest, - 8 = highest	
Entry (Transition Parameters)	Min Green	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0 - 25.5 sec 0.0 would time the normal function time	
	Walk	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0		
	Ped Clear	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0		
	Overlap Yellow	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec	
	Overlap Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	Delay to Preempt	0	0	0	0	0	0	0	0	0 - 255 sec	
	Delay Ped Omit	0	0	0	0	0	0	0	0		
	Delay Phase Omit	0	0	0	0	0	0	0	0		
Min Reservice		0	0	0	0	0	0	0	0	0 - 255 min	
Overlap Inhibits		A								X = on	
		B									
		C									
		D									
Exit Parameters	Exit to Coord Plan Offset by X	0	0	0	0	0	0	0	0	0 - 20	
	Exit Coord Plan Time	0	0	0	0	0	0	0	0	0 - 60 min	
	Exit to Max Plan	0	0	0	0	0	0	0	0	0 - 8	
	Exit Free Time	0	0	0	0	0	0	0	0	0 - 60 min	
	Override Time	0	0	0	0	0	0	0	0		
	Fail Time	0	0	0	0	0	0	0	0		
	Exit Mode Time	0	0	0	0	0	0	0	0		

PRIORITY RETURN AND SPECIAL INTERVALS (Next/2/5/0/6, Next/2/5/9)

Phase / Overlap		1	2	3	4	5	6	7	8	A	B	C	D	
Priority Return	Enable	Off	0 = disabled; 1 = enabled; 2 = enabled and skip preempt phase on exit											
	A (max)	0	0	0	0	0	0	0	0	0 - 100% of currently used max				
	B (max)	0	0	0	0	0	0	0	0					
	C (max)	0	0	0	0	0	0	0	0					
	D (max)	0	0	0	0	0	0	0	0					
	E (max)	0	0	0	0	0	0	0	0					
	Ped Clear	0	0	0	0	0	0	0	0	0 - 100% of currently used ped clearance				
Queue Delay Recovery		0	0	0	0	0	0	0	0	0 - 255 sec				
Special Intervals	1	0	0	0	0	0	0	0	0	0	0	0	0	0 = Dark 1 = green don't walk 2 = green walk 3 = green flashing don't walk 4 = yellow 5 = red 6 = flashing yellow WIG 7 = flashing yellow WAG 8 = flashing red WIG 9 = flashing red WAG 10 = walk only 11=flashing don't walk only
	2	0	0	0	0	0	0	0	0	0	0	0	0	
	3	0	0	0	0	0	0	0	0	0	0	0	0	
	4	0	0	0	0	0	0	0	0	0	0	0	0	
	5	0	0	0	0	0	0	0	0	0	0	0	0	
	6	0	0	0	0	0	0	0	0	0	0	0	0	
	7	0	0	0	0	0	0	0	0	0	0	0	0	
	8	0	0	0	0	0	0	0	0	0	0	0	0	
	9	0	0	0	0	0	0	0	0	0	0	0	0	

LIGHT RAIL TRAIN (Next/2/5/0/7)

Light Rail Train	1	2	3	4	
Associated Preempt	0	0	0	0	0 = none, preempt 1 - 8
Time to Green	0	0	0	0	0 - 255 sec
Horizontal Bar Flash Time	0.0	0.0	0.0	0.0	
Vertical Bar Flash Time	0.0	0.0	0.0	0.0	0.0 - 25.5 sec
Min Duration	0	0	0	0	0 - 255 sec

IEEE 1570 Preempt Comm to Wayside Equip (Next/2/5/0/8)

	Controller	Wayside	
Railroad Number	0	0	0-999,represents railroad
Railroad Line Number	0	0	0-999,represents railroad line
Group Number	0	0	0-999,represents phy. group of equip
Subnode Number	0	0	0-99,subnode within phy group of equip
Device Number	0	0	0-99,device within phy. group of equip
Associated PE	0		0-8
Port	0		0-4

COMMUNICATION DATA (Next/2/6)

1st Central Phone Number		2nd Central Phone Number	
Modem Setup String			
Intersection Name	212/224 @ Harrison		
Central Port	6 = UDP/AB3418/C14S		
System Mode	0		
System Port	0		
System ID	31		
Local ID	2		
AB3418 Physical Address	1		
AB3418 Group Address	0		
Serial Port Parameters	Baud Rates	Flow Control	
Port1 (Slot A2 Upper)	0 = 1200	1	
Port2 (Slot A2 Lower)	0 = 1200	1	
Port3 (Slot A1 Upper)	0 = 1200	0	
Port4 (Slot A1 :pwer pr C50S)	2 = 9600	Not Used	
0 = 1200, 1 = 2400, 2 = 9600, 3 = 19200 baud			
Ethernet Parameters			
IP Address	10.11.19.42		
Gateway Address	10.11.19.33		
Subnet Mask	255.255.255.224		
IP Port	25000		

COMMUNICATION REPORTS (Next/2/6/6, Next/2/6/7)

Volume Log Period	15	0 - 255 seconds or see below	MOE Log Period	15	See below
Volume OCC Period	15	0 - 255 seconds			
0 = disabled, 1,2,3,4,5,6,10,12,15,20,30,60 minutes					

Alarm 1	0	0 = none 1 = schedule A 2 = schedule B 3 = schedule C 4 = schedule R	Soft Flash	1	0 = none 1 = schedule A 2 = schedule B 3 = schedule C 4 = schedule R
Alarm 2	0		Manual Control Enable (MCE)	4	
Alarm 3	0		Emergency or Railroad Preempt	1	
Alarm 4	0		Not Used		
Alarm 5	0		Cycle Failure	2	
Not Used			Coordination Failure	2	
Not Used			Keyboard use /Data Changed	3	
Not Used			Coord Running / Free	2	
Power On / Off	1		Cabinet Door	3	
Checksum Failure	4		Extended Ped Pushbuton	0	
Video / Detector Failure	4	Monitor Status	4		
Not Used		Red Extension	0		

Service Delay Log (Next/2/6/0)

Phase	1	2	3	4	5	6	7	8	
	0	0	0	0	0	0	0	0	0=disable, 1=enable, 2=ped, 3=veh/ped

Ped Overlaps	A	B	C	D	E	F	G	H	
	0	0	0	0	0	0	0	0	0=disable, 1=enable

Service Delay Detectors

Detector	1	2	3	4	5	6	7	8
Service Delay	0	0	0	0	0	0	0	0
Detector	9	10	11	12	13	14	15	16
Service Delay	0	0	0	0	0	0	0	0

Detector	17	18	19	20	21	22	23	24
Service Delay	0	0	0	0	0	0	0	0
Detector	25	26	27	28	29	30	31	32
Service Delay	0	0	0	0	0	0	0	0

Detector	33	34	35	36	37	38	39	40
Service Delay	0	0	0	0	0	0	0	0
Detector	41	42	43	44	45	46	47	48
Service Delay	0	0	0	0	0	0	0	0

Detector	49	50	51	52	53	54	55	56
Service Delay	0	0	0	0	0	0	0	0
Detector	57	58	59	60	61	62	63	64
Service Delay	0	0	0	0	0	0	0	0

Miscellaneous Data

TRANSIT PRIORITY (Next/2/7)

	1	2	3	4	5	6	7	8	
Phases	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	Phases 1 - 8 (max of 2 compatible phases)
PE Enable (6.25Hz TP call on PE)	X	X	X	X	X	X	X	X	X = 6.25 Hz signal will activate TP
Priority	0	0	0	0	0	0	0	0	0 - 8, 8 = highest
Memory									X = on
Delay Time	0	0	0	0	0	0	0	0	0 - 255 sec
Minimum Reservice Time (per input)	0	0	0	0	0	0	0	0	0 - 255 min
Override Time	0	0	0	0	0	0	0	0	0 - 255 sec
Bus Extend	0	0	0	0	0	0	0	0	0 - 255 min
Minimum Reservice Time (all inputs)	0	0 - 255 min							
Free Operation Mode	0	0 = use shortest of max 1 or 2, 1 - 8 = use max time of group 1 - 8, 9 = use time of day circuit							

TRANSIT PRIORITY ALTERNATE FORCE OFF PLANS (Next/2/7/6)

Current Coord Plan	1	2	3	4	5	6	7	8	0 = none 17 - 32 = coord plan 17 - 32
Alternate TP Force Off Plan	0	0	0	0	0	0	0	0	
Current Coord Plan	9	10	11	12	13	14	15	16	
Alternate TP Force Off Plan	0	0	0	0	0	0	0	0	

GROUP TIMING (Next/2/7/5)

	Phase -->	1	2	3	4	5	6	7	8	
Group 1	Max Times	0	0	0	0	0	0	0	0	0 - 255 sec 0 would time the normal function time
	Walk Times	0	0	0	0	0	0	0	0	
Group 2	Max Times	0	0	0	0	0	0	0	0	
	Walk Times	0	0	0	0	0	0	0	0	
Group 3	Max Times	0	0	0	0	0	0	0	0	
	Walk Times	0	0	0	0	0	0	0	0	
Group 4	Max Times	0	0	0	0	0	0	0	0	
	Walk Times	0	0	0	0	0	0	0	0	
Group 5	Max Times	0	0	0	0	0	0	0	0	
	Walk Times	0	0	0	0	0	0	0	0	
Group 6	Max Times	0	0	0	0	0	0	0	0	
	Walk Times	0	0	0	0	0	0	0	0	
Group 7	Max Times	0	0	0	0	0	0	0	0	
	Walk Times	0	0	0	0	0	0	0	0	
Group 8	Max Times	0	0	0	0	0	0	0	0	
	Walk Times	0	0	0	0	0	0	0	0	

TRUCK PRIORITY (Next/2/7/9)

Truck Priority -->	1	2	3	4	
Associated Transit Priority	0	0	0	0	0 = none 1 - 8 = transit priority 1 - 8
Leading Detector	0	0	0	0	0 = none, 1 - 32 = detector 1 - 32
Trailing Detector	0	0	0	0	
Stop Bar Distance	0	0	0	0	0 - 999 feet
Trap Distance	0.0	0.0	0.0	0.0	0.0 - 99.9 feet
Minimum Speed	0	0	0	0	0 - 100 mph
Minimum Length	0	0	0	0	0 - 255 feet
Downhill Grade (%)	0	0	0	0	0 - 20%
Uphill Grade (%)	0	0	0	0	
Undersized Vehicle					X = Enabled

170 INPUTS (Next/2/8/1)

C1-39	0 - Use Default	C1-67	0 - Use Default
C1-40	0 - Use Default	C1-68	0 - Use Default
C1-41	0 - Use Default	C1-69	0 - Use Default
C1-42	0 - Use Default	C1-70	0 - Use Default
C1-43	0 - Use Default	C1-71	0 - Use Default
C1-44	0 - Use Default	C1-72	0 - Use Default
C1-45	0 - Use Default	C1-73	0 - Use Default
C1-46	0 - Use Default	C1-74	0 - Use Default
C1-47	0 - Use Default	C1-75	132 - Alarm 2
C1-48	0 - Use Default	C1-76	0 - Use Default
C1-49	0 - Use Default	C1-77	0 - Use Default
C1-50	0 - Use Default	C1-78	0 - Use Default
C1-51	0 - Use Default	C1-79	0 - Use Default
C1-52	0 - Use Default	C1-80	0 - Use Default
C1-53	0 - Use Default	C1-81	0 - Use Default
C1-54	131 - Alarm 1	C1-82	0 - Use Default
C1-55	0 - Use Default	C11-15	0 - Use Default
C1-56	0 - Use Default	C11-16	0 - Use Default
C1-57	0 - Use Default	C11-17	0 - Use Default
C1-58	0 - Use Default	C11-18	0 - Use Default
C1-59	0 - Use Default	C11-19	0 - Use Default
C1-60	0 - Use Default	C11-20	0 - Use Default
C1-61	0 - Use Default	C11-21	0 - Use Default
C1-62	0 - Use Default	C11-22	0 - Use Default
C11-10	0 - Use Default	C11-23	0 - Use Default
C11-11	0 - Use Default	C11-24	0 - Use Default
C11-12	0 - Use Default	C11-25	0 - Use Default
C11-13	0 - Use Default	C11-26	0 - Use Default
C1-63	0 - Use Default	C11-27	0 - Use Default
C1-64	0 - Use Default	C11-28	0 - Use Default
C1-65	0 - Use Default	C11-29	0 - Use Default
C1-66	0 - Use Default	C11-30	0 - Use Default

INPUTS AND OUTPUTS OPTIONS (Next/2/8/3)

Connector Type	C1/C11	Change I/O	0 = Disabled
0 = C1/C11; 1 = MS-A/B/C/D; 2 = TS2 Port 1; 3 = ITS Cabinet		X = On (After a download without a power on - off cycle)	

170 OUTPUTS (Next/2/8/2)

C1-2	0 - Use Default	C1-35	0 - Use Default
C1-3	0 - Use Default	C1-36	0 - Use Default
C1-4	0 - Use Default	C1-37	0 - Use Default
C1-5	0 - Use Default	C1-38	0 - Use Default
C1-6	0 - Use Default	C1-100	0 - Use Default
C1-7	0 - Use Default	C1-101	0 - Use Default
C1-8	0 - Use Default	C1-102	0 - Use Default
C1-9	0 - Use Default	C1-103	0 - Use Default
C1-10	0 - Use Default	C1-83	0 - Use Default
C1-11	0 - Use Default	C1-84	0 - Use Default
C1-12	0 - Use Default	C1-85	0 - Use Default
C1-13	0 - Use Default	C1-86	0 - Use Default
C1-15	0 - Use Default	C1-87	0 - Use Default
C1-16	0 - Use Default	C1-88	0 - Use Default
C1-17	0 - Use Default	C1-89	0 - Use Default
C1-18	0 - Use Default	C1-90	0 - Use Default
C1-19	0 - Use Default	C1-91	0 - Use Default
C1-20	0 - Use Default	C1-93	0 - Use Default
C1-21	0 - Use Default	C1-94	0 - Use Default
C1-22	0 - Use Default	C1-95	0 - Use Default
C1-23	0 - Use Default	C1-96	0 - Use Default
C1-24	0 - Use Default	C1-97	0 - Use Default
C1-25	0 - Use Default	C1-98	0 - Use Default
C1-26	0 - Use Default	C1-99	0 - Use Default
C1-27	0 - Use Default	C11-1	0 - Use Default
C1-28	0 - Use Default	C11-2	0 - Use Default
C1-29	0 - Use Default	C11-3	0 - Use Default
C1-30	0 - Use Default	C11-4	0 - Use Default
C1-31	0 - Use Default	C11-5	0 - Use Default
C1-32	0 - Use Default	C11-6	0 - Use Default
C1-33	0 - Use Default	C11-7	0 - Use Default
C1-34	0 - Use Default	C11-8	0 - Use Default

INTERNAL LOGIC 1 - 96 (Next/2/9)

Step	Inst.	Comment	Step	Inst.	Comment
1	206		49	0	
2	155		50	0	
3	24		51	0	
4	22		52	0	
5	131		53	0	
6	206		54	0	
7	156		55	0	
8	24		56	0	
9	22		57	0	
10	132		58	0	
11	0		59	0	
12	0		60	0	
13	0		61	0	
14	0		62	0	
15	0		63	0	
16	0		64	0	
17	0		65	0	
18	0		66	0	
19	0		67	0	
20	0		68	0	
21	0		69	0	
22	0		70	0	
23	0		71	0	
24	0		72	0	
25	0		73	0	
26	0		74	0	
27	0		75	0	
28	0		76	0	
29	0		77	0	
30	0		78	0	
31	0		79	0	
32	0		80	0	
33	0		81	0	
34	0		82	0	
35	0		83	0	
36	0		84	0	
37	0		85	0	
38	0		86	0	
39	0		87	0	
40	0		88	0	
41	0		89	0	
42	0		90	0	
43	0		91	0	
44	0		92	0	
45	0		93	0	
46	0		94	0	
47	0		95	0	
48	0		96	0	

INTERNAL LOGIC 97 - 192 (Next/2/9)

Step	Inst.	Comment	Step	Inst.	Comment
97	0		145	0	
98	0		146	0	
99	0		147	0	
100	0		148	0	
101	0		149	0	
102	0		150	0	
103	0		151	0	
104	0		152	0	
105	0		153	0	
106	0		154	0	
107	0		155	0	
108	0		156	0	
109	0		157	0	
110	0		158	0	
111	0		159	0	
112	0		160	0	
113	0		161	0	
114	0		162	0	
115	0		163	0	
116	0		164	0	
117	0		165	0	
118	0		166	0	
119	0		167	0	
120	0		168	0	
121	0		169	0	
122	0		170	0	
123	0		171	0	
124	0		172	0	
125	0		173	0	
126	0		174	0	
127	0		175	0	
128	0		176	0	
129	0		177	0	
130	0		178	0	
131	0		179	0	
132	0		180	0	
133	0		181	0	
134	0		182	0	
135	0		183	0	
136	0		184	0	
137	0		185	0	
138	0		186	0	
139	0		187	0	
140	0		188	0	
141	0		189	0	
142	0		190	0	
143	0		191	0	
144	0		192	0	

INTERNAL LOGIC 193 - 256 (Next/2/9)

Step	Inst.	Comment	Step	Inst.	Comment
193	0		241	0	
194	0		242	0	
195	0		243	0	
196	0		244	0	
197	0		245	0	
198	0		246	0	
199	0		247	0	
200	0		248	0	
201	0		249	0	
202	0		250	0	
203	0		251	0	
204	0		252	0	
205	0		253	0	
206	0		254	0	
207	0		255	0	
208	0		256	0	
209	0				
210	0				
211	0				
212	0				
213	0				
214	0				
215	0				
216	0				
217	0				
218	0				
219	0				
220	0				
221	0				
222	0				
223	0				
224	0				
225	0				
226	0				
227	0				
228	0				
229	0				
230	0				
231	0				
232	0				
233	0				
234	0				
235	0				
236	0				
237	0				
238	0				
239	0				
240	0				

CONTROLLER ID	
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Manufacturer ID	NORTHWEST SIGNAL
Model ID	Voyage-0 v05.02.01
Protocol Revision ID	AB3418E V1

Intersection Name: Route 224 @ Monroe

Controller 122050.2 Channel: 209 Drop: 12

System: TransCore TransSuite TCS

Controller Type: Voyage

Revision - Version -

TransCore Unified Controller Manager 10.0.3

Controller Function and Timing

Security, Sequence and Timing (Next/2/1, Next/2/2/3/A, Next/2/2/5)				
Security Code	0	0 = disabled, or 1000-9999	First All Red	8.0 0.0 to 25.5 seconds
Sequence	7	0 = sequential, 1 = quad left turn, 2-6 = special A-E, 7 = lead lag		
Power up Flash	0.0	0.0 - 25.5 seconds		

Initialization (Next/2/2/5)			Lead Lag (Next/2/2/3/A)			
Ring 1	Ring 2	Interval	Phases 1 - 2	Phases 3 - 4	Phases 5 - 6	Phases 7 - 8
1	5	0	2	2	2	2
Phase 1 - 8		0 = Red, 1 = Yel, 2 = Grn	0 = no reversal, 1 = reversal, 2 = by coord plan or clock			

(Next/2/2/3)		Phase Functions	(Next/2/2/1)								
Phase Used	1 2 - 4 5 6 - 8		Yellow Lock	- - - - -							
Restricted Phases	- - - - -		Min Recall	- 2 - - - 6 - -							
Exclusive Phases	- - - - -		Max Recall	- - - - -							
			Ped Recall	- - - - -							
			Red Lock	- - - - -							
			Max Out Recall Inhibit	1 2 3 4 5 6 7 8							
			Soft Recall	- - - - -							
			Free Walk Rest	- - - - -							
			Conditional Ped	- - - - -							
			Disable Inhibit Max Termination	- - - - -							
			Call To Non-Act 1	- - - - -							
			Call To Non-Act 2	- - - - -							

Phase Times (Next/2/2/2)									
Phase	1	2	3	4	5	6	7	8	
Movement	WB to	EB		SB	EB to	WB		NB	
Minimum Green	4	10	0	6	0	10	0	6	0 - 255 sec.
Passage	2.3	5.2	0.0	2.5	2.3	5.2	0.0	2.5	0.0 - 25.5 sec.
Yellow	3.5	5.0	0.0	3.5	3.5	5.0	0.0	3.5	0.0 - 25.5 sec.
Red Clearance	0.5	1.0	0.0	0.5	0.5	1.0	0.0	0.5	0.0 - 25.5 sec. or 0 - 255 sec.
Max 1	15	50	0	20	15	50	0	20	0 - 255 sec.
Max 2	15	50	0	20	15	50	0	20	0 - 255 sec.
Walk	0	8	0	10	0	8	0	9	0 - 255 sec.
Ped Clear	0	15	0	28	0	16	0	29	0 - 255 sec.
Seconds Per Actuation	0.0	1.2	0.0	0.0	0.0	1.2	0.0	0.0	0.0 - 25.5 sec.
Time Before Reduction	8	10	0	5	8	10	0	5	0 - 255 sec.
Time to Reduce	3	10	0	5	3	10	0	5	0 - 255 sec.
Minimum Gap	0.5	3.2	0.0	2.0	0.5	3.2	0.0	2.0	0.0 - 25.5 sec.
Max Variable Initial	4	18	0	6	4	18	0	6	0 - 255 sec.
Max Extend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec.
Auto Max	0	0	0	0	0	0	0	0	0 - 255 sec.
Advanced walk	0	0	0	0	0	0	0	0	0 - 255 sec.

Phase Times (Next/2/2/9/5)									
Inhibit Min Yellow									X = On
Red Decimal Off									X = On

Dual Entry (Next/2/2/9/3)

Mode	1	0 = off, 1 = on, 2 = Not Used, 3 = by coord plan, 4 = by time clock circuit 61
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Dual Entry Ph -->	1	2	3	4	5	6	7	8	
Phase	0	0	0	8	0	0	0	4	0 = none, 1-8 = phase 1-8

Cond Service (Next/2/2/9/3/A)			5 Sec Head Logic (Next/2/2/9/4)						
Phase	Mode	CS Max Time	X Omits Y		Anti-Trap			Yellow Blanking LT	
Phase 1	0	0	X:Y		Trap Protected Phase	Next Phase	Phase		
Phase 3	0	0	6:1	0	1	0	< (5)	1	0
Phase 5	0	0	8:3	0	3	0	< (7)	3	0
Phase 7	0	0	2:5	0	5	0	< (1)	5	0
0 = off, 1 = C.S.On. 2 = C.S. on by TOD circuit 57, 3 = N/A, 4 = C.S. and C.R. On, 5 = C.R. on by TOD circuit 57.			4:7	0	7	0	< (3)	7	0
			0 = off, 1 = side call, 2 = no side call		X = On				

Other Controller Functions (Next/2/2/9/1, Next/2/2/9/5)

Inhibit Simultaneous Gap Out	1 - 3 4 5 - 7 8	
Last Car Passage	2	0 = recall phase, 1 = last car passage, 2 = NOT recall - Not last car passage
Red Revert (+2seconds)	0.0	0 - 25.5 sec.
Auto Ped Clear	Off	X = On
FDW thru Yellow	Off	X = On
Red Rest Delay	0.0	0 - 25.5 sec.
Change Sequence	Off	X = On (After a download without a power on - off cycle)
Advanced Flash Rate	60 FPM	0 = Disabled (60 FPM), 1 = 120 FPM
Ped Push Button Time	null	0 = Disable, 0 - 5 Seconds

Phase -->	1	2	3	4	5	6	7	8	
Red Clear Extension Detector	0	0	0	0	0	0	0	0	0 = none 1 - 32 = detector 1 - 32
Red Clear Extension Red Time	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0 - 25.5 sec.

Local Detectors (Next/2/2/4/1)

Detector Data

Detector	Description	Yellow Lock	Detector Inhibit	Call Phase	Extend Phase	Switch Phase	Delay Time	Stretch / Disconnect Time	Delay or Disconnect Mode
1				1	1	0	0	2.0	0
2				1	1	0	0	0.0	0
3				3	3	0	0	0.0	0
4				3	3	0	0	0.0	0
5				5	5	0	0	2.0	0
6				5	5	0	0	0.0	0
7				7	7	0	0	0.0	0
8				7	7	0	0	0.0	0
9				2	2	0	0	1.0	0
10				2	2	0	0	1.0	0
11				2	2	0	0	0.0	0
12				2	2	0	0	0.0	0
13				2	2	0	0	0.0	0
14				4	4	0	0	0.0	0
15				4	4	0	3	0.0	0
16				4	4	0	10	0.0	0
17				4	4	0	0	0.0	0
18				4	4	0	0	0.0	0
19				6	6	0	0	1.0	0
20				6	6	0	0	1.0	0
21				6	6	0	0	0.0	0
22				6	6	0	0	0.0	0
23				6	6	0	0	0.0	0
24				8	8	0	3	0.0	0
25				8	8	0	0	0.0	0
26				8	8	0	0	0.0	0
27				8	8	0	10	0.0	0
28				8	8	0	0	0.0	0
29				0	0	0	0	0.0	0
30				0	0	0	0	0.0	0
31				0	0	0	0	0.0	0
32				0	0	0	0	0.0	0

yellow lock, detector inhibit, - X = On; call, extend, phase - 0 = none 1 - 8 = phase 1 - 8; delay time - 0 - 255 sec
stretch / disconnect time - 0.0 - 25.5 sec.; delay or disconnect Mode - 0 -12

Local Detectors 33 - 64 (Next/2/2/4/6)

Detector Data

Detector	Description	Yellow Lock	Detector Inhibit	Call Phase	Extend Phase	Switch Phase	Delay Time	Stretch / Disconnect Time	Delay or Disconnect Mode
33		N/A	N/A	0	0	N/A	N/A	N/A	N/A
34		N/A	N/A	0	0	N/A	N/A	N/A	N/A
35		N/A	N/A	0	0	N/A	N/A	N/A	N/A
36		N/A	N/A	0	0	N/A	N/A	N/A	N/A
37		N/A	N/A	0	0	N/A	N/A	N/A	N/A
38		N/A	N/A	0	0	N/A	N/A	N/A	N/A
39		N/A	N/A	0	0	N/A	N/A	N/A	N/A
40		N/A	N/A	0	0	N/A	N/A	N/A	N/A
41		N/A	N/A	0	0	N/A	N/A	N/A	N/A
42		N/A	N/A	0	0	N/A	N/A	N/A	N/A
43		N/A	N/A	0	0	N/A	N/A	N/A	N/A
44		N/A	N/A	0	0	N/A	N/A	N/A	N/A
45		N/A	N/A	0	0	N/A	N/A	N/A	N/A
46		N/A	N/A	0	0	N/A	N/A	N/A	N/A
47		N/A	N/A	0	0	N/A	N/A	N/A	N/A
48		N/A	N/A	0	0	N/A	N/A	N/A	N/A
49		N/A	N/A	0	0	N/A	N/A	N/A	N/A
50		N/A	N/A	0	0	N/A	N/A	N/A	N/A
51		N/A	N/A	0	0	N/A	N/A	N/A	N/A
52		N/A	N/A	0	0	N/A	N/A	N/A	N/A
53		N/A	N/A	0	0	N/A	N/A	N/A	N/A
54		N/A	N/A	0	0	N/A	N/A	N/A	N/A
55		N/A	N/A	0	0	N/A	N/A	N/A	N/A
56		N/A	N/A	0	0	N/A	N/A	N/A	N/A
57		N/A	N/A	0	0	N/A	N/A	N/A	N/A
58		N/A	N/A	0	0	N/A	N/A	N/A	N/A
59		N/A	N/A	0	0	N/A	N/A	N/A	N/A
60		N/A	N/A	0	0	N/A	N/A	N/A	N/A
61		N/A	N/A	0	0	N/A	N/A	N/A	N/A
62		N/A	N/A	0	0	N/A	N/A	N/A	N/A
63		N/A	N/A	0	0	N/A	N/A	N/A	N/A
64		N/A	N/A	0	0	N/A	N/A	N/A	N/A

yellow lock, detector inhibit, - X = On; call, extend, phase - 0 = none 1 - 8 = phase 1 - 8; delay time - 0 - 255 sec
stretch / disconnect time - 0.0 - 25.5 sec.; delay or disconnect Mode - 0 -12

Detector Fail Monitor (Next/2/2/4/3)

	Fail Monitor Enable	Recall Phase	Min Counts	Max Counts	
Detector 1		0	0	0	
Detector 2		0	0	0	
Detector 3		0	0	0	
Detector 4		0	0	0	
Detector 5		0	0	0	
Detector 6		0	0	0	
Detector 7		0	0	0	
Detector 8		0	0	0	
Detector 9		0	0	0	
Detector 10		0	0	0	
Detector 11		0	0	0	
Detector 12		0	0	0	
Detector 13		0	0	0	
Detector 14		0	0	0	
Detector 15		0	0	0	fail monitor enable - X = On
Detector 16		0	0	0	recall phase - 0 = none 1 - 8 = phase 1 - 8
Detector 17		0	0	0	min, max counts - 0 - 999
Detector 18		0	0	0	
Detector 19		0	0	0	
Detector 20		0	0	0	
Detector 21		0	0	0	
Detector 22		0	0	0	
Detector 23		0	0	0	
Detector 24		0	0	0	
Detector 25		0	0	0	
Detector 26		0	0	0	
Detector 27		0	0	0	
Detector 28		0	0	0	
Detector 29		0	0	0	
Detector 30		0	0	0	
Detector 31		0	0	0	
Detector 32		0	0	0	

Detector Plans (Next/2/2/4/5)

Detector Plans (Next/2/2/4/5)										
Loop Number										
Plan Detectors		0	0	0	0	0	0	0	0	0 - 32, 0 = none, 1 - 32 = detectors 1- 32
Detector Plan 1	Call Phase	0	0	0	0	0	0	0	0	0 - 8, 0 = none, 1 - 8 = phase 1 - 8
	Extended Phase	0	0	0	0	0	0	0	0	
	Switch Phase	0	0	0	0	0	0	0	0	
	Delay Time	0	0	0	0	0	0	0	0	0 - 255 seconds
	Stretch / Disconnect Time	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 seconds
	Delay / Disconnect Mode	0	0	0	0	0	0	0	0	0 - 14
Detector Plan 2	Call Phase	0	0	0	0	0	0	0	0	0 - 8, 0 = none, 1 - 8 = phase 1 - 8
	Extended Phase	0	0	0	0	0	0	0	0	
	Switch Phase	0	0	0	0	0	0	0	0	
	Delay Time	0	0	0	0	0	0	0	0	0 - 255 seconds
	Stretch / Disconnect Time	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 seconds
	Delay / Disconnect Mode	0	0	0	0	0	0	0	0	0 - 14
Detector Plan 3	Call Phase	0	0	0	0	0	0	0	0	0 - 8, 0 = none, 1 - 8 = phase 1 - 8
	Extended Phase	0	0	0	0	0	0	0	0	
	Switch Phase	0	0	0	0	0	0	0	0	
	Delay Time	0	0	0	0	0	0	0	0	0 - 255 seconds
	Stretch / Disconnect Time	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 seconds
	Delay / Disconnect Mode	0	0	0	0	0	0	0	0	0 - 14

Detector Fail (Next/2/2/4/3)

Detector Fail Sample Period (all detectors)		0	0 - 255 minutes						
Dynamic Phase Length Fail Period		0	0 - 255 minutes						
Video Fail Inputs	1	2	3	4	5	6	7	8	0 = none, 1 - 8 = phase 1 - 8
Phase Recalled	0	0	0	0	0	0	0	0	
System Detectors	1	2	3	4	5	6	7	8	0 = none, 1 - 32 = detector 1 - 32
Local Detector	0	0	0	0	0	0	0	0	

Flash (Next/2/2/5)

Flash Entry					Flash Exit				
Ring 1	Ring 2	Interval			Ring 1	Ring 2	Interval		
0	0	red			1	5	0		
0 = none, phase 1 - 8		0 = red, 1 = yel, 2 = grn			0 = none, phase 1 - 8		0 = red, 1 = yel, 2 = grn		

Soft Flash (Next/2/2/5/A)

Phase	1	2	3	4	5	6	7	8				
	0	0	0	0	0	0	0	0				
Overlap	A	B	C	D	E	F	G	H	I	J	K	L
	0	0	0	0	0	0	0	0	0	0	0	0
0 = dark, 1=flash yel WIG, 2 = flash yel WAG, 3 = flash red WIG, 4 = flash red WAG												

Internal Logic Output	1	2	3	4	5	6	7	8	9	10	11	12	0 = normal, 1 = dark, 2 = flash WIG
	0	0	0	0	0	0	0	0	0	0	0	0	

Overlaps (Next/2/2/8/1)

Vehicle Overlaps	Phase or Movement	Phase or Movement								Extension Green	Clearance		A - D 0 = no overlap 1 = overlap 2 = 60 FPM 3 = Not ped overlap 4 = Comp Phase 5 = Prevent Ext 6 = Not Vehicle E - L 0 = no Overlap 1 = Overlap Green, Yellow, Red 0.0 - 25.5 sec
		1	2	3	4	5	6	7	8		Yellow	Red	
A		0	0	0	0	0	0	0	0	0.0	0.0	0.0	
B		0	0	0	0	0	0	0	0	0.0	0.0	0.0	
C		0	0	0	0	0	0	0	0	0.0	0.0	0.0	
D		0	0	0	0	0	0	0	0	0.0	0.0	0.0	
E		0	0	0	0	0	0	0	0	0.0	0.0	0.0	
F		0	0	0	0	0	0	0	0	0.0	0.0	0.0	
G		0	0	0	0	0	0	0	0	0.0	0.0	0.0	
H		0	0	0	0	0	0	0	0	0.0	0.0	0.0	
I		0	0	0	0	0	0	0	0	0.0	0.0	0.0	
J		0	0	0	0	0	0	0	0	0.0	0.0	0.0	
K		0	0	0	0	0	0	0	0	0.0	0.0	0.0	
L		0	0	0	0	0	0	0	0	0.0	0.0	0.0	

(Next/2/2/8/6/8)

Ped Overlaps (Next/2/2/8/5)

Not Ped-Ped Overlaps		Ped Overlap	Phase	Recall	Walk	Ped Clear	Walk, Ped Clear 0 - 255 seconds
Overlap	<u>A B C D E F G H</u>	A	- - - - -		0	0	
A	- - - - -	B	- - - - -		0	0	
B	- - - - -	C	- - - - -		0	0	
C	- - - - -	D	- - - - -		0	0	
D	- - - - -	E	- - - - -		0	0	
		F	- - - - -		0	0	
		G	- - - - -		0	0	
		H	- - - - -		0	0	

Advance Warning (Next/2/2/8/3)

	E	F	G	H	I	J	K	L	
Enable	0	0	0	0	0	0	0	0	0 = Disable, 1 = Enable
1st Conditional Overlaps	0	0	0	0	0	0	0	0	0 = None, 1 = OL E, 2 = OL F, 3 = OL G, 4 = OL H, 5 = OL I, 6 = OL J, 7 = OL K, 8 = OL L
2nd Conditional Overlaps	0	0	0	0	0	0	0	0	
Advance Deactivation Delay	0	0	0	0	0	0	0	0	0 - 99 sec

Flashing Yellow Left Turn Arrow (FYLTA) (Next/2/2/8/6)

Phase Pairs ->	1 - 2	3 - 4	5 - 6	7 - 8	
Enable	0	0	0	0	0 = off, 3 = 3 outputs, 4 = 4 outputs, 5 = 5 outputs
Even Omits Odd	0	0	0	0	0 / 1 / 2
Detector Switch Odd / Even	0	0	0	0	X = on, odd phase must be omitted
Red Transition	0.0	0.0	0.0	0.0	0.0 or 2.0 - 25.5 sec.
Red Extension	0.0	0.0	0.0	0.0	0.0 - 25.5 sec.
Return to GLTA	0	0	0	0	0 = off, 1 = max out, 2= yellow lock

Gap Dependent FYLTA					
Detector Input	0	0	0	0	0 = Disabled, 1 - 64 = Local Detector 1 - 64
Minimum Delay	0	0	0	0	0 - 255 seconds
Detector Gap Time	0.0	0.0	0.0	0.0	0 - 25.5 seconds.
Maximum Delay	0	0	0	0	0 - 255 seconds
Not Ped	0	0	0	0	

Dynamic Flashing Yellow Left Turn Arrow

Phase Pairs	1 - 2	3 - 4	5 - 6	7 - 8	
[Plan A] Detector Input	0	0	0	0	Detectors 1 - 64; 0 = disabled
Detector Gap Time	0.0	0.0	0.0	0.0	0.0 - 25.5
FYLTA Max Delay	0	0	0	0	0 - 255
FYLTA Min Delay	0	0	0	0	0 - 255
Not Ped Mode	0	0	0	0	0 - 4

[Plan B] Detector Input	0	0	0	0	Detectors 1 - 64; 0 = disabled
Detector Gap Time	0.0	0.0	0.0	0.0	0.0 - 25.5
FYLTA Max Delay	0	0	0	0	0 - 255
FYLTA Min Delay	0	0	0	0	0 - 255
Not Ped Mode	0	0	0	0	0 - 4

[Plan C] Detector Input	0	0	0	0	Detectors 1 - 64; 0 = disabled
Detector Gap Time	0.0	0.0	0.0	0.0	0.0 - 25.5
FYLTA Max Delay	0	0	0	0	0 - 255
FYLTA Min Delay	0	0	0	0	0 - 255
Not Ped Mode	0	0	0	0	0 - 4

[Plan D] Detector Input	0	0	0	0	Detectors 1 - 64; 0 = disabled
Detector Gap Time	0.0	0.0	0.0	0.0	0.0 - 25.5
FYLTA Max Delay	0	0	0	0	0 - 255
FYLTA Min Delay	0	0	0	0	0 - 255
Not Ped Mode	0	0	0	0	0 - 4

Service Plans 1 - 4 (Next/2/2/6)

Phase ->	1	2	3	4	5	6	7	8	
Call Mode	0	0	0	0	0	0	0	0	0
0 = actuated, 1 = omit, 2 = CNA, 3 = min recall, 4 = max recall, 5 = soft recall, 6 = ped recall, 7 = omit ped, 8 = red rest									
Min Green	0	0	0	0	0	0	0	0	0 - 255 sec
Passage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec.
Yellow	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec. or 3.0 - 25.5
Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec.
Walk	0	0	0	0	0	0	0	0	0 - 255 sec
Ped Clearance	0	0	0	0	0	0	0	0	0 - 255 sec

Call Mode	0	0	0	0	0	0	0	0	0
0 = actuated, 1 = omit, 2 = CNA, 3 = min recall, 4 = max recall, 5 = soft recall, 6 = ped recall, 7 = omit ped, 8 = red rest									
Min Green	0	0	0	0	0	0	0	0	0 - 255 sec
Passage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec.
Yellow	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec. or 3.0 - 25.5
Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec.
Walk	0	0	0	0	0	0	0	0	0 - 255 sec
Ped Clearance	0	0	0	0	0	0	0	0	0 - 255 sec

Call Mode	0	0	0	0	0	0	0	0	0
0 = actuated, 1 = omit, 2 = CNA, 3 = min recall, 4 = max recall, 5 = soft recall, 6 = ped recall, 7 = omit ped, 8 = red rest									
Min Green	0	0	0	0	0	0	0	0	0 - 255 sec
Passage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec.
Yellow	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec. or 3.0 - 25.5
Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec.
Walk	0	0	0	0	0	0	0	0	0 - 255 sec
Ped Clearance	0	0	0	0	0	0	0	0	0 - 255 sec

Call Mode	0	0	0	0	0	0	0	0	0
0 = actuated, 1 = omit, 2 = CNA, 3 = min recall, 4 = max recall, 5 = soft recall, 6 = ped recall, 7 = omit ped, 8 = red rest									
Min Green	0	0	0	0	0	0	0	0	0 - 255 sec
Passage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec.
Yellow	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec. or 3.0 - 25.5
Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec.
Walk	0	0	0	0	0	0	0	0	0 - 255 sec
Ped Clearance	0	0	0	0	0	0	0	0	0 - 255 sec

Service Plans 5 - 8 (Next/2/2/6)

Phase ->	1	2	3	4	5	6	7	8	
Call Mode	0	0	0	0	0	0	0	0	0
0 = actuated, 1 = omit, 2 = CNA, 3 = min recall, 4 = max recall, 5 = soft recall, 6 = ped recall, 7 = omit ped, 8 = red rest									
Min Green	0	0	0	0	0	0	0	0	0 - 255 sec
Passage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec.
Yellow	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec. or 3.0 - 25.5
Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec.
Walk	0	0	0	0	0	0	0	0	0 - 255 sec
Ped Clearance	0	0	0	0	0	0	0	0	0 - 255 sec

Call Mode	0	0	0	0	0	0	0	0	0
0 = actuated, 1 = omit, 2 = CNA, 3 = min recall, 4 = max recall, 5 = soft recall, 6 = ped recall, 7 = omit ped, 8 = red rest									
Min Green	0	0	0	0	0	0	0	0	0 - 255 sec
Passage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec.
Yellow	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec. or 3.0 - 25.5
Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec.
Walk	0	0	0	0	0	0	0	0	0 - 255 sec
Ped Clearance	0	0	0	0	0	0	0	0	0 - 255 sec

Call Mode	0	0	0	0	0	0	0	0	0
0 = actuated, 1 = omit, 2 = CNA, 3 = min recall, 4 = max recall, 5 = soft recall, 6 = ped recall, 7 = omit ped, 8 = red rest									
Min Green	0	0	0	0	0	0	0	0	0 - 255 sec
Passage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec.
Yellow	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec. or 3.0 - 25.5
Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec.
Walk	0	0	0	0	0	0	0	0	0 - 255 sec
Ped Clearance	0	0	0	0	0	0	0	0	0 - 255 sec

Call Mode	0	0	0	0	0	0	0	0	0
0 = actuated, 1 = omit, 2 = CNA, 3 = min recall, 4 = max recall, 5 = soft recall, 6 = ped recall, 7 = omit ped, 8 = red rest									
Min Green	0	0	0	0	0	0	0	0	0 - 255 sec
Passage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec.
Yellow	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec. or 3.0 - 25.5
Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec.
Walk	0	0	0	0	0	0	0	0	0 - 255 sec
Ped Clearance	0	0	0	0	0	0	0	0	0 - 255 sec

Max Plans (Next/2/2/7)

	Phase->	1	2	3	4	5	6	7	8	
MaxPlan 1	Normal Max	10	82	0	16	10	82	0	16	0 - 255 sec
	Fail Max	0	0	0	0	0	0	0	0	
	Max Extend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec
	Auto Max	0	0	0	0	0	0	0	0	0 - 255 sec
MaxPlan 2	Normal Max	10	65	0	13	10	65	0	13	0 - 255 sec
	Fail Max	0	0	0	0	0	0	0	0	
	Max Extend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec
	Auto Max	0	0	0	0	0	0	0	0	0 - 255 sec
MaxPlan 3	Normal Max	10	86	0	16	10	86	0	16	0 - 255 sec
	Fail Max	0	0	0	0	0	0	0	0	
	Max Extend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec
	Auto Max	0	0	0	0	0	0	0	0	0 - 255 sec
MaxPlan 4	Normal Max	0	0	0	0	0	0	0	0	0 - 255 sec
	Fail Max	0	0	0	0	0	0	0	0	
	Max Extend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec
	Auto Max	0	0	0	0	0	0	0	0	0 - 255 sec
MaxPlan 5	Normal Max	0	0	0	0	0	0	0	0	0 - 255 sec
	Fail Max	0	0	0	0	0	0	0	0	
	Max Extend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec
	Auto Max	0	0	0	0	0	0	0	0	0 - 255 sec
MaxPlan 6	Normal Max	0	0	0	0	0	0	0	0	0 - 255 sec
	Fail Max	0	0	0	0	0	0	0	0	
	Max Extend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec
	Auto Max	0	0	0	0	0	0	0	0	0 - 255 sec
MaxPlan 7	Normal Max	0	0	0	0	0	0	0	0	0 - 255 sec
	Fail Max	0	0	0	0	0	0	0	0	
	Max Extend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec
	Auto Max	0	0	0	0	0	0	0	0	0 - 255 sec
MaxPlan 8	Normal Max	0	0	0	0	0	0	0	0	0 - 255 sec
	Fail Max	0	0	0	0	0	0	0	0	
	Max Extend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec
	Auto Max	0	0	0	0	0	0	0	0	0 - 255 sec

CoordinationData

Coordination Modes (Next/2/3/1)

Flash Mode	33	0=off, 1=on, 33=time clock, 34=comm, 35=hardwire
Coordination Plan Mode	33	0=free, 1-32 = coord plan 1-32, 33=time clock, 34=comm, 35=hardwire
Offset Seeking Mode	2	0=add only, 1= dwell, 2=fastway
Late Ped	0	0 = off, 1 = on
Coord Walk Rest	0	0 = off, 1 = on, 2 = by tod circuit 160, 3 = end of walk, 4 = coord ped during perms
Zero Mode(TS2 only)	0	0=start of main street, 1=end of main street, 2=by TOD circuit 144, 3 = first green
(Next/2/3/4/1)		
Repeated Ped Service	0	0=off, 1=on (no coord ped), 2=on (beginning green coord ped), 3=on (coord ped always)
Omit Phase During Repeated Phase	- - - - -	-- = service allowed ; # = service prevented

Coordination Plans (Next/2/3/2)

Coord Plan	Coordination Phases		Cycle Length	Offset Time	Min Cycle Len Dwell Time	Permissive	Service Plan	Max Plan	
	Ring 1	Ring 2							
1	2	6	120	56	0	0	0	1	
2	2	6	100	55	0	0	0	2	
3	2	6	120	61	0	0	0	3	
4	0	0	0	0	0	0	0	0	
5	0	0	0	0	0	0	0	0	
6	0	0	0	0	0	0	0	0	
7	0	0	0	0	0	0	0	0	
8	0	0	0	0	0	0	0	0	
9	0	0	0	0	0	0	0	0	
10	0	0	0	0	0	0	0	0	
11	0	0	0	0	0	0	0	0	
12	0	0	0	0	0	0	0	0	
13	0	0	0	0	0	0	0	0	
14	0	0	0	0	0	0	0	0	
15	0	0	0	0	0	0	0	0	
16	0	0	0	0	0	0	0	0	
17	0	0	0	0	0	0	0	0	
18	0	0	0	0	0	0	0	0	
19	0	0	0	0	0	0	0	0	
20	0	0	0	0	0	0	0	0	
21	0	0	0	0	0	0	0	0	
22	0	0	0	0	0	0	0	0	
23	0	0	0	0	0	0	0	0	
24	0	0	0	0	0	0	0	0	
25	0	0	0	0	0	0	0	0	
26	0	0	0	0	0	0	0	0	
27	0	0	0	0	0	0	0	0	
28	0	0	0	0	0	0	0	0	
29	0	0	0	0	0	0	0	0	
30	0	0	0	0	0	0	0	0	
31	0	0	0	0	0	0	0	0	
32	0	0	0	0	0	0	0	0	
0 - 8			0 - 255 sec				0 - 8		

Coordination Plans cont. (Next/2/3/2)

Coord Plan	Use FO for timing	Force Off / Split Times (TS2)								Yield Points / Actuated Times (TS2)	
		1	2	3	4	5	6	7	8	Ring 1	Ring 2
1		14	86	0	20	14	86	0	20	0	0
2		14	69	0	17	14	69	0	17	0	0
3		14	86	0	20	14	86	0	20	0	0
4		0	0	0	0	0	0	0	0	0	0
5		0	0	0	0	0	0	0	0	0	0
6		0	0	0	0	0	0	0	0	0	0
7		0	0	0	0	0	0	0	0	0	0
8		0	0	0	0	0	0	0	0	0	0
9		0	0	0	0	0	0	0	0	0	0
10		0	0	0	0	0	0	0	0	0	0
11		0	0	0	0	0	0	0	0	0	0
12		0	0	0	0	0	0	0	0	0	0
13		0	0	0	0	0	0	0	0	0	0
14		0	0	0	0	0	0	0	0	0	0
15		0	0	0	0	0	0	0	0	0	0
16		0	0	0	0	0	0	0	0	0	0
17		0	0	0	0	0	0	0	0	0	0
18		0	0	0	0	0	0	0	0	0	0
19		0	0	0	0	0	0	0	0	0	0
20		0	0	0	0	0	0	0	0	0	0
21		0	0	0	0	0	0	0	0	0	0
22		0	0	0	0	0	0	0	0	0	0
23		0	0	0	0	0	0	0	0	0	0
24		0	0	0	0	0	0	0	0	0	0
25		0	0	0	0	0	0	0	0	0	0
26		0	0	0	0	0	0	0	0	0	0
27		0	0	0	0	0	0	0	0	0	0
28		0	0	0	0	0	0	0	0	0	0
29		0	0	0	0	0	0	0	0	0	0
30		0	0	0	0	0	0	0	0	0	0
31		0	0	0	0	0	0	0	0	0	0
32		0	0	0	0	0	0	0	0	0	0
0 - 255 sec * = force offs and yield points											

Circuit Mapping (Next/2/3/3)

Circuit Map	Coord Plan	Time Clock Circuit							
		1	2	3	4	5	6	7	8
1	1	0	0	0	0	0	0	0	0
2	2	0	0	0	0	0	0	0	0
3	3	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0

coord plan - 0 = free, 1 - 32 = coord plan 1 - 32, 33 = any, 34 none selected
time clock circuits - 0 = not used, or circuits 6 - 199

Dynamic Phase Lengths (Next/2/3/4/4)

Phase ->	1	2	3	4	5	6	7	8	
Back Detector	1	1	1	1	1	1	1	1	0 = none, 1-32 = detector 1-32
Lane Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0 = none, 0.5 - 5.0
Check Out Detector	0	0	0	0	0	0	0	0	0 = none, 1-32 = detector 1-32
Coord Delta Force Off	Set A	0	0	0	0	0	0	0	0 - 255 sec
	Set B	0	0	0	0	0	0	0	
	Set C	0	0	0	0	0	0	0	
	Set D	0	0	0	0	0	0	0	
Free Delta Max	Set A	0	0	0	0	0	0	0	
	Set B	0	0	0	0	0	0	0	
	Set C	0	0	0	0	0	0	0	
	Set D	0	0	0	0	0	0	0	

Auto Permissive Min Green (Next/2/3/4/3)

Phase ->	1	2	3	4	5	6	7	8	
Auto Perm Min Green	0	0	0	0	0	0	0	0	0 - 255 sec.

Platoon Progression (Next/2/3/4/5)

Entry Local Only		
Platoon Max	0	0 - 255 sec
Min Platoon Green	0	0 - 255 sec
Entry Detector Gap	0.0	0.0 - 25.5 sec
Minimum Platoon Cycle	0	0 - 255 sec

Master Local Only		
Smoothing Factor	0.0	0.0 - 1.0

Inbound			Outbound		
Only for Entry Inbound Local or Master Local			Only for Entry Outbound Local or Master Local		
Entry IB Local also Last OB Local	0	0 - 50	Entry OB Local also Last IB Local	0	0 - 50
Speed	0	0 - 55 mph	Speed	0	0 - 55 mph
Distance from Entry Local	0	0 - 65000 feet	Distance from Entry Local	0	0 - 65000 feet

Entry Local Only				Entry Local Only			
Distance from Entry Local Detector	0		0 - 999 feet	Distance from Entry Local Detector	0		0 - 999 feet
Entry Local Detector	0	0	0 - 32	Entry Local Detector	0	0	0 - 32

Master Local				Master Local			
Master Mid - System Critical Detectors	0	0	0 - 16	Master Mid - System Critical Detectors	0	0	0 - 16

Force Off Percents

Inbound	1	3	4	5	7	8	Outbound	1	3	4	5	7	8
Split 1	0	0	0	0	0	0	Split 1	0	0	0	0	0	0
Split 2	0	0	0	0	0	0	Split 2	0	0	0	0	0	0
	0 - 100%							0 - 100%					

Time of Day Data (Next/2/4/1)

Day Program

	Day Prog	Time	Coord Plan or Circuit	Coord Plan # or Circuit #	Circuit Abbrev	State On/Off
1	1	06:00	Coord Plan	1	CL1	
2	1	09:30	Coord Plan	2	CL2	
3	1	14:45	Coord Plan	3	CL4	
4	1	18:30	Coord Plan	2	CL2	
5	1	21:00	Coord Plan	0	None / Coord Plan	
6	0	09:00	Coord Plan	2	CL2	
7	0	20:00	Coord Plan	0	None / Coord Plan	
8	0	00:00	Circuit	0	None / Coord Plan	
9	0	00:00	Circuit	0	None / Coord Plan	
10	0	00:00	Circuit	0	None / Coord Plan	
11	0	00:00	Circuit	0	None / Coord Plan	
12	0	00:00	Circuit	0	None / Coord Plan	
13	0	00:00	Circuit	0	None / Coord Plan	
14	0	00:00	Circuit	0	None / Coord Plan	
15	0	00:00	Circuit	0	None / Coord Plan	
16	0	00:00	Circuit	0	None / Coord Plan	
17	0	00:00	Circuit	0	None / Coord Plan	
18	0	00:00	Circuit	0	None / Coord Plan	
19	0	00:00	Circuit	0	None / Coord Plan	
20	0	00:00	Circuit	0	None / Coord Plan	
21	0	00:00	Circuit	0	None / Coord Plan	
22	0	00:00	Circuit	0	None / Coord Plan	
23	0	00:00	Circuit	0	None / Coord Plan	
24	0	00:00	Circuit	0	None / Coord Plan	
25	0	00:00	Circuit	0	None / Coord Plan	
26	0	00:00	Circuit	0	None / Coord Plan	
27	0	00:00	Circuit	0	None / Coord Plan	
28	0	00:00	Circuit	0	None / Coord Plan	
29	0	00:00	Circuit	0	None / Coord Plan	
30	0	00:00	Circuit	0	None / Coord Plan	
31	0	00:00	Circuit	0	None / Coord Plan	
32	0	00:00	Circuit	0	None / Coord Plan	
33	0	00:00	Circuit	0	None / Coord Plan	
34	0	00:00	Circuit	0	None / Coord Plan	
35	0	00:00	Circuit	0	None / Coord Plan	
36	0	00:00	Circuit	0	None / Coord Plan	
37	0	00:00	Circuit	0	None / Coord Plan	
38	0	00:00	Circuit	0	None / Coord Plan	
39	0	00:00	Circuit	0	None / Coord Plan	
40	0	00:00	Circuit	0	None / Coord Plan	
	1 - 15	hh:mm	X = On = Coord Plan	coord plan 0 - 32 or circuit 1-199		X = On

Time of Day Data (Next/2/4/1)

Day Program

	Day Prog	Time	Coord Plan or Circuit	Coord Plan # or Circuit #	Circuit Abbrev	State On/Off
41	0	00:00	Circuit	0	None / Coord Plan	
42	0	00:00	Circuit	0	None / Coord Plan	
43	0	00:00	Circuit	0	None / Coord Plan	
44	0	00:00	Circuit	0	None / Coord Plan	
45	0	00:00	Circuit	0	None / Coord Plan	
46	0	00:00	Circuit	0	None / Coord Plan	
47	0	00:00	Circuit	0	None / Coord Plan	
48	0	00:00	Circuit	0	None / Coord Plan	
49	0	00:00	Circuit	0	None / Coord Plan	
50	0	00:00	Circuit	0	None / Coord Plan	
51	0	00:00	Circuit	0	None / Coord Plan	
52	0	00:00	Circuit	0	None / Coord Plan	
53	0	00:00	Circuit	0	None / Coord Plan	
54	0	00:00	Circuit	0	None / Coord Plan	
55	0	00:00	Circuit	0	None / Coord Plan	
56	0	00:00	Circuit	0	None / Coord Plan	
57	0	00:00	Circuit	0	None / Coord Plan	
58	0	00:00	Circuit	0	None / Coord Plan	
59	0	00:00	Circuit	0	None / Coord Plan	
60	0	00:00	Circuit	0	None / Coord Plan	
61	0	00:00	Circuit	0	None / Coord Plan	
62	0	00:00	Circuit	0	None / Coord Plan	
63	0	00:00	Circuit	0	None / Coord Plan	
64	0	00:00	Circuit	0	None / Coord Plan	
65	0	00:00	Circuit	0	None / Coord Plan	
66	0	00:00	Circuit	0	None / Coord Plan	
67	0	00:00	Circuit	0	None / Coord Plan	
68	0	00:00	Circuit	0	None / Coord Plan	
69	0	00:00	Circuit	0	None / Coord Plan	
70	0	00:00	Circuit	0	None / Coord Plan	
71	0	00:00	Circuit	0	None / Coord Plan	
72	0	00:00	Circuit	0	None / Coord Plan	
73	0	00:00	Circuit	0	None / Coord Plan	
74	0	00:00	Circuit	0	None / Coord Plan	
75	0	00:00	Circuit	0	None / Coord Plan	
76	0	00:00	Circuit	0	None / Coord Plan	
77	0	00:00	Circuit	0	None / Coord Plan	
78	0	00:00	Circuit	0	None / Coord Plan	
79	0	00:00	Circuit	0	None / Coord Plan	
80	0	00:00	Circuit	0	None / Coord Plan	
	1 - 15	hh:mm	X = On = Coord Plan	coord plan 0 - 32 or circuit 1-199		X = On

Time of Day Data (Next/2/4/1)

Day Program

	Day Prog	Time	Coord Plan or Circuit	Coord Plan # or Circuit #	Circuit Abbrev	State On/Off
81	0	00:00	Circuit	0	None / Coord Plan	
82	0	00:00	Circuit	0	None / Coord Plan	
83	0	00:00	Circuit	0	None / Coord Plan	
84	0	00:00	Circuit	0	None / Coord Plan	
85	0	00:00	Circuit	0	None / Coord Plan	
86	0	00:00	Circuit	0	None / Coord Plan	
87	0	00:00	Circuit	0	None / Coord Plan	
88	0	00:00	Circuit	0	None / Coord Plan	
89	0	00:00	Circuit	0	None / Coord Plan	
90	0	00:00	Circuit	0	None / Coord Plan	
91	0	00:00	Circuit	0	None / Coord Plan	
92	0	00:00	Circuit	0	None / Coord Plan	
93	0	00:00	Circuit	0	None / Coord Plan	
94	0	00:00	Circuit	0	None / Coord Plan	
95	0	00:00	Circuit	0	None / Coord Plan	
96	0	00:00	Circuit	0	None / Coord Plan	
97	0	00:00	Circuit	0	None / Coord Plan	
98	0	00:00	Circuit	0	None / Coord Plan	
99	0	00:00	Circuit	0	None / Coord Plan	
100	0	00:00	Circuit	0	None / Coord Plan	
101	0	00:00	Circuit	0	None / Coord Plan	
102	0	00:00	Circuit	0	None / Coord Plan	
103	0	00:00	Circuit	0	None / Coord Plan	
104	0	00:00	Circuit	0	None / Coord Plan	
105	0	00:00	Circuit	0	None / Coord Plan	
106	0	00:00	Circuit	0	None / Coord Plan	
107	0	00:00	Circuit	0	None / Coord Plan	
108	0	00:00	Circuit	0	None / Coord Plan	
109	0	00:00	Circuit	0	None / Coord Plan	
110	0	00:00	Circuit	0	None / Coord Plan	
111	0	00:00	Circuit	0	None / Coord Plan	
112	0	00:00	Circuit	0	None / Coord Plan	
113	0	00:00	Circuit	0	None / Coord Plan	
114	0	00:00	Circuit	0	None / Coord Plan	
115	0	00:00	Circuit	0	None / Coord Plan	
116	0	00:00	Circuit	0	None / Coord Plan	
117	0	00:00	Circuit	0	None / Coord Plan	
118	0	00:00	Circuit	0	None / Coord Plan	
119	0	00:00	Circuit	0	None / Coord Plan	
120	0	00:00	Circuit	0	None / Coord Plan	
	1 - 15	hh:mm	X = On = Coord Plan	coord plan 0 - 32 or circuit 1-199		X = On

Time of Day Data (Next/2/4/1)

Day Program

	Day Prog	Time	Coord Plan or Circuit	Coord Plan # or Circuit #	Circuit Abbrev	State On/Off
121	0	00:00	Circuit	0	None / Coord Plan	
122	0	00:00	Circuit	0	None / Coord Plan	
123	0	00:00	Circuit	0	None / Coord Plan	
124	0	00:00	Circuit	0	None / Coord Plan	
125	0	00:00	Circuit	0	None / Coord Plan	
126	0	00:00	Circuit	0	None / Coord Plan	
127	0	00:00	Circuit	0	None / Coord Plan	
128	0	00:00	Circuit	0	None / Coord Plan	
129	0	00:00	Circuit	0	None / Coord Plan	
130	0	00:00	Circuit	0	None / Coord Plan	
131	0	00:00	Circuit	0	None / Coord Plan	
132	0	00:00	Circuit	0	None / Coord Plan	
133	0	00:00	Circuit	0	None / Coord Plan	
134	0	00:00	Circuit	0	None / Coord Plan	
135	0	00:00	Circuit	0	None / Coord Plan	
136	0	00:00	Circuit	0	None / Coord Plan	
137	0	00:00	Circuit	0	None / Coord Plan	
138	0	00:00	Circuit	0	None / Coord Plan	
139	0	00:00	Circuit	0	None / Coord Plan	
140	0	00:00	Circuit	0	None / Coord Plan	
141	0	00:00	Circuit	0	None / Coord Plan	
142	0	00:00	Circuit	0	None / Coord Plan	
143	0	00:00	Circuit	0	None / Coord Plan	
144	0	00:00	Circuit	0	None / Coord Plan	
145	0	00:00	Circuit	0	None / Coord Plan	
146	0	00:00	Circuit	0	None / Coord Plan	
147	0	00:00	Circuit	0	None / Coord Plan	
148	0	00:00	Circuit	0	None / Coord Plan	
149	0	00:00	Circuit	0	None / Coord Plan	
150	0	00:00	Circuit	0	None / Coord Plan	
151	0	00:00	Circuit	0	None / Coord Plan	
152	0	00:00	Circuit	0	None / Coord Plan	
153	0	00:00	Circuit	0	None / Coord Plan	
154	0	00:00	Circuit	0	None / Coord Plan	
155	0	00:00	Circuit	0	None / Coord Plan	
156	0	00:00	Circuit	0	None / Coord Plan	
157	0	00:00	Circuit	0	None / Coord Plan	
158	0	00:00	Circuit	0	None / Coord Plan	
159	0	00:00	Circuit	0	None / Coord Plan	
160	0	00:00	Circuit	0	None / Coord Plan	
	1 - 15	hh:mm	X = On = Coord Plan	coord plan 0 - 32 or circuit 1-199		X = On

Time of Day Data (Next/2/4/1)

Day Program

	Day Prog	Time	Coord Plan or Circuit	Coord Plan # or Circuit #	Circuit Abbrev	State On/Off
161	0	00:00	Circuit	0	None / Coord Plan	
162	0	00:00	Circuit	0	None / Coord Plan	
163	0	00:00	Circuit	0	None / Coord Plan	
164	0	00:00	Circuit	0	None / Coord Plan	
165	0	00:00	Circuit	0	None / Coord Plan	
166	0	00:00	Circuit	0	None / Coord Plan	
167	0	00:00	Circuit	0	None / Coord Plan	
168	0	00:00	Circuit	0	None / Coord Plan	
169	0	00:00	Circuit	0	None / Coord Plan	
170	0	00:00	Circuit	0	None / Coord Plan	
171	0	00:00	Circuit	0	None / Coord Plan	
172	0	00:00	Circuit	0	None / Coord Plan	
173	0	00:00	Circuit	0	None / Coord Plan	
174	0	00:00	Circuit	0	None / Coord Plan	
175	0	00:00	Circuit	0	None / Coord Plan	
176	0	00:00	Circuit	0	None / Coord Plan	
177	0	00:00	Circuit	0	None / Coord Plan	
178	0	00:00	Circuit	0	None / Coord Plan	
179	0	00:00	Circuit	0	None / Coord Plan	
180	0	00:00	Circuit	0	None / Coord Plan	
181	0	00:00	Circuit	0	None / Coord Plan	
182	0	00:00	Circuit	0	None / Coord Plan	
183	0	00:00	Circuit	0	None / Coord Plan	
184	0	00:00	Circuit	0	None / Coord Plan	
185	0	00:00	Circuit	0	None / Coord Plan	
186	0	00:00	Circuit	0	None / Coord Plan	
187	0	00:00	Circuit	0	None / Coord Plan	
188	0	00:00	Circuit	0	None / Coord Plan	
189	0	00:00	Circuit	0	None / Coord Plan	
190	0	00:00	Circuit	0	None / Coord Plan	
191	0	00:00	Circuit	0	None / Coord Plan	
192	0	00:00	Circuit	0	None / Coord Plan	
193	0	00:00	Circuit	0	None / Coord Plan	
194	0	00:00	Circuit	0	None / Coord Plan	
195	0	00:00	Circuit	0	None / Coord Plan	
196	0	00:00	Circuit	0	None / Coord Plan	
197	0	00:00	Circuit	0	None / Coord Plan	
198	0	00:00	Circuit	0	None / Coord Plan	
199	0	00:00	Circuit	0	None / Coord Plan	
200	0	00:00	Circuit	0	None / Coord Plan	
	1 - 15	hh:mm	X = On = Coord Plan	coord plan 0 - 32 or circuit 1-199		X = On

CIRCUIT OVERRIDES 1 - 100 (Next/2/4/4)

1 - Coord Line 1	CL1	2 = TOD	51 - Ped Omit 3	PO3	2 = TOD
2 - Coord Line 2	CL2	2 = TOD	52 - Ped Omit 4	PO4	2 = TOD
3 - Coord Line 4	CL4	2 = TOD	53 - Ped Omit 5	PO5	2 = TOD
4 - Coord Line 8	CL8	2 = TOD	54 - Ped Omit 6	PO6	2 = TOD
5 - Coord Line 16	C16	2 = TOD	55 - Ped Omit 7	PO7	2 = TOD
6 - Coordinated Operation	CRD	2 = TOD	56 - Ped Omit 8	PO8	2 = TOD
7 - Soft Flash	SFL	2 = TOD	57 - Conditional Service	CVS	2 = TOD
8 - Enable System Relays	ESR	2 = TOD	58 - Inhibit Simultaneous Gap Out	ISG	1 = On
9 - Call to Non Actuated Ring 1	CN1	2 = TOD	59 - Inhibit Hardwire	HWI	2 = TOD
10 - Call to Non Actuated Ring 2	CN2	2 = TOD	60 - Ped Override Mode	POM	1 = On
11 - Walk Rest Modifier	WRM	2 = TOD	61 - Dual Entry	DLE	1 = On
12 - Min Recall	MIN	2 = TOD	62 - Exclusive Ped	EPD	2 = TOD
13 - Max 2 Both Rings	MX2	2 = TOD	63 - Call to Time Clock Mode	CTC	2 = TOD
14 - Coord Inhibit Max Ring 1	IM1	2 = TOD	64 - Dual Enhanced Ped	DEP	2 = TOD
15 - Coord Inhibit Max Ring 2	IM2	2 = TOD	65 - Service Plan 1	SP1	2 = TOD
16 - Call to Free	CTF	2 = TOD	66 - Service Plan 2	SP2	2 = TOD
17 - TOD Output 1	TO1	2 = TOD	67 - Service Plan 3	SP3	2 = TOD
18 - TOD Output 2	TO2	2 = TOD	68 - Service Plan 4	SP4	2 = TOD
19 - TOD Output 3	TO3	2 = TOD	69 - Service Plan 5	SP5	2 = TOD
20 - TOD Output 4	TO4	2 = TOD	70 - Service Plan 6	SP6	2 = TOD
21 - TOD Output 5	TO5	2 = TOD	71 - Service Plan 7	SP7	2 = TOD
22 - TOD Output 6	TO6	2 = TOD	72 - Service Plan 8	SP8	2 = TOD
23 - TOD Output 7	TO7	2 = TOD	73 - Max Plan 1	MP1	2 = TOD
24 - TOD Output 8	TO8	2 = TOD	74 - Max Plan 2	MP2	2 = TOD
25 - Vehicle Call Phase 1	VC1	2 = TOD	75 - Max Plan 3	MP3	2 = TOD
26 - Vehicle Call Phase 2	VC2	2 = TOD	76 - Max Plan 4	MP4	2 = TOD
27 - Vehicle Call Phase 3	VC3	2 = TOD	77 - Max Plan 5	MP5	2 = TOD
28 - Vehicle Call Phase 4	VC4	2 = TOD	78 - Max Plan 6	MP6	2 = TOD
29 - Vehicle Call Phase 5	VC5	2 = TOD	79 - Max Plan 7	MP7	2 = TOD
30 - Vehicle Call Phase 6	VC6	2 = TOD	80 - Max Plan 8	MP8	2 = TOD
31 - Vehicle Call Phase 7	VC7	2 = TOD	81 - Transit Priority Max Group 1	TG1	2 = TOD
32 - Vehicle Call Phase 8	VC8	2 = TOD	82 - Transit Priority Max Group 2	TG2	2 = TOD
33 - Ped Call Phase 1	PC1	2 = TOD	83 - Transit Priority Max Group 3	TG3	2 = TOD
34 - Ped Call Phase 2	PC2	2 = TOD	84 - Transit Priority Max Group 4	TG4	2 = TOD
35 - Ped Call Phase 3	PC3	2 = TOD	85 - Transit Priority Max Group 5	TG5	2 = TOD
36 - Ped Call Phase 4	PC4	2 = TOD	86 - Transit Priority Max Group 6	TG6	2 = TOD
37 - Ped Call Phase 5	PC5	2 = TOD	87 - Transit Priority Max Group 7	TG7	2 = TOD
38 - Ped Call Phase 6	PC6	2 = TOD	88 - Transit Priority Max Group 8	TG8	2 = TOD
39 - Ped Call Phase 7	PC7	2 = TOD	89 - Inhibit Gap Reducing 1	GR1	2 = TOD
40 - Ped Call Phase 8	PC8	2 = TOD	90 - Inhibit Gap Reducing 2	GR2	2 = TOD
41 - Phase Omit 1	VO1	2 = TOD	91 - Inhibit Gap Reducing 3	GR3	2 = TOD
42 - Phase Omit 2	VO2	2 = TOD	92 - Inhibit Gap Reducing 4	GR4	2 = TOD
43 - Phase Omit 3	VO3	2 = TOD	93 - Inhibit Gap Reducing 5	GR5	2 = TOD
44 - Phase Omit 4	VO4	2 = TOD	94 - Inhibit Gap Reducing 6	GR6	2 = TOD
45 - Phase Omit 5	VO5	2 = TOD	95 - Inhibit Gap Reducing 7	GR7	2 = TOD
46 - Phase Omit 6	VO6	2 = TOD	96 - Inhibit Gap Reducing 8	GR8	2 = TOD
47 - Phase Omit 7	VO7	2 = TOD	97 - Lag 1	LG1	2 = TOD
48 - Phase Omit 8	VO8	2 = TOD	98 - Lag 3	LG3	2 = TOD
49 - Ped Omit 1	PO1	2 = TOD	99 - Lag 5	LG5	2 = TOD
50 - Ped Omit 2	PO2	2 = TOD	100 - Lag 7	LG8	2 = TOD

CIRCUIT OVERRIDES 101 - 199 (Next/2/4/4)

101 - Inhibit Overlap A	OLA	2 = TOD	151 - Coord Hold 7	HD7	2 = TOD
102 - Inhibit Overlap B	OLB	2 = TOD	152 - Coord Hold 8	HD8	2 = TOD
103 - Inhibit Overlap C	OLC	2 = TOD	153 - PE Priority Return B	PRB	2 = TOD
104 - Inhibit Overlap D	OLD	2 = TOD	154 - PE Priority Return C	PRC	2 = TOD
105 - Enable Schedule A Phone 1	AT1	2 = TOD	155 - PE Priority Return D	PRD	2 = TOD
106 - Enable Schedule A Phone 2	AT2	2 = TOD	156 - PE Priority Return E	PRE	2 = TOD
107 - Enable Schedule B Phone 1	BT1	2 = TOD	157 - Platoon Inbound	PPI	2 = TOD
108 - Enable Schedule B Phone 2	BT2	2 = TOD	158 - Platoon Outbound	PPO	2 = TOD
109 - Enable Schedule C Phone 1	CT1	2 = TOD	159 - Platoon Spl 2	PS2	2 = TOD
110 - Enable Schedule C Phone 2	CT2	2 = TOD	160 - Coord Walk Rest	CWR	2 = TOD
111 - Enable Volume to Call Phone 1	VT1	2 = TOD	161 - Dynamic Phase Length Short Inhibit 1	SL1	2 = TOD
112 - Enable Volume to Call Phone 1	VT2	2 = TOD	162 - Dynamic Phase Length Short Inhibit 2	SL2	2 = TOD
113 - Enable Volume Logging	EVL	1 = On	163 - Dynamic Phase Length Short Inhibit 3	SL3	2 = TOD
114 - Enable MOE Logging	EML	1 = On	164 - Dynamic Phase Length Short Inhibit 4	SL4	2 = TOD
115 - Detector Low Threshold Inhibit	DLI	2 = TOD	165 - Dynamic Phase Length Short Inhibit 5	SL5	2 = TOD
116 - Detector Continue Presence Inhibit	DPI	2 = TOD	166 - Dynamic Phase Length Short Inhibit 6	SL6	2 = TOD
117 - Inhibit Detector Based On Programming	IND	2 = TOD	167 - Dynamic Phase Length Short Inhibit 7	SL7	2 = TOD
118 - Inhibit Detector Delay	IDD	2 = TOD	168 - Dynamic Phase Length Short Inhibit 8	SL8	2 = TOD
119 - Inhibit Conditional Ped	ICP	2 = TOD	169 - Coord Late Left Turn 1	CT1	2 = TOD
120 - Inhibit Transit Priority	ITP	2 = TOD	170 - Coord Late Left Turn 3	CT3	2 = TOD
121 - Red Rest Ring 1	RR1	2 = TOD	171 - Coord Late Left Turn 5	CT5	2 = TOD
122 - Red Rest Ring 2	RR2	2 = TOD	172 - Coord Late Left Turn 7	CT7	2 = TOD
123 - Omit Red Clear Ring 1	OR1	2 = TOD	173 - Dynamic Phase Length Enable A	DPA	1 = On
124 - Omit Red Clear Ring 2	OR2	2 = TOD	174 - Dynamic Phase Length Enable B	DPB	1 = On
125 - Ped Recycle Ring 1	PR1	2 = TOD	175 - Dynamic Phase Length Enable C	DPC	1 = On
126 - Ped Recycle Ring 2	PR2	2 = TOD	176 - Dynamic Phase Length Enable D	DPD	1 = On
127 - Enable MOE Log to Call Phone 1	MT1	2 = TOD	177 - Proactive Plan Select Average	PSA	2 = TOD
128 - Enable MOE Log to Call Phone 2	MT2	2 = TOD	178 - Proactive Plan Select Inbound	PSI	2 = TOD
129 - Transit Inhibit Short Time 1	IS1	2 = TOD	179 - Proactive Plan Select Outbound	PSO	2 = TOD
130 - Transit Inhibit Short Time 2	IS2	2 = TOD	180 - Split Variant Inbound	SVI	2 = TOD
131 - Transit Inhibit Short Time 3	IS3	2 = TOD	181 - Split Variant Outbound	SVO	2 = TOD
132 - Transit Inhibit Short Time 4	IS4	2 = TOD	182 - Disable Coord Walk Rest Ring 1	WR1	2 = TOD
133 - Transit Inhibit Short Time 5	IS5	2 = TOD	183 - Disable Coord Walk Rest Ring 2	WR2	2 = TOD
134 - Transit Inhibit Short Time 6	IS6	2 = TOD	184 - Proactive Plan Select New Look	NLK	2 = TOD
135 - Transit Inhibit Short Time 7	IS7	2 = TOD	185 - Disable Red Clearance Extension	DRX	2 = TOD
136 - Transit Inhibit Short Time 8	IS8	2 = TOD	186 - Detector Plan Line 1	DL1	2 = TOD
137 - Enable Transit Priority Logging	ETL	2 = TOD	187 - Detector Plan Line 2	DL2	2 = TOD
138 - Disable Flashing Yellow Arrow 1	DF1	2 = TOD	188 - Disable LRT 1 Vertical Flashing Bar	DV1	2 = TOD
139 - Disable Flashing Yellow Arrow 3	DF3	2 = TOD	189 - Disable LRT 2 Vertical Flashing Bar	DV2	2 = TOD
140 - Disable Flashing Yellow Arrow 5	DF5	2 = TOD	190 - Disable LRT 3 Vertical Flashing Bar	DV3	2 = TOD
141 - Disable Flashing Yellow Arrow 7	DF7	2 = TOD	191 - Disable LRT 4 Vertical Flashing Bar	DV4	2 = TOD
142 - Disable Auto Max	DAM	2 = TOD	192 - Datakey Enable	DKE	1 = On
143 - Disable Repeated Phase Service	DRS	2 = TOD	193 - Dynamic Phase Reversal Enable 1	DR1	2 = TOD
144 - End of Main Street	EMS	2 = TOD	194 - Dynamic Phase Reversal Enable 3	DR3	2 = TOD
145 - Coord Hold 1	HD1	2 = TOD	195 - Dynamic Phase Reversal Enable 5	DR5	2 = TOD
146 - Coord Hold 2	HD2	2 = TOD	196 - Dynamic Phase Reversal Enable 7	DR7	2 = TOD
147 - Coord Hold 3	HD3	2 = TOD	197 - Enable Coordination Log	ECL	1 = On
148 - Coord Hold 4	HD4	2 = TOD	198 - Disable Gap For FYLTA	DGF	2 = TOD
149 - Coord Hold 5	HD5	2 = TOD	199 - Coordination Auto Walk	CAW	2 = TOD
150 - Coord Hold 6	HD6	2 = TOD			

PREEMPTION SEQUENCE 1 - 4 (Next/2/5)

Seq	Interval	Instruction	Phases Serviced	Interval Time	Hold On Input	Output On	Output Mode	
1	1	197	- 2 - - 5 - - -	0	On	- - - - -	0	Instructions - 0 = service phases defined in phases location 1-9 = use special intervals 1-9 10 = preempt sequence allows fylta 11 = preempt interval disables fylta 15 = alternate trap protection 90 = go to all red 91 = turn cvm off 92 = turn cvm on 93 = enable ped service and phases defined in phases location 94 = disable ped service 96 = enable coordination w/peds 97 = enable coordination w/o peds 98 = return with no calls 99 = return with ped calls and phases defined in phases location 100 = jump to step defined in time location and input has to be active for jump 101 = use time as resettable gap timer and service phases defined in phases location 196 = coordination sync w/peds 197 = coordination sync w/o peds 200 = lrt phase service w/o peds 201 = lrt phase service w/peds 202 = priority return-queue/delay 216 = lrt coordination sync w/peds 217 = lrt coordination sync w/o peds Phases Serviced - phases 1 - 8 Interval Time - 0 - 255 sec or interval 1 - 10 Hold on Input - X = on Outputs On - output 1 - 8 Output Modes - 0 = all steady on 1 = all flash together 2 = odd flashes WIG, even flashes WAG 3 = 1 - 4 steady on, 5 - 8 all flash together
	2	98	- - - - -	0	Off	- - - - -	0	
	3	0	- - - - -	0	Off	- - - - -	0	
	4	0	- - - - -	0	Off	- - - - -	0	
	5	0	- - - - -	0	Off	- - - - -	0	
	6	0	- - - - -	0	Off	- - - - -	0	
	7	0	- - - - -	0	Off	- - - - -	0	
	8	0	- - - - -	0	Off	- - - - -	0	
	9	0	- - - - -	0	Off	- - - - -	0	
	10	0	- - - - -	0	Off	- - - - -	0	
2	1	197	- - - - 4 - - - -	0	On	- - - - -	0	
	2	98	- - - - -	0	Off	- - - - -	0	
	3	0	- - - - -	0	Off	- - - - -	0	
	4	0	- - - - -	0	Off	- - - - -	0	
	5	0	- - - - -	0	Off	- - - - -	0	
	6	0	- - - - -	0	Off	- - - - -	0	
	7	0	- - - - -	0	Off	- - - - -	0	
	8	0	- - - - -	0	Off	- - - - -	0	
	9	0	- - - - -	0	Off	- - - - -	0	
	10	0	- - - - -	0	Off	- - - - -	0	
3	1	197	1 - - - - 6 - -	0	On	- - - - -	0	
	2	98	- - - - -	0	Off	- - - - -	0	
	3	0	- - - - -	0	Off	- - - - -	0	
	4	0	- - - - -	0	Off	- - - - -	0	
	5	0	- - - - -	0	Off	- - - - -	0	
	6	0	- - - - -	0	Off	- - - - -	0	
	7	0	- - - - -	0	Off	- - - - -	0	
	8	0	- - - - -	0	Off	- - - - -	0	
	9	0	- - - - -	0	Off	- - - - -	0	
	10	0	- - - - -	0	Off	- - - - -	0	
4	1	197	- - - - - 8	0	On	- - - - -	0	
	2	98	- - - - -	0	Off	- - - - -	0	
	3	0	- - - - -	0	Off	- - - - -	0	
	4	0	- - - - -	0	Off	- - - - -	0	
	5	0	- - - - -	0	Off	- - - - -	0	
	6	0	- - - - -	0	Off	- - - - -	0	
	7	0	- - - - -	0	Off	- - - - -	0	
	8	0	- - - - -	0	Off	- - - - -	0	
	9	0	- - - - -	0	Off	- - - - -	0	
	10	0	- - - - -	0	Off	- - - - -	0	

PREEMPTION SEQUENCE 5 - 8 (Next/2/5)

Seq	Interval	Instruction	Phases Serviced	Interval Time	Hold On Input	Output On	Output Mode	
5	1	0	- - - - -	0	Off	- - - - -	0	Instructions - 0 = service phases defined in phases location 1-9 = use special intervals 1-9 10 = preempt sequence allows fylta 11 = preempt interval disables fylta 15 = alternate trap protection 90 = go to all red 91 = turn cvm off 92 = turn cvm on 93 = enable ped service and phases defined in phases location 94 = disable ped service 96 = enable coordination w/peds 97 = enable coordination w/o peds 98 = return with no calls 99 = return with ped calls and phases defined in phases location 100 = jump to step defined in time location and input has to be active for jump 101 = use time as resettable gap timer and service phases defined in phases location 196 = coordination sync w/peds 197 = coordination sync w/o peds 200 = lrt phase service w/o peds 201 = lrt phase service w/peds 202 = priority return-queue/delay 216 = lrt coordination sync w/peds 217 = lrt coordination sync w/o peds Phases Serviced - phases 1 - 8 Interval Time - 0 - 255 sec or interval 1 - 10 Hold on Input - X = on Outputs On - output 1 - 8 Output Modes - 0 = all steady on 1 = all flash together 2 = odd flashes WIG, even flashes WAG 3 = 1 - 4 steady on, 5 - 8 all flash together
	2	0	- - - - -	0	Off	- - - - -	0	
	3	0	- - - - -	0	Off	- - - - -	0	
	4	0	- - - - -	0	Off	- - - - -	0	
	5	0	- - - - -	0	Off	- - - - -	0	
	6	0	- - - - -	0	Off	- - - - -	0	
	7	0	- - - - -	0	Off	- - - - -	0	
	8	0	- - - - -	0	Off	- - - - -	0	
	9	0	- - - - -	0	Off	- - - - -	0	
	10	0	- - - - -	0	Off	- - - - -	0	
6	1	0	- - - - -	0	Off	- - - - -	0	
	2	0	- - - - -	0	Off	- - - - -	0	
	3	0	- - - - -	0	Off	- - - - -	0	
	4	0	- - - - -	0	Off	- - - - -	0	
	5	0	- - - - -	0	Off	- - - - -	0	
	6	0	- - - - -	0	Off	- - - - -	0	
	7	0	- - - - -	0	Off	- - - - -	0	
	8	0	- - - - -	0	Off	- - - - -	0	
	9	0	- - - - -	0	Off	- - - - -	0	
	10	0	- - - - -	0	Off	- - - - -	0	
7	1	0	- - - - -	0	Off	- - - - -	0	
	2	0	- - - - -	0	Off	- - - - -	0	
	3	0	- - - - -	0	Off	- - - - -	0	
	4	0	- - - - -	0	Off	- - - - -	0	
	5	0	- - - - -	0	Off	- - - - -	0	
	6	0	- - - - -	0	Off	- - - - -	0	
	7	0	- - - - -	0	Off	- - - - -	0	
	8	0	- - - - -	0	Off	- - - - -	0	
	9	0	- - - - -	0	Off	- - - - -	0	
	10	0	- - - - -	0	Off	- - - - -	0	
8	1	0	- - - - -	0	Off	- - - - -	0	
	2	0	- - - - -	0	Off	- - - - -	0	
	3	0	- - - - -	0	Off	- - - - -	0	
	4	0	- - - - -	0	Off	- - - - -	0	
	5	0	- - - - -	0	Off	- - - - -	0	
	6	0	- - - - -	0	Off	- - - - -	0	
	7	0	- - - - -	0	Off	- - - - -	0	
	8	0	- - - - -	0	Off	- - - - -	0	
	9	0	- - - - -	0	Off	- - - - -	0	
	10	0	- - - - -	0	Off	- - - - -	0	

SEQUENCE TIMING (Next/2/5/0)

Sequence		1	2	3	4	5	6	7	8		
Input Memory										X = on	
Input Priority		6	6	6	6	0	0	0	0	0 = lowest, - 8 = highest	
Entry (Transition Parameters)	Min Green	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec 0.0 would time the normal function time	
	Walk	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0		
	Ped Clear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	Overlap Yellow	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec	
	Overlap Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	Delay to Preempt	0	0	0	0	0	0	0	0	0 - 255 sec	
	Delay Ped Omit	0	0	0	0	0	0	0	0		
	Delay Phase Omit	0	0	0	0	0	0	0	0		
Min Reservice		0	0	0	0	0	0	0	0	0 - 255 min	
Overlap Inhibits		A								X = on	
		B									
		C									
		D									
Exit Parameters	Exit to Coord Plan Offset by X	0	0	0	0	0	0	0	0	0 - 20	
	Exit Coord Plan Time	0	0	0	0	0	0	0	0	0 - 60 min	
	Exit to Max Plan	0	0	0	0	0	0	0	0	0 - 8	
	Exit Free Time	0	0	0	0	0	0	0	0	0 - 60 min	
	Override Time	0	0	0	0	0	0	0	0		
	Fail Time	0	0	0	0	0	0	0	0		
	Exit Mode Time	0	0	0	0	0	0	0	0		

PRIORITY RETURN AND SPECIAL INTERVALS (Next/2/5/0/6, Next/2/5/9)

Phase / Overlap		1	2	3	4	5	6	7	8	A	B	C	D	
Priority Return	Enable	Off	0 = disabled; 1 = enabled; 2 = enabled and skip preempt phase on exit											
	A (max)	0	0	0	0	0	0	0	0	0 - 100% of currently used max				
	B (max)	0	0	0	0	0	0	0	0					
	C (max)	0	0	0	0	0	0	0	0					
	D (max)	0	0	0	0	0	0	0	0					
	E (max)	0	0	0	0	0	0	0	0					
	Ped Clear	0	0	0	0	0	0	0	0	0 - 100% of currently used ped clearance				
Queue Delay Recovery		0	0	0	0	0	0	0	0	0 - 255 sec				
Special Intervals	1	0	0	0	0	0	0	0	0	0	0	0	0	0 = Dark 1 = green don't walk 2 = green walk 3 = green flashing don't walk 4 = yellow 5 = red 6 = flashing yellow WIG 7 = flashing yellow WAG 8 = flashing red WIG 9 = flashing red WAG 10 = walk only 11=flashing don't walk only
	2	0	0	0	0	0	0	0	0	0	0	0	0	
	3	0	0	0	0	0	0	0	0	0	0	0	0	
	4	0	0	0	0	0	0	0	0	0	0	0	0	
	5	0	0	0	0	0	0	0	0	0	0	0	0	
	6	0	0	0	0	0	0	0	0	0	0	0	0	
	7	0	0	0	0	0	0	0	0	0	0	0	0	
	8	0	0	0	0	0	0	0	0	0	0	0	0	
	9	0	0	0	0	0	0	0	0	0	0	0	0	

LIGHT RAIL TRAIN (Next/2/5/0/7)

Light Rail Train	1	2	3	4	
Associated Preempt	0	0	0	0	0 = none, preempt 1 - 8
Time to Green	0	0	0	0	0 - 255 sec
Horizontal Bar Flash Time	0.0	0.0	0.0	0.0	
Vertical Bar Flash Time	0.0	0.0	0.0	0.0	0.0 - 25.5 sec
Min Duration	0	0	0	0	0 - 255 sec

IEEE 1570 Preempt Comm to Wayside Equip (Next/2/5/0/8)

	Controller	Wayside	
Railroad Number	0	0	0-999,represents railroad
Railroad Line Number	0	0	0-999,represents railroad line
Group Number	0	0	0-999,represents phy. group of equip
Subnode Number	0	0	0-99,subnode within phy group of equip
Device Number	0	0	0-99,device within phy. group of equip
Associated PE	0		0-8
Port	0		0-4

COMMUNICATION DATA (Next/2/6)

1st Central Phone Number		2nd Central Phone Number	
Modem Setup String			
Intersection Name	212/224 @ Monroe		
Central Port	6 = UDP/AB3418/C14S		
System Mode	0		
System Port	0		
System ID	31		
Local ID	3		
AB3418 Physical Address	1		
AB3418 Group Address	0		
Serial Port Parameters	Baud Rates	Flow Control	
Port1 (Slot A2 Upper)	0 = 1200	1	
Port2 (Slot A2 Lower)	0 = 1200	1	
Port3 (Slot A1 Upper)	0 = 1200	0	
Port4 (Slot A1 :pwer pr C50S)	2 = 9600	Not Used	
0 = 1200, 1 = 2400, 2 = 9600, 3 = 19200 baud			
Ethernet Parameters			
IP Address	10.11.19.41		
Gateway Address	10.11.19.33		
Subnet Mask	255.255.255.224		
IP Port	25000		

COMMUNICATION REPORTS (Next/2/6/6, Next/2/6/7)

Volume Log Period	15	0 - 255 seconds or see below	MOE Log Period	15	See below
Volume OCC Period	15	0 - 255 seconds			
0 = disabled, 1,2,3,4,5,6,10,12,15,20,30,60 minutes					

Alarm 1	0	0 = none 1 = schedule A 2 = schedule B 3 = schedule C 4 = schedule R	Soft Flash	1	0 = none 1 = schedule A 2 = schedule B 3 = schedule C 4 = schedule R
Alarm 2	0		Manual Control Enable (MCE)	4	
Alarm 3	0		Emergency or Railroad Preempt	1	
Alarm 4	0		Not Used		
Alarm 5	0		Cycle Failure	2	
Not Used			Coordination Failure	2	
Not Used			Keyboard use /Data Changed	3	
Not Used			Coord Running / Free	2	
Power On / Off	1		Cabinet Door	3	
Checksum Failure	4		Extended Ped Pushbuton	0	
Video / Detector Failure	4	Monitor Status	4		
Not Used		Red Extension	0		

Service Delay Log (Next/2/6/0)

Phase	1	2	3	4	5	6	7	8	
	0	0	0	0	0	0	0	0	0=disable, 1=enable, 2=ped, 3=veh/ped

Ped Overlaps	A	B	C	D	E	F	G	H	
	0	0	0	0	0	0	0	0	0=disable, 1=enable

Service Delay Detectors

Detector	1	2	3	4	5	6	7	8
Service Delay	0	0	0	0	0	0	0	0
Detector	9	10	11	12	13	14	15	16
Service Delay	0	0	0	0	0	0	0	0

Detector	17	18	19	20	21	22	23	24
Service Delay	0	0	0	0	0	0	0	0
Detector	25	26	27	28	29	30	31	32
Service Delay	0	0	0	0	0	0	0	0

Detector	33	34	35	36	37	38	39	40
Service Delay	0	0	0	0	0	0	0	0
Detector	41	42	43	44	45	46	47	48
Service Delay	0	0	0	0	0	0	0	0

Detector	49	50	51	52	53	54	55	56
Service Delay	0	0	0	0	0	0	0	0
Detector	57	58	59	60	61	62	63	64
Service Delay	0	0	0	0	0	0	0	0

Miscellaneous Data

TRANSIT PRIORITY (Next/2/7)

	1	2	3	4	5	6	7	8	
Phases	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	Phases 1 - 8 (max of 2 compatible phases)
PE Enable (6.25Hz TP call on PE)	X	X	X	X	X	X	X	X	X = 6.25 Hz signal will activate TP
Priority	0	0	0	0	0	0	0	0	0 - 8, 8 = highest
Memory									X = on
Delay Time	0	0	0	0	0	0	0	0	0 - 255 sec
Minimum Reservice Time (per input)	0	0	0	0	0	0	0	0	0 - 255 min
Override Time	0	0	0	0	0	0	0	0	0 - 255 sec
Bus Extend	0	0	0	0	0	0	0	0	0 - 255 min
Minimum Reservice Time (all inputs)	0	0 - 255 min							
Free Operation Mode	0	0 = use shortest of max 1 or 2, 1 - 8 = use max time of group 1 - 8, 9 = use time of day circuit							

TRANSIT PRIORITY ALTERNATE FORCE OFF PLANS (Next/2/7/6)

Current Coord Plan	1	2	3	4	5	6	7	8	0 = none 17 - 32 = coord plan 17 - 32
Alternate TP Force Off Plan	0	0	0	0	0	0	0	0	
Current Coord Plan	9	10	11	12	13	14	15	16	
Alternate TP Force Off Plan	0	0	0	0	0	0	0	0	

GROUP TIMING (Next/2/7/5)

	Phase -->	1	2	3	4	5	6	7	8	
Group 1	Max Times	0	0	0	0	0	0	0	0	0 - 255 sec 0 would time the normal function time
	Walk Times	0	0	0	0	0	0	0	0	
Group 2	Max Times	0	0	0	0	0	0	0	0	
	Walk Times	0	0	0	0	0	0	0	0	
Group 3	Max Times	0	0	0	0	0	0	0	0	
	Walk Times	0	0	0	0	0	0	0	0	
Group 4	Max Times	0	0	0	0	0	0	0	0	
	Walk Times	0	0	0	0	0	0	0	0	
Group 5	Max Times	0	0	0	0	0	0	0	0	
	Walk Times	0	0	0	0	0	0	0	0	
Group 6	Max Times	0	0	0	0	0	0	0	0	
	Walk Times	0	0	0	0	0	0	0	0	
Group 7	Max Times	0	0	0	0	0	0	0	0	
	Walk Times	0	0	0	0	0	0	0	0	
Group 8	Max Times	0	0	0	0	0	0	0	0	
	Walk Times	0	0	0	0	0	0	0	0	

TRUCK PRIORITY (Next/2/7/9)

Truck Priority -->	1	2	3	4	
Associated Transit Priority	0	0	0	0	0 = none 1 - 8 = transit priority 1 - 8
Leading Detector	0	0	0	0	0 = none, 1 - 32 = detector 1 - 32
Trailing Detector	0	0	0	0	
Stop Bar Distance	0	0	0	0	0 - 999 feet
Trap Distance	0.0	0.0	0.0	0.0	0.0 - 99.9 feet
Minimum Speed	0	0	0	0	0 - 100 mph
Minimum Length	0	0	0	0	0 - 255 feet
Downhill Grade (%)	0	0	0	0	0 - 20%
Uphill Grade (%)	0	0	0	0	
Undersized Vehicle					X = Enabled

170 INPUTS (Next/2/8/1)

C1-39	0 - Use Default	C1-67	0 - Use Default
C1-40	0 - Use Default	C1-68	0 - Use Default
C1-41	0 - Use Default	C1-69	0 - Use Default
C1-42	0 - Use Default	C1-70	0 - Use Default
C1-43	0 - Use Default	C1-71	0 - Use Default
C1-44	0 - Use Default	C1-72	0 - Use Default
C1-45	0 - Use Default	C1-73	0 - Use Default
C1-46	0 - Use Default	C1-74	0 - Use Default
C1-47	0 - Use Default	C1-75	0 - Use Default
C1-48	0 - Use Default	C1-76	0 - Use Default
C1-49	0 - Use Default	C1-77	0 - Use Default
C1-50	0 - Use Default	C1-78	0 - Use Default
C1-51	0 - Use Default	C1-79	0 - Use Default
C1-52	0 - Use Default	C1-80	0 - Use Default
C1-53	0 - Use Default	C1-81	0 - Use Default
C1-54	0 - Use Default	C1-82	0 - Use Default
C1-55	0 - Use Default	C11-15	0 - Use Default
C1-56	0 - Use Default	C11-16	0 - Use Default
C1-57	0 - Use Default	C11-17	0 - Use Default
C1-58	0 - Use Default	C11-18	0 - Use Default
C1-59	0 - Use Default	C11-19	0 - Use Default
C1-60	0 - Use Default	C11-20	0 - Use Default
C1-61	0 - Use Default	C11-21	0 - Use Default
C1-62	0 - Use Default	C11-22	0 - Use Default
C11-10	0 - Use Default	C11-23	0 - Use Default
C11-11	0 - Use Default	C11-24	0 - Use Default
C11-12	0 - Use Default	C11-25	0 - Use Default
C11-13	0 - Use Default	C11-26	0 - Use Default
C1-63	0 - Use Default	C11-27	0 - Use Default
C1-64	0 - Use Default	C11-28	0 - Use Default
C1-65	0 - Use Default	C11-29	0 - Use Default
C1-66	0 - Use Default	C11-30	0 - Use Default

INPUTS AND OUTPUTS OPTIONS (Next/2/8/3)

Connector Type	C1/C11	Change I/O	0 = Disabled	
0 = C1/C11; 1 = MS-A/B/C/D; 2 = TS2 Port 1; 3 = ITS Cabinet		X = On (After a download without a power on - off cycle)		

170 OUTPUTS (Next/2/8/2)

C1-2	0 - Use Default	C1-35	0 - Use Default
C1-3	0 - Use Default	C1-36	0 - Use Default
C1-4	0 - Use Default	C1-37	0 - Use Default
C1-5	0 - Use Default	C1-38	0 - Use Default
C1-6	0 - Use Default	C1-100	0 - Use Default
C1-7	0 - Use Default	C1-101	0 - Use Default
C1-8	0 - Use Default	C1-102	0 - Use Default
C1-9	0 - Use Default	C1-103	0 - Use Default
C1-10	0 - Use Default	C1-83	0 - Use Default
C1-11	0 - Use Default	C1-84	0 - Use Default
C1-12	0 - Use Default	C1-85	0 - Use Default
C1-13	0 - Use Default	C1-86	0 - Use Default
C1-15	0 - Use Default	C1-87	0 - Use Default
C1-16	0 - Use Default	C1-88	0 - Use Default
C1-17	0 - Use Default	C1-89	0 - Use Default
C1-18	0 - Use Default	C1-90	0 - Use Default
C1-19	0 - Use Default	C1-91	0 - Use Default
C1-20	0 - Use Default	C1-93	0 - Use Default
C1-21	0 - Use Default	C1-94	0 - Use Default
C1-22	0 - Use Default	C1-95	0 - Use Default
C1-23	0 - Use Default	C1-96	0 - Use Default
C1-24	0 - Use Default	C1-97	0 - Use Default
C1-25	0 - Use Default	C1-98	0 - Use Default
C1-26	0 - Use Default	C1-99	0 - Use Default
C1-27	0 - Use Default	C11-1	0 - Use Default
C1-28	0 - Use Default	C11-2	0 - Use Default
C1-29	0 - Use Default	C11-3	0 - Use Default
C1-30	0 - Use Default	C11-4	0 - Use Default
C1-31	0 - Use Default	C11-5	0 - Use Default
C1-32	0 - Use Default	C11-6	0 - Use Default
C1-33	0 - Use Default	C11-7	0 - Use Default
C1-34	0 - Use Default	C11-8	0 - Use Default

INTERNAL LOGIC 1 - 96 (Next/2/9)

Step	Inst.	Comment	Step	Inst.	Comment
1	0		49	0	
2	0		50	0	
3	0		51	0	
4	0		52	0	
5	0		53	0	
6	0		54	0	
7	0		55	0	
8	0		56	0	
9	0		57	0	
10	0		58	0	
11	0		59	0	
12	0		60	0	
13	0		61	0	
14	0		62	0	
15	0		63	0	
16	0		64	0	
17	0		65	0	
18	0		66	0	
19	0		67	0	
20	0		68	0	
21	0		69	0	
22	0		70	0	
23	0		71	0	
24	0		72	0	
25	0		73	0	
26	0		74	0	
27	0		75	0	
28	0		76	0	
29	0		77	0	
30	0		78	0	
31	0		79	0	
32	0		80	0	
33	0		81	0	
34	0		82	0	
35	0		83	0	
36	0		84	0	
37	0		85	0	
38	0		86	0	
39	0		87	0	
40	0		88	0	
41	0		89	0	
42	0		90	0	
43	0		91	0	
44	0		92	0	
45	0		93	0	
46	0		94	0	
47	0		95	0	
48	0		96	0	

INTERNAL LOGIC 97 - 192 (Next/2/9)

Step	Inst.	Comment	Step	Inst.	Comment
97	0		145	0	
98	0		146	0	
99	0		147	0	
100	0		148	0	
101	0		149	0	
102	0		150	0	
103	0		151	0	
104	0		152	0	
105	0		153	0	
106	0		154	0	
107	0		155	0	
108	0		156	0	
109	0		157	0	
110	0		158	0	
111	0		159	0	
112	0		160	0	
113	0		161	0	
114	0		162	0	
115	0		163	0	
116	0		164	0	
117	0		165	0	
118	0		166	0	
119	0		167	0	
120	0		168	0	
121	0		169	0	
122	0		170	0	
123	0		171	0	
124	0		172	0	
125	0		173	0	
126	0		174	0	
127	0		175	0	
128	0		176	0	
129	0		177	0	
130	0		178	0	
131	0		179	0	
132	0		180	0	
133	0		181	0	
134	0		182	0	
135	0		183	0	
136	0		184	0	
137	0		185	0	
138	0		186	0	
139	0		187	0	
140	0		188	0	
141	0		189	0	
142	0		190	0	
143	0		191	0	
144	0		192	0	

INTERNAL LOGIC 193 - 256 (Next/2/9)

Step	Inst.	Comment	Step	Inst.	Comment
193	0		241	0	
194	0		242	0	
195	0		243	0	
196	0		244	0	
197	0		245	0	
198	0		246	0	
199	0		247	0	
200	0		248	0	
201	0		249	0	
202	0		250	0	
203	0		251	0	
204	0		252	0	
205	0		253	0	
206	0		254	0	
207	0		255	0	
208	0		256	0	
209	0				
210	0				
211	0				
212	0				
213	0				
214	0				
215	0				
216	0				
217	0				
218	0				
219	0				
220	0				
221	0				
222	0				
223	0				
224	0				
225	0				
226	0				
227	0				
228	0				
229	0				
230	0				
231	0				
232	0				
233	0				
234	0				
235	0				
236	0				
237	0				
238	0				
239	0				
240	0				

CONTROLLER ID	
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Manufacturer ID	NORTHWEST SIGNAL
Model ID	Voyage-0 v05.02.01
Protocol Revision ID	AB3418E V1

Intersection Name: Route 224 @ Oak

Controller 122052.2 Channel: 209 Drop: 13

System: TransCore TransSuite TCS

Controller Type: Voyage

Revision - Version -

TransCore Unified Controller Manager 10.0.3

Controller Function and Timing

Security, Sequence and Timing (Next/2/1, Next/2/2/3/A, Next/2/2/5)				
Security Code	0	0 = disabled, or 1000-9999	First All Red	8.0 0.0 to 25.5 seconds
Sequence	7	0 = sequential, 1 = quad left turn, 2-6 = special A-E, 7 = lead lag		
Power up Flash	0.0	0.0 - 25.5 seconds		

Initialization (Next/2/2/5)			Lead Lag (Next/2/2/3/A)			
Ring 1	Ring 2	Interval	Phases 1 - 2	Phases 3 - 4	Phases 5 - 6	Phases 7 - 8
1	5	0	2	2	2	2
Phase 1 - 8		0 = Red, 1 = Yel, 2 = Grn	0 = no reversal, 1 = reversal, 2 = by coord plan or clock			

(Next/2/2/3)		Phase Functions	(Next/2/2/1)								
Phase Used	1 2 - 4 5 6 - 8		Yellow Lock	- - - - -							
Restricted Phases	- - - - -		Min Recall	- 2 - - - 6 - -							
Exclusive Phases	- - - - -		Max Recall	- - - - -							
			Ped Recall	- - - - -							
			Red Lock	- - - - -							
			Max Out Recall Inhibit	1 2 3 4 5 6 7 8							
			Soft Recall	- - - - -							
			Free Walk Rest	- - - - -							
			Conditional Ped	- - - - -							
			Disable Inhibit Max Termination	- - - - -							
			Call To Non-Act 1	- - - - -							
			Call To Non-Act 2	- - - - -							

Phase Times (Next/2/2/2)									
Phase	1	2	3	4	5	6	7	8	
Movement	WB to	EB		SB	EB to	WB		NB Oak	
Minimum Green	4	10	0	6	4	10	0	6	0 - 255 sec.
Passage	2.3	4.8	0.0	2.5	2.3	4.8	0.0	2.5	0.0 - 25.5 sec.
Yellow	3.5	5.0	0.0	3.5	3.5	5.0	0.0	3.5	0.0 - 25.5 sec.
Red Clearance	0.5	1.0	0.0	0.5	0.5	1.0	0.0	0.5	0.0 - 25.5 sec. or 0 - 255 sec.
Max 1	15	50	0	20	15	50	0	20	0 - 255 sec.
Max 2	15	50	0	20	15	50	0	20	0 - 255 sec.
Walk	0	9	0	9	0	9	0	8	0 - 255 sec.
Ped Clear	0	26	0	30	0	29	0	27	0 - 255 sec.
Seconds Per Actuation	0.0	1.2	0.0	0.0	0.0	1.2	0.0	0.0	0.0 - 25.5 sec.
Time Before Reduction	8	10	0	8	5	10	0	5	0 - 255 sec.
Time to Reduce	3	10	0	3	5	10	0	5	0 - 255 sec.
Minimum Gap	0.5	2.8	0.0	2.0	0.5	2.8	0.0	2.0	0.0 - 25.5 sec.
Max Variable Initial	4	16	0	6	4	16	0	6	0 - 255 sec.
Max Extend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec.
Auto Max	0	0	0	0	0	0	0	0	0 - 255 sec.
Advanced walk	0	0	0	0	0	0	0	0	0 - 255 sec.

Phase Times (Next/2/2/9/5)									
Inhibit Min Yellow									X = On
Red Decimal Off									X = On

Dual Entry (Next/2/2/9/3)

Mode	1	0 = off, 1 = on, 2 = Not Used, 3 = by coord plan, 4 = by time clock circuit 61
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Dual Entry Ph -->	1	2	3	4	5	6	7	8	
Phase	0	0	0	8	0	0	0	4	0 = none, 1-8 = phase 1-8

Cond Service (Next/2/2/9/3/A)			5 Sec Head Logic (Next/2/2/9/4)						
Phase	Mode	CS Max Time	X Omits Y		Anti-Trap			Yellow Blanking LT	
Phase 1	0	0	X:Y		Trap Protected Phase	Next Phase	Phase		
Phase 3	0	0	6:1	0	1	0	< (5)	1	0
Phase 5	0	0	8:3	0	3	0	< (7)	3	0
Phase 7	0	0	2:5	0	5	0	< (1)	5	0
0 = off, 1 = C.S.On. 2 = C.S. on by TOD circuit 57, 3 = N/A, 4 = C.S. and C.R. On, 5 = C.R. on by TOD circuit 57.			4:7	0	7	0	< (3)	7	0
			0 = off, 1 = side call, 2 = no side call		X = On				

Other Controller Functions (Next/2/2/9/1, Next/2/2/9/5)

Inhibit Simultaneous Gap Out	1 - 3 4 5 - 7 8	
Last Car Passage	2	0 = recall phase, 1 = last car passage, 2 = NOT recall - Not last car passage
Red Revert (+2seconds)	0.0	0 - 25.5 sec.
Auto Ped Clear	Off	X = On
FDW thru Yellow	Off	X = On
Red Rest Delay	0.0	0 - 25.5 sec.
Change Sequence	Off	X = On (After a download without a power on - off cycle)
Advanced Flash Rate	60 FPM	0 = Disabled (60 FPM), 1 = 120 FPM
Ped Push Button Time	null	0 = Disable, 0 - 5 Seconds

Phase -->	1	2	3	4	5	6	7	8	
Red Clear Extension Detector	0	0	0	0	0	0	0	0	0 = none 1 - 32 = detector 1 - 32
Red Clear Extension Red Time	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0 - 25.5 sec.

Local Detectors (Next/2/2/4/1)

Detector Data

Detector	Description	Yellow Lock	Detector Inhibit	Call Phase	Extend Phase	Switch Phase	Delay Time	Stretch / Disconnect Time	Delay or Disconnect Mode
1				1	1	0	0	2.0	0
2				1	1	0	0	0.0	0
3				8	8	0	0	0.0	0
4				8	8	0	0	0.0	0
5				5	5	0	0	2.0	0
6				5	5	0	0	0.0	0
7				4	4	0	0	0.0	0
8				4	4	0	0	0.0	0
9				2	2	0	0	1.0	0
10				2	2	0	0	1.0	0
11				2	2	0	0	0.0	0
12				2	2	0	0	0.0	0
13				2	2	0	0	0.0	0
14				4	4	0	3	0.0	0
15				4	4	0	0	0.0	0
16				4	4	0	0	0.0	0
17				4	4	0	10	0.0	0
18				4	4	0	0	0.0	0
19				6	6	0	0	1.0	0
20				6	6	0	0	1.0	0
21				6	6	0	0	0.0	0
22				6	6	0	0	0.0	0
23				6	6	0	0	0.0	0
24				8	8	0	3	0.0	0
25				8	8	0	0	0.0	0
26				8	8	0	0	0.0	0
27				8	8	0	10	0.0	0
28				8	8	0	0	0.0	0
29				0	0	0	0	0.0	0
30				0	0	0	0	0.0	0
31				0	0	0	0	0.0	0
32				0	0	0	0	0.0	0

yellow lock, detector inhibit, - X = On; call, extend, phase - 0 = none 1 - 8 = phase 1 - 8; delay time - 0 - 255 sec
stretch / disconnect time - 0.0 - 25.5 sec.; delay or disconnect Mode - 0 -12

Local Detectors 33 - 64 (Next/2/2/4/6)

Detector Data

Detector	Description	Yellow Lock	Detector Inhibit	Call Phase	Extend Phase	Switch Phase	Delay Time	Stretch / Disconnect Time	Delay or Disconnect Mode
33		N/A	N/A	0	0	N/A	N/A	N/A	N/A
34		N/A	N/A	0	0	N/A	N/A	N/A	N/A
35		N/A	N/A	0	0	N/A	N/A	N/A	N/A
36		N/A	N/A	0	0	N/A	N/A	N/A	N/A
37		N/A	N/A	0	0	N/A	N/A	N/A	N/A
38		N/A	N/A	0	0	N/A	N/A	N/A	N/A
39		N/A	N/A	0	0	N/A	N/A	N/A	N/A
40		N/A	N/A	0	0	N/A	N/A	N/A	N/A
41		N/A	N/A	0	0	N/A	N/A	N/A	N/A
42		N/A	N/A	0	0	N/A	N/A	N/A	N/A
43		N/A	N/A	0	0	N/A	N/A	N/A	N/A
44		N/A	N/A	0	0	N/A	N/A	N/A	N/A
45		N/A	N/A	0	0	N/A	N/A	N/A	N/A
46		N/A	N/A	0	0	N/A	N/A	N/A	N/A
47		N/A	N/A	0	0	N/A	N/A	N/A	N/A
48		N/A	N/A	0	0	N/A	N/A	N/A	N/A
49		N/A	N/A	0	0	N/A	N/A	N/A	N/A
50		N/A	N/A	0	0	N/A	N/A	N/A	N/A
51		N/A	N/A	0	0	N/A	N/A	N/A	N/A
52		N/A	N/A	0	0	N/A	N/A	N/A	N/A
53		N/A	N/A	0	0	N/A	N/A	N/A	N/A
54		N/A	N/A	0	0	N/A	N/A	N/A	N/A
55		N/A	N/A	0	0	N/A	N/A	N/A	N/A
56		N/A	N/A	0	0	N/A	N/A	N/A	N/A
57		N/A	N/A	0	0	N/A	N/A	N/A	N/A
58		N/A	N/A	0	0	N/A	N/A	N/A	N/A
59		N/A	N/A	0	0	N/A	N/A	N/A	N/A
60		N/A	N/A	0	0	N/A	N/A	N/A	N/A
61		N/A	N/A	0	0	N/A	N/A	N/A	N/A
62		N/A	N/A	0	0	N/A	N/A	N/A	N/A
63		N/A	N/A	0	0	N/A	N/A	N/A	N/A
64		N/A	N/A	0	0	N/A	N/A	N/A	N/A

yellow lock, detector inhibit, - X = On; call, extend, phase - 0 = none 1 - 8 = phase 1 - 8; delay time - 0 - 255 sec
stretch / disconnect time - 0.0 - 25.5 sec.; delay or disconnect Mode - 0 -12

Detector Fail Monitor (Next/2/2/4/3)

	Fail Monitor Enable	Recall Phase	Min Counts	Max Counts	
Detector 1		0	0	0	
Detector 2		0	0	0	
Detector 3		0	0	0	
Detector 4		0	0	0	
Detector 5		0	0	0	
Detector 6		0	0	0	
Detector 7		0	0	0	
Detector 8		0	0	0	
Detector 9		0	0	0	
Detector 10		0	0	0	
Detector 11		0	0	0	
Detector 12		0	0	0	
Detector 13		0	0	0	
Detector 14		0	0	0	
Detector 15		0	0	0	fail monitor enable - X = On
Detector 16		0	0	0	recall phase - 0 = none 1 - 8 = phase 1 - 8
Detector 17		0	0	0	min, max counts - 0 - 999
Detector 18		0	0	0	
Detector 19		0	0	0	
Detector 20		0	0	0	
Detector 21		0	0	0	
Detector 22		0	0	0	
Detector 23		0	0	0	
Detector 24		0	0	0	
Detector 25		0	0	0	
Detector 26		0	0	0	
Detector 27		0	0	0	
Detector 28		0	0	0	
Detector 29		0	0	0	
Detector 30		0	0	0	
Detector 31		0	0	0	
Detector 32		0	0	0	

Detector Plans (Next/2/2/4/5)

Detector Plans (Next/2/2/4/5)										
Loop Number										
Plan Detectors		0	0	0	0	0	0	0	0	0 - 32, 0 = none, 1 - 32 = detectors 1- 32
Detector Plan 1	Call Phase	0	0	0	0	0	0	0	0	0 - 8, 0 = none, 1 - 8 = phase 1 - 8
	Extended Phase	0	0	0	0	0	0	0	0	
	Switch Phase	0	0	0	0	0	0	0	0	
	Delay Time	0	0	0	0	0	0	0	0	0 - 255 seconds
	Stretch / Disconnect Time	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 seconds
	Delay / Disconnect Mode	0	0	0	0	0	0	0	0	0 - 14
Detector Plan 2	Call Phase	0	0	0	0	0	0	0	0	0 - 8, 0 = none, 1 - 8 = phase 1 - 8
	Extended Phase	0	0	0	0	0	0	0	0	
	Switch Phase	0	0	0	0	0	0	0	0	
	Delay Time	0	0	0	0	0	0	0	0	0 - 255 seconds
	Stretch / Disconnect Time	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 seconds
	Delay / Disconnect Mode	0	0	0	0	0	0	0	0	0 - 14
Detector Plan 3	Call Phase	0	0	0	0	0	0	0	0	0 - 8, 0 = none, 1 - 8 = phase 1 - 8
	Extended Phase	0	0	0	0	0	0	0	0	
	Switch Phase	0	0	0	0	0	0	0	0	
	Delay Time	0	0	0	0	0	0	0	0	0 - 255 seconds
	Stretch / Disconnect Time	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 seconds
	Delay / Disconnect Mode	0	0	0	0	0	0	0	0	0 - 14

Detector Fail (Next/2/2/4/3)

Detector Fail Sample Period (all detectors)		0	0 - 255 minutes						
Dynamic Phase Length Fail Period		0	0 - 255 minutes						
Video Fail Inputs	1	2	3	4	5	6	7	8	0 = none, 1 - 8 = phase 1 - 8
Phase Recalled	0	0	0	0	0	0	0	0	
System Detectors	1	2	3	4	5	6	7	8	0 = none, 1 - 32 = detector 1 - 32
Local Detector	0	0	0	0	0	0	0	0	

Flash (Next/2/2/5)

Flash Entry					Flash Exit				
Ring 1	Ring 2	Interval			Ring 1	Ring 2	Interval		
0	0	red			1	5	0		
0 = none, phase 1 - 8		0 = red, 1 = yel, 2 = grn			0 = none, phase 1 - 8		0 = red, 1 = yel, 2 = grn		

Soft Flash (Next/2/2/5/A)

Phase	1	2	3	4	5	6	7	8				
	0	0	0	0	0	0	0	0				
Overlap	A	B	C	D	E	F	G	H	I	J	K	L
	0	0	0	0	0	0	0	0	0	0	0	0
0 = dark, 1=flash yel WIG, 2 = flash yel WAG, 3 = flash red WIG, 4 = flash red WAG												

Internal Logic	1	2	3	4	5	6	7	8	9	10	11	12	0 = normal, 1 = dark, 2 = flash WIG
Output	0	0	0	0	0	0	0	0	0	0	0	0	

Overlaps (Next/2/2/8/1)

Vehicle Overlaps	Phase or Movement	Phase or Movement								Extension Green	Clearance		A - D 0 = no overlap 1 = overlap 2 = 60 FPM 3 = Not ped overlap 4 = Comp Phase 5 = Prevent Ext 6 = Not Vehicle E - L 0 = no Overlap 1 = Overlap Green, Yellow, Red 0.0 - 25.5 sec
		1	2	3	4	5	6	7	8		Yellow	Red	
A		0	0	0	0	0	0	0	0	0.0	0.0	0.0	
B		0	0	0	0	0	0	0	0	0.0	0.0	0.0	
C		0	0	0	0	0	0	0	0	0.0	0.0	0.0	
D		0	0	0	0	0	0	0	0	0.0	0.0	0.0	
E		0	0	0	0	0	0	0	0	0.0	0.0	0.0	
F		0	0	0	0	0	0	0	0	0.0	0.0	0.0	
G		0	0	0	0	0	0	0	0	0.0	0.0	0.0	
H		0	0	0	0	0	0	0	0	0.0	0.0	0.0	
I		0	0	0	0	0	0	0	0	0.0	0.0	0.0	
J		0	0	0	0	0	0	0	0	0.0	0.0	0.0	
K		0	0	0	0	0	0	0	0	0.0	0.0	0.0	
L		0	0	0	0	0	0	0	0	0.0	0.0	0.0	

(Next/2/2/8/6/8)

Ped Overlaps (Next/2/2/8/5)

Overlap	Not Ped-Ped Overlaps								Ped Overlap	Phase	Recall	Walk	Ped Clear	Walk, Ped Clear 0 - 255 seconds
	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	<u>F</u>	<u>G</u>	<u>H</u>						
A	-	-	-	-	-	-	-	A	- - - - -		0	0		
B	-	-	-	-	-	-	-	B	- - - - -		0	0		
C	-	-	-	-	-	-	-	C	- - - - -		0	0		
D	-	-	-	-	-	-	-	D	- - - - -		0	0		
E	-	-	-	-	-	-	-	E	- - - - -		0	0		
F	-	-	-	-	-	-	-	F	- - - - -		0	0		
G	-	-	-	-	-	-	-	G	- - - - -		0	0		
H	-	-	-	-	-	-	-	H	- - - - -		0	0		

Advance Warning (Next/2/2/8/3)

	E	F	G	H	I	J	K	L	
Enable	0	0	0	0	0	0	0	0	0 = Disable, 1 = Enable
1st Conditional Overlaps	0	0	0	0	0	0	0	0	0 = None, 1 = OL E, 2 = OL F, 3 = OL G, 4 = OL H, 5 = OL I, 6 = OL J, 7 = OL K, 8 = OL L
2nd Conditional Overlaps	0	0	0	0	0	0	0	0	
Advance Deactivation Delay	0	0	0	0	0	0	0	0	0 - 99 sec

Flashing Yellow Left Turn Arrow (FYLTA) (Next/2/2/8/6)

Phase Pairs ->	1 - 2	3 - 4	5 - 6	7 - 8	
Enable	0	0	0	0	0 = off, 3 = 3 outputs, 4 = 4 outputs, 5 = 5 outputs
Even Omits Odd	0	0	0	0	0 / 1 / 2
Detector Switch Odd / Even	0	0	0	0	X = on, odd phase must be omitted
Red Transition	0.0	0.0	0.0	0.0	0.0 or 2.0 - 25.5 sec.
Red Extension	0.0	0.0	0.0	0.0	0.0 - 25.5 sec.
Return to GLTA	0	0	0	0	0 = off, 1 = max out, 2= yellow lock

Gap Dependent FYLTA					
Detector Input	0	0	0	0	0 = Disabled, 1 - 64 = Local Detector 1 - 64
Minimum Delay	0	0	0	0	0 - 255 seconds
Detector Gap Time	0.0	0.0	0.0	0.0	0 - 25.5 seconds.
Maximum Delay	0	0	0	0	0 - 255 seconds
Not Ped	0	0	0	0	

Dynamic Flashing Yellow Left Turn Arrow

Phase Pairs	1 - 2	3 - 4	5 - 6	7 - 8	
[Plan A] Detector Input	0	0	0	0	Detectors 1 - 64; 0 = disabled
Detector Gap Time	0.0	0.0	0.0	0.0	0.0 - 25.5
FYLTA Max Delay	0	0	0	0	0 - 255
FYLTA Min Delay	0	0	0	0	0 - 255
Not Ped Mode	0	0	0	0	0 - 4

[Plan B] Detector Input	0	0	0	0	Detectors 1 - 64; 0 = disabled
Detector Gap Time	0.0	0.0	0.0	0.0	0.0 - 25.5
FYLTA Max Delay	0	0	0	0	0 - 255
FYLTA Min Delay	0	0	0	0	0 - 255
Not Ped Mode	0	0	0	0	0 - 4

[Plan C] Detector Input	0	0	0	0	Detectors 1 - 64; 0 = disabled
Detector Gap Time	0.0	0.0	0.0	0.0	0.0 - 25.5
FYLTA Max Delay	0	0	0	0	0 - 255
FYLTA Min Delay	0	0	0	0	0 - 255
Not Ped Mode	0	0	0	0	0 - 4

[Plan D] Detector Input	0	0	0	0	Detectors 1 - 64; 0 = disabled
Detector Gap Time	0.0	0.0	0.0	0.0	0.0 - 25.5
FYLTA Max Delay	0	0	0	0	0 - 255
FYLTA Min Delay	0	0	0	0	0 - 255
Not Ped Mode	0	0	0	0	0 - 4

Service Plans 1 - 4 (Next/2/2/6)

Phase ->		1	2	3	4	5	6	7	8	
Service Plan 1	Call Mode	0	0	0	0	0	0	0	0	
	0 = actuated, 1 = omit, 2 = CNA, 3 = min recall, 4 = max recall, 5 = soft recall, 6 = ped recall, 7 = omit ped, 8 = red rest									
	Min Green	0	0	0	0	0	0	0	0	0 - 255 sec
	Passage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec.
	Yellow	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec. or 3.0 - 25.5
	Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec.
	Walk	0	0	0	0	0	0	0	0	0 - 255 sec
	Ped Clearance	0	0	0	0	0	0	0	0	0 - 255 sec

Service Plan 2	Call Mode	0	0	0	0	0	0	0	0	
	0 = actuated, 1 = omit, 2 = CNA, 3 = min recall, 4 = max recall, 5 = soft recall, 6 = ped recall, 7 = omit ped, 8 = red rest									
	Min Green	0	0	0	0	0	0	0	0	0 - 255 sec
	Passage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec.
	Yellow	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec. or 3.0 - 25.5
	Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec.
	Walk	0	0	0	0	0	0	0	0	0 - 255 sec
	Ped Clearance	0	0	0	0	0	0	0	0	0 - 255 sec

Service Plan 3	Call Mode	0	0	0	0	0	0	0	0	
	0 = actuated, 1 = omit, 2 = CNA, 3 = min recall, 4 = max recall, 5 = soft recall, 6 = ped recall, 7 = omit ped, 8 = red rest									
	Min Green	0	0	0	0	0	0	0	0	0 - 255 sec
	Passage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec.
	Yellow	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec. or 3.0 - 25.5
	Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec.
	Walk	0	0	0	0	0	0	0	0	0 - 255 sec
	Ped Clearance	0	0	0	0	0	0	0	0	0 - 255 sec

Service Plan 4	Call Mode	0	0	0	0	0	0	0	0	
	0 = actuated, 1 = omit, 2 = CNA, 3 = min recall, 4 = max recall, 5 = soft recall, 6 = ped recall, 7 = omit ped, 8 = red rest									
	Min Green	0	0	0	0	0	0	0	0	0 - 255 sec
	Passage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec.
	Yellow	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec. or 3.0 - 25.5
	Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec.
	Walk	0	0	0	0	0	0	0	0	0 - 255 sec
	Ped Clearance	0	0	0	0	0	0	0	0	0 - 255 sec

Service Plans 5 - 8 (Next/2/2/6)

Phase ->	1	2	3	4	5	6	7	8	
Call Mode	0	0	0	0	0	0	0	0	0
0 = actuated, 1 = omit, 2 = CNA, 3 = min recall, 4 = max recall, 5 = soft recall, 6 = ped recall, 7 = omit ped, 8 = red rest									
Min Green	0	0	0	0	0	0	0	0	0 - 255 sec
Passage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec.
Yellow	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec. or 3.0 - 25.5
Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec.
Walk	0	0	0	0	0	0	0	0	0 - 255 sec
Ped Clearance	0	0	0	0	0	0	0	0	0 - 255 sec

Call Mode	0	0	0	0	0	0	0	0	0
0 = actuated, 1 = omit, 2 = CNA, 3 = min recall, 4 = max recall, 5 = soft recall, 6 = ped recall, 7 = omit ped, 8 = red rest									
Min Green	0	0	0	0	0	0	0	0	0 - 255 sec
Passage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec.
Yellow	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec. or 3.0 - 25.5
Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec.
Walk	0	0	0	0	0	0	0	0	0 - 255 sec
Ped Clearance	0	0	0	0	0	0	0	0	0 - 255 sec

Call Mode	0	0	0	0	0	0	0	0	0
0 = actuated, 1 = omit, 2 = CNA, 3 = min recall, 4 = max recall, 5 = soft recall, 6 = ped recall, 7 = omit ped, 8 = red rest									
Min Green	0	0	0	0	0	0	0	0	0 - 255 sec
Passage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec.
Yellow	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec. or 3.0 - 25.5
Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec.
Walk	0	0	0	0	0	0	0	0	0 - 255 sec
Ped Clearance	0	0	0	0	0	0	0	0	0 - 255 sec

Call Mode	0	0	0	0	0	0	0	0	0
0 = actuated, 1 = omit, 2 = CNA, 3 = min recall, 4 = max recall, 5 = soft recall, 6 = ped recall, 7 = omit ped, 8 = red rest									
Min Green	0	0	0	0	0	0	0	0	0 - 255 sec
Passage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec.
Yellow	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec. or 3.0 - 25.5
Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec.
Walk	0	0	0	0	0	0	0	0	0 - 255 sec
Ped Clearance	0	0	0	0	0	0	0	0	0 - 255 sec

Max Plans (Next/2/2/7)

	Phase->	1	2	3	4	5	6	7	8	
MaxPlan 1	Normal Max	15	68	0	25	17	66	0	25	0 - 255 sec
	Fail Max	0	0	0	0	0	0	0	0	
	Max Extend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec
	Auto Max	0	0	0	0	0	0	0	0	0 - 255 sec
MaxPlan 2	Normal Max	13	55	0	20	21	47	0	20	0 - 255 sec
	Fail Max	0	0	0	0	0	0	0	0	
	Max Extend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec
	Auto Max	0	0	0	0	0	0	0	0	0 - 255 sec
MaxPlan 3	Normal Max	15	71	0	22	27	59	0	22	0 - 255 sec
	Fail Max	0	0	0	0	0	0	0	0	
	Max Extend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec
	Auto Max	0	0	0	0	0	0	0	0	0 - 255 sec
MaxPlan 4	Normal Max	0	0	0	0	0	0	0	0	0 - 255 sec
	Fail Max	0	0	0	0	0	0	0	0	
	Max Extend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec
	Auto Max	0	0	0	0	0	0	0	0	0 - 255 sec
MaxPlan 5	Normal Max	0	0	0	0	0	0	0	0	0 - 255 sec
	Fail Max	0	0	0	0	0	0	0	0	
	Max Extend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec
	Auto Max	0	0	0	0	0	0	0	0	0 - 255 sec
MaxPlan 6	Normal Max	0	0	0	0	0	0	0	0	0 - 255 sec
	Fail Max	0	0	0	0	0	0	0	0	
	Max Extend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec
	Auto Max	0	0	0	0	0	0	0	0	0 - 255 sec
MaxPlan 7	Normal Max	0	0	0	0	0	0	0	0	0 - 255 sec
	Fail Max	0	0	0	0	0	0	0	0	
	Max Extend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec
	Auto Max	0	0	0	0	0	0	0	0	0 - 255 sec
MaxPlan 8	Normal Max	0	0	0	0	0	0	0	0	0 - 255 sec
	Fail Max	0	0	0	0	0	0	0	0	
	Max Extend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec
	Auto Max	0	0	0	0	0	0	0	0	0 - 255 sec

CoordinationData

Coordination Modes (Next/2/3/1)

Flash Mode	33	0=off, 1=on, 33=time clock, 34=comm, 35=hardwire
Coordination Plan Mode	33	0=free, 1-32 = coord plan 1-32, 33=time clock, 34=comm, 35=hardwire
Offset Seeking Mode	2	0=add only, 1= dwell, 2=fastway
Late Ped	0	0 = off, 1 = on
Coord Walk Rest	0	0 = off, 1 = on, 2 = by tod circuit 160, 3 = end of walk, 4 = coord ped during perms
Zero Mode(TS2 only)	0	0=start of main street, 1=end of main street, 2=by TOD circuit 144, 3 = first green
(Next/2/3/4/1)		
Repeated Ped Service	0	0=off, 1=on (no coord ped), 2=on (beginning green coord ped), 3=on (coord ped always)
Omit Phase During Repeated Phase	- - - - -	-- = service allowed ; # = service prevented

Coordination Plans (Next/2/3/2)

Coord Plan	Coordination Phases		Cycle Length	Offset Time	Min Cycle Len Dwell Time	Permissive	Service Plan	Max Plan
	Ring 1	Ring 2						
1	2	6	120	66	0	0	0	1
2	2	6	100	69	0	0	0	2
3	2	6	120	67	0	0	0	3
4	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0
	0 - 8		0 - 255 sec			0 - 8		

Coordination Plans cont. (Next/2/3/2)

Coord Plan	Use FO for timing	Force Off / Split Times (TS2)								Yield Points / Actuated Times (TS2)	
		1	2	3	4	5	6	7	8	Ring 1	Ring 2
1		19	72	0	29	21	70	0	29	21	0
2		17	59	0	24	25	51	0	24	25	0
3		19	75	0	26	31	63	0	26	31	0
4		0	0	0	0	0	0	0	0	0	0
5		0	0	0	0	0	0	0	0	0	0
6		0	0	0	0	0	0	0	0	0	0
7		0	0	0	0	0	0	0	0	0	0
8		0	0	0	0	0	0	0	0	0	0
9		0	0	0	0	0	0	0	0	0	0
10		0	0	0	0	0	0	0	0	0	0
11		0	0	0	0	0	0	0	0	0	0
12		0	0	0	0	0	0	0	0	0	0
13		0	0	0	0	0	0	0	0	0	0
14		0	0	0	0	0	0	0	0	0	0
15		0	0	0	0	0	0	0	0	0	0
16		0	0	0	0	0	0	0	0	0	0
17		0	0	0	0	0	0	0	0	0	0
18		0	0	0	0	0	0	0	0	0	0
19		0	0	0	0	0	0	0	0	0	0
20		0	0	0	0	0	0	0	0	0	0
21		0	0	0	0	0	0	0	0	0	0
22		0	0	0	0	0	0	0	0	0	0
23		0	0	0	0	0	0	0	0	0	0
24		0	0	0	0	0	0	0	0	0	0
25		0	0	0	0	0	0	0	0	0	0
26		0	0	0	0	0	0	0	0	0	0
27		0	0	0	0	0	0	0	0	0	0
28		0	0	0	0	0	0	0	0	0	0
29		0	0	0	0	0	0	0	0	0	0
30		0	0	0	0	0	0	0	0	0	0
31		0	0	0	0	0	0	0	0	0	0
32		0	0	0	0	0	0	0	0	0	0
		0 - 255 sec * = force offs and yield points									

Circuit Mapping (Next/2/3/3)

Circuit Map	Coord Plan	Time Clock Circuit							
		1	2	3	4	5	6	7	8
1	1	99	0	0	0	0	0	0	0
2	2	99	0	0	0	0	0	0	0
3	3	99	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0

coord plan - 0 = free, 1 - 32 = coord plan 1 - 32, 33 = any, 34 none selected
time clock circuits - 0 = not used, or circuits 6 - 199

Dynamic Phase Lengths (Next/2/3/4/4)

Phase ->	1	2	3	4	5	6	7	8	
Back Detector	1	1	1	1	1	1	1	1	0 = none, 1-32 = detector 1-32
Lane Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0 = none, 0.5 - 5.0
Check Out Detector	0	0	0	0	0	0	0	0	0 = none, 1-32 = detector 1-32
Coord Delta Force Off	Set A	0	0	0	0	0	0	0	0 - 255 sec
	Set B	0	0	0	0	0	0	0	
	Set C	0	0	0	0	0	0	0	
	Set D	0	0	0	0	0	0	0	
Free Delta Max	Set A	0	0	0	0	0	0	0	
	Set B	0	0	0	0	0	0	0	
	Set C	0	0	0	0	0	0	0	
	Set D	0	0	0	0	0	0	0	

Auto Permissive Min Green (Next/2/3/4/3)

Phase ->	1	2	3	4	5	6	7	8	
Auto Perm Min Green	0	0	0	0	0	0	0	0	0 - 255 sec.

Platoon Progression (Next/2/3/4/5)

Entry Local Only			Master Local Only		
Platoon Max	0	0 - 255 sec	Smoothing Factor	0.0	0.0 - 1.0
Min Platoon Green	0	0 - 255 sec			
Entry Detector Gap	0.0	0.0 - 25.5 sec			
Minimum Platoon Cycle	0	0 - 255 sec			

Inbound			Outbound		
Only for Entry Inbound Local or Master Local			Only for Entry Outbound Local or Master Local		
Entry IB Local also Last OB Local	0	0 - 50	Entry OB Local also Last IB Local	0	0 - 50
Speed	0	0 - 55 mph	Speed	0	0 - 55 mph
Distance from Entry Local	0	0 - 65000 feet	Distance from Entry Local	0	0 - 65000 feet

Entry Local Only				Entry Local Only			
Distance from Entry Local Detector	0		0 - 999 feet	Distance from Entry Local Detector	0		0 - 999 feet
Entry Local Detector	0	0	0 - 32	Entry Local Detector	0	0	0 - 32

Master Local				Master Local			
Master Mid - System Critical Detectors	0	0	0 - 16	Master Mid - System Critical Detectors	0	0	0 - 16

Force Off Percents

Inbound	1	3	4	5	7	8	Outbound	1	3	4	5	7	8
Split 1	0	0	0	0	0	0	Split 1	0	0	0	0	0	0
Split 2	0	0	0	0	0	0	Split 2	0	0	0	0	0	0
	0 - 100%							0 - 100%					

Time of Day Data (Next/2/4/1)

Day Program

	Day Prog	Time	Coord Plan or Circuit	Coord Plan # or Circuit #	Circuit Abbrev	State On/Off
1	1	06:00	Coord Plan	1	CL1	
2	1	09:30	Coord Plan	2	CL2	
3	1	14:45	Coord Plan	3	CL4	
4	1	18:30	Coord Plan	2	CL2	
5	1	21:00	Coord Plan	0	None / Coord Plan	
6	2	09:00	Coord Plan	2	CL2	
7	2	20:00	Coord Plan	0	None / Coord Plan	
8	0	00:00	Circuit	0	None / Coord Plan	
9	0	00:00	Circuit	0	None / Coord Plan	
10	0	00:00	Circuit	0	None / Coord Plan	
11	0	00:00	Circuit	0	None / Coord Plan	
12	0	00:00	Circuit	0	None / Coord Plan	
13	0	00:00	Circuit	0	None / Coord Plan	
14	0	00:00	Circuit	0	None / Coord Plan	
15	0	00:00	Circuit	0	None / Coord Plan	
16	0	00:00	Circuit	0	None / Coord Plan	
17	0	00:00	Circuit	0	None / Coord Plan	
18	0	00:00	Circuit	0	None / Coord Plan	
19	0	00:00	Circuit	0	None / Coord Plan	
20	0	00:00	Circuit	0	None / Coord Plan	
21	0	00:00	Circuit	0	None / Coord Plan	
22	0	00:00	Circuit	0	None / Coord Plan	
23	0	00:00	Circuit	0	None / Coord Plan	
24	0	00:00	Circuit	0	None / Coord Plan	
25	0	00:00	Circuit	0	None / Coord Plan	
26	0	00:00	Circuit	0	None / Coord Plan	
27	0	00:00	Circuit	0	None / Coord Plan	
28	0	00:00	Circuit	0	None / Coord Plan	
29	0	00:00	Circuit	0	None / Coord Plan	
30	0	00:00	Circuit	0	None / Coord Plan	
31	0	00:00	Circuit	0	None / Coord Plan	
32	0	00:00	Circuit	0	None / Coord Plan	
33	0	00:00	Circuit	0	None / Coord Plan	
34	0	00:00	Circuit	0	None / Coord Plan	
35	0	00:00	Circuit	0	None / Coord Plan	
36	0	00:00	Circuit	0	None / Coord Plan	
37	0	00:00	Circuit	0	None / Coord Plan	
38	0	00:00	Circuit	0	None / Coord Plan	
39	0	00:00	Circuit	0	None / Coord Plan	
40	0	00:00	Circuit	0	None / Coord Plan	
	1 - 15	hh:mm	X = On = Coord Plan	coord plan 0 - 32 or circuit 1-199		X = On

Time of Day Data (Next/2/4/1)

Day Program

	Day Prog	Time	Coord Plan or Circuit	Coord Plan # or Circuit #	Circuit Abbrev	State On/Off
41	0	00:00	Circuit	0	None / Coord Plan	
42	0	00:00	Circuit	0	None / Coord Plan	
43	0	00:00	Circuit	0	None / Coord Plan	
44	0	00:00	Circuit	0	None / Coord Plan	
45	0	00:00	Circuit	0	None / Coord Plan	
46	0	00:00	Circuit	0	None / Coord Plan	
47	0	00:00	Circuit	0	None / Coord Plan	
48	0	00:00	Circuit	0	None / Coord Plan	
49	0	00:00	Circuit	0	None / Coord Plan	
50	0	00:00	Circuit	0	None / Coord Plan	
51	0	00:00	Circuit	0	None / Coord Plan	
52	0	00:00	Circuit	0	None / Coord Plan	
53	0	00:00	Circuit	0	None / Coord Plan	
54	0	00:00	Circuit	0	None / Coord Plan	
55	0	00:00	Circuit	0	None / Coord Plan	
56	0	00:00	Circuit	0	None / Coord Plan	
57	0	00:00	Circuit	0	None / Coord Plan	
58	0	00:00	Circuit	0	None / Coord Plan	
59	0	00:00	Circuit	0	None / Coord Plan	
60	0	00:00	Circuit	0	None / Coord Plan	
61	0	00:00	Circuit	0	None / Coord Plan	
62	0	00:00	Circuit	0	None / Coord Plan	
63	0	00:00	Circuit	0	None / Coord Plan	
64	0	00:00	Circuit	0	None / Coord Plan	
65	0	00:00	Circuit	0	None / Coord Plan	
66	0	00:00	Circuit	0	None / Coord Plan	
67	0	00:00	Circuit	0	None / Coord Plan	
68	0	00:00	Circuit	0	None / Coord Plan	
69	0	00:00	Circuit	0	None / Coord Plan	
70	0	00:00	Circuit	0	None / Coord Plan	
71	0	00:00	Circuit	0	None / Coord Plan	
72	0	00:00	Circuit	0	None / Coord Plan	
73	0	00:00	Circuit	0	None / Coord Plan	
74	0	00:00	Circuit	0	None / Coord Plan	
75	0	00:00	Circuit	0	None / Coord Plan	
76	0	00:00	Circuit	0	None / Coord Plan	
77	0	00:00	Circuit	0	None / Coord Plan	
78	0	00:00	Circuit	0	None / Coord Plan	
79	0	00:00	Circuit	0	None / Coord Plan	
80	0	00:00	Circuit	0	None / Coord Plan	
	1 - 15	hh:mm	X = On = Coord Plan	coord plan 0 - 32 or circuit 1-199		X = On

Time of Day Data (Next/2/4/1)

Day Program

	Day Prog	Time	Coord Plan or Circuit	Coord Plan # or Circuit #	Circuit Abbrev	State On/Off
81	0	00:00	Circuit	0	None / Coord Plan	
82	0	00:00	Circuit	0	None / Coord Plan	
83	0	00:00	Circuit	0	None / Coord Plan	
84	0	00:00	Circuit	0	None / Coord Plan	
85	0	00:00	Circuit	0	None / Coord Plan	
86	0	00:00	Circuit	0	None / Coord Plan	
87	0	00:00	Circuit	0	None / Coord Plan	
88	0	00:00	Circuit	0	None / Coord Plan	
89	0	00:00	Circuit	0	None / Coord Plan	
90	0	00:00	Circuit	0	None / Coord Plan	
91	0	00:00	Circuit	0	None / Coord Plan	
92	0	00:00	Circuit	0	None / Coord Plan	
93	0	00:00	Circuit	0	None / Coord Plan	
94	0	00:00	Circuit	0	None / Coord Plan	
95	0	00:00	Circuit	0	None / Coord Plan	
96	0	00:00	Circuit	0	None / Coord Plan	
97	0	00:00	Circuit	0	None / Coord Plan	
98	0	00:00	Circuit	0	None / Coord Plan	
99	0	00:00	Circuit	0	None / Coord Plan	
100	0	00:00	Circuit	0	None / Coord Plan	
101	0	00:00	Circuit	0	None / Coord Plan	
102	0	00:00	Circuit	0	None / Coord Plan	
103	0	00:00	Circuit	0	None / Coord Plan	
104	0	00:00	Circuit	0	None / Coord Plan	
105	0	00:00	Circuit	0	None / Coord Plan	
106	0	00:00	Circuit	0	None / Coord Plan	
107	0	00:00	Circuit	0	None / Coord Plan	
108	0	00:00	Circuit	0	None / Coord Plan	
109	0	00:00	Circuit	0	None / Coord Plan	
110	0	00:00	Circuit	0	None / Coord Plan	
111	0	00:00	Circuit	0	None / Coord Plan	
112	0	00:00	Circuit	0	None / Coord Plan	
113	0	00:00	Circuit	0	None / Coord Plan	
114	0	00:00	Circuit	0	None / Coord Plan	
115	0	00:00	Circuit	0	None / Coord Plan	
116	0	00:00	Circuit	0	None / Coord Plan	
117	0	00:00	Circuit	0	None / Coord Plan	
118	0	00:00	Circuit	0	None / Coord Plan	
119	0	00:00	Circuit	0	None / Coord Plan	
120	0	00:00	Circuit	0	None / Coord Plan	
	1 - 15	hh:mm	X = On = Coord Plan	coord plan 0 - 32 or circuit 1-199		X = On

Time of Day Data (Next/2/4/1)

Day Program

	Day Prog	Time	Coord Plan or Circuit	Coord Plan # or Circuit #	Circuit Abbrev	State On/Off
121	0	00:00	Circuit	0	None / Coord Plan	
122	0	00:00	Circuit	0	None / Coord Plan	
123	0	00:00	Circuit	0	None / Coord Plan	
124	0	00:00	Circuit	0	None / Coord Plan	
125	0	00:00	Circuit	0	None / Coord Plan	
126	0	00:00	Circuit	0	None / Coord Plan	
127	0	00:00	Circuit	0	None / Coord Plan	
128	0	00:00	Circuit	0	None / Coord Plan	
129	0	00:00	Circuit	0	None / Coord Plan	
130	0	00:00	Circuit	0	None / Coord Plan	
131	0	00:00	Circuit	0	None / Coord Plan	
132	0	00:00	Circuit	0	None / Coord Plan	
133	0	00:00	Circuit	0	None / Coord Plan	
134	0	00:00	Circuit	0	None / Coord Plan	
135	0	00:00	Circuit	0	None / Coord Plan	
136	0	00:00	Circuit	0	None / Coord Plan	
137	0	00:00	Circuit	0	None / Coord Plan	
138	0	00:00	Circuit	0	None / Coord Plan	
139	0	00:00	Circuit	0	None / Coord Plan	
140	0	00:00	Circuit	0	None / Coord Plan	
141	0	00:00	Circuit	0	None / Coord Plan	
142	0	00:00	Circuit	0	None / Coord Plan	
143	0	00:00	Circuit	0	None / Coord Plan	
144	0	00:00	Circuit	0	None / Coord Plan	
145	0	00:00	Circuit	0	None / Coord Plan	
146	0	00:00	Circuit	0	None / Coord Plan	
147	0	00:00	Circuit	0	None / Coord Plan	
148	0	00:00	Circuit	0	None / Coord Plan	
149	0	00:00	Circuit	0	None / Coord Plan	
150	0	00:00	Circuit	0	None / Coord Plan	
151	0	00:00	Circuit	0	None / Coord Plan	
152	0	00:00	Circuit	0	None / Coord Plan	
153	0	00:00	Circuit	0	None / Coord Plan	
154	0	00:00	Circuit	0	None / Coord Plan	
155	0	00:00	Circuit	0	None / Coord Plan	
156	0	00:00	Circuit	0	None / Coord Plan	
157	0	00:00	Circuit	0	None / Coord Plan	
158	0	00:00	Circuit	0	None / Coord Plan	
159	0	00:00	Circuit	0	None / Coord Plan	
160	0	00:00	Circuit	0	None / Coord Plan	
	1 - 15	hh:mm	X = On = Coord Plan	coord plan 0 - 32 or circuit 1-199		X = On

Time of Day Data (Next/2/4/1)

Day Program

	Day Prog	Time	Coord Plan or Circuit	Coord Plan # or Circuit #	Circuit Abbrev	State On/Off
161	0	00:00	Circuit	0	None / Coord Plan	
162	0	00:00	Circuit	0	None / Coord Plan	
163	0	00:00	Circuit	0	None / Coord Plan	
164	0	00:00	Circuit	0	None / Coord Plan	
165	0	00:00	Circuit	0	None / Coord Plan	
166	0	00:00	Circuit	0	None / Coord Plan	
167	0	00:00	Circuit	0	None / Coord Plan	
168	0	00:00	Circuit	0	None / Coord Plan	
169	0	00:00	Circuit	0	None / Coord Plan	
170	0	00:00	Circuit	0	None / Coord Plan	
171	0	00:00	Circuit	0	None / Coord Plan	
172	0	00:00	Circuit	0	None / Coord Plan	
173	0	00:00	Circuit	0	None / Coord Plan	
174	0	00:00	Circuit	0	None / Coord Plan	
175	0	00:00	Circuit	0	None / Coord Plan	
176	0	00:00	Circuit	0	None / Coord Plan	
177	0	00:00	Circuit	0	None / Coord Plan	
178	0	00:00	Circuit	0	None / Coord Plan	
179	0	00:00	Circuit	0	None / Coord Plan	
180	0	00:00	Circuit	0	None / Coord Plan	
181	0	00:00	Circuit	0	None / Coord Plan	
182	0	00:00	Circuit	0	None / Coord Plan	
183	0	00:00	Circuit	0	None / Coord Plan	
184	0	00:00	Circuit	0	None / Coord Plan	
185	0	00:00	Circuit	0	None / Coord Plan	
186	0	00:00	Circuit	0	None / Coord Plan	
187	0	00:00	Circuit	0	None / Coord Plan	
188	0	00:00	Circuit	0	None / Coord Plan	
189	0	00:00	Circuit	0	None / Coord Plan	
190	0	00:00	Circuit	0	None / Coord Plan	
191	0	00:00	Circuit	0	None / Coord Plan	
192	0	00:00	Circuit	0	None / Coord Plan	
193	0	00:00	Circuit	0	None / Coord Plan	
194	0	00:00	Circuit	0	None / Coord Plan	
195	0	00:00	Circuit	0	None / Coord Plan	
196	0	00:00	Circuit	0	None / Coord Plan	
197	0	00:00	Circuit	0	None / Coord Plan	
198	0	00:00	Circuit	0	None / Coord Plan	
199	0	00:00	Circuit	0	None / Coord Plan	
200	0	00:00	Circuit	0	None / Coord Plan	
	1 - 15	hh:mm	X = On = Coord Plan	coord plan 0 - 32 or circuit 1-199		X = On

CIRCUIT OVERRIDES 1 - 100 (Next/2/4/4)

1 - Coord Line 1	CL1	2 = TOD	51 - Ped Omit 3	PO3	2 = TOD
2 - Coord Line 2	CL2	2 = TOD	52 - Ped Omit 4	PO4	2 = TOD
3 - Coord Line 4	CL4	2 = TOD	53 - Ped Omit 5	PO5	2 = TOD
4 - Coord Line 8	CL8	2 = TOD	54 - Ped Omit 6	PO6	2 = TOD
5 - Coord Line 16	C16	2 = TOD	55 - Ped Omit 7	PO7	2 = TOD
6 - Coordinated Operation	CRD	2 = TOD	56 - Ped Omit 8	PO8	2 = TOD
7 - Soft Flash	SFL	2 = TOD	57 - Conditional Service	CVS	2 = TOD
8 - Enable System Relays	ESR	2 = TOD	58 - Inhibit Simultaneous Gap Out	ISG	1 = On
9 - Call to Non Actuated Ring 1	CN1	2 = TOD	59 - Inhibit Hardwire	HWI	2 = TOD
10 - Call to Non Actuated Ring 2	CN2	2 = TOD	60 - Ped Override Mode	POM	1 = On
11 - Walk Rest Modifier	WRM	2 = TOD	61 - Dual Entry	DLE	1 = On
12 - Min Recall	MIN	2 = TOD	62 - Exclusive Ped	EPD	2 = TOD
13 - Max 2 Both Rings	MX2	2 = TOD	63 - Call to Time Clock Mode	CTC	2 = TOD
14 - Coord Inhibit Max Ring 1	IM1	2 = TOD	64 - Dual Enhanced Ped	DEP	2 = TOD
15 - Coord Inhibit Max Ring 2	IM2	2 = TOD	65 - Service Plan 1	SP1	2 = TOD
16 - Call to Free	CTF	2 = TOD	66 - Service Plan 2	SP2	2 = TOD
17 - TOD Output 1	TO1	2 = TOD	67 - Service Plan 3	SP3	2 = TOD
18 - TOD Output 2	TO2	2 = TOD	68 - Service Plan 4	SP4	2 = TOD
19 - TOD Output 3	TO3	2 = TOD	69 - Service Plan 5	SP5	2 = TOD
20 - TOD Output 4	TO4	2 = TOD	70 - Service Plan 6	SP6	2 = TOD
21 - TOD Output 5	TO5	2 = TOD	71 - Service Plan 7	SP7	2 = TOD
22 - TOD Output 6	TO6	2 = TOD	72 - Service Plan 8	SP8	2 = TOD
23 - TOD Output 7	TO7	2 = TOD	73 - Max Plan 1	MP1	2 = TOD
24 - TOD Output 8	TO8	2 = TOD	74 - Max Plan 2	MP2	2 = TOD
25 - Vehicle Call Phase 1	VC1	2 = TOD	75 - Max Plan 3	MP3	2 = TOD
26 - Vehicle Call Phase 2	VC2	2 = TOD	76 - Max Plan 4	MP4	2 = TOD
27 - Vehicle Call Phase 3	VC3	2 = TOD	77 - Max Plan 5	MP5	2 = TOD
28 - Vehicle Call Phase 4	VC4	2 = TOD	78 - Max Plan 6	MP6	2 = TOD
29 - Vehicle Call Phase 5	VC5	2 = TOD	79 - Max Plan 7	MP7	2 = TOD
30 - Vehicle Call Phase 6	VC6	2 = TOD	80 - Max Plan 8	MP8	2 = TOD
31 - Vehicle Call Phase 7	VC7	2 = TOD	81 - Transit Priority Max Group 1	TG1	2 = TOD
32 - Vehicle Call Phase 8	VC8	2 = TOD	82 - Transit Priority Max Group 2	TG2	2 = TOD
33 - Ped Call Phase 1	PC1	2 = TOD	83 - Transit Priority Max Group 3	TG3	2 = TOD
34 - Ped Call Phase 2	PC2	2 = TOD	84 - Transit Priority Max Group 4	TG4	2 = TOD
35 - Ped Call Phase 3	PC3	2 = TOD	85 - Transit Priority Max Group 5	TG5	2 = TOD
36 - Ped Call Phase 4	PC4	2 = TOD	86 - Transit Priority Max Group 6	TG6	2 = TOD
37 - Ped Call Phase 5	PC5	2 = TOD	87 - Transit Priority Max Group 7	TG7	2 = TOD
38 - Ped Call Phase 6	PC6	2 = TOD	88 - Transit Priority Max Group 8	TG8	2 = TOD
39 - Ped Call Phase 7	PC7	2 = TOD	89 - Inhibit Gap Reducing 1	GR1	2 = TOD
40 - Ped Call Phase 8	PC8	2 = TOD	90 - Inhibit Gap Reducing 2	GR2	2 = TOD
41 - Phase Omit 1	VO1	2 = TOD	91 - Inhibit Gap Reducing 3	GR3	2 = TOD
42 - Phase Omit 2	VO2	2 = TOD	92 - Inhibit Gap Reducing 4	GR4	2 = TOD
43 - Phase Omit 3	VO3	2 = TOD	93 - Inhibit Gap Reducing 5	GR5	2 = TOD
44 - Phase Omit 4	VO4	2 = TOD	94 - Inhibit Gap Reducing 6	GR6	2 = TOD
45 - Phase Omit 5	VO5	2 = TOD	95 - Inhibit Gap Reducing 7	GR7	2 = TOD
46 - Phase Omit 6	VO6	2 = TOD	96 - Inhibit Gap Reducing 8	GR8	2 = TOD
47 - Phase Omit 7	VO7	2 = TOD	97 - Lag 1	LG1	2 = TOD
48 - Phase Omit 8	VO8	2 = TOD	98 - Lag 3	LG3	2 = TOD
49 - Ped Omit 1	PO1	2 = TOD	99 - Lag 5	LG5	2 = TOD
50 - Ped Omit 2	PO2	2 = TOD	100 - Lag 7	LG8	2 = TOD

CIRCUIT OVERRIDES 101 - 199 (Next/2/4/4)

101 - Inhibit Overlap A	OLA	2 = TOD	151 - Coord Hold 7	HD7	2 = TOD
102 - Inhibit Overlap B	OLB	2 = TOD	152 - Coord Hold 8	HD8	2 = TOD
103 - Inhibit Overlap C	OLC	2 = TOD	153 - PE Priority Return B	PRB	2 = TOD
104 - Inhibit Overlap D	OLD	2 = TOD	154 - PE Priority Return C	PRC	2 = TOD
105 - Enable Schedule A Phone 1	AT1	2 = TOD	155 - PE Priority Return D	PRD	2 = TOD
106 - Enable Schedule A Phone 2	AT2	2 = TOD	156 - PE Priority Return E	PRE	2 = TOD
107 - Enable Schedule B Phone 1	BT1	2 = TOD	157 - Platoon Inbound	PPI	2 = TOD
108 - Enable Schedule B Phone 2	BT2	2 = TOD	158 - Platoon Outbound	PPO	2 = TOD
109 - Enable Schedule C Phone 1	CT1	2 = TOD	159 - Platoon Spl 2	PS2	2 = TOD
110 - Enable Schedule C Phone 2	CT2	2 = TOD	160 - Coord Walk Rest	CWR	2 = TOD
111 - Enable Volume to Call Phone 1	VT1	2 = TOD	161 - Dynamic Phase Length Short Inhibit 1	SL1	2 = TOD
112 - Enable Volume to Call Phone 1	VT2	2 = TOD	162 - Dynamic Phase Length Short Inhibit 2	SL2	2 = TOD
113 - Enable Volume Logging	EVL	1 = On	163 - Dynamic Phase Length Short Inhibit 3	SL3	2 = TOD
114 - Enable MOE Logging	EML	1 = On	164 - Dynamic Phase Length Short Inhibit 4	SL4	2 = TOD
115 - Detector Low Threshold Inhibit	DLI	2 = TOD	165 - Dynamic Phase Length Short Inhibit 5	SL5	2 = TOD
116 - Detector Continue Presence Inhibit	DPI	2 = TOD	166 - Dynamic Phase Length Short Inhibit 6	SL6	2 = TOD
117 - Inhibit Detector Based On Programming	IND	2 = TOD	167 - Dynamic Phase Length Short Inhibit 7	SL7	2 = TOD
118 - Inhibit Detector Delay	IDD	2 = TOD	168 - Dynamic Phase Length Short Inhibit 8	SL8	2 = TOD
119 - Inhibit Conditional Ped	ICP	2 = TOD	169 - Coord Late Left Turn 1	CT1	2 = TOD
120 - Inhibit Transit Priority	ITP	2 = TOD	170 - Coord Late Left Turn 3	CT3	2 = TOD
121 - Red Rest Ring 1	RR1	2 = TOD	171 - Coord Late Left Turn 5	CT5	2 = TOD
122 - Red Rest Ring 2	RR2	2 = TOD	172 - Coord Late Left Turn 7	CT7	2 = TOD
123 - Omit Red Clear Ring 1	OR1	2 = TOD	173 - Dynamic Phase Length Enable A	DPA	1 = On
124 - Omit Red Clear Ring 2	OR2	2 = TOD	174 - Dynamic Phase Length Enable B	DPB	1 = On
125 - Ped Recycle Ring 1	PR1	2 = TOD	175 - Dynamic Phase Length Enable C	DPC	1 = On
126 - Ped Recycle Ring 2	PR2	2 = TOD	176 - Dynamic Phase Length Enable D	DPD	1 = On
127 - Enable MOE Log to Call Phone 1	MT1	2 = TOD	177 - Proactive Plan Select Average	PSA	2 = TOD
128 - Enable MOE Log to Call Phone 2	MT2	2 = TOD	178 - Proactive Plan Select Inbound	PSI	2 = TOD
129 - Transit Inhibit Short Time 1	IS1	2 = TOD	179 - Proactive Plan Select Outbound	PSO	2 = TOD
130 - Transit Inhibit Short Time 2	IS2	2 = TOD	180 - Split Variant Inbound	SVI	2 = TOD
131 - Transit Inhibit Short Time 3	IS3	2 = TOD	181 - Split Variant Outbound	SVO	2 = TOD
132 - Transit Inhibit Short Time 4	IS4	2 = TOD	182 - Disable Coord Walk Rest Ring 1	WR1	2 = TOD
133 - Transit Inhibit Short Time 5	IS5	2 = TOD	183 - Disable Coord Walk Rest Ring 2	WR2	2 = TOD
134 - Transit Inhibit Short Time 6	IS6	2 = TOD	184 - Proactive Plan Select New Look	NLK	2 = TOD
135 - Transit Inhibit Short Time 7	IS7	2 = TOD	185 - Disable Red Clearance Extension	DRX	2 = TOD
136 - Transit Inhibit Short Time 8	IS8	2 = TOD	186 - Detector Plan Line 1	DL1	2 = TOD
137 - Enable Transit Priority Logging	ETL	2 = TOD	187 - Detector Plan Line 2	DL2	2 = TOD
138 - Disable Flashing Yellow Arrow 1	DF1	2 = TOD	188 - Disable LRT 1 Vertical Flashing Bar	DV1	2 = TOD
139 - Disable Flashing Yellow Arrow 3	DF3	2 = TOD	189 - Disable LRT 2 Vertical Flashing Bar	DV2	2 = TOD
140 - Disable Flashing Yellow Arrow 5	DF5	2 = TOD	190 - Disable LRT 3 Vertical Flashing Bar	DV3	2 = TOD
141 - Disable Flashing Yellow Arrow 7	DF7	2 = TOD	191 - Disable LRT 4 Vertical Flashing Bar	DV4	2 = TOD
142 - Disable Auto Max	DAM	2 = TOD	192 - Datakey Enable	DKE	1 = On
143 - Disable Repeated Phase Service	DRS	2 = TOD	193 - Dynamic Phase Reversal Enable 1	DR1	2 = TOD
144 - End of Main Street	EMS	2 = TOD	194 - Dynamic Phase Reversal Enable 3	DR3	2 = TOD
145 - Coord Hold 1	HD1	2 = TOD	195 - Dynamic Phase Reversal Enable 5	DR5	2 = TOD
146 - Coord Hold 2	HD2	2 = TOD	196 - Dynamic Phase Reversal Enable 7	DR7	2 = TOD
147 - Coord Hold 3	HD3	2 = TOD	197 - Enable Coordination Log	ECL	1 = On
148 - Coord Hold 4	HD4	2 = TOD	198 - Disable Gap For FYLTA	DGF	2 = TOD
149 - Coord Hold 5	HD5	2 = TOD	199 - Coordination Auto Walk	CAW	2 = TOD
150 - Coord Hold 6	HD6	2 = TOD			

PREEMPTION SEQUENCE 1 - 4 (Next/2/5)

Seq	Interval	Instruction	Phases Serviced	Interval Time	Hold On Input	Output On	Output Mode	
1	1	197	- 2 - - 5 - - -	0	On	- - - - -	0	Instructions - 0 = service phases defined in phases location 1-9 = use special intervals 1-9 10 = preempt sequence allows fylta 11 = preempt interval disables fylta 15 = alternate trap protection 90 = go to all red 91 = turn cvm off 92 = turn cvm on 93 = enable ped service and phases defined in phases location 94 = disable ped service 96 = enable coordination w/peds 97 = enable coordination w/o peds 98 = return with no calls 99 = return with ped calls and phases defined in phases location 100 = jump to step defined in time location and input has to be active for jump 101 = use time as resettable gap timer and service phases defined in phases location 196 = coordination sync w/peds 197 = coordination sync w/o peds 200 = lrt phase service w/o peds 201 = lrt phase service w/peds 202 = priority return-queue/delay 216 = lrt coordination sync w/peds 217 = lrt coordination sync w/o peds Phases Serviced - phases 1 - 8 Interval Time - 0 - 255 sec or interval 1 - 10 Hold on Input - X = on Outputs On - output 1 - 8 Output Modes - 0 = all steady on 1 = all flash together 2 = odd flashes WIG, even flashes WAG 3 = 1 - 4 steady on, 5 - 8 all flash together
	2	98	- - - - -	0	Off	- - - - -	0	
	3	0	- - - - -	0	Off	- - - - -	0	
	4	0	- - - - -	0	Off	- - - - -	0	
	5	0	- - - - -	0	Off	- - - - -	0	
	6	0	- - - - -	0	Off	- - - - -	0	
	7	0	- - - - -	0	Off	- - - - -	0	
	8	0	- - - - -	0	Off	- - - - -	0	
	9	0	- - - - -	0	Off	- - - - -	0	
	10	0	- - - - -	0	Off	- - - - -	0	
2	1	197	- - - 4 - - - -	0	On	- - - - -	0	
	2	98	- - - - -	0	Off	- - - - -	0	
	3	0	- - - - -	0	Off	- - - - -	0	
	4	0	- - - - -	0	Off	- - - - -	0	
	5	0	- - - - -	0	Off	- - - - -	0	
	6	0	- - - - -	0	Off	- - - - -	0	
	7	0	- - - - -	0	Off	- - - - -	0	
	8	0	- - - - -	0	Off	- - - - -	0	
	9	0	- - - - -	0	Off	- - - - -	0	
	10	0	- - - - -	0	Off	- - - - -	0	
3	1	197	1 - - - - 6 - -	0	On	- - - - -	0	
	2	98	- - - - -	0	Off	- - - - -	0	
	3	0	- - - - -	0	Off	- - - - -	0	
	4	0	- - - - -	0	Off	- - - - -	0	
	5	0	- - - - -	0	Off	- - - - -	0	
	6	0	- - - - -	0	Off	- - - - -	0	
	7	0	- - - - -	0	Off	- - - - -	0	
	8	0	- - - - -	0	Off	- - - - -	0	
	9	0	- - - - -	0	Off	- - - - -	0	
	10	0	- - - - -	0	Off	- - - - -	0	
4	1	197	- - - - - 8	0	On	- - - - -	0	
	2	98	- - - - -	0	Off	- - - - -	0	
	3	0	- - - - -	0	Off	- - - - -	0	
	4	0	- - - - -	0	Off	- - - - -	0	
	5	0	- - - - -	0	Off	- - - - -	0	
	6	0	- - - - -	0	Off	- - - - -	0	
	7	0	- - - - -	0	Off	- - - - -	0	
	8	0	- - - - -	0	Off	- - - - -	0	
	9	0	- - - - -	0	Off	- - - - -	0	
	10	0	- - - - -	0	Off	- - - - -	0	

PREEMPTION SEQUENCE 5 - 8 (Next/2/5)

Seq	Interval	Instruction	Phases Serviced	Interval Time	Hold On Input	Output On	Output Mode	
5	1	0	- - - - -	0	Off	- - - - -	0	Instructions - 0 = service phases defined in phases location 1-9 = use special intervals 1-9 10 = preempt sequence allows fylta 11 = preempt interval disables fylta 15 = alternate trap protection 90 = go to all red 91 = turn cvm off 92 = turn cvm on 93 = enable ped service and phases defined in phases location 94 = disable ped service 96 = enable coordination w/peds 97 = enable coordination w/o peds 98 = return with no calls 99 = return with ped calls and phases defined in phases location 100 = jump to step defined in time location and input has to be active for jump 101 = use time as resettable gap timer and service phases defined in phases location 196 = coordination sync w/peds 197 = coordination sync w/o peds 200 = lrt phase service w/o peds 201 = lrt phase service w/peds 202 = priority return-queue/delay 216 = lrt coordination sync w/peds 217 = lrt coordination sync w/o peds Phases Serviced - phases 1 - 8 Interval Time - 0 - 255 sec or interval 1 - 10 Hold on Input - X = on Outputs On - output 1 - 8 Output Modes - 0 = all steady on 1 = all flash together 2 = odd flashes WIG, even flashes WAG 3 = 1 - 4 steady on, 5 - 8 all flash together
	2	0	- - - - -	0	Off	- - - - -	0	
	3	0	- - - - -	0	Off	- - - - -	0	
	4	0	- - - - -	0	Off	- - - - -	0	
	5	0	- - - - -	0	Off	- - - - -	0	
	6	0	- - - - -	0	Off	- - - - -	0	
	7	0	- - - - -	0	Off	- - - - -	0	
	8	0	- - - - -	0	Off	- - - - -	0	
	9	0	- - - - -	0	Off	- - - - -	0	
	10	0	- - - - -	0	Off	- - - - -	0	
6	1	0	- - - - -	0	Off	- - - - -	0	
	2	0	- - - - -	0	Off	- - - - -	0	
	3	0	- - - - -	0	Off	- - - - -	0	
	4	0	- - - - -	0	Off	- - - - -	0	
	5	0	- - - - -	0	Off	- - - - -	0	
	6	0	- - - - -	0	Off	- - - - -	0	
	7	0	- - - - -	0	Off	- - - - -	0	
	8	0	- - - - -	0	Off	- - - - -	0	
	9	0	- - - - -	0	Off	- - - - -	0	
	10	0	- - - - -	0	Off	- - - - -	0	
7	1	0	- - - - -	0	Off	- - - - -	0	
	2	0	- - - - -	0	Off	- - - - -	0	
	3	0	- - - - -	0	Off	- - - - -	0	
	4	0	- - - - -	0	Off	- - - - -	0	
	5	0	- - - - -	0	Off	- - - - -	0	
	6	0	- - - - -	0	Off	- - - - -	0	
	7	0	- - - - -	0	Off	- - - - -	0	
	8	0	- - - - -	0	Off	- - - - -	0	
	9	0	- - - - -	0	Off	- - - - -	0	
	10	0	- - - - -	0	Off	- - - - -	0	
8	1	0	- - - - -	0	Off	- - - - -	0	
	2	0	- - - - -	0	Off	- - - - -	0	
	3	0	- - - - -	0	Off	- - - - -	0	
	4	0	- - - - -	0	Off	- - - - -	0	
	5	0	- - - - -	0	Off	- - - - -	0	
	6	0	- - - - -	0	Off	- - - - -	0	
	7	0	- - - - -	0	Off	- - - - -	0	
	8	0	- - - - -	0	Off	- - - - -	0	
	9	0	- - - - -	0	Off	- - - - -	0	
	10	0	- - - - -	0	Off	- - - - -	0	

SEQUENCE TIMING (Next/2/5/0)

Sequence		1	2	3	4	5	6	7	8		
Input Memory										X = on	
Input Priority		6	6	6	6	0	0	0	0	0 = lowest, - 8 = highest	
Entry (Transition Parameters)	Min Green	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec 0.0 would time the normal function time	
	Walk	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0		
	Ped Clear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	Overlap Yellow	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec	
	Overlap Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	Delay to Preempt	0	0	0	0	0	0	0	0	0 - 255 sec	
	Delay Ped Omit	0	0	0	0	0	0	0	0		
	Delay Phase Omit	0	0	0	0	0	0	0	0		
Min Reservice		0	0	0	0	0	0	0	0	0 - 255 min	
Overlap Inhibits		A								X = on	
		B									
		C									
		D									
Exit Parameters	Exit to Coord Plan Offset by X	0	0	0	0	0	0	0	0	0 - 20	
	Exit Coord Plan Time	0	0	0	0	0	0	0	0	0 - 60 min	
	Exit to Max Plan	0	0	0	0	0	0	0	0	0 - 8	
	Exit Free Time	0	0	0	0	0	0	0	0	0 - 60 min	
	Override Time	0	0	0	0	0	0	0	0		
	Fail Time	0	0	0	0	0	0	0	0		
	Exit Mode Time	0	0	0	0	0	0	0	0		

PRIORITY RETURN AND SPECIAL INTERVALS (Next/2/5/0/6, Next/2/5/9)

Phase / Overlap		1	2	3	4	5	6	7	8	A	B	C	D	
Priority Return	Enable	Off	0 = disabled; 1 = enabled; 2 = enabled and skip preempt phase on exit											
	A (max)	0	0	0	0	0	0	0	0	0 - 100% of currently used max				
	B (max)	0	0	0	0	0	0	0	0					
	C (max)	0	0	0	0	0	0	0	0					
	D (max)	0	0	0	0	0	0	0	0					
	E (max)	0	0	0	0	0	0	0	0					
	Ped Clear	0	0	0	0	0	0	0	0	0 - 100% of currently used ped clearance				
Queue Delay Recovery		0	0	0	0	0	0	0	0	0 - 255 sec				
Special Intervals	1	0	0	0	0	0	0	0	0	0	0	0	0	0 = Dark 1 = green don't walk 2 = green walk 3 = green flashing don't walk 4 = yellow 5 = red 6 = flashing yellow WIG 7 = flashing yellow WAG 8 = flashing red WIG 9 = flashing red WAG 10 = walk only 11=flashing don't walk only
	2	0	0	0	0	0	0	0	0	0	0	0	0	
	3	0	0	0	0	0	0	0	0	0	0	0	0	
	4	0	0	0	0	0	0	0	0	0	0	0	0	
	5	0	0	0	0	0	0	0	0	0	0	0	0	
	6	0	0	0	0	0	0	0	0	0	0	0	0	
	7	0	0	0	0	0	0	0	0	0	0	0	0	
	8	0	0	0	0	0	0	0	0	0	0	0	0	
	9	0	0	0	0	0	0	0	0	0	0	0	0	

LIGHT RAIL TRAIN (Next/2/5/0/7)

Light Rail Train	1	2	3	4	
Associated Preempt	0	0	0	0	0 = none, preempt 1 - 8
Time to Green	0	0	0	0	0 - 255 sec
Horizontal Bar Flash Time	0.0	0.0	0.0	0.0	
Vertical Bar Flash Time	0.0	0.0	0.0	0.0	0.0 - 25.5 sec
Min Duration	0	0	0	0	0 - 255 sec

IEEE 1570 Preempt Comm to Wayside Equip (Next/2/5/0/8)

	Controller	Wayside	
Railroad Number	0	0	0-999,represents railroad
Railroad Line Number	0	0	0-999,represents railroad line
Group Number	0	0	0-999,represents phy. group of equip
Subnode Number	0	0	0-99,subnode within phy group of equip
Device Number	0	0	0-99,device within phy. group of equip
Associated PE	0		0-8
Port	0		0-4

COMMUNICATION DATA (Next/2/6)

1st Central Phone Number		2nd Central Phone Number	
Modem Setup String			
Intersection Name	212/224 @ Oak		
Central Port	6 = UDP/AB3418/C14S		
System Mode	0		
System Port	0		
System ID	31		
Local ID	4		
AB3418 Physical Address	1		
AB3418 Group Address	0		
Serial Port Parameters	Baud Rates	Flow Control	
Port1 (Slot A2 Upper)	0 = 1200	1	
Port2 (Slot A2 Lower)	0 = 1200	1	
Port3 (Slot A1 Upper)	0 = 1200	0	
Port4 (Slot A1 :pwer pr C50S)	2 = 9600	Not Used	
0 = 1200, 1 = 2400, 2 = 9600, 3 = 19200 baud			
Ethernet Parameters			
IP Address	10.11.19.40		
Gateway Address	10.11.19.33		
Subnet Mask	255.255.255.224		
IP Port	25000		

COMMUNICATION REPORTS (Next/2/6/6, Next/2/6/7)

Volume Log Period	15	0 - 255 seconds or see below	MOE Log Period	15	See below
Volume OCC Period	15	0 - 255 seconds			
0 = disabled, 1,2,3,4,5,6,10,12,15,20,30,60 minutes					

Alarm 1	0	0 = none 1 = schedule A 2 = schedule B 3 = schedule C 4 = schedule R	Soft Flash	1	0 = none 1 = schedule A 2 = schedule B 3 = schedule C 4 = schedule R
Alarm 2	0		Manual Control Enable (MCE)	4	
Alarm 3	0		Emergency or Railroad Preempt	1	
Alarm 4	0		Not Used		
Alarm 5	0		Cycle Failure	2	
Not Used			Coordination Failure	2	
Not Used			Keyboard use /Data Changed	3	
Not Used			Coord Running / Free	2	
Power On / Off	1		Cabinet Door	3	
Checksum Failure	4		Extended Ped Pushbuton	0	
Video / Detector Failure	4	Monitor Status	0		
Not Used		Red Extension	0		

Service Delay Log (Next/2/6/0)

Phase	1	2	3	4	5	6	7	8	
	0	0	0	0	0	0	0	0	0=disable, 1=enable, 2=ped, 3=veh/ped

Ped Overlaps	A	B	C	D	E	F	G	H	
	0	0	0	0	0	0	0	0	0=disable, 1=enable

Service Delay Detectors

Detector	1	2	3	4	5	6	7	8
Service Delay	0	0	0	0	0	0	0	0
Detector	9	10	11	12	13	14	15	16
Service Delay	0	0	0	0	0	0	0	0

Detector	17	18	19	20	21	22	23	24
Service Delay	0	0	0	0	0	0	0	0
Detector	25	26	27	28	29	30	31	32
Service Delay	0	0	0	0	0	0	0	0

Detector	33	34	35	36	37	38	39	40
Service Delay	0	0	0	0	0	0	0	0
Detector	41	42	43	44	45	46	47	48
Service Delay	0	0	0	0	0	0	0	0

Detector	49	50	51	52	53	54	55	56
Service Delay	0	0	0	0	0	0	0	0
Detector	57	58	59	60	61	62	63	64
Service Delay	0	0	0	0	0	0	0	0

Miscellaneous Data

TRANSIT PRIORITY (Next/2/7)

	1	2	3	4	5	6	7	8	
Phases	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	Phases 1 - 8 (max of 2 compatible phases)
PE Enable (6.25Hz TP call on PE)	X	X	X	X	X	X	X	X	X = 6.25 Hz signal will activate TP
Priority	0	0	0	0	0	0	0	0	0 - 8, 8 = highest
Memory									X = on
Delay Time	0	0	0	0	0	0	0	0	0 - 255 sec
Minimum Reservice Time (per input)	0	0	0	0	0	0	0	0	0 - 255 min
Override Time	0	0	0	0	0	0	0	0	0 - 255 sec
Bus Extend	0	0	0	0	0	0	0	0	0 - 255 min
Minimum Reservice Time (all inputs)	0	0 - 255 min							
Free Operation Mode	0	0 = use shortest of max 1 or 2, 1 - 8 = use max time of group 1 - 8, 9 = use time of day circuit							

TRANSIT PRIORITY ALTERNATE FORCE OFF PLANS (Next/2/7/6)

Current Coord Plan	1	2	3	4	5	6	7	8	0 = none 17 - 32 = coord plan 17 - 32
Alternate TP Force Off Plan	0	0	0	0	0	0	0	0	
Current Coord Plan	9	10	11	12	13	14	15	16	
Alternate TP Force Off Plan	0	0	0	0	0	0	0	0	

GROUP TIMING (Next/2/7/5)

	Phase -->	1	2	3	4	5	6	7	8	
Group 1	Max Times	0	0	0	0	0	0	0	0	0 - 255 sec 0 would time the normal function time
	Walk Times	0	0	0	0	0	0	0	0	
Group 2	Max Times	0	0	0	0	0	0	0	0	
	Walk Times	0	0	0	0	0	0	0	0	
Group 3	Max Times	0	0	0	0	0	0	0	0	
	Walk Times	0	0	0	0	0	0	0	0	
Group 4	Max Times	0	0	0	0	0	0	0	0	
	Walk Times	0	0	0	0	0	0	0	0	
Group 5	Max Times	0	0	0	0	0	0	0	0	
	Walk Times	0	0	0	0	0	0	0	0	
Group 6	Max Times	0	0	0	0	0	0	0	0	
	Walk Times	0	0	0	0	0	0	0	0	
Group 7	Max Times	0	0	0	0	0	0	0	0	
	Walk Times	0	0	0	0	0	0	0	0	
Group 8	Max Times	0	0	0	0	0	0	0	0	
	Walk Times	0	0	0	0	0	0	0	0	

TRUCK PRIORITY (Next/2/7/9)

Truck Priority -->	1	2	3	4	
Associated Transit Priority	0	0	0	0	0 = none 1 - 8 = transit priority 1 - 8
Leading Detector	0	0	0	0	0 = none, 1 - 32 = detector 1 - 32
Trailing Detector	0	0	0	0	
Stop Bar Distance	0	0	0	0	0 - 999 feet
Trap Distance	0.0	0.0	0.0	0.0	0.0 - 99.9 feet
Minimum Speed	0	0	0	0	0 - 100 mph
Minimum Length	0	0	0	0	0 - 255 feet
Downhill Grade (%)	0	0	0	0	0 - 20%
Uphill Grade (%)	0	0	0	0	
Undersized Vehicle					X = Enabled

170 INPUTS (Next/2/8/1)

C1-39	0 - Use Default	C1-67	0 - Use Default
C1-40	0 - Use Default	C1-68	0 - Use Default
C1-41	0 - Use Default	C1-69	0 - Use Default
C1-42	0 - Use Default	C1-70	0 - Use Default
C1-43	0 - Use Default	C1-71	0 - Use Default
C1-44	0 - Use Default	C1-72	0 - Use Default
C1-45	0 - Use Default	C1-73	0 - Use Default
C1-46	0 - Use Default	C1-74	0 - Use Default
C1-47	0 - Use Default	C1-75	0 - Use Default
C1-48	0 - Use Default	C1-76	0 - Use Default
C1-49	0 - Use Default	C1-77	0 - Use Default
C1-50	0 - Use Default	C1-78	0 - Use Default
C1-51	0 - Use Default	C1-79	0 - Use Default
C1-52	0 - Use Default	C1-80	0 - Use Default
C1-53	0 - Use Default	C1-81	0 - Use Default
C1-54	0 - Use Default	C1-82	0 - Use Default
C1-55	0 - Use Default	C11-15	0 - Use Default
C1-56	0 - Use Default	C11-16	0 - Use Default
C1-57	0 - Use Default	C11-17	0 - Use Default
C1-58	0 - Use Default	C11-18	0 - Use Default
C1-59	0 - Use Default	C11-19	0 - Use Default
C1-60	0 - Use Default	C11-20	0 - Use Default
C1-61	0 - Use Default	C11-21	0 - Use Default
C1-62	0 - Use Default	C11-22	0 - Use Default
C11-10	0 - Use Default	C11-23	0 - Use Default
C11-11	0 - Use Default	C11-24	0 - Use Default
C11-12	0 - Use Default	C11-25	0 - Use Default
C11-13	0 - Use Default	C11-26	0 - Use Default
C1-63	0 - Use Default	C11-27	0 - Use Default
C1-64	0 - Use Default	C11-28	0 - Use Default
C1-65	0 - Use Default	C11-29	0 - Use Default
C1-66	0 - Use Default	C11-30	0 - Use Default

INPUTS AND OUTPUTS OPTIONS (Next/2/8/3)

Connector Type	C1/C11	Change I/O	0 = Disabled
0 = C1/C11; 1 = MS-A/B/C/D; 2 = TS2 Port 1; 3 = ITS Cabinet		X = On (After a download without a power on - off cycle)	

170 OUTPUTS (Next/2/8/2)

C1-2	0 - Use Default	C1-35	0 - Use Default
C1-3	0 - Use Default	C1-36	0 - Use Default
C1-4	0 - Use Default	C1-37	0 - Use Default
C1-5	0 - Use Default	C1-38	0 - Use Default
C1-6	0 - Use Default	C1-100	0 - Use Default
C1-7	0 - Use Default	C1-101	0 - Use Default
C1-8	0 - Use Default	C1-102	0 - Use Default
C1-9	0 - Use Default	C1-103	0 - Use Default
C1-10	0 - Use Default	C1-83	0 - Use Default
C1-11	0 - Use Default	C1-84	0 - Use Default
C1-12	0 - Use Default	C1-85	0 - Use Default
C1-13	0 - Use Default	C1-86	0 - Use Default
C1-15	0 - Use Default	C1-87	0 - Use Default
C1-16	0 - Use Default	C1-88	0 - Use Default
C1-17	0 - Use Default	C1-89	0 - Use Default
C1-18	0 - Use Default	C1-90	0 - Use Default
C1-19	0 - Use Default	C1-91	0 - Use Default
C1-20	0 - Use Default	C1-93	0 - Use Default
C1-21	0 - Use Default	C1-94	0 - Use Default
C1-22	0 - Use Default	C1-95	0 - Use Default
C1-23	0 - Use Default	C1-96	0 - Use Default
C1-24	0 - Use Default	C1-97	0 - Use Default
C1-25	0 - Use Default	C1-98	0 - Use Default
C1-26	0 - Use Default	C1-99	0 - Use Default
C1-27	0 - Use Default	C11-1	0 - Use Default
C1-28	0 - Use Default	C11-2	0 - Use Default
C1-29	0 - Use Default	C11-3	0 - Use Default
C1-30	0 - Use Default	C11-4	0 - Use Default
C1-31	0 - Use Default	C11-5	0 - Use Default
C1-32	0 - Use Default	C11-6	0 - Use Default
C1-33	0 - Use Default	C11-7	0 - Use Default
C1-34	0 - Use Default	C11-8	0 - Use Default

INTERNAL LOGIC 1 - 96 (Next/2/9)

Step	Inst.	Comment	Step	Inst.	Comment
1	0		49	0	
2	0		50	0	
3	0		51	0	
4	0		52	0	
5	0		53	0	
6	0		54	0	
7	0		55	0	
8	0		56	0	
9	0		57	0	
10	0		58	0	
11	0		59	0	
12	0		60	0	
13	0		61	0	
14	0		62	0	
15	0		63	0	
16	0		64	0	
17	0		65	0	
18	0		66	0	
19	0		67	0	
20	0		68	0	
21	0		69	0	
22	0		70	0	
23	0		71	0	
24	0		72	0	
25	0		73	0	
26	0		74	0	
27	0		75	0	
28	0		76	0	
29	0		77	0	
30	0		78	0	
31	0		79	0	
32	0		80	0	
33	0		81	0	
34	0		82	0	
35	0		83	0	
36	0		84	0	
37	0		85	0	
38	0		86	0	
39	0		87	0	
40	0		88	0	
41	0		89	0	
42	0		90	0	
43	0		91	0	
44	0		92	0	
45	0		93	0	
46	0		94	0	
47	0		95	0	
48	0		96	0	

INTERNAL LOGIC 97 - 192 (Next/2/9)

Step	Inst.	Comment	Step	Inst.	Comment
97	0		145	0	
98	0		146	0	
99	0		147	0	
100	0		148	0	
101	0		149	0	
102	0		150	0	
103	0		151	0	
104	0		152	0	
105	0		153	0	
106	0		154	0	
107	0		155	0	
108	0		156	0	
109	0		157	0	
110	0		158	0	
111	0		159	0	
112	0		160	0	
113	0		161	0	
114	0		162	0	
115	0		163	0	
116	0		164	0	
117	0		165	0	
118	0		166	0	
119	0		167	0	
120	0		168	0	
121	0		169	0	
122	0		170	0	
123	0		171	0	
124	0		172	0	
125	0		173	0	
126	0		174	0	
127	0		175	0	
128	0		176	0	
129	0		177	0	
130	0		178	0	
131	0		179	0	
132	0		180	0	
133	0		181	0	
134	0		182	0	
135	0		183	0	
136	0		184	0	
137	0		185	0	
138	0		186	0	
139	0		187	0	
140	0		188	0	
141	0		189	0	
142	0		190	0	
143	0		191	0	
144	0		192	0	

INTERNAL LOGIC 193 - 256 (Next/2/9)

Step	Inst.	Comment	Step	Inst.	Comment
193	0		241	0	
194	0		242	0	
195	0		243	0	
196	0		244	0	
197	0		245	0	
198	0		246	0	
199	0		247	0	
200	0		248	0	
201	0		249	0	
202	0		250	0	
203	0		251	0	
204	0		252	0	
205	0		253	0	
206	0		254	0	
207	0		255	0	
208	0		256	0	
209	0				
210	0				
211	0				
212	0				
213	0				
214	0				
215	0				
216	0				
217	0				
218	0				
219	0				
220	0				
221	0				
222	0				
223	0				
224	0				
225	0				
226	0				
227	0				
228	0				
229	0				
230	0				
231	0				
232	0				
233	0				
234	0				
235	0				
236	0				
237	0				
238	0				
239	0				
240	0				

CONTROLLER ID	
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Manufacturer ID	NORTHWEST SIGNAL
Model ID	Voyage-0 v05.02.01
Protocol Revision ID	AB3418E V1

(9+KEY)

FUNCTIONS	KEY	VALUE
Short Power Down	0	0
Long Power Down	1	0
EVA Delay Type	2	0
EVB Delay Type	3	0
EVC Delay Type	4	0
EVD Delay Type	5	0
RR Delay Type	6	0
Ped Inhibit	7	0
OLA Green	8	0.0
OLA Yellow	9	0.0
OLB Green	A	0.0
OLB Yellow	B	0.0
OLC Green	C	0.0
OLC Yellow	D	0.0
OLD Green	E	0.0
OLD Yellow	F	0.0

(C+F+KEY)

FUNCTIONS	KEY	VALUE
Page ID	0	0
Future	1	0
Future	2	0
Future	3	0
OLA Red	4	0.0
OLB Red	5	0.0
OLC Red	6	0.0
OLD Red	7	0.0
Overlap E	8	_____
Overlap F	9	_____
Red Rest	A	_____
Max Recall	B	_____
Flash Green	C	_____
Flash Walk	D	_____
Advance Walk	E	_____
Restrictive Phase	F	_____

(D+C+9+KEY)

FUNCTIONS	KEY	VALUE
Short Power Down	0	0
Long Power Down	1	0
EVA Delay Type	2	0
EVB Delay Type	3	0
EVC Delay Type	4	0
EVD Delay Type	5	0
RR Delay Type	6	0
Ped Inhibit	7	0
OLA Green	8	0.0
OLA Yellow	9	0.0
OLB Green	A	0.0
OLB Yellow	B	0.0
OLC Green	C	0.0
OLC Yellow	D	0.0
OLD Green	E	0.0
OLD Yellow	F	0.0

(D+C+B+KEY)

FUNCTIONS	KEY	VALUE
Page ID	0	1
Future	1	0
Future	2	0
Future	3	0
OLA Red	4	0.0
OLB Red	5	0.0
OLC Red	6	0.0
OLD Red	7	0.0
Overlap E	8	_____
Overlap F	9	_____
Red Rest	A	_____
Max Recall	B	_____
Flash Green	C	_____
Flash Walk	D	_____
Advance Walk	E	_____
Restrictive Phase	F	_____

(D+D+9+KEY)

FUNCTIONS	KEY	VALUE
Short Power Down	0	0
Long Power Down	1	0
EVA Delay Type	2	0
EVB Delay Type	3	0
EVC Delay Type	4	0
EVD Delay Type	5	0
RR Delay Type	6	0
Ped Inhibit	7	0
OLA Green	8	0.0
OLA Yellow	9	0.0
OLB Green	A	0.0
OLB Yellow	B	0.0
OLC Green	C	0.0
OLC Yellow	D	0.0
OLD Green	E	0.0
OLD Yellow	F	0.0

(D+D+B+KEY)

FUNCTIONS	KEY	VALUE
Page ID	0	2
Future	1	0
Future	2	0
Future	3	0
OLA Red	4	0.0
OLB Red	5	0.0
OLC Red	6	0.0
OLD Red	7	0.0
Overlap E	8	_____
Overlap F	9	_____
Red Rest	A	_____
Max Recall	B	_____
Flash Green	C	_____
Flash Walk	D	_____
Advance Walk	E	_____
Restrictive Phase	F	_____

W4IKS Table 3

Date: Thursday, December 11, 2014 Time: 09:46 AM
 Intersection #030 King @ 43rd

(C+KEY)

FUNCTIONS	KEY	VALUE
Year	0	6
Month	1	2
Day of Month	2	28
Day of Week	3	4
Hour	4	12
Minute	5	15
Second	6	58
Reserved	7	3
Trigs On In Flash	8	0
Startup Yellow	9	
EVA Phases	A	2
EVB Phases	B	4
EVC Phases	C	6
EVD Phases	D	8
Handicap Ped	E	

(E+KEY)

FUNCTIONS	KEY	VALUE
EVA Delay	0	0
EVA Min	1	1
EVB Delay	2	0
EVB Min	3	1
EVC Delay	4	0
EVC Min	5	1
EVD Delay	6	0
EVD Min	7	1
OL Red Revert	8	2.0
RR Delay	9	0
RR Clear	A	0
RR Clear Phases	B	
RR Permit	C	
RR OL Permit	D	
NEMA Hold Phases	E	

W4IKS Table 4 Part 1

Date: Thursday, December 11, 2014 Time: 09:46 AM
 Intersection #030 King @ 43rd

(D+COL+KEY)

DETECTOR TYPE	COLUMN NUM	DELAY				CARRYOVER			
		2	3	4	5	PH	TIME	PH	TIME
FUNCTIONSKEY	PH	TIME	PH	TIME	PH	TIME	PH	TIME	
----- (1)0	1	0.0	5	0.0	1	0.0	5	0.0	
Upper (9)1	1	0.0	5	0.0	1	0.0	5	0.0	
Upper (2)2	2	0.0	6	0.0	2	2.0	6	2.0	
Lower (2)3	2	0.0	6	0.0	2	2.0	6	2.0	
Upper (3)4	2	0.0	6	0.0	2	4.0	6	4.0	
Lower (3)5	2	0.0	6	0.0	2	0.0	6	0.0	
----- (4)6	2	0.0	6	0.0	2*	0.0	6*	0.0	
----- (5)7	3	0.0	7	0.0	3	0.0	7	0.0	
Lower (9)8	3	0.0	7	0.0	3	0.0	7	0.0	
Upper (6)9	4	0.0	8	0.0	4	3.0	8	3.0	
Lower (6)A	4	0.0	8	0.0	4	3.0	8	0.0	
Upper (7)B	4	0.0	8	12.0	4	0.0	8	0.0	
Lower (7)C	4	0.0	8	0.0	4	0.0	8	0.0	
----- (8)D	4	0.0	8	0.0	4*	0.0	8*	0.0	
CABINET FILE	I		J		I		J		

Note: () = Slot Number * = Set Type 3 Detector

W4IKS Table 4 Part 2

Date: Thursday, December 11, 2014 Time: 09:46 AM
 Intersection #030 King @ 43rd

(D+9+4+KEY)

FUNCTIONS	KEY	VALUE
Detector Fail On	0	0
Detector Fail Off	1	0
Fail Det Backup	2	0
Max II In Delay	3	0
Max II In Carryover	4	0
Plan 9 In Delay	5	0
Plan 9 In Carryover	6	0
Plan 18 In Delay	7	0
Plan 18 In Carryover	8	0
TT Page 1 Delay	9	0
TT Page 1 Carryover	A	0
TT Page 2 Delay	B	0
TT Page 2 Carryover	C	0
NOVRAM	D	1
Computran	E	0
Release	F	0

(D+9+5+KEY)

FUNCTIONS	KEY	VALUE
DF 01 Min	0	0
DF 02 Min	1	0
DF 03 Min	2	0
DF 04 Min	3	0
DF 05 Min	4	0
DF 06 Min	5	0
DF 07 Min	6	0
DF 08 Min	7	0
DF 01 Max	8	0
DF 02 Max	9	0
DF 03 Max	A	0
DF 04 Max	B	0
DF 05 Max	C	0
DF 06 Max	D	0
DF 07 Max	E	0
DF 08 Max	F	0

W4IKS Table 5 Sheet 1

Date: Thursday, December 11, 2014 Time: 09:46 AM
 Intersection #030 King @ 43rd

(A+CODE)

EVENT	1234567	HR	MIN	FUNC	CODE	EVENT	1234567	HR	MIN	FUNC	CODE
1	_____	0	0	0	80-83	17	1234567	5	0	132	CO-C3
2	_____	0	0	0	84-87	18	1234567	23	0	130	C4-C7
3	_____	0	0	0	88-8B	19	_____	0	0	0	C8-CB
4	_____	0	0	0	8C-8F	20	_____	0	0	0	CC-CF
5	_____	0	0	0	90-93	21	_____	0	0	0	D0-D3
6	_____	0	0	0	94-97	22	_____	0	0	0	D4-D7
7	_____	0	0	0	98-9B	23	_____	0	0	0	D8-DB
8	_____	0	0	0	9C-9F	24	_____	0	0	0	DC-DF
9	_____	0	0	0	A0-A3	25	_____	0	0	0	E0-E3
10	_____	0	0	0	A4-A7	26	_____	0	0	0	E4-E7
11	_____	0	0	0	A8-AB	27	_____	0	0	0	E8-EB
12	_____	0	0	0	AC-AF	28	_____	0	0	0	EC-EF
13	_____	0	0	0	B0-B3	29	_____	0	0	0	F0-F3
14	_____	0	0	0	B4-B7	30	_____	0	0	0	F4-F7
15	_____	0	0	0	B8-BB	31	_____	0	0	0	F8-FB
16	_____	0	0	0	BC-BF	32	_____	0	0	0	FC-FF

W4IKS Table 5 Sheet 2

Date: Thursday, December 11, 2014 Time: 09:46 AM
 Intersection #030 King @ 43rd

(D+8+CODE)

EVENT	1234567	HR	MIN	FUNC	CODE	EVENT	1234567	HR	MIN	FUNC	CODE
33	_____	0	0	0	80-83	49	_____	0	0	0	CO-C3
34	_____	0	0	0	84-87	50	_____	0	0	0	C4-C7
35	_____	0	0	0	88-8B	51	_____	0	0	0	C8-CB
36	_____	0	0	0	8C-8F	52	_____	0	0	0	CC-CF
37	_____	0	0	0	90-93	53	_____	0	0	0	D0-D3
38	_____	0	0	0	94-97	54	_____	0	0	0	D4-D7
39	_____	0	0	0	98-9B	55	_____	0	0	0	D8-DB
40	_____	0	0	0	9C-9F	56	_____	0	0	0	DC-DF
41	_____	0	0	0	A0-A3	57	_____	0	0	0	E0-E3
42	_____	0	0	0	A4-A7	58	_____	0	0	0	E4-E7
43	_____	0	0	0	A8-AB	59	_____	0	0	0	E8-EB
44	_____	0	0	0	AC-AF	60	_____	0	0	0	EC-EF
45	_____	0	0	0	B0-B3	61	_____	0	0	0	F0-F3
46	_____	0	0	0	B4-B7	62	_____	0	0	0	F4-F7
47	_____	0	0	0	B8-BB	63	_____	0	0	0	F8-FB
48	_____	0	0	0	BC-BF	64	_____	0	0	0	FC-FF

W4IKS Table 6

Date: Thursday, December 11, 2014 Time: 09:46 AM
 Intersection #030 King @ 43rd

(B+0+KEY)

FUNCTIONS	KEY	VALUE
Present Plan	0	0
TOD/DOW Plan	1	0
Hardwire Plan	2	0
Modem Plan	3	0
Mode (0-4)	4	0
Master (0-OFF)	5	0
Master Clock	6	0
Local Clock	7	0
Dwell Clock	8	0
Future	9	0
Future	A	0
Future	B	0
Future	C	_____
NEMA CNA Phases	D	_____
Adv Warning Phases	E	_____
MRI Phases	F	___4___8

(D+KEY1+KEY2)

FUNCTIONS	KEY	VALUE
Floating Ped	2E	0
ID Number	2F	30
No Coord Ped Recall	3E	1
Rest In Walk	3F	0
Adv Warning EOG	4E	0
Adv Warning SOG	4F	0
RR Red Clear	5E	0
RR Clear Color	5F	0
Bus Delay	6D	0.0
Bus Free T1	6E	0
Bus Free T3	6F	0
EV Min Aft Clear	7E	0
EV Indicators	7F	0
NEMA Inputs	66	0.0

W4IKS Table 7 Sheet 1

Date: Thursday, December 11, 2014 Time: 09:46 AM
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(B+PLAN+KEY)

FUNCTION	KEY	Plan 1	Plan 2	Plan 3	Plan 4	Plan 5	Plan 6	Plan 7	Plan 8	Plan 9
Cycle Length	0	0	0	0	0	0	0	0	0	0
Forceoff 01	1	0	0	0	0	0	0	0	0	0
Forceoff 02	2	0	0	0	0	0	0	0	0	0
Forceoff 03	3	0	0	0	0	0	0	0	0	0
Forceoff 04	4	0	0	0	0	0	0	0	0	0
Forceoff 05	5	0	0	0	0	0	0	0	0	0
Forceoff 06	6	0	0	0	0	0	0	0	0	0
Forceoff 07	7	0	0	0	0	0	0	0	0	0
Forceoff 08	8	0	0	0	0	0	0	0	0	0
Offset	9	0	0	0	0	0	0	0	0	0
Perm Length	A	0	0	0	0	0	0	0	0	0
Max Dwell	B	0	0	0	0	0	0	0	0	0
Lead Phases	C	_____	_____	_____	_____	_____	_____	_____	_____	_____
Coord Phases	D	_____	_____	_____	_____	_____	_____	_____	_____	_____
Perm 2 Phases	E	_____	_____	_____	_____	_____	_____	_____	_____	_____
Min Recall	F	_____	_____	_____	_____	_____	_____	_____	_____	_____

W4IKS Table 7 Sheet 2

Date: Thursday, December 11, 2014 Time: 09:46 AM
 Intersection #030 King @ 43rd

(B+D+KEY1+KEY2)

FUNCTION	KEY2	KEY1 7 Plan 10	8 Plan 11	9 Plan 12	A Plan 13	B Plan 14	C Plan 15	D Plan 16	E Plan 17	F Plan 18
Cycle Length	0	0	0	0	0	0	0	0	0	0
Forceoff 01	1	0	0	0	0	0	0	0	0	0
Forceoff 02	2	0	0	0	0	0	0	0	0	0
Forceoff 03	3	0	0	0	0	0	0	0	0	0
Forceoff 04	4	0	0	0	0	0	0	0	0	0
Forceoff 05	5	0	0	0	0	0	0	0	0	0
Forceoff 06	6	0	0	0	0	0	0	0	0	0
Forceoff 07	7	0	0	0	0	0	0	0	0	0
Forceoff 08	8	0	0	0	0	0	0	0	0	0
Offset	9	0	0	0	0	0	0	0	0	0
Perm Length	A	0	0	0	0	0	0	0	0	0
Max Dwell	B	0	0	0	0	0	0	0	0	0
Lead Phases	C	_____	_____	_____	_____	_____	_____	_____	_____	_____
Coord Phases	D	_____	_____	_____	_____	_____	_____	_____	_____	_____
Perm 2 Phases	E	_____	_____	_____	_____	_____	_____	_____	_____	_____
Min Recall	F	_____	_____	_____	_____	_____	_____	_____	_____	_____

W4IKS Table 8

Date: Thursday, December 11, 2014 Time: 09:46 AM
 Intersection #030 King @ 43rd

(B+A+KEY)

FUNCTIONS	KEY	VALUE
Bus P1 T1	0	0
Bus P1 T2	1	0
Bus P1 T3	2	0
Bus P2 T1	3	0
Bus P2 T2	4	0
Bus P2 T3	5	0
Bus P3 T1	6	0
Bus P3 T2	7	0
Bus P3 T3	8	0
Perm 2 P1	9	0
Perm 2 P2	A	0
Perm 2 P3	B	0
Flash Yellow	C	_____
Flash Circuit	D	_____
TOD/DOW Max	E	_____
OLB Switchpack	F	_____

(B+B+KEY)

FUNCTIONS	KEY	VALUE
Bus P4 T1	0	0
Bus P4 T2	1	0
Bus P4 T3	2	0
Bus P5 T1	3	0
Bus P5 T2	4	0
Bus P5 T3	5	0
Bus P6 T1	6	0
Bus P6 T2	7	0
Bus P6 T3	8	0
Perm 2 P4	9	0
Perm 2 P5	A	0
Perm 2 P6	B	0
OL Flash Yellow	C	_____
OL Flash Clear	D	_____
TOD/DOW Ped	E	_____
OLC Switchpack	F	_____

(B+C+KEY)

FUNCTIONS	KEY	VALUE
Bus P7 T1	0	0
Bus P7 T2	1	0
Bus P7 T3	2	0
Bus P8 T1	3	0
Bus P8 T2	4	0
Bus P8 T3	5	0
Bus P9 T1	6	0
Bus P9 T2	7	0
Bus P9 T3	8	0
Perm 2 P7	9	0
Perm 2 P8	A	0
Perm 2 P9	B	0
Coord Max	C	_____
TOD Red Rest	D	_____
OLA Switchpack	E	_____
OLD Switchpack	F	_____

(A+4+KEY)

C1	PIN	KEY	CODE
39		0	0
40		1	0
41		2	0
42		3	0
43		4	0
44		5	0
45		6	0
46		7	0
47		8	0
48		9	0
49		A	0
50		B	0
51		C	0
52		D	0
53		E	0
54		F	0

(A+5+KEY)

C1	PIN	KEY	CODE
55		0	0
56		1	0
57		2	0
58		3	0
59		4	0
60		5	0
61		6	0
62		7	0
		8	0
		9	0
		A	0
		B	0
63		C	0
64		D	0
65		E	0
66		F	0

(A+6+KEY)

C1	PIN	KEY	CODE
67		0	0
68		1	0
69		2	0
70		3	0
71		4	0
72		5	0
73		6	0
74		7	0
75		8	0
76		9	0
77		A	0
78		B	0
79		C	0
80		D	0
81		E	0
82		F	0

(D+A+4+KEY)

C1	PIN	KEY	CODE
39		0	0
40		1	0
41		2	0
42		3	0
43		4	0
44		5	0
45		6	0
46		7	0
47		8	0
48		9	0
49		A	0
50		B	0
51		C	0
52		D	0
53		E	0
54		F	0

(D+A+5+KEY)

C1	PIN	KEY	CODE
55		0	0
56		1	0
57		2	0
58		3	0
59		4	0
60		5	0
61		6	0
62		7	0
		8	0
		9	0
		A	0
		B	0
63		C	0
64		D	0
65		E	0
66		F	0

(D+A+6+KEY)

C1	PIN	KEY	CODE
67		0	0
68		1	0
69		2	0
70		3	0
71		4	0
72		5	0
73		6	0
74		7	0
75		8	0
76		9	0
77		A	0
78		B	0
79		C	0
80		D	0
81		E	0
82		F	0

(D+A+B+KEY)

C1	PIN	KEY	CODE
39		0	0
40		1	0
41		2	0
42		3	0
43		4	0
44		5	0
45		6	0
46		7	0
47		8	0
48		9	0
49		A	0
50		B	0
51		C	0
52		D	0
53		E	0
54		F	0

(D+A+C+KEY)

C1	PIN	KEY	CODE
55		0	0
56		1	0
57		2	0
58		3	0
59		4	0
60		5	0
61		6	0
62		7	0
		8	0
		9	0
		A	0
		B	0
63		C	0
64		D	0
65		E	0
66		F	0

(D+A+D+KEY)

C1	PIN	KEY	CODE
67		0	0
68		1	0
69		2	0
70		3	0
71		4	0
72		5	0
73		6	0
74		7	0
75		8	0
76		9	0
77		A	0
78		B	0
79		C	0
80		D	0
81		E	0
82		F	0

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(A+0+KEY)			(A+1+KEY)			(A+2+KEY)			(A+3+KEY)		
FUNCTION	KEY	CODE	FUNCTION	KEY	CODE	FUNCTION	KEY	CODE	FUNCTION	KEY	CODE
04 D/W	0	0	08 D/W	0	0	02 Ped Y	0	0	01 D/W	0	0
04 Walk	1	0	08 Walk	1	0	06 Ped Y	1	0	01 Walk	1	0
04 Red	2	0	08 Red	2	0	04 Ped Y	2	0	OLB Red	2	0
04 Yellow	3	0	08 Yellow	3	0	08 Ped Y	3	0	OLB Yellow	3	0
04 Green	4	0	08 Green	4	0	03 Ped Y	4	0	OLB Green	4	0
03 Red	5	0	07 Red	5	0	01 Ped Y	5	0	OLA Red	5	0
03 Yellow	6	0	07 Yellow	6	0	Flash	6	99	OLA Yellow	6	0
03 Green	7	0	07 Green	7	0	Watchdog	7	0	OLA Green	7	0
02 D/W	8	0	06 D/W	8	0	03 D/W	8	0		8	0
02 Walk	9	0	06 Walk	9	0	03 Walk	9	0	SD	9	0
02 Red	A	0	06 Red	A	0	OLD Red	A	0	LTT	A	0
02 Yellow	B	0	06 Yellow	B	0	OLD Yellow	B	0			
02 Green	C	0	06 Green	C	0	OLD Green	C	0	High Byte IDC		0
01 Red	D	0	05 Red	D	0	OLC Red	D	0			
01 Yellow	E	0	05 Yellow	E	0	OLC Yellow	E	0			
01 Green	F	0	05 Green	F	0	OLC Green	F	0			

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 Intersection #030 King @ 43rd

(D+A+0+KEY)			(D+A+1+KEY)			(D+A+2+KEY)			(D+A+3+KEY)		
FUNCTION	KEY	CODE	FUNCTION	KEY	CODE	FUNCTION	KEY	CODE	FUNCTION	KEY	CODE
04 D/W	0	0	08 D/W	0	0	02 Ped Y	0	0	01 D/W	0	0
04 Walk	1	0	08 Walk	1	0	06 Ped Y	1	0	01 Walk	1	0
04 Red	2	0	08 Red	2	0	04 Ped Y	2	0	OLB Red	2	0
04 Yellow	3	0	08 Yellow	3	0	08 Ped Y	3	0	OLB Yellow	3	0
04 Green	4	0	08 Green	4	0	03 Ped Y	4	0	OLB Green	4	0
03 Red	5	0	07 Red	5	0	01 Ped Y	5	0	OLA Red	5	0
03 Yellow	6	0	07 Yellow	6	0	Flash	6	99	OLA Yellow	6	0
03 Green	7	0	07 Green	7	0	Watchdog	7	0	OLA Green	7	0
02 D/W	8	0	06 D/W	8	0	03 D/W	8	0		8	0
02 Walk	9	0	06 Walk	9	0	03 Walk	9	0	SD	9	0
02 Red	A	0	06 Red	A	0	OLD Red	A	0	LTT	A	0
02 Yellow	B	0	06 Yellow	B	0	OLD Yellow	B	0			
02 Green	C	0	06 Green	C	0	OLD Green	C	0			
01 Red	D	0	05 Red	D	0	OLC Red	D	0			
01 Yellow	E	0	05 Yellow	E	0	OLC Yellow	E	0			
01 Green	F	0	05 Green	F	0	OLC Green	F	0			

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 Intersection #030 King @ 43rd

(D+A+7+KEY)			(D+A+8+KEY)			(D+A+9+KEY)			(D+A+A+KEY)		
FUNCTION	KEY	CODE	FUNCTION	KEY	CODE	FUNCTION	KEY	CODE	FUNCTION	KEY	CODE
04 D/W	0	0	08 D/W	0	0	02 Ped Y	0	0	01 D/W	0	0
04 Walk	1	0	08 Walk	1	0	06 Ped Y	1	0	01 Walk	1	0
04 Red	2	0	08 Red	2	0	04 Ped Y	2	0	OLB Red	2	0
04 Yellow	3	0	08 Yellow	3	0	08 Ped Y	3	0	OLB Yellow	3	0
04 Green	4	0	08 Green	4	0	03 Ped Y	4	0	OLB Green	4	0
03 Red	5	0	07 Red	5	0	01 Ped Y	5	0	OLA Red	5	0
03 Yellow	6	0	07 Yellow	6	0	Flash	6	99	OLA Yellow	6	0
03 Green	7	0	07 Green	7	0	Watchdog	7	0	OLA Green	7	0
02 D/W	8	0	06 D/W	8	0	03 D/W	8	0		8	0
02 Walk	9	0	06 Walk	9	0	03 Walk	9	0	SD	9	0
02 Red	A	0	06 Red	A	0	OLD Red	A	0	LTT	A	0
02 Yellow	B	0	06 Yellow	B	0	OLD Yellow	B	0			
02 Green	C	0	06 Green	C	0	OLD Green	C	0			
01 Red	D	0	05 Red	D	0	OLC Red	D	0			
01 Yellow	E	0	05 Yellow	E	0	OLC Yellow	E	0			
01 Green	F	0	05 Green	F	0	OLC Green	F	0			

(D+B+0+KEY)			(D+B+1+KEY)			(D+B+2+KEY)		
FUNCTIONS	KEY	VALUE	FUNCTIONS	KEY	VALUE	FUNCTIONS	KEY	VALUE
05 D/W	0	0	OLE Green	0	0	Cycle 2	0	0
05 Walk	1	0	OLF Green	1	0	Cycle 3	1	0
OLL Red	2	0	OLE Yellow	2	0	Offset 1	2	0
OLL Yellow	3	0	OLF Yellow	3	0	Offset 2	3	0
OLL Green	4	0	Adv Warning	4	0	Offset 3	4	0
OLK Red	5	0	RR Fl Yellow	5	0	-----	5	0
OLK Yellow	6	0	Det Reset	6	57	Free	6	0
OLK Green	7	0	RR On	7	0	Flash	7	0
07 D/W	8	0	EVA On	8	0	Coord Plan 1 2 3	8	0
07 Walk	9	0	EVB On	9	0	Coord Plan 4 5 6	9	0
OLJ Red	A	0	EVC On	A	0	Coord Plan 7 8 9	A	0
OLJ Yellow	B	0	EVD On	B	0	Coord Plan 10 11 12	B	0
OLJ Green	C	0	Ring 1 Bit B	C	0	Coord Plan 13 14 15	C	0
OLH Red	D	0	Ring 1 Bit C	D	0	Coord Plan 16 17 18	D	0
OLH Yellow	E	0	Ring 2 Bit B	E	0	Future	E	0
OLH Green	F	0	Ring 2 Bit C	F	0	Future	F	0

(D+B+4+KEY)			(D+B+5+KEY)			(D+B+6+KEY)		
FUNCTIONS	KEY	VALUE	FUNCTIONS	KEY	VALUE	FUNCTIONS	KEY	VALUE
05 D/W	0	0	OLE Green	0	0	Cycle 2	0	0
05 Walk	1	0	OLF Green	1	0	Cycle 3	1	0
OLL Red	2	0	OLE Yellow	2	0	Offset 1	2	0
OLL Yellow	3	0	OLF Yellow	3	0	Offset 2	3	0
OLL Green	4	0	Adv Warning	4	0	Offset 3	4	0
OLK Red	5	0	RR Fl Yellow	5	0	-----	5	0
OLK Yellow	6	0	Det Reset	6	57	Free	6	0
OLK Green	7	0	RR On	7	0	Flash	7	0
07 D/W	8	0	EVA On	8	0	Coord Plan 1 2 3	8	0
07 Walk	9	0	EVB On	9	0	Coord Plan 4 5 6	9	0
OLJ Red	A	0	EVC On	A	0	Coord Plan 7 8 9	A	0
OLJ Yellow	B	0	EVD On	B	0	Coord Plan 10 11 12	B	0
OLJ Green	C	0	Ring 1 Bit B	C	0	Coord Plan 13 14 15	C	0
OLH Red	D	0	Ring 1 Bit C	D	0	Coord Plan 16 17 18	D	0
OLH Yellow	E	0	Ring 2 Bit B	E	0	Future	E	0
OLH Green	F	0	Ring 2 Bit C	F	0	Future	F	0

(D+B+8+KEY)			(D+B+9+KEY)			(D+B+A+KEY)		
FUNCTIONS	KEY	VALUE	FUNCTIONS	KEY	VALUE	FUNCTIONS	KEY	VALUE
05 D/W	0	0	OLE Green	0	0	Cycle 2	0	0
05 Walk	1	0	OLF Green	1	0	Cycle 3	1	0
OLL Red	2	0	OLE Yellow	2	0	Offset 1	2	0
OLL Yellow	3	0	OLF Yellow	3	0	Offset 2	3	0
OLL Green	4	0	Adv Warning	4	0	Offset 3	4	0
OLK Red	5	0	RR Fl Yellow	5	0	-----	5	0
OLK Yellow	6	0	Det Reset	6	57	Free	6	0
OLK Green	7	0	RR On	7	0	Flash	7	0
07 D/W	8	0	EVA On	8	0	Coord Plan 1 2 3	8	0
07 Walk	9	0	EVB On	9	0	Coord Plan 4 5 6	9	0
OLJ Red	A	0	EVC On	A	0	Coord Plan 7 8 9	A	0
OLJ Yellow	B	0	EVD On	B	0	Coord Plan 10 11 12	B	0
OLJ Green	C	0	Ring 1 Bit B	C	0	Coord Plan 13 14 15	C	0
OLH Red	D	0	Ring 1 Bit C	D	0	Coord Plan 16 17 18	D	0
OLH Yellow	E	0	Ring 2 Bit B	E	0	Future	E	0
OLH Green	F	0	Ring 2 Bit C	F	0	Future	F	0

W4IKS Table 12

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 Intersection #030 King @ 43rd

(D+8+KEY1+KEY2)

KEY1 = 0			KEY1 = 1			KEY1 = 2			KEY1 = 3		
FUNCTION	KEY2	VALUE	FUNCTION	KEY2	VALUE	FUNCTION	KEY2	VALUE	FUNCTION	KEY2	VALUE
1/Month	0	0	3/Hour On	0	0	5/Hour Off	0	0	7/Plan	0	0
1/DOM	1	0	3/Min On	1	0	5/Min Off	1	0	8/Month	1	0
1/Hour On	2	0	3/Hour Off	2	0	5/Plan	2	0	8/DOM	2	0
1/Min On	3	0	3/Min Off	3	0	6/Month	3	0	8/Hour On	3	0
1/Hour Off	4	0	3/Plan	4	0	6/DOM	4	0	8/Min On	4	0
1/Min Off	5	0	4/Month	5	0	6/Hour On	5	0	8/Hour Off	5	0
1/Plan	6	0	4/DOM	6	0	6/Min On	6	0	8/Min Off	6	0
2/Month	7	0	4/Hour On	7	0	6/Hour Off	7	0	8/Plan	7	0
2/DOM	8	0	4/Min On	8	0	6/Min Off	8	0	9/Month	8	0
2/Hour On	9	0	4/Hour Off	9	0	6/Plan	9	0	9/DOM	9	0
2/Min On	A	0	4/Min Off	A	0	7/Month	A	0	9/Hour On	A	0
2/Hour Off	B	0	4/Plan	B	0	7/DOM	B	0	9/Min On	B	0
2/Min Off	C	0	5/Month	C	0	7/Hour On	C	0	9/Hour Off	C	0
2/Plan	D	0	5/DOM	D	0	7/Min On	D	0	9/Min Off	D	0
3/Month	E	0	5/Hour On	E	0	7/Hour Off	E	0	9/Plan	E	0
3/DOM	F	0	5/Min On	F	0	7/Min Off	F	0			

W4IKS Table 13

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 Intersection #030 King @ 43rd

(D+9+0+KEY)

FUNCTION	KEY	VALUE
Overlap H	0	_____
Overlap J	1	_____
Overlap K	2	_____
Overlap L	3	_____
OLH Switchpack	4	_____
OLJ Switchpack	5	_____
OLK Switchpack	6	_____
OLL Switchpack	7	_____
Reserved	8	_____
Reserved	9	_____
All Red Before EV	A	_____

(D+9+3+KEY)

FUNCTION	KEY	VALUE
OLH Green	0	0.0
OLH Yellow	1	0.0
OLH Red	2	0.0
OLJ Green	3	0.0
OLJ Yellow	4	0.0
OLJ Red	5	0.0
OLK Green	6	0.0
OLK Yellow	7	0.0
OLK Red	8	0.0
OLL Green	9	0.0
OLL Yellow	A	0.0
OLL Red	B	0.0

(E+F+KEY)

FUNCTION	KEY	VALUE
RR Max II	0	0
Ped Perm Pl 1	1	0
Ped Perm Pl 2	2	0
Ped Perm Pl 3	3	0
Ped Perm Pl 4	4	0
Ped Perm Pl 5	5	0
Ped Perm Pl 6	6	0
Ped Perm Pl 7	7	0
Ped Perm Pl 8	8	0
Ped Perm Pl 9	9	0
# of Lng Pwrouts	A	0
# pf Sht Pwrouts	B	0
Failed Det	C	0
Max II On	D	0
No Daylite Save	E	0
Revision Level	F	56

W4IKS Table 14 Sheet 1

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(D+9+KEY1+KEY2)

KEY1 = 8		KEY1 = 9		KEY1 = A		KEY1 = B	
KEY2	CODE	KEY2	CODE	KEY2	CODE	KEY	CODE
0	201	0	65	0	0	0	0
1	31	1	24	1	0	1	0
2	11	2	0	2	0	2	0
3	201	3	0	3	0	3	0
4	35	4	0	4	0	4	0
5	21	5	0	5	0	5	0
6	201	6	0	6	0	6	0
7	64	7	0	7	0	7	0
8	23	8	0	8	0	8	0
9	201	9	0	9	0	9	0
A	32	A	0	A	0	A	0
B	12	B	0	B	0	B	0
C	201	C	0	C	0	C	0
D	36	D	0	D	0	D	0
E	22	E	0	E	0	E	0
F	201	F	0	F	0	F	0

W4IKS Table 14 Sheet 2

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Intersection #030 King @ 43rd

(D+9+KEY1+KEY2)

KEY1 = C		KEY1 = D		KEY1 = E		KEY1 = F	
KEY2	CODE	KEY2	CODE	KEY2	CODE	KEY	CODE
0	0	0	0	0	0	0	0
1	0	1	0	1	0	1	0
2	0	2	0	2	0	2	0
3	0	3	0	3	0	3	0
4	0	4	0	4	0	4	0
5	0	5	0	5	0	5	0
6	0	6	0	6	0	6	0
7	0	7	0	7	0	7	0
8	0	8	0	8	0	8	0
9	0	9	0	9	0	9	0
A	0	A	0	A	0	A	0
B	0	B	0	B	0	B	0
C	0	C	0	C	0	C	0
D	0	D	0	D	0	D	0
E	0	E	0	E	0	E	0
F	0	F	0	F	0	F	0

W4IKS Table 14 Sheet 3

Date: Thursday, December 11, 2014 Time: 09:46 AM
Intersection #030 King @ 43rd

(D+E+KEY1+KEY2)

KEY1 = 0		KEY1 = 1		KEY1 = 2		KEY1 = 3	
KEY2	CODE	KEY2	CODE	KEY2	CODE	KEY	CODE
0	0	0	0	0	0	0	0
1	0	1	0	1	0	1	0
2	0	2	0	2	0	2	0
3	0	3	0	3	0	3	0
4	0	4	0	4	0	4	0
5	0	5	0	5	0	5	0
6	0	6	0	6	0	6	0
7	0	7	0	7	0	7	0
8	0	8	0	8	0	8	0
9	0	9	0	9	0	9	0
A	0	A	0	A	0	A	0
B	0	B	0	B	0	B	0
C	0	C	0	C	0	C	0
D	0	D	0	D	0	D	0
E	0	E	0	E	0	E	0
F	0	F	0	F	0	F	0

W4IKS Table 14 Sheet 4

Date: Thursday, December 11, 2014 Time: 09:46 AM
 Intersection #030 King @ 43rd

(D+E+KEY1+KEY2)

KEY1 = 4		KEY1 = 5		KEY1 = 6		KEY1 = 7	
KEY2	CODE	KEY2	CODE	KEY2	CODE	KEY	CODE
0	0	0	0	0	0	0	0
1	0	1	0	1	0	1	0
2	0	2	0	2	0	2	0
3	0	3	0	3	0	3	0
4	0	4	0	4	0	4	0
5	0	5	0	5	0	5	0
6	0	6	0	6	0	6	0
7	0	7	0	7	0	7	0
8	0	8	0	8	0	8	0
9	0	9	0	9	0	9	0
A	0	A	0	A	0	A	0
B	0	B	0	B	0	B	0
C	0	C	0	C	0	C	0
D	0	D	0	D	0	D	0
E	0	E	0	E	0	E	0
F	0	F	0	F	0	F	0

W4IKS Table 14 Sheet 5

Date: Thursday, December 11, 2014 Time: 09:46 AM
 Intersection #030 King @ 43rd

(D+E+KEY1+KEY2)

KEY1 = 8		KEY1 = 9		KEY1 = A		KEY1 = B	
KEY2	CODE	KEY2	CODE	KEY2	CODE	KEY	CODE
0	0	0	0	0	0	0	0
1	0	1	0	1	0	1	0
2	0	2	0	2	0	2	0
3	0	3	0	3	0	3	0
4	0	4	0	4	0	4	0
5	0	5	0	5	0	5	0
6	0	6	0	6	0	6	0
7	0	7	0	7	0	7	0
8	0	8	0	8	0	8	0
9	0	9	0	9	0	9	0
A	0	A	0	A	0	A	0
B	0	B	0	B	0	B	0
C	0	C	0	C	0	C	0
D	0	D	0	D	0	D	0
E	0	E	0	E	0	E	0
F	0	F	0	F	0	F	0

W4IKS Table 14 Sheet 6

Date: Thursday, December 11, 2014 Time: 09:46 AM
 Intersection #030 King @ 43rd

(D+E+KEY1+KEY2)

KEY1 = C		KEY1 = D		KEY1 = E		KEY1 = F	
KEY2	CODE	KEY2	CODE	KEY2	CODE	KEY	CODE
0	0	0	0	0	0	0	0
1	0	1	0	1	0	1	0
2	0	2	0	2	0	2	0
3	0	3	0	3	0	3	0
4	0	4	0	4	0	4	0
5	0	5	0	5	0	5	0
6	0	6	0	6	0	6	0
7	0	7	0	7	0	7	0
8	0	8	0	8	0	8	0
9	0	9	0	9	0	9	0
A	0	A	0	A	0	A	0
B	0	B	0	B	0	B	0
C	0	C	0	C	0	C	0
D	0	D	0	D	0	D	0
E	0	E	0	E	0	E	0
F	0	F	0	F	0	F	0

W4IKS Table 15

Date: Thursday, December 11, 2014 Time: 09:46 AM
Intersection #030 King @ 43rd

(D+B+3+KEY)

FUNCTION	KEY	VALUE
CB Output #1	0	0
CB Output #2	1	0
CB Output #3	2	0
CB Output #4	3	0
CB Output #5	4	0
CB Output #6	5	0
CB Output #7	6	0
CB Output #8	7	0
CB Flash Out #9	8	0
CB Flash Out #10	9	0
CB Flash Out #11	A	0
CB Flash Out #12	B	0

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(D+B+7+KEY)

FUNCTION	KEY	VALUE
CB Output #1	0	0
CB Output #2	1	0
CB Output #3	2	0
CB Output #4	3	0
CB Output #5	4	0
CB Output #6	5	0
CB Output #7	6	0
CB Output #8	7	0
CB Flash Out #9	8	0
CB Flash Out #10	9	0
CB Flash Out #11	A	0
CB Flash Out #12	B	0

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(D+B+B+KEY)

FUNCTION	KEY	VALUE
CB Output #1	0	0
CB Output #2	1	0
CB Output #3	2	0
CB Output #4	3	0
CB Output #5	4	0
CB Output #6	5	0
CB Output #7	6	0
CB Output #8	7	0
CB Flash Out #9	8	0
CB Flash Out #10	9	0
CB Flash Out #11	A	0
CB Flash Out #12	B	0

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Milwaukie TSP Update
22: Harmony & SE Linwood Avenue

Existing Condition PM Peak Hour
HCM Signalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Frbp, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.99	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	0.96			1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00	0.95	1.00	
Satd. Flow (prot)	1710	1727		1676	1700			1750	1485	1676	1741	
Flt Permitted	0.95	1.00		0.95	1.00			0.99	1.00	0.95	1.00	
Satd. Flow (perm)	1710	1727		1676	1700			1750	1485	1676	1741	
Volume (vph)	42	268	69	328	307	99	50	245	571	99	322	23
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	47	298	77	364	341	110	56	272	634	110	358	26
RTOR Reduction (vph)	0	6	0	0	8	0	0	0	227	0	2	0
Lane Group Flow (vph)	47	369	0	364	443	0	0	328	407	110	382	0
Conf. Peds. (#/hr)	5			1								7
Conf. Bikes (#/hr)									1			1
Heavy Vehicles (%)	0%	1%	1%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Prot		Split		pm+ov		Split			
Protected Phases	5	2	1	6	8	8	1	4	4			
Permitted Phases	8											
Actuated Green, G (s)	6.2	34.1		32.4	60.3			28.1	60.5	32.5	32.5	
Effective Green, g (s)	7.2	35.1		33.4	61.3			29.1	62.5	33.5	33.5	
Actuated g/C Ratio	0.05	0.24		0.23	0.42			0.20	0.42	0.23	0.23	
Clearance Time (s)	5.0	5.0		5.0	5.0			5.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	84	412		381	708			346	671	382	396	
v/s Ratio Prot	0.03	c0.21		c0.22	0.26			c0.19	0.14	0.07	c0.22	
v/s Ratio Perm	0.14											
v/c Ratio	0.56	0.90		0.96	0.63			0.95	0.61	0.29	0.97	
Uniform Delay, d1	68.4	54.2		56.1	33.9			58.3	32.8	46.9	56.2	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Incremental Delay, d2	7.9	21.2		34.3	1.7			34.6	1.6	0.4	36.0	
Delay (s)	76.3	75.5		90.5	35.6			92.8	34.3	47.4	92.2	
Level of Service	E	E		F	D			F	C	D	F	
Approach Delay (s)		75.5			60.1			54.3			82.2	
Approach LOS		E			E			D			F	
Intersection Summary												
HCM Average Control Delay			64.5	HCM Level of Service				E				
HCM Volume to Capacity ratio			0.94									
Actuated Cycle Length (s)			147.1	Sum of lost time (s)				16.0				
Intersection Capacity Utilization			87.8%	ICU Level of Service				E				
Analysis Period (min)			15									
c Critical Lane Group												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.97		1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00		0.99	1.00
Satd. Flow (prot)	1578	1764		1706	1738			1702	1486		1697	1439
Flt Permitted	0.59	1.00		0.43	1.00			0.92	1.00		0.96	1.00
Satd. Flow (perm)	985	1764		764	1738			1575	1486		1633	1439
Volume (vph)	157	381	1	21	229	18	41	156	20	22	160	169
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	167	405	1	22	244	19	44	166	21	23	170	180
RTOR Reduction (vph)	0	0	0	0	7	0	0	0	13	0	0	108
Lane Group Flow (vph)	167	406	0	22	256	0	0	210	8	0	193	72
Confl. Peds. (#/hr)	4		4	4		4	1		21	21		1
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	8%	2%	0%	0%	2%	6%	7%	4%	0%	0%	6%	5%
Turn Type	Perm			Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			2				6
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	16.0	16.0		16.0	16.0			16.0	16.0		16.0	16.0
Effective Green, g (s)	16.0	16.0		16.0	16.0			16.0	16.0		16.0	16.0
Actuated g/C Ratio	0.40	0.40		0.40	0.40			0.40	0.40		0.40	0.40
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Grp Cap (vph)	394	706		306	695			630	594		653	576
v/s Ratio Prot		c0.23			0.15							
v/s Ratio Perm	0.17			0.03				c0.13	0.01		0.12	0.05
v/c Ratio	0.42	0.58		0.07	0.37			0.33	0.01		0.30	0.12
Uniform Delay, d1	8.7	9.4		7.4	8.4			8.3	7.2		8.2	7.6
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	3.3	3.4		0.5	1.5			1.4	0.0		1.2	0.4
Delay (s)	12.0	12.7		7.9	9.9			9.7	7.3		9.3	8.0
Level of Service	B	B		A	A			A	A		A	A
Approach Delay (s)		12.5			9.8			9.5			8.7	
Approach LOS		B			A			A			A	
Intersection Summary												
HCM Average Control Delay			10.5			HCM Level of Service			B			
HCM Volume to Capacity ratio			0.45									
Actuated Cycle Length (s)			40.0			Sum of lost time (s)			8.0			
Intersection Capacity Utilization			64.6%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
1112: SE Linwood Avenue & King Road

6/29/2012



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	110	515	90	90	365	45	100	205	75	40	235	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frbp, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.98		1.00	0.96		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1808		1787	1839		1770	1777		1805	1760	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1808		1787	1839		1770	1777		1805	1760	
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)	116	542	95	95	384	47	105	216	79	42	247	95
RTOR Reduction (vph)	0	7	0	0	5	0	0	13	0	0	15	0
Lane Group Flow (vph)	116	630	0	95	426	0	105	282	0	42	327	0
Confl. Peds. (#/hr)	17		7	7		17	5		5	5		5
Confl. Bikes (#/hr)						1						2
Heavy Vehicles (%)	2%	2%	3%	1%	1%	0%	2%	2%	1%	0%	3%	1%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	8.5	31.2		8.3	31.0		6.0	29.0		2.9	25.9	
Effective Green, g (s)	8.5	31.2		8.3	31.0		6.0	29.0		2.9	25.9	
Actuated g/C Ratio	0.10	0.36		0.09	0.35		0.07	0.33		0.03	0.30	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	172	645		170	652		122	590		60	522	
v/s Ratio Prot	c0.07	c0.35		0.05	0.23		c0.06	c0.16		0.02	c0.19	
v/s Ratio Perm												
v/c Ratio	0.67	0.98		0.56	0.65		0.86	0.48		0.70	0.63	
Uniform Delay, d1	38.1	27.7		37.8	23.7		40.3	23.2		41.8	26.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	10.0	29.3		3.9	2.4		42.2	2.8		30.0	5.6	
Delay (s)	48.1	57.1		41.7	26.0		82.5	25.9		71.8	32.2	
Level of Service	D	E		D	C		F	C		E	C	
Approach Delay (s)		55.7			28.9			40.8			36.5	
Approach LOS		E			C			D			D	

Intersection Summary

HCM Average Control Delay	42.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	87.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	74.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Appendix T2: Synchro Reports

Queues
8: HWY 224 & SW Harrison St

Existing Conditions
Existing Conditions PM Peak 2015



Lane Group	EBT	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	367	439	62	1168	54	297	1917	25
v/c Ratio	0.64	0.93	0.55	0.84	0.08	0.93	1.04	0.03
Control Delay	45.1	66.1	60.6	24.5	3.1	82.2	56.7	0.0
Queue Delay	0.0	0.1	0.0	0.3	0.0	0.0	20.7	0.0
Total Delay	45.1	66.3	60.6	24.8	3.1	82.2	77.4	0.0
Queue Length 50th (ft)	123	146	51	485	3	226	~897	0
Queue Length 95th (ft)	177	#245	99	572	14	#393	#1035	0
Internal Link Dist (ft)	610	167		406			859	
Turn Bay Length (ft)			190		200	650		230
Base Capacity (vph)	610	495	135	1396	642	329	1845	874
Starvation Cap Reductn	0	0	0	24	0	0	0	0
Spillback Cap Reductn	0	1	0	0	0	0	87	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.89	0.46	0.85	0.08	0.90	1.09	0.03

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
9: HWY 224 & SW Monroe St

Existing Conditions
Existing Conditions PM Peak 2015



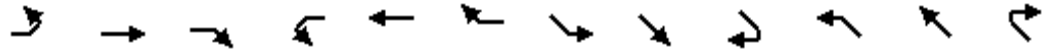
Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	46	105	55	25	29	1276	14	7	2045	16
v/c Ratio	0.41	0.50	0.47	0.14	0.30	0.46	0.01	0.09	0.79	0.01
Control Delay	62.6	17.9	66.3	2.0	75.2	2.6	0.3	72.5	4.9	0.0
Queue Delay	0.0	1.1	1.4	0.0	0.0	0.1	0.0	0.0	9.9	0.0
Total Delay	62.6	18.9	67.6	2.0	75.2	2.7	0.3	72.5	14.8	0.0
Queue Length 50th (ft)	35	0	42	0	21	8	0	5	57	0
Queue Length 95th (ft)	72	53	m82	m1	m31	351	m0	m5	m58	m0
Internal Link Dist (ft)	657		476			720			406	
Turn Bay Length (ft)		150		130	270		330	185		330
Base Capacity (vph)	196	290	203	255	142	2757	1222	142	2589	1170
Starvation Cap Reductn	0	0	0	0	0	0	0	0	542	0
Spillback Cap Reductn	0	66	61	7	0	429	0	0	51	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.47	0.39	0.10	0.20	0.55	0.01	0.05	1.00	0.01

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Queues
10: HWY 224 & SW Oak St

Existing Conditions
Existing Conditions PM Peak 2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Group Flow (vph)	20	254	88	152	279	174	276	1812	70	111	1135	188
v/c Ratio	0.12	0.39	0.24	0.87	0.43	0.28	0.87	0.91	0.08	0.67	0.68	0.23
Control Delay	43.4	44.8	8.0	90.2	45.4	17.7	51.5	35.7	7.2	62.4	19.9	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0
Total Delay	43.4	44.8	8.0	90.2	45.4	17.7	51.5	36.6	7.2	62.4	19.9	5.3
Queue Length 50th (ft)	13	92	0	117	102	63	203	572	12	92	125	4
Queue Length 95th (ft)	37	134	37	#250	146	112	m260	#730	m18	m141	269	62
Internal Link Dist (ft)		58			347			720			610	
Turn Bay Length (ft)				180		180	390		350	550		200
Base Capacity (vph)	162	649	373	174	649	660	362	1986	888	205	1658	809
Starvation Cap Reductn	0	0	0	0	0	0	0	49	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.39	0.24	0.87	0.43	0.26	0.76	0.94	0.08	0.54	0.68	0.23

Intersection Summary

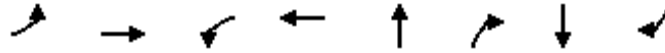
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues
11: SE 32nd Ave & SW Harrison St

Existing Conditions
Existing Conditions PM Peak 2015



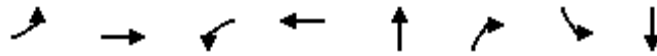
Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	175	506	27	231	169	24	169	159
v/c Ratio	0.37	0.65	0.09	0.33	0.35	0.05	0.35	0.30
Control Delay	9.1	12.3	6.8	7.5	11.3	4.3	11.3	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.1	12.3	6.8	7.5	11.3	4.3	11.3	3.8
Queue Length 50th (ft)	15	51	2	19	23	0	23	0
Queue Length 95th (ft)	55	#156	12	61	53	8	52	23
Internal Link Dist (ft)		210		885	175		889	
Turn Bay Length (ft)			120			100		120
Base Capacity (vph)	583	963	373	856	895	808	908	852
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.53	0.07	0.27	0.19	0.03	0.19	0.19

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
 22: SE Harmony Rd & SW Railroad Ave & SE Linwood Ave

Existing Conditions
 Existing Conditions PM Peak 2015



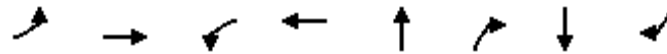
Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	23	371	333	407	266	570	137	247
v/c Ratio	0.23	0.94	0.93	0.53	0.88	0.76	0.47	0.84
Control Delay	46.6	67.0	68.0	20.9	65.2	18.6	38.9	60.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.6	67.0	68.0	20.9	65.2	18.6	38.9	60.4
Queue Length 50th (ft)	13	200	188	139	149	128	70	134
Queue Length 95th (ft)	38	#365	#354	268	#286	258	128	#262
Internal Link Dist (ft)		499		2338	614			1327
Turn Bay Length (ft)	150		500			200	360	
Base Capacity (vph)	99	430	364	764	317	750	309	311
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.86	0.91	0.53	0.84	0.76	0.44	0.79

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues
30: SE King Rd & SE 43rd Ave

Existing Conditions
Existing Conditions PM Peak 2015



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	5	620	109	364	65	130	27	5
v/c Ratio	0.01	0.61	0.27	0.33	0.24	0.33	0.08	0.02
Control Delay	4.0	8.8	6.7	5.5	15.8	6.5	14.0	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.0	8.8	6.7	5.5	15.8	6.5	14.0	1.8
Queue Length 50th (ft)	1	65	9	30	9	0	3	0
Queue Length 95th (ft)	3	174	33	77	41	33	21	2
Internal Link Dist (ft)		197		348	52		401	
Turn Bay Length (ft)	110		110					95
Base Capacity (vph)	953	1556	627	1698	754	852	899	836
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.40	0.17	0.21	0.09	0.15	0.03	0.01

Intersection Summary

Queues
31: SE Linwood Ave & SE King Rd

Existing Conditions
Existing Conditions PM Peak 2015



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	115	654	98	445	104	298	42	349
v/c Ratio	0.88	1.15	0.75	0.87	0.80	0.50	0.32	0.80
Control Delay	86.5	111.3	63.7	39.6	71.6	17.0	31.1	32.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	86.5	111.3	63.7	39.6	71.6	17.0	31.1	32.4
Queue Length 50th (ft)	38	~276	32	130	34	57	13	92
Queue Length 95th (ft)	#123	#470	#105	#288	#112	143	39	#198
Internal Link Dist (ft)		1145		990		1073		389
Turn Bay Length (ft)	200		200		160		150	
Base Capacity (vph)	130	568	131	552	130	606	133	545
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.88	1.15	0.75	0.81	0.80	0.49	0.32	0.64

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

8: HWY 224 & SW Harrison St

Existing Conditions
Existing Conditions PM Peak 2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕		↗	↕↕	↗	↗	↕↕	↗
Volume (vph)	9	251	77	61	202	141	57	1075	50	273	1764	23
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.0			4.0		4.0	6.0	6.0	4.0	6.0	6.0
Lane Util. Factor		0.95			0.95		1.00	0.95	1.00	1.00	0.95	1.00
Frbp, ped/bikes		1.00			0.99		1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes		1.00			1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.97			0.95		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		1.00			0.99		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		2867			2760		1480	2988	1324	1509	2988	1377
Flt Permitted		0.94			0.72		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		2696			2008		1480	2988	1324	1509	2988	1377
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)	10	273	84	66	220	153	62	1168	54	297	1917	25
RTOR Reduction (vph)	0	24	0	0	60	0	0	0	24	0	0	10
Lane Group Flow (vph)	0	343	0	0	379	0	62	1168	30	297	1917	15
Confl. Peds. (#/hr)	8		1	1		8						
Heavy Vehicles (%)	0%	4%	1%	3%	4%	5%	4%	3%	4%	2%	3%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4					6			2
Actuated Green, G (s)		24.7			24.7		8.0	55.9	55.9	25.4	73.3	73.3
Effective Green, g (s)		24.7			24.7		8.0	55.9	55.9	25.4	73.3	73.3
Actuated g/C Ratio		0.21			0.21		0.07	0.47	0.47	0.21	0.61	0.61
Clearance Time (s)		4.0			4.0		4.0	6.0	6.0	4.0	6.0	6.0
Vehicle Extension (s)		2.5			2.5		2.3	3.9	3.9	2.3	3.9	3.9
Lane Grp Cap (vph)		554			413		98	1391	616	319	1825	841
v/s Ratio Prot							0.04	c0.39		0.20	c0.64	
v/s Ratio Perm		0.13			c0.19				0.02			0.01
v/c Ratio		0.62			0.92		0.63	0.84	0.05	0.93	1.05	0.02
Uniform Delay, d1		43.4			46.7		54.6	28.1	17.5	46.4	23.4	9.2
Progression Factor		1.00			1.00		0.83	0.63	0.41	1.00	1.00	1.00
Incremental Delay, d2		1.8			25.0		9.5	5.7	0.1	32.7	35.7	0.0
Delay (s)		45.1			71.7		54.5	23.5	7.3	79.2	59.1	9.2
Level of Service		D			E		D	C	A	E	E	A
Approach Delay (s)		45.1			71.7			24.3			61.2	
Approach LOS		D			E			C			E	

Intersection Summary

HCM 2000 Control Delay	50.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	106.1%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

9: HWY 224 & SW Monroe St

Existing Conditions
Existing Conditions PM Peak 2015



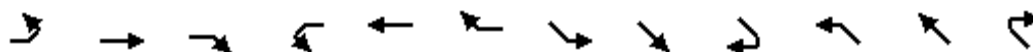
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗		↖	↗	↖	↗	↖	↗	↖	↗
Volume (vph)	21	21	97	21	29	23	27	1174	13	6	1881	15
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	6.0	6.0	4.0	6.0	6.0
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frbp, ped/bikes		1.00	0.98		1.00	0.98	1.00	1.00	0.97	1.00	1.00	0.97
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.98	1.00		0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1751	1495		1755	1502	1710	3353	1477	1710	3320	1488
Flt Permitted		0.82	1.00		0.85	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1476	1495		1525	1502	1710	3353	1477	1710	3320	1488
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)	23	23	105	23	32	25	29	1276	14	7	2045	16
RTOR Reduction (vph)	0	0	97	0	0	23	0	0	3	0	0	4
Lane Group Flow (vph)	0	46	8	0	55	2	29	1276	11	7	2045	12
Confl. Peds. (#/hr)	7		12	12		7	3		6	6		3
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	3%	0%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8		8	4		4			6			2
Actuated Green, G (s)		9.2	9.2		9.2	9.2	4.8	95.5	95.5	1.3	92.0	92.0
Effective Green, g (s)		9.2	9.2		9.2	9.2	4.8	95.5	95.5	1.3	92.0	92.0
Actuated g/C Ratio		0.08	0.08		0.08	0.08	0.04	0.80	0.80	0.01	0.77	0.77
Clearance Time (s)		4.0	4.0		4.0	4.0	4.0	6.0	6.0	4.0	6.0	6.0
Vehicle Extension (s)		2.5	2.5		2.5	2.5	2.3	5.2	5.2	2.3	5.2	5.2
Lane Grp Cap (vph)		113	114		116	115	68	2668	1175	18	2545	1140
v/s Ratio Prot							c0.02	c0.38		0.00	c0.62	
v/s Ratio Perm		0.03	0.01		c0.04	0.00			0.01			0.01
v/c Ratio		0.41	0.07		0.47	0.02	0.43	0.48	0.01	0.39	0.80	0.01
Uniform Delay, d1		52.8	51.4		53.1	51.2	56.3	4.0	2.5	59.0	8.5	3.3
Progression Factor		1.00	1.00		1.02	1.00	1.29	0.58	1.00	1.32	0.46	1.00
Incremental Delay, d2		1.7	0.2		2.2	0.0	2.0	0.5	0.0	0.7	0.3	0.0
Delay (s)		54.5	51.6		56.1	51.3	74.5	2.8	2.5	78.7	4.2	3.3
Level of Service		D	D		E	D	E	A	A	E	A	A
Approach Delay (s)		52.5			54.6			4.4			4.4	
Approach LOS		D			D			A			A	

Intersection Summary

HCM 2000 Control Delay	7.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	92.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
10: HWY 224 & SW Oak St

Existing Conditions
Existing Conditions PM Peak 2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘	↑↑	↗	↘	↑↑	↗
Volume (vph)	18	234	81	140	257	160	254	1667	64	102	1044	173
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.0	6.0	4.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	0.96	1.00	1.00	0.98
Flpb, ped/bikes	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1697	3320	1500	1693	3320	1511	1613	3386	1466	1644	3386	1485
Flt Permitted	0.47	1.00	1.00	0.50	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	835	3320	1500	891	3320	1511	1613	3386	1466	1644	3386	1485
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)	20	254	88	152	279	174	276	1812	70	111	1135	188
RTOR Reduction (vph)	0	0	71	0	0	25	0	0	29	0	0	83
Lane Group Flow (vph)	20	254	17	152	279	149	276	1812	41	111	1135	105
Confl. Peds. (#/hr)	13						13	7		32	32	
Confl. Bikes (#/hr)							1			1		
Heavy Vehicles (%)	0%	3%	2%	1%	3%	0%	6%	1%	0%	4%	1%	1%
Turn Type	Perm	NA	Perm	Perm	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		8			4		5	2		1	6	
Permitted Phases	8		8	4		4			2			6
Actuated Green, G (s)	23.5	23.5	23.5	23.5	23.5	47.2	23.7	70.4	70.4	12.1	58.8	58.8
Effective Green, g (s)	23.5	23.5	23.5	23.5	23.5	47.2	23.7	70.4	70.4	12.1	58.8	58.8
Actuated g/C Ratio	0.20	0.20	0.20	0.20	0.20	0.39	0.20	0.59	0.59	0.10	0.49	0.49
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.0	6.0	4.0	6.0	6.0
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.3	2.3	4.8	4.8	2.3	4.8	4.8
Lane Grp Cap (vph)	163	650	293	174	650	644	318	1986	860	165	1659	727
v/s Ratio Prot		0.08			0.08	0.05	c0.17	c0.54		0.07	0.34	
v/s Ratio Perm	0.02		0.01	c0.17		0.05			0.03			0.07
v/c Ratio	0.12	0.39	0.06	0.87	0.43	0.23	0.87	0.91	0.05	0.67	0.68	0.14
Uniform Delay, d1	39.8	42.0	39.3	46.8	42.4	24.3	46.6	22.1	10.5	52.0	23.5	16.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.72	1.35	2.66	0.90	0.75	1.20
Incremental Delay, d2	0.2	0.3	0.1	41.4	2.1	0.1	14.2	5.2	0.1	7.2	1.8	0.3
Delay (s)	40.0	42.3	39.3	88.2	44.4	24.4	47.8	35.1	28.1	54.1	19.4	20.5
Level of Service	D	D	D	F	D	C	D	D	C	D	B	C
Approach Delay (s)		41.4			49.7			36.5			22.3	
Approach LOS		D			D			D			C	

Intersection Summary

HCM 2000 Control Delay	34.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	106.3%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
11: SE 32nd Ave & SW Harrison St

Existing Conditions
Existing Conditions PM Peak 2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	161	459	6	25	199	14	27	129	22	24	132	146
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.96		1.00	0.98
Flpb, ped/bikes	0.99	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00		0.99	1.00
Satd. Flow (prot)	1667	1778		1704	1572			1770	1476		1783	1440
Flt Permitted	0.61	1.00		0.38	1.00			0.93	1.00		0.93	1.00
Satd. Flow (perm)	1079	1778		690	1572			1652	1476		1678	1440
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)	175	499	7	27	216	15	29	140	24	26	143	159
RTOR Reduction (vph)	0	1	0	0	6	0	0	0	17	0	0	112
Lane Group Flow (vph)	175	505	0	27	225	0	0	169	7	0	169	47
Confl. Peds. (#/hr)	8		4	8		4			15	15		
Confl. Bikes (#/hr)						1			1			1
Heavy Vehicles (%)	2%	1%	0%	0%	2%	0%	0%	1%	0%	0%	0%	4%
Parking (#/hr)					0							
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	13.4	13.4		13.4	13.4			8.9	8.9		8.9	8.9
Effective Green, g (s)	13.4	13.4		13.4	13.4			8.9	8.9		8.9	8.9
Actuated g/C Ratio	0.44	0.44		0.44	0.44			0.29	0.29		0.29	0.29
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	477	786		305	695			485	433		492	422
v/s Ratio Prot		c0.28			0.14							
v/s Ratio Perm	0.16			0.04				c0.10	0.00		0.10	0.03
v/c Ratio	0.37	0.64		0.09	0.32			0.35	0.02		0.34	0.11
Uniform Delay, d1	5.6	6.6		4.9	5.5			8.4	7.6		8.4	7.8
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.5	1.8		0.1	0.3			0.4	0.0		0.4	0.1
Delay (s)	6.1	8.4		5.0	5.8			8.9	7.6		8.8	7.9
Level of Service	A	A		A	A			A	A		A	A
Approach Delay (s)		7.8			5.7			8.7			8.4	
Approach LOS		A			A			A			A	

Intersection Summary

HCM 2000 Control Delay	7.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	30.3	Sum of lost time (s)	8.0
Intersection Capacity Utilization	61.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 22: SE Harmony Rd & SW Railroad Ave & SE Linwood Ave

Existing Conditions
 Existing Conditions PM Peak 2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	21	288	53	306	274	100	40	205	524	126	207	20
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	5.0		4.0	5.0			4.0	4.0	5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Frbp, ped/bikes	1.00	1.00		1.00	0.99			1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.96			1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00	0.95	1.00	
Satd. Flow (prot)	1710	1741		1660	1683			1714	1466	1676	1664	
Flt Permitted	0.95	1.00		0.95	1.00			0.99	1.00	0.95	1.00	
Satd. Flow (perm)	1710	1741		1660	1683			1714	1466	1676	1664	
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)	23	313	58	333	298	109	43	223	570	137	225	22
RTOR Reduction (vph)	0	8	0	0	14	0	0	0	172	0	4	0
Lane Group Flow (vph)	23	363	0	333	393	0	0	266	398	137	243	0
Confl. Peds. (#/hr)	11		1	1		11	6		10	10		6
Confl. Bikes (#/hr)									3			1
Heavy Vehicles (%)	0%	0%	4%	3%	1%	2%	5%	4%	2%	2%	7%	0%
Turn Type	Prot	NA		Prot	NA		Split	NA	pm+ov	Split	NA	
Protected Phases	5	2		1	6		8	8	1	4	4	
Permitted Phases									8			
Actuated Green, G (s)	1.9	21.7		18.9	38.7			15.4	34.3	15.2	15.2	
Effective Green, g (s)	1.9	21.7		18.9	38.7			15.4	34.3	15.2	15.2	
Actuated g/C Ratio	0.02	0.24		0.21	0.43			0.17	0.38	0.17	0.17	
Clearance Time (s)	4.0	5.0		4.0	5.0			4.0	4.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	36	423		351	730			295	629	285	283	
v/s Ratio Prot	0.01	c0.21		c0.20	0.23			c0.16	c0.13	0.08	c0.15	
v/s Ratio Perm									0.14			
v/c Ratio	0.64	0.86		0.95	0.54			0.90	0.63	0.48	0.86	
Uniform Delay, d1	43.3	32.3		34.7	18.7			36.2	22.3	33.4	36.0	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Incremental Delay, d2	31.7	15.8		34.4	0.8			28.6	2.1	1.3	21.8	
Delay (s)	75.0	48.1		69.1	19.4			64.7	24.4	34.7	57.7	
Level of Service	E	D		E	B			E	C	C	E	
Approach Delay (s)		49.7			41.8			37.2			49.5	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	42.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	89.2	Sum of lost time (s)	18.0
Intersection Capacity Utilization	79.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

30: SE King Rd & SE 43rd Ave

Existing Conditions
Existing Conditions PM Peak 2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	525	45	100	330	5	38	22	120	5	20	5
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.98		1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	1.00			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.97	1.00		0.99	1.00
Satd. Flow (prot)	1710	1598		1676	1744			1713	1466		1783	1530
Flt Permitted	0.54	1.00		0.36	1.00			0.79	1.00		0.93	1.00
Satd. Flow (perm)	980	1598		644	1744			1400	1466		1667	1530
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)	5	571	49	109	359	5	41	24	130	5	22	5
RTOR Reduction (vph)	0	4	0	0	1	0	0	0	109	0	0	4
Lane Group Flow (vph)	5	616	0	109	363	0	0	65	21	0	27	1
Confl. Bikes (#/hr)			3			2			1			
Heavy Vehicles (%)	0%	0%	0%	2%	3%	0%	3%	0%	2%	0%	0%	0%
Parking (#/hr)		0										
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8		8	4		4
Actuated Green, G (s)	21.3	21.3		21.3	21.3			5.7	5.7		5.7	5.7
Effective Green, g (s)	21.3	21.3		21.3	21.3			5.7	5.7		5.7	5.7
Actuated g/C Ratio	0.59	0.59		0.59	0.59			0.16	0.16		0.16	0.16
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0			2.5	2.5		2.5	2.5
Lane Grp Cap (vph)	579	945		381	1031			221	232		263	242
v/s Ratio Prot		c0.39			0.21							
v/s Ratio Perm	0.01			0.17				c0.05	0.01		0.02	0.00
v/c Ratio	0.01	0.65		0.29	0.35			0.29	0.09		0.10	0.00
Uniform Delay, d1	3.0	4.9		3.6	3.8			13.4	12.9		13.0	12.8
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.0	1.6		0.4	0.2			0.5	0.1		0.1	0.0
Delay (s)	3.0	6.5		4.0	4.0			13.9	13.1		13.1	12.8
Level of Service	A	A		A	A			B	B		B	B
Approach Delay (s)		6.5			4.0			13.3			13.0	
Approach LOS		A			A			B			B	

Intersection Summary

HCM 2000 Control Delay	6.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	36.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	60.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

31: SE Linwood Ave & SE King Rd

Existing Conditions
Existing Conditions PM Peak 2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	106	514	87	90	365	44	96	203	71	39	234	87
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frbp, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.98		1.00	0.96		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1676	1716		1693	1746		1676	1687		1710	1672	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1676	1716		1693	1746		1676	1687		1710	1672	
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)	115	559	95	98	397	48	104	221	77	42	254	95
RTOR Reduction (vph)	0	10	0	0	8	0	0	21	0	0	25	0
Lane Group Flow (vph)	115	644	0	98	437	0	104	277	0	42	324	0
Confl. Peds. (#/hr)	17		7	7		17	5		5	5		5
Confl. Bikes (#/hr)			1						2			
Heavy Vehicles (%)	2%	2%	3%	1%	1%	0%	2%	2%	1%	0%	3%	1%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	4.0	16.9		3.1	16.0		4.0	17.8		1.5	15.3	
Effective Green, g (s)	4.0	16.9		3.1	16.0		4.0	17.8		1.5	15.3	
Actuated g/C Ratio	0.07	0.31		0.06	0.29		0.07	0.32		0.03	0.28	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	121	524		94	505		121	543		46	462	
v/s Ratio Prot	c0.07	c0.38		0.06	0.25		c0.06	0.16		0.02	c0.19	
v/s Ratio Perm												
v/c Ratio	0.95	1.23		1.04	0.87		0.86	0.51		0.91	0.70	
Uniform Delay, d1	25.6	19.2		26.1	18.6		25.4	15.2		26.8	18.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	66.2	118.7		104.8	14.4		41.7	0.8		99.4	4.8	
Delay (s)	91.7	137.9		130.9	33.0		67.1	16.0		126.2	22.7	
Level of Service	F	F		F	C		E	B		F	C	
Approach Delay (s)		131.0			50.7			29.2			33.9	
Approach LOS		F			D			C			C	
Intersection Summary												
HCM 2000 Control Delay			72.8			HCM 2000 Level of Service				E		
HCM 2000 Volume to Capacity ratio			0.96									
Actuated Cycle Length (s)			55.3			Sum of lost time (s)				16.0		
Intersection Capacity Utilization			77.2%			ICU Level of Service				D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis
 4: SE Home Ave & SW Harrison St

















Existing Conditions
 Existing Conditions PM Peak 2015



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	2	60	21	29	15	30
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	65	23	32	16	33
Pedestrians	2					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	112	35	51			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	112	35	51			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	94	99			
cM capacity (veh/h)	875	1042	1566			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	67	54	49			
Volume Left	2	23	0			
Volume Right	65	0	33			
cSH	1036	1566	1700			
Volume to Capacity	0.07	0.01	0.03			
Queue Length 95th (ft)	5	1	0			
Control Delay (s)	8.7	3.1	0.0			
Lane LOS	A	A				
Approach Delay (s)	8.7	3.1	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			4.4			
Intersection Capacity Utilization		20.2%		ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 7: SE 42nd Ave & SW Monroe St

Existing Conditions
 Existing Conditions PM Peak 2015

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	201	128	15	3	53	34	7	49	3	41	75	90
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
Hourly flow rate (vph)	218	139	16	3	58	37	8	53	3	45	82	98
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	374	98	64	224								
Volume Left (vph)	218	3	8	45								
Volume Right (vph)	16	37	3	98								
Hadj (s)	0.10	-0.20	0.02	-0.19								
Departure Headway (s)	4.9	5.0	5.5	5.0								
Degree Utilization, x	0.51	0.14	0.10	0.31								
Capacity (veh/h)	701	657	575	660								
Control Delay (s)	12.9	8.8	9.1	10.3								
Approach Delay (s)	12.9	8.8	9.1	10.3								
Approach LOS	B	A	A	B								
Intersection Summary												
Delay			11.3									
Level of Service			B									
Intersection Capacity Utilization			52.3%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis
 17: SE 37th Ave & SW Railroad Ave

Existing Conditions
 Existing Conditions PM Peak 2015

	↑	↖	↙	↓	↘	↗
Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations	↗			↖	↖	↗
Volume (veh/h)	244	185	127	112	100	79
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	265	201	138	122	109	86
Pedestrians	3			2	6	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	1	
Right turn flare (veh)						2
Median type	None			None		
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			472		773	374
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			472		773	374
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			87		66	87
cM capacity (veh/h)			1095		321	672
Direction, Lane #	NB 1	SB 1	NW 1			
Volume Total	466	260	195			
Volume Left	0	138	109			
Volume Right	201	0	86			
cSH	1700	1095	575			
Volume to Capacity	0.27	0.13	0.34			
Queue Length 95th (ft)	0	11	37			
Control Delay (s)	0.0	5.2	17.1			
Lane LOS		A	C			
Approach Delay (s)	0.0	5.2	17.1			
Approach LOS			C			
Intersection Summary						
Average Delay			5.1			
Intersection Capacity Utilization			55.7%		ICU Level of Service	B
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 23: SE 37th Ave & SW Harrison St

Existing Conditions
 Existing Conditions PM Peak 2015






















Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (veh/h)	6	422	21	35	220	2	27	37	40	0	15	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	7	459	23	38	239	2	29	40	43	0	16	3
Pedestrians		2			2						2	
Lane Width (ft)		12.0			12.0						12.0	
Walking Speed (ft/s)		4.0			4.0						4.0	
Percent Blockage		0			0						0	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		1273										
pX, platoon unblocked												
vC, conflicting volume	243			482			813	803	472	867	813	244
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	243			482			813	803	472	867	813	244
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			96			89	87	93	100	95	100
cM capacity (veh/h)	1333			1076			276	306	595	222	302	797

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	488	279	113	20
Volume Left	7	38	29	0
Volume Right	23	2	43	3
cSH	1333	1076	364	337
Volume to Capacity	0.00	0.04	0.31	0.06
Queue Length 95th (ft)	0	3	32	5
Control Delay (s)	0.2	1.5	19.3	16.3
Lane LOS	A	A	C	C
Approach Delay (s)	0.2	1.5	19.3	16.3
Approach LOS			C	C

Intersection Summary			
Average Delay		3.3	
Intersection Capacity Utilization	55.2%		ICU Level of Service
Analysis Period (min)	15		B

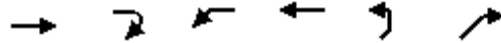
HCM Unsignalized Intersection Capacity Analysis
 32: SE 42nd Ave & SW Harrison St

Existing Conditions
 Existing Conditions PM Peak 2015

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	346	57	65	27	23	12	25	237	18	13	138	159
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
Hourly flow rate (vph)	376	62	71	29	25	13	27	258	20	14	150	173
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1	SB 2					
Volume Total (vph)	438	71	54	13	304	164	173					
Volume Left (vph)	376	0	29	0	27	14	0					
Volume Right (vph)	0	71	0	13	20	0	173					
Hadj (s)	0.46	-0.70	0.27	-0.70	-0.02	0.07	-0.67					
Departure Headway (s)	7.1	5.9	8.0	7.0	6.9	7.2	6.4					
Degree Utilization, x	0.87	0.12	0.12	0.03	0.58	0.33	0.31					
Capacity (veh/h)	438	583	414	466	496	475	527					
Control Delay (s)	39.4	8.5	10.8	8.9	19.2	12.4	11.0					
Approach Delay (s)	35.1		10.5		19.2	11.7						
Approach LOS	E		B		C	B						
Intersection Summary												
Delay			23.3									
Level of Service			C									
Intersection Capacity Utilization			65.1%		ICU Level of Service		C					
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis
 36: SW Oak St & SW Railroad Ave/SW Monroe St

Existing Conditions
 Existing Conditions PM Peak 2015



Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations	→			←	↘	↗
Volume (veh/h)	96	150	177	47	129	288
Sign Control	Stop			Stop	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	104	163	192	51	140	313
Pedestrians	4			9	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			1	0	
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)					900	
pX, platoon unblocked						
vC, conflicting volume	606	9	510	293	4	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	606	9	510	293	4	
tC, single (s)	6.5	6.2	7.1	6.5	4.1	
tC, 2 stage (s)						
tF (s)	4.0	3.3	3.5	4.0	2.2	
p0 queue free %	72	85	33	91	91	
cM capacity (veh/h)	373	1068	288	561	1619	

Direction, Lane #	EB 1	WB 1	NE 1	NE 2
Volume Total	267	243	140	313
Volume Left	0	192	140	0
Volume Right	163	0	0	313
cSH	618	321	1619	1700
Volume to Capacity	0.43	0.76	0.09	0.18
Queue Length 95th (ft)	54	147	7	0
Control Delay (s)	15.2	44.2	7.4	0.0
Lane LOS	C	E	A	
Approach Delay (s)	15.2	44.2	2.3	
Approach LOS	C	E		

Intersection Summary			
Average Delay		16.5	
Intersection Capacity Utilization	47.4%		ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis
 44: SE 37th Ave & SW Monroe St

Existing Conditions
 Existing Conditions PM Peak 2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↗	↘			↖	↙
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	24	225	133	56	122	4	89	82	139	1	50	22
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
Hourly flow rate (vph)	26	245	145	61	133	4	97	89	151	1	54	24
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total (vph)	415	198	97	240	55	24						
Volume Left (vph)	26	61	97	0	1	0						
Volume Right (vph)	145	4	0	151	0	24						
Hadj (s)	-0.20	0.08	0.50	-0.43	0.01	-0.63						
Departure Headway (s)	5.2	5.8	6.9	5.9	6.8	6.2						
Degree Utilization, x	0.60	0.32	0.18	0.39	0.11	0.04						
Capacity (veh/h)	661	575	494	571	460	503						
Control Delay (s)	15.7	11.5	10.2	11.5	9.4	8.2						
Approach Delay (s)	15.7	11.5	11.1		9.1							
Approach LOS	C	B	B		A							
Intersection Summary												
Delay			12.9									
Level of Service			B									
Intersection Capacity Utilization			48.7%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis
 46: SE Home Ave & SW Monroe St

Existing Conditions
 Existing Conditions PM Peak 2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	9	145	15	4	70	9	13	30	9	22	35	6
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
Hourly flow rate (vph)	10	158	16	4	76	10	14	33	10	24	38	7

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	184	90	57	68
Volume Left (vph)	10	4	14	24
Volume Right (vph)	16	10	10	7
Hadj (s)	-0.03	-0.04	-0.02	0.04
Departure Headway (s)	4.3	4.4	4.6	4.6
Degree Utilization, x	0.22	0.11	0.07	0.09
Capacity (veh/h)	816	783	733	723
Control Delay (s)	8.5	7.9	7.9	8.1
Approach Delay (s)	8.5	7.9	7.9	8.1
Approach LOS	A	A	A	A

Intersection Summary			
Delay		8.2	
Level of Service		A	
Intersection Capacity Utilization	26.6%	ICU Level of Service	A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis
49: SE Linwood Ave & SW Monroe St

Existing Conditions
Existing Conditions PM Peak 2015



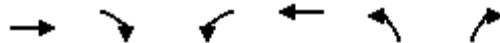
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Volume (veh/h)	34	58	35	13	42	49	31	287	17	36	303	54
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	37	63	38	14	46	53	34	312	18	39	329	59
Pedestrians		5			1						2	
Lane Width (ft)		12.0			12.0						12.0	
Walking Speed (ft/s)		4.0			4.0						4.0	
Percent Blockage		0			0						0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (ft)											1153	
pX, platoon unblocked												
vC, conflicting volume	909	841	364	896	861	324	393			331		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	909	841	364	896	861	324	393			331		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	81	78	94	93	83	93	97			97		
cM capacity (veh/h)	198	284	683	196	276	720	1155			1238		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	138	113	364	427
Volume Left	37	14	34	39
Volume Right	38	53	18	59
cSH	297	363	1155	1238
Volume to Capacity	0.46	0.31	0.03	0.03
Queue Length 95th (ft)	58	33	2	2
Control Delay (s)	27.2	19.3	1.0	1.0
Lane LOS	D	C	A	A
Approach Delay (s)	27.2	19.3	1.0	1.0
Approach LOS	D	C		

Intersection Summary			
Average Delay		6.5	
Intersection Capacity Utilization	49.9%		ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis
52: SE Home Ave & SE King Rd

Existing Conditions
Existing Conditions PM Peak 2015



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	→			←	←	←
Volume (veh/h)	601	6	28	429	6	23
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	653	7	30	466	7	25
Pedestrians				1	1	
Lane Width (ft)				12.0	12.0	
Walking Speed (ft/s)				4.0	4.0	
Percent Blockage				0	0	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			661		1185	659
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			661		1185	659
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		97	95
cM capacity (veh/h)			917		204	460

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	660	497	32
Volume Left	0	30	7
Volume Right	7	0	25
cSH	1700	917	365
Volume to Capacity	0.39	0.03	0.09
Queue Length 95th (ft)	0	3	7
Control Delay (s)	0.0	0.9	15.8
Lane LOS		A	C
Approach Delay (s)	0.0	0.9	15.8
Approach LOS			C

Intersection Summary			
Average Delay		0.8	
Intersection Capacity Utilization		58.4%	ICU Level of Service B
Analysis Period (min)		15	

Queues
8: HWY 224 & SW Harrison St

Base Case 2035
Base Case Conditions PM Peak 2035



Lane Group	EBT	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	411	492	69	1309	61	332	2147	28
v/c Ratio	0.67	1.03	0.57	0.98	0.10	1.02	1.20	0.03
Control Delay	46.0	87.9	58.5	42.3	3.4	101.4	121.4	0.2
Queue Delay	0.0	1.4	0.0	0.0	0.0	0.0	0.3	0.0
Total Delay	46.0	89.2	58.5	42.3	3.4	101.4	121.7	0.2
Queue Length 50th (ft)	143	~190	57	568	7	~265	~1092	0
Queue Length 95th (ft)	202	#303	106	#697	m12	#455	#1228	1
Internal Link Dist (ft)	610	167		406			859	
Turn Bay Length (ft)			190		200	650		230
Base Capacity (vph)	611	478	135	1344	620	326	1787	849
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	2	0	0	0	0	187	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.67	1.03	0.51	0.97	0.10	1.02	1.34	0.03

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues
9: HWY 224 & SW Monroe St

Base Case 2035
Base Case Conditions PM Peak 2035



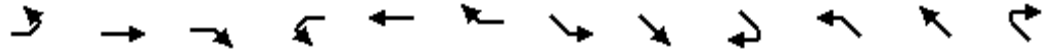
Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	52	118	61	28	33	1429	16	7	2290	18
v/c Ratio	0.44	0.52	0.50	0.16	0.33	0.52	0.01	0.09	0.89	0.02
Control Delay	63.2	17.2	66.5	2.5	76.5	3.5	0.3	73.2	8.8	0.0
Queue Delay	0.0	1.6	2.2	0.0	0.0	0.5	0.0	0.0	46.1	0.0
Total Delay	63.2	18.7	68.6	2.6	76.5	4.0	0.3	73.2	54.9	0.0
Queue Length 50th (ft)	39	0	46	0	25	10	0	6	1003	0
Queue Length 95th (ft)	79	56	m89	m2	m33	609	m0	m4	m266	m0
Internal Link Dist (ft)	657		476			720			406	
Turn Bay Length (ft)		150		130	270		330	185		330
Base Capacity (vph)	196	301	201	255	142	2744	1217	142	2570	1162
Starvation Cap Reductn	0	0	0	0	0	760	0	0	539	0
Spillback Cap Reductn	0	79	67	9	0	533	0	0	174	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.53	0.46	0.11	0.23	0.72	0.01	0.05	1.13	0.02

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Queues
10: HWY 224 & SW Oak St

Base Case 2035
Base Case Conditions PM Peak 2035



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Group Flow (vph)	22	285	99	170	313	195	309	2029	78	124	1271	211
v/c Ratio	0.16	0.47	0.28	1.16	0.51	0.32	0.91	1.01	0.09	0.72	0.77	0.26
Control Delay	45.0	46.7	10.1	169.3	47.6	20.4	51.5	49.8	6.5	60.9	24.3	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.3	0.0	0.0	0.0	0.0
Total Delay	45.0	46.7	10.1	169.3	47.6	20.4	51.5	57.1	6.5	60.9	24.3	8.3
Queue Length 50th (ft)	15	104	0	~156	116	80	216	~710	10	102	193	22
Queue Length 95th (ft)	40	150	47	#298	163	135	m258	#1024	m17	m140	350	m77
Internal Link Dist (ft)		58			347			720			610	
Turn Bay Length (ft)				180		180	390		350	550		200
Base Capacity (vph)	134	608	356	146	608	634	362	2013	903	205	1657	808
Starvation Cap Reductn	0	0	0	0	0	0	0	45	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.47	0.28	1.16	0.51	0.31	0.85	1.03	0.09	0.60	0.77	0.26

Intersection Summary

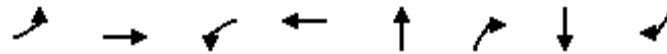
- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

11: SE 32nd Ave & SW Harrison St

Base Case 2035

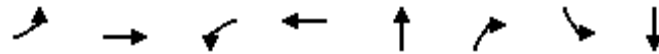
Base Case Conditions PM Peak 2035



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	196	566	30	259	190	27	190	178
v/c Ratio	0.42	0.71	0.11	0.37	0.39	0.06	0.39	0.32
Control Delay	10.2	15.4	7.5	8.0	11.9	4.4	11.7	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.2	15.4	7.5	8.0	11.9	4.4	11.7	3.8
Queue Length 50th (ft)	18	63	2	22	27	0	27	0
Queue Length 95th (ft)	66	#230	15	72	59	9	58	24
Internal Link Dist (ft)		210		885	175		889	
Turn Bay Length (ft)			120			100		120
Base Capacity (vph)	545	924	304	821	852	776	868	833
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.61	0.10	0.32	0.22	0.03	0.22	0.21

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	26	416	373	456	299	638	153	276
v/c Ratio	0.27	1.01	1.07	0.59	0.98	0.89	0.52	0.92
Control Delay	48.3	81.6	102.9	22.6	86.6	31.9	40.5	73.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.3	81.6	102.9	22.6	86.6	31.9	40.5	73.6
Queue Length 50th (ft)	15	~235	~236	163	171	200	80	153
Queue Length 95th (ft)	41	#427	#408	311	#333	#459	141	#304
Internal Link Dist (ft)		499		2338	614			1327
Turn Bay Length (ft)	150		500			200	360	
Base Capacity (vph)	95	413	350	769	304	715	297	299
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	1.01	1.07	0.59	0.98	0.89	0.52	0.92

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

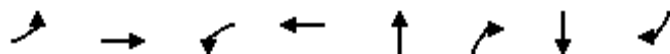
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Queues
30: SE King Rd & SE 43rd Ave

Base Case 2035
Base Case Conditions PM Peak 2035

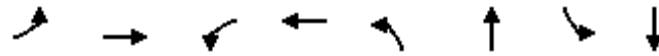


Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	6	694	122	408	73	146	30	6
v/c Ratio	0.01	0.66	0.33	0.35	0.27	0.36	0.09	0.02
Control Delay	3.7	9.5	7.6	5.4	18.8	7.3	16.7	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.7	9.5	7.6	5.4	18.8	7.3	16.7	2.5
Queue Length 50th (ft)	0	82	11	37	12	0	5	0
Queue Length 95th (ft)	4	217	41	91	53	39	27	3
Internal Link Dist (ft)		197		348	52		401	
Turn Bay Length (ft)	110		110					95
Base Capacity (vph)	890	1512	534	1650	704	813	836	784
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.46	0.23	0.25	0.10	0.18	0.04	0.01

Intersection Summary

Queues
31: SE Linwood Ave & SE King Rd

Base Case 2035
Base Case Conditions PM Peak 2035



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	129	732	110	498	117	333	47	391
v/c Ratio	1.04	1.41	0.88	0.95	0.94	0.55	0.37	0.86
Control Delay	127.2	218.2	87.1	51.5	101.9	18.3	33.5	38.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	127.2	218.2	87.1	51.5	101.9	18.3	33.5	38.0
Queue Length 50th (ft)	~50	~350	38	160	40	67	15	109
Queue Length 95th (ft)	#138	#536	#118	#335	#126	#171	#43	#236
Internal Link Dist (ft)		1145		990		1073		389
Turn Bay Length (ft)	200		200		160		150	
Base Capacity (vph)	124	519	125	525	124	609	127	519
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.04	1.41	0.88	0.95	0.94	0.55	0.37	0.75

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

8: HWY 224 & SW Harrison St

Base Case 2035
Base Case Conditions PM Peak 2035



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕		↗	↕↕	↗	↗	↕↕	↗
Volume (vph)	9	251	77	61	202	141	57	1075	50	273	1764	23
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.0			4.0		4.0	6.0	6.0	4.0	6.0	6.0
Lane Util. Factor		0.95			0.95		1.00	0.95	1.00	1.00	0.95	1.00
Frbp, ped/bikes		1.00			0.99		1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes		1.00			1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.97			0.95		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		1.00			0.99		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		2867			2759		1480	2988	1324	1509	2988	1377
Flt Permitted		0.94			0.69		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		2691			1918		1480	2988	1324	1509	2988	1377
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
Growth Factor (vph)	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%
Adj. Flow (vph)	11	306	94	74	246	172	69	1309	61	332	2147	28
RTOR Reduction (vph)	0	23	0	0	59	0	0	0	25	0	0	11
Lane Group Flow (vph)	0	388	0	0	433	0	69	1309	36	332	2147	17
Confl. Peds. (#/hr)	8		1	1		8						
Heavy Vehicles (%)	0%	4%	1%	3%	4%	5%	4%	3%	4%	2%	3%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4					6			2
Actuated Green, G (s)		26.2			26.2		8.8	53.8	53.8	26.0	71.0	71.0
Effective Green, g (s)		26.2			26.2		8.8	53.8	53.8	26.0	71.0	71.0
Actuated g/C Ratio		0.22			0.22		0.07	0.45	0.45	0.22	0.59	0.59
Clearance Time (s)		4.0			4.0		4.0	6.0	6.0	4.0	6.0	6.0
Vehicle Extension (s)		2.5			2.5		2.3	3.9	3.9	2.3	3.9	3.9
Lane Grp Cap (vph)		587			418		108	1339	593	326	1767	814
v/s Ratio Prot							0.05	c0.44		0.22	c0.72	
v/s Ratio Perm		0.14			c0.23				0.03			0.01
v/c Ratio		0.66			1.03		0.64	0.98	0.06	1.02	1.22	0.02
Uniform Delay, d1		42.8			46.9		54.1	32.5	18.8	47.0	24.5	10.1
Progression Factor		1.00			1.00		0.81	0.71	0.40	1.00	1.00	1.00
Incremental Delay, d2		2.5			53.3		8.6	18.2	0.2	54.6	102.2	0.0
Delay (s)		45.3			100.2		52.4	41.2	7.6	101.6	126.7	10.2
Level of Service		D			F		D	D	A	F	F	B
Approach Delay (s)		45.3			100.2			40.3			122.1	
Approach LOS		D			F			D			F	

Intersection Summary

HCM 2000 Control Delay	89.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	116.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

9: HWY 224 & SW Monroe St

Base Case 2035
Base Case Conditions PM Peak 2035



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗		↖	↗	↖	↕	↗	↖	↕	↗
Volume (vph)	21	21	97	21	29	23	27	1174	13	6	1881	15
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	6.0	6.0	4.0	6.0	6.0
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frbp, ped/bikes		1.00	0.98		1.00	0.98	1.00	1.00	0.97	1.00	1.00	0.97
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.98	1.00		0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1751	1495		1754	1502	1710	3353	1477	1710	3320	1488
Flt Permitted		0.82	1.00		0.84	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1469	1495		1514	1502	1710	3353	1477	1710	3320	1488
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
Growth Factor (vph)	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%
Adj. Flow (vph)	26	26	118	26	35	28	33	1429	16	7	2290	18
RTOR Reduction (vph)	0	0	108	0	0	26	0	0	3	0	0	4
Lane Group Flow (vph)	0	52	10	0	61	2	33	1429	13	7	2290	14
Confl. Peds. (#/hr)	7		12	12		7	3		6	6		3
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	3%	0%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		8			4		1	6		5		2
Permitted Phases	8		8	4		4			6			2
Actuated Green, G (s)		9.7	9.7		9.7	9.7	5.0	95.0	95.0	1.3	91.3	91.3
Effective Green, g (s)		9.7	9.7		9.7	9.7	5.0	95.0	95.0	1.3	91.3	91.3
Actuated g/C Ratio		0.08	0.08		0.08	0.08	0.04	0.79	0.79	0.01	0.76	0.76
Clearance Time (s)		4.0	4.0		4.0	4.0	4.0	6.0	6.0	4.0	6.0	6.0
Vehicle Extension (s)		2.5	2.5		2.5	2.5	2.3	5.2	5.2	2.3	5.2	5.2
Lane Grp Cap (vph)		118	120		122	121	71	2654	1169	18	2525	1132
v/s Ratio Prot							c0.02	c0.43		0.00	c0.69	
v/s Ratio Perm		0.04	0.01		c0.04	0.00			0.01			0.01
v/c Ratio		0.44	0.08		0.50	0.02	0.46	0.54	0.01	0.39	0.91	0.01
Uniform Delay, d1		52.6	51.0		52.8	50.8	56.2	4.5	2.6	59.0	11.1	3.5
Progression Factor		1.00	1.00		1.01	2.27	1.32	0.70	1.00	1.33	0.58	0.06
Incremental Delay, d2		1.9	0.2		2.3	0.0	2.0	0.6	0.0	0.7	0.6	0.0
Delay (s)		54.5	51.2		55.5	115.3	76.0	3.7	2.6	79.4	7.0	0.2
Level of Service		D	D		E	F	E	A	A	E	A	A
Approach Delay (s)		52.2			74.3			5.3			7.2	
Approach LOS		D			E			A			A	

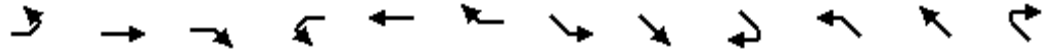
Intersection Summary

HCM 2000 Control Delay	9.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	99.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 10: HWY 224 & SW Oak St

Base Case 2035
 Base Case Conditions PM Peak 2035



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	18	234	81	140	257	160	254	1667	64	102	1044	173
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.0	6.0	4.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	0.96	1.00	1.00	0.98
Flpb, ped/bikes	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1697	3320	1500	1693	3320	1512	1613	3386	1466	1644	3386	1485
Flt Permitted	0.41	1.00	1.00	0.45	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	736	3320	1500	799	3320	1512	1613	3386	1466	1644	3386	1485
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
Growth Factor (vph)	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%
Adj. Flow (vph)	22	285	99	170	313	195	309	2029	78	124	1271	211
RTOR Reduction (vph)	0	0	81	0	0	17	0	0	31	0	0	82
Lane Group Flow (vph)	22	285	18	170	313	178	309	2029	47	124	1271	129
Confl. Peds. (#/hr)	13						13	7		32	32	7
Confl. Bikes (#/hr)							1			1		2
Heavy Vehicles (%)	0%	3%	2%	1%	3%	0%	6%	1%	0%	4%	1%	1%
Turn Type	Perm	NA	Perm	Perm	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		8			4		5	2		1		6
Permitted Phases	8		8	4		4			2			6
Actuated Green, G (s)	22.0	22.0	22.0	22.0	22.0	47.3	25.3	71.4	71.4	12.6	58.7	58.7
Effective Green, g (s)	22.0	22.0	22.0	22.0	22.0	47.3	25.3	71.4	71.4	12.6	58.7	58.7
Actuated g/C Ratio	0.18	0.18	0.18	0.18	0.18	0.39	0.21	0.60	0.60	0.10	0.49	0.49
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.0	6.0	4.0	6.0	6.0
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.3	2.3	4.8	4.8	2.3	4.8	4.8
Lane Grp Cap (vph)	134	608	275	146	608	646	340	2014	872	172	1656	726
v/s Ratio Prot		0.09			0.09	0.06	c0.19	c0.60		0.08	0.38	
v/s Ratio Perm	0.03		0.01	c0.21		0.06			0.03			0.09
v/c Ratio	0.16	0.47	0.07	1.16	0.51	0.28	0.91	1.01	0.05	0.72	0.77	0.18
Uniform Delay, d1	41.3	43.8	40.5	49.0	44.2	24.7	46.2	24.3	10.2	52.0	25.1	17.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.70	1.42	2.46	0.84	0.84	1.46
Incremental Delay, d2	0.4	0.4	0.1	125.5	3.1	0.1	15.4	15.7	0.1	9.5	2.6	0.4
Delay (s)	41.7	44.2	40.6	174.5	47.3	24.8	47.9	50.3	25.0	53.3	23.6	25.5
Level of Service	D	D	D	F	D	C	D	D	C	D	C	C
Approach Delay (s)		43.2			72.7			49.2			26.1	
Approach LOS		D			E			D			C	

Intersection Summary

HCM 2000 Control Delay	44.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	112.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 11: SE 32nd Ave & SW Harrison St

Base Case 2035
 Base Case Conditions PM Peak 2035



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	161	459	6	25	199	14	27	129	22	24	132	146
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.96		1.00	0.98
Flpb, ped/bikes	0.99	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00		0.99	1.00
Satd. Flow (prot)	1667	1779		1705	1572			1770	1475		1783	1440
Flt Permitted	0.60	1.00		0.33	1.00			0.92	1.00		0.93	1.00
Satd. Flow (perm)	1051	1779		586	1572			1643	1475		1673	1440
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
Growth Factor (vph)	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%
Adj. Flow (vph)	196	559	7	30	242	17	33	157	27	29	161	178
RTOR Reduction (vph)	0	1	0	0	6	0	0	0	19	0	0	125
Lane Group Flow (vph)	196	565	0	30	253	0	0	190	8	0	190	53
Confl. Peds. (#/hr)	8		4	8		4			15	15		
Confl. Bikes (#/hr)						1			1			1
Heavy Vehicles (%)	2%	1%	0%	0%	2%	0%	0%	1%	0%	0%	0%	4%
Parking (#/hr)					0							
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	14.2	14.2		14.2	14.2			9.3	9.3		9.3	9.3
Effective Green, g (s)	14.2	14.2		14.2	14.2			9.3	9.3		9.3	9.3
Actuated g/C Ratio	0.45	0.45		0.45	0.45			0.30	0.30		0.30	0.30
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	473	801		264	708			485	435		493	425
v/s Ratio Prot		c0.32			0.16							
v/s Ratio Perm	0.19			0.05				c0.12	0.01		0.11	0.04
v/c Ratio	0.41	0.71		0.11	0.36			0.39	0.02		0.39	0.12
Uniform Delay, d1	5.8	7.0		5.0	5.7			8.8	7.9		8.8	8.1
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.6	2.8		0.2	0.3			0.5	0.0		0.5	0.1
Delay (s)	6.4	9.8		5.2	6.0			9.4	7.9		9.3	8.3
Level of Service	A	A		A	A			A	A		A	A
Approach Delay (s)		8.9			5.9			9.2			8.8	
Approach LOS		A			A			A			A	

Intersection Summary

HCM 2000 Control Delay	8.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	31.5	Sum of lost time (s)	8.0
Intersection Capacity Utilization	66.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 22: SE Harmony Rd & SW Railroad Ave & SE Linwood Ave

Base Case 2035
 Base Case Conditions PM Peak 2035



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	21	288	53	306	274	100	40	205	524	126	207	20
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	5.0		4.0	5.0			4.0	4.0	5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Frbp, ped/bikes	1.00	1.00		1.00	0.99			1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.96			1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00	0.95	1.00	
Satd. Flow (prot)	1710	1741		1660	1683			1714	1465	1676	1664	
Flt Permitted	0.95	1.00		0.95	1.00			0.99	1.00	0.95	1.00	
Satd. Flow (perm)	1710	1741		1660	1683			1714	1465	1676	1664	
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
Growth Factor (vph)	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%
Adj. Flow (vph)	26	351	65	373	334	122	49	250	638	153	252	24
RTOR Reduction (vph)	0	7	0	0	14	0	0	0	148	0	4	0
Lane Group Flow (vph)	26	409	0	373	442	0	0	299	490	153	272	0
Confl. Peds. (#/hr)	11		1	1		11	6		10	10		6
Confl. Bikes (#/hr)									3			1
Heavy Vehicles (%)	0%	0%	4%	3%	1%	2%	5%	4%	2%	2%	7%	0%
Turn Type	Prot	NA		Prot	NA		Split	NA	pm+ov	Split	NA	
Protected Phases	5	2		1	6		8	8	1	4	4	
Permitted Phases									8			
Actuated Green, G (s)	2.0	23.4		19.0	40.4			16.0	35.0	16.0	16.0	
Effective Green, g (s)	2.0	23.4		19.0	40.4			16.0	35.0	16.0	16.0	
Actuated g/C Ratio	0.02	0.25		0.21	0.44			0.17	0.38	0.17	0.17	
Clearance Time (s)	4.0	5.0		4.0	5.0			4.0	4.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	37	440		341	735			296	618	290	288	
v/s Ratio Prot	0.02	c0.23		c0.22	0.26			c0.17	c0.16	0.09	c0.16	
v/s Ratio Perm									0.17			
v/c Ratio	0.70	0.93		1.09	0.60			1.01	0.79	0.53	0.94	
Uniform Delay, d1	44.9	33.7		36.7	19.9			38.2	25.5	34.8	37.8	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Incremental Delay, d2	46.2	25.7		76.3	1.4			54.9	6.9	1.7	38.0	
Delay (s)	91.1	59.4		113.0	21.3			93.1	32.4	36.5	75.7	
Level of Service	F	E		F	C			F	C	D	E	
Approach Delay (s)		61.3			62.5			51.7			61.7	
Approach LOS		E			E			D			E	

Intersection Summary

HCM 2000 Control Delay	58.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	92.4	Sum of lost time (s)	18.0
Intersection Capacity Utilization	87.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
30: SE King Rd & SE 43rd Ave

Base Case 2035
Base Case Conditions PM Peak 2035



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	525	45	100	330	5	38	22	120	5	20	5
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.98		1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	1.00			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.97	1.00		0.99	1.00
Satd. Flow (prot)	1710	1598		1676	1744			1713	1466		1782	1530
Flt Permitted	0.52	1.00		0.32	1.00			0.79	1.00		0.92	1.00
Satd. Flow (perm)	941	1598		564	1744			1397	1466		1657	1530
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
Growth Factor (vph)	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%
Adj. Flow (vph)	6	639	55	122	402	6	46	27	146	6	24	6
RTOR Reduction (vph)	0	4	0	0	1	0	0	0	124	0	0	5
Lane Group Flow (vph)	6	690	0	122	407	0	0	73	22	0	30	1
Confl. Bikes (#/hr)			3			2			1			
Heavy Vehicles (%)	0%	0%	0%	2%	3%	0%	3%	0%	2%	0%	0%	0%
Parking (#/hr)		0										
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8		8	4		4
Actuated Green, G (s)	24.2	24.2		24.2	24.2			6.0	6.0		6.0	6.0
Effective Green, g (s)	24.2	24.2		24.2	24.2			6.0	6.0		6.0	6.0
Actuated g/C Ratio	0.62	0.62		0.62	0.62			0.15	0.15		0.15	0.15
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0			2.5	2.5		2.5	2.5
Lane Grp Cap (vph)	580	986		348	1076			213	224		253	234
v/s Ratio Prot		c0.43			0.23							
v/s Ratio Perm	0.01			0.22				c0.05	0.02		0.02	0.00
v/c Ratio	0.01	0.70		0.35	0.38			0.34	0.10		0.12	0.00
Uniform Delay, d1	2.9	5.1		3.7	3.7			14.8	14.3		14.3	14.1
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.0	2.2		0.6	0.2			0.7	0.1		0.2	0.0
Delay (s)	2.9	7.2		4.3	4.0			15.5	14.4		14.5	14.1
Level of Service	A	A		A	A			B	B		B	B
Approach Delay (s)		7.2			4.0			14.8			14.4	
Approach LOS		A			A			B			B	

Intersection Summary

HCM 2000 Control Delay	7.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	39.2	Sum of lost time (s)	9.0
Intersection Capacity Utilization	64.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

31: SE Linwood Ave & SE King Rd

Base Case 2035
Base Case Conditions PM Peak 2035



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	106	514	87	90	365	44	96	203	71	39	234	87
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frbp, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.98		1.00	0.96		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1676	1716		1693	1746		1676	1687		1710	1672	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1676	1716		1693	1746		1676	1687		1710	1672	
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
Growth Factor (vph)	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%
Adj. Flow (vph)	129	626	106	110	444	54	117	247	86	47	285	106
RTOR Reduction (vph)	0	11	0	0	8	0	0	21	0	0	23	0
Lane Group Flow (vph)	129	721	0	110	490	0	117	312	0	47	368	0
Confl. Peds. (#/hr)	17		7	7		17	5		5	5		5
Confl. Bikes (#/hr)			1						2			
Heavy Vehicles (%)	2%	2%	3%	1%	1%	0%	2%	2%	1%	0%	3%	1%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	4.0	16.0		4.0	16.0		4.0	18.9		1.5	16.4	
Effective Green, g (s)	4.0	16.0		4.0	16.0		4.0	18.9		1.5	16.4	
Actuated g/C Ratio	0.07	0.28		0.07	0.28		0.07	0.34		0.03	0.29	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	118	486		120	495		118	565		45	486	
v/s Ratio Prot	c0.08	c0.42		0.06	0.28		c0.07	0.19		0.03	c0.22	
v/s Ratio Perm												
v/c Ratio	1.09	1.48		0.92	0.99		0.99	0.55		1.04	0.76	
Uniform Delay, d1	26.2	20.2		26.0	20.1		26.2	15.3		27.4	18.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	110.1	228.6		56.4	37.8		80.0	1.2		147.5	6.6	
Delay (s)	136.3	248.8		82.4	57.9		106.1	16.5		174.9	24.8	
Level of Service	F	F		F	E		F	B		F	C	
Approach Delay (s)		232.0			62.3			39.8			40.9	
Approach LOS		F			E			D			D	

Intersection Summary

HCM 2000 Control Delay	116.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	56.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	84.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis

4: SE Home Ave & SW Harrison St

















Base Case 2035
Base Case Conditions PM Peak 2035



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	2	60	21	29	15	30
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	73	26	35	18	37
Pedestrians	2					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	125	39	57			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	125	39	57			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	93	98			
cM capacity (veh/h)	859	1037	1558			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	75	61	55			
Volume Left	2	26	0			
Volume Right	73	0	37			
cSH	1030	1558	1700			
Volume to Capacity	0.07	0.02	0.03			
Queue Length 95th (ft)	6	1	0			
Control Delay (s)	8.8	3.2	0.0			
Lane LOS	A	A				
Approach Delay (s)	8.8	3.2	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			4.5			
Intersection Capacity Utilization		21.0%		ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 7: SE 42nd Ave & SW Monroe St

Base Case 2035
 Base Case Conditions PM Peak 2035

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	201	128	15	3	53	34	7	49	3	41	75	90
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
Hourly flow rate (vph)	245	156	18	4	65	41	9	60	4	50	91	110
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	419	110	72	251								
Volume Left (vph)	245	4	9	50								
Volume Right (vph)	18	41	4	110								
Hadj (s)	0.10	-0.20	0.02	-0.19								
Departure Headway (s)	5.1	5.2	5.8	5.2								
Degree Utilization, x	0.59	0.16	0.11	0.36								
Capacity (veh/h)	683	624	541	634								
Control Delay (s)	15.1	9.2	9.5	11.2								
Approach Delay (s)	15.1	9.2	9.5	11.2								
Approach LOS	C	A	A	B								
Intersection Summary												
Delay			12.7									
Level of Service			B									
Intersection Capacity Utilization			56.2%	ICU Level of Service	B							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis
 17: SE 37th Ave & SW Railroad Ave

Base Case 2035
 Base Case Conditions PM Peak 2035

	↑	↖	↙	↓	↘	↗
Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations	↗			↖	↖	↗
Volume (veh/h)	244	185	127	112	100	79
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	297	225	155	136	122	96
Pedestrians	3			2	6	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	1	
Right turn flare (veh)						2
Median type	None			None		
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			528		864	418
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			528		864	418
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			85		56	85
cM capacity (veh/h)			1044		277	635
Direction, Lane #	NB 1	SB 1	NW 1			
Volume Total	522	291	218			
Volume Left	0	155	122			
Volume Right	225	0	96			
cSH	1700	1044	495			
Volume to Capacity	0.31	0.15	0.44			
Queue Length 95th (ft)	0	13	55			
Control Delay (s)	0.0	5.5	20.7			
Lane LOS		A	C			
Approach Delay (s)	0.0	5.5	20.7			
Approach LOS			C			
Intersection Summary						
Average Delay			5.9			
Intersection Capacity Utilization			61.1%	ICU Level of Service		B
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 23: SE 37th Ave & SW Harrison St




















Base Case 2035
 Base Case Conditions PM Peak 2035



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (veh/h)	6	422	21	35	220	2	27	37	40	0	15	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	7	514	26	43	268	2	33	45	49	0	18	4
Pedestrians		2			2						2	
Lane Width (ft)		12.0			12.0						12.0	
Walking Speed (ft/s)		4.0			4.0						4.0	
Percent Blockage		0			0						0	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		1273										
pX, platoon unblocked												
vC, conflicting volume	272			539			910	899	529	971	910	273
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	272			539			910	899	529	971	910	273
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			96			86	83	91	100	93	100
cM capacity (veh/h)	1301			1024			233	267	553	179	263	768
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	547	313	127	22								
Volume Left	7	43	33	0								
Volume Right	26	2	49	4								
cSH	1301	1024	319	295								
Volume to Capacity	0.01	0.04	0.40	0.07								
Queue Length 95th (ft)	0	3	46	6								
Control Delay (s)	0.2	1.6	23.6	18.2								
Lane LOS	A	A	C	C								
Approach Delay (s)	0.2	1.6	23.6	18.2								
Approach LOS			C	C								
Intersection Summary												
Average Delay			3.9									
Intersection Capacity Utilization			60.2%		ICU Level of Service				B			
Analysis Period (min)			15									

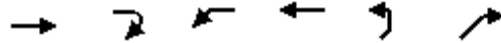
HCM Unsignalized Intersection Capacity Analysis
 32: SE 42nd Ave & SW Harrison St

Base Case 2035
 Base Case Conditions PM Peak 2035

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	346	57	65	27	23	12	25	237	18	13	138	159
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
Hourly flow rate (vph)	421	69	79	33	28	15	30	289	22	16	168	194
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1	SB 2					
Volume Total (vph)	491	79	61	15	341	184	194					
Volume Left (vph)	421	0	33	0	30	16	0					
Volume Right (vph)	0	79	0	15	22	0	194					
Hadj (s)	0.46	-0.70	0.27	-0.70	-0.02	0.07	-0.67					
Departure Headway (s)	7.5	6.3	8.4	7.5	7.3	7.5	6.8					
Degree Utilization, x	1.0	0.14	0.14	0.03	0.69	0.39	0.37					
Capacity (veh/h)	476	561	398	445	483	466	516					
Control Delay (s)	72.2	9.1	11.6	9.5	24.9	14.0	12.5					
Approach Delay (s)	63.5		11.2		24.9	13.2						
Approach LOS	F		B		C	B						
Intersection Summary												
Delay			37.0									
Level of Service			E									
Intersection Capacity Utilization			70.6%		ICU Level of Service			C				
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis
 36: SW Oak St & SW Railroad Ave/SW Monroe St

Base Case 2035
 Base Case Conditions PM Peak 2035



Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations	→			←	↘	↙
Volume (veh/h)	96	150	177	47	129	288
Sign Control	Stop			Stop	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	117	183	215	57	157	351
Pedestrians	4			9	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			1	0	
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)					900	
pX, platoon unblocked						
vC, conflicting volume	678	9	569	327	4	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	678	9	569	327	4	
tC, single (s)	6.5	6.2	7.1	6.5	4.1	
tC, 2 stage (s)						
tF (s)	4.0	3.3	3.5	4.0	2.2	
p0 queue free %	65	83	9	89	90	
cM capacity (veh/h)	335	1068	238	531	1619	

Direction, Lane #	EB 1	WB 1	NE 1	NE 2
Volume Total	299	273	157	351
Volume Left	0	215	157	0
Volume Right	183	0	0	351
cSH	577	269	1619	1700
Volume to Capacity	0.52	1.01	0.10	0.21
Queue Length 95th (ft)	75	258	8	0
Control Delay (s)	17.8	99.4	7.5	0.0
Lane LOS	C	F	A	
Approach Delay (s)	17.8	99.4	2.3	
Approach LOS	C	F		

Intersection Summary			
Average Delay		31.1	
Intersection Capacity Utilization		51.4%	ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis
 44: SE 37th Ave & SW Monroe St

Base Case 2035
 Base Case Conditions PM Peak 2035



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↗	↘			↖	↙
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	24	225	133	56	122	4	89	82	139	1	50	22
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
Hourly flow rate (vph)	29	274	162	68	149	5	108	100	169	1	61	27
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total (vph)	465	222	108	269	62	27						
Volume Left (vph)	29	68	108	0	1	0						
Volume Right (vph)	162	5	0	169	0	27						
Hadj (s)	-0.20	0.08	0.50	-0.43	0.01	-0.63						
Departure Headway (s)	5.5	6.2	7.2	6.2	7.3	6.6						
Degree Utilization, x	0.71	0.38	0.22	0.47	0.13	0.05						
Capacity (veh/h)	465	540	472	534	418	452						
Control Delay (s)	20.6	12.9	11.0	13.4	10.1	8.8						
Approach Delay (s)	20.6	12.9	12.7		9.7							
Approach LOS	C	B	B		A							
Intersection Summary												
Delay			15.7									
Level of Service			C									
Intersection Capacity Utilization			53.8%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis
 46: SE Home Ave & SW Monroe St

Base Case 2035
 Base Case Conditions PM Peak 2035



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	9	145	15	4	70	9	13	30	9	22	35	6
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
Hourly flow rate (vph)	11	177	18	5	85	11	16	37	11	27	43	7
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	206	101	63	77								
Volume Left (vph)	11	5	16	27								
Volume Right (vph)	18	11	11	7								
Hadj (s)	-0.03	-0.04	-0.02	0.04								
Departure Headway (s)	4.3	4.4	4.7	4.7								
Degree Utilization, x	0.25	0.12	0.08	0.10								
Capacity (veh/h)	803	768	715	705								
Control Delay (s)	8.7	8.1	8.1	8.2								
Approach Delay (s)	8.7	8.1	8.1	8.2								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			8.4									
Level of Service			A									
Intersection Capacity Utilization			28.6%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis
 49: SE Linwood Ave & SW Monroe St

Base Case 2035
 Base Case Conditions PM Peak 2035



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Volume (veh/h)	34	58	35	13	42	49	31	287	17	36	303	54
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	41	71	43	16	51	60	38	349	21	44	369	66
Pedestrians		5			1						2	
Lane Width (ft)		12.0			12.0						12.0	
Walking Speed (ft/s)		4.0			4.0						4.0	
Percent Blockage		0			0						0	
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)											1153	
pX, platoon unblocked												
vC, conflicting volume	1017	941	407	1004	963	363	440			371		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1017	941	407	1004	963	363	440			371		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	73	71	93	90	79	91	97			96		
cM capacity (veh/h)	156	246	646	153	238	685	1110			1198		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	155	127	408	478
Volume Left	41	16	38	44
Volume Right	43	60	21	66
cSH	250	313	1110	1198
Volume to Capacity	0.62	0.41	0.03	0.04
Queue Length 95th (ft)	93	47	3	3
Control Delay (s)	40.2	24.1	1.1	1.1
Lane LOS	E	C	A	A
Approach Delay (s)	40.2	24.1	1.1	1.1
Approach LOS	E	C		

Intersection Summary			
Average Delay		8.8	
Intersection Capacity Utilization	54.7%		ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis
52: SE Home Ave & SE King Rd

Base Case 2035
Base Case Conditions PM Peak 2035



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	→			←	←	←
Volume (veh/h)	601	6	28	429	6	23
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	732	7	34	522	7	28
Pedestrians				1	1	
Lane Width (ft)				12.0	12.0	
Walking Speed (ft/s)				4.0	4.0	
Percent Blockage				0	0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			740		1327	737
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			740		1327	737
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		96	93
cM capacity (veh/h)			857		166	414

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	739	556	35
Volume Left	0	34	7
Volume Right	7	0	28
cSH	1700	857	316
Volume to Capacity	0.43	0.04	0.11
Queue Length 95th (ft)	0	3	9
Control Delay (s)	0.0	1.1	17.8
Lane LOS		A	C
Approach Delay (s)	0.0	1.1	17.8
Approach LOS			C









Intersection Summary			
Average Delay		0.9	
Intersection Capacity Utilization		64.2%	ICU Level of Service C
Analysis Period (min)		15	

Queues

8: HWY 224 & SW Harrison St

Version A - Diverters

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2015

								
Lane Group	EBT	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	410	478	60	1141	54	304	1917	33
v/c Ratio	0.73	0.92	0.55	0.87	0.09	0.95	1.08	0.04
Control Delay	48.9	63.1	59.0	27.0	3.1	86.9	73.2	0.7
Queue Delay	0.0	0.2	0.0	0.4	0.0	0.0	7.3	0.0
Total Delay	48.9	63.3	59.0	27.3	3.1	86.9	80.5	0.7
Queue Length 50th (ft)	147	165	50	490	8	233	-897	0
Queue Length 95th (ft)	#213	#283	97	566	10	#405	#1035	4
Internal Link Dist (ft)	610	167		406			859	
Turn Bay Length (ft)			190		200	650		230
Base Capacity (vph)	565	517	135	1344	620	326	1770	841
Starvation Cap Reductn	0	0	0	28	0	0	0	0
Spillback Cap Reductn	0	1	0	0	0	0	79	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.73	0.93	0.44	0.87	0.09	0.93	1.13	0.04

Intersection Summary







- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues

9: HWY 224 & SW Monroe St

Version A - Diverters

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2015

						
Lane Group	EBR	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	105	25	1234	14	7	2065
v/c Ratio	0.59	0.08	0.48	0.01	0.04	0.73
Control Delay	30.2	0.5	4.8	0.3	46.2	3.8
Queue Delay	1.6	0.0	0.1	0.0	0.0	1.6
Total Delay	31.9	0.5	4.9	0.3	46.2	5.4
Queue Length 50th (ft)	17	0	4	0	5	4
Queue Length 95th (ft)	72	m0	501	m0	m5	m38
Internal Link Dist (ft)			720			406
Turn Bay Length (ft)	150	130		330	185	
Base Capacity (vph)	273	363	2633	1173	203	2818
Starvation Cap Reductn	0	0	0	0	0	530
Spillback Cap Reductn	71	10	412	0	0	79
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.07	0.56	0.01	0.03	0.90

Intersection Summary














m Volume for 95th percentile queue is metered by upstream signal.

Queues

10: HWY 224 & SW Oak St

Version A - Diverters

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2015

													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR	
Lane Group Flow (vph)	20	254	88	109	196	120	276	1812	82	190	1109	207	
v/c Ratio	0.11	0.41	0.25	0.67	0.32	0.20	0.87	0.93	0.09	0.93	0.66	0.25	
Control Delay	42.7	45.6	8.1	67.2	44.1	13.8	53.6	40.0	7.1	85.4	24.0	7.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	
Total Delay	42.7	45.6	8.1	67.2	44.1	13.8	53.6	41.3	7.1	85.4	24.0	7.2	
Queue Length 50th (ft)	13	92	0	80	70	34	203	621	15	151	193	7	
Queue Length 95th (ft)	36	134	37	#165	106	72	m#313	#736	m23	#298	342	84	
Internal Link Dist (ft)		58			347			720			610		
Turn Bay Length (ft)				180		180	390		350	550		200	
Base Capacity (vph)	189	615	359	162	615	647	362	1946	877	205	1693	833	
Starvation Cap Reductn	0	0	0	0	0	0	0	44	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.11	0.41	0.25	0.67	0.32	0.19	0.76	0.95	0.09	0.93	0.66	0.25	

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.









m Volume for 95th percentile queue is metered by upstream signal.

Queues

11: SE 32nd Ave & SW Harrison St

Version A - Diverters

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2015









								
Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	175	506	27	288	163	190	169	159
v/c Ratio	0.39	0.65	0.09	0.41	0.34	0.34	0.35	0.30
Control Delay	9.6	12.3	6.8	8.2	11.2	3.8	11.3	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.6	12.3	6.8	8.2	11.2	3.8	11.3	3.8
Queue Length 50th (ft)	15	51	2	24	22	0	23	0
Queue Length 95th (ft)	56	#156	12	76	51	25	52	23
Internal Link Dist (ft)		210		885	175		889	
Turn Bay Length (ft)			120			100		120
Base Capacity (vph)	553	963	373	854	897	883	909	852
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.53	0.07	0.34	0.18	0.22	0.19	0.19

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues

22: SE Harmony Rd & SW Railroad Ave & SE Linwood Ave, 224, 37th and Linwood, on Monroe PM Peak 2015

								
Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	33	402	333	408	266	570	136	234
v/c Ratio	0.34	0.97	0.93	0.54	0.88	0.77	0.48	0.82
Control Delay	50.8	71.8	70.0	22.4	66.8	14.2	39.6	58.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.8	71.8	70.0	22.4	66.8	14.2	39.6	58.6
Queue Length 50th (ft)	19	223	188	173	149	61	70	126
Queue Length 95th (ft)	48	#409	#354	271	#286	134	127	#243
Internal Link Dist (ft)		499		2338	614			1327
Turn Bay Length (ft)	150		500			200	360	
Base Capacity (vph)	97	422	358	751	311	743	304	306
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.95	0.93	0.54	0.86	0.77	0.45	0.76

Intersection Summary









95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues

30: SE King Rd & SE 43rd Ave

Version A - Diverters

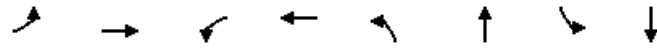
Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2015

								
Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	5	706	109	462	65	130	27	5
v/c Ratio	0.01	0.61	0.25	0.37	0.32	0.40	0.11	0.02
Control Delay	3.4	7.9	5.7	4.8	22.0	8.4	17.7	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.4	7.9	5.7	4.8	22.0	8.4	17.7	2.0
Queue Length 50th (ft)	1	85	9	43	16	0	6	0
Queue Length 95th (ft)	3	211	32	97	42	34	22	2
Internal Link Dist (ft)		197		348	52		401	
Turn Bay Length (ft)	110		110					95
Base Capacity (vph)	636	1162	431	1265	870	963	1038	960
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.61	0.25	0.37	0.07	0.13	0.03	0.01
Intersection Summary								

Queues

31: SE Linwood Ave & SE King Rd

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2015



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	130	794	87	456	141	275	42	337
v/c Ratio	0.99	1.37	0.66	0.88	1.08	0.47	0.31	0.79
Control Delay	113.1	200.5	53.3	40.2	135.8	16.9	30.9	30.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	113.1	200.5	53.3	40.2	135.8	16.9	30.9	30.9
Queue Length 50th (ft)	~44	~369	28	130	~54	54	13	85
Queue Length 95th (ft)	#139	#590	#93	#298	#150	134	39	#172
Internal Link Dist (ft)		1149		990		1073		389
Turn Bay Length (ft)	300		300		160		150	
Base Capacity (vph)	131	580	132	554	131	600	134	549
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.99	1.37	0.66	0.82	1.08	0.46	0.31	0.61

Intersection Summary





















- Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

Version A - Diverters

8: HWY 224 & SW Harrison St

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2015




















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	270	77	65	220	155	55	1050	50	280	1764	30
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.0			4.0		4.0	6.0	6.0	4.0	6.0	6.0
Lane Util. Factor		0.95			0.95		1.00	0.95	1.00	1.00	0.95	1.00
Frbp, ped/bikes		1.00			0.99		1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes		1.00			1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.97			0.95		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		1.00			0.99		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		2875			2758		1480	2988	1324	1509	2988	1377
Flt Permitted		0.82			0.71		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		2357			1978		1480	2988	1324	1509	2988	1377
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)	33	293	84	71	239	168	60	1141	54	304	1917	33
RTOR Reduction (vph)	0	18	0	0	59	0	0	0	25	0	0	14
Lane Group Flow (vph)	0	392	0	0	419	0	60	1141	29	304	1917	19
Confl. Peds. (#/hr)	8		1	1		8						
Heavy Vehicles (%)	0%	4%	1%	3%	4%	5%	4%	3%	4%	2%	3%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4					6			2
Actuated Green, G (s)		27.8			27.8		7.9	52.8	52.8	25.4	70.3	70.3
Effective Green, g (s)		27.8			27.8		7.9	52.8	52.8	25.4	70.3	70.3
Actuated g/C Ratio		0.23			0.23		0.07	0.44	0.44	0.21	0.59	0.59
Clearance Time (s)		4.0			4.0		4.0	6.0	6.0	4.0	6.0	6.0
Vehicle Extension (s)		2.5			2.5		2.3	3.9	3.9	2.3	3.9	3.9
Lane Grp Cap (vph)		546			458		97	1314	582	319	1750	806
v/s Ratio Prot							0.04	c0.38		0.20	c0.64	
v/s Ratio Perm		0.17			c0.21				0.02			0.01
v/c Ratio		0.72			0.91		0.62	0.87	0.05	0.95	1.10	0.02
Uniform Delay, d1		42.5			44.9		54.6	30.5	19.2	46.7	24.9	10.4
Progression Factor		1.00			1.00		0.80	0.63	0.41	1.00	1.00	1.00
Incremental Delay, d2		4.2			22.6		8.1	7.3	0.1	37.7	52.6	0.1
Delay (s)		46.7			67.6		51.6	26.5	8.0	84.4	77.4	10.5
Level of Service		D			E		D	C	A	F	E	B
Approach Delay (s)		46.7			67.6			26.9			77.4	
Approach LOS		D			E			C			E	
Intersection Summary												
HCM 2000 Control Delay			59.0				HCM 2000 Level of Service			E		
HCM 2000 Volume to Capacity ratio			1.03									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)			14.0		
Intersection Capacity Utilization			108.2%				ICU Level of Service			G		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

Version A - Diverters

9: HWY 224 & SW Monroe St

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2015

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Volume (vph)	0	0	97	0	0	23	0	1135	13	6	1900	0	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	
Total Lost time (s)			4.0			4.0		6.0	6.0	4.0	6.0		
Lane Util. Factor			1.00			1.00		0.95	1.00	1.00	0.95		
Frbp, ped/bikes			0.98			0.99		1.00	0.97	1.00	1.00		
Flpb, ped/bikes			1.00			1.00		1.00	1.00	1.00	1.00		
Frt			0.86			0.86		1.00	0.85	1.00	1.00		
Flt Protected			1.00			1.00		1.00	1.00	0.95	1.00		
Satd. Flow (prot)			1521			1543		3353	1477	1710	3320		
Flt Permitted			1.00			1.00		1.00	1.00	0.95	1.00		
Satd. Flow (perm)			1521			1543		3353	1477	1710	3320		
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)	0	0	105	0	0	25	0	1234	14	7	2065	0	
RTOR Reduction (vph)	0	0	76	0	0	22	0	0	4	0	0	0	
Lane Group Flow (vph)	0	0	29	0	0	3	0	1234	10	7	2065	0	
Confl. Peds. (#/hr)	7		12	12		7	3		6	6		3	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	3%	0%	
Turn Type			Perm			pm+ov		NA	Perm	Prot	NA		
Protected Phases						5		6		5	2		
Permitted Phases			8			4			6				
Actuated Green, G (s)			8.1			16.4		89.6	89.6	8.3	101.9		
Effective Green, g (s)			8.1			16.4		89.6	89.6	8.3	101.9		
Actuated g/C Ratio			0.07			0.14		0.75	0.75	0.07	0.85		
Clearance Time (s)			4.0			4.0		6.0	6.0	4.0	6.0		
Vehicle Extension (s)			2.5			2.3		5.2	5.2	2.3	5.2		
Lane Grp Cap (vph)			102			262		2503	1102	118	2819		
v/s Ratio Prot						0.00		0.37		0.00	c0.62		
v/s Ratio Perm			c0.02			0.00			0.01				
v/c Ratio			0.28			0.01		0.49	0.01	0.06	0.73		
Uniform Delay, d1			53.2			44.8		6.1	3.9	52.2	3.6		
Progression Factor			1.00			1.00		0.55	1.00	1.05	0.88		
Incremental Delay, d2			1.1			0.0		0.6	0.0	0.0	0.2		
Delay (s)			54.3			44.8		3.9	3.9	54.8	3.3		
Level of Service			D			D		A	A	D	A		
Approach Delay (s)		54.3			44.8			3.9			3.5		
Approach LOS		D			D			A			A		
Intersection Summary													
HCM 2000 Control Delay			5.5									HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.73										
Actuated Cycle Length (s)			120.0									Sum of lost time (s)	14.0
Intersection Capacity Utilization			79.3%									ICU Level of Service	D
Analysis Period (min)			15										
c Critical Lane Group													

HCM Signalized Intersection Capacity Analysis

Version A - Diverters

10: HWY 224 & SW Oak St

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	18	234	81	100	180	110	254	1667	75	175	1020	190
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.0	6.0	4.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	0.96	1.00	1.00	0.98
Flpb, ped/bikes	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1694	3320	1500	1693	3320	1512	1613	3386	1466	1644	3386	1485
Flt Permitted	0.57	1.00	1.00	0.49	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1024	3320	1500	877	3320	1512	1613	3386	1466	1644	3386	1485
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)	20	254	88	109	196	120	276	1812	82	190	1109	207
RTOR Reduction (vph)	0	0	72	0	0	28	0	0	35	0	0	91
Lane Group Flow (vph)	20	254	16	109	196	92	276	1812	47	190	1109	116
Confl. Peds. (#/hr)	13						13	7		32	32	7
Confl. Bikes (#/hr)							1		1			2
Heavy Vehicles (%)	0%	3%	2%	1%	3%	0%	6%	1%	0%	4%	1%	1%
Turn Type	Perm	NA	Perm	Perm	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		8			4	5	5	2		1	6	
Permitted Phases	8		8	4		4			2			6
Actuated Green, G (s)	22.3	22.3	22.3	22.3	22.3	46.0	23.7	68.7	68.7	15.0	60.0	60.0
Effective Green, g (s)	22.3	22.3	22.3	22.3	22.3	46.0	23.7	68.7	68.7	15.0	60.0	60.0
Actuated g/C Ratio	0.19	0.19	0.19	0.19	0.19	0.38	0.20	0.57	0.57	0.12	0.50	0.50
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.0	6.0	4.0	6.0	6.0
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.3	2.3	4.8	4.8	2.3	4.8	4.8
Lane Grp Cap (vph)	190	616	278	162	616	630	318	1938	839	205	1693	742
v/s Ratio Prot		0.08			0.06	0.03	c0.17	c0.54		0.12	0.33	
v/s Ratio Perm	0.02		0.01	c0.12		0.03			0.03			0.08
v/c Ratio	0.11	0.41	0.06	0.67	0.32	0.15	0.87	0.93	0.06	0.93	0.66	0.16
Uniform Delay, d1	40.6	43.1	40.2	45.5	42.3	24.2	46.6	23.6	11.3	52.0	22.3	16.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.74	1.38	2.80	0.80	0.96	1.78
Incremental Delay, d2	0.2	0.3	0.1	20.1	1.4	0.1	15.3	7.3	0.1	37.6	1.7	0.4
Delay (s)	40.7	43.4	40.3	65.6	43.6	24.2	49.7	39.9	31.8	79.3	23.1	29.4
Level of Service	D	D	D	E	D	C	D	D	C	E	C	C
Approach Delay (s)		42.5			43.8			40.8			31.1	
Approach LOS		D			D			D			C	

Intersection Summary

HCM 2000 Control Delay	37.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	110.5%	ICU Level of Service	H
Analysis Period (min)	15		





















c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

Version A - Diverters

11: SE 32nd Ave & SW Harrison St

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2015

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Volume (vph)	161	459	6	25	240	25	25	125	175	24	132	146	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00	
Frbp, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.96		1.00	0.98	
Flpb, ped/bikes	0.99	1.00		1.00	1.00			1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99			1.00	0.85		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00		0.99	1.00	
Satd. Flow (prot)	1668	1778		1704	1565			1770	1476		1783	1440	
Flt Permitted	0.58	1.00		0.38	1.00			0.93	1.00		0.94	1.00	
Satd. Flow (perm)	1024	1778		690	1565			1658	1476		1680	1440	
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)	175	499	7	27	261	27	27	136	190	26	143	159	
RTOR Reduction (vph)	0	1	0	0	9	0	0	0	134	0	0	112	
Lane Group Flow (vph)	175	505	0	27	279	0	0	163	56	0	169	47	
Confl. Peds. (#/hr)	8		4	8		4			15	15			
Confl. Bikes (#/hr)						1			1			1	
Heavy Vehicles (%)	2%	1%	0%	0%	2%	0%	0%	1%	0%	0%	0%	4%	
Parking (#/hr)					0								
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm	
Protected Phases		4			8			2			6		
Permitted Phases	4			8			2		2	6		6	
Actuated Green, G (s)	13.4	13.4		13.4	13.4			8.9	8.9		8.9	8.9	
Effective Green, g (s)	13.4	13.4		13.4	13.4			8.9	8.9		8.9	8.9	
Actuated g/C Ratio	0.44	0.44		0.44	0.44			0.29	0.29		0.29	0.29	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	452	786		305	692			487	433		493	422	
v/s Ratio Prot		c0.28			0.18								
v/s Ratio Perm	0.17			0.04				0.10	0.04		c0.10	0.03	
v/c Ratio	0.39	0.64		0.09	0.40			0.33	0.13		0.34	0.11	
Uniform Delay, d1	5.7	6.6		4.9	5.7			8.4	7.9		8.4	7.8	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	1.8		0.1	0.4			0.4	0.1		0.4	0.1	
Delay (s)	6.2	8.4		5.0	6.1			8.8	8.0		8.8	7.9	
Level of Service	A	A		A	A			A	A		A	A	
Approach Delay (s)		7.8			6.0			8.4			8.4		
Approach LOS		A			A			A			A		
Intersection Summary													
HCM 2000 Control Delay			7.7									HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.52										
Actuated Cycle Length (s)			30.3									Sum of lost time (s)	8.0
Intersection Capacity Utilization			61.6%									ICU Level of Service	B
Analysis Period (min)			15										
c Critical Lane Group													

HCM Signalized Intersection Capacity Analysis

Version A - Diverters

22: SE Harmony Rd & SW Railroad Ave & SE Linwood Ave, Diverted Ave 224, 37th and Linwood, on Monroe PM Peak 2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	315	55	306	295	80	40	205	524	125	195	20
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	5.0		4.0	5.0			4.0	4.0	5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Frbp, ped/bikes	1.00	1.00		1.00	0.99			1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.97			1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00	0.95	1.00	
Satd. Flow (prot)	1710	1743		1660	1703			1714	1468	1676	1663	
Flt Permitted	0.95	1.00		0.95	1.00			0.99	1.00	0.95	1.00	
Satd. Flow (perm)	1710	1743		1660	1703			1714	1468	1676	1663	
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)	33	342	60	333	321	87	43	223	570	136	212	22
RTOR Reduction (vph)	0	7	0	0	10	0	0	0	166	0	4	0
Lane Group Flow (vph)	33	395	0	333	398	0	0	266	404	136	230	0
Confl. Peds. (#/hr)	11		1	1		11	6		10	10		6
Confl. Bikes (#/hr)									3			1
Heavy Vehicles (%)	0%	0%	4%	3%	1%	2%	5%	4%	2%	2%	7%	0%
Turn Type	Prot	NA		Prot	NA		Split	NA	pm+ov	Split	NA	
Protected Phases	5	2		1	6		8	8	1	4	4	
Permitted Phases									8			
Actuated Green, G (s)	2.9	20.7		20.6	38.4			15.5	36.1	14.9	14.9	
Effective Green, g (s)	2.9	20.7		20.6	38.4			15.5	36.1	14.9	14.9	
Actuated g/C Ratio	0.03	0.23		0.23	0.43			0.17	0.40	0.17	0.17	
Clearance Time (s)	4.0	5.0		4.0	5.0			4.0	4.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	55	402		381	729			296	590	278	276	
v/s Ratio Prot	0.02	c0.23		c0.20	0.23			c0.16	0.16	0.08	c0.14	
v/s Ratio Perm									0.12			
v/c Ratio	0.60	0.98		0.87	0.55			0.90	0.69	0.49	0.83	
Uniform Delay, d1	42.8	34.3		33.3	19.1			36.3	22.1	33.9	36.2	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Incremental Delay, d2	16.4	40.1		19.4	0.8			27.7	3.3	1.4	18.9	
Delay (s)	59.2	74.4		52.7	20.0			64.0	25.4	35.3	55.1	
Level of Service	E	E		D	B			E	C	D	E	
Approach Delay (s)		73.2			34.7			37.7			47.8	
Approach LOS		E			C			D			D	
Intersection Summary												
HCM 2000 Control Delay			44.8			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.90									
Actuated Cycle Length (s)			89.7			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			80.4%			ICU Level of Service				D		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

Version A - Diverters

30: SE King Rd & SE 43rd Ave

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	600	50	100	420	5	38	22	120	5	20	5
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.98		1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	1.00			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.97	1.00		0.99	1.00
Satd. Flow (prot)	1710	1599		1676	1745			1713	1465		1783	1530
Flt Permitted	0.49	1.00		0.34	1.00			0.79	1.00		0.93	1.00
Satd. Flow (perm)	877	1599		594	1745			1400	1465		1670	1530
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)	5	652	54	109	457	5	41	24	130	5	22	5
RTOR Reduction (vph)	0	2	0	0	0	0	0	0	114	0	0	4
Lane Group Flow (vph)	5	704	0	109	462	0	0	65	16	0	27	1
Confl. Bikes (#/hr)			3			2			1			
Heavy Vehicles (%)	0%	0%	0%	2%	3%	0%	3%	0%	2%	0%	0%	0%
Parking (#/hr)		0										
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8		8	4		4
Actuated Green, G (s)	34.2	34.2		34.2	34.2			6.0	6.0		6.0	6.0
Effective Green, g (s)	34.2	34.2		34.2	34.2			6.0	6.0		6.0	6.0
Actuated g/C Ratio	0.70	0.70		0.70	0.70			0.12	0.12		0.12	0.12
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0			2.5	2.5		2.5	2.5
Lane Grp Cap (vph)	609	1111		412	1212			170	178		203	186
v/s Ratio Prot		c0.44			0.26							
v/s Ratio Perm	0.01			0.18			c0.05	0.01		0.02	0.00	
v/c Ratio	0.01	0.63		0.26	0.38		0.38	0.09		0.13	0.00	
Uniform Delay, d1	2.3	4.1		2.8	3.1		19.9	19.2		19.3	19.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	1.2		0.3	0.2		1.0	0.2		0.2	0.0	
Delay (s)	2.3	5.3		3.1	3.3		20.9	19.3		19.5	19.0	
Level of Service	A	A		A	A		C	B		B	B	
Approach Delay (s)		5.3			3.3		19.9			19.4		
Approach LOS		A			A		B			B		

Intersection Summary

HCM 2000 Control Delay	6.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	49.2	Sum of lost time (s)	9.0
Intersection Capacity Utilization	64.6%	ICU Level of Service	C
Analysis Period (min)	15		





















c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

Version A - Diverters

31: SE Linwood Ave & SE King Rd

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2015

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	120	675	55	80	375	44	130	203	50	39	210	100
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frbp, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	0.97		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1676	1739		1693	1747		1676	1706		1710	1658	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1676	1739		1693	1747		1676	1706		1710	1658	
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)	130	734	60	87	408	48	141	221	54	42	228	109
RTOR Reduction (vph)	0	5	0	0	8	0	0	15	0	0	31	0
Lane Group Flow (vph)	130	789	0	87	448	0	141	260	0	42	306	0
Confl. Peds. (#/hr)	17		7	7		17	5		5	5		5
Confl. Bikes (#/hr)			1						2			
Heavy Vehicles (%)	2%	2%	3%	1%	1%	0%	2%	2%	1%	0%	3%	1%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	4.0	17.1		3.1	16.2		4.0	17.4		1.5	14.9	
Effective Green, g (s)	4.0	17.1		3.1	16.2		4.0	17.4		1.5	14.9	
Actuated g/C Ratio	0.07	0.31		0.06	0.29		0.07	0.32		0.03	0.27	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	121	539		95	513		121	538		46	448	
v/s Ratio Prot	c0.08	c0.45		0.05	0.26		c0.08	0.15		0.02	c0.18	
v/s Ratio Perm												
v/c Ratio	1.07	1.46		0.92	0.87		1.17	0.48		0.91	0.68	
Uniform Delay, d1	25.6	19.0		25.9	18.5		25.6	15.2		26.7	18.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	103.2	218.9		65.0	15.2		133.0	0.7		99.4	4.3	
Delay (s)	128.7	237.9		90.8	33.7		158.6	15.9		126.1	22.2	
Level of Service	F	F		F	C		F	B		F	C	
Approach Delay (s)		222.6			42.8			64.3			33.7	
Approach LOS		F			D			E			C	
Intersection Summary												
HCM 2000 Control Delay			118.7				HCM 2000 Level of Service				F	
HCM 2000 Volume to Capacity ratio			1.10									
Actuated Cycle Length (s)			55.1			Sum of lost time (s)				16.0		
Intersection Capacity Utilization			85.0%			ICU Level of Service				E		
Analysis Period (min)			15									

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis

Version A - Diverters

4: SE Home Ave & SW Harrison St

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2015



















Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	50	50	25	115	10	25
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	54	27	125	11	27
Pedestrians	2					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	206	26	40			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	206	26	40			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	93	95	98			
cM capacity (veh/h)	772	1053	1580			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	109	152	38			
Volume Left	54	27	0			
Volume Right	54	0	27			
cSH	891	1580	1700			
Volume to Capacity	0.12	0.02	0.02			
Queue Length 95th (ft)	10	1	0			
Control Delay (s)	9.6	1.4	0.0			
Lane LOS	A	A				
Approach Delay (s)	9.6	1.4	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			4.2			
Intersection Capacity Utilization			27.3%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

Version A - Diverters

7: SE 42nd Ave & SW Monroe St

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2015

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	80	55	5	5	15	50	1	65	55	55	155	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	87	60	5	5	16	54	1	71	60	60	168	16
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	152	76	132	245								
Volume Left (vph)	87	5	1	60								
Volume Right (vph)	5	54	60	16								
Hadj (s)	0.10	-0.41	-0.02	0.05								
Departure Headway (s)	5.0	4.6	4.8	4.7								
Degree Utilization, x	0.21	0.10	0.17	0.32								
Capacity (veh/h)	663	699	707	726								
Control Delay (s)	9.4	8.1	8.8	9.9								
Approach Delay (s)	9.4	8.1	8.8	9.9								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			9.3									
Level of Service			A									
Intersection Capacity Utilization			40.9%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

Version A - Diverters

17: SE 37th Ave & SW Railroad Ave

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2015

















	↑	↖	↙	↓	↗	↘
Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations	↖			↗	↖	↗
Volume (veh/h)	180	185	125	125	215	80
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	196	201	136	136	234	87
Pedestrians	3			2	6	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	1	
Right turn flare (veh)						2
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			403		713	304
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			403		713	304
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			88		34	88
cM capacity (veh/h)			1161		352	735
Direction, Lane #	NB 1	SB 1	NW 1			
Volume Total	397	272	321			
Volume Left	0	136	234			
Volume Right	201	0	87			
cSH	1700	1161	459			
Volume to Capacity	0.23	0.12	0.70			
Queue Length 95th (ft)	0	10	133			
Control Delay (s)	0.0	4.8	29.2			
Lane LOS		A	D			
Approach Delay (s)	0.0	4.8	29.2			
Approach LOS			D			
Intersection Summary						
Average Delay			10.8			
Intersection Capacity Utilization			59.1%	ICU Level of Service		B
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

Version A - Diverters

23: SE 37th Ave & SW Harrison St

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2015




















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	6	645	21	95	240	5	45	35	35	0	15	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	7	701	23	103	261	5	49	38	38	0	16	3
Pedestrians		2			2						2	
Lane Width (ft)		12.0			12.0						12.0	
Walking Speed (ft/s)		4.0			4.0						4.0	
Percent Blockage		0			0						0	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		1273										
pX, platoon unblocked												
vC, conflicting volume	268			724			1209	1200	714	1257	1209	268
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	268			724			1209	1200	714	1257	1209	268
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			88			63	77	91	100	90	100
cM capacity (veh/h)	1305			874			134	163	434	101	162	773
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	730	370	125	20								
Volume Left	7	103	49	0								
Volume Right	23	5	38	3								
cSH	1305	874	182	186								
Volume to Capacity	0.00	0.12	0.69	0.11								
Queue Length 95th (ft)	0	10	104	9								
Control Delay (s)	0.1	3.7	59.3	26.6								
Lane LOS	A	A	F	D								
Approach Delay (s)	0.1	3.7	59.3	26.6								
Approach LOS			F	D								
Intersection Summary												
Average Delay			7.6									
Intersection Capacity Utilization			80.3%		ICU Level of Service					D		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

Version A - Diverters

32: SE 42nd Ave & SW Harrison St

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2015

															
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR			
Lane Configurations															
Sign Control		Stop			Stop			Stop			Stop				
Volume (vph)	505	70	90	10	20	20	15	165	10	13	138	220			
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			
Hourly flow rate (vph)	549	76	98	11	22	22	16	179	11	14	150	239			
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1	SB 2								
Volume Total (vph)	625	98	33	22	207	164	239								
Volume Left (vph)	549	0	11	0	16	14	0								
Volume Right (vph)	0	98	0	22	11	0	239								
Hadj (s)	0.47	-0.70	0.17	-0.70	-0.02	0.07	-0.67								
Departure Headway (s)	7.0	5.8	7.7	6.9	7.2	7.1	6.4								
Degree Utilization, x	1.0	0.16	0.07	0.04	0.41	0.32	0.42								
Capacity (veh/h)	514	608	436	487	492	494	553								
Control Delay (s)	133.2	8.7	10.1	9.0	15.1	12.3	12.8								
Approach Delay (s)	116.3		9.6		15.1	12.6									
Approach LOS	F		A		C	B									
Intersection Summary															
Delay			66.9												
Level of Service			F												
Intersection Capacity Utilization			69.8%				ICU Level of Service				C				
Analysis Period (min)			15												

HCM Unsignalized Intersection Capacity Analysis

Version A - Diverters

36: SW Oak St & SW Railroad Ave/SW Monroe St Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2015



















	→	↘	↙	←	↗	↖
Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations	↖			↖	↘	↖
Volume (veh/h)	80	95	22	0	325	105
Sign Control	Stop			Stop	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	87	103	24	0	353	114
Pedestrians	4			9	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			1	0	
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)	900					
pX, platoon unblocked						
vC, conflicting volume	834	9	764	720	4	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	834	9	764	720	4	
tC, single (s)	6.5	6.2	7.1	6.5	4.1	
tC, 2 stage (s)						
tF (s)	4.0	3.3	3.5	4.0	2.2	
p0 queue free %	63	90	86	100	78	
cM capacity (veh/h)	236	1068	170	276	1619	
Direction, Lane #	EB 1	WB 1	NE 1	NE 2		
Volume Total	190	24	353	114		
Volume Left	0	24	353	0		
Volume Right	103	0	0	114		
cSH	409	170	1619	1700		
Volume to Capacity	0.47	0.14	0.22	0.07		
Queue Length 95th (ft)	60	12	21	0		
Control Delay (s)	21.2	29.6	7.8	0.0		
Lane LOS	C	D	A			
Approach Delay (s)	21.2	29.6	5.9			
Approach LOS	C	D				
Intersection Summary						
Average Delay	11.0					
Intersection Capacity Utilization	43.6%			ICU Level of Service	A	
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

Version A - Diverters

44: SE 37th Ave & SW Monroe St

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2015

















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	0	0	185	0	0	10	0	110	139	0	115	25
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
Hourly flow rate (vph)	0	0	201	0	0	11	0	120	151	0	125	27
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total (vph)	201	11	0	271	125	27						
Volume Left (vph)	0	0	0	0	0	0						
Volume Right (vph)	201	11	0	151	0	27						
Hadj (s)	-0.60	-0.60	0.00	-0.38	0.00	-0.63						
Departure Headway (s)	4.3	4.6	5.1	4.8	5.2	4.6						
Degree Utilization, x	0.24	0.01	0.00	0.36	0.18	0.03						
Capacity (veh/h)	764	687	680	725	650	735						
Control Delay (s)	8.7	7.7	6.9	9.2	8.2	6.6						
Approach Delay (s)	8.7	7.7	9.2		7.9							
Approach LOS	A	A	A		A							
Intersection Summary												
Delay			8.7									
Level of Service			A									
Intersection Capacity Utilization			34.6%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

Version A - Diverters

46: SE Home Ave & SW Monroe St

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2015

















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	80	55	30	5	60	15	10	40	10	15	45	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
Hourly flow rate (vph)	87	60	33	5	65	16	11	43	11	16	49	5
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	179	87	65	71								
Volume Left (vph)	87	5	11	16								
Volume Right (vph)	33	16	11	5								
Hadj (s)	0.01	-0.06	-0.03	0.02								
Departure Headway (s)	4.3	4.4	4.6	4.6								
Degree Utilization, x	0.22	0.11	0.08	0.09								
Capacity (veh/h)	802	782	737	726								
Control Delay (s)	8.5	7.9	8.0	8.1								
Approach Delay (s)	8.5	7.9	8.0	8.1								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			8.2									
Level of Service			A									
Intersection Capacity Utilization			30.6%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

Version A - Diverters

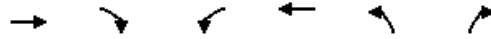
49: SE Linwood Ave & SW Monroe St

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2015

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	50	0	0	90	0	295	20	0	303	36
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	0	54	0	0	98	0	321	22	0	329	39
Pedestrians		5			1						2	
Lane Width (ft)		12.0			12.0						12.0	
Walking Speed (ft/s)		4.0			4.0						4.0	
Percent Blockage		0			0						0	
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)											1153	
pX, platoon unblocked												
vC, conflicting volume	785	697	354	736	706	335	373			343		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	785	697	354	736	706	335	373			343		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	92	100	100	86	100			100		
cM capacity (veh/h)	267	365	692	309	361	710	1175			1226		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	54	98	342	368								
Volume Left	0	0	0	0								
Volume Right	54	98	22	39								
cSH	692	710	1175	1226								
Volume to Capacity	0.08	0.14	0.00	0.00								
Queue Length 95th (ft)	6	12	0	0								
Control Delay (s)	10.6	10.9	0.0	0.0								
Lane LOS	B	B										
Approach Delay (s)	10.6	10.9	0.0	0.0								
Approach LOS	B	B										
Intersection Summary												
Average Delay			1.9									
Intersection Capacity Utilization			32.4%		ICU Level of Service					A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis
 52: SE Home Ave & SE King Rd

Version A - Diverters
 Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2015











Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Volume (veh/h)	680	6	30	540	20	145
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	739	7	33	587	22	158
Pedestrians				1	1	
Lane Width (ft)				12.0	12.0	
Walking Speed (ft/s)				4.0	4.0	
Percent Blockage				0	0	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			747		1396	744
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			747		1396	744
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		86	62
cM capacity (veh/h)			852		151	410
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	746	620	179			
Volume Left	0	33	22			
Volume Right	7	0	158			
cSH	1700	852	340			
Volume to Capacity	0.44	0.04	0.53			
Queue Length 95th (ft)	0	3	73			
Control Delay (s)	0.0	1.0	26.9			
Lane LOS		A	D			
Approach Delay (s)	0.0	1.0	26.9			
Approach LOS			D			
Intersection Summary						
Average Delay			3.5			
Intersection Capacity Utilization			73.3%	ICU Level of Service		D
Analysis Period (min)			15			

Queues

8: HWY 224 & SW Harrison St

Version A - Diverters

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035

								
Lane Group	EBT	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	460	536	67	1278	61	341	2147	37
v/c Ratio	0.92	1.15	0.55	0.96	0.10	1.05	1.21	0.04
Control Delay	69.0	127.5	52.2	35.3	1.9	108.2	124.7	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0
Total Delay	69.0	127.5	52.2	35.3	1.9	108.2	125.1	1.0
Queue Length 50th (ft)	177	~235	55	555	8	~286	~1092	0
Queue Length 95th (ft)	#285	#352	m101	#671	m7	#472	#1228	6
Internal Link Dist (ft)	610	167		406			859	
Turn Bay Length (ft)			190		200	650		230
Base Capacity (vph)	499	465	135	1344	620	326	1776	844
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	2	0	0	0	0	180	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.92	1.16	0.50	0.95	0.10	1.05	1.35	0.04

Intersection Summary







- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

9: HWY 224 & SW Monroe St

Version A - Diverters

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035

						
Lane Group	EBR	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	118	28	1382	16	7	2313
v/c Ratio	0.63	0.08	0.57	0.01	0.04	0.83
Control Delay	34.2	0.8	8.3	0.3	52.3	7.9
Queue Delay	2.4	0.0	0.3	0.0	0.0	47.0
Total Delay	36.6	0.8	8.6	0.3	52.3	54.9
Queue Length 50th (ft)	27	0	281	0	5	989
Queue Length 95th (ft)	85	m1	618	m0	m4	m58
Internal Link Dist (ft)			720			406
Turn Bay Length (ft)	150	130		330	185	
Base Capacity (vph)	273	370	2503	1119	224	2797
Starvation Cap Reductn	0	0	322	0	0	867
Spillback Cap Reductn	74	9	462	0	0	240
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.08	0.68	0.01	0.03	1.20

Intersection Summary














m Volume for 95th percentile queue is metered by upstream signal.

Queues

10: HWY 224 & SW Oak St

Version A - Diverters

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035

													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR	
Lane Group Flow (vph)	22	285	99	122	219	134	309	2029	91	213	1242	231	
v/c Ratio	0.12	0.47	0.28	0.84	0.36	0.22	0.91	1.04	0.10	1.04	0.75	0.29	
Control Delay	43.2	46.7	10.1	89.2	44.8	16.9	55.4	61.6	5.4	106.4	29.2	12.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.5	0.0	0.0	0.0	0.0	
Total Delay	43.2	46.7	10.1	89.2	44.8	16.9	55.4	71.2	5.4	106.4	29.2	12.0	
Queue Length 50th (ft)	14	104	0	92	78	47	217	~885	12	~182	257	34	
Queue Length 95th (ft)	39	150	47	#204	117	89	m#312	#1030	m15	m#337	425	124	
Internal Link Dist (ft)		58			347			720			610		
Turn Bay Length (ft)				180		180	390		350	550		200	
Base Capacity (vph)	176	608	356	146	608	636	362	1946	881	205	1657	808	
Starvation Cap Reductn	0	0	0	0	0	0	0	44	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.13	0.47	0.28	0.84	0.36	0.21	0.85	1.07	0.10	1.04	0.75	0.29	









Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

11: SE 32nd Ave & SW Harrison St

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035

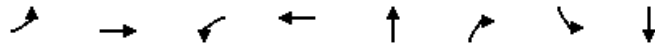
								
Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	196	566	30	322	182	213	190	178
v/c Ratio	0.44	0.71	0.12	0.46	0.37	0.38	0.38	0.32
Control Delay	11.0	15.8	7.8	9.2	11.5	5.2	11.6	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.0	15.8	7.8	9.2	11.5	5.2	11.6	3.7
Queue Length 50th (ft)	18	62	2	29	26	6	27	0
Queue Length 95th (ft)	72	#239	15	96	56	34	58	24
Internal Link Dist (ft)		210		885	175		889	
Turn Bay Length (ft)			120			100		120
Base Capacity (vph)	514	921	302	817	855	843	867	831
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.61	0.10	0.39	0.21	0.25	0.22	0.21

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues

22: SE Harmony Rd & SW Railroad Ave & SE Linwood Ave, 224, 37th and Linwood, on Monroe PM Peak 2035



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	37	450	373	456	299	638	152	261
v/c Ratio	0.40	0.97	0.98	0.56	0.95	0.87	0.58	0.99
Control Delay	63.4	74.2	83.6	23.7	84.5	24.2	52.8	99.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.4	74.2	83.6	23.7	84.5	24.2	52.8	99.9
Queue Length 50th (ft)	26	306	264	229	211	149	101	~185
Queue Length 95th (ft)	61	#505	#459	335	#383	#327	170	#357
Internal Link Dist (ft)		499		2338	614			1327
Turn Bay Length (ft)	150		500			200	360	
Base Capacity (vph)	94	487	382	817	315	736	262	263
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.92	0.98	0.56	0.95	0.87	0.58	0.99

Intersection Summary









- Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues

30: SE King Rd & SE 43rd Ave

Version A - Diverters

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035

								
Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	6	791	122	517	73	146	30	6
v/c Ratio	0.01	0.69	0.34	0.41	0.35	0.45	0.12	0.02
Control Delay	3.5	10.8	7.7	5.3	22.2	11.1	17.6	2.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.5	10.8	7.7	5.3	22.2	11.1	17.6	2.7
Queue Length 50th (ft)	0	109	11	51	18	7	7	0
Queue Length 95th (ft)	3	#359	44	118	46	43	23	3
Internal Link Dist (ft)		197		348	52		401	
Turn Bay Length (ft)	110		110					95
Base Capacity (vph)	580	1149	361	1252	873	962	1038	965
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.69	0.34	0.41	0.08	0.15	0.03	0.01

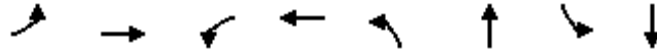
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues

31: SE Linwood Ave & SE King Rd

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	146	889	97	511	158	308	47	378
v/c Ratio	1.20	1.56	0.79	0.98	1.30	0.54	0.38	0.80
Control Delay	173.9	282.0	70.7	59.6	208.7	19.3	33.8	31.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	173.9	282.0	70.7	59.6	208.7	19.3	33.8	31.5
Queue Length 50th (ft)	~62	~470	33	~169	~71	81	15	100
Queue Length 95th (ft)	#156	#669	#104	#346	#168	152	#43	#220
Internal Link Dist (ft)		1162		990		1073		389
Turn Bay Length (ft)	300		300		160		150	
Base Capacity (vph)	122	571	123	520	122	572	125	517
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.20	1.56	0.79	0.98	1.30	0.54	0.38	0.73

Intersection Summary

























- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

Version A - Diverters

8: HWY 224 & SW Harrison St

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Volume (vph)	30	270	77	65	220	155	55	1050	50	280	1764	30
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.0			4.0		4.0	6.0	6.0	4.0	6.0	6.0
Lane Util. Factor		0.95			0.95		1.00	0.95	1.00	1.00	0.95	1.00
Frbp, ped/bikes		1.00			0.99		1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes		1.00			1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.97			0.95		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		1.00			0.99		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		2875			2758		1480	2988	1324	1509	2988	1377
Flt Permitted		0.75			0.65		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		2162			1820		1480	2988	1324	1509	2988	1377
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
Growth Factor (vph)	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%
Adj. Flow (vph)	37	329	94	79	268	189	67	1278	61	341	2147	37
RTOR Reduction (vph)	0	19	0	0	61	0	0	0	25	0	0	15
Lane Group Flow (vph)	0	441	0	0	475	0	67	1278	36	341	2147	22
Confl. Peds. (#/hr)	8		1	1		8						
Heavy Vehicles (%)	0%	4%	1%	3%	4%	5%	4%	3%	4%	2%	3%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4					6			2
Actuated Green, G (s)		26.7			26.7		8.8	53.3	53.3	26.0	70.5	70.5
Effective Green, g (s)		26.7			26.7		8.8	53.3	53.3	26.0	70.5	70.5
Actuated g/C Ratio		0.22			0.22		0.07	0.44	0.44	0.22	0.59	0.59
Clearance Time (s)		4.0			4.0		4.0	6.0	6.0	4.0	6.0	6.0
Vehicle Extension (s)		2.5			2.5		2.3	3.9	3.9	2.3	3.9	3.9
Lane Grp Cap (vph)		481			404		108	1327	588	326	1755	808
v/s Ratio Prot							0.05	c0.43		0.23	c0.72	
v/s Ratio Perm		0.20			c0.26				0.03			0.02
v/c Ratio		0.92			1.18		0.62	0.96	0.06	1.05	1.22	0.03
Uniform Delay, d1		45.6			46.6		54.0	32.4	19.1	47.0	24.8	10.4
Progression Factor		1.00			1.00		0.71	0.58	0.22	1.00	1.00	1.00
Incremental Delay, d2		22.3			102.5		7.4	15.5	0.2	62.4	105.8	0.1
Delay (s)		67.8			149.1		45.9	34.3	4.3	109.4	130.6	10.4
Level of Service		E			F		D	C	A	F	F	B
Approach Delay (s)		67.8			149.1			33.5			126.0	
Approach LOS		E			F			C			F	
Intersection Summary												
HCM 2000 Control Delay			96.7				HCM 2000 Level of Service			F		
HCM 2000 Volume to Capacity ratio			1.19									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)			14.0		
Intersection Capacity Utilization			118.4%				ICU Level of Service			H		
Analysis Period (min)			15									




















c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

Version A - Diverters

9: HWY 224 & SW Monroe St

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	97	0	0	23	0	1135	13	6	1900	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)			4.0			4.0		6.0	6.0	4.0	6.0	
Lane Util. Factor			1.00			1.00		0.95	1.00	1.00	0.95	
Frbp, ped/bikes			0.98			0.99		1.00	0.97	1.00	1.00	
Flpb, ped/bikes			1.00			1.00		1.00	1.00	1.00	1.00	
Frt			0.86			0.86		1.00	0.85	1.00	1.00	
Flt Protected			1.00			1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)			1521			1545		3353	1477	1710	3320	
Flt Permitted			1.00			1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)			1521			1545		3353	1477	1710	3320	
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
Growth Factor (vph)	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%
Adj. Flow (vph)	0	0	118	0	0	28	0	1382	16	7	2313	0
RTOR Reduction (vph)	0	0	76	0	0	23	0	0	5	0	0	0
Lane Group Flow (vph)	0	0	42	0	0	5	0	1382	11	7	2313	0
Confl. Peds. (#/hr)	7		12	12		7	3		6	6		3
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	3%	0%
Turn Type			Perm			pm+ov		NA	Perm	Prot	NA	
Protected Phases						5		6		5	2	
Permitted Phases			8			4			6			
Actuated Green, G (s)			8.9			20.6		85.4	85.4	11.7	101.1	
Effective Green, g (s)			8.9			20.6		85.4	85.4	11.7	101.1	
Actuated g/C Ratio			0.07			0.17		0.71	0.71	0.10	0.84	
Clearance Time (s)			4.0			4.0		6.0	6.0	4.0	6.0	
Vehicle Extension (s)			2.5			2.3		5.2	5.2	2.3	5.2	
Lane Grp Cap (vph)			112			316		2386	1051	166	2797	
v/s Ratio Prot						0.00		0.41		0.00	c0.70	
v/s Ratio Perm			c0.03			0.00			0.01			
v/c Ratio			0.38			0.02		0.58	0.01	0.04	0.83	
Uniform Delay, d1			52.9			41.3		8.5	5.0	49.1	4.9	
Progression Factor			1.00			1.00		0.75	1.00	1.17	1.26	
Incremental Delay, d2			1.5			0.0		0.7	0.0	0.0	0.3	
Delay (s)			54.4			41.3		7.1	5.0	57.2	6.4	
Level of Service			D			D		A	A	E	A	
Approach Delay (s)		54.4			41.3			7.1			6.6	
Approach LOS		D			D			A			A	
Intersection Summary												
HCM 2000 Control Delay			8.5									A
HCM 2000 Volume to Capacity ratio			0.82									
Actuated Cycle Length (s)			120.0							14.0		
Intersection Capacity Utilization			86.4%									E
Analysis Period (min)			15									

























c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

Version A - Diverters

10: HWY 224 & SW Oak St

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035





















													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR	
Lane Configurations													
Volume (vph)	18	234	81	100	180	110	254	1667	75	175	1020	190	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.0	6.0	4.0	6.0	6.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	0.96	1.00	1.00	0.98	
Flpb, ped/bikes	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1695	3320	1500	1693	3320	1512	1613	3386	1466	1644	3386	1485	
Flt Permitted	0.54	1.00	1.00	0.45	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	962	3320	1500	799	3320	1512	1613	3386	1466	1644	3386	1485	
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	
Growth Factor (vph)	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	
Adj. Flow (vph)	22	285	99	122	219	134	309	2029	91	213	1242	231	
RTOR Reduction (vph)	0	0	81	0	0	19	0	0	38	0	0	82	
Lane Group Flow (vph)	22	285	18	122	219	115	309	2029	53	213	1242	149	
Confl. Peds. (#/hr)	13					13	7		32	32		7	
Confl. Bikes (#/hr)						1			1			2	
Heavy Vehicles (%)	0%	3%	2%	1%	3%	0%	6%	1%	0%	4%	1%	1%	
Turn Type	Perm	NA	Perm	Perm	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	
Protected Phases		8			4	5	5	2		1	6		
Permitted Phases	8		8	4		4			2			6	
Actuated Green, G (s)	22.0	22.0	22.0	22.0	22.0	47.3	25.3	69.0	69.0	15.0	58.7	58.7	
Effective Green, g (s)	22.0	22.0	22.0	22.0	22.0	47.3	25.3	69.0	69.0	15.0	58.7	58.7	
Actuated g/C Ratio	0.18	0.18	0.18	0.18	0.18	0.39	0.21	0.58	0.58	0.12	0.49	0.49	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.0	6.0	4.0	6.0	6.0	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.3	2.3	4.8	4.8	2.3	4.8	4.8	
Lane Grp Cap (vph)	176	608	275	146	608	646	340	1946	842	205	1656	726	
v/s Ratio Prot		0.09			0.07	0.04	0.19	c0.60		c0.13	0.37		
v/s Ratio Perm	0.02		0.01	c0.15		0.04			0.04			0.10	
v/c Ratio	0.12	0.47	0.07	0.84	0.36	0.18	0.91	1.04	0.06	1.04	0.75	0.21	
Uniform Delay, d1	41.0	43.8	40.5	47.3	42.8	23.7	46.2	25.5	11.2	52.5	24.7	17.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.74	1.35	2.21	0.76	1.05	1.83	
Incremental Delay, d2	0.2	0.4	0.1	40.5	1.7	0.1	17.3	27.9	0.1	65.5	2.4	0.5	
Delay (s)	41.2	44.2	40.6	87.8	44.5	23.8	51.6	62.4	24.9	105.3	28.4	32.3	
Level of Service	D	D	D	F	D	C	D	E	C	F	C	C	
Approach Delay (s)		43.2			49.8			59.6			38.6		
Approach LOS		D			D			E			D		
Intersection Summary													
HCM 2000 Control Delay			50.2									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			1.00										
Actuated Cycle Length (s)			120.0									Sum of lost time (s)	14.0
Intersection Capacity Utilization			117.6%									ICU Level of Service	H
Analysis Period (min)			15										
c Critical Lane Group													

HCM Signalized Intersection Capacity Analysis

Version A - Diverters

11: SE 32nd Ave & SW Harrison St

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	161	459	6	25	240	25	25	125	175	24	132	146
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.96		1.00	0.98
Flpb, ped/bikes	0.99	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00		0.99	1.00
Satd. Flow (prot)	1668	1779		1705	1565			1770	1475		1783	1440
Flt Permitted	0.57	1.00		0.33	1.00			0.93	1.00		0.93	1.00
Satd. Flow (perm)	993	1779		583	1565			1653	1475		1676	1440
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
Growth Factor (vph)	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%
Adj. Flow (vph)	196	559	7	30	292	30	30	152	213	29	161	178
RTOR Reduction (vph)	0	1	0	0	8	0	0	0	119	0	0	125
Lane Group Flow (vph)	196	565	0	30	314	0	0	182	94	0	190	53
Confl. Peds. (#/hr)	8		4	8		4			15	15		
Confl. Bikes (#/hr)						1			1			1
Heavy Vehicles (%)	2%	1%	0%	0%	2%	0%	0%	1%	0%	0%	0%	4%
Parking (#/hr)					0							
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	14.2	14.2		14.2	14.2			9.4	9.4		9.4	9.4
Effective Green, g (s)	14.2	14.2		14.2	14.2			9.4	9.4		9.4	9.4
Actuated g/C Ratio	0.45	0.45		0.45	0.45			0.30	0.30		0.30	0.30
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	446	799		261	703			491	438		498	428
v/s Ratio Prot		c0.32			0.20							
v/s Ratio Perm	0.20			0.05				0.11	0.06		c0.11	0.04
v/c Ratio	0.44	0.71		0.11	0.45			0.37	0.21		0.38	0.12
Uniform Delay, d1	6.0	7.0		5.1	6.0			8.8	8.3		8.8	8.1
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.7	2.9		0.2	0.5			0.5	0.2		0.5	0.1
Delay (s)	6.7	9.9		5.2	6.4			9.2	8.6		9.3	8.2
Level of Service	A	A		A	A			A	A		A	A
Approach Delay (s)		9.1			6.3			8.9			8.8	
Approach LOS		A			A			A			A	
Intersection Summary												
HCM 2000 Control Delay			8.5									A
HCM 2000 Volume to Capacity ratio			0.58									
Actuated Cycle Length (s)			31.6								8.0	
Intersection Capacity Utilization			66.4%									C
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

Version A - Diverters

22: SE Harmony Rd & SW Railroad Ave & SE Linwood Ave, Diverted Ave 224, 37th and Linwood, on Monroe PM Peak 2035





















Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	315	55	306	295	80	40	205	524	125	195	20
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	5.0		4.0	5.0			4.0	4.0	5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Frbp, ped/bikes	1.00	1.00		1.00	0.99			1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.97			1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00	0.95	1.00	
Satd. Flow (prot)	1710	1743		1660	1701			1714	1464	1676	1663	
Flt Permitted	0.95	1.00		0.95	1.00			0.99	1.00	0.95	1.00	
Satd. Flow (perm)	1710	1743		1660	1701			1714	1464	1676	1663	
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
Growth Factor (vph)	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%
Adj. Flow (vph)	37	383	67	373	359	97	49	250	638	152	237	24
RTOR Reduction (vph)	0	6	0	0	9	0	0	0	129	0	3	0
Lane Group Flow (vph)	37	444	0	373	447	0	0	299	509	152	258	0
Confl. Peds. (#/hr)	11		1	1		11	6		10	10		6
Confl. Bikes (#/hr)									3			1
Heavy Vehicles (%)	0%	0%	4%	3%	1%	2%	5%	4%	2%	2%	7%	0%
Turn Type	Prot	NA		Prot	NA		Split	NA	pm+ov	Split	NA	
Protected Phases	5	2		1	6		8	8	1	4	4	
Permitted Phases									8			
Actuated Green, G (s)	3.6	28.6		26.7	51.7			20.0	46.7	17.0	17.0	
Effective Green, g (s)	3.6	28.6		26.7	51.7			20.0	46.7	17.0	17.0	
Actuated g/C Ratio	0.03	0.26		0.24	0.47			0.18	0.42	0.15	0.15	
Clearance Time (s)	4.0	5.0		4.0	5.0			4.0	4.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	55	451		401	797			310	619	258	256	
v/s Ratio Prot	0.02	c0.25		c0.22	0.26			c0.17	0.20	0.09	c0.15	
v/s Ratio Perm									0.15			
v/c Ratio	0.67	0.98		0.93	0.56			0.96	0.82	0.59	1.01	
Uniform Delay, d1	52.8	40.6		40.9	21.1			44.8	28.1	43.4	46.6	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Incremental Delay, d2	27.8	38.1		28.1	0.9			41.2	8.7	3.4	57.9	
Delay (s)	80.6	78.7		68.9	22.0			86.0	36.8	46.8	104.5	
Level of Service	F	E		E	C			F	D	D	F	
Approach Delay (s)		78.8			43.1			52.5			83.3	
Approach LOS		E			D			D			F	
Intersection Summary												
HCM 2000 Control Delay			59.2			HCM 2000 Level of Service				E		
HCM 2000 Volume to Capacity ratio			0.97									
Actuated Cycle Length (s)			110.3			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			88.2%			ICU Level of Service				E		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

Version A - Diverters

30: SE King Rd & SE 43rd Ave

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035

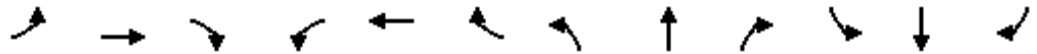
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	600	50	100	420	5	38	22	120	5	20	5
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.98		1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	1.00			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.97	1.00		0.99	1.00
Satd. Flow (prot)	1710	1599		1676	1745			1713	1466		1782	1530
Flt Permitted	0.45	1.00		0.28	1.00			0.79	1.00		0.92	1.00
Satd. Flow (perm)	809	1599		502	1745			1397	1466		1660	1530
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
Growth Factor (vph)	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%
Adj. Flow (vph)	6	730	61	122	511	6	46	27	146	6	24	6
RTOR Reduction (vph)	0	3	0	0	0	0	0	0	103	0	0	5
Lane Group Flow (vph)	6	788	0	122	517	0	0	73	43	0	30	1
Confl. Bikes (#/hr)			3			2			1			
Heavy Vehicles (%)	0%	0%	0%	2%	3%	0%	3%	0%	2%	0%	0%	0%
Parking (#/hr)		0										
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8		8	4		4
Actuated Green, G (s)	33.6	33.6		33.6	33.6			6.3	6.3		6.3	6.3
Effective Green, g (s)	33.6	33.6		33.6	33.6			6.3	6.3		6.3	6.3
Actuated g/C Ratio	0.69	0.69		0.69	0.69			0.13	0.13		0.13	0.13
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0			2.5	2.5		2.5	2.5
Lane Grp Cap (vph)	555	1098		344	1199			179	188		213	197
v/s Ratio Prot		c0.49			0.30							
v/s Ratio Perm	0.01			0.24				c0.05	0.03		0.02	0.00
v/c Ratio	0.01	0.72		0.35	0.43			0.41	0.23		0.14	0.00
Uniform Delay, d1	2.4	4.7		3.2	3.4			19.6	19.1		18.9	18.6
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.0	2.3		0.6	0.2			1.1	0.5		0.2	0.0
Delay (s)	2.4	7.0		3.8	3.7			20.7	19.6		19.1	18.6
Level of Service	A	A		A	A			C	B		B	B
Approach Delay (s)		7.0			3.7			19.9			19.0	
Approach LOS		A			A			B			B	
Intersection Summary												
HCM 2000 Control Delay			7.7									A
HCM 2000 Volume to Capacity ratio			0.67									
Actuated Cycle Length (s)			48.9								9.0	
Intersection Capacity Utilization			69.4%									C
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

Version A - Diverters

31: SE Linwood Ave & SE King Rd

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	120	675	55	80	375	44	130	203	50	39	210	100
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frbp, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	0.97		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1676	1739		1693	1747		1676	1705		1710	1658	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1676	1739		1693	1747		1676	1705		1710	1658	
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
Growth Factor (vph)	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%
Adj. Flow (vph)	146	822	67	97	457	54	158	247	61	47	256	122
RTOR Reduction (vph)	0	5	0	0	8	0	0	15	0	0	31	0
Lane Group Flow (vph)	146	884	0	97	503	0	158	293	0	47	347	0
Confl. Peds. (#/hr)	17		7	7		17	5		5	5		5
Confl. Bikes (#/hr)			1						2			
Heavy Vehicles (%)	2%	2%	3%	1%	1%	0%	2%	2%	1%	0%	3%	1%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	4.0	17.8		3.1	16.9		4.0	17.9		2.3	16.2	
Effective Green, g (s)	4.0	17.8		3.1	16.9		4.0	17.9		2.3	16.2	
Actuated g/C Ratio	0.07	0.31		0.05	0.30		0.07	0.31		0.04	0.28	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	117	542		91	517		117	534		68	470	
v/s Ratio Prot	c0.09	c0.51		0.06	0.29		c0.09	0.17		0.03	c0.21	
v/s Ratio Perm												
v/c Ratio	1.25	1.63		1.07	0.97		1.35	0.55		0.69	0.74	
Uniform Delay, d1	26.6	19.6		27.0	19.9		26.6	16.2		27.0	18.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	164.2	292.4		113.4	32.6		203.6	1.2		26.1	6.0	
Delay (s)	190.7	312.1		140.4	52.5		230.2	17.4		53.2	24.5	
Level of Service	F	F		F	D		F	B		D	C	
Approach Delay (s)		295.0			66.5			89.5			27.7	
Approach LOS		F			E			F			C	

Intersection Summary

HCM 2000 Control Delay	157.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.24		
Actuated Cycle Length (s)	57.1	Sum of lost time (s)	16.0
Intersection Capacity Utilization	93.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis

Version A - Diverters

4: SE Home Ave & SW Harrison St

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035



















Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	50	50	30	140	10	25
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	61	61	37	170	12	30
Pedestrians	2					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	273	29	45			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	273	29	45			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	91	94	98			
cM capacity (veh/h)	703	1049	1574			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	122	207	43			
Volume Left	61	37	0			
Volume Right	61	0	30			
cSH	842	1574	1700			
Volume to Capacity	0.14	0.02	0.03			
Queue Length 95th (ft)	13	2	0			
Control Delay (s)	10.0	1.5	0.0			
Lane LOS	A	A				
Approach Delay (s)	10.0	1.5	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			4.1			
Intersection Capacity Utilization			30.9%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

Version A - Diverters

7: SE 42nd Ave & SW Monroe St

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	80	55	5	5	15	50	1	65	55	55	155	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	97	67	6	6	18	61	1	79	67	67	189	18
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	170	85	147	274								
Volume Left (vph)	97	6	1	67								
Volume Right (vph)	6	61	67	18								
Hadj (s)	0.10	-0.41	-0.02	0.05								
Departure Headway (s)	5.2	4.8	4.9	4.8								
Degree Utilization, x	0.24	0.11	0.20	0.37								
Capacity (veh/h)	640	667	681	708								
Control Delay (s)	9.8	8.4	9.2	10.6								
Approach Delay (s)	9.8	8.4	9.2	10.6								
Approach LOS	A	A	A	B								
Intersection Summary												
Delay			9.8									
Level of Service			A									
Intersection Capacity Utilization			49.6%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

Version A - Diverters

17: SE 37th Ave & SW Railroad Ave

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035

















	↑	↗	↘	↓	↖	↗
Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations	↗			↖	↗	↖
Volume (veh/h)	180	185	125	125	215	80
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	219	225	152	152	262	97
Pedestrians	3			2	6	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	1	
Right turn flare (veh)						2
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			450		797	340
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			450		797	340
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			86		15	86
cM capacity (veh/h)			1115		307	703
Direction, Lane #	NB 1	SB 1	NW 1			
Volume Total	444	304	359			
Volume Left	0	152	262			
Volume Right	225	0	97			
cSH	1700	1115	386			
Volume to Capacity	0.26	0.14	0.93			
Queue Length 95th (ft)	0	12	251			
Control Delay (s)	0.0	5.0	63.1			
Lane LOS		A	F			
Approach Delay (s)	0.0	5.0	63.1			
Approach LOS			F			
Intersection Summary						
Average Delay			21.8			
Intersection Capacity Utilization			64.9%		ICU Level of Service	C
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

Version A - Diverters

23: SE 37th Ave & SW Harrison St

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035




















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	6	645	21	95	240	5	45	35	35	0	15	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	7	785	26	116	292	6	55	43	43	0	18	4
Pedestrians		2			2						2	
Lane Width (ft)		12.0			12.0						12.0	
Walking Speed (ft/s)		4.0			4.0						4.0	
Percent Blockage		0			0						0	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		1273										
pX, platoon unblocked												
vC, conflicting volume	300			811			1354	1344	800	1407	1354	299
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	300			811			1354	1344	800	1407	1354	299
iC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
iC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			86			46	67	89	100	86	100
cM capacity (veh/h)	1270			811			101	130	387	70	129	743
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	818	414	140	22								
Volume Left	7	116	55	0								
Volume Right	26	6	43	4								
cSH	1270	811	143	149								
Volume to Capacity	0.01	0.14	0.98	0.15								
Queue Length 95th (ft)	0	12	177	13								
Control Delay (s)	0.2	4.1	131.6	33.3								
Lane LOS	A	A	F	D								
Approach Delay (s)	0.2	4.1	131.6	33.3								
Approach LOS			F	D								
Intersection Summary												
Average Delay			15.0									
Intersection Capacity Utilization			87.9%		ICU Level of Service					E		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

Version A - Diverters

32: SE 42nd Ave & SW Harrison St

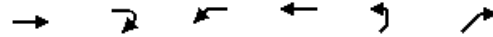
Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	505	70	90	10	20	20	15	165	10	13	138	220
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
Hourly flow rate (vph)	615	85	110	12	24	24	18	201	12	16	168	268
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1	SB 2					
Volume Total (vph)	700	110	37	24	231	184	268					
Volume Left (vph)	615	0	12	0	18	16	0					
Volume Right (vph)	0	110	0	24	12	0	268					
Hadj (s)	0.47	-0.70	0.17	-0.70	-0.02	0.07	-0.67					
Departure Headway (s)	7.2	6.0	8.0	7.1	7.3	7.2	6.5					
Degree Utilization, x	1.0	0.18	0.08	0.05	0.47	0.37	0.48					
Capacity (veh/h)	505	586	420	467	486	488	545					
Control Delay (s)	210.9	9.1	10.5	9.3	16.5	13.2	14.2					
Approach Delay (s)	183.6		10.0		16.5	13.8						
Approach LOS	F		B		C	B						
Intersection Summary												
Delay			102.6									
Level of Service			F									
Intersection Capacity Utilization			76.5%		ICU Level of Service					D		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

Version A - Diverters

36: SW Oak St & SW Railroad Ave/SW Monroe St Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035





















Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations	↔			↔	↔	↔
Volume (veh/h)	80	95	22	0	325	105
Sign Control	Stop			Stop	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	97	116	27	0	396	128
Pedestrians	4			9	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			1	0	
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)					900	
pX, platoon unblocked						
vC, conflicting volume	932	9	854	804	4	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	932	9	854	804	4	
tC, single (s)	6.5	6.2	7.1	6.5	4.1	
tC, 2 stage (s)						
tF (s)	4.0	3.3	3.5	4.0	2.2	
p0 queue free %	51	89	78	100	76	
cM capacity (veh/h)	200	1068	124	238	1619	
Direction, Lane #	EB 1	WB 1	NE 1	NE 2		
Volume Total	213	27	396	128		
Volume Left	0	27	396	0		
Volume Right	116	0	0	128		
cSH	358	124	1619	1700		
Volume to Capacity	0.60	0.22	0.24	0.08		
Queue Length 95th (ft)	92	19	24	0		
Control Delay (s)	28.8	41.8	7.9	0.0		
Lane LOS	D	E	A			
Approach Delay (s)	28.8	41.8	6.0			
Approach LOS	D	E				
Intersection Summary						
Average Delay			13.6			
Intersection Capacity Utilization			46.9%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

Version A - Diverters

44: SE 37th Ave & SW Monroe St

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035

















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	0	0	185	0	0	10	0	110	139	0	115	25
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
Hourly flow rate (vph)	0	0	225	0	0	12	0	134	169	0	140	30
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total (vph)	225	12	0	303	140	30						
Volume Left (vph)	0	0	0	0	0	0						
Volume Right (vph)	225	12	0	169	0	30						
Hadj (s)	-0.60	-0.60	0.00	-0.38	0.00	-0.63						
Departure Headway (s)	4.5	4.8	5.3	4.9	5.4	4.7						
Degree Utilization, x	0.28	0.02	0.00	0.41	0.21	0.04						
Capacity (veh/h)	737	649	665	709	633	712						
Control Delay (s)	9.2	7.9	7.1	10.0	8.6	6.7						
Approach Delay (s)	9.2	7.9	10.0		8.3							
Approach LOS	A	A	B		A							
Intersection Summary												
Delay			9.3									
Level of Service			A									
Intersection Capacity Utilization			37.8%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

Version A - Diverters

46: SE Home Ave & SW Monroe St

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035

















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	80	55	30	5	60	15	10	75	15	15	45	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
Hourly flow rate (vph)	97	67	37	6	73	18	12	91	18	18	55	6
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	201	97	122	79								
Volume Left (vph)	97	6	12	18								
Volume Right (vph)	37	18	18	6								
Hadj (s)	0.01	-0.06	-0.03	0.02								
Departure Headway (s)	4.5	4.6	4.7	4.8								
Degree Utilization, x	0.25	0.12	0.16	0.11								
Capacity (veh/h)	752	737	719	694								
Control Delay (s)	9.0	8.2	8.6	8.3								
Approach Delay (s)	9.0	8.2	8.6	8.3								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			8.7									
Level of Service			A									
Intersection Capacity Utilization			33.4%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

Version A - Diverters

49: SE Linwood Ave & SW Monroe St

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	50	0	0	90	0	295	20	0	303	36
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	0	61	0	0	110	0	359	24	0	369	44
Pedestrians		5			1						2	
Lane Width (ft)		12.0			12.0						12.0	
Walking Speed (ft/s)		4.0			4.0						4.0	
Percent Blockage		0			0						0	
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)											1153	
pX, platoon unblocked	0.88	0.88	0.88	0.88	0.88		0.88					
vC, conflicting volume	879	780	396	824	790	374	418			384		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	797	685	250	735	696	374	275			384		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	91	100	100	84	100			100		
cM capacity (veh/h)	225	328	698	271	323	675	1128			1184		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	61	110	383	413								
Volume Left	0	0	0	0								
Volume Right	61	110	24	44								
cSH	698	675	1128	1184								
Volume to Capacity	0.09	0.16	0.00	0.00								
Queue Length 95th (ft)	7	14	0	0								
Control Delay (s)	10.6	11.4	0.0	0.0								
Lane LOS	B	B										
Approach Delay (s)	10.6	11.4	0.0	0.0								
Approach LOS	B	B										
Intersection Summary												
Average Delay			2.0									
Intersection Capacity Utilization			35.4%		ICU Level of Service					A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

Version A - Diverters

52: SE Home Ave & SE King Rd

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035



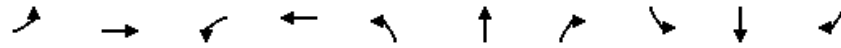
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Volume (veh/h)	680	6	30	540	20	145
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	828	7	37	657	24	177
Pedestrians				1	1	
Lane Width (ft)				12.0	12.0	
Walking Speed (ft/s)				4.0	4.0	
Percent Blockage				0	0	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			836		1563	833
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			836		1563	833
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			95		79	52
cM capacity (veh/h)			788		118	365
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	835	694	201			
Volume Left	0	37	24			
Volume Right	7	0	177			
cSH	1700	788	291			
Volume to Capacity	0.49	0.05	0.69			
Queue Length 95th (ft)	0	4	118			
Control Delay (s)	0.0	1.2	40.9			
Lane LOS		A	E			
Approach Delay (s)	0.0	1.2	40.9			
Approach LOS			E			
Intersection Summary						
Average Delay			5.2			
Intersection Capacity Utilization			81.3%	ICU Level of Service		D
Analysis Period (min)			15			

Queues

8: HWY 224 & SW Harrison St

Version B-TSP Improvements

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	37	423	79	457	67	1278	61	341	2147	37
v/c Ratio	0.54	1.02	1.16	1.06	0.99	1.07	0.10	1.55	1.44	0.05
Control Delay	88.1	94.8	212.2	103.5	138.3	58.3	0.5	305.5	229.0	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	88.1	94.8	212.2	103.5	138.3	58.3	0.5	305.5	229.0	0.1
Queue Length 50th (ft)	31	~370	~78	~426	57	~622	0	~404	~1290	0
Queue Length 95th (ft)	#80	#580	#185	#641	#156	#747	0	#597	#1424	0
Internal Link Dist (ft)		610		167		406			859	
Turn Bay Length (ft)					190		200	650		230
Base Capacity (vph)	71	415	68	430	68	1195	595	220	1494	751
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	1.02	1.16	1.06	0.99	1.07	0.10	1.55	1.44	0.05

Intersection Summary







- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues

9: HWY 224 & SW Monroe St

Version B-TSP Improvements

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035

						
Lane Group	EBR	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	118	28	1382	16	7	2313
v/c Ratio	0.66	0.13	0.50	0.01	0.10	0.83
Control Delay	47.1	1.2	1.7	0.0	67.2	13.7
Queue Delay	0.0	0.0	0.1	0.0	0.0	2.7
Total Delay	47.1	1.2	1.8	0.0	67.2	16.3
Queue Length 50th (ft)	49	0	16	0	6	228
Queue Length 95th (ft)	110	m1	m32	m0	m4	m8
Internal Link Dist (ft)			720			406
Turn Bay Length (ft)	150	130		330	185	
Base Capacity (vph)	485	521	2765	1224	72	2793
Starvation Cap Reductn	0	0	270	0	0	356
Spillback Cap Reductn	0	6	224	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.05	0.55	0.01	0.10	0.95

Intersection Summary














m Volume for 95th percentile queue is metered by upstream signal.

Queues

10: HWY 224 & SW Oak St

Version B-TSP Improvements

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035

													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR	
Lane Group Flow (vph)	22	285	99	122	219	134	309	2029	91	213	1242	231	
v/c Ratio	0.23	0.69	0.33	1.56	0.47	0.19	0.64	1.33	0.13	0.54	0.94	0.34	
Control Delay	63.2	63.4	6.9	345.8	55.7	8.4	47.3	182.0	3.4	53.5	41.8	12.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	63.2	63.4	6.9	345.8	55.7	8.4	47.3	182.0	3.4	53.5	41.8	12.5	
Queue Length 50th (ft)	18	122	0	~145	94	24	230	~1135	4	189	217	34	
Queue Length 95th (ft)	47	165	30	#275	134	58	m308	#1325	m6	m253	#656	m102	
Internal Link Dist (ft)		58			347			720			610		
Turn Bay Length (ft)				180		180	390		350	550		200	
Base Capacity (vph)	101	996	538	78	996	709	482	1528	719	394	1328	670	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.22	0.29	0.18	1.56	0.22	0.19	0.64	1.33	0.13	0.54	0.94	0.34	









Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

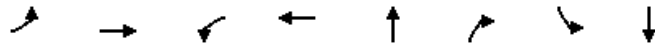
11: SE 32nd Ave & SW Harrison St

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035

								
Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	196	566	30	322	182	213	190	178
v/c Ratio	0.43	0.68	0.11	0.44	0.38	0.37	0.39	0.33
Control Delay	10.2	12.8	7.1	8.5	13.3	4.3	13.5	4.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.2	12.8	7.1	8.5	13.3	4.3	13.5	4.3
Queue Length 50th (ft)	19	66	3	30	28	0	30	0
Queue Length 95th (ft)	71	192	15	96	69	31	72	29
Internal Link Dist (ft)		210		885	175		889	
Turn Bay Length (ft)			120			100		120
Base Capacity (vph)	643	1153	387	1020	817	832	827	801
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.49	0.08	0.32	0.22	0.26	0.23	0.22
Intersection Summary								

Queues

22: SE Harmony Rd & SW Railroad Ave & SE Linwood Ave, 224, 37th and Linwood, on Monroe PM Peak 2035



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	37	450	373	456	299	638	152	261
v/c Ratio	0.33	1.02	1.07	0.61	0.94	0.88	0.52	0.89
Control Delay	52.5	84.6	107.9	26.5	80.3	24.4	44.4	72.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.5	84.6	107.9	26.5	80.3	24.4	44.4	72.0
Queue Length 50th (ft)	23	~293	~265	229	191	115	88	161
Queue Length 95th (ft)	55	#496	#445	343	#359	#303	153	#302
Internal Link Dist (ft)		499		2338	614			1327
Turn Bay Length (ft)	150		500			200	360	
Base Capacity (vph)	119	443	348	749	317	727	301	302
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	1.02	1.07	0.61	0.94	0.88	0.50	0.86

Intersection Summary









- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues

30: SE King Rd & SE 43rd Ave

Version B-TSP Improvements

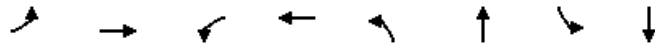
Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035

								
Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	6	791	122	517	73	146	30	6
v/c Ratio	0.01	0.71	0.36	0.42	0.30	0.38	0.10	0.02
Control Delay	3.3	10.3	8.2	5.6	22.4	8.2	19.8	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.3	10.3	8.2	5.6	22.4	8.2	19.8	3.0
Queue Length 50th (ft)	0	110	12	52	15	0	6	0
Queue Length 95th (ft)	3	280	45	120	58	42	30	3
Internal Link Dist (ft)		197		348	52		401	
Turn Bay Length (ft)	110		110					95
Base Capacity (vph)	730	1453	438	1585	621	733	738	693
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.54	0.28	0.33	0.12	0.20	0.04	0.01
Intersection Summary								

Queues

31: SE Linwood Ave & SE King Rd

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	146	889	97	511	158	308	47	378
v/c Ratio	0.65	0.97	0.82	0.63	1.33	0.73	0.26	0.97
Control Delay	61.7	49.9	99.9	28.0	225.9	52.3	35.7	81.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.7	49.9	99.9	28.0	225.9	52.3	35.7	81.3
Queue Length 50th (ft)	109	603	76	276	~136	223	27	~291
Queue Length 95th (ft)	171	#908	#178	433	#279	#368	58	#494
Internal Link Dist (ft)		1162		990		1073		389
Turn Bay Length (ft)	300		300		160		150	
Base Capacity (vph)	323	1009	118	835	119	422	180	391
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.88	0.82	0.61	1.33	0.73	0.26	0.97

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues

32: SE 42nd Ave & SW Harrison St

Version B-TSP Improvements

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035



Lane Group	EBT	EBR	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	700	110	36	24	231	184	268
v/c Ratio	0.88	0.11	0.04	0.03	0.61	0.49	0.51
Control Delay	24.3	1.6	4.5	2.4	27.7	25.0	6.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.3	1.6	4.5	2.4	27.7	25.0	6.9
Queue Length 50th (ft)	139	0	3	0	75	59	0
Queue Length 95th (ft)	#453	15	14	7	135	110	49
Internal Link Dist (ft)	597		1920		168	398	
Turn Bay Length (ft)		120		100			
Base Capacity (vph)	959	1149	1164	1123	610	604	686
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.73	0.10	0.03	0.02	0.38	0.30	0.39

Intersection Summary























95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

Version B-TSP Improvements

8: HWY 224 & SW Harrison St




















Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	270	77	65	220	155	55	1050	50	280	1764	30
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	6.0	6.0	4.0	6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frbp, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.97		1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1539	1511		1494	1443		1480	2988	1324	1509	2988	1377
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1539	1511		1494	1443		1480	2988	1324	1509	2988	1377
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
Growth Factor (vph)	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%
Adj. Flow (vph)	37	329	94	79	268	189	67	1278	61	341	2147	37
RTOR Reduction (vph)	0	8	0	0	19	0	0	0	37	0	0	19
Lane Group Flow (vph)	37	415	0	79	438	0	67	1278	24	341	2147	18
Confl. Peds. (#/hr)	8		1	1		8						
Heavy Vehicles (%)	0%	4%	1%	3%	4%	5%	4%	3%	4%	2%	3%	0%
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases									6			2
Actuated Green, G (s)	4.8	35.0		6.8	37.0		6.0	51.2	51.2	19.0	64.2	64.2
Effective Green, g (s)	4.8	35.0		6.8	37.0		6.0	51.2	51.2	19.0	64.2	64.2
Actuated g/C Ratio	0.04	0.27		0.05	0.28		0.05	0.39	0.39	0.15	0.49	0.49
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	6.0	6.0	4.0	6.0	6.0
Vehicle Extension (s)	2.5	2.5		2.5	2.5		2.3	3.9	3.9	2.3	3.9	3.9
Lane Grp Cap (vph)	56	406		78	410		68	1176	521	220	1475	680
v/s Ratio Prot	0.02	c0.27		0.05	c0.30		0.05	c0.43		0.23	c0.72	
v/s Ratio Perm									0.02			0.01
v/c Ratio	0.66	1.02		1.01	1.07		0.99	1.09	0.05	1.55	1.46	0.03
Uniform Delay, d1	61.8	47.5		61.6	46.5		62.0	39.4	24.3	55.5	32.9	16.9
Progression Factor	1.00	1.00		1.00	1.00		0.55	0.24	0.46	1.00	1.00	1.00
Incremental Delay, d2	23.2	50.4		105.5	63.6		96.9	51.8	0.1	268.7	208.8	0.1
Delay (s)	85.0	97.9		167.1	110.1		130.8	61.2	11.4	324.2	241.7	16.9
Level of Service	F	F		F	F		F	E	B	F	F	B
Approach Delay (s)		96.9			118.5			62.4			249.6	
Approach LOS		F			F			E			F	
Intersection Summary												
HCM 2000 Control Delay			167.6	HCM 2000 Level of Service				F				
HCM 2000 Volume to Capacity ratio			1.31									
Actuated Cycle Length (s)			130.0	Sum of lost time (s)				18.0				
Intersection Capacity Utilization			115.2%	ICU Level of Service				H				
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 9: HWY 224 & SW Monroe St

Version B-TSP Improvements
 Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	97	0	0	23	0	1135	13	6	1900	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)			4.0			4.0		6.0	6.0	4.0	6.0	
Lane Util. Factor			1.00			1.00		0.95	1.00	1.00	0.95	
Frbp, ped/bikes			0.97			0.98		1.00	0.96	1.00	1.00	
Flpb, ped/bikes			1.00			1.00		1.00	1.00	1.00	1.00	
Frt			0.86			0.86		1.00	0.85	1.00	1.00	
Flt Protected			1.00			1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)			1518			1526		3353	1475	1710	3320	
Flt Permitted			1.00			1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)			1518			1526		3353	1475	1710	3320	
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
Growth Factor (vph)	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%
Adj. Flow (vph)	0	0	118	0	0	28	0	1382	16	7	2313	0
RTOR Reduction (vph)	0	0	54	0	0	26	0	0	3	0	0	0
Lane Group Flow (vph)	0	0	64	0	0	2	0	1382	13	7	2313	0
Confl. Peds. (#/hr)	7		12	12		7	3		6	6		3
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	3%	0%
Turn Type			Perm			Perm		NA	Perm	Prot	NA	
Protected Phases								6		5	2	
Permitted Phases			8			4			6			
Actuated Green, G (s)			10.6			10.6		104.1	104.1	1.3	109.4	
Effective Green, g (s)			10.6			10.6		104.1	104.1	1.3	109.4	
Actuated g/C Ratio			0.08			0.08		0.80	0.80	0.01	0.84	
Clearance Time (s)			4.0			4.0		6.0	6.0	4.0	6.0	
Vehicle Extension (s)			2.5			2.5		5.2	5.2	2.3	5.2	
Lane Grp Cap (vph)			123			124		2684	1181	17	2793	
v/s Ratio Prot								0.41		0.00	c0.70	
v/s Ratio Perm			c0.04			0.00			0.01			
v/c Ratio			0.52			0.02		0.51	0.01	0.41	0.83	
Uniform Delay, d1			57.3			54.9		4.4	2.6	64.0	5.4	
Progression Factor			1.00			1.00		0.31	0.00	1.12	1.99	
Incremental Delay, d2			2.7			0.0		0.4	0.0	0.9	0.3	
Delay (s)			60.0			55.0		1.7	0.0	72.6	11.0	
Level of Service			E			D		A	A	E	B	
Approach Delay (s)		60.0			55.0			1.7			11.2	
Approach LOS		E			D			A			B	
Intersection Summary												
HCM 2000 Control Delay			9.5			HCM 2000 Level of Service			A			
HCM 2000 Volume to Capacity ratio			0.83									
Actuated Cycle Length (s)			130.0			Sum of lost time (s)			14.0			
Intersection Capacity Utilization			85.6%			ICU Level of Service			E			
Analysis Period (min)			15									

























c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

Version B-TSP Improvements

10: HWY 224 & SW Oak St

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035





















													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR	
Lane Configurations													
Volume (vph)	18	234	81	100	180	110	254	1667	75	175	1020	190	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.0	6.0	4.0	6.0	6.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	0.96	1.00	1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1710	3320	1500	1693	3320	1517	1613	3386	1462	1644	3386	1484	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1710	3320	1500	1693	3320	1517	1613	3386	1462	1644	3386	1484	
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	
Growth Factor (vph)	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	
Adj. Flow (vph)	22	285	99	122	219	134	309	2029	91	213	1242	231	
RTOR Reduction (vph)	0	0	86	0	0	41	0	0	51	0	0	90	
Lane Group Flow (vph)	22	285	13	122	219	93	309	2029	40	213	1242	141	
Confl. Peds. (#/hr)	13						13	7		32	32	7	
Confl. Bikes (#/hr)							1		1			2	
Heavy Vehicles (%)	0%	3%	2%	1%	3%	0%	6%	1%	0%	4%	1%	1%	
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	
Protected Phases	3	8		7	4	5	5	2		1	6		
Permitted Phases			8			4			2			6	
Actuated Green, G (s)	5.3	17.7	17.7	6.0	18.4	57.3	38.9	57.1	57.1	31.2	49.4	49.4	
Effective Green, g (s)	5.3	17.7	17.7	6.0	18.4	57.3	38.9	57.1	57.1	31.2	49.4	49.4	
Actuated g/C Ratio	0.04	0.14	0.14	0.05	0.14	0.44	0.30	0.44	0.44	0.24	0.38	0.38	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.0	6.0	4.0	6.0	6.0	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.3	2.3	4.8	4.8	2.3	4.8	4.8	
Lane Grp Cap (vph)	69	452	204	78	469	668	482	1487	642	394	1286	563	
v/s Ratio Prot	0.01	c0.09		c0.07	0.07	0.04	c0.19	c0.60		0.13	0.37		
v/s Ratio Perm			0.01			0.02			0.03			0.10	
v/c Ratio	0.32	0.63	0.07	1.56	0.47	0.14	0.64	1.36	0.06	0.54	0.97	0.25	
Uniform Delay, d1	60.6	53.1	48.9	62.0	51.3	21.7	39.5	36.5	21.0	43.1	39.5	27.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.06	1.02	1.31	1.10	0.81	1.11	
Incremental Delay, d2	1.9	2.5	0.1	306.8	0.5	0.1	1.4	166.6	0.1	0.8	14.7	0.8	
Delay (s)	62.5	55.6	49.0	368.8	51.8	21.7	43.2	203.9	27.5	48.4	46.8	31.4	
Level of Service	E	E	D	F	D	C	D	F	C	D	D	C	
Approach Delay (s)		54.4			124.7			176.9			44.9		
Approach LOS		D			F			F			D		
Intersection Summary													
HCM 2000 Control Delay			117.4									HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio			1.07										
Actuated Cycle Length (s)			130.0									Sum of lost time (s)	18.0
Intersection Capacity Utilization			99.2%									ICU Level of Service	F
Analysis Period (min)			15										
c Critical Lane Group													

HCM Signalized Intersection Capacity Analysis

Version B-TSP Improvements

11: SE 32nd Ave & SW Harrison St

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	161	459	6	25	240	25	25	125	175	24	132	146
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.96		1.00	0.98
Flpb, ped/bikes	0.99	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00		0.99	1.00
Satd. Flow (prot)	1667	1779		1704	1565			1770	1474		1783	1440
Flt Permitted	0.57	1.00		0.33	1.00			0.93	1.00		0.93	1.00
Satd. Flow (perm)	993	1779		597	1565			1654	1474		1677	1440
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
Growth Factor (vph)	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%
Adj. Flow (vph)	196	559	7	30	292	30	30	152	213	29	161	178
RTOR Reduction (vph)	0	1	0	0	8	0	0	0	151	0	0	126
Lane Group Flow (vph)	196	565	0	30	314	0	0	182	62	0	190	52
Confl. Peds. (#/hr)	8		4	8		4			15	15		
Confl. Bikes (#/hr)						1			1			1
Heavy Vehicles (%)	2%	1%	0%	0%	2%	0%	0%	1%	0%	0%	0%	4%
Parking (#/hr)					0							
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	16.0	16.0		16.0	16.0			9.9	9.9		9.9	9.9
Effective Green, g (s)	16.0	16.0		16.0	16.0			9.9	9.9		9.9	9.9
Actuated g/C Ratio	0.47	0.47		0.47	0.47			0.29	0.29		0.29	0.29
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	468	839		281	738			483	430		489	420
v/s Ratio Prot		c0.32			0.20							
v/s Ratio Perm	0.20			0.05				0.11	0.04		c0.11	0.04
v/c Ratio	0.42	0.67		0.11	0.43			0.38	0.14		0.39	0.12
Uniform Delay, d1	5.9	6.9		5.0	5.9			9.5	8.9		9.6	8.8
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.6	2.1		0.2	0.4			0.5	0.2		0.5	0.1
Delay (s)	6.5	9.1		5.1	6.3			10.0	9.0		10.1	8.9
Level of Service	A	A		A	A			B	A		B	A
Approach Delay (s)		8.4			6.2			9.5			9.5	
Approach LOS		A			A			A			A	
Intersection Summary												
HCM 2000 Control Delay			8.4									A
HCM 2000 Volume to Capacity ratio			0.56									
Actuated Cycle Length (s)			33.9								8.0	
Intersection Capacity Utilization			66.4%									C
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

Version B-TSP Improvements

22: SE Harmony Rd & SW Railroad Ave & SE Linwood Ave, Divoted Ave 224, 37th and Linwood, on Monroe PM Peak 2035





















Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Volume (vph)	30	315	55	306	295	80	40	205	524	125	195	20	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	
Total Lost time (s)	4.0	5.0		4.0	5.0			4.0	4.0	5.0	5.0		
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00		
Frbp, ped/bikes	1.00	1.00		1.00	0.99			1.00	0.98	1.00	1.00		
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00		
Frt	1.00	0.98		1.00	0.97			1.00	0.85	1.00	0.99		
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00	0.95	1.00		
Satd. Flow (prot)	1710	1744		1660	1703			1714	1466	1676	1663		
Flt Permitted	0.95	1.00		0.95	1.00			0.99	1.00	0.95	1.00		
Satd. Flow (perm)	1710	1744		1660	1703			1714	1466	1676	1663		
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	
Growth Factor (vph)	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	
Adj. Flow (vph)	37	383	67	373	359	97	49	250	638	152	237	24	
RTOR Reduction (vph)	0	6	0	0	9	0	0	0	145	0	3	0	
Lane Group Flow (vph)	37	444	0	373	447	0	0	299	493	152	258	0	
Confl. Peds. (#/hr)	11		1	1		11	6		10	10		6	
Confl. Bikes (#/hr)									3			1	
Heavy Vehicles (%)	0%	0%	4%	3%	1%	2%	5%	4%	2%	2%	7%	0%	
Turn Type	Prot	NA		Prot	NA		Split	NA	pm+ov	Split	NA		
Protected Phases	5	2		1	6		8	8	1	4	4		
Permitted Phases									8				
Actuated Green, G (s)	4.2	23.5		22.6	41.9			18.5	41.1	17.4	17.4		
Effective Green, g (s)	4.2	23.5		22.6	41.9			18.5	41.1	17.4	17.4		
Actuated g/C Ratio	0.04	0.24		0.23	0.42			0.18	0.41	0.17	0.17		
Clearance Time (s)	4.0	5.0		4.0	5.0			4.0	4.0	5.0	5.0		
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)	71	409		375	713			317	602	291	289		
v/s Ratio Prot	0.02	c0.25		c0.22	0.26			c0.17	0.18	0.09	c0.15		
v/s Ratio Perm									0.15				
v/c Ratio	0.52	1.09		0.99	0.63			0.94	0.82	0.52	0.89		
Uniform Delay, d1	46.9	38.2		38.6	22.9			40.2	26.1	37.5	40.4		
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00		
Incremental Delay, d2	6.7	69.4		44.8	4.1			35.6	8.5	1.7	27.1		
Delay (s)	53.7	107.6		83.4	27.0			75.8	34.7	39.2	67.5		
Level of Service	D	F		F	C			E	C	D	E		
Approach Delay (s)		103.5			52.4			47.8			57.1		
Approach LOS		F			D			D			E		
Intersection Summary													
HCM 2000 Control Delay			60.9									HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio			0.99										
Actuated Cycle Length (s)			100.0									Sum of lost time (s)	18.0
Intersection Capacity Utilization			88.2%									ICU Level of Service	E
Analysis Period (min)			15										
c Critical Lane Group													

HCM Signalized Intersection Capacity Analysis

Version B-TSP Improvements

30: SE King Rd & SE 43rd Ave

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	600	50	100	420	5	38	22	120	5	20	5
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.98		1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	1.00			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.97	1.00		0.99	1.00
Satd. Flow (prot)	1710	1599		1676	1745			1713	1466		1782	1530
Flt Permitted	0.45	1.00		0.27	1.00			0.79	1.00		0.92	1.00
Satd. Flow (perm)	803	1599		482	1745			1397	1466		1660	1530
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
Growth Factor (vph)	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%
Adj. Flow (vph)	6	730	61	122	511	6	46	27	146	6	24	6
RTOR Reduction (vph)	0	4	0	0	1	0	0	0	126	0	0	5
Lane Group Flow (vph)	6	787	0	122	516	0	0	73	20	0	30	1
Confl. Bikes (#/hr)			3			2			1			
Heavy Vehicles (%)	0%	0%	0%	2%	3%	0%	3%	0%	2%	0%	0%	0%
Parking (#/hr)		0										
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8		8	4		4
Actuated Green, G (s)	29.1	29.1		29.1	29.1			6.2	6.2		6.2	6.2
Effective Green, g (s)	29.1	29.1		29.1	29.1			6.2	6.2		6.2	6.2
Actuated g/C Ratio	0.66	0.66		0.66	0.66			0.14	0.14		0.14	0.14
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0			2.5	2.5		2.5	2.5
Lane Grp Cap (vph)	527	1050		316	1146			195	205		232	214
v/s Ratio Prot		c0.49			0.30							
v/s Ratio Perm	0.01			0.25				c0.05	0.01		0.02	0.00
v/c Ratio	0.01	0.75		0.39	0.45			0.37	0.10		0.13	0.00
Uniform Delay, d1	2.6	5.1		3.5	3.7			17.3	16.6		16.7	16.4
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.0	3.0		0.8	0.3			0.9	0.2		0.2	0.0
Delay (s)	2.6	8.1		4.3	4.0			18.2	16.8		16.9	16.4
Level of Service	A	A		A	A			B	B		B	B
Approach Delay (s)		8.1			4.0			17.2			16.8	
Approach LOS		A			A			B			B	
Intersection Summary												
HCM 2000 Control Delay			7.9									A
HCM 2000 Volume to Capacity ratio			0.68									
Actuated Cycle Length (s)			44.3								9.0	
Intersection Capacity Utilization			69.4%									C
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

Version B-TSP Improvements

31: SE Linwood Ave & SE King Rd

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035




















Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	120	675	55	80	375	44	130	203	50	39	210	100
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frbp, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	0.97		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1676	1738		1693	1741		1676	1702		1707	1653	
Flt Permitted	0.95	1.00		0.95	1.00		0.15	1.00		0.30	1.00	
Satd. Flow (perm)	1676	1738		1693	1741		259	1702		531	1653	
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
Growth Factor (vph)	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%
Adj. Flow (vph)	146	822	67	97	457	54	158	247	61	47	256	122
RTOR Reduction (vph)	0	2	0	0	3	0	0	7	0	0	14	0
Lane Group Flow (vph)	146	887	0	97	508	0	158	301	0	47	364	0
Confl. Peds. (#/hr)	17		7	7		17	5		5	5		5
Confl. Bikes (#/hr)			1						2			
Heavy Vehicles (%)	2%	2%	3%	1%	1%	0%	2%	2%	1%	0%	3%	1%
Turn Type	Prot	NA		Prot	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases							2			6		
Actuated Green, G (s)	15.2	60.2		8.0	53.0		32.0	28.0		30.2	27.1	
Effective Green, g (s)	15.2	60.2		8.0	53.0		32.0	28.0		30.2	27.1	
Actuated g/C Ratio	0.13	0.52		0.07	0.46		0.28	0.24		0.26	0.24	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	220	907		117	800		121	413		170	388	
v/s Ratio Prot	0.09	c0.51		c0.06	0.29		c0.05	0.18		0.01	0.22	
v/s Ratio Perm							c0.32			0.06		
v/c Ratio	0.66	0.98		0.83	0.63		1.31	0.73		0.28	0.94	
Uniform Delay, d1	47.6	26.9		53.0	23.8		41.2	40.2		33.1	43.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	7.3	24.2		36.1	1.7		184.9	6.3		0.9	30.2	
Delay (s)	54.9	51.1		89.1	25.4		226.1	46.5		34.0	73.4	
Level of Service	D	D		F	C		F	D		C	E	
Approach Delay (s)		51.6			35.6			107.4			69.1	
Approach LOS		D			D			F			E	
Intersection Summary												
HCM 2000 Control Delay			61.0				HCM 2000 Level of Service				E	
HCM 2000 Volume to Capacity ratio			1.08									
Actuated Cycle Length (s)			115.3				Sum of lost time (s)			16.0		
Intersection Capacity Utilization			93.5%				ICU Level of Service			F		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

Version B-TSP Improvements

32: SE 42nd Ave & SW Harrison St

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	505	70	90	10	20	20	15	165	10	13	138	220
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.0	4.0		4.0	4.0		4.0			4.0	4.0
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	1.00
Frbp, ped/bikes		1.00	0.98		1.00	0.97		1.00			1.00	0.97
Flpb, ped/bikes		0.99	1.00		1.00	1.00		1.00			1.00	1.00
Frt		1.00	0.85		1.00	0.85		0.99			1.00	0.85
Flt Protected		0.96	1.00		0.98	1.00		1.00			1.00	1.00
Satd. Flow (prot)		1686	1494		1770	1489		1776			1759	1459
Flt Permitted		0.73	1.00		0.86	1.00		0.97			0.97	1.00
Satd. Flow (perm)		1278	1494		1550	1489		1725			1716	1459
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
Growth Factor (vph)	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%
Adj. Flow (vph)	615	85	110	12	24	24	18	201	12	16	168	268
RTOR Reduction (vph)	0	0	41	0	0	9	0	3	0	0	0	209
Lane Group Flow (vph)	0	700	69	0	36	15	0	228	0	0	184	59
Confl. Peds. (#/hr)	4		2	2		4	5		10	10		5
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	2%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8				4
Permitted Phases	2		2	6		6	8			4		4
Actuated Green, G (s)		33.4	33.4		33.4	33.4		11.6			11.6	11.6
Effective Green, g (s)		33.4	33.4		33.4	33.4		11.6			11.6	11.6
Actuated g/C Ratio		0.63	0.63		0.63	0.63		0.22			0.22	0.22
Clearance Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	4.0
Vehicle Extension (s)		1.0	1.0		1.0	1.0		1.0			1.0	1.0
Lane Grp Cap (vph)		805	941		976	938		377			375	319
v/s Ratio Prot												
v/s Ratio Perm		c0.55	0.05		0.02	0.01		c0.13			0.11	0.04
v/c Ratio		0.87	0.07		0.04	0.02		0.60			0.49	0.18
Uniform Delay, d1		8.0	3.8		3.7	3.7		18.6			18.1	16.8
Progression Factor		1.00	1.00		1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2		9.6	0.0		0.0	0.0		1.9			0.4	0.1
Delay (s)		17.6	3.8		3.7	3.7		20.5			18.5	16.9
Level of Service		B	A		A	A		C			B	B
Approach Delay (s)		15.7			3.7			20.5			17.6	
Approach LOS		B			A			C			B	
Intersection Summary												
HCM 2000 Control Delay			16.5									B
HCM 2000 Volume to Capacity ratio			0.80									
Actuated Cycle Length (s)			53.0								8.0	
Intersection Capacity Utilization			76.6%									D
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

Version B-TSP Improvements

4: SE Home Ave & SW Harrison St

Diverter at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035



















Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	50	50	30	140	10	25
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	61	61	37	170	12	30
Pedestrians	2					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	273	29	45			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	273	29	45			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	91	94	98			
cM capacity (veh/h)	703	1049	1574			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	122	207	43			
Volume Left	61	37	0			
Volume Right	61	0	30			
cSH	842	1574	1700			
Volume to Capacity	0.14	0.02	0.03			
Queue Length 95th (ft)	13	2	0			
Control Delay (s)	10.0	1.5	0.0			
Lane LOS	A	A				
Approach Delay (s)	10.0	1.5	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			4.1			
Intersection Capacity Utilization			30.9%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

Version B-TSP Improvements

7: SE 42nd Ave & SW Monroe St

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	80	55	5	5	15	50	1	60	60	55	155	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	97	67	6	6	18	61	1	73	73	67	189	18
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	170	85	147	274								
Volume Left (vph)	97	6	1	67								
Volume Right (vph)	6	61	73	18								
Hadj (s)	0.10	-0.41	-0.02	0.05								
Departure Headway (s)	5.2	4.8	4.9	4.8								
Degree Utilization, x	0.24	0.11	0.20	0.37								
Capacity (veh/h)	640	667	681	708								
Control Delay (s)	9.8	8.4	9.1	10.6								
Approach Delay (s)	9.8	8.4	9.1	10.6								
Approach LOS	A	A	A	B								
Intersection Summary												
Delay			9.8									
Level of Service			A									
Intersection Capacity Utilization			49.7%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

Version B-TSP Improvements

17: SE 37th Ave & SW Railroad Ave

Diverter at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035

















	↑	↖	↙	↓	↗	↘
Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations	↖			↗	↖	↗
Volume (veh/h)	180	185	125	125	215	80
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	219	225	152	152	262	97
Pedestrians	3			2	6	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	1	
Right turn flare (veh)						2
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			450		797	340
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			450		797	340
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			86		15	86
cM capacity (veh/h)			1115		307	703
Direction, Lane #	NB 1	SB 1	NW 1			
Volume Total	444	304	359			
Volume Left	0	152	262			
Volume Right	225	0	97			
cSH	1700	1115	386			
Volume to Capacity	0.26	0.14	0.93			
Queue Length 95th (ft)	0	12	251			
Control Delay (s)	0.0	5.0	63.1			
Lane LOS		A	F			
Approach Delay (s)	0.0	5.0	63.1			
Approach LOS			F			
Intersection Summary						
Average Delay			21.8			
Intersection Capacity Utilization			64.9%		ICU Level of Service	C
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

Version B-TSP Improvements

23: SE 37th Ave & SW Harrison St

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	6	645	21	95	240	5	45	35	35	0	15	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	7	785	26	116	292	6	55	43	43	0	18	4
Pedestrians		2			2						2	
Lane Width (ft)		12.0			12.0						12.0	
Walking Speed (ft/s)		4.0			4.0						4.0	
Percent Blockage		0			0						0	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		1273			1310							
pX, platoon unblocked												
vC, conflicting volume	300			811			1354	1344	800	1407	1354	299
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	300			811			1354	1344	800	1407	1354	299
iC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
iC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			86			46	67	89	100	86	100
cM capacity (veh/h)	1270			811			101	130	387	70	129	743
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	818	414	140	22								
Volume Left	7	116	55	0								
Volume Right	26	6	43	4								
cSH	1270	811	143	149								
Volume to Capacity	0.01	0.14	0.98	0.15								
Queue Length 95th (ft)	0	12	177	13								
Control Delay (s)	0.2	4.1	131.6	33.3								
Lane LOS	A	A	F	D								
Approach Delay (s)	0.2	4.1	131.6	33.3								
Approach LOS			F	D								
Intersection Summary												
Average Delay			15.0									
Intersection Capacity Utilization			87.9%		ICU Level of Service					E		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

Version B-TSP Improvements

36: SW Oak St & SW Railroad Ave/SW Monroe St Intersectors at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035





















Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations	↶			↷	↶	↷
Volume (veh/h)	80	95	22	0	325	105
Sign Control	Stop			Stop	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	97	116	27	0	396	128
Pedestrians	4			9	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			1	0	
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)	900					
pX, platoon unblocked						
vC, conflicting volume	932	9	854	804	4	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	932	9	854	804	4	
tC, single (s)	6.5	6.2	7.1	6.5	4.1	
tC, 2 stage (s)						
tF (s)	4.0	3.3	3.5	4.0	2.2	
p0 queue free %	51	89	78	100	76	
cM capacity (veh/h)	200	1068	124	238	1619	
Direction, Lane #	EB 1	WB 1	NE 1	NE 2		
Volume Total	213	27	396	128		
Volume Left	0	27	396	0		
Volume Right	116	0	0	128		
cSH	358	124	1619	1700		
Volume to Capacity	0.60	0.22	0.24	0.08		
Queue Length 95th (ft)	92	19	24	0		
Control Delay (s)	28.8	41.8	7.9	0.0		
Lane LOS	D	E	A			
Approach Delay (s)	28.8	41.8	6.0			
Approach LOS	D	E				
Intersection Summary						
Average Delay	13.6					
Intersection Capacity Utilization	46.9%			ICU Level of Service	A	
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

Version B-TSP Improvements

44: SE 37th Ave & SW Monroe St

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035

















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	0	0	185	0	0	10	0	110	139	0	115	25
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
Hourly flow rate (vph)	0	0	225	0	0	12	0	134	169	0	140	30
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total (vph)	225	12	0	303	140	30						
Volume Left (vph)	0	0	0	0	0	0						
Volume Right (vph)	225	12	0	169	0	30						
Hadj (s)	-0.60	-0.60	0.00	-0.38	0.00	-0.63						
Departure Headway (s)	4.5	4.8	5.3	4.9	5.4	4.7						
Degree Utilization, x	0.28	0.02	0.00	0.41	0.21	0.04						
Capacity (veh/h)	737	649	665	709	633	712						
Control Delay (s)	9.2	7.9	7.1	10.0	8.6	6.7						
Approach Delay (s)	9.2	7.9	10.0		8.3							
Approach LOS	A	A	B		A							
Intersection Summary												
Delay			9.3									
Level of Service			A									
Intersection Capacity Utilization			37.8%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

Version B-TSP Improvements

46: SE Home Ave & SW Monroe St

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035

















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	80	55	30	5	60	15	10	75	15	15	45	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
Hourly flow rate (vph)	97	67	37	6	73	18	12	91	18	18	55	6
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	201	97	122	79								
Volume Left (vph)	97	6	12	18								
Volume Right (vph)	37	18	18	6								
Hadj (s)	0.01	-0.06	-0.03	0.02								
Departure Headway (s)	4.5	4.6	4.7	4.8								
Degree Utilization, x	0.25	0.12	0.16	0.11								
Capacity (veh/h)	752	737	719	694								
Control Delay (s)	9.0	8.2	8.6	8.3								
Approach Delay (s)	9.0	8.2	8.6	8.3								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			8.7									
Level of Service			A									
Intersection Capacity Utilization			33.4%	ICU Level of Service								A
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

Version B-TSP Improvements

49: SE Linwood Ave & SW Monroe St

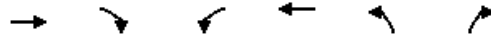
Diverter at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	50	0	0	90	0	295	20	0	303	36
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	0	61	0	0	110	0	359	24	0	369	44
Pedestrians		5			1						2	
Lane Width (ft)		12.0			12.0						12.0	
Walking Speed (ft/s)		4.0			4.0						4.0	
Percent Blockage		0			0						0	
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)											1153	
pX, platoon unblocked	0.91	0.91	0.91	0.91	0.91		0.91					
vC, conflicting volume	879	780	396	824	790	374	418			384		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	818	710	288	758	721	374	312			384		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	91	100	100	84	100			100		
cM capacity (veh/h)	225	327	686	269	323	675	1127			1184		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	61	110	383	413								
Volume Left	0	0	0	0								
Volume Right	61	110	24	44								
cSH	686	675	1127	1184								
Volume to Capacity	0.09	0.16	0.00	0.00								
Queue Length 95th (ft)	7	14	0	0								
Control Delay (s)	10.8	11.4	0.0	0.0								
Lane LOS	B	B										
Approach Delay (s)	10.8	11.4	0.0	0.0								
Approach LOS	B	B										
Intersection Summary												
Average Delay			2.0									
Intersection Capacity Utilization			35.3%		ICU Level of Service					A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis
 52: SE Home Ave & SE King Rd

Version B-TSP Improvements

Diverter at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Volume (veh/h)	680	6	30	540	20	145
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	828	7	37	657	24	177
Pedestrians				1	1	
Lane Width (ft)				12.0	12.0	
Walking Speed (ft/s)				4.0	4.0	
Percent Blockage				0	0	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			836		1563	833
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			836		1563	833
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			95		79	52
cM capacity (veh/h)			788		118	365
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	835	694	201			
Volume Left	0	37	24			
Volume Right	7	0	177			
cSH	1700	788	291			
Volume to Capacity	0.49	0.05	0.69			
Queue Length 95th (ft)	0	4	118			
Control Delay (s)	0.0	1.2	40.9			
Lane LOS		A	E			
Approach Delay (s)	0.0	1.2	40.9			
Approach LOS			E			
Intersection Summary						
Average Delay			5.2			
Intersection Capacity Utilization			81.3%	ICU Level of Service		D
Analysis Period (min)			15			

Queues

8: HWY 224 & SW Harrison St



Lane Group	EBT	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	460	536	67	1278	61	341	2147	37
v/c Ratio	0.74	0.95	1.49	0.99	0.10	1.15	1.20	0.04
Control Delay	48.4	63.9	330.0	35.6	2.6	145.6	124.1	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.4	63.9	330.0	35.6	2.6	145.6	124.1	1.3
Queue Length 50th (ft)	172	201	~76	301	0	~361	~1182	0
Queue Length 95th (ft)	233	#291	#176	#704	4	#566	#1329	8
Internal Link Dist (ft)	610	167		406			859	
Turn Bay Length (ft)			190		200	650		230
Base Capacity (vph)	687	616	45	1287	594	296	1782	845
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.87	1.49	0.99	0.10	1.15	1.20	0.04







Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues

9: HWY 224 & SW Monroe St

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035

						
Lane Group	EBR	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	118	28	1382	16	7	2313
v/c Ratio	0.66	0.12	0.52	0.01	0.09	0.83
Control Delay	47.1	16.0	2.8	0.0	63.8	8.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	36.4
Total Delay	47.1	16.0	2.9	0.0	63.8	44.5
Queue Length 50th (ft)	49	1	33	0	6	146
Queue Length 95th (ft)	110	m22	44	m0	m4	m18
Internal Link Dist (ft)			720			406
Turn Bay Length (ft)	150	130		330	185	
Base Capacity (vph)	485	230	2662	1180	80	2793
Starvation Cap Reductn	0	0	87	0	0	187
Spillback Cap Reductn	11	0	140	0	0	643
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.12	0.55	0.01	0.09	1.08

Intersection Summary














m Volume for 95th percentile queue is metered by upstream signal.

Queues

10: HWY 224 & SW Oak St

Version C - Optimized

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035

													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR	
Lane Group Flow (vph)	22	285	99	122	219	134	309	2029	91	213	1242	231	
v/c Ratio	0.13	0.69	0.33	1.15	0.49	0.20	0.70	1.28	0.12	0.54	0.84	0.32	
Control Delay	51.2	63.4	6.9	180.7	56.7	8.0	53.0	159.5	2.4	61.2	25.7	6.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	51.2	63.4	6.9	180.7	56.7	8.0	53.0	159.5	2.4	61.2	25.7	6.8	
Queue Length 50th (ft)	17	122	0	~130	94	22	236	~1111	3	189	115	8	
Queue Length 95th (ft)	42	165	30	#250	134	53	m285	#1301	m5	m255	#659	m71	
Internal Link Dist (ft)		58			347			720			610		
Turn Bay Length (ft)				180		180	390		350	550		200	
Base Capacity (vph)	164	996	538	106	996	668	440	1580	740	394	1470	725	
Starvation Cap Reductn	0	0	0	0	0	0	0	9	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.13	0.29	0.18	1.15	0.22	0.20	0.70	1.29	0.12	0.54	0.84	0.32	









Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

11: SE 32nd Ave & SW Harrison St

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035

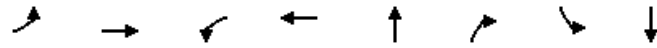
								
Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	196	566	30	322	182	213	190	178
v/c Ratio	0.30	0.48	0.06	0.31	0.53	0.45	0.55	0.40
Control Delay	6.7	8.3	5.8	6.2	29.3	9.6	27.9	6.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.7	8.3	5.8	6.2	29.3	9.6	27.9	6.3
Queue Length 50th (ft)	40	125	3	41	67	23	68	0
Queue Length 95th (ft)	m120	m316	15	105	m101	m45	108	38
Internal Link Dist (ft)		210		885	175		889	
Turn Bay Length (ft)			120			100		120
Base Capacity (vph)	650	1189	468	1050	508	595	514	566
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.48	0.06	0.31	0.36	0.36	0.37	0.31

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Queues

22: SE Harmony Rd & SW Railroad Ave & SE Linwood Ave, 224, 37th and Linwood, on Monroe PM Peak 2035



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	37	450	373	456	299	638	152	261
v/c Ratio	0.36	0.99	1.02	0.58	1.00	0.87	0.50	0.86
Control Delay	59.3	80.1	94.3	26.4	97.3	23.4	46.5	69.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.3	80.1	94.3	26.4	97.3	23.4	46.5	69.9
Queue Length 50th (ft)	26	~314	~283	246	~217	123	96	176
Queue Length 95th (ft)	60	#529	#470	361	#395	#315	162	#311
Internal Link Dist (ft)		499		2338	614			1327
Turn Bay Length (ft)	150		500			200	360	
Base Capacity (vph)	110	455	367	783	300	737	324	324
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.99	1.02	0.58	1.00	0.87	0.47	0.81

Intersection Summary









- Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues

30: SE King Rd & SE 43rd Ave

Version C - Optimized

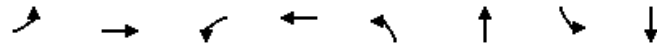
Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035

								
Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	6	791	122	517	73	146	30	6
v/c Ratio	0.01	0.80	0.30	0.42	0.43	0.48	0.15	0.02
Control Delay	2.3	18.0	4.4	5.8	38.6	12.2	31.6	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2.3	18.0	4.4	5.8	38.6	12.2	31.6	0.2
Queue Length 50th (ft)	1	215	9	51	26	0	10	0
Queue Length 95th (ft)	3	435	25	194	78	51	39	0
Internal Link Dist (ft)		197		348	52		401	
Turn Bay Length (ft)	110		110					95
Base Capacity (vph)	668	1350	400	1487	381	507	458	466
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.59	0.30	0.35	0.19	0.29	0.07	0.01
Intersection Summary								

Queues

31: SE Linwood Ave & SE King Rd

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	146	889	97	511	158	308	47	378
v/c Ratio	0.35	0.93	0.62	0.56	1.12	0.70	0.23	0.94
Control Delay	12.1	43.5	30.1	23.1	151.2	56.2	38.4	80.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.1	43.5	30.1	23.1	151.2	56.2	38.4	80.6
Queue Length 50th (ft)	48	666	31	282	~118	262	31	335
Queue Length 95th (ft)	76	#981	#75	386	#266	#406	64	#552
Internal Link Dist (ft)		1162		990		1073		389
Turn Bay Length (ft)	300		300		160		150	
Base Capacity (vph)	433	1075	157	1024	141	438	206	403
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.83	0.62	0.50	1.12	0.70	0.23	0.94

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues

32: SE 42nd Ave & SW Harrison St

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035



Lane Group	EBL	EBT	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	615	195	36	24	231	184	268
v/c Ratio	0.66	0.20	0.10	0.07	0.45	0.32	0.23
Control Delay	13.2	3.2	15.9	0.4	14.4	13.0	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.2	3.2	15.9	0.4	14.4	13.0	1.1
Queue Length 50th (ft)	81	8	5	0	27	22	0
Queue Length 95th (ft)	#280	31	27	0	93	76	13
Internal Link Dist (ft)		597	1920		168	398	
Turn Bay Length (ft)	150			100			
Base Capacity (vph)	933	1503	990	859	1001	997	1153
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.66	0.13	0.04	0.03	0.23	0.18	0.23

Intersection Summary

























95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

Version C - Optimized

8: HWY 224 & SW Harrison St

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Volume (vph)	30	270	77	65	220	155	55	1050	50	280	1764	30
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.0			4.0		4.0	6.0	6.0	4.0	6.0	6.0
Lane Util. Factor		0.95			0.95		1.00	0.95	1.00	1.00	0.95	1.00
Frbp, ped/bikes		1.00			0.99		1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes		1.00			1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.97			0.95		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		1.00			0.99		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		2875			2757		1480	2988	1324	1509	2988	1377
Flt Permitted		0.79			0.69		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		2291			1915		1480	2988	1324	1509	2988	1377
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
Growth Factor (vph)	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%
Adj. Flow (vph)	37	329	94	79	268	189	67	1278	61	341	2147	37
RTOR Reduction (vph)	0	18	0	0	59	0	0	0	24	0	0	15
Lane Group Flow (vph)	0	442	0	0	477	0	67	1278	37	341	2147	22
Confl. Peds. (#/hr)	8		1	1		8						
Heavy Vehicles (%)	0%	4%	1%	3%	4%	5%	4%	3%	4%	2%	3%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4					6			2
Actuated Green, G (s)		34.4			34.4		4.0	56.0	56.0	25.6	77.6	77.6
Effective Green, g (s)		34.4			34.4		4.0	56.0	56.0	25.6	77.6	77.6
Actuated g/C Ratio		0.26			0.26		0.03	0.43	0.43	0.20	0.60	0.60
Clearance Time (s)		4.0			4.0		4.0	6.0	6.0	4.0	6.0	6.0
Vehicle Extension (s)		2.5			2.5		2.3	3.9	3.9	2.3	3.9	3.9
Lane Grp Cap (vph)		606			506		45	1287	570	297	1783	821
v/s Ratio Prot							c0.05	0.43		0.23	c0.72	
v/s Ratio Perm		0.19			c0.25				0.03			0.02
v/c Ratio		0.73			0.94		1.49	0.99	0.07	1.15	1.20	0.03
Uniform Delay, d1		43.5			46.8		63.0	36.8	21.7	52.2	26.2	10.7
Progression Factor		1.00			0.94		0.60	0.32	0.24	1.00	1.00	1.00
Incremental Delay, d2		4.1			25.8		298.3	21.8	0.2	98.5	97.5	0.1
Delay (s)		47.7			70.0		335.8	33.5	5.3	150.7	123.7	10.8
Level of Service		D			E		F	C	A	F	F	B
Approach Delay (s)		47.7			70.0			46.7			125.7	
Approach LOS		D			E			D			F	
Intersection Summary												
HCM 2000 Control Delay			89.8				HCM 2000 Level of Service			F		
HCM 2000 Volume to Capacity ratio			1.14									
Actuated Cycle Length (s)			130.0				Sum of lost time (s)			14.0		
Intersection Capacity Utilization			118.4%				ICU Level of Service			H		
Analysis Period (min)			15									




















c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

Version C - Optimized

9: HWY 224 & SW Monroe St

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	97	0	0	23	0	1135	13	6	1900	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)			4.0			4.0		6.0	6.0	4.0	6.0	
Lane Util. Factor			1.00			1.00		0.95	1.00	1.00	0.95	
Frbp, ped/bikes			0.97			0.98		1.00	0.96	1.00	1.00	
Flpb, ped/bikes			1.00			1.00		1.00	1.00	1.00	1.00	
Frt			0.86			0.86		1.00	0.85	1.00	1.00	
Flt Protected			1.00			1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)			1518			1534		3353	1475	1710	3320	
Flt Permitted			1.00			1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)			1518			1534		3353	1475	1710	3320	
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
Growth Factor (vph)	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%
Adj. Flow (vph)	0	0	118	0	0	28	0	1382	16	7	2313	0
RTOR Reduction (vph)	0	0	54	0	0	25	0	0	3	0	0	0
Lane Group Flow (vph)	0	0	64	0	0	3	0	1382	13	7	2313	0
Confl. Peds. (#/hr)	7		12	12		7	3		6	6		3
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	3%	0%
Turn Type			Perm			pm+ov		NA	Perm	Prot	NA	
Protected Phases						5		6		5	2	
Permitted Phases			8			4			6			
Actuated Green, G (s)			10.6			14.3		101.7	101.7	3.7	109.4	
Effective Green, g (s)			10.6			14.3		101.7	101.7	3.7	109.4	
Actuated g/C Ratio			0.08			0.11		0.78	0.78	0.03	0.84	
Clearance Time (s)			4.0			4.0		6.0	6.0	4.0	6.0	
Vehicle Extension (s)			2.5			2.3		5.2	5.2	2.3	5.2	
Lane Grp Cap (vph)			123			215		2623	1153	48	2793	
v/s Ratio Prot						0.00		0.41		0.00	c0.70	
v/s Ratio Perm			c0.04			0.00			0.01			
v/c Ratio			0.52			0.01		0.53	0.01	0.15	0.83	
Uniform Delay, d1			57.3			51.6		5.2	3.1	61.6	5.4	
Progression Factor			1.00			1.60		0.41	0.00	1.07	1.15	
Incremental Delay, d2			2.7			0.0		0.5	0.0	0.1	0.3	
Delay (s)			60.0			82.4		2.6	0.0	66.0	6.5	
Level of Service			E			F		A	A	E	A	
Approach Delay (s)		60.0			82.4			2.6			6.7	
Approach LOS		E			F			A			A	
Intersection Summary												
HCM 2000 Control Delay			7.4			HCM 2000 Level of Service			A			
HCM 2000 Volume to Capacity ratio			0.83									
Actuated Cycle Length (s)			130.0			Sum of lost time (s)			14.0			
Intersection Capacity Utilization			85.6%			ICU Level of Service			E			
Analysis Period (min)			15									






























c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

Version C - Optimized

10: HWY 224 & SW Oak St

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR	
Lane Configurations		 			 			 			 	 	
Volume (vph)	18	234	81	100	180	110	254	1667	75	175	1020	190	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.0	6.0	4.0	6.0	6.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	0.96	1.00	1.00	0.98	
Flpb, ped/bikes	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1700	3320	1500	1693	3320	1517	1613	3386	1462	1644	3386	1484	
Flt Permitted	0.61	1.00	1.00	0.29	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1100	3320	1500	524	3320	1517	1613	3386	1462	1644	3386	1484	
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	
Growth Factor (vph)	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	
Adj. Flow (vph)	22	285	99	122	219	134	309	2029	91	213	1242	231	
RTOR Reduction (vph)	0	0	86	0	0	50	0	0	50	0	0	83	
Lane Group Flow (vph)	22	285	13	122	219	84	309	2029	41	213	1242	148	
Confl. Peds. (#/hr)	13						13	7		32	32	7	
Confl. Bikes (#/hr)							1		1			2	
Heavy Vehicles (%)	0%	3%	2%	1%	3%	0%	6%	1%	0%	4%	1%	1%	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	
Protected Phases	3	8		7	4	5	5	2		1	6		
Permitted Phases	8		8	4		4			2			6	
Actuated Green, G (s)	17.7	17.7	17.7	17.6	17.6	53.1	35.5	59.1	59.1	31.2	54.8	54.8	
Effective Green, g (s)	17.7	17.7	17.7	17.6	17.6	53.1	35.5	59.1	59.1	31.2	54.8	54.8	
Actuated g/C Ratio	0.14	0.14	0.14	0.14	0.14	0.41	0.27	0.45	0.45	0.24	0.42	0.42	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.0	6.0	4.0	6.0	6.0	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.3	2.3	4.8	4.8	2.3	4.8	4.8	
Lane Grp Cap (vph)	168	452	204	106	449	619	440	1539	664	394	1427	625	
v/s Ratio Prot	0.00	c0.09		c0.04	0.07	0.04	c0.19	c0.60		0.13	0.37		
v/s Ratio Perm	0.01		0.01	c0.12		0.02			0.03			0.10	
v/c Ratio	0.13	0.63	0.07	1.15	0.49	0.14	0.70	1.32	0.06	0.54	0.87	0.24	
Uniform Delay, d1	49.5	53.1	48.9	56.3	52.0	24.1	42.5	35.5	19.9	43.1	34.4	24.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.10	0.88	0.96	1.28	0.61	0.61	
Incremental Delay, d2	0.3	2.5	0.1	133.7	0.6	0.1	2.6	146.0	0.1	0.8	5.6	0.7	
Delay (s)	49.8	55.6	49.0	190.0	52.6	24.1	49.3	177.1	19.2	55.8	26.5	15.5	
Level of Service	D	E	D	F	D	C	D	F	B	E	C	B	
Approach Delay (s)		53.7			79.9			155.0			28.7		
Approach LOS		D			E			F			C		
Intersection Summary													
HCM 2000 Control Delay			97.0									HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio			1.11										
Actuated Cycle Length (s)			130.0									Sum of lost time (s)	18.0
Intersection Capacity Utilization			99.2%									ICU Level of Service	F
Analysis Period (min)			15										
c Critical Lane Group													

HCM Signalized Intersection Capacity Analysis

Version C - Optimized

11: SE 32nd Ave & SW Harrison St

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	161	459	6	25	240	25	25	125	175	24	132	146
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.95		1.00	0.98
Flpb, ped/bikes	0.99	1.00		0.99	1.00			1.00	1.00		1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00		0.99	1.00
Satd. Flow (prot)	1658	1778		1699	1565			1770	1456		1781	1439
Flt Permitted	0.56	1.00		0.39	1.00			0.93	1.00		0.93	1.00
Satd. Flow (perm)	972	1778		699	1565			1652	1456		1673	1439
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
Growth Factor (vph)	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%
Adj. Flow (vph)	196	559	7	30	292	30	30	152	213	29	161	178
RTOR Reduction (vph)	0	1	0	0	4	0	0	0	169	0	0	141
Lane Group Flow (vph)	196	565	0	30	318	0	0	182	44	0	190	37
Confl. Peds. (#/hr)	8		4	8		4			15	15		
Confl. Bikes (#/hr)						1			1			1
Heavy Vehicles (%)	2%	1%	0%	0%	2%	0%	0%	1%	0%	0%	0%	4%
Parking (#/hr)					0							
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	43.5	43.5		43.5	43.5			13.5	13.5		13.5	13.5
Effective Green, g (s)	43.5	43.5		43.5	43.5			13.5	13.5		13.5	13.5
Actuated g/C Ratio	0.67	0.67		0.67	0.67			0.21	0.21		0.21	0.21
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	650	1189		467	1047			343	302		347	298
v/s Ratio Prot		c0.32			0.20							
v/s Ratio Perm	0.20			0.04				0.11	0.03		c0.11	0.03
v/c Ratio	0.30	0.48		0.06	0.30			0.53	0.15		0.55	0.12
Uniform Delay, d1	4.5	5.2		3.7	4.5			22.9	21.0		23.0	20.9
Progression Factor	1.09	1.22		1.00	1.00			1.09	2.94		1.00	1.00
Incremental Delay, d2	0.7	0.8		0.3	0.7			1.5	0.2		1.8	0.2
Delay (s)	5.5	7.1		4.0	5.2			26.5	62.1		24.8	21.1
Level of Service	A	A		A	A			C	E		C	C
Approach Delay (s)		6.7			5.1			45.7			23.0	
Approach LOS		A			A			D			C	

Intersection Summary





















HCM 2000 Control Delay	17.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	72.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis





















Version C - Optimized

22: SE Harmony Rd & SW Railroad Ave & SE Linwood Ave, on Monroe PM Peak 2035

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Volume (vph)	30	315	55	306	295	80	40	205	524	125	195	20	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	
Total Lost time (s)	4.0	5.0		4.0	5.0			4.0	4.0	5.0	5.0		
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00		
Frpb, ped/bikes	1.00	1.00		1.00	0.99			1.00	0.98	1.00	1.00		
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00		
Frt	1.00	0.98		1.00	0.97			1.00	0.85	1.00	0.99		
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00	0.95	1.00		
Satd. Flow (prot)	1710	1744		1660	1702			1714	1466	1676	1662		
Flt Permitted	0.95	1.00		0.95	1.00			0.99	1.00	0.95	1.00		
Satd. Flow (perm)	1710	1744		1660	1702			1714	1466	1676	1662		
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	
Growth Factor (vph)	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	
Adj. Flow (vph)	37	383	67	373	359	97	49	250	638	152	237	24	
RTOR Reduction (vph)	0	6	0	0	8	0	0	0	155	0	3	0	
Lane Group Flow (vph)	37	444	0	373	448	0	0	299	483	152	258	0	
Confl. Peds. (#/hr)	11		1	1		11	6		10	10		6	
Confl. Bikes (#/hr)									3			1	
Heavy Vehicles (%)	0%	0%	4%	3%	1%	2%	5%	4%	2%	2%	7%	0%	
Turn Type	Prot	NA		Prot	NA		Split	NA	pm+ov	Split	NA		
Protected Phases	5	2		1	6		8	8	1	4	4		
Permitted Phases									8				
Actuated Green, G (s)	4.1	28.0		25.6	49.5			19.0	44.6	19.5	19.5		
Effective Green, g (s)	4.1	28.0		25.6	49.5			19.0	44.6	19.5	19.5		
Actuated g/C Ratio	0.04	0.25		0.23	0.45			0.17	0.41	0.18	0.18		
Clearance Time (s)	4.0	5.0		4.0	5.0			4.0	4.0	5.0	5.0		
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)	63	443		385	765			295	593	296	294		
v/s Ratio Prot	0.02	c0.25		c0.22	0.26			c0.17	0.19	0.09	c0.16		
v/s Ratio Perm									0.14				
v/c Ratio	0.59	1.00		0.97	0.59			1.01	0.82	0.51	0.88		
Uniform Delay, d1	52.2	41.0		41.9	22.6			45.5	29.1	41.0	44.1		
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00		
Incremental Delay, d2	13.2	43.3		37.2	1.1			55.9	8.5	1.5	24.0		
Delay (s)	65.4	84.4		79.1	23.8			101.4	37.5	42.5	68.2		
Level of Service	E	F		E	C			F	D	D	E		
Approach Delay (s)		82.9			48.7			57.9			58.7		
Approach LOS		F			D			E			E		
Intersection Summary													
HCM 2000 Control Delay			59.7									HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio			0.97										
Actuated Cycle Length (s)			110.1									Sum of lost time (s)	18.0
Intersection Capacity Utilization			88.2%									ICU Level of Service	E
Analysis Period (min)			15										
c Critical Lane Group													

HCM Signalized Intersection Capacity Analysis
 30: SE King Rd & SE 43rd Ave

Version C - Optimized
 Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	600	50	100	420	5	38	22	120	5	20	5
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.5		4.0	4.5			4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.98		1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	1.00			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.97	1.00		0.99	1.00
Satd. Flow (prot)	1710	1599		1676	1745			1713	1465		1782	1530
Flt Permitted	0.47	1.00		0.21	1.00			0.79	1.00		0.93	1.00
Satd. Flow (perm)	841	1599		376	1745			1397	1465		1678	1530
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
Growth Factor (vph)	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%
Adj. Flow (vph)	6	730	61	122	511	6	46	27	146	6	24	6
RTOR Reduction (vph)	0	3	0	0	0	0	0	0	129	0	0	5
Lane Group Flow (vph)	6	788	0	122	517	0	0	73	17	0	30	1
Confl. Bikes (#/hr)			3			2			1			
Heavy Vehicles (%)	0%	0%	0%	2%	3%	0%	3%	0%	2%	0%	0%	0%
Parking (#/hr)		0										
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8		8	4		4
Actuated Green, G (s)	43.4	42.5		51.0	46.3			7.9	7.9		7.9	7.9
Effective Green, g (s)	43.4	42.5		51.0	46.3			7.9	7.9		7.9	7.9
Actuated g/C Ratio	0.64	0.62		0.75	0.68			0.12	0.12		0.12	0.12
Clearance Time (s)	4.0	4.5		4.0	4.5			4.5	4.5		4.5	4.5
Vehicle Extension (s)	1.0	1.0		1.0	1.0			1.0	1.0		1.0	1.0
Lane Grp Cap (vph)	547	997		371	1186			162	169		194	177
v/s Ratio Prot	0.00	c0.49		c0.02	0.30							
v/s Ratio Perm	0.01			0.22				c0.05	0.01		0.02	0.00
v/c Ratio	0.01	0.79		0.33	0.44			0.45	0.10		0.15	0.00
Uniform Delay, d1	4.5	9.5		5.7	5.0			28.1	26.9		27.1	26.6
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.0	4.0		0.2	0.1			0.7	0.1		0.1	0.0
Delay (s)	4.5	13.5		5.9	5.1			28.8	27.0		27.2	26.6
Level of Service	A	B		A	A			C	C		C	C
Approach Delay (s)		13.5			5.2			27.6			27.1	
Approach LOS		B			A			C			C	
Intersection Summary												
HCM 2000 Control Delay			12.5			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.70									
Actuated Cycle Length (s)			68.1			Sum of lost time (s)		13.0				
Intersection Capacity Utilization			68.8%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

Version C - Optimized

31: SE Linwood Ave & SE King Rd

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035




















Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	120	675	55	80	375	44	130	203	50	39	210	100
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frbp, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	0.97		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1676	1737		1693	1741		1676	1703		1707	1653	
Flt Permitted	0.32	1.00		0.09	1.00		0.15	1.00		0.30	1.00	
Satd. Flow (perm)	556	1737		154	1741		266	1703		547	1653	
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
Growth Factor (vph)	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%
Adj. Flow (vph)	146	822	67	97	457	54	158	247	61	47	256	122
RTOR Reduction (vph)	0	2	0	0	3	0	0	6	0	0	12	0
Lane Group Flow (vph)	146	887	0	97	508	0	158	302	0	47	366	0
Confl. Peds. (#/hr)	17		7	7		17	5		5	5		5
Confl. Bikes (#/hr)			1						2			
Heavy Vehicles (%)	2%	2%	3%	1%	1%	0%	2%	2%	1%	0%	3%	1%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	82.0	72.7		75.4	69.4		39.6	33.6		36.8	32.2	
Effective Green, g (s)	82.0	72.7		75.4	69.4		39.6	33.6		36.8	32.2	
Actuated g/C Ratio	0.62	0.55		0.57	0.52		0.30	0.25		0.28	0.24	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	421	950		156	909		142	430		191	400	
v/s Ratio Prot	0.02	c0.51		c0.03	0.29		c0.05	0.18		0.01	0.22	
v/s Ratio Perm	0.19			0.32			c0.28			0.06		
v/c Ratio	0.35	0.93		0.62	0.56		1.11	0.70		0.25	0.91	
Uniform Delay, d1	13.4	27.9		25.1	21.4		44.7	45.1		36.6	49.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	15.5		7.5	0.7		109.0	5.1		0.7	25.0	
Delay (s)	13.9	43.4		32.6	22.2		153.7	50.2		37.3	74.0	
Level of Service	B	D		C	C		F	D		D	E	
Approach Delay (s)		39.2			23.8			85.3			70.0	
Approach LOS		D			C			F			E	
Intersection Summary												
HCM 2000 Control Delay			49.2				HCM 2000 Level of Service				D	
HCM 2000 Volume to Capacity ratio			0.99									
Actuated Cycle Length (s)			132.9				Sum of lost time (s)			16.0		
Intersection Capacity Utilization			93.5%				ICU Level of Service			F		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

Version C - Optimized

32: SE 42nd Ave & SW Harrison St

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035










													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Volume (vph)	505	70	90	10	20	20	15	165	10	13	138	220	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	
Total Lost time (s)	4.0	4.0			4.0	4.0		4.0			4.0	4.0	
Lane Util. Factor	1.00	1.00			1.00	1.00		1.00			1.00	1.00	
Frbp, ped/bikes	1.00	0.99			1.00	0.97		1.00			1.00	0.99	
Flpb, ped/bikes	1.00	1.00			1.00	1.00		1.00			1.00	1.00	
Frt	1.00	0.92			1.00	0.85		0.99			1.00	0.85	
Flt Protected	0.95	1.00			0.98	1.00		1.00			1.00	1.00	
Satd. Flow (prot)	1672	1627			1769	1482		1777			1759	1487	
Flt Permitted	0.68	1.00			1.00	1.00		0.96			0.97	1.00	
Satd. Flow (perm)	1194	1627			1799	1482		1716			1713	1487	
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	
Growth Factor (vph)	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	
Adj. Flow (vph)	615	85	110	12	24	24	18	201	12	16	168	268	
RTOR Reduction (vph)	0	48	0	0	0	23	0	4	0	0	0	101	
Lane Group Flow (vph)	615	147	0	0	36	1	0	227	0	0	184	167	
Confl. Peds. (#/hr)	4		2	2		4	5		10	10		5	
Confl. Bikes (#/hr)						1							
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	2%	
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Perm	NA	pm+ov	
Protected Phases	5	2			6			8			4	5	
Permitted Phases	2			6		6	8			4		4	
Actuated Green, G (s)	20.9	20.9			1.9	1.9		7.9			7.9	22.9	
Effective Green, g (s)	20.9	20.9			1.9	1.9		7.9			7.9	22.9	
Actuated g/C Ratio	0.57	0.57			0.05	0.05		0.21			0.21	0.62	
Clearance Time (s)	4.0	4.0			4.0	4.0		4.0			4.0	4.0	
Vehicle Extension (s)	1.0	1.0			1.0	1.0		1.0			1.0	1.0	
Lane Grp Cap (vph)	872	924			92	76		368			367	1086	
v/s Ratio Prot	c0.29	0.09										0.06	
v/s Ratio Perm	c0.11				0.02	0.00		c0.13			0.11	0.05	
v/c Ratio	0.71	0.16			0.39	0.02		0.62			0.50	0.15	
Uniform Delay, d1	5.5	3.8			16.9	16.6		13.1			12.7	2.9	
Progression Factor	1.00	1.00			1.00	1.00		1.00			1.00	1.00	
Incremental Delay, d2	2.1	0.0			1.0	0.0		2.2			0.4	0.0	
Delay (s)	7.6	3.8			17.9	16.6		15.2			13.1	2.9	
Level of Service	A	A			B	B		B			B	A	
Approach Delay (s)		6.7			17.4			15.2			7.1		
Approach LOS		A			B			B			A		
Intersection Summary													
HCM 2000 Control Delay			8.5									HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.78										
Actuated Cycle Length (s)			36.8									Sum of lost time (s)	12.0
Intersection Capacity Utilization			72.2%									ICU Level of Service	C
Analysis Period (min)			15										
c Critical Lane Group													

HCM Unsignalized Intersection Capacity Analysis

Version C - Optimized

4: SE Home Ave & SW Harrison St

Diverter at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035

















						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	50	50	30	140	10	25
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	61	61	37	170	12	30
Pedestrians	2					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	273	29	45			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	273	29	45			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	91	94	98			
cM capacity (veh/h)	703	1049	1574			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	122	207	43			
Volume Left	61	37	0			
Volume Right	61	0	30			
cSH	842	1574	1700			
Volume to Capacity	0.14	0.02	0.03			
Queue Length 95th (ft)	13	2	0			
Control Delay (s)	10.0	1.5	0.0			
Lane LOS	A	A				
Approach Delay (s)	10.0	1.5	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			4.1			
Intersection Capacity Utilization		30.9%		ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

Version C - Optimized

7: SE 42nd Ave & SW Monroe St

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	80	55	5	5	15	50	1	60	60	55	155	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	97	67	6	6	18	61	1	73	73	67	189	18
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	170	85	147	274								
Volume Left (vph)	97	6	1	67								
Volume Right (vph)	6	61	73	18								
Hadj (s)	0.10	-0.41	0.17	0.05								
Departure Headway (s)	5.2	4.8	5.1	4.8								
Degree Utilization, x	0.25	0.11	0.21	0.37								
Capacity (veh/h)	638	665	658	706								
Control Delay (s)	9.9	8.4	9.4	10.6								
Approach Delay (s)	9.9	8.4	9.4	10.6								
Approach LOS	A	A	A	B								
Intersection Summary												
Delay			9.9									
Level of Service			A									
Intersection Capacity Utilization			49.7%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

Version C - Optimized

17: SE 37th Ave & SW Railroad Ave

Diverter at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035

















	↑	↗	↘	↓	↖	↗
Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations	↗			↖	↗	↗
Volume (veh/h)	180	185	125	125	215	80
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	219	225	152	152	262	97
Pedestrians	3			2	6	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	1	
Right turn flare (veh)						2
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			450		797	340
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			450		797	340
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			86		15	86
cM capacity (veh/h)			1115		307	703
Direction, Lane #	NB 1	SB 1	NW 1			
Volume Total	444	304	359			
Volume Left	0	152	262			
Volume Right	225	0	97			
cSH	1700	1115	386			
Volume to Capacity	0.26	0.14	0.93			
Queue Length 95th (ft)	0	12	251			
Control Delay (s)	0.0	5.0	63.1			
Lane LOS		A	F			
Approach Delay (s)	0.0	5.0	63.1			
Approach LOS			F			
Intersection Summary						
Average Delay			21.8			
Intersection Capacity Utilization			64.9%		ICU Level of Service	C
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

Version C - Optimized

23: SE 37th Ave & SW Harrison St

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	6	645	21	95	240	5	45	35	35	0	15	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	7	785	26	116	292	6	55	43	43	0	18	4
Pedestrians		2			2						2	
Lane Width (ft)		12.0			12.0						12.0	
Walking Speed (ft/s)		4.0			4.0						4.0	
Percent Blockage		0			0						0	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		1273			1310							
pX, platoon unblocked				0.95			0.95	0.95	0.95	0.95	0.95	
vC, conflicting volume	300			811			1354	1344	800	1407	1354	299
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	300			776			1346	1336	764	1402	1346	299
iC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
iC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			85			43	66	89	100	85	100
cM capacity (veh/h)	1270			795			96	125	386	66	123	743
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	818	414	140	22								
Volume Left	7	116	55	0								
Volume Right	26	6	43	4								
cSH	1270	795	137	143								
Volume to Capacity	0.01	0.15	1.02	0.15								
Queue Length 95th (ft)	0	13	186	13								
Control Delay (s)	0.2	4.2	145.7	34.7								
Lane LOS	A	A	F	D								
Approach Delay (s)	0.2	4.2	145.7	34.7								
Approach LOS			F	D								
Intersection Summary												
Average Delay			16.5									
Intersection Capacity Utilization			87.9%		ICU Level of Service					E		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

Version C - Optimized

36: SW Oak St & SW Railroad Ave/SW Monroe St Intersectors at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035





















Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations	↔			↔	↔	↔
Volume (veh/h)	80	95	22	0	325	105
Sign Control	Stop			Stop	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	97	116	27	0	396	128
Pedestrians	4			9	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			1	0	
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)					900	
pX, platoon unblocked						
vC, conflicting volume	932	9	854	804	4	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	932	9	854	804	4	
tC, single (s)	6.5	6.2	7.1	6.5	4.1	
tC, 2 stage (s)						
tF (s)	4.0	3.3	3.5	4.0	2.2	
p0 queue free %	51	89	78	100	76	
cM capacity (veh/h)	200	1068	124	238	1619	
Direction, Lane #	EB 1	WB 1	NE 1	NE 2		
Volume Total	213	27	396	128		
Volume Left	0	27	396	0		
Volume Right	116	0	0	128		
cSH	358	124	1619	1700		
Volume to Capacity	0.60	0.22	0.24	0.08		
Queue Length 95th (ft)	92	19	24	0		
Control Delay (s)	28.8	41.8	7.9	0.0		
Lane LOS	D	E	A			
Approach Delay (s)	28.8	41.8	6.0			
Approach LOS	D	E				
Intersection Summary						
Average Delay			13.6			
Intersection Capacity Utilization			46.9%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

Version C - Optimized

44: SE 37th Ave & SW Monroe St

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035

















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	0	0	185	0	0	10	0	110	139	0	115	25
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
Hourly flow rate (vph)	0	0	225	0	0	12	0	134	169	0	140	30
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total (vph)	225	12	0	303	140	30						
Volume Left (vph)	0	0	0	0	0	0						
Volume Right (vph)	225	12	0	169	0	30						
Hadj (s)	-0.60	-0.60	0.00	-0.38	0.00	-0.63						
Departure Headway (s)	4.5	4.8	5.3	4.9	5.4	4.7						
Degree Utilization, x	0.28	0.02	0.00	0.41	0.21	0.04						
Capacity (veh/h)	737	649	665	709	633	712						
Control Delay (s)	9.2	7.9	7.1	10.0	8.6	6.7						
Approach Delay (s)	9.2	7.9	10.0		8.3							
Approach LOS	A	A	B		A							
Intersection Summary												
Delay			9.3									
Level of Service			A									
Intersection Capacity Utilization			37.8%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

Version C - Optimized

46: SE Home Ave & SW Monroe St

Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035

















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	80	55	30	5	60	15	10	75	15	15	45	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
Hourly flow rate (vph)	97	67	37	6	73	18	12	91	18	18	55	6
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	201	97	122	79								
Volume Left (vph)	97	6	12	18								
Volume Right (vph)	37	18	18	6								
Hadj (s)	0.01	-0.06	-0.03	0.02								
Departure Headway (s)	4.5	4.6	4.7	4.8								
Degree Utilization, x	0.25	0.12	0.16	0.11								
Capacity (veh/h)	752	737	719	694								
Control Delay (s)	9.0	8.2	8.6	8.3								
Approach Delay (s)	9.0	8.2	8.6	8.3								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			8.7									
Level of Service			A									
Intersection Capacity Utilization			33.4%	ICU Level of Service								A
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

Version C - Optimized

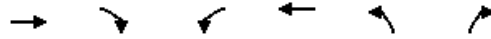
49: SE Linwood Ave & SW Monroe St

Diversers at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	50	0	0	90	0	295	20	0	303	36
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	0	61	0	0	110	0	359	24	0	369	44
Pedestrians		5			1						2	
Lane Width (ft)		12.0			12.0						12.0	
Walking Speed (ft/s)		4.0			4.0						4.0	
Percent Blockage		0			0						0	
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)											1153	
pX, platoon unblocked	0.89	0.89	0.89	0.89	0.89		0.89					
vC, conflicting volume	879	780	396	824	790	374	418			384		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	805	695	265	744	706	374	290			384		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	91	100	100	84	100			100		
cM capacity (veh/h)	225	328	693	270	323	675	1128			1184		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	61	110	383	413								
Volume Left	0	0	0	0								
Volume Right	61	110	24	44								
cSH	693	675	1128	1184								
Volume to Capacity	0.09	0.16	0.00	0.00								
Queue Length 95th (ft)	7	14	0	0								
Control Delay (s)	10.7	11.4	0.0	0.0								
Lane LOS	B	B										
Approach Delay (s)	10.7	11.4	0.0	0.0								
Approach LOS	B	B										
Intersection Summary												
Average Delay			2.0									
Intersection Capacity Utilization			35.4%		ICU Level of Service					A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis
 52: SE Home Ave & SE King Rd

Version C - Optimized
 Diverters at Hwy 224, 37th and Linwood, on Monroe PM Peak 2035



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Volume (veh/h)	680	6	30	540	20	145
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	828	7	37	657	24	177
Pedestrians				1	1	
Lane Width (ft)				12.0	12.0	
Walking Speed (ft/s)				4.0	4.0	
Percent Blockage				0	0	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			836		1563	833
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			836		1563	833
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			95		79	52
cM capacity (veh/h)			788		118	365
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	835	694	201			
Volume Left	0	37	24			
Volume Right	7	0	177			
cSH	1700	788	291			
Volume to Capacity	0.49	0.05	0.69			
Queue Length 95th (ft)	0	4	118			
Control Delay (s)	0.0	1.2	40.9			
Lane LOS		A	E			
Approach Delay (s)	0.0	1.2	40.9			
Approach LOS			E			
Intersection Summary						
Average Delay			5.2			
Intersection Capacity Utilization			81.3%		ICU Level of Service	D
Analysis Period (min)			15			

Queues

8: HWY 224 & SW Harrison St









Lane Group	EBT	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	410	473	82	1168	54	297	1917	25
v/c Ratio	0.75	0.95	0.68	0.87	0.09	0.94	1.08	0.03
Control Delay	50.8	69.4	73.8	33.2	4.7	84.6	72.2	0.1
Queue Delay	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.0
Total Delay	50.8	69.4	73.8	34.7	4.7	84.6	72.2	0.1
Queue Length 50th (ft)	150	167	68	488	16	226	-897	0
Queue Length 95th (ft)	#215	#283	#133	574	12	#393	#1035	0
Internal Link Dist (ft)	610	167		406			859	
Turn Bay Length (ft)			190		200	650		230
Base Capacity (vph)	545	497	135	1347	621	326	1775	843
Starvation Cap Reductn	0	0	0	68	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.95	0.61	0.91	0.09	0.91	1.08	0.03

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues

9: HWY 224 & SW Monroe St

						
Lane Group	EBR	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	105	25	1299	14	7	2065
v/c Ratio	0.61	0.09	0.47	0.01	0.09	0.74
Control Delay	38.2	0.6	3.9	0.4	69.5	3.4
Queue Delay	0.0	0.0	0.2	0.0	0.0	0.6
Total Delay	38.3	0.6	4.0	0.4	69.5	4.1
Queue Length 50th (ft)	31	0	8	0	6	62
Queue Length 95th (ft)	86	m0	543	m1	m5	m36
Internal Link Dist (ft)			720			406
Turn Bay Length (ft)	150	130		330	185	
Base Capacity (vph)	258	370	2763	1225	142	2794
Starvation Cap Reductn	0	0	0	0	0	353
Spillback Cap Reductn	2	30	533	0	0	123
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.07	0.58	0.01	0.05	0.85

Intersection Summary














m Volume for 95th percentile queue is metered by upstream signal.

Queues

10: HWY 224 & SW Oak St

Version A - Diverters

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2015

													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR	
Lane Group Flow (vph)	20	254	88	168	304	168	276	1799	82	120	1125	188	
v/c Ratio	0.13	0.39	0.24	0.97	0.47	0.27	0.87	0.91	0.09	0.71	0.68	0.23	
Control Delay	43.8	44.8	8.0	109.5	46.1	17.3	54.7	36.5	6.9	91.3	17.0	2.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	
Total Delay	43.8	44.8	8.0	109.5	46.1	17.3	54.7	37.4	6.9	91.3	17.0	2.3	
Queue Length 50th (ft)	13	92	0	~139	112	59	217	614	14	97	342	28	
Queue Length 95th (ft)	37	134	37	#283	159	107	m#308	#713	m23	165	376	10	
Internal Link Dist (ft)		58			347			720			610		
Turn Bay Length (ft)				180		180	390		350	550		200	
Base Capacity (vph)	152	648	373	174	648	661	362	1977	890	205	1659	810	
Starvation Cap Reductn	0	0	0	0	0	0	0	51	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.13	0.39	0.24	0.97	0.47	0.25	0.76	0.93	0.09	0.59	0.68	0.23	

Intersection Summary









- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

Verstion A - Diverters

11: SE 32nd Ave & SW Harrison St

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2015

								
Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	175	506	33	265	178	24	169	159
v/c Ratio	0.38	0.65	0.11	0.38	0.38	0.05	0.34	0.30
Control Delay	9.5	12.4	7.0	8.1	11.7	4.2	11.2	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.5	12.4	7.0	8.1	11.7	4.2	11.2	3.8
Queue Length 50th (ft)	16	52	3	23	25	0	23	0
Queue Length 95th (ft)	56	#157	15	71	55	8	52	23
Internal Link Dist (ft)		210		885	175		889	
Turn Bay Length (ft)			120			100		120
Base Capacity (vph)	563	959	371	853	871	805	903	849
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.53	0.09	0.31	0.20	0.03	0.19	0.19









Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues

Version A - Diverters

22: SE Harmony Rd & SW Railroad Ave & SE Linwood Ave, 2nd, OR224 and Linwood on Monroe PM Peak 2015

								
Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	27	456	333	407	266	570	137	247
v/c Ratio	0.28	1.09	0.94	0.52	0.89	0.79	0.48	0.85
Control Delay	48.5	103.4	71.5	20.7	68.0	15.8	39.4	62.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.5	103.4	71.5	20.7	68.0	15.8	39.4	62.5
Queue Length 50th (ft)	15	~294	188	139	149	68	70	134
Queue Length 95th (ft)	42	#482	#354	268	#286	#162	128	#262
Internal Link Dist (ft)		499		2338	614			1327
Turn Bay Length (ft)	150		500			200	360	
Base Capacity (vph)	96	420	355	779	308	726	301	303
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	1.09	0.94	0.52	0.86	0.79	0.46	0.82

Intersection Summary









- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues

30: SE King Rd & SE 43rd Ave

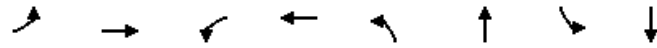
Verstion A - Diverters

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2015

								
Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	5	717	109	434	65	130	27	5
v/c Ratio	0.01	0.62	0.26	0.34	0.32	0.40	0.11	0.02
Control Delay	3.4	8.2	5.8	4.6	22.0	8.4	17.7	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.4	8.2	5.8	4.6	22.0	8.4	17.7	2.0
Queue Length 50th (ft)	1	87	9	40	16	0	6	0
Queue Length 95th (ft)	3	217	33	89	42	34	22	2
Internal Link Dist (ft)		197		348	52		401	
Turn Bay Length (ft)	110		110					95
Base Capacity (vph)	661	1163	422	1265	870	963	1038	960
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.62	0.26	0.34	0.07	0.13	0.03	0.01
Intersection Summary								

Queues

31: SE Linwood Ave & SE King Rd



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	120	728	87	456	141	275	42	337
v/c Ratio	0.92	1.26	0.66	0.88	1.08	0.47	0.31	0.79
Control Delay	93.9	152.9	53.3	40.2	135.8	16.9	30.9	30.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	93.9	152.9	53.3	40.2	135.8	16.9	30.9	30.9
Queue Length 50th (ft)	39	~322	28	130	~54	54	13	85
Queue Length 95th (ft)	#129	#535	#93	#298	#150	134	39	#172
Internal Link Dist (ft)		1162		990		1073		389
Turn Bay Length (ft)	200		200		160		150	
Base Capacity (vph)	131	579	132	554	131	600	134	549
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.92	1.26	0.66	0.82	1.08	0.46	0.31	0.61

Intersection Summary


























- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

Version A - Diverters

8: HWY 224 & SW Harrison St

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2015




















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 		 	 	
Volume (vph)	30	270	77	65	220	150	75	1075	50	273	1764	23
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.0			4.0		4.0	6.0	6.0	4.0	6.0	6.0
Lane Util. Factor		0.95			0.95		1.00	0.95	1.00	1.00	0.95	1.00
Frbp, ped/bikes		1.00			0.99		1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes		1.00			1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.97			0.95		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		1.00			0.99		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		2875			2762		1480	2988	1324	1509	2988	1377
Flt Permitted		0.81			0.70		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		2341			1959		1480	2988	1324	1509	2988	1377
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)	33	293	84	71	239	163	82	1168	54	297	1917	25
RTOR Reduction (vph)	0	19	0	0	57	0	0	0	25	0	0	10
Lane Group Flow (vph)	0	391	0	0	416	0	82	1168	29	297	1917	15
Confl. Peds. (#/hr)	8		1	1		8						
Heavy Vehicles (%)	0%	4%	1%	3%	4%	5%	4%	3%	4%	2%	3%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4					6			2
Actuated Green, G (s)		27.0			27.0		8.5	53.8	53.8	25.2	70.5	70.5
Effective Green, g (s)		27.0			27.0		8.5	53.8	53.8	25.2	70.5	70.5
Actuated g/C Ratio		0.22			0.22		0.07	0.45	0.45	0.21	0.59	0.59
Clearance Time (s)		4.0			4.0		4.0	6.0	6.0	4.0	6.0	6.0
Vehicle Extension (s)		2.5			2.5		2.3	3.9	3.9	2.3	3.9	3.9
Lane Grp Cap (vph)		526			440		104	1339	593	316	1755	808
v/s Ratio Prot							0.06	c0.39		0.20	c0.64	
v/s Ratio Perm		0.17			c0.21				0.02			0.01
v/c Ratio		0.74			0.95		0.79	0.87	0.05	0.94	1.09	0.02
Uniform Delay, d1		43.3			45.8		54.9	30.0	18.7	46.7	24.8	10.3
Progression Factor		1.00			1.00		0.90	0.84	0.63	1.00	1.00	1.00
Incremental Delay, d2		5.4			29.4		27.8	7.3	0.1	34.5	51.4	0.0
Delay (s)		48.6			75.2		77.4	32.5	12.0	81.2	76.1	10.4
Level of Service		D			E		E	C	B	F	E	B
Approach Delay (s)		48.6			75.2			34.5			76.0	
Approach LOS		D			E			C			E	
Intersection Summary												
HCM 2000 Control Delay			61.2				HCM 2000 Level of Service			E		
HCM 2000 Volume to Capacity ratio			1.04									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)			14.0		
Intersection Capacity Utilization			109.4%				ICU Level of Service			H		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

Version A - Diverters

9: HWY 224 & SW Monroe St

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2015

























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	97	0	0	23	0	1195	13	6	1900	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)			4.0			4.0		6.0	6.0	4.0	6.0	
Lane Util. Factor			1.00			1.00		0.95	1.00	1.00	0.95	
Frbp, ped/bikes			0.98			0.98		1.00	0.97	1.00	1.00	
Flpb, ped/bikes			1.00			1.00		1.00	1.00	1.00	1.00	
Frt			0.86			0.86		1.00	0.85	1.00	1.00	
Flt Protected			1.00			1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)			1521			1528		3353	1477	1710	3320	
Flt Permitted			1.00			1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)			1521			1528		3353	1477	1710	3320	
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)	0	0	105	0	0	25	0	1299	14	7	2065	0
RTOR Reduction (vph)	0	0	59	0	0	23	0	0	3	0	0	0
Lane Group Flow (vph)	0	0	46	0	0	2	0	1299	11	7	2065	0
Confl. Peds. (#/hr)	7		12	12		7	3		6	6		3
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	3%	0%
Turn Type			Perm			Perm		NA	Perm	Prot	NA	
Protected Phases								6		5	2	
Permitted Phases			8			4			6			
Actuated Green, G (s)			9.0			9.0		95.7	95.7	1.3	101.0	
Effective Green, g (s)			9.0			9.0		95.7	95.7	1.3	101.0	
Actuated g/C Ratio			0.08			0.08		0.80	0.80	0.01	0.84	
Clearance Time (s)			4.0			4.0		6.0	6.0	4.0	6.0	
Vehicle Extension (s)			2.5			2.5		5.2	5.2	2.3	5.2	
Lane Grp Cap (vph)			114			114		2674	1177	18	2794	
v/s Ratio Prot								0.39		0.00	c0.62	
v/s Ratio Perm			c0.03			0.00			0.01			
v/c Ratio			0.40			0.02		0.49	0.01	0.39	0.74	
Uniform Delay, d1			52.9			51.4		4.0	2.5	59.0	4.0	
Progression Factor			1.00			1.00		0.88	1.00	1.27	0.70	
Incremental Delay, d2			1.7			0.0		0.5	0.0	0.7	0.2	
Delay (s)			54.6			51.4		4.0	2.5	75.4	2.9	
Level of Service			D			D		A	A	E	A	
Approach Delay (s)		54.6			51.4			4.0			3.2	
Approach LOS		D			D			A			A	
Intersection Summary												
HCM 2000 Control Delay			5.4			HCM 2000 Level of Service			A			
HCM 2000 Volume to Capacity ratio			0.74									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)		14.0				
Intersection Capacity Utilization			79.3%			ICU Level of Service		D				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

Version A - Diverters

10: HWY 224 & SW Oak St

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2015

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	18	234	81	155	280	155	254	1655	75	110	1035	173
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.0	6.0	4.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	0.96	1.00	1.00	0.98
Flpb, ped/bikes	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1697	3320	1500	1693	3320	1511	1613	3386	1466	1644	3386	1485
Flt Permitted	0.44	1.00	1.00	0.50	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	779	3320	1500	891	3320	1511	1613	3386	1466	1644	3386	1485
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)	20	254	88	168	304	168	276	1799	82	120	1125	188
RTOR Reduction (vph)	0	0	71	0	0	26	0	0	34	0	0	83
Lane Group Flow (vph)	20	254	17	168	304	142	276	1799	48	120	1125	105
Confl. Peds. (#/hr)	13					13	7		32	32		7
Confl. Bikes (#/hr)						1			1			2
Heavy Vehicles (%)	0%	3%	2%	1%	3%	0%	6%	1%	0%	4%	1%	1%
Turn Type	Perm	NA	Perm	Perm	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		8			4	5	5	2		1	6	
Permitted Phases	8		8	4		4			2			6
Actuated Green, G (s)	23.5	23.5	23.5	23.5	23.5	47.2	23.7	70.0	70.0	12.5	58.8	58.8
Effective Green, g (s)	23.5	23.5	23.5	23.5	23.5	47.2	23.7	70.0	70.0	12.5	58.8	58.8
Actuated g/C Ratio	0.20	0.20	0.20	0.20	0.20	0.39	0.20	0.58	0.58	0.10	0.49	0.49
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.0	6.0	4.0	6.0	6.0
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.3	2.3	4.8	4.8	2.3	4.8	4.8
Lane Grp Cap (vph)	152	650	293	174	650	644	318	1975	855	171	1659	727
v/s Ratio Prot		0.08			0.09	0.04	c0.17	c0.53		0.07	0.33	
v/s Ratio Perm	0.03		0.01	c0.19		0.05			0.03			0.07
v/c Ratio	0.13	0.39	0.06	0.97	0.47	0.22	0.87	0.91	0.06	0.70	0.68	0.14
Uniform Delay, d1	39.8	42.0	39.3	47.8	42.7	24.2	46.6	22.2	10.8	51.9	23.4	16.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.76	1.37	2.73	1.40	0.63	0.42
Incremental Delay, d2	0.3	0.3	0.1	59.7	2.4	0.1	15.2	5.5	0.1	9.5	2.0	0.4
Delay (s)	40.1	42.3	39.3	107.6	45.1	24.3	50.8	36.0	29.5	82.1	16.6	7.5
Level of Service	D	D	D	F	D	C	D	D	C	F	B	A
Approach Delay (s)		41.5			56.0			37.7			20.9	
Approach LOS		D			E			D			C	
Intersection Summary												
HCM 2000 Control Delay			35.3									D
HCM 2000 Volume to Capacity ratio			0.93									
Actuated Cycle Length (s)			120.0						14.0			
Intersection Capacity Utilization			106.4%									G
Analysis Period (min)			15									





















c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

Version A - Diverters

11: SE 32nd Ave & SW Harrison St






















Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2015

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Volume (vph)	161	459	6	30	230	14	35	129	22	24	132	146	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00	
Frbp, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.96		1.00	0.98	
Flpb, ped/bikes	0.99	1.00		1.00	1.00			1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99			1.00	0.85		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00		0.99	1.00	
Satd. Flow (prot)	1668	1778		1704	1574			1767	1476		1783	1440	
Flt Permitted	0.60	1.00		0.38	1.00			0.90	1.00		0.93	1.00	
Satd. Flow (perm)	1046	1778		689	1574			1616	1476		1676	1440	
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)	175	499	7	33	250	15	38	140	24	26	143	159	
RTOR Reduction (vph)	0	1	0	0	5	0	0	0	17	0	0	112	
Lane Group Flow (vph)	175	505	0	33	260	0	0	178	7	0	169	47	
Confl. Peds. (#/hr)	8		4	8		4			15	15			
Confl. Bikes (#/hr)						1			1			1	
Heavy Vehicles (%)	2%	1%	0%	0%	2%	0%	0%	1%	0%	0%	0%	4%	
Parking (#/hr)					0								
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm	
Protected Phases		4			8			2			6		
Permitted Phases	4			8			2		2	6		6	
Actuated Green, G (s)	13.5	13.5		13.5	13.5			9.0	9.0		9.0	9.0	
Effective Green, g (s)	13.5	13.5		13.5	13.5			9.0	9.0		9.0	9.0	
Actuated g/C Ratio	0.44	0.44		0.44	0.44			0.30	0.30		0.30	0.30	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	462	786		304	696			476	435		494	424	
v/s Ratio Prot		c0.28			0.17								
v/s Ratio Perm	0.17			0.05				c0.11	0.00		0.10	0.03	
v/c Ratio	0.38	0.64		0.11	0.37			0.37	0.02		0.34	0.11	
Uniform Delay, d1	5.7	6.6		5.0	5.7			8.5	7.6		8.4	7.8	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	1.8		0.2	0.3			0.5	0.0		0.4	0.1	
Delay (s)	6.2	8.4		5.1	6.0			9.0	7.6		8.8	7.9	
Level of Service	A	A		A	A			A	A		A	A	
Approach Delay (s)		7.9			5.9			8.8			8.4		
Approach LOS		A			A			A			A		
Intersection Summary													
HCM 2000 Control Delay			7.7									HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.53										
Actuated Cycle Length (s)			30.5									Sum of lost time (s)	8.0
Intersection Capacity Utilization			62.1%									ICU Level of Service	B
Analysis Period (min)			15										
c Critical Lane Group													

HCM Signalized Intersection Capacity Analysis

Version A - Diverters

22: SE Harmony Rd & SW Railroad Ave & SE Linwood Ave, All 2 Diverters, 2nd, OR224 and Linwood on Monroe PM Peak 2015

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	25	360	60	306	274	100	40	205	524	126	207	20
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	5.0		4.0	5.0			4.0	4.0	5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Frbp, ped/bikes	1.00	1.00		1.00	0.99			1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.96			1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00	0.95	1.00	
Satd. Flow (prot)	1710	1746		1660	1683			1714	1468	1676	1664	
Flt Permitted	0.95	1.00		0.95	1.00			0.99	1.00	0.95	1.00	
Satd. Flow (perm)	1710	1746		1660	1683			1714	1468	1676	1664	
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)	27	391	65	333	298	109	43	223	570	137	225	22
RTOR Reduction (vph)	0	7	0	0	13	0	0	0	152	0	4	0
Lane Group Flow (vph)	27	449	0	333	394	0	0	266	418	137	243	0
Confl. Peds. (#/hr)	11		1	1		11	6		10	10		6
Confl. Bikes (#/hr)									3			1
Heavy Vehicles (%)	0%	0%	4%	3%	1%	2%	5%	4%	2%	2%	7%	0%
Turn Type	Prot	NA		Prot	NA		Split	NA	pm+ov	Split	NA	
Protected Phases	5	2		1	6		8	8	1	4	4	
Permitted Phases									8			
Actuated Green, G (s)	2.0	21.0		21.5	40.5			15.5	37.0	15.3	15.3	
Effective Green, g (s)	2.0	21.0		21.5	40.5			15.5	37.0	15.3	15.3	
Actuated g/C Ratio	0.02	0.23		0.24	0.44			0.17	0.41	0.17	0.17	
Clearance Time (s)	4.0	5.0		4.0	5.0			4.0	4.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	37	401		390	746			290	594	280	278	
v/s Ratio Prot	0.02	c0.26		c0.20	0.23			c0.16	0.17	0.08	c0.15	
v/s Ratio Perm									0.12			
v/c Ratio	0.73	1.12		0.85	0.53			0.92	0.70	0.49	0.87	
Uniform Delay, d1	44.4	35.1		33.4	18.5			37.3	22.6	34.5	37.1	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Incremental Delay, d2	52.2	81.6		16.4	0.7			31.8	3.8	1.3	24.7	
Delay (s)	96.6	116.8		49.8	19.1			69.0	26.4	35.8	61.8	
Level of Service	F	F		D	B			E	C	D	E	
Approach Delay (s)		115.7			32.9			39.9			52.5	
Approach LOS		F			C			D			D	
Intersection Summary												
HCM 2000 Control Delay			54.8			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.95									
Actuated Cycle Length (s)			91.3			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			83.7%			ICU Level of Service			E			
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

Version A - Diverters

30: SE King Rd & SE 43rd Ave

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	615	45	100	395	5	38	22	120	5	20	5
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.98		1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	1.00			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.97	1.00		0.99	1.00
Satd. Flow (prot)	1710	1601		1676	1745			1713	1465		1783	1530
Flt Permitted	0.51	1.00		0.33	1.00			0.79	1.00		0.93	1.00
Satd. Flow (perm)	911	1601		583	1745			1400	1465		1670	1530
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)	5	668	49	109	429	5	41	24	130	5	22	5
RTOR Reduction (vph)	0	2	0	0	0	0	0	0	114	0	0	4
Lane Group Flow (vph)	5	715	0	109	434	0	0	65	16	0	27	1
Confl. Bikes (#/hr)			3			2			1			
Heavy Vehicles (%)	0%	0%	0%	2%	3%	0%	3%	0%	2%	0%	0%	0%
Parking (#/hr)		0										
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8		8	4		4
Actuated Green, G (s)	34.2	34.2		34.2	34.2			6.0	6.0		6.0	6.0
Effective Green, g (s)	34.2	34.2		34.2	34.2			6.0	6.0		6.0	6.0
Actuated g/C Ratio	0.70	0.70		0.70	0.70			0.12	0.12		0.12	0.12
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0			2.5	2.5		2.5	2.5
Lane Grp Cap (vph)	633	1112		405	1212			170	178		203	186
v/s Ratio Prot		c0.45			0.25							
v/s Ratio Perm	0.01			0.19			c0.05	0.01		0.02	0.00	
v/c Ratio	0.01	0.64		0.27	0.36		0.38	0.09		0.13	0.00	
Uniform Delay, d1	2.3	4.1		2.8	3.0		19.9	19.2		19.3	19.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	1.3		0.4	0.2		1.0	0.2		0.2	0.0	
Delay (s)	2.3	5.4		3.2	3.2		20.9	19.3		19.5	19.0	
Level of Service	A	A		A	A		C	B		B	B	
Approach Delay (s)		5.4			3.2		19.9			19.4		
Approach LOS		A			A		B			B		
Intersection Summary												
HCM 2000 Control Delay			6.8				HCM 2000 Level of Service		A			
HCM 2000 Volume to Capacity ratio			0.60									
Actuated Cycle Length (s)			49.2				Sum of lost time (s)		9.0			
Intersection Capacity Utilization			65.1%				ICU Level of Service		C			
Analysis Period (min)			15									





















c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

Version A - Diverters

31: SE Linwood Ave & SE King Rd

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2015

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	110	615	55	80	375	44	130	203	50	39	210	100
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frbp, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	0.97		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1676	1737		1693	1747		1676	1706		1710	1658	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1676	1737		1693	1747		1676	1706		1710	1658	
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)	120	668	60	87	408	48	141	221	54	42	228	109
RTOR Reduction (vph)	0	6	0	0	8	0	0	15	0	0	31	0
Lane Group Flow (vph)	120	722	0	87	448	0	141	260	0	42	306	0
Confl. Peds. (#/hr)	17		7	7		17	5		5	5		5
Confl. Bikes (#/hr)			1						2			
Heavy Vehicles (%)	2%	2%	3%	1%	1%	0%	2%	2%	1%	0%	3%	1%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	4.0	17.1		3.1	16.2		4.0	17.4		1.5	14.9	
Effective Green, g (s)	4.0	17.1		3.1	16.2		4.0	17.4		1.5	14.9	
Actuated g/C Ratio	0.07	0.31		0.06	0.29		0.07	0.32		0.03	0.27	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	121	539		95	513		121	538		46	448	
v/s Ratio Prot	c0.07	c0.42		0.05	0.26		c0.08	0.15		0.02	c0.18	
v/s Ratio Perm												
v/c Ratio	0.99	1.34		0.92	0.87		1.17	0.48		0.91	0.68	
Uniform Delay, d1	25.5	19.0		25.9	18.5		25.6	15.2		26.7	18.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	79.0	165.4		65.0	15.2		133.0	0.7		99.4	4.3	
Delay (s)	104.5	184.4		90.8	33.7		158.6	15.9		126.1	22.2	
Level of Service	F	F		F	C		F	B		F	C	
Approach Delay (s)		173.1			42.8			64.3			33.7	
Approach LOS		F			D			E			C	
Intersection Summary												
HCM 2000 Control Delay			95.9				HCM 2000 Level of Service			F		
HCM 2000 Volume to Capacity ratio			1.04									
Actuated Cycle Length (s)			55.1			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			81.6%			ICU Level of Service			D			
Analysis Period (min)			15									

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis

Version A - Diverters

4: SE Home Ave & SW Harrison St

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2015



















Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			↑	↑	
Volume (veh/h)	10	70	25	40	15	25
Sign Control	Stop			Free		Free
Grade	0%			0%		0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	76	27	43	16	27
Pedestrians	2					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	130	32	45			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	130	32	45			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	93	98			
cM capacity (veh/h)	853	1046	1573			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	87	71	43			
Volume Left	11	27	0			
Volume Right	76	0	27			
cSH	1017	1573	1700			
Volume to Capacity	0.09	0.02	0.03			
Queue Length 95th (ft)	7	1	0			
Control Delay (s)	8.9	2.9	0.0			
Lane LOS	A	A				
Approach Delay (s)	8.9	2.9	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			4.9			
Intersection Capacity Utilization	22.2%		ICU Level of Service	A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

Version A - Diverters

7: SE 42nd Ave & SW Monroe St

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2015

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	245	0	15	0	0	45	7	49	3	0	90	105
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
Hourly flow rate (vph)	266	0	16	0	0	49	8	53	3	0	98	114
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	283	49	64	212								
Volume Left (vph)	266	0	8	0								
Volume Right (vph)	16	49	3	114								
Hadj (s)	0.17	-0.60	0.02	-0.28								
Departure Headway (s)	4.8	4.3	5.0	4.5								
Degree Utilization, x	0.38	0.06	0.09	0.27								
Capacity (veh/h)	712	750	656	740								
Control Delay (s)	10.7	7.6	8.5	9.2								
Approach Delay (s)	10.7	7.6	8.5	9.2								
Approach LOS	B	A	A	A								
Intersection Summary												
Delay			9.7									
Level of Service			A									
Intersection Capacity Utilization			40.6%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

Version A - Diverters

17: SE 37th Ave & SW Railroad Ave

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2015

















	↑	↖	↙	↓	↘	↗
Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations	↖			↗	↖	↗
Volume (veh/h)	244	185	120	110	100	79
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	265	201	130	120	109	86
Pedestrians	3			2	6	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	1	
Right turn flare (veh)						2
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			472		755	374
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			472		755	374
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			88		67	87
cM capacity (veh/h)			1095		332	672
Direction, Lane #	NB 1	SB 1	NW 1			
Volume Total	466	250	195			
Volume Left	0	130	109			
Volume Right	201	0	86			
cSH	1700	1095	593			
Volume to Capacity	0.27	0.12	0.33			
Queue Length 95th (ft)	0	10	36			
Control Delay (s)	0.0	5.1	16.7			
Lane LOS		A	C			
Approach Delay (s)	0.0	5.1	16.7			
Approach LOS			C			
Intersection Summary						
Average Delay			5.0			
Intersection Capacity Utilization			55.2%	ICU Level of Service		B
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

Version A - Diverters

23: SE 37th Ave & SW Harrison St

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2015




















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	6	422	21	40	260	2	27	37	120	0	15	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	7	459	23	43	283	2	29	40	130	0	16	3
Pedestrians		2			2						2	
Lane Width (ft)		12.0			12.0						12.0	
Walking Speed (ft/s)		4.0			4.0						4.0	
Percent Blockage		0			0						0	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		1273										
pX, platoon unblocked												
vC, conflicting volume	287			482			867	857	472	1008	867	288
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	287			482			867	857	472	1008	867	288
iC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
iC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			96			88	86	78	100	94	100
cM capacity (veh/h)	1285			1076			252	283	595	148	279	754
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	488	328	200	20								
Volume Left	7	43	29	0								
Volume Right	23	2	130	3								
cSH	1285	1076	419	312								
Volume to Capacity	0.01	0.04	0.48	0.06								
Queue Length 95th (ft)	0	3	63	5								
Control Delay (s)	0.2	1.5	21.2	17.3								
Lane LOS	A	A	C	C								
Approach Delay (s)	0.2	1.5	21.2	17.3								
Approach LOS			C	C								
Intersection Summary												
Average Delay			5.0									
Intersection Capacity Utilization			65.9%		ICU Level of Service					C		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

Version A - Diverters

32: SE 42nd Ave & SW Harrison St

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2015

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	380	70	65	27	23	12	30	290	20	15	185	210
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
Hourly flow rate (vph)	413	76	71	29	25	13	33	315	22	16	201	228
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1	SB 2					
Volume Total (vph)	489	71	54	13	370	217	228					
Volume Left (vph)	413	0	29	0	33	16	0					
Volume Right (vph)	0	71	0	13	22	0	228					
Hadj (s)	0.45	-0.70	0.27	-0.70	-0.02	0.07	-0.67					
Departure Headway (s)	7.7	6.5	8.7	7.8	7.4	7.6	6.9					
Degree Utilization, x	1.0	0.13	0.13	0.03	0.76	0.46	0.44					
Capacity (veh/h)	464	541	381	424	480	465	514					
Control Delay (s)	80.5	9.3	11.9	9.8	29.7	15.7	13.9					
Approach Delay (s)	71.5		11.5		29.7	14.7						
Approach LOS	F		B		D	B						
Intersection Summary												
Delay			40.4									
Level of Service			E									
Intersection Capacity Utilization			73.5%		ICU Level of Service		D					
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

Version A - Diverters

36: SW Oak St & SW Railroad Ave/SW Monroe St Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2015



Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations	↶			↷	↶	↷
Volume (veh/h)	96	150	155	45	125	280
Sign Control	Stop			Stop	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	104	163	168	49	136	304
Pedestrians	4			9	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			1	0	
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)					900	
pX, platoon unblocked						
vC, conflicting volume	589	9	501	285	4	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	589	9	501	285	4	
tC, single (s)	6.5	6.2	7.1	6.5	4.1	
tC, 2 stage (s)						
tF (s)	4.0	3.3	3.5	4.0	2.2	
p0 queue free %	73	85	43	91	92	
cM capacity (veh/h)	382	1068	295	569	1619	
Direction, Lane #	EB 1	WB 1	NE 1	NE 2		
Volume Total	267	217	136	304		
Volume Left	0	168	136	0		
Volume Right	163	0	0	304		
cSH	628	331	1619	1700		
Volume to Capacity	0.43	0.66	0.08	0.18		
Queue Length 95th (ft)	53	110	7	0		
Control Delay (s)	14.9	34.5	7.4	0.0		
Lane LOS	B	D	A			
Approach Delay (s)	14.9	34.5	2.3			
Approach LOS	B	D				



















Intersection Summary			
Average Delay		13.5	
Intersection Capacity Utilization	45.8%		ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis

Version A - Diverters

44: SE 37th Ave & SW Monroe St

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2015

















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	70	165	140	40	95	5	89	115	110	1	50	22
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
Hourly flow rate (vph)	76	179	152	43	103	5	97	125	120	1	54	24
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total (vph)	408	152	97	245	55	24						
Volume Left (vph)	76	43	97	0	1	0						
Volume Right (vph)	152	5	0	120	0	24						
Hadj (s)	-0.19	0.06	0.50	-0.33	0.01	-0.63						
Departure Headway (s)	5.1	5.8	6.7	5.8	6.6	6.0						
Degree Utilization, x	0.58	0.24	0.18	0.40	0.10	0.04						
Capacity (veh/h)	672	575	508	580	479	525						
Control Delay (s)	14.9	10.6	9.9	11.4	9.2	8.0						
Approach Delay (s)	14.9	10.6	11.0		8.8							
Approach LOS	B	B	B		A							
Intersection Summary												
Delay			12.4									
Level of Service			B									
Intersection Capacity Utilization			46.7%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

Version A - Diverters

46: SE Home Ave & SW Monroe St

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2015

















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	0	0	0	5	35	15	5	50	15	80	50	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
Hourly flow rate (vph)	0	0	0	5	38	16	5	54	16	87	54	11
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	0	60	76	152								
Volume Left (vph)	0	5	5	87								
Volume Right (vph)	0	16	16	11								
Hadj (s)	0.00	-0.09	-0.08	0.09								
Departure Headway (s)	4.5	4.3	4.1	4.2								
Degree Utilization, x	0.00	0.07	0.09	0.18								
Capacity (veh/h)	771	783	848	840								
Control Delay (s)	7.5	7.6	7.5	8.1								
Approach Delay (s)	0.0	7.6	7.5	8.1								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			7.9									
Level of Service			A									
Intersection Capacity Utilization			25.2%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

Version A - Diverters

49: SE Linwood Ave & SW Monroe St

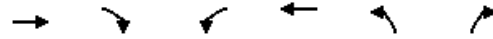
Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2015

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	35	0	0	90	0	295	20	0	303	36
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	0	38	0	0	98	0	321	22	0	329	39
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							None				None	
Median storage (veh)												
Upstream signal (ft)											1153	
pX, platoon unblocked												
vC, conflicting volume	778	691	349	718	700	332	368				342	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	778	691	349	718	700	332	368				342	
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1				4.1	
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2	
p0 queue free %	100	100	95	100	100	86	100				100	
cM capacity (veh/h)	270	368	694	325	363	710	1190				1217	
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	38	98	342	368								
Volume Left	0	0	0	0								
Volume Right	38	98	22	39								
cSH	694	710	1190	1217								
Volume to Capacity	0.05	0.14	0.00	0.00								
Queue Length 95th (ft)	4	12	0	0								
Control Delay (s)	10.5	10.9	0.0	0.0								
Lane LOS	B	B										
Approach Delay (s)	10.5	10.9	0.0	0.0								
Approach LOS	B	B										
Intersection Summary												
Average Delay			1.7									
Intersection Capacity Utilization			31.7%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis
 52: SE Home Ave & SE King Rd

Version A - Diverters

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2015



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Volume (veh/h)	695	6	35	530	6	45
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	755	7	38	576	7	49
Pedestrians				1	1	
Lane Width (ft)				12.0	12.0	
Walking Speed (ft/s)				4.0	4.0	
Percent Blockage				0	0	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			763		1412	761
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			763		1412	761
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			95		96	88
cM capacity (veh/h)			840		147	402
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	762	614	55			
Volume Left	0	38	7			
Volume Right	7	0	49			
cSH	1700	840	333			
Volume to Capacity	0.45	0.05	0.17			
Queue Length 95th (ft)	0	4	15			
Control Delay (s)	0.0	1.2	17.9			
Lane LOS		A	C			
Approach Delay (s)	0.0	1.2	17.9			
Approach LOS			C			
Intersection Summary						
Average Delay			1.2			
Intersection Capacity Utilization			70.1%	ICU Level of Service		C
Analysis Period (min)			15			

Queues

8: HWY 224 & SW Harrison St



Lane Group	EBT	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	460	530	91	1309	61	332	2147	28
v/c Ratio	0.94	1.18	0.69	0.98	0.10	1.02	1.25	0.03
Control Delay	72.7	135.9	68.2	44.0	3.9	101.4	143.3	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.7	135.9	68.2	44.0	3.9	101.4	143.3	0.2
Queue Length 50th (ft)	177	~235	75	568	15	~265	~1092	0
Queue Length 95th (ft)	#286	#350	#151	#698	m10	#455	#1228	1
Internal Link Dist (ft)	610	167		406			859	
Turn Bay Length (ft)			190		200	650		230
Base Capacity (vph)	489	451	135	1344	620	326	1718	818
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.94	1.18	0.67	0.97	0.10	1.02	1.25	0.03

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

9: HWY 224 & SW Monroe St



Lane Group	EBR	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	118	28	1455	16	7	2313
v/c Ratio	0.64	0.10	0.53	0.01	0.09	0.84
Control Delay	41.7	0.7	4.3	0.4	72.8	6.1
Queue Delay	1.3	0.0	0.5	0.0	0.0	25.4
Total Delay	43.0	0.7	4.8	0.4	72.8	31.6
Queue Length 50th (ft)	41	0	10	0	5	107
Queue Length 95th (ft)	99	m0	626	m0	m4	m37
Internal Link Dist (ft)			720			406
Turn Bay Length (ft)	150	130		330	185	
Base Capacity (vph)	258	352	2739	1214	142	2770
Starvation Cap Reductn	0	0	753	0	0	565
Spillback Cap Reductn	45	35	686	0	0	230
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.09	0.73	0.01	0.05	1.05

Intersection Summary

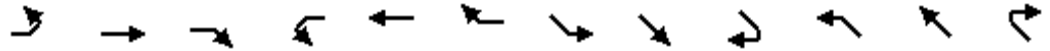
m Volume for 95th percentile queue is metered by upstream signal.

Queues

10: HWY 224 & SW Oak St

Version A - Diverters

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Group Flow (vph)	22	285	99	189	341	189	309	2015	91	134	1260	211
v/c Ratio	0.18	0.47	0.28	1.29	0.56	0.31	0.91	1.01	0.10	0.75	0.76	0.26
Control Delay	45.7	46.7	10.1	213.8	48.7	20.0	55.8	49.4	5.3	91.2	17.6	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.8	0.0	0.0	0.0	0.0
Total Delay	45.7	46.7	10.1	213.8	48.7	20.0	55.8	57.2	5.3	91.2	17.6	2.2
Queue Length 50th (ft)	15	104	0	~187	127	76	217	~866	11	110	418	28
Queue Length 95th (ft)	41	150	47	#337	177	130	m#306	#1017	m15	m#182	305	2
Internal Link Dist (ft)		58			347			720			610	
Turn Bay Length (ft)				180		180	390		350	550		200
Base Capacity (vph)	123	608	356	146	608	634	362	2000	903	205	1657	808
Starvation Cap Reductn	0	0	0	0	0	0	0	48	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.47	0.28	1.29	0.56	0.30	0.85	1.03	0.10	0.65	0.76	0.26

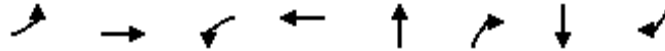
Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

11: SE 32nd Ave & SW Harrison St

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035



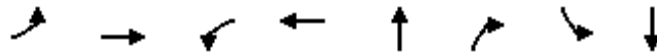
Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	196	566	37	297	200	27	190	178
v/c Ratio	0.43	0.71	0.14	0.42	0.42	0.06	0.38	0.32
Control Delay	10.6	15.5	8.0	8.8	12.3	4.4	11.7	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.6	15.5	8.0	8.8	12.3	4.4	11.7	3.7
Queue Length 50th (ft)	19	64	3	27	29	0	27	0
Queue Length 95th (ft)	68	#231	17	85	62	9	58	24
Internal Link Dist (ft)		210		885	175		889	
Turn Bay Length (ft)			120			100		120
Base Capacity (vph)	524	919	300	817	829	772	862	830
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.62	0.12	0.36	0.24	0.03	0.22	0.21

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues

22: SE Harmony Rd & SW Railroad Ave & SE Linwood Ave, 22nd, OR224 and Linwood on Monroe PM Peak 2035



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	30	511	373	456	299	638	153	276
v/c Ratio	0.32	1.23	1.07	0.62	0.98	0.91	0.52	0.92
Control Delay	49.9	156.6	102.9	24.5	86.6	28.6	40.5	73.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.9	156.6	102.9	24.5	86.6	28.6	40.5	73.6
Queue Length 50th (ft)	17	~362	~236	200	171	106	80	153
Queue Length 95th (ft)	45	#557	#408	311	#333	#310	141	#304
Internal Link Dist (ft)		499		2338	614			1327
Turn Bay Length (ft)	150		500			200	360	
Base Capacity (vph)	95	414	350	735	304	703	297	299
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	1.23	1.07	0.62	0.98	0.91	0.52	0.92

Intersection Summary

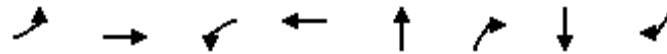
- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues

30: SE King Rd & SE 43rd Ave

Version A - Diverters

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	6	804	122	487	73	146	30	6
v/c Ratio	0.01	0.70	0.35	0.39	0.34	0.46	0.12	0.02
Control Delay	3.5	11.3	8.1	5.2	22.0	11.7	17.6	2.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.5	11.3	8.1	5.2	22.0	11.7	17.6	2.7
Queue Length 50th (ft)	0	112	12	47	18	8	7	0
Queue Length 95th (ft)	3	#373	46	110	46	45	23	3
Internal Link Dist (ft)		197		348	52		401	
Turn Bay Length (ft)	110		110					95
Base Capacity (vph)	605	1150	351	1251	872	959	1037	964
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.70	0.35	0.39	0.08	0.15	0.03	0.01

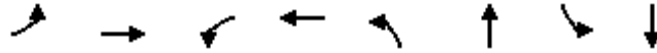
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues

31: SE Linwood Ave & SE King Rd

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	134	816	97	511	158	308	47	378
v/c Ratio	1.07	1.40	0.77	0.96	1.26	0.51	0.37	0.84
Control Delay	135.1	214.1	67.8	54.8	198.1	17.7	33.3	35.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	135.1	214.1	67.8	54.8	198.1	17.7	33.3	35.6
Queue Length 50th (ft)	~53	~410	33	~165	~70	62	15	100
Queue Length 95th (ft)	#143	#608	#104	#346	#168	152	#43	#220
Internal Link Dist (ft)		1162		990		1073		389
Turn Bay Length (ft)	200		200		160		150	
Base Capacity (vph)	125	583	126	530	125	600	128	526
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.07	1.40	0.77	0.96	1.26	0.51	0.37	0.72

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

Version A - Diverters

8: HWY 224 & SW Harrison St

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕		↗	↕↕	↗	↗	↕↕	↗
Volume (vph)	30	270	77	65	220	150	75	1075	50	273	1764	23
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.0			4.0		4.0	6.0	6.0	4.0	6.0	6.0
Lane Util. Factor		0.95			0.95		1.00	0.95	1.00	1.00	0.95	1.00
Frbp, ped/bikes		1.00			0.99		1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes		1.00			1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.97			0.95		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		1.00			0.99		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		2875			2761		1480	2988	1324	1509	2988	1377
Flt Permitted		0.75			0.65		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		2154			1806		1480	2988	1324	1509	2988	1377
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
Growth Factor (vph)	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%
Adj. Flow (vph)	37	329	94	79	268	183	91	1309	61	332	2147	28
RTOR Reduction (vph)	0	19	0	0	57	0	0	0	25	0	0	12
Lane Group Flow (vph)	0	441	0	0	473	0	91	1309	36	332	2147	16
Confl. Peds. (#/hr)	8		1	1		8						
Heavy Vehicles (%)	0%	4%	1%	3%	4%	5%	4%	3%	4%	2%	3%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		8			4		1	6		5		2
Permitted Phases	8			4					6			2
Actuated Green, G (s)		26.2			26.2		10.8	53.8	53.8	26.0	69.0	69.0
Effective Green, g (s)		26.2			26.2		10.8	53.8	53.8	26.0	69.0	69.0
Actuated g/C Ratio		0.22			0.22		0.09	0.45	0.45	0.22	0.58	0.58
Clearance Time (s)		4.0			4.0		4.0	6.0	6.0	4.0	6.0	6.0
Vehicle Extension (s)		2.5			2.5		2.3	3.9	3.9	2.3	3.9	3.9
Lane Grp Cap (vph)		470			394		133	1339	593	326	1718	791
v/s Ratio Prot							0.06	c0.44		0.22	c0.72	
v/s Ratio Perm		0.20			c0.26				0.03			0.01
v/c Ratio		0.94			1.20		0.68	0.98	0.06	1.02	1.25	0.02
Uniform Delay, d1		46.1			46.9		52.9	32.5	18.8	47.0	25.5	11.0
Progression Factor		1.00			1.00		0.85	0.76	0.46	1.00	1.00	1.00
Incremental Delay, d2		26.6			112.2		10.4	18.1	0.2	54.6	117.4	0.0
Delay (s)		72.7			159.1		55.2	43.0	8.8	101.6	142.9	11.0
Level of Service		E			F		E	D	A	F	F	B
Approach Delay (s)		72.7			159.1			42.3			135.9	
Approach LOS		E			F			D			F	

Intersection Summary

HCM 2000 Control Delay	105.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.21		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	119.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

Version A - Diverters

9: HWY 224 & SW Monroe St

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗			↗		↕	↗	↘	↕	
Volume (vph)	0	0	97	0	0	23	0	1195	13	6	1900	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)			4.0			4.0		6.0	6.0	4.0	6.0	
Lane Util. Factor			1.00			1.00		0.95	1.00	1.00	0.95	
Frbp, ped/bikes			0.98			0.98		1.00	0.97	1.00	1.00	
Flpb, ped/bikes			1.00			1.00		1.00	1.00	1.00	1.00	
Frt			0.86			0.86		1.00	0.85	1.00	1.00	
Flt Protected			1.00			1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)			1521			1528		3353	1477	1710	3320	
Flt Permitted			1.00			1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)			1521			1528		3353	1477	1710	3320	
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
Growth Factor (vph)	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%
Adj. Flow (vph)	0	0	118	0	0	28	0	1455	16	7	2313	0
RTOR Reduction (vph)	0	0	59	0	0	26	0	0	3	0	0	0
Lane Group Flow (vph)	0	0	59	0	0	2	0	1455	13	7	2313	0
Confl. Peds. (#/hr)	7		12	12		7	3		6	6		3
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	3%	0%
Turn Type			Perm			Perm		NA	Perm	Prot	NA	
Protected Phases								6		5	2	
Permitted Phases			8			4			6			
Actuated Green, G (s)			9.9			9.9		94.8	94.8	1.3	100.1	
Effective Green, g (s)			9.9			9.9		94.8	94.8	1.3	100.1	
Actuated g/C Ratio			0.08			0.08		0.79	0.79	0.01	0.83	
Clearance Time (s)			4.0			4.0		6.0	6.0	4.0	6.0	
Vehicle Extension (s)			2.5			2.5		5.2	5.2	2.3	5.2	
Lane Grp Cap (vph)			125			126		2648	1166	18	2769	
v/s Ratio Prot								0.43		0.00	c0.70	
v/s Ratio Perm			c0.04			0.00			0.01			
v/c Ratio			0.47			0.02		0.55	0.01	0.39	0.84	
Uniform Delay, d1			52.6			50.6		4.7	2.7	59.0	5.4	
Progression Factor			1.00			1.00		0.82	1.00	1.33	0.86	
Incremental Delay, d2			2.1			0.0		0.6	0.0	0.7	0.3	
Delay (s)			54.6			50.6		4.4	2.7	79.0	5.0	
Level of Service			D			D		A	A	E	A	
Approach Delay (s)		54.6			50.6			4.4			5.2	
Approach LOS		D			D			A			A	
Intersection Summary												
HCM 2000 Control Delay			6.7								A	
HCM 2000 Volume to Capacity ratio			0.83									
Actuated Cycle Length (s)			120.0							14.0		
Intersection Capacity Utilization			86.4%								E	
ICU Level of Service												
Analysis Period (min)			15									

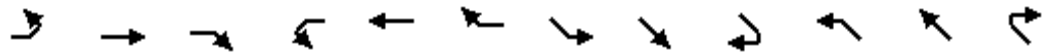
c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

Version A - Diverters

10: HWY 224 & SW Oak St

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	18	234	81	155	280	155	254	1655	75	110	1035	173
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.0	6.0	4.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	0.96	1.00	1.00	0.98
Flpb, ped/bikes	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1698	3320	1500	1693	3320	1512	1613	3386	1466	1644	3386	1485
Flt Permitted	0.38	1.00	1.00	0.45	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	673	3320	1500	799	3320	1512	1613	3386	1466	1644	3386	1485
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
Growth Factor (vph)	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%
Adj. Flow (vph)	22	285	99	189	341	189	309	2015	91	134	1260	211
RTOR Reduction (vph)	0	0	81	0	0	18	0	0	37	0	0	82
Lane Group Flow (vph)	22	285	18	189	341	171	309	2015	54	134	1260	129
Confl. Peds. (#/hr)	13						13	7	32	32		7
Confl. Bikes (#/hr)							1		1			2
Heavy Vehicles (%)	0%	3%	2%	1%	3%	0%	6%	1%	0%	4%	1%	1%
Turn Type	Perm	NA	Perm	Perm	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		8			4	5	5	2		1	6	
Permitted Phases	8		8	4		4			2			6
Actuated Green, G (s)	22.0	22.0	22.0	22.0	22.0	47.3	25.3	70.9	70.9	13.1	58.7	58.7
Effective Green, g (s)	22.0	22.0	22.0	22.0	22.0	47.3	25.3	70.9	70.9	13.1	58.7	58.7
Actuated g/C Ratio	0.18	0.18	0.18	0.18	0.18	0.39	0.21	0.59	0.59	0.11	0.49	0.49
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.0	6.0	4.0	6.0	6.0
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.3	2.3	4.8	4.8	2.3	4.8	4.8
Lane Grp Cap (vph)	123	608	275	146	608	646	340	2000	866	179	1656	726
v/s Ratio Prot		0.09			0.10	0.06	c0.19	c0.60		0.08	0.37	
v/s Ratio Perm	0.03		0.01	c0.24		0.06			0.04			0.09
v/c Ratio	0.18	0.47	0.07	1.29	0.56	0.27	0.91	1.01	0.06	0.75	0.76	0.18
Uniform Delay, d1	41.4	43.8	40.5	49.0	44.6	24.6	46.2	24.5	10.4	51.9	24.9	17.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.76	1.34	2.23	1.37	0.58	0.30
Incremental Delay, d2	0.5	0.4	0.1	173.8	3.7	0.1	17.0	16.7	0.1	12.0	2.7	0.4
Delay (s)	41.9	44.2	40.6	222.8	48.3	24.7	52.1	49.7	23.3	83.0	17.2	5.5
Level of Service	D	D	D	F	D	C	D	D	C	F	B	A
Approach Delay (s)		43.2			88.0			49.0			21.1	
Approach LOS		D			F			D			C	

Intersection Summary

HCM 2000 Control Delay	45.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	113.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

Version A - Diverters

11: SE 32nd Ave & SW Harrison St

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	161	459	6	30	230	14	35	129	22	24	132	146
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.96		1.00	0.98
Flpb, ped/bikes	0.99	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00		0.99	1.00
Satd. Flow (prot)	1668	1779		1705	1574			1767	1475		1783	1440
Flt Permitted	0.58	1.00		0.32	1.00			0.90	1.00		0.93	1.00
Satd. Flow (perm)	1016	1779		581	1574			1605	1475		1671	1440
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
Growth Factor (vph)	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%
Adj. Flow (vph)	196	559	7	37	280	17	43	157	27	29	161	178
RTOR Reduction (vph)	0	1	0	0	5	0	0	0	19	0	0	125
Lane Group Flow (vph)	196	565	0	37	292	0	0	200	8	0	190	53
Confl. Peds. (#/hr)	8		4	8			4		15	15		
Confl. Bikes (#/hr)							1		1			1
Heavy Vehicles (%)	2%	1%	0%	0%	2%	0%	0%	1%	0%	0%	0%	4%
Parking (#/hr)					0							
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	14.2	14.2		14.2	14.2			9.5	9.5		9.5	9.5
Effective Green, g (s)	14.2	14.2		14.2	14.2			9.5	9.5		9.5	9.5
Actuated g/C Ratio	0.45	0.45		0.45	0.45			0.30	0.30		0.30	0.30
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	455	796		260	705			480	442		500	431
v/s Ratio Prot		c0.32			0.19							
v/s Ratio Perm	0.19			0.06				c0.12	0.01		0.11	0.04
v/c Ratio	0.43	0.71		0.14	0.41			0.42	0.02		0.38	0.12
Uniform Delay, d1	6.0	7.1		5.2	5.9			8.9	7.8		8.8	8.1
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.7	2.9		0.3	0.4			0.6	0.0		0.5	0.1
Delay (s)	6.6	10.0		5.4	6.3			9.5	7.8		9.3	8.2
Level of Service	A	B		A	A			A	A		A	A
Approach Delay (s)		9.1			6.2			9.3			8.7	
Approach LOS		A			A			A			A	

Intersection Summary

HCM 2000 Control Delay	8.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	31.7	Sum of lost time (s)	8.0
Intersection Capacity Utilization	66.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

Version A - Diverters

22: SE Harmony Rd & SW Railroad Ave & SE Linwood Ave, All 2 Diverters, 2nd, OR224 and Linwood on Monroe PM Peak 2035



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	25	360	60	306	274	100	40	205	524	126	207	20
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	5.0		4.0	5.0			4.0	4.0	5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Frbp, ped/bikes	1.00	1.00		1.00	0.99			1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.96			1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00	0.95	1.00	
Satd. Flow (prot)	1710	1746		1660	1683			1714	1467	1676	1664	
Flt Permitted	0.95	1.00		0.95	1.00			0.99	1.00	0.95	1.00	
Satd. Flow (perm)	1710	1746		1660	1683			1714	1467	1676	1664	
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
Growth Factor (vph)	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%
Adj. Flow (vph)	30	438	73	373	334	122	49	250	638	153	252	24
RTOR Reduction (vph)	0	7	0	0	14	0	0	0	131	0	4	0
Lane Group Flow (vph)	30	504	0	373	442	0	0	299	507	153	272	0
Confl. Peds. (#/hr)	11		1	1		11	6		10	10		6
Confl. Bikes (#/hr)									3			1
Heavy Vehicles (%)	0%	0%	4%	3%	1%	2%	5%	4%	2%	2%	7%	0%
Turn Type	Prot	NA		Prot	NA		Split	NA	pm+ov	Split	NA	
Protected Phases	5	2		1	6		8	8	1	4	4	
Permitted Phases									8			
Actuated Green, G (s)	3.0	21.0		20.6	38.6			16.0	36.6	16.0	16.0	
Effective Green, g (s)	3.0	21.0		20.6	38.6			16.0	36.6	16.0	16.0	
Actuated g/C Ratio	0.03	0.23		0.22	0.42			0.17	0.40	0.17	0.17	
Clearance Time (s)	4.0	5.0		4.0	5.0			4.0	4.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	56	400		373	709			299	586	292	290	
v/s Ratio Prot	0.02	c0.29		c0.22	0.26			c0.17	0.19	0.09	c0.16	
v/s Ratio Perm									0.15			
v/c Ratio	0.54	1.26		1.00	0.62			1.00	0.86	0.52	0.94	
Uniform Delay, d1	43.6	35.3		35.5	20.8			37.8	25.2	34.3	37.3	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Incremental Delay, d2	9.5	135.9		46.6	1.7			52.0	12.6	1.7	36.2	
Delay (s)	53.1	171.2		82.1	22.5			89.8	37.8	36.0	73.5	
Level of Service	D	F		F	C			F	D	D	E	
Approach Delay (s)		164.6			49.3			54.4			60.1	
Approach LOS		F			D			D			E	

Intersection Summary			
HCM 2000 Control Delay	75.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	91.6	Sum of lost time (s)	18.0
Intersection Capacity Utilization	92.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

Version A - Diverters

30: SE King Rd & SE 43rd Ave

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	615	45	100	395	5	38	22	120	5	20	5
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.98		1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	1.00			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.97	1.00		0.99	1.00
Satd. Flow (prot)	1710	1601		1676	1745			1713	1466		1782	1530
Flt Permitted	0.47	1.00		0.28	1.00			0.79	1.00		0.92	1.00
Satd. Flow (perm)	844	1601		490	1745			1397	1466		1660	1530
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
Growth Factor (vph)	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%
Adj. Flow (vph)	6	749	55	122	481	6	46	27	146	6	24	6
RTOR Reduction (vph)	0	2	0	0	0	0	0	0	98	0	0	5
Lane Group Flow (vph)	6	802	0	122	487	0	0	73	48	0	30	1
Confl. Bikes (#/hr)			3			2			1			
Heavy Vehicles (%)	0%	0%	0%	2%	3%	0%	3%	0%	2%	0%	0%	0%
Parking (#/hr)		0										
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8		8	4		4
Actuated Green, G (s)	33.6	33.6		33.6	33.6			6.3	6.3		6.3	6.3
Effective Green, g (s)	33.6	33.6		33.6	33.6			6.3	6.3		6.3	6.3
Actuated g/C Ratio	0.69	0.69		0.69	0.69			0.13	0.13		0.13	0.13
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0			2.5	2.5		2.5	2.5
Lane Grp Cap (vph)	579	1100		336	1199			179	188		213	197
v/s Ratio Prot		c0.50			0.28							
v/s Ratio Perm	0.01			0.25				c0.05	0.03		0.02	0.00
v/c Ratio	0.01	0.73		0.36	0.41			0.41	0.26		0.14	0.00
Uniform Delay, d1	2.4	4.8		3.2	3.3			19.6	19.2		18.9	18.6
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.0	2.5		0.7	0.2			1.1	0.5		0.2	0.0
Delay (s)	2.4	7.2		3.9	3.5			20.7	19.7		19.1	18.6
Level of Service	A	A		A	A			C	B		B	B
Approach Delay (s)		7.2			3.6			20.0			19.0	
Approach LOS		A			A			C			B	

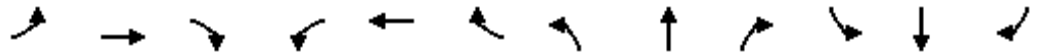
Intersection Summary			
HCM 2000 Control Delay	7.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	48.9	Sum of lost time (s)	9.0
Intersection Capacity Utilization	69.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

Version A - Diverters

31: SE Linwood Ave & SE King Rd

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	110	615	55	80	375	44	130	203	50	39	210	100
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frbp, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	0.97		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1676	1737		1693	1747		1676	1705		1710	1658	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1676	1737		1693	1747		1676	1705		1710	1658	
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
Growth Factor (vph)	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%
Adj. Flow (vph)	134	749	67	97	457	54	158	247	61	47	256	122
RTOR Reduction (vph)	0	5	0	0	8	0	0	15	0	0	31	0
Lane Group Flow (vph)	134	811	0	97	503	0	158	293	0	47	347	0
Confl. Peds. (#/hr)	17		7	7		17	5		5	5		5
Confl. Bikes (#/hr)			1						2			
Heavy Vehicles (%)	2%	2%	3%	1%	1%	0%	2%	2%	1%	0%	3%	1%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	4.0	17.8		3.1	16.9		4.0	18.4		1.5	15.9	
Effective Green, g (s)	4.0	17.8		3.1	16.9		4.0	18.4		1.5	15.9	
Actuated g/C Ratio	0.07	0.31		0.05	0.30		0.07	0.32		0.03	0.28	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	118	544		92	519		118	552		45	464	
v/s Ratio Prot	c0.08	c0.47		0.06	0.29		c0.09	0.17		0.03	c0.21	
v/s Ratio Perm												
v/c Ratio	1.14	1.49		1.05	0.97		1.34	0.53		1.04	0.75	
Uniform Delay, d1	26.4	19.5		26.8	19.7		26.4	15.7		27.6	18.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	123.9	230.1		109.3	31.4		198.8	1.0		147.5	6.5	
Delay (s)	150.3	249.6		136.2	51.1		225.2	16.7		175.1	25.1	
Level of Service	F	F		F	D		F	B		F	C	
Approach Delay (s)		235.6			64.7			87.4			41.7	
Approach LOS		F			E			F			D	

Intersection Summary

HCM 2000 Control Delay	131.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	56.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	89.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	10	70	25	40	15	25
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	85	30	49	18	30
Pedestrians	2					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	145	35	51			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	145	35	51			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	92	98			
cM capacity (veh/h)	834	1041	1566			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	97	79	49
Volume Left	12	30	0
Volume Right	85	0	30
cSH	1010	1566	1700
Volume to Capacity	0.10	0.02	0.03
Queue Length 95th (ft)	8	1	0
Control Delay (s)	8.9	2.9	0.0
Lane LOS	A	A	
Approach Delay (s)	8.9	2.9	0.0
Approach LOS	A		

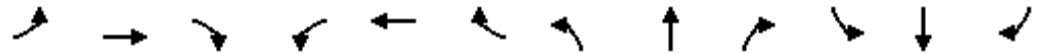
Intersection Summary			
Average Delay		4.9	
Intersection Capacity Utilization	23.2%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis

Version A - Diverters

7: SE 42nd Ave & SW Monroe St

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	245	0	15	0	0	45	7	49	3	0	90	105
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
Hourly flow rate (vph)	298	0	18	0	0	55	9	60	4	0	110	128

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	317	55	72	237
Volume Left (vph)	298	0	9	0
Volume Right (vph)	18	55	4	128
Hadj (s)	0.17	-0.60	0.02	-0.28
Departure Headway (s)	4.9	4.5	5.2	4.7
Degree Utilization, x	0.43	0.07	0.10	0.31
Capacity (veh/h)	697	716	630	718
Control Delay (s)	11.6	7.8	8.8	9.7
Approach Delay (s)	11.6	7.8	8.8	9.7
Approach LOS	B	A	A	A

Intersection Summary			
Delay		10.3	
Level of Service		B	
Intersection Capacity Utilization	43.8%		ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis

Version A - Diverters

17: SE 37th Ave & SW Railroad Ave

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035

	↑	↖	↙	↓	↘	↗
Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations	↗			↖	↖	↗
Volume (veh/h)	244	185	120	110	100	79
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	297	225	146	134	122	96
Pedestrians	3			2	6	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	1	
Right turn flare (veh)						2
Median type	None			None		
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			528		845	418
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			528		845	418
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			86		58	85
cM capacity (veh/h)			1044		287	635
Direction, Lane #	NB 1	SB 1	NW 1			
Volume Total	522	280	218			
Volume Left	0	146	122			
Volume Right	225	0	96			
cSH	1700	1044	513			
Volume to Capacity	0.31	0.14	0.42			
Queue Length 95th (ft)	0	12	52			
Control Delay (s)	0.0	5.4	20.0			
Lane LOS		A	C			
Approach Delay (s)	0.0	5.4	20.0			
Approach LOS			C			
Intersection Summary						
Average Delay			5.7			
Intersection Capacity Utilization			60.5%		ICU Level of Service	B
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

Version A - Diverters

23: SE 37th Ave & SW Harrison St

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (veh/h)	6	422	21	40	260	2	27	37	120	0	15	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	7	514	26	49	317	2	33	45	146	0	18	4
Pedestrians		2			2						2	
Lane Width (ft)		12.0			12.0						12.0	
Walking Speed (ft/s)		4.0			4.0						4.0	
Percent Blockage		0			0						0	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		1273										
pX, platoon unblocked												
vC, conflicting volume	321			539			971	959	529	1129	971	322
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	321			539			971	959	529	1129	971	322
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			95			84	82	74	100	92	99
cM capacity (veh/h)	1248			1024			210	245	553	110	241	721

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	547	368	224	22
Volume Left	7	49	33	0
Volume Right	26	2	146	4
cSH	1248	1024	370	271
Volume to Capacity	0.01	0.05	0.60	0.08
Queue Length 95th (ft)	0	4	95	7
Control Delay (s)	0.2	1.6	28.5	19.5
Lane LOS	A	A	D	C
Approach Delay (s)	0.2	1.6	28.5	19.5
Approach LOS			D	C

Intersection Summary			
Average Delay		6.5	
Intersection Capacity Utilization		72.2%	ICU Level of Service
Analysis Period (min)		15	C

HCM Unsignalized Intersection Capacity Analysis

Version A - Diverters

32: SE 42nd Ave & SW Harrison St

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗		↖	↗		↕			↖	↗
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	380	70	65	27	23	12	30	290	20	15	185	210
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
Hourly flow rate (vph)	463	85	79	33	28	15	37	353	24	18	225	256

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total (vph)	548	79	61	15	414	243	256
Volume Left (vph)	463	0	33	0	37	18	0
Volume Right (vph)	0	79	0	15	24	0	256
Hadj (s)	0.45	-0.70	0.27	-0.70	-0.02	0.07	-0.67
Departure Headway (s)	8.0	6.8	9.1	8.1	7.5	7.8	7.0
Degree Utilization, x	1.0	0.15	0.15	0.03	0.86	0.53	0.50
Capacity (veh/h)	456	518	374	414	476	456	503
Control Delay (s)	140.6	9.8	12.6	10.2	41.4	17.9	15.7
Approach Delay (s)	124.1		12.1		41.4	16.7	
Approach LOS	F		B		E	C	

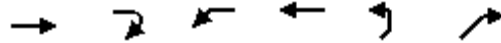
Intersection Summary

Delay	64.5
Level of Service	F
Intersection Capacity Utilization	80.0%
ICU Level of Service	D
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis

Version A - Diverters

36: SW Oak St & SW Railroad Ave/SW Monroe St Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035



Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (veh/h)	96	150	155	45	125	280
Sign Control	Stop			Stop	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	117	183	189	55	152	341
Pedestrians	4			9	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			1	0	
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)					900	
pX, platoon unblocked						
vC, conflicting volume	658	9	559	317	4	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	658	9	559	317	4	
tC, single (s)	6.5	6.2	7.1	6.5	4.1	
tC, 2 stage (s)						
tF (s)	4.0	3.3	3.5	4.0	2.2	
p0 queue free %	66	83	23	90	91	
cM capacity (veh/h)	345	1068	245	540	1619	

Direction, Lane #	EB 1	WB 1	NE 1	NE 2
Volume Total	299	243	152	341
Volume Left	0	189	152	0
Volume Right	183	0	0	341
cSH	588	279	1619	1700
Volume to Capacity	0.51	0.87	0.09	0.20
Queue Length 95th (ft)	72	190	8	0
Control Delay (s)	17.3	65.9	7.5	0.0
Lane LOS	C	F	A	
Approach Delay (s)	17.3	65.9	2.3	
Approach LOS	C	F		

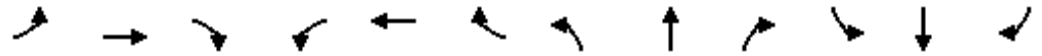
Intersection Summary			
Average Delay		21.6	
Intersection Capacity Utilization		49.6%	ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis

Version A - Diverters

44: SE 37th Ave & SW Monroe St

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↗	↘			↖	↙
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	70	165	140	40	95	5	89	115	110	1	50	22
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
Hourly flow rate (vph)	85	201	170	49	116	6	108	140	134	1	61	27

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	457	170	108	274	62	27
Volume Left (vph)	85	49	108	0	1	0
Volume Right (vph)	170	6	0	134	0	27
Hadj (s)	-0.19	0.06	0.50	-0.33	0.01	-0.63
Departure Headway (s)	5.3	6.1	7.0	6.1	7.0	6.4
Degree Utilization, x	0.68	0.29	0.21	0.47	0.12	0.05
Capacity (veh/h)	647	542	488	555	436	484
Control Delay (s)	18.8	11.5	10.6	13.1	9.8	8.5
Approach Delay (s)	18.8	11.5	12.4		9.4	
Approach LOS	C	B	B		A	

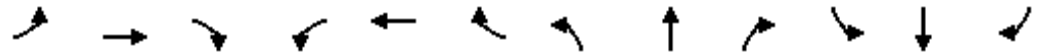
Intersection Summary	
Delay	14.7
Level of Service	B
Intersection Capacity Utilization	51.5%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis

Version A - Diverters

46: SE Home Ave & SW Monroe St

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	0	0	0	5	35	15	5	50	15	80	50	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
Hourly flow rate (vph)	0	0	0	6	43	18	6	61	18	97	61	12

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	0	67	85	170
Volume Left (vph)	0	6	6	97
Volume Right (vph)	0	18	18	12
Hadj (s)	0.00	-0.09	-0.08	0.09
Departure Headway (s)	4.5	4.4	4.2	4.2
Degree Utilization, x	0.00	0.08	0.10	0.20
Capacity (veh/h)	755	769	838	833
Control Delay (s)	7.5	7.8	7.6	8.3
Approach Delay (s)	0.0	7.8	7.6	8.3
Approach LOS	A	A	A	A

Intersection Summary			
Delay		8.0	
Level of Service		A	
Intersection Capacity Utilization	26.4%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis

Version A - Diverters

49: SE Linwood Ave & SW Monroe St

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (veh/h)	0	0	35	0	0	90	0	295	20	0	303	36
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	0	43	0	0	110	0	359	24	0	369	44
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)											1153	
pX, platoon unblocked												
vC, conflicting volume	872	774	391	805	784	371	413			383		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	872	774	391	805	784	371	413			383		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	94	100	100	84	100			100		
cM capacity (veh/h)	227	329	658	281	325	675	1146			1175		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	43	110	383	413
Volume Left	0	0	0	0
Volume Right	43	110	24	44
cSH	658	675	1146	1175
Volume to Capacity	0.06	0.16	0.00	0.00
Queue Length 95th (ft)	5	14	0	0
Control Delay (s)	10.9	11.4	0.0	0.0
Lane LOS	B	B		
Approach Delay (s)	10.9	11.4	0.0	0.0
Approach LOS	B	B		

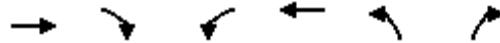
Intersection Summary			
Average Delay		1.8	
Intersection Capacity Utilization	34.7%		ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis

Version A - Diverters

52: SE Home Ave & SE King Rd

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	→			←	←	↗
Volume (veh/h)	695	6	35	530	6	45
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	846	7	43	645	7	55
Pedestrians				1	1	
Lane Width (ft)				12.0	12.0	
Walking Speed (ft/s)				4.0	4.0	
Percent Blockage				0	0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			854		1581	852
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			854		1581	852
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			95		94	85
cM capacity (veh/h)			776		114	356

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	853	688	62
Volume Left	0	43	7
Volume Right	7	0	55
cSH	1700	776	285
Volume to Capacity	0.50	0.05	0.22
Queue Length 95th (ft)	0	4	20
Control Delay (s)	0.0	1.4	21.1
Lane LOS		A	C
Approach Delay (s)	0.0	1.4	21.1
Approach LOS			C

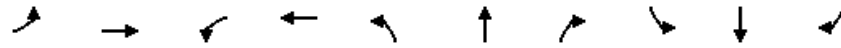
Intersection Summary			
Average Delay		1.4	
Intersection Capacity Utilization		77.7%	ICU Level of Service
Analysis Period (min)		15	D

Queues

8: HWY 224 & SW Harrison St

Version B - TSP Improvements

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	37	423	79	451	91	1309	61	332	2147	28
v/c Ratio	0.54	1.02	1.16	1.05	1.34	1.10	0.10	1.51	1.44	0.04
Control Delay	88.1	94.8	212.2	99.7	251.5	74.9	0.7	289.0	229.0	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	88.1	94.8	212.2	99.7	251.5	74.9	0.7	289.0	229.0	0.1
Queue Length 50th (ft)	31	~370	~78	~416	~100	~643	1	~388	~1290	0
Queue Length 95th (ft)	#80	#580	#185	#632	#215	#786	3	#579	#1424	0
Internal Link Dist (ft)		610		167		406			859	
Turn Bay Length (ft)					190		200	650		230
Base Capacity (vph)	71	415	68	430	68	1195	595	220	1494	751
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	1.02	1.16	1.05	1.34	1.10	0.10	1.51	1.44	0.04

Intersection Summary







- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues

9: HWY 224 & SW Monroe St

Version B - TSP Improvements

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035

						
Lane Group	EBR	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	118	28	1455	16	7	2313
v/c Ratio	0.66	0.10	0.53	0.01	0.10	0.83
Control Delay	47.2	0.7	1.7	0.0	68.0	13.4
Queue Delay	0.0	0.0	0.1	0.0	0.0	3.1
Total Delay	47.2	0.7	1.8	0.0	68.0	16.5
Queue Length 50th (ft)	49	0	37	0	6	228
Queue Length 95th (ft)	110	m0	68	m0	m4	m8
Internal Link Dist (ft)			720			406
Turn Bay Length (ft)	150	130		330	185	
Base Capacity (vph)	407	501	2766	1224	157	2793
Starvation Cap Reductn	0	0	10	0	0	373
Spillback Cap Reductn	4	15	294	0	0	248
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.06	0.59	0.01	0.04	0.96

Intersection Summary














m Volume for 95th percentile queue is metered by upstream signal.

Queues

10: HWY 224 & SW Oak St

Version B - TSP Improvements

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035

													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR	
Lane Group Flow (vph)	22	285	99	189	341	189	309	2015	91	134	1260	211	
v/c Ratio	0.28	0.76	0.35	1.45	0.60	0.31	0.95	1.02	0.10	0.94	0.79	0.27	
Control Delay	68.8	69.4	7.6	282.9	55.4	14.5	81.2	44.2	1.7	105.8	26.8	7.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.2	0.0	0.0	0.0	0.0	
Total Delay	68.8	69.4	7.6	282.9	55.4	14.5	81.2	58.4	1.7	105.8	26.8	7.5	
Queue Length 50th (ft)	18	123	0	~217	147	54	256	~788	3	~123	249	21	
Queue Length 95th (ft)	48	173	32	#371	198	106	m#385	#1078	m4	#262	348	77	
Internal Link Dist (ft)		58			347			720			610		
Turn Bay Length (ft)				180		180	390		350	550		200	
Base Capacity (vph)	83	408	295	130	580	613	325	1979	899	142	1591	776	
Starvation Cap Reductn	0	0	0	0	0	0	0	73	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.27	0.70	0.34	1.45	0.59	0.31	0.95	1.06	0.10	0.94	0.79	0.27	

Intersection Summary









- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

Version B - TSP Improvements

11: SE 32nd Ave & SW Harrison St

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035

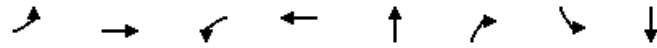
								
Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	196	566	37	297	200	27	190	178
v/c Ratio	0.33	0.54	0.09	0.32	0.44	0.06	0.40	0.33
Control Delay	8.6	9.7	6.7	7.3	14.4	5.4	13.7	4.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.6	9.7	6.7	7.3	14.4	5.4	13.7	4.3
Queue Length 50th (ft)	20	68	3	29	32	0	30	0
Queue Length 95th (ft)	69	188	17	87	77	11	72	29
Internal Link Dist (ft)		210		885	175		889	
Turn Bay Length (ft)			120			100		120
Base Capacity (vph)	669	1174	439	1041	752	708	784	775
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.48	0.08	0.29	0.27	0.04	0.24	0.23

Intersection Summary

Queues

Version B - TSP Improvements

22: SE Harmony/SW Railroad /SE Linwood Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	30	511	373	456	299	638	153	276
v/c Ratio	0.39	1.13	1.19	0.61	0.98	0.94	0.52	0.92
Control Delay	57.1	115.6	148.0	23.7	86.6	34.8	40.5	73.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.1	115.6	148.0	23.7	86.6	34.8	40.5	73.6
Queue Length 50th (ft)	17	~338	~258	196	171	114	80	153
Queue Length 95th (ft)	#47	#533	#431	305	#333	#329	141	#304
Internal Link Dist (ft)		499		2338	614			1327
Turn Bay Length (ft)	150		500			200	360	
Base Capacity (vph)	76	452	313	746	304	678	297	299
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	1.13	1.19	0.61	0.98	0.94	0.52	0.92

Intersection Summary

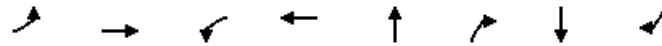
- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues

30: SE King Rd & SE 43rd Ave

Version B - TSP Improvements

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	6	804	122	487	73	146	30	6
v/c Ratio	0.01	0.71	0.36	0.39	0.31	0.40	0.11	0.02
Control Delay	3.5	11.2	8.3	5.3	21.7	8.0	18.3	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.5	11.2	8.3	5.3	21.7	8.0	18.3	1.7
Queue Length 50th (ft)	0	114	12	48	17	0	7	0
Queue Length 95th (ft)	3	#380	47	110	49	37	25	2
Internal Link Dist (ft)		197		348	52		401	
Turn Bay Length (ft)	110		110					95
Base Capacity (vph)	646	1228	366	1336	594	709	704	667
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.65	0.33	0.36	0.12	0.21	0.04	0.01

Intersection Summary

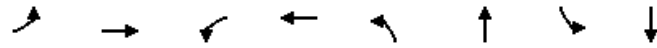
95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues

Version B - TSP Improvements

31: SE Linwood Ave & SE King Rd

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	134	816	97	511	158	308	47	378
v/c Ratio	0.74	1.02	0.86	0.70	0.85	0.65	0.18	0.95
Control Delay	64.6	63.0	97.5	27.4	63.4	36.7	21.7	68.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.6	63.0	97.5	27.4	63.4	36.7	21.7	68.9
Queue Length 50th (ft)	75	-499	56	232	64	157	18	199
Queue Length 95th (ft)	#162	#726	#147	351	#158	#280	42	#373
Internal Link Dist (ft)		1162		990		1073		389
Turn Bay Length (ft)	200		200		160		150	
Base Capacity (vph)	187	800	113	734	185	474	270	408
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.72	1.02	0.86	0.70	0.85	0.65	0.17	0.93

Intersection Summary

- Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues

Version B - TSP Improvements

32: SE 42nd Ave & SW Harrison St

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035



Lane Group	EBT	EBR	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	548	79	61	15	414	243	256
v/c Ratio	0.87	0.10	0.09	0.02	0.78	0.46	0.41
Control Delay	27.7	2.4	6.8	2.9	27.9	17.2	4.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.7	2.4	6.8	2.9	27.9	17.2	4.6
Queue Length 50th (ft)	124	0	8	0	108	57	0
Queue Length 95th (ft)	#313	15	23	6	#239	115	40
Internal Link Dist (ft)	597		1920		168	398	
Turn Bay Length (ft)		120		100			
Base Capacity (vph)	851	1033	916	1010	729	729	769
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.64	0.08	0.07	0.01	0.57	0.33	0.33

Intersection Summary























95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

Version B - TSP Improvements

8: HWY 224 & SW Harrison St

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	270	77	65	220	150	75	1075	50	273	1764	23
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	6.0	6.0	4.0	6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frbp, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.97		1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1539	1511		1494	1445		1480	2988	1324	1509	2988	1377
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1539	1511		1494	1445		1480	2988	1324	1509	2988	1377
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
Growth Factor (vph)	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%
Adj. Flow (vph)	37	329	94	79	268	183	91	1309	61	332	2147	28
RTOR Reduction (vph)	0	8	0	0	19	0	0	0	37	0	0	14
Lane Group Flow (vph)	37	415	0	79	432	0	91	1309	24	332	2147	14
Confl. Peds. (#/hr)	8		1	1		8						
Heavy Vehicles (%)	0%	4%	1%	3%	4%	5%	4%	3%	4%	2%	3%	0%
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases									6			2
Actuated Green, G (s)	4.8	35.0		6.8	37.0		6.0	51.2	51.2	19.0	64.2	64.2
Effective Green, g (s)	4.8	35.0		6.8	37.0		6.0	51.2	51.2	19.0	64.2	64.2
Actuated g/C Ratio	0.04	0.27		0.05	0.28		0.05	0.39	0.39	0.15	0.49	0.49
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	6.0	6.0	4.0	6.0	6.0
Vehicle Extension (s)	2.5	2.5		2.5	2.5		2.3	3.9	3.9	2.3	3.9	3.9
Lane Grp Cap (vph)	56	406		78	411		68	1176	521	220	1475	680
v/s Ratio Prot	0.02	c0.27		0.05	c0.30		c0.06	0.44		0.22	c0.72	
v/s Ratio Perm									0.02			0.01
v/c Ratio	0.66	1.02		1.01	1.05		1.34	1.11	0.05	1.51	1.46	0.02
Uniform Delay, d1	61.8	47.5		61.6	46.5		62.0	39.4	24.3	55.5	32.9	16.8
Progression Factor	1.00	1.00		1.00	1.00		0.66	0.46	1.11	1.00	1.00	1.00
Incremental Delay, d2	23.2	50.4		105.5	58.7		216.2	61.7	0.1	251.2	208.8	0.1
Delay (s)	85.0	97.9		167.1	105.2		256.9	79.6	27.1	306.7	241.7	16.9
Level of Service	F	F		F	F		F	E	C	F	F	B
Approach Delay (s)		96.9			114.5			88.5			247.8	
Approach LOS		F			F			F			F	
Intersection Summary												
HCM 2000 Control Delay			172.6	HCM 2000 Level of Service				F				
HCM 2000 Volume to Capacity ratio			1.31									
Actuated Cycle Length (s)			130.0	Sum of lost time (s)				18.0				
Intersection Capacity Utilization			116.4%	ICU Level of Service				H				
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

Version B - TSP Improvements

9: HWY 224 & SW Monroe St

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	97	0	0	23	0	1195	13	6	1900	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)			4.0			4.0		6.0	6.0	4.0	6.0	
Lane Util. Factor			1.00			1.00		0.95	1.00	1.00	0.95	
Frbp, ped/bikes			0.98			0.98		1.00	0.96	1.00	1.00	
Flpb, ped/bikes			1.00			1.00		1.00	1.00	1.00	1.00	
Frt			0.86			0.86		1.00	0.85	1.00	1.00	
Flt Protected			1.00			1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)			1520			1527		3353	1475	1710	3320	
Flt Permitted			1.00			1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)			1520			1527		3353	1475	1710	3320	
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
Growth Factor (vph)	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%
Adj. Flow (vph)	0	0	118	0	0	28	0	1455	16	7	2313	0
RTOR Reduction (vph)	0	0	54	0	0	26	0	0	3	0	0	0
Lane Group Flow (vph)	0	0	64	0	0	2	0	1455	13	7	2313	0
Confl. Peds. (#/hr)	7		12	12		7	3		6	6		3
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	3%	0%
Turn Type			Perm			Perm		NA	Perm	Prot	NA	
Protected Phases								6		5	2	
Permitted Phases			8			4			6			
Actuated Green, G (s)			10.6			10.6		104.1	104.1	1.3	109.4	
Effective Green, g (s)			10.6			10.6		104.1	104.1	1.3	109.4	
Actuated g/C Ratio			0.08			0.08		0.80	0.80	0.01	0.84	
Clearance Time (s)			4.0			4.0		6.0	6.0	4.0	6.0	
Vehicle Extension (s)			2.5			2.5		5.2	5.2	2.3	5.2	
Lane Grp Cap (vph)			123			124		2684	1181	17	2793	
v/s Ratio Prot								0.43		0.00	c0.70	
v/s Ratio Perm			c0.04			0.00			0.01			
v/c Ratio			0.52			0.02		0.54	0.01	0.41	0.83	
Uniform Delay, d1			57.3			54.9		4.6	2.6	64.0	5.4	
Progression Factor			1.00			1.00		0.26	0.00	1.14	1.96	
Incremental Delay, d2			2.7			0.0		0.5	0.0	0.9	0.3	
Delay (s)			60.0			55.0		1.7	0.0	73.5	10.8	
Level of Service			E			D		A	A	E	B	
Approach Delay (s)		60.0			55.0			1.7			11.0	
Approach LOS		E			D			A			B	
Intersection Summary												
HCM 2000 Control Delay			9.3									A
HCM 2000 Volume to Capacity ratio			0.83									
Actuated Cycle Length (s)			130.0							14.0		
Intersection Capacity Utilization			86.4%									E
Analysis Period (min)			15									

























c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

Version B - TSP Improvements

10: HWY 224 & SW Oak St

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035





















													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR	
Lane Configurations													
Volume (vph)	18	234	81	155	280	155	254	1655	75	110	1035	173	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.0	6.0	4.0	6.0	6.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	0.96	1.00	1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1710	3320	1500	1693	3320	1512	1613	3386	1462	1644	3386	1485	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1710	3320	1500	1693	3320	1512	1613	3386	1462	1644	3386	1485	
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	
Growth Factor (vph)	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	
Adj. Flow (vph)	22	285	99	189	341	189	309	2015	91	134	1260	211	
RTOR Reduction (vph)	0	0	87	0	0	49	0	0	39	0	0	81	
Lane Group Flow (vph)	22	285	12	189	341	140	309	2015	52	134	1260	130	
Confl. Peds. (#/hr)	13						13	7		32	32	7	
Confl. Bikes (#/hr)							1		1			2	
Heavy Vehicles (%)	0%	3%	2%	1%	3%	0%	6%	1%	0%	4%	1%	1%	
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	
Protected Phases	3	8		7	4	5	5	2		1	6		
Permitted Phases			8			4			2			6	
Actuated Green, G (s)	4.0	16.3	16.3	10.0	22.3	48.5	26.2	74.4	74.4	11.3	59.5	59.5	
Effective Green, g (s)	4.0	16.3	16.3	10.0	22.3	48.5	26.2	74.4	74.4	11.3	59.5	59.5	
Actuated g/C Ratio	0.03	0.13	0.13	0.08	0.17	0.37	0.20	0.57	0.57	0.09	0.46	0.46	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.0	6.0	4.0	6.0	6.0	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.3	2.3	4.8	4.8	2.3	4.8	4.8	
Lane Grp Cap (vph)	52	416	188	130	569	564	325	1937	836	142	1549	679	
v/s Ratio Prot	0.01	c0.09		c0.11	0.10	0.05	c0.19	c0.60		0.08	0.37		
v/s Ratio Perm			0.01			0.04			0.04			0.09	
v/c Ratio	0.42	0.69	0.07	1.45	0.60	0.25	0.95	1.04	0.06	0.94	0.81	0.19	
Uniform Delay, d1	61.9	54.4	50.1	60.0	49.7	28.2	51.3	27.8	12.3	59.0	30.5	21.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.05	0.87	1.16	0.84	0.79	1.03	
Incremental Delay, d2	4.0	4.2	0.1	241.7	1.4	0.1	25.8	27.2	0.1	51.6	4.0	0.5	
Delay (s)	65.9	58.6	50.2	301.7	51.2	28.3	79.4	51.6	14.4	101.3	28.0	22.1	
Level of Service	E	E	D	F	D	C	E	D	B	F	C	C	
Approach Delay (s)		57.0			111.0			53.7			33.4		
Approach LOS		E			F			D			C		
Intersection Summary													
HCM 2000 Control Delay			55.6									HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio			1.03										
Actuated Cycle Length (s)			130.0									Sum of lost time (s)	18.0
Intersection Capacity Utilization			96.7%									ICU Level of Service	F
Analysis Period (min)			15										
c Critical Lane Group													

HCM Signalized Intersection Capacity Analysis

Version B - TSP Improvements

11: SE 32nd Ave & SW Harrison St

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035






















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	161	459	6	30	230	14	35	129	22	24	132	146
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.96		1.00	0.98
Flpb, ped/bikes	0.99	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00		0.99	1.00
Satd. Flow (prot)	1666	1779		1704	1574			1767	1472		1783	1439
Flt Permitted	0.58	1.00		0.37	1.00			0.89	1.00		0.92	1.00
Satd. Flow (perm)	1015	1779		665	1574			1587	1472		1658	1439
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
Growth Factor (vph)	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%
Adj. Flow (vph)	196	559	7	37	280	17	43	157	27	29	161	178
RTOR Reduction (vph)	0	1	0	0	4	0	0	0	21	0	0	136
Lane Group Flow (vph)	196	565	0	37	293	0	0	200	6	0	190	42
Confl. Peds. (#/hr)	8		4	8		4			15	15		
Confl. Bikes (#/hr)						1			1			1
Heavy Vehicles (%)	2%	1%	0%	0%	2%	0%	0%	1%	0%	0%	0%	4%
Parking (#/hr)					0							
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	19.6	19.6		19.6	19.6			8.4	8.4		8.4	8.4
Effective Green, g (s)	19.6	19.6		19.6	19.6			8.4	8.4		8.4	8.4
Actuated g/C Ratio	0.54	0.54		0.54	0.54			0.23	0.23		0.23	0.23
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	552	968		362	856			370	343		386	335
v/s Ratio Prot		c0.32			0.19							
v/s Ratio Perm	0.19			0.06				c0.13	0.00		0.11	0.03
v/c Ratio	0.36	0.58		0.10	0.34			0.54	0.02		0.49	0.12
Uniform Delay, d1	4.6	5.5		4.0	4.6			12.1	10.6		12.0	10.9
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.4	0.9		0.1	0.2			1.6	0.0		1.0	0.2
Delay (s)	5.0	6.4		4.1	4.8			13.7	10.6		12.9	11.1
Level of Service	A	A		A	A			B	B		B	B
Approach Delay (s)		6.0			4.7			13.4			12.0	
Approach LOS		A			A			B			B	
Intersection Summary												
HCM 2000 Control Delay			8.1									A
HCM 2000 Volume to Capacity ratio			0.57									
Actuated Cycle Length (s)			36.0								8.0	
Intersection Capacity Utilization			66.9%									C
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

Version B - TSP Improvements

22: SE Harmony/SW Railroad/SE Linwood Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035





















													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Volume (vph)	25	360	60	306	274	100	40	205	524	126	207	20	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	
Total Lost time (s)	4.0	5.0		4.0	5.0			4.0	4.0	5.0	5.0		
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00		
Frbp, ped/bikes	1.00	1.00		1.00	0.99			1.00	0.98	1.00	1.00		
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00		
Frt	1.00	0.98		1.00	0.96			1.00	0.85	1.00	0.99		
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00	0.95	1.00		
Satd. Flow (prot)	1710	1746		1660	1683			1714	1465	1676	1664		
Flt Permitted	0.95	1.00		0.95	1.00			0.99	1.00	0.95	1.00		
Satd. Flow (perm)	1710	1746		1660	1683			1714	1465	1676	1664		
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	
Growth Factor (vph)	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	
Adj. Flow (vph)	30	438	73	373	334	122	49	250	638	153	252	24	
RTOR Reduction (vph)	0	7	0	0	14	0	0	0	139	0	4	0	
Lane Group Flow (vph)	30	504	0	373	442	0	0	299	499	153	272	0	
Confl. Peds. (#/hr)	11		1	1		11	6		10	10		6	
Confl. Bikes (#/hr)									3			1	
Heavy Vehicles (%)	0%	0%	4%	3%	1%	2%	5%	4%	2%	2%	7%	0%	
Turn Type	Prot	NA		Prot	NA		Split	NA	pm+ov	Split	NA		
Protected Phases	5	2		1	6		8	8	1	4	4		
Permitted Phases									8				
Actuated Green, G (s)	2.4	23.0		18.6	39.2			16.0	34.6	16.0	16.0		
Effective Green, g (s)	2.4	23.0		18.6	39.2			16.0	34.6	16.0	16.0		
Actuated g/C Ratio	0.03	0.25		0.20	0.43			0.17	0.38	0.17	0.17		
Clearance Time (s)	4.0	5.0		4.0	5.0			4.0	4.0	5.0	5.0		
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)	44	438		337	720			299	553	292	290		
v/s Ratio Prot	0.02	c0.29		c0.22	0.26			c0.17	0.18	0.09	c0.16		
v/s Ratio Perm									0.16				
v/c Ratio	0.68	1.15		1.11	0.61			1.00	0.90	0.52	0.94		
Uniform Delay, d1	44.2	34.3		36.5	20.3			37.8	26.9	34.3	37.3		
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00		
Incremental Delay, d2	35.7	91.4		80.9	1.6			52.0	17.9	1.7	36.2		
Delay (s)	79.9	125.7		117.4	21.9			89.8	44.8	36.0	73.5		
Level of Service	E	F		F	C			F	D	D	E		
Approach Delay (s)		123.1			64.9			59.1			60.1		
Approach LOS		F			E			E			E		
Intersection Summary													
HCM 2000 Control Delay			73.7									HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio			1.06										
Actuated Cycle Length (s)			91.6									Sum of lost time (s)	18.0
Intersection Capacity Utilization			92.2%									ICU Level of Service	F
Analysis Period (min)			15										
c Critical Lane Group													

HCM Signalized Intersection Capacity Analysis

Version B - TSP Improvements

30: SE King Rd & SE 43rd Ave

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035





















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	615	45	100	395	5	38	22	120	5	20	5
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.98		1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	1.00			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.97	1.00		0.99	1.00
Satd. Flow (prot)	1710	1601		1676	1745			1713	1466		1782	1530
Flt Permitted	0.47	1.00		0.27	1.00			0.79	1.00		0.92	1.00
Satd. Flow (perm)	845	1601		478	1745			1397	1466		1654	1530
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
Growth Factor (vph)	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%
Adj. Flow (vph)	6	749	55	122	481	6	46	27	146	6	24	6
RTOR Reduction (vph)	0	3	0	0	1	0	0	0	127	0	0	5
Lane Group Flow (vph)	6	801	0	122	486	0	0	73	19	0	30	1
Confl. Bikes (#/hr)			3			2			1			
Heavy Vehicles (%)	0%	0%	0%	2%	3%	0%	3%	0%	2%	0%	0%	0%
Parking (#/hr)		0										
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8		8	4		4
Actuated Green, G (s)	29.8	29.8		29.8	29.8			5.9	5.9		5.9	5.9
Effective Green, g (s)	29.8	29.8		29.8	29.8			5.9	5.9		5.9	5.9
Actuated g/C Ratio	0.67	0.67		0.67	0.67			0.13	0.13		0.13	0.13
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0			2.5	2.5		2.5	2.5
Lane Grp Cap (vph)	563	1067		318	1163			184	193		218	201
v/s Ratio Prot		c0.50			0.28							
v/s Ratio Perm	0.01			0.26				c0.05	0.01		0.02	0.00
v/c Ratio	0.01	0.75		0.38	0.42			0.40	0.10		0.14	0.00
Uniform Delay, d1	2.5	5.0		3.3	3.4			17.8	17.1		17.2	16.8
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.0	3.0		0.8	0.2			1.0	0.2		0.2	0.0
Delay (s)	2.5	8.0		4.1	3.7			18.8	17.2		17.4	16.9
Level of Service	A	A		A	A			B	B		B	B
Approach Delay (s)		7.9			3.8			17.8			17.3	
Approach LOS		A			A			B			B	
Intersection Summary												
HCM 2000 Control Delay			7.9									A
HCM 2000 Volume to Capacity ratio			0.69									
Actuated Cycle Length (s)			44.7								9.0	
Intersection Capacity Utilization			69.9%									C
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

Version B - TSP Improvements

31: SE Linwood Ave & SE King Rd

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035




















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	110	615	55	80	375	44	130	203	50	39	210	100
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frbp, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	0.97		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1676	1736		1693	1743		1676	1703		1706	1655	
Flt Permitted	0.95	1.00		0.95	1.00		0.17	1.00		0.38	1.00	
Satd. Flow (perm)	1676	1736		1693	1743		298	1703		685	1655	
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
Growth Factor (vph)	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%
Adj. Flow (vph)	134	749	67	97	457	54	158	247	61	47	256	122
RTOR Reduction (vph)	0	4	0	0	5	0	0	10	0	0	19	0
Lane Group Flow (vph)	134	812	0	97	506	0	158	298	0	47	359	0
Confl. Peds. (#/hr)	17		7	7		17	5		5	5		5
Confl. Bikes (#/hr)			1						2			
Heavy Vehicles (%)	2%	2%	3%	1%	1%	0%	2%	2%	1%	0%	3%	1%
Turn Type	Prot	NA		Prot	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases							2			6		
Actuated Green, G (s)	9.6	41.0		6.0	37.4		30.4	24.4		25.6	22.0	
Effective Green, g (s)	9.6	41.0		6.0	37.4		30.4	24.4		25.6	22.0	
Actuated g/C Ratio	0.11	0.45		0.07	0.41		0.33	0.27		0.28	0.24	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	176	782		111	716		190	456		233	400	
v/s Ratio Prot	c0.08	c0.47		0.06	0.29		c0.05	0.18		0.01	0.22	
v/s Ratio Perm							c0.22			0.05		
v/c Ratio	0.76	1.04		0.87	0.71		0.83	0.65		0.20	0.90	
Uniform Delay, d1	39.6	25.0		42.1	22.3		24.8	29.6		24.5	33.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	17.5	42.6		48.1	3.2		25.5	3.4		0.4	22.0	
Delay (s)	57.1	67.6		90.3	25.5		50.3	32.9		24.9	55.4	
Level of Service	E	E		F	C		D	C		C	E	
Approach Delay (s)		66.1			35.8			38.8			52.0	
Approach LOS		E			D			D			D	
Intersection Summary												
HCM 2000 Control Delay			50.9				HCM 2000 Level of Service				D	
HCM 2000 Volume to Capacity ratio			0.98									
Actuated Cycle Length (s)			91.0				Sum of lost time (s)			16.0		
Intersection Capacity Utilization			89.8%				ICU Level of Service			E		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

Version B - TSP Improvements

32: SE 42nd Ave & SW Harrison St

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	380	70	65	27	23	12	30	290	20	15	185	210
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.0	4.0		4.0	4.0		4.0			4.0	4.0
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	1.00
Frbp, ped/bikes		1.00	0.98		1.00	0.97		1.00			1.00	0.97
Flpb, ped/bikes		1.00	1.00		1.00	1.00		1.00			1.00	1.00
Frt		1.00	0.85		1.00	0.85		0.99			1.00	0.85
Flt Protected		0.96	1.00		0.97	1.00		1.00			1.00	1.00
Satd. Flow (prot)		1691	1495		1752	1490		1774			1760	1460
Flt Permitted		0.72	1.00		0.76	1.00		0.95			0.97	1.00
Satd. Flow (perm)		1263	1495		1360	1490		1702			1708	1460
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
Growth Factor (vph)	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%
Adj. Flow (vph)	463	85	79	33	28	15	37	353	24	18	225	256
RTOR Reduction (vph)	0	0	39	0	0	7	0	4	0	0	0	176
Lane Group Flow (vph)	0	548	40	0	61	8	0	410	0	0	243	80
Confl. Peds. (#/hr)	4		2	2		4	5		10	10		5
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	2%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8			4		4
Actuated Green, G (s)		22.8	22.8		22.8	22.8		14.0			14.0	14.0
Effective Green, g (s)		22.8	22.8		22.8	22.8		14.0			14.0	14.0
Actuated g/C Ratio		0.51	0.51		0.51	0.51		0.31			0.31	0.31
Clearance Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	4.0
Vehicle Extension (s)		1.0	1.0		1.0	1.0		1.0			1.0	1.0
Lane Grp Cap (vph)		642	760		692	758		531			533	456
v/s Ratio Prot												
v/s Ratio Perm		c0.43	0.03		0.04	0.01		c0.24			0.14	0.05
v/c Ratio		0.85	0.05		0.09	0.01		0.77			0.46	0.18
Uniform Delay, d1		9.6	5.6		5.7	5.4		14.0			12.3	11.2
Progression Factor		1.00	1.00		1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2		10.3	0.0		0.0	0.0		6.3			0.2	0.1
Delay (s)		19.9	5.6		5.7	5.4		20.2			12.6	11.3
Level of Service		B	A		A	A		C			B	B
Approach Delay (s)		18.1			5.6			20.2			11.9	
Approach LOS		B			A			C			B	
Intersection Summary												
HCM 2000 Control Delay			16.1									B
HCM 2000 Volume to Capacity ratio			0.82									
Actuated Cycle Length (s)			44.8							8.0		
Intersection Capacity Utilization			80.1%									D
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

Version B - TSP Improvements

4: SE Home Ave & SW Harrison St

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035



















Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	10	70	25	40	15	25
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	85	30	49	18	30
Pedestrians	2					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	145	35	51			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	145	35	51			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	92	98			
cM capacity (veh/h)	834	1041	1566			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	97	79	49			
Volume Left	12	30	0			
Volume Right	85	0	30			
cSH	1010	1566	1700			
Volume to Capacity	0.10	0.02	0.03			
Queue Length 95th (ft)	8	1	0			
Control Delay (s)	8.9	2.9	0.0			
Lane LOS	A	A				
Approach Delay (s)	8.9	2.9	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			4.9			
Intersection Capacity Utilization	23.2%		ICU Level of Service	A		
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

Version B - TSP Improvements

7: SE 42nd Ave & SW Monroe St

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	245	0	15	0	0	45	7	49	3	0	90	105
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
Hourly flow rate (vph)	298	0	18	0	0	55	9	60	4	0	110	128
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	317	55	72	237								
Volume Left (vph)	298	0	9	0								
Volume Right (vph)	18	55	4	128								
Hadj (s)	0.17	-0.60	0.02	-0.28								
Departure Headway (s)	4.9	4.5	5.2	4.7								
Degree Utilization, x	0.43	0.07	0.10	0.31								
Capacity (veh/h)	697	716	630	718								
Control Delay (s)	11.6	7.8	8.8	9.7								
Approach Delay (s)	11.6	7.8	8.8	9.7								
Approach LOS	B	A	A	A								
Intersection Summary												
Delay			10.3									
Level of Service			B									
Intersection Capacity Utilization			43.8%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis
 17: SE 37th Ave & SW Railroad Ave

Version B - TSP Improvements

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035

















	↑	↗	↘	↓	↖	↗
Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations	↗			↖	↗	↖
Volume (veh/h)	244	185	120	110	100	79
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	297	225	146	134	122	96
Pedestrians	3			2	6	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	1	
Right turn flare (veh)						2
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			528		845	418
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			528		845	418
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			86		58	85
cM capacity (veh/h)			1044		287	635
Direction, Lane #	NB 1	SB 1	NW 1			
Volume Total	522	280	218			
Volume Left	0	146	122			
Volume Right	225	0	96			
cSH	1700	1044	513			
Volume to Capacity	0.31	0.14	0.42			
Queue Length 95th (ft)	0	12	52			
Control Delay (s)	0.0	5.4	20.0			
Lane LOS		A	C			
Approach Delay (s)	0.0	5.4	20.0			
Approach LOS			C			
Intersection Summary						
Average Delay			5.7			
Intersection Capacity Utilization			60.5%	ICU Level of Service	B	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

Version B - TSP Improvements

23: SE 37th Ave & SW Harrison St

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	6	422	21	40	260	2	27	37	120	0	15	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	7	514	26	49	317	2	33	45	146	0	18	4
Pedestrians		2			2						2	
Lane Width (ft)		12.0			12.0						12.0	
Walking Speed (ft/s)		4.0			4.0						4.0	
Percent Blockage		0			0						0	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		1273			1310							
pX, platoon unblocked												
vC, conflicting volume	321			539			971	959	529	1129	971	322
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	321			539			971	959	529	1129	971	322
iC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
iC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			95			84	82	74	100	92	99
cM capacity (veh/h)	1248			1024			210	245	553	110	241	721
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	547	368	224	22								
Volume Left	7	49	33	0								
Volume Right	26	2	146	4								
cSH	1248	1024	370	271								
Volume to Capacity	0.01	0.05	0.60	0.08								
Queue Length 95th (ft)	0	4	95	7								
Control Delay (s)	0.2	1.6	28.5	19.5								
Lane LOS	A	A	D	C								
Approach Delay (s)	0.2	1.6	28.5	19.5								
Approach LOS			D	C								
Intersection Summary												
Average Delay			6.5									
Intersection Capacity Utilization			72.2%		ICU Level of Service				C			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis Version B - TSP Improvements
 36: SW Oak St/SW Railroad Ave/SW Monroe Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035



















	→	↘	↙	←	↗	↖
Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations	↗			↖	↘	↗
Volume (veh/h)	96	150	155	45	125	280
Sign Control	Stop			Stop	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	117	183	189	55	152	341
Pedestrians	4			9	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			1	0	
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)	900					
pX, platoon unblocked						
vC, conflicting volume	658	9	559	317	4	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	658	9	559	317	4	
tC, single (s)	6.5	6.2	7.1	6.5	4.1	
tC, 2 stage (s)						
tF (s)	4.0	3.3	3.5	4.0	2.2	
p0 queue free %	66	83	23	90	91	
cM capacity (veh/h)	345	1068	245	540	1619	
Direction, Lane #	EB 1	WB 1	NE 1	NE 2		
Volume Total	299	243	152	341		
Volume Left	0	189	152	0		
Volume Right	183	0	0	341		
cSH	588	279	1619	1700		
Volume to Capacity	0.51	0.87	0.09	0.20		
Queue Length 95th (ft)	72	190	8	0		
Control Delay (s)	17.3	65.9	7.5	0.0		
Lane LOS	C	F	A			
Approach Delay (s)	17.3	65.9	2.3			
Approach LOS	C	F				
Intersection Summary						
Average Delay			21.6			
Intersection Capacity Utilization			49.6%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

Version B - TSP Improvements

44: SE 37th Ave & SW Monroe St

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035

















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	70	165	140	40	95	5	89	115	110	1	50	22
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
Hourly flow rate (vph)	85	201	170	49	116	6	108	140	134	1	61	27
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total (vph)	457	170	108	274	62	27						
Volume Left (vph)	85	49	108	0	1	0						
Volume Right (vph)	170	6	0	134	0	27						
Hadj (s)	-0.19	0.06	0.50	-0.33	0.01	-0.63						
Departure Headway (s)	5.3	6.1	7.0	6.1	7.0	6.4						
Degree Utilization, x	0.68	0.29	0.21	0.47	0.12	0.05						
Capacity (veh/h)	647	542	488	555	436	484						
Control Delay (s)	18.8	11.5	10.6	13.1	9.8	8.5						
Approach Delay (s)	18.8	11.5	12.4		9.4							
Approach LOS	C	B	B		A							
Intersection Summary												
Delay			14.7									
Level of Service			B									
Intersection Capacity Utilization			51.5%		ICU Level of Service		A					
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

Version B - TSP Improvements

46: SE Home Ave & SW Monroe St

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035

















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	0	0	0	5	35	15	5	50	15	80	50	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
Hourly flow rate (vph)	0	0	0	6	43	18	6	61	18	97	61	12
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	0	67	85	170								
Volume Left (vph)	0	6	6	97								
Volume Right (vph)	0	18	18	12								
Hadj (s)	0.00	-0.09	-0.08	0.09								
Departure Headway (s)	4.5	4.4	4.2	4.2								
Degree Utilization, x	0.00	0.08	0.10	0.20								
Capacity (veh/h)	755	769	838	833								
Control Delay (s)	7.5	7.8	7.6	8.3								
Approach Delay (s)	0.0	7.8	7.6	8.3								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			8.0									
Level of Service			A									
Intersection Capacity Utilization			26.4%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

Version B - TSP Improvements

49: SE Linwood Ave & SW Monroe St

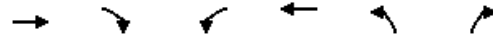
Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	35	0	0	90	0	295	20	0	303	36
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	0	43	0	0	110	0	359	24	0	369	44
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												1153
pX, platoon unblocked	0.95	0.95	0.95	0.95	0.95		0.95					
vC, conflicting volume	872	774	391	805	784	371	413			383		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	840	737	334	769	748	371	357			383		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	94	100	100	84	100			100		
cM capacity (veh/h)	227	329	673	283	325	675	1143			1175		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	43	110	383	413								
Volume Left	0	0	0	0								
Volume Right	43	110	24	44								
cSH	673	675	1143	1175								
Volume to Capacity	0.06	0.16	0.00	0.00								
Queue Length 95th (ft)	5	14	0	0								
Control Delay (s)	10.7	11.4	0.0	0.0								
Lane LOS	B	B										
Approach Delay (s)	10.7	11.4	0.0	0.0								
Approach LOS	B	B										
Intersection Summary												
Average Delay			1.8									
Intersection Capacity Utilization			34.7%		ICU Level of Service					A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis
 52: SE Home Ave & SE King Rd

Version B - TSP Improvements

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035











Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Volume (veh/h)	695	6	35	530	6	45
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	846	7	43	645	7	55
Pedestrians				1	1	
Lane Width (ft)				12.0	12.0	
Walking Speed (ft/s)				4.0	4.0	
Percent Blockage				0	0	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			854		1581	852
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			854		1581	852
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			95		94	85
cM capacity (veh/h)			776		114	356
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	853	688	62			
Volume Left	0	43	7			
Volume Right	7	0	55			
cSH	1700	776	285			
Volume to Capacity	0.50	0.05	0.22			
Queue Length 95th (ft)	0	4	20			
Control Delay (s)	0.0	1.4	21.1			
Lane LOS		A	C			
Approach Delay (s)	0.0	1.4	21.1			
Approach LOS			C			
Intersection Summary						
Average Delay			1.4			
Intersection Capacity Utilization			77.7%		ICU Level of Service	D
Analysis Period (min)			15			

Queues

Version C - Optimized

8: HWY 224 & SW Harrison St

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035







								
Lane Group	EBT	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	460	530	91	1309	61	332	2147	28
v/c Ratio	0.74	0.95	1.34	0.98	0.10	1.21	1.23	0.03
Control Delay	48.5	64.8	250.3	30.9	0.8	168.5	137.9	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.5	64.8	250.3	30.9	0.8	168.5	137.9	0.5
Queue Length 50th (ft)	173	202	~102	604	1	~364	~1201	0
Queue Length 95th (ft)	233	#288	#217	#713	m0	#569	#1350	3
Internal Link Dist (ft)	610	167		406			859	
Turn Bay Length (ft)			190		200	650		230
Base Capacity (vph)	689	612	68	1333	613	274	1739	825
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.87	1.34	0.98	0.10	1.21	1.23	0.03

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

9: HWY 224 & SW Monroe St

						
Lane Group	EBR	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	118	28	1455	16	7	2313
v/c Ratio	0.66	0.14	0.53	0.01	0.10	0.83
Control Delay	47.1	2.2	2.1	0.0	64.2	9.2
Queue Delay	0.0	0.0	0.1	0.0	0.0	5.3
Total Delay	47.1	2.2	2.2	0.0	64.2	14.5
Queue Length 50th (ft)	49	0	20	0	6	167
Queue Length 95th (ft)	110	m1	m45	m0	m4	m14
Internal Link Dist (ft)			720			406
Turn Bay Length (ft)	150	130		330	185	
Base Capacity (vph)	486	499	2765	1224	71	2793
Starvation Cap Reductn	0	0	259	0	0	215
Spillback Cap Reductn	7	4	199	0	0	428
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.06	0.58	0.01	0.10	0.98

Intersection Summary














m Volume for 95th percentile queue is metered by upstream signal.

Queues

10: HWY 224 & SW Oak St

Version C - Optimized

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035

													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR	
Lane Group Flow (vph)	22	285	99	189	341	189	309	2015	91	134	1260	211	
v/c Ratio	0.09	0.42	0.24	0.94	0.43	0.26	0.95	1.12	0.11	1.03	0.91	0.31	
Control Delay	40.4	46.2	4.6	94.9	44.0	8.8	81.6	88.9	3.1	139.6	37.2	6.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	
Total Delay	40.4	46.2	4.6	94.9	44.0	8.8	81.6	89.0	3.1	139.6	37.2	6.2	
Queue Length 50th (ft)	14	106	0	138	129	35	~295	~1021	4	~167	521	18	
Queue Length 95th (ft)	38	150	27	#289	177	77	m#414	#1165	m6	#307	#542	52	
Internal Link Dist (ft)		58			347			720			610		
Turn Bay Length (ft)				180		180	390		350	550		200	
Base Capacity (vph)	254	791	453	202	791	724	326	1797	827	130	1380	689	
Starvation Cap Reductn	0	0	0	0	0	0	0	42	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.09	0.36	0.22	0.94	0.43	0.26	0.95	1.15	0.11	1.03	0.91	0.31	

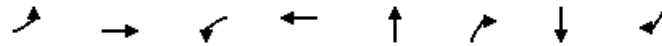
Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

11: SE 32nd Ave & SW Harrison St

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035



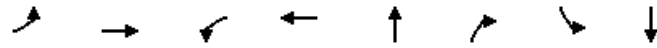
Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	196	566	37	297	200	27	190	178
v/c Ratio	0.29	0.47	0.08	0.28	0.61	0.08	0.56	0.41
Control Delay	6.2	7.8	5.5	5.9	30.2	8.0	28.6	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.2	7.8	5.5	5.9	30.2	8.0	28.6	6.5
Queue Length 50th (ft)	37	113	4	37	83	3	68	0
Queue Length 95th (ft)	m106	m281	17	92	m96	m10	111	39
Internal Link Dist (ft)		210		885	175		889	
Turn Bay Length (ft)			120			100		120
Base Capacity (vph)	675	1194	471	1059	491	467	512	566
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.47	0.08	0.28	0.41	0.06	0.37	0.31

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Queues

22: SE Harmony Rd & SW Railroad Ave & SE Linwood Ave 2nd, OR224 and Linwood on Monroe PM Peak 2035



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	30	511	373	456	299	638	153	276
v/c Ratio	0.39	1.13	1.19	0.61	0.98	0.94	0.52	0.92
Control Delay	57.1	115.6	148.0	23.7	86.6	34.8	40.5	73.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.1	115.6	148.0	23.7	86.6	34.8	40.5	73.6
Queue Length 50th (ft)	17	~338	~258	196	171	114	80	153
Queue Length 95th (ft)	#47	#533	#431	305	#333	#329	141	#304
Internal Link Dist (ft)		499		2338	614			1327
Turn Bay Length (ft)	150		500			200	360	
Base Capacity (vph)	76	452	313	746	304	678	297	299
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	1.13	1.19	0.61	0.98	0.94	0.52	0.92

Intersection Summary









- Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues

30: SE King Rd & SE 43rd Ave

Version C - Optimized

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035

								
Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	6	804	122	487	73	146	30	6
v/c Ratio	0.01	0.77	0.31	0.38	0.39	0.45	0.13	0.02
Control Delay	3.0	18.7	5.1	6.2	30.3	10.0	24.4	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.0	18.7	5.1	6.2	30.3	10.0	24.4	0.2
Queue Length 50th (ft)	1	221	10	51	25	0	10	0
Queue Length 95th (ft)	3	#507	26	182	59	43	30	0
Internal Link Dist (ft)		197		348	52		401	
Turn Bay Length (ft)	110		110					95
Base Capacity (vph)	687	1048	394	1294	417	540	496	517
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.77	0.31	0.38	0.18	0.27	0.06	0.01

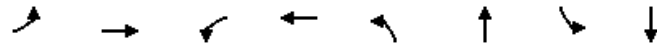
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues

31: SE Linwood Ave & SE King Rd

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	134	816	97	511	158	308	47	378
v/c Ratio	0.39	0.99	0.49	0.66	0.83	0.64	0.17	0.95
Control Delay	12.8	54.1	19.4	24.0	59.5	35.9	21.6	66.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.8	54.1	19.4	24.0	59.5	35.9	21.6	66.6
Queue Length 50th (ft)	33	-498	24	215	64	157	18	199
Queue Length 95th (ft)	61	#726	51	328	#158	#279	42	#373
Internal Link Dist (ft)		1162		990		1073		389
Turn Bay Length (ft)	200		200		160		150	
Base Capacity (vph)	348	826	197	815	190	484	278	420
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.99	0.49	0.63	0.83	0.64	0.17	0.90

Intersection Summary

- Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues

32: SE 42nd Ave & SW Harrison St



Lane Group	EBL	EBT	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	463	164	61	15	414	243	256
v/c Ratio	0.76	0.22	0.19	0.04	0.71	0.42	0.25
Control Delay	20.6	5.2	19.1	0.1	19.7	13.5	1.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.6	5.2	19.1	0.1	19.7	13.5	1.2
Queue Length 50th (ft)	75	11	14	0	94	49	0
Queue Length 95th (ft)	#220	39	43	0	171	96	14
Internal Link Dist (ft)		597	1920		168	398	
Turn Bay Length (ft)	150			100			
Base Capacity (vph)	654	1353	724	802	917	915	1053
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.12	0.08	0.02	0.45	0.27	0.24

Intersection Summary





























95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

Version C - Optimized

8: HWY 224 & SW Harrison St

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 		 	 	 	 	 	 
Volume (vph)	30	270	77	65	220	150	75	1075	50	273	1764	23
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.0			4.0		4.0	6.0	6.0	4.0	6.0	6.0
Lane Util. Factor		0.95			0.95		1.00	0.95	1.00	1.00	0.95	1.00
Frbp, ped/bikes		1.00			0.99		1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes		1.00			1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.97			0.95		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		1.00			0.99		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		2875			2761		1480	2988	1324	1509	2988	1377
Flt Permitted		0.80			0.69		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		2299			1913		1480	2988	1324	1509	2988	1377
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
Growth Factor (vph)	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%
Adj. Flow (vph)	37	329	94	79	268	183	91	1309	61	332	2147	28
RTOR Reduction (vph)	0	18	0	0	55	0	0	0	23	0	0	12
Lane Group Flow (vph)	0	442	0	0	475	0	91	1309	38	332	2147	16
Confl. Peds. (#/hr)	8		1	1		8						
Heavy Vehicles (%)	0%	4%	1%	3%	4%	5%	4%	3%	4%	2%	3%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4					6			2
Actuated Green, G (s)		34.3			34.3		6.0	58.0	58.0	23.7	75.7	75.7
Effective Green, g (s)		34.3			34.3		6.0	58.0	58.0	23.7	75.7	75.7
Actuated g/C Ratio		0.26			0.26		0.05	0.45	0.45	0.18	0.58	0.58
Clearance Time (s)		4.0			4.0		4.0	6.0	6.0	4.0	6.0	6.0
Vehicle Extension (s)		2.5			2.5		2.3	3.9	3.9	2.3	3.9	3.9
Lane Grp Cap (vph)		606			504		68	1333	590	275	1739	801
v/s Ratio Prot							c0.06	0.44		0.22	c0.72	
v/s Ratio Perm		0.19			c0.25				0.03			0.01
v/c Ratio		0.73			0.94		1.34	0.98	0.06	1.21	1.23	0.02
Uniform Delay, d1		43.6			46.9		62.0	35.5	20.5	53.1	27.1	11.5
Progression Factor		1.00			0.96		0.61	0.28	0.06	1.00	1.00	1.00
Incremental Delay, d2		4.1			25.7		216.2	19.1	0.2	122.3	110.8	0.0
Delay (s)		47.7			70.8		254.3	28.9	1.4	175.5	137.9	11.5
Level of Service		D			E		F	C	A	F	F	B
Approach Delay (s)		47.7			70.8			41.8			141.5	
Approach LOS		D			E			D			F	
Intersection Summary												
HCM 2000 Control Delay			95.8				HCM 2000 Level of Service			F		
HCM 2000 Volume to Capacity ratio			1.15									
Actuated Cycle Length (s)			130.0				Sum of lost time (s)			14.0		
Intersection Capacity Utilization			119.7%				ICU Level of Service			H		
Analysis Period (min)			15									




















c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

Version C - Optimized

9: HWY 224 & SW Monroe St

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	97	0	0	23	0	1195	13	6	1900	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)			4.0			4.0		6.0	6.0	4.0	6.0	
Lane Util. Factor			1.00			1.00		0.95	1.00	1.00	0.95	
Frbp, ped/bikes			0.98			0.98		1.00	0.96	1.00	1.00	
Flpb, ped/bikes			1.00			1.00		1.00	1.00	1.00	1.00	
Frt			0.86			0.86		1.00	0.85	1.00	1.00	
Flt Protected			1.00			1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)			1520			1525		3353	1475	1710	3320	
Flt Permitted			1.00			1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)			1520			1525		3353	1475	1710	3320	
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
Growth Factor (vph)	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%
Adj. Flow (vph)	0	0	118	0	0	28	0	1455	16	7	2313	0
RTOR Reduction (vph)	0	0	54	0	0	26	0	0	3	0	0	0
Lane Group Flow (vph)	0	0	64	0	0	2	0	1455	13	7	2313	0
Confl. Peds. (#/hr)	7		12	12		7	3		6	6		3
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	3%	0%
Turn Type			Perm			Perm		NA	Perm	Prot	NA	
Protected Phases								6		5	2	
Permitted Phases			8			4			6			
Actuated Green, G (s)			10.6			10.6		104.1	104.1	1.3	109.4	
Effective Green, g (s)			10.6			10.6		104.1	104.1	1.3	109.4	
Actuated g/C Ratio			0.08			0.08		0.80	0.80	0.01	0.84	
Clearance Time (s)			4.0			4.0		6.0	6.0	4.0	6.0	
Vehicle Extension (s)			2.5			2.5		5.2	5.2	2.3	5.2	
Lane Grp Cap (vph)			123			124		2684	1181	17	2793	
v/s Ratio Prot								0.43		0.00	c0.70	
v/s Ratio Perm			c0.04			0.00			0.01			
v/c Ratio			0.52			0.02		0.54	0.01	0.41	0.83	
Uniform Delay, d1			57.3			54.9		4.6	2.6	64.0	5.4	
Progression Factor			1.00			1.00		0.39	0.00	1.07	1.32	
Incremental Delay, d2			2.7			0.0		0.4	0.0	0.9	0.3	
Delay (s)			60.0			55.0		2.2	0.0	69.4	7.4	
Level of Service			E			D		A	A	E	A	
Approach Delay (s)		60.0			55.0			2.2			7.6	
Approach LOS		E			D			A			A	
Intersection Summary												
HCM 2000 Control Delay			7.5			HCM 2000 Level of Service			A			
HCM 2000 Volume to Capacity ratio			0.83									
Actuated Cycle Length (s)			130.0			Sum of lost time (s)			14.0			
Intersection Capacity Utilization			86.4%			ICU Level of Service			E			
Analysis Period (min)			15									





























c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

Version C - Optimized

10: HWY 224 & SW Oak St

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035





















													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR	
Lane Configurations		 			 			 			 		
Volume (vph)	18	234	81	155	280	155	254	1655	75	110	1035	173	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.0	6.0	4.0	6.0	6.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	0.96	1.00	1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1703	3320	1500	1693	3320	1509	1613	3386	1462	1644	3386	1484	
Flt Permitted	0.55	1.00	1.00	0.36	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	980	3320	1500	648	3320	1509	1613	3386	1462	1644	3386	1484	
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	
Growth Factor (vph)	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	
Adj. Flow (vph)	22	285	99	189	341	189	309	2015	91	134	1260	211	
RTOR Reduction (vph)	0	0	77	0	0	59	0	0	44	0	0	86	
Lane Group Flow (vph)	22	285	22	189	341	130	309	2015	47	134	1260	125	
Confl. Peds. (#/hr)	13						13	7		32	32	7	
Confl. Bikes (#/hr)							1		1			2	
Heavy Vehicles (%)	0%	3%	2%	1%	3%	0%	6%	1%	0%	4%	1%	1%	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	
Protected Phases	3	8		7	4	5	5	2		1	6		
Permitted Phases	8		8	4		4			2			6	
Actuated Green, G (s)	28.3	28.3	28.3	31.0	31.0	57.3	26.3	67.4	67.4	10.3	51.4	51.4	
Effective Green, g (s)	28.3	28.3	28.3	31.0	31.0	57.3	26.3	67.4	67.4	10.3	51.4	51.4	
Actuated g/C Ratio	0.22	0.22	0.22	0.24	0.24	0.44	0.20	0.52	0.52	0.08	0.40	0.40	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.0	6.0	4.0	6.0	6.0	
Vehicle Extension (s)	3.0	2.5	2.5	3.0	2.5	2.3	2.3	4.8	4.8	2.3	4.8	4.8	
Lane Grp Cap (vph)	231	722	326	202	791	665	326	1755	757	130	1338	586	
v/s Ratio Prot	0.00	c0.09		c0.04	0.10	0.04	c0.19	c0.60		0.08	0.37		
v/s Ratio Perm	0.02		0.01	c0.18		0.05			0.03			0.08	
v/c Ratio	0.10	0.39	0.07	0.94	0.43	0.20	0.95	1.15	0.06	1.03	0.94	0.21	
Uniform Delay, d1	40.7	43.5	40.4	48.3	42.0	22.2	51.2	31.3	15.6	59.9	37.9	25.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.08	0.98	1.69	1.08	0.76	0.60	
Incremental Delay, d2	0.2	0.3	0.1	45.0	1.7	0.1	25.0	70.9	0.1	79.9	12.2	0.7	
Delay (s)	40.9	43.8	40.4	93.3	43.7	22.3	80.2	101.5	26.3	144.3	40.9	16.2	
Level of Service	D	D	D	F	D	C	F	F	C	F	D	B	
Approach Delay (s)		42.8			51.1			96.0			46.3		
Approach LOS		D			D			F			D		
Intersection Summary													
HCM 2000 Control Delay			70.0									HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio			1.06										
Actuated Cycle Length (s)			130.0									Sum of lost time (s)	18.0
Intersection Capacity Utilization			111.3%									ICU Level of Service	H
Analysis Period (min)			15										
c Critical Lane Group													

HCM Signalized Intersection Capacity Analysis

Version C - Optimized

11: SE 32nd Ave & SW Harrison St

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035





















													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Volume (vph)	161	459	6	30	230	14	35	129	22	24	132	146	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00	
Frbp, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.95		1.00	0.98	
Flpb, ped/bikes	0.99	1.00		0.99	1.00			1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99			1.00	0.85		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00		0.99	1.00	
Satd. Flow (prot)	1657	1778		1699	1574			1767	1456		1781	1439	
Flt Permitted	0.58	1.00		0.39	1.00			0.90	1.00		0.93	1.00	
Satd. Flow (perm)	1005	1778		701	1574			1599	1456		1667	1439	
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	
Growth Factor (vph)	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	
Adj. Flow (vph)	196	559	7	37	280	17	43	157	27	29	161	178	
RTOR Reduction (vph)	0	1	0	0	3	0	0	0	21	0	0	142	
Lane Group Flow (vph)	196	565	0	37	294	0	0	200	6	0	190	36	
Confl. Peds. (#/hr)	8		4	8		4			15	15			
Confl. Bikes (#/hr)						1			1			1	
Heavy Vehicles (%)	2%	1%	0%	0%	2%	0%	0%	1%	0%	0%	0%	4%	
Parking (#/hr)					0								
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm	
Protected Phases		4			8			2			6		
Permitted Phases	4			8			2		2	6		6	
Actuated Green, G (s)	43.7	43.7		43.7	43.7			13.3	13.3		13.3	13.3	
Effective Green, g (s)	43.7	43.7		43.7	43.7			13.3	13.3		13.3	13.3	
Actuated g/C Ratio	0.67	0.67		0.67	0.67			0.20	0.20		0.20	0.20	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	675	1195		471	1058			327	297		341	294	
v/s Ratio Prot		c0.32			0.19								
v/s Ratio Perm	0.20			0.05				c0.13	0.00		0.11	0.03	
v/c Ratio	0.29	0.47		0.08	0.28			0.61	0.02		0.56	0.12	
Uniform Delay, d1	4.3	5.1		3.7	4.3			23.5	20.6		23.2	21.1	
Progression Factor	1.06	1.18		1.00	1.00			0.98	1.26		1.00	1.00	
Incremental Delay, d2	0.6	0.8		0.3	0.7			3.2	0.0		2.0	0.2	
Delay (s)	5.2	6.8		4.0	4.9			26.3	26.1		25.2	21.3	
Level of Service	A	A		A	A			C	C		C	C	
Approach Delay (s)		6.4			4.8			26.3			23.3		
Approach LOS		A			A			C			C		
Intersection Summary													
HCM 2000 Control Delay			12.4									HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.51										
Actuated Cycle Length (s)			65.0									Sum of lost time (s)	8.0
Intersection Capacity Utilization			67.6%									ICU Level of Service	C
Analysis Period (min)			15										

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

Version C - Optimized

22: SE Harmony Rd & SW Railroad Ave & SE Linwood Ave, OR224 and Linwood on Monroe PM Peak 2035





















													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Volume (vph)	25	360	60	306	274	100	40	205	524	126	207	20	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	
Total Lost time (s)	4.0	5.0		4.0	5.0			4.0	4.0	5.0	5.0		
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00		
Frbp, ped/bikes	1.00	1.00		1.00	0.99			1.00	0.98	1.00	1.00		
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00		
Frt	1.00	0.98		1.00	0.96			1.00	0.85	1.00	0.99		
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00	0.95	1.00		
Satd. Flow (prot)	1710	1746		1660	1683			1714	1465	1676	1664		
Flt Permitted	0.95	1.00		0.95	1.00			0.99	1.00	0.95	1.00		
Satd. Flow (perm)	1710	1746		1660	1683			1714	1465	1676	1664		
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	
Growth Factor (vph)	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	
Adj. Flow (vph)	30	438	73	373	334	122	49	250	638	153	252	24	
RTOR Reduction (vph)	0	7	0	0	14	0	0	0	139	0	4	0	
Lane Group Flow (vph)	30	504	0	373	442	0	0	299	499	153	272	0	
Confl. Peds. (#/hr)	11		1	1		11	6		10	10		6	
Confl. Bikes (#/hr)									3			1	
Heavy Vehicles (%)	0%	0%	4%	3%	1%	2%	5%	4%	2%	2%	7%	0%	
Turn Type	Prot	NA		Prot	NA		Split	NA	pm+ov	Split	NA		
Protected Phases	5	2		1	6		8	8	1	4	4		
Permitted Phases									8				
Actuated Green, G (s)	2.4	23.0		18.6	39.2			16.0	34.6	16.0	16.0		
Effective Green, g (s)	2.4	23.0		18.6	39.2			16.0	34.6	16.0	16.0		
Actuated g/C Ratio	0.03	0.25		0.20	0.43			0.17	0.38	0.17	0.17		
Clearance Time (s)	4.0	5.0		4.0	5.0			4.0	4.0	5.0	5.0		
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)	44	438		337	720			299	553	292	290		
v/s Ratio Prot	0.02	c0.29		c0.22	0.26			c0.17	0.18	0.09	c0.16		
v/s Ratio Perm									0.16				
v/c Ratio	0.68	1.15		1.11	0.61			1.00	0.90	0.52	0.94		
Uniform Delay, d1	44.2	34.3		36.5	20.3			37.8	26.9	34.3	37.3		
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00		
Incremental Delay, d2	35.7	91.4		80.9	1.6			52.0	17.9	1.7	36.2		
Delay (s)	79.9	125.7		117.4	21.9			89.8	44.8	36.0	73.5		
Level of Service	E	F		F	C			F	D	D	E		
Approach Delay (s)		123.1			64.9			59.1			60.1		
Approach LOS		F			E			E			E		
Intersection Summary													
HCM 2000 Control Delay			73.7									HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio			1.06										
Actuated Cycle Length (s)			91.6									Sum of lost time (s)	18.0
Intersection Capacity Utilization			92.2%									ICU Level of Service	F
Analysis Period (min)			15										
c Critical Lane Group													

HCM Signalized Intersection Capacity Analysis

Version C - Optimized

30: SE King Rd & SE 43rd Ave

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035





















													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Volume (vph)	5	615	45	100	395	5	38	22	120	5	20	5	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	
Total Lost time (s)	4.0	4.5		4.0	4.5			4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00	
Frbp, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.98		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00			1.00	0.85		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00			0.97	1.00		0.99	1.00	
Satd. Flow (prot)	1710	1601		1676	1745			1713	1465		1782	1530	
Flt Permitted	0.48	1.00		0.21	1.00			0.79	1.00		0.92	1.00	
Satd. Flow (perm)	870	1601		376	1745			1397	1465		1661	1530	
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	
Growth Factor (vph)	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	
Adj. Flow (vph)	6	749	55	122	481	6	46	27	146	6	24	6	
RTOR Reduction (vph)	0	3	0	0	0	0	0	0	131	0	0	5	
Lane Group Flow (vph)	6	801	0	122	487	0	0	73	15	0	30	1	
Confl. Bikes (#/hr)			3			2			1				
Heavy Vehicles (%)	0%	0%	0%	2%	3%	0%	3%	0%	2%	0%	0%	0%	
Parking (#/hr)		0											
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm	
Protected Phases	5	2		1	6			8			4		
Permitted Phases	2			6			8		8	4		4	
Actuated Green, G (s)	40.0	39.1		45.8	42.0			6.6	6.6		6.6	6.6	
Effective Green, g (s)	40.0	39.1		45.8	42.0			6.6	6.6		6.6	6.6	
Actuated g/C Ratio	0.64	0.63		0.73	0.67			0.11	0.11		0.11	0.11	
Clearance Time (s)	4.0	4.5		4.0	4.5			4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			2.5	2.5		2.5	2.5	
Lane Grp Cap (vph)	568	1001		354	1172			147	154		175	161	
v/s Ratio Prot	0.00	c0.50		c0.02	0.28								
v/s Ratio Perm	0.01			0.23				c0.05	0.01		0.02	0.00	
v/c Ratio	0.01	0.80		0.34	0.42			0.50	0.10		0.17	0.00	
Uniform Delay, d1	4.1	8.8		5.4	4.7			26.4	25.3		25.5	25.0	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	4.7		0.6	0.2			1.9	0.2		0.3	0.0	
Delay (s)	4.1	13.4		5.9	4.9			28.3	25.5		25.8	25.0	
Level of Service	A	B		A	A			C	C		C	C	
Approach Delay (s)		13.4			5.1			26.4			25.7		
Approach LOS		B			A			C			C		
Intersection Summary													
HCM 2000 Control Delay			12.3									HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.72										
Actuated Cycle Length (s)			62.5									Sum of lost time (s)	13.0
Intersection Capacity Utilization			69.4%									ICU Level of Service	C
Analysis Period (min)			15										
c Critical Lane Group													

HCM Signalized Intersection Capacity Analysis

Version C - Optimized

31: SE Linwood Ave & SE King Rd

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035




















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	110	615	55	80	375	44	130	203	50	39	210	100
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frbp, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	0.97		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1672	1736		1693	1744		1676	1704		1706	1656	
Flt Permitted	0.27	1.00		0.10	1.00		0.17	1.00		0.39	1.00	
Satd. Flow (perm)	472	1736		182	1744		301	1704		698	1656	
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
Growth Factor (vph)	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%
Adj. Flow (vph)	134	749	67	97	457	54	158	247	61	47	256	122
RTOR Reduction (vph)	0	4	0	0	5	0	0	9	0	0	19	0
Lane Group Flow (vph)	134	812	0	97	506	0	158	299	0	47	359	0
Confl. Peds. (#/hr)	17		7	7		17	5		5	5		5
Confl. Bikes (#/hr)			1						2			
Heavy Vehicles (%)	2%	2%	3%	1%	1%	0%	2%	2%	1%	0%	3%	1%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	47.8	41.2		43.8	39.2		30.2	24.2		25.2	21.7	
Effective Green, g (s)	47.8	41.2		43.8	39.2		30.2	24.2		25.2	21.7	
Actuated g/C Ratio	0.53	0.46		0.49	0.44		0.34	0.27		0.28	0.24	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lane Grp Cap (vph)	340	799		166	763		193	460		235	401	
v/s Ratio Prot	c0.03	c0.47		c0.03	0.29		c0.05	0.18		0.01	0.22	
v/s Ratio Perm	0.18			0.26			c0.22			0.05		
v/c Ratio	0.39	1.02		0.58	0.66		0.82	0.65		0.20	0.90	
Uniform Delay, d1	12.7	24.1		19.3	19.9		23.9	28.9		24.0	32.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	36.0		3.4	1.7		21.9	2.4		0.2	21.2	
Delay (s)	13.0	60.2		22.7	21.6		45.7	31.3		24.2	54.0	
Level of Service	B	E		C	C		D	C		C	D	
Approach Delay (s)		53.5			21.8			36.2			50.7	
Approach LOS		D			C			D			D	
Intersection Summary												
HCM 2000 Control Delay			41.9				HCM 2000 Level of Service				D	
HCM 2000 Volume to Capacity ratio			0.94									
Actuated Cycle Length (s)			89.5				Sum of lost time (s)			16.0		
Intersection Capacity Utilization			89.8%				ICU Level of Service			E		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

Version C - Optimized

32: SE 42nd Ave & SW Harrison St

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Volume (vph)	380	70	65	27	23	12	30	290	20	15	185	210	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	
Total Lost time (s)	4.0	4.0			4.0	4.0		4.0			4.0	4.0	
Lane Util. Factor	1.00	1.00			1.00	1.00		1.00			1.00	1.00	
Frbp, ped/bikes	1.00	0.99			1.00	0.97		1.00			1.00	0.99	
Flpb, ped/bikes	1.00	1.00			1.00	1.00		1.00			1.00	1.00	
Frt	1.00	0.93			1.00	0.85		0.99			1.00	0.85	
Flt Protected	0.95	1.00			0.97	1.00		1.00			1.00	1.00	
Satd. Flow (prot)	1673	1652			1751	1486		1774			1760	1479	
Flt Permitted	0.51	1.00			0.79	1.00		0.96			0.96	1.00	
Satd. Flow (perm)	892	1652			1421	1486		1703			1701	1479	
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	
Growth Factor (vph)	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	112%	
Adj. Flow (vph)	463	85	79	33	28	15	37	353	24	18	225	256	
RTOR Reduction (vph)	0	42	0	0	0	14	0	3	0	0	0	101	
Lane Group Flow (vph)	463	122	0	0	61	1	0	411	0	0	243	155	
Confl. Peds. (#/hr)	4		2	2		4	5		10	10		5	
Confl. Bikes (#/hr)						1							
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	2%	
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Perm	NA	pm+ov	
Protected Phases	5	2			6			8			4	5	
Permitted Phases	2			6		6	8			4		4	
Actuated Green, G (s)	19.0	19.0			3.9	3.9		13.4			13.4	24.5	
Effective Green, g (s)	19.0	19.0			3.9	3.9		13.4			13.4	24.5	
Actuated g/C Ratio	0.47	0.47			0.10	0.10		0.33			0.33	0.61	
Clearance Time (s)	4.0	4.0			4.0	4.0		4.0			4.0	4.0	
Vehicle Extension (s)	1.0	1.0			1.0	1.0		1.0			1.0	1.0	
Lane Grp Cap (vph)	634	776			137	143		564			564	1043	
v/s Ratio Prot	c0.20	0.07										0.04	
v/s Ratio Perm	c0.14				0.04	0.00		c0.24			0.14	0.06	
v/c Ratio	0.73	0.16			0.45	0.01		0.73			0.43	0.15	
Uniform Delay, d1	8.1	6.1			17.2	16.5		11.9			10.5	3.4	
Progression Factor	1.00	1.00			1.00	1.00		1.00			1.00	1.00	
Incremental Delay, d2	3.7	0.0			0.8	0.0		4.0			0.2	0.0	
Delay (s)	11.8	6.2			18.1	16.5		15.9			10.7	3.5	
Level of Service	B	A			B	B		B			B	A	
Approach Delay (s)		10.3			17.8			15.9			7.0		
Approach LOS		B			B			B			A		
Intersection Summary													
HCM 2000 Control Delay			11.1									HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.81										
Actuated Cycle Length (s)			40.4									Sum of lost time (s)	12.0
Intersection Capacity Utilization			75.8%									ICU Level of Service	D
Analysis Period (min)			15										
c Critical Lane Group													



















Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	10	70	25	40	15	25
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	85	30	49	18	30
Pedestrians	2					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	145	35	51			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	145	35	51			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	92	98			
cM capacity (veh/h)	834	1041	1566			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	97	79	49			
Volume Left	12	30	0			
Volume Right	85	0	30			
cSH	1010	1566	1700			
Volume to Capacity	0.10	0.02	0.03			
Queue Length 95th (ft)	8	1	0			
Control Delay (s)	8.9	2.9	0.0			
Lane LOS	A	A				
Approach Delay (s)	8.9	2.9	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			4.9			
Intersection Capacity Utilization			23.2%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

Version C - Optimized

7: SE 42nd Ave & SW Monroe St

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	245	0	15	0	0	45	7	49	3	0	90	105
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
Hourly flow rate (vph)	298	0	18	0	0	55	9	60	4	0	110	128
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	317	55	72	237								
Volume Left (vph)	298	0	9	0								
Volume Right (vph)	18	55	4	128								
Hadj (s)	0.17	-0.60	0.02	-0.28								
Departure Headway (s)	4.9	4.5	5.2	4.7								
Degree Utilization, x	0.43	0.07	0.10	0.31								
Capacity (veh/h)	697	716	630	718								
Control Delay (s)	11.6	7.8	8.8	9.7								
Approach Delay (s)	11.6	7.8	8.8	9.7								
Approach LOS	B	A	A	A								
Intersection Summary												
Delay			10.3									
Level of Service			B									
Intersection Capacity Utilization			43.8%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

Version C - Optimized

17: SE 37th Ave & SW Railroad Ave

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035

















	↑	↖	↙	↓	↘	↗
Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations	↖			↖	↖	↖
Volume (veh/h)	244	185	120	110	100	79
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	297	225	146	134	122	96
Pedestrians	3			2	6	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	1	
Right turn flare (veh)						2
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			528		845	418
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			528		845	418
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			86		58	85
cM capacity (veh/h)			1044		287	635
Direction, Lane #	NB 1	SB 1	NW 1			
Volume Total	522	280	218			
Volume Left	0	146	122			
Volume Right	225	0	96			
cSH	1700	1044	513			
Volume to Capacity	0.31	0.14	0.42			
Queue Length 95th (ft)	0	12	52			
Control Delay (s)	0.0	5.4	20.0			
Lane LOS		A	C			
Approach Delay (s)	0.0	5.4	20.0			
Approach LOS			C			
Intersection Summary						
Average Delay			5.7			
Intersection Capacity Utilization			60.5%		ICU Level of Service	B
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

Version C - Optimized

23: SE 37th Ave & SW Harrison St

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	6	422	21	40	260	2	27	37	120	0	15	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	7	514	26	49	317	2	33	45	146	0	18	4
Pedestrians		2			2						2	
Lane Width (ft)		12.0			12.0						12.0	
Walking Speed (ft/s)		4.0			4.0						4.0	
Percent Blockage		0			0						0	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		1273			1310							
pX, platoon unblocked												
vC, conflicting volume	321			539			971	959	529	1129	971	322
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	321			539			971	959	529	1129	971	322
iC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
iC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			95			84	82	74	100	92	99
cM capacity (veh/h)	1248			1024			210	245	553	110	241	721
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	547	368	224	22								
Volume Left	7	49	33	0								
Volume Right	26	2	146	4								
cSH	1248	1024	370	271								
Volume to Capacity	0.01	0.05	0.60	0.08								
Queue Length 95th (ft)	0	4	95	7								
Control Delay (s)	0.2	1.6	28.5	19.5								
Lane LOS	A	A	D	C								
Approach Delay (s)	0.2	1.6	28.5	19.5								
Approach LOS			D	C								
Intersection Summary												
Average Delay			6.5									
Intersection Capacity Utilization			72.2%		ICU Level of Service				C			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

Version C - Optimized

36: SW Oak St & SW Railroad Ave/SW Monroe St Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035





















Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations	↶			↷	↶	↷
Volume (veh/h)	96	150	155	45	125	280
Sign Control	Stop			Stop	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	117	183	189	55	152	341
Pedestrians	4			9	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			1	0	
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)					900	
pX, platoon unblocked						
vC, conflicting volume	658	9	559	317	4	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	658	9	559	317	4	
tC, single (s)	6.5	6.2	7.1	6.5	4.1	
tC, 2 stage (s)						
tF (s)	4.0	3.3	3.5	4.0	2.2	
p0 queue free %	66	83	23	90	91	
cM capacity (veh/h)	345	1068	245	540	1619	
Direction, Lane #	EB 1	WB 1	NE 1	NE 2		
Volume Total	299	243	152	341		
Volume Left	0	189	152	0		
Volume Right	183	0	0	341		
cSH	588	279	1619	1700		
Volume to Capacity	0.51	0.87	0.09	0.20		
Queue Length 95th (ft)	72	190	8	0		
Control Delay (s)	17.3	65.9	7.5	0.0		
Lane LOS	C	F	A			
Approach Delay (s)	17.3	65.9	2.3			
Approach LOS	C	F				
Intersection Summary						
Average Delay			21.6			
Intersection Capacity Utilization			49.6%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

Version C - Optimized

44: SE 37th Ave & SW Monroe St

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035

















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	70	165	140	40	95	5	89	115	110	1	50	22
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
Hourly flow rate (vph)	85	201	170	49	116	6	108	140	134	1	61	27
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total (vph)	457	170	108	274	62	27						
Volume Left (vph)	85	49	108	0	1	0						
Volume Right (vph)	170	6	0	134	0	27						
Hadj (s)	-0.19	0.06	0.50	-0.33	0.01	-0.63						
Departure Headway (s)	5.3	6.1	7.0	6.1	7.0	6.4						
Degree Utilization, x	0.68	0.29	0.21	0.47	0.12	0.05						
Capacity (veh/h)	647	542	488	555	436	484						
Control Delay (s)	18.8	11.5	10.6	13.1	9.8	8.5						
Approach Delay (s)	18.8	11.5	12.4		9.4							
Approach LOS	C	B	B		A							
Intersection Summary												
Delay			14.7									
Level of Service			B									
Intersection Capacity Utilization			51.5%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

Version C - Optimized

46: SE Home Ave & SW Monroe St

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035

















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	0	0	0	5	35	15	5	50	15	80	50	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
Hourly flow rate (vph)	0	0	0	6	43	18	6	61	18	97	61	12
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	0	67	85	170								
Volume Left (vph)	0	6	6	97								
Volume Right (vph)	0	18	18	12								
Hadj (s)	0.00	-0.09	-0.08	0.09								
Departure Headway (s)	4.5	4.4	4.2	4.2								
Degree Utilization, x	0.00	0.08	0.10	0.20								
Capacity (veh/h)	755	769	838	833								
Control Delay (s)	7.5	7.8	7.6	8.3								
Approach Delay (s)	0.0	7.8	7.6	8.3								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			8.0									
Level of Service			A									
Intersection Capacity Utilization			26.4%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

Version C - Optimized

49: SE Linwood Ave & SW Monroe St

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	35	0	0	90	0	295	20	0	303	36
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	0	43	0	0	110	0	359	24	0	369	44
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							None			None		
Median storage (veh)												
Upstream signal (ft)												1153
pX, platoon unblocked	0.95	0.95	0.95	0.95	0.95		0.95					
vC, conflicting volume	872	774	391	805	784	371	413				383	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	842	740	338	772	750	371	361				383	
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1				4.1	
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2	
p0 queue free %	100	100	94	100	100	84	100				100	
cM capacity (veh/h)	227	329	672	283	325	675	1143				1175	
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	43	110	383	413								
Volume Left	0	0	0	0								
Volume Right	43	110	24	44								
cSH	672	675	1143	1175								
Volume to Capacity	0.06	0.16	0.00	0.00								
Queue Length 95th (ft)	5	14	0	0								
Control Delay (s)	10.7	11.4	0.0	0.0								
Lane LOS	B	B										
Approach Delay (s)	10.7	11.4	0.0	0.0								
Approach LOS	B	B										
Intersection Summary												
Average Delay			1.8									
Intersection Capacity Utilization			34.7%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

Version C - Optimized

52: SE Home Ave & SE King Rd

Alt 2 - Diverters at 42nd, OR224 and Linwood on Monroe PM Peak 2035



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↩			↩	↩	
Volume (veh/h)	695	6	35	530	6	45
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	846	7	43	645	7	55
Pedestrians				1	1	
Lane Width (ft)				12.0	12.0	
Walking Speed (ft/s)				4.0	4.0	
Percent Blockage				0	0	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			854		1581	852
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			854		1581	852
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			95		94	85
cM capacity (veh/h)			776		114	356

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	853	688	62
Volume Left	0	43	7
Volume Right	7	0	55
cSH	1700	776	285
Volume to Capacity	0.50	0.05	0.22
Queue Length 95th (ft)	0	4	20
Control Delay (s)	0.0	1.4	21.1
Lane LOS		A	C
Approach Delay (s)	0.0	1.4	21.1
Approach LOS			C

Intersection Summary			
Average Delay		1.4	
Intersection Capacity Utilization		77.7%	ICU Level of Service D
Analysis Period (min)		15	

Appendix T3: Table of ODOT Analysis Results

HWY 224 STUDY INTERSECTIONS - 2015

INTERSECTION: HWY 224 & SW Harrison St

Movement	Existing 2015												Alternative 1 (Version A)												Alternative 2 (Version A)											
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume	9	251	77	61	202	141	57	1075	50	273	1764	23	30	270	77	65	220	155	55	1050	50	280	1764	30	30	270	77	65	220	150	75	1075	50	273	1764	23
Volume Change	-	-	-	-	-	-	-	-	-	-	-	-	21	19	0	4	18	14	-2	-25	0	7	0	7	21	19	0	4	18	9	18	0	0	0	0	0
Vol. % Change From Exist.	-	-	-	-	-	-	-	-	-	-	-	-	233%	8%	0%	7%	9%	10%	-4%	-2%	0%	3%	0%	30%	233%	8%	0%	7%	9%	6%	32%	0%	0%	0%	0%	0%
Approach LOS	D			E			C			E			D			E			C			E			D			E			C			E		
Overall LOS:	D												E												E											
Volume/Capacity Ratio	-	0.62	-	-	0.92	-	0.63	0.84	0.05	0.93	1.05	0.02	-	0.72	-	-	0.91	-	0.62	0.87	0.05	0.95	1.10	0.02	-	0.74	-	-	0.95	-	0.79	0.87	0.05	0.94	1.09	0.02
Overall V/C:	1.01												1.03												1.04											
Approach Delay (s)	45.1			71.7			24.3			61.2			46.7			67.6			26.9			77.4			48.6			75.2			34.5			76		
Overall Control Delay:	50.0												59.0												61.2											
95% Que Length (ft)	-	177	-	-	#245	-	99	572	14	#393	#1035	0	-	#213	-	-	#283	-	97	566	10	#405	#1035	4	-	#215	-	-	#283	-	#133	574	12	#393	#1035	0

INTERSECTION: HWY 224 & SW Monroe St

Movement	Existing 2015												Alternative 1 (Version A)												Alternative 2 (Version A)											
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume	21	21	97	21	29	23	27	1174	13	6	1881	15	0	0	97	0	0	23	0	1135	13	6	1900	0	0	0	97	0	0	23	0	1195	13	6	1900	0
Volume Change	-	-	-	-	-	-	-	-	-	-	-	-	-21	-21	0	-21	-29	0	-27	-39	0	0	19	-15	-21	-21	0	-21	-29	0	-27	21	0	0	19	-15
Vol. % Change From Exist.	-	-	-	-	-	-	-	-	-	-	-	-	-100%	-100%	0%	-100%	-100%	0%	-100%	-3%	0%	0%	1%	-100%	-100%	-100%	0%	-100%	-100%	0%	-100%	2%	0%	0%	1%	-100%
Approach LOS	D			D			A			A			D			D			A			A			D			D			A			A		
Overall LOS:	A												A												A											
Volume/Capacity Ratio	-	0.41	0.07	-	0.47	0.02	0.43	0.48	0.01	0.39	0.8	0.01	-	-	0.28	-	-	0.01	-	0.49	0.01	0.06	0.73	-	-	-	0.4	-	-	0.02	-	0.49	0.01	0.39	0.74	-
Overall V/C:	0.75												0.73												0.74											
Approach Delay (s)	52.5			54.6			4.4			4.4			54.3			44.8			3.9			3.5			54.6			51.4			4			3.2		
Overall Control Delay:	7.5												5.5												5.4											
95% Que Length (ft)	-	72	53	-	82*	1*	31*	351	0*	5*	58*	0*	-	-	72	-	-	0*	-	501	0*	5*	38*	-	-	-	86	-	-	0*	-	543	1*	5*	36*	-

INTERSECTION: HWY 224 & SW Oak St

Movement	Existing 2015												Alternative 1 (Version A)												Alternative 2 (Version A)											
	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Volume	18	234	81	140	257	160	254	1667	64	102	1044	173	18	234	81	100	180	110	254	1667	75	175	1020	190	18	234	81	155	280	155	254	1655	75	110	1035	173
Volume Change	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	-40	-77	-50	0	0	11	73	-24	17	0	0	0	15	23	-5	0	-12	11	8	-9	0
Vol. % Change From Exist.	-	-	-	-	-	-	-	-	-	-	-	-	0%	0%	0%	-29%	-30%	-31%	0%	0%	17%	72%	-2%	10%	0%	0%	0%	11%	9%	-3%	0%	-1%	17%	8%	-1%	0%
Approach LOS	D			D			D			C			D			D			D			C			D			E			D			C		
Overall LOS:	C												D												D											
Volume/Capacity Ratio	0.12	0.39	0.06	0.87	0.43	0.23	0.87	0.91	0.05	0.67	0.68	0.14	0.11	0.41	0.06	0.67	0.32	0.15	0.87	0.93	0.06	0.93	0.66	0.16	0.13	0.39	0.06	0.97	0.47	0.22	0.87	0.91	0.06	0.7	0.68	0.14
Overall V/C:	0.91												0.89												0.93											
Approach Delay (s)	41.4			49.7			36.5			22.3			42.5			43.8			40.8			31.1			41.5			56			37.7			20.9		
Overall Control Delay:	34.1												37.9												35.3											
95% Que Length (ft)	37	134	37	#250	146	112	260*	#730	18*	141*	269	62	36	134	37	#165	106	72	#313*	#736	23*	#298	342	84	37	134	37	#283	159	107	#308*	#713	23*	165	376	10

Notes:

= 95th percentile volume exceeds capacity, queue may be longer

* = Volume for 95th percentile is metered by upstream signal

Alternative 1 HWY 224 STUDY INTERSECTIONS - 2035

INTERSECTION: HWY 224 & SW Harrison St

Movement	Base Case 2035												Version A											
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume	11	306	94	74	246	172	69	1309	61	332	2147	28	37	329	94	79	268	189	67	1278	61	341	2147	37
Volume Change	-	-	-	-	-	-	-	-	-	-	-	-	26	23	0	5	22	17	-2	-31	0	9	0	9
Vol. % Change From Base Case 2035	-	-	-	-	-	-	-	-	-	-	-	-	236%	8%	0%	7%	9%	10%	-3%	-2%	0%	3%	0%	32%
Approach LOS	D			F			D			F			E			F			C			F		
Overall LOS:	F												F											
Volume/Capacity Ratio	-	0.66	-	-	1.03	-	0.64	0.98	0.06	1.02	1.22	0.02	-	0.92	-	-	1.18	-	0.62	0.96	0.06	1.05	1.22	0.03
Overall V/C:	1.15												1.19											
Approach Delay (s)	45.3			100.2			40.3			122.1			67.8			149.1			33.5			126		
Overall Control Delay:	89.1												96.7											
95% Que Length (ft)	-	202	-	-	#303	-	106	#697	12*	#455	#1228	1	-	#285	-	-	#352	-	101*	#671	7*	#472	#1228	6

INTERSECTION: HWY 224 & SW Monroe St

Movement	Base Case 2035												Version A											
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume	26	26	118	26	35	28	33	1429	16	7	2290	18	0	0	118	0	0	28	0	1382	16	7	2313	0
Volume Change	-	-	-	-	-	-	-	-	-	-	-	-	-26	-26	0	-26	-35	0	-33	-47	0	0	23	-18
Vol. % Change From Base Case 2035	-	-	-	-	-	-	-	-	-	-	-	-	-100%	-100%	0%	-100%	-100%	0%	-100%	-3%	0%	0%	1%	-100%
Approach LOS	D			E			A			A			D			D			A			A		
Overall LOS:	A												A											
Volume/Capacity Ratio	-	0.44	0.08	-	0.5	0.02	0.46	0.54	0.01	0.39	0.91	0.01	-	-	0.38	-	-	0.02	-	0.58	0.01	0.04	0.83	-
Overall V/C:	0.84												0.82											
Approach Delay (s)	52.2			74.3			5.3			7.2			54.4			41.3			7.1			6.6		
Overall Control Delay:	9.9												8.5											
95% Que Length (ft)	-	79	56	-	89*	2*	33*	609	0*	4*	266*	0*	-	-	85	-	-	1*	-	618	0*	4*	58*	-

INTERSECTION: HWY 224 & SW Oak St

Movement	Base Case 2035												Version A											
	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Volume	22	285	99	170	313	195	309	2029	78	124	1271	211	22	285	99	122	219	134	309	2029	91	213	1242	231
Volume Change	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	-48	-94	-61	0	0	13	89	-29	20
Vol. % Change From Base Case 2035	-	-	-	-	-	-	-	-	-	-	-	-	0%	0%	0%	-28%	-30%	-31%	0%	0%	17%	72%	-2%	9%
Approach LOS	D			E			D			C			D			D			E			D		
Overall LOS:	D												D											
Volume/Capacity Ratio	0.16	0.47	0.07	1.16	0.51	0.28	0.91	1.01	0.05	0.72	0.77	0.18	0.12	0.47	0.07	0.84	0.36	0.18	0.91	1.04	0.06	1.04	0.75	0.21
Overall V/C:	1.04												1.00											
Approach Delay (s)	43.2			72.7			49.2			26.1			43.2			49.8			59.6			38.6		
Overall Control Delay:	44.6												50.2											
95% Que Length (ft)	40	150	47	#298	163	135	258*	#1024	17*	140*	350	77*	39	150	47	#204	117	89	#312*	#1030	15*	#337*	425	124

Notes:

= 95th percentile volume exceeds capacity, queue may be longer

* = Volume for 95th percentile is metered by upstream signal

Alternative 1 HWY 224 STUDY INTERSECTIONS - 2035 (Continued)

INTERSECTION: HWY 224 & SW Harrison St

Movement	Base Case 2035												Version B												Version C											
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume	11	306	94	74	246	172	69	1309	61	332	2147	28	37	329	94	79	268	189	67	1278	61	341	2147	37	37	329	94	79	268	189	67	1278	61	341	2147	37
Volume Change	-	-	-	-	-	-	-	-	-	-	-	-	26	23	0	5	22	17	-2	-31	0	9	0	9	26	23	0	5	22	17	-2	-31	0	9	0	9
Vol. % Change From Base	-	-	-	-	-	-	-	-	-	-	-	-	236%	8%	0%	7%	9%	10%	-3%	-2%	0%	3%	0%	32%	236%	8%	0%	7%	9%	10%	-3%	-2%	0%	3%	0%	32%
Approach LOS	D			F			D			F			F			F			E			F			D			E			D			F		
Overall LOS:	F												F												F											
Volume/Capacity Ratio	-	0.66	-	-	1.03	-	0.64	0.98	0.06	1.02	1.22	0.02	0.66	1.02	-	1.01	1.07	-	0.99	1.09	0.05	1.55	1.46	0.03	-	0.73	-	-	0.94	-	1.49	0.99	0.07	1.15	1.20	0.03
Overall V/C:	1.15												1.31												1.14											
Approach Delay (s)	45.3			100.2			40.3			122.1			96.9			118.5			62.4			249.6			47.7			70			46.7			125.7		
Overall Control Delay:	89.1												167.6												89.8											
95% Que Length (ft)	-	202	-	-	#303	-	106	#697	12*	#455	#1228	1	#80	#580	-	#185	#641	-	#156	#747	0	#597	#1424	-	-	233	-	-	#291	-	#176	#704	4	#566	#1329	8

INTERSECTION: HWY 224 & SW Monroe St

Movement	Base Case 2035												Version B												Version C											
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume	26	26	118	26	35	28	33	1429	16	7	2290	18	0	0	118	0	0	28	0	1382	16	7	2313	0	0	0	118	0	0	28	0	1382	16	7	2313	0
Volume Change	-	-	-	-	-	-	-	-	-	-	-	-	-26	-26	0	-26	-35	0	-33	-47	0	0	23	-18	-26	-26	0	-26	-35	0	-33	-47	0	0	23	-18
Vol. % Change From Base	-	-	-	-	-	-	-	-	-	-	-	-	-100%	-100%	0%	-100%	-100%	0%	-100%	-3%	0%	0%	1%	-100%	-100%	-100%	0%	-100%	-100%	0%	-100%	-3%	0%	0%	1%	-100%
Approach LOS	D			E			A			A			E			D			A			B			E			F			A			A		
Overall LOS:	A												A												A											
Volume/Capacity Ratio	-	0.44	0.08	-	0.5	0.02	0.46	0.54	0.01	0.39	0.91	0.01	-	-	0.52	-	-	0.02	-	0.51	0.01	0.41	0.83	-	-	-	0.52	-	-	0.01	-	0.53	0.01	0.15	0.83	-
Overall V/C:	0.84												0.83												0.83											
Approach Delay (s)	52.2			74.3			5.3			7.2			60			55			1.7			11.2			60			82.4			2.6			6.7		
Overall Control Delay:	9.9												9.5												7.4											
95% Que Length (ft)	-	79	56	-	89*	2*	33*	609	0*	4*	266*	0*	-	-	110	-	-	1*	-	32*	0*	4*	8*	-	-	-	110	-	-	22*	-	44	0*	4*	18*	-

INTERSECTION: HWY 224 & SW Oak St

Movement	Base Case 2035												Version B												Version C											
	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Volume	22	285	99	170	313	195	309	2029	78	124	1271	211	22	285	99	122	219	134	309	2029	91	213	1242	231	22	285	99	122	219	134	309	2029	91	213	1242	231
Volume Change	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	-48	-94	-61	0	0	13	89	-29	20	0	0	0	-48	-94	-61	0	0	13	89	-29	20
Vol. % Change From Base Case	-	-	-	-	-	-	-	-	-	-	-	-	0%	0%	0%	-28%	-30%	-31%	0%	0%	17%	72%	-2%	9%	0%	0%	0%	-28%	-30%	-31%	0%	0%	17%	72%	-2%	9%
Approach LOS	D			E			D			C			D			F			F			D			D			E			F			C		
Overall LOS:	D												F												F											
Volume/Capacity Ratio	0.16	0.47	0.07	1.16	0.51	0.28	0.91	1.01	0.05	0.72	0.77	0.18	0.32	0.63	0.07	1.56	0.47	0.14	0.64	1.36	0.06	0.54	0.97	0.25	0.13	0.63	0.07	1.15	0.49	0.14	0.7	1.32	0.06	0.54	0.87	0.24
Overall V/C:	1.04												1.07												1.11											
Approach Delay (s)	43.2			72.7			49.2			26.1			54.4			124.7			176.9			44.9			53.7			79.9			155			28.7		
Overall Control Delay:	44.6												117.4												97.0											
95% Que Length (ft)	40	150	47	#298	163	135	258*	#1024	17*	140*	350	77*	47	165	30	#275	134	58	308*	#1325	6*	253*	#656	102*	42	165	30	#250	134	53	285*	#1301	5*	255*	#659	71*

Notes:

= 95th percentile volume exceeds capacity, queue may be longer

* = Volume for 95th percentile is metered by upstream signal

Alternative 2 HWY 224 STUDY INTERSECTIONS - 2035

INTERSECTION: HWY 224 & SW Harrison St

Movement	Base Case 2035												Version A											
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume	11	306	94	74	246	172	69	1309	61	332	2147	28	37	329	94	79	268	183	91	1309	61	332	2147	28
Volume Change	-	-	-	-	-	-	-	-	-	-	-	-	26	23	0	5	22	11	22	0	0	0	0	0
Vol. % Change From Base	-	-	-	-	-	-	-	-	-	-	-	-	236%	8%	0%	7%	9%	6%	32%	0%	0%	0%	0%	0%
Approach LOS	D			F			D			F			EBL			F			D			F		
Overall LOS:	F												F											
Volume/Capacity Ratio	-	0.66	-	-	1.03	-	0.64	0.98	0.06	1.02	1.22	0.02	-	0.94	-	-	1.20	-	0.68	0.98	0.06	1.02	1.25	0.02
Overall V/C:	1.15												1.21											
Approach Delay (s)	45.3			100.2			40.3			122.1			72.7			159.1			42.3			135.9		
Overall Control Delay:	89.1												105.0											
95% Que Length (ft)	-	202	-	-	#303	-	106	#697	12*	#455	#1228	1	-	#286	-	-	#350	-	#151	#698	10*	#455	#1228	1

INTERSECTION: HWY 224 & SW Monroe St

Movement	Base Case 2035												Version A											
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume	26	26	118	26	35	28	33	1429	16	7	2290	18	0	0	118	0	0	28	0	1455	16	7	2313	0
Volume Change	-	-	-	-	-	-	-	-	-	-	-	-	-26	-26	0	-26	-35	0	-33	26	0	0	23	-18
Vol. % Change From Base	-	-	-	-	-	-	-	-	-	-	-	-	-100%	-100%	0%	-100%	-100%	0%	-100%	2%	0%	0%	1%	-100%
Approach LOS	D			E			A			A			D			D			A			A		
Overall LOS:	A												A											
Volume/Capacity Ratio	-	0.44	0.08	-	0.5	0.02	0.46	0.54	0.01	0.39	0.91	0.01	-	-	0.47	-	-	0.02	-	0.55	0.01	0.39	0.84	-
Overall V/C:	0.84												0.83											
Approach Delay (s)	52.2			74.3			5.3			7.2			54.6			50.6			4.4			5.2		
Overall Control Delay:	9.9												6.7											
95% Que Length (ft)	-	79	56	-	89*	2*	33*	609	0*	4*	266*	0*	-	-	99	-	-	0*	-	10	0	5	107	

INTERSECTION: HWY 224 & SW Oak St

Movement	Base Case 2035												Version A											
	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Volume	22	285	99	170	313	195	309	2029	78	124	1271	211	22	285	99	189	341	189	309	2015	91	134	1260	211
Volume Change	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	19	28	-6	0	-14	13	10	-11	0
Vol. % Change From Base Case 2035	-	-	-	-	-	-	-	-	-	-	-	-	0%	0%	0%	11%	9%	-3%	0%	-1%	17%	8%	-1%	0%
Approach LOS	D			E			D			C			D			F			D			C		
Overall LOS:	D												D											
Volume/Capacity Ratio	0.16	0.47	0.07	1.16	0.51	0.28	0.91	1.01	0.05	0.72	0.77	0.18	0.18	0.47	0.07	1.29	0.56	0.27	0.91	1.01	0.06	0.75	0.76	0.18
Overall V/C:	1.04												1.07											
Approach Delay (s)	43.2			72.7			49.2			26.1			43.2			88			49			21.1		
Overall Control Delay:	44.6												45.3											
95% Que Length (ft)	40	150	47	#298	163	135	258*	#1024	17*	140*	350	77*	41	150	47	#337	177	130	#306*	#1017	15*	#182*	305	2

Notes:

= 95th percentile volume exceeds capacity, queue may be longer

* = Volume for 95th percentile is metered by upstream signal

Alternative 1 HWY 224 STUDY INTERSECTIONS - 2035 (Continued)

INTERSECTION: HWY 224 & SW Harrison St

Movement	Base Case 2035												Version B												Version C											
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume	11	306	94	74	246	172	69	1309	61	332	2147	28	37	329	94	79	268	183	91	1309	61	332	2147	28	37	329	94	79	268	183	91	1309	61	332	2147	28
Volume Change	-	-	-	-	-	-	-	-	-	-	-	-	26	23	0	5	22	11	22	0	0	0	0	0	26	23	0	5	22	11	22	0	0	0	0	0
Vol. % Change From Base	-	-	-	-	-	-	-	-	-	-	-	-	236%	8%	0%	7%	9%	6%	32%	0%	0%	0%	0%	0%	236%	8%	0%	7%	9%	6%	32%	0%	0%	0%	0%	0%
Approach LOS	D			F			D			F			F			F			F			D			E			D			F					
Overall LOS:	F												F												F											
Volume/Capacity Ratio	-	0.66	-	-	1.03	-	0.64	0.98	0.06	1.02	1.22	0.02	0.66	1.02	-	1.01	1.05	-	1.34	1.11	0.05	1.51	1.46	0.02	-	0.73	-	-	0.94	-	1.34	0.98	0.06	1.21	1.23	0.02
Overall V/C:	1.15												1.31												1.15											
Approach Delay (s)	45.3			100.2			40.3			122.1			96.9			114.5			88.5			247.8			47.7			70.8			41.8			141.5		
Overall Control Delay:	89.1												172.6												95.8											
95% Que Length (ft)	-	202	-	-	#303	-	106	#697	12*	#455	#1228	1	#80	#580	-	#185	#632	-	#215	#786	3	#579	#1424	0	-	233	-	-	#288	-	#217	#713	0*	#569	#1350	3

INTERSECTION: HWY 224 & SW Monroe St

Movement	Base Case 2035												Version B												Version C											
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume	26	26	118	26	35	28	33	1429	16	7	2290	18	0	0	118	0	0	28	0	1455	16	7	2313	0	0	0	118	0	0	28	0	1455	16	7	2313	0
Volume Change	-	-	-	-	-	-	-	-	-	-	-	-	-26	-26	0	-26	-35	0	-33	26	0	0	23	-18	-26	-26	0	-26	-35	0	-33	26	0	0	23	-18
Vol. % Change From Base	-	-	-	-	-	-	-	-	-	-	-	-	-100%	-100%	0%	-100%	-100%	0%	-100%	2%	0%	0%	1%	-100%	-100%	-100%	0%	-100%	-100%	0%	-100%	2%	0%	0%	1%	-100%
Approach LOS	D			E			A			A			E			D			A			B			E			D			A			A		
Overall LOS:	A												A												A											
Volume/Capacity Ratio	-	0.44	0.08	-	0.5	0.02	0.46	0.54	0.01	0.39	0.91	0.01	-	-	0.52	-	-	0.02	-	0.54	0.01	0.41	0.83	-	-	-	0.52	-	-	0.02	-	0.54	0.01	0.41	0.83	-
Overall V/C:	0.84												0.83												0.83											
Approach Delay (s)	52.2			74.3			5.3			7.2			60.0			55.0			1.7			11			60.0			55.0			2.2			7.6		
Overall Control Delay:	9.9												9.3												7.5											
95% Que Length (ft)	-	79	56	-	89*	2*	33*	609	0*	4*	266*	0*	-	-	110	-	-	0*	-	68	0*	4*	8*	-	-	-	110	-	-	1*	-	45*	0*	4*	14*	-

INTERSECTION: HWY 224 & SW Oak St

Movement	Base Case 2035												Version B												Version C											
	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Volume	22	285	99	170	313	195	309	2029	78	124	1271	211	22	285	99	189	341	189	309	2015	91	134	1260	211	22	285	99	189	341	189	309	2015	91	134	1260	211
Volume Change	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	19	28	-6	0	-14	13	10	-11	0	0	0	0	19	28	-6	0	-14	13	10	-11	0
Vol. % Change From Base Case	-	-	-	-	-	-	-	-	-	-	-	-	0%	0%	0%	11%	9%	-3%	0%	-1%	17%	8%	-1%	0%	0%	0%	0%	11%	9%	-3%	0%	-1%	17%	8%	-1%	0%
Approach LOS	D			E			D			C			E			F			D			C			D			D			F			D		
Overall LOS:	D												E												E											
Volume/Capacity Ratio	0.16	0.47	0.07	1.16	0.51	0.28	0.91	1.01	0.05	0.72	0.77	0.18	0.42	0.69	0.07	1.45	0.6	0.25	0.95	1.04	0.06	0.94	0.81	0.19	0.1	0.39	0.07	0.94	0.43	0.2	0.95	1.15	0.06	1.03	0.94	0.21
Overall V/C:	1.04												1.03												1.06											
Approach Delay (s)	43.2			72.7			49.2			26.1			57.0			111.0			53.7			33.4			42.8			51.1			96			46.3		
Overall Control Delay:	44.6												55.6												70.0											
95% Que Length (ft)	40	150	47	#298	163	135	258*	#1024	17*	140*	350	77*	48	173	32	#371	198	106	#385*	#1078	4*	#262	348	77	38	150	27	#289	177	77	#414*	#1165	6*	#307	#542	52

Notes:

= 95th percentile volume exceeds capacity, queue may be longer

* = Volume for 95th percentile is metered by upstream signal