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MEMORANDUM

Date:	May 31, 2018	Project #: 22051
To:	Tony Martin, City of Salem	
Cc:	Peter Kahn, AVP, Costco Wholesale Corporation Matt Oyen, Pacific Realty Associates, L.P. (PacTrust)	
From:	Andy Daleiden, PE, Claire Dougherty, and Anthony Yi, PE, Kittelson & Associates, Inc.	
Project:	Kuebler Gateway Shopping Center	
Subject:	Transportation Impact Analysis for the Proposed Kuebler Gateway Shopping Center	

Kittelson & Associates, Inc. (Kittelson) has prepared this memorandum to summarize the transportation impact analysis for the proposed Kuebler Gateway Shopping Center. The site located at the southwest quadrant of the Kuebler Boulevard/27th Avenue intersection in Salem, Oregon. The proposed shopping center development consists of a Costco warehouse and fuel station, and four retail buildings of approximately 21,000 square-feet. This memorandum addresses the following items:

- Background
  - Summary of transportation impact analyses for the previously approved PacTrust Kuebler development, including a comparison of approved site development trips and trips associated with this proposed Kuebler Gateway Shopping Center.
- Scope of Work and Analysis Methodology
  - Evaluation of traffic volumes to determine if study intersections meet operational standards.
- Existing and Year 2019 Background Traffic Conditions
  - Existing weekday p.m. and Saturday midday peak hour traffic volumes were counted in December 2017.
  - Application of a regional growth rate and addition of in-process nearby developments were added to the existing traffic volumes conditions to determine year 2019 background conditions.
- Proposed Development Plan
  - Trip generation and trip distribution estimated pattern, specific to the proposed Kuebler Gateway Shopping Center site plan.
- Year 2019 Total Traffic Conditions
  - Addition of site trips to year 2019 background conditions to determine year 2019 total traffic conditions.

BACKGROUND

In 2006, Kittelson performed a traffic impact analysis (September 2006 *PacTrust Kuebler Project - Traffic Impact Analysis*) to support a comprehensive plan amendment and zone change of the property (approximately 28.4 acres) bounded by Kuebler Boulevard, 27th Avenue, Boone Road, and Battle Creek Road to allow for commercial/retail use. PacTrust was successful in the amendments to the City of Salem's comprehensive plan and zoning, with conditions of approval.

Following the approved comprehensive plan amendment and zone change, Kittelson completed another traffic impact analysis in 2012 to allow for the development of the Salem Clinic and medical office building. The Salem Clinic and medical office building are located in the southwest portion of the site along 27th Avenue and Boone Road. Both of these development applications included the design and construction of several off-site improvements on Battle Creek Road, Kuebler Boulevard, and 27th Avenue. Additionally, the Oregon Department of Transportation (ODOT) completed improvements to the Interstate 5/Kuebler Boulevard interchange in 2017 that added operational capacity to the interchange. Several off-site improvements are currently being designed by the PacTrust project team and are planned to be constructed prior to the opening of the Kuebler Gateway Shopping Center. Further discussion on the off-site improvements are addressed in the operations analysis sections of this memorandum.

Table 1 provides a comparison of net new trips estimated and approved during the 2006 re-zoning process and the proposed Kuebler Gateway Shopping Center. Further discussion on the estimated trip generation for the proposed Kuebler Gateway Shopping Center is addressed in the proposed development plan section of this memorandum.

Table 1. Total Net New Trip Comparison of the Approved TIA (2006) and Proposed Kuebler Gateway Shopping Center (2018)

Land Use Scenario	Daily Trips	Weekday PM Peak Hour Trips	Saturday Midday Peak Hour Trips
		Total	Total
Proposed Development (plus approved Salem Clinic)			
Proposed Costco & Retail Pads	7,743	747	986
Salem Clinic and Medical/Office Bldg. (Existing)	815	85	40
Approved 2006 Rezone TIA			
September 2006 TIA	9,660	900	1,350
Difference = Proposed Kuebler Gateway Shopping Center - Approved 2006 Rezone	**-1,102**	**-68**	**-324**

As shown in Table 1, the proposed Kuebler Gateway Shopping Center and existing Salem Clinic and medical office building are estimated to generate less trips than the approved 2006 rezone TIA during the daily, weekday p.m. peak hour, and Saturday peak hour time periods. Therefore, the proposed Kuebler Gateway Shopping Center is consistent with previous approvals for this site.

SCOPE OF REPORT AND ANALYSIS METHODOLOGY

This analysis determines the transportation-related impacts associated with the proposed Kuebler Gateway Shopping Center. The study intersections and overall study area for this project were determined based on a review of existing travel patterns, previous traffic impact analyses that Kittelson has completed in the area (2006, 2012 and 2017), a pre-application meeting with the City of Salem on January 22, 2018 and through other discussions with the City of Salem staff in January 2018.

ANALYSIS PERIODS AND TRAFFIC COUNTS

Weekday p.m. and Saturday mid-day peak hour traffic conditions were modeled at the study intersections. Traffic counts were collected in December 2017. *Appendix "A" includes the count data at each of the study intersections and driveways.*

STUDY INTERSECTIONS AND DRIVEWAYS

Figure 1 and the list below identify the study intersections, existing driveways, and proposed driveways included in the operational analysis.

1. Battle Creek Road and Kuebler Boulevard
2. North Driveway (Right-In) and Kuebler Boulevard (Existing)
3. 27th Avenue and Kuebler Boulevard
4. I-5 Southbound Ramps and Kuebler Boulevard
5. I-5 Northbound Ramps and Kuebler Boulevard
6. 27th Avenue and East Driveway (Future)
7. 27th Avenue and Boone Road
8. Southeast Driveway and Boone Road (Future)
9. Southwest Driveway (Future) and Boone Road SE and Bow Court SE (Existing)
10. Battle Creek Road and Boone Road

INTERSECTION LEVELS-OF-SERVICE

All level-of-service analyses described in this report were performed in accordance with the procedures stated in the *2000 Highway Capacity Manual* (Reference 1).

To ensure that the analyses were based on a reasonable worst-case scenario, peak 15-minute flow rates were used in the evaluation of all intersection levels of service. For this reason, the analyses reflect conditions that are only likely to occur for 15 minutes out of each average peak hour. Traffic conditions during typical weekday hours are expected to operate better than those described in this report.

OPERATING STANDARDS

The City of Salem, which has jurisdiction over all of the study intersections except for the freeway ramp terminals at the I-5/Kuebler Boulevard interchange, has the following intersection operating standards:

- Unsignalized intersections: a maximum Level-of-Service (LOS) standard of LOS "E" and average delay of less than 50 seconds, and
- Signalized intersections: a maximum LOS "E", average delay of less than 80 seconds, and/or a volume-to-capacity (v/c) ratio at or below 0.90. *(Reference 2)*

The ramp terminal intersections at the I-5/Kuebler Boulevard interchange are under the jurisdiction of ODOT and subject to the mobility standards defined in the *1999 Oregon Highway Plan* (OHP, *Reference 3*). According to the OHP, both the southbound and northbound signalized ramp terminal intersections are required to operate at or below a volume-to-capacity ratio of 0.85 during the peak hour.

All operational analyses were compared to these standards and were prepared using Synchro 10 software (unsignalized and signalized intersections) and Sidra 7 software (roundabout intersection).

OTHER ASSUMPTIONS AND DATA

Right-Turn-On-Red (RTOR) at the I-5 SB Off-Ramp

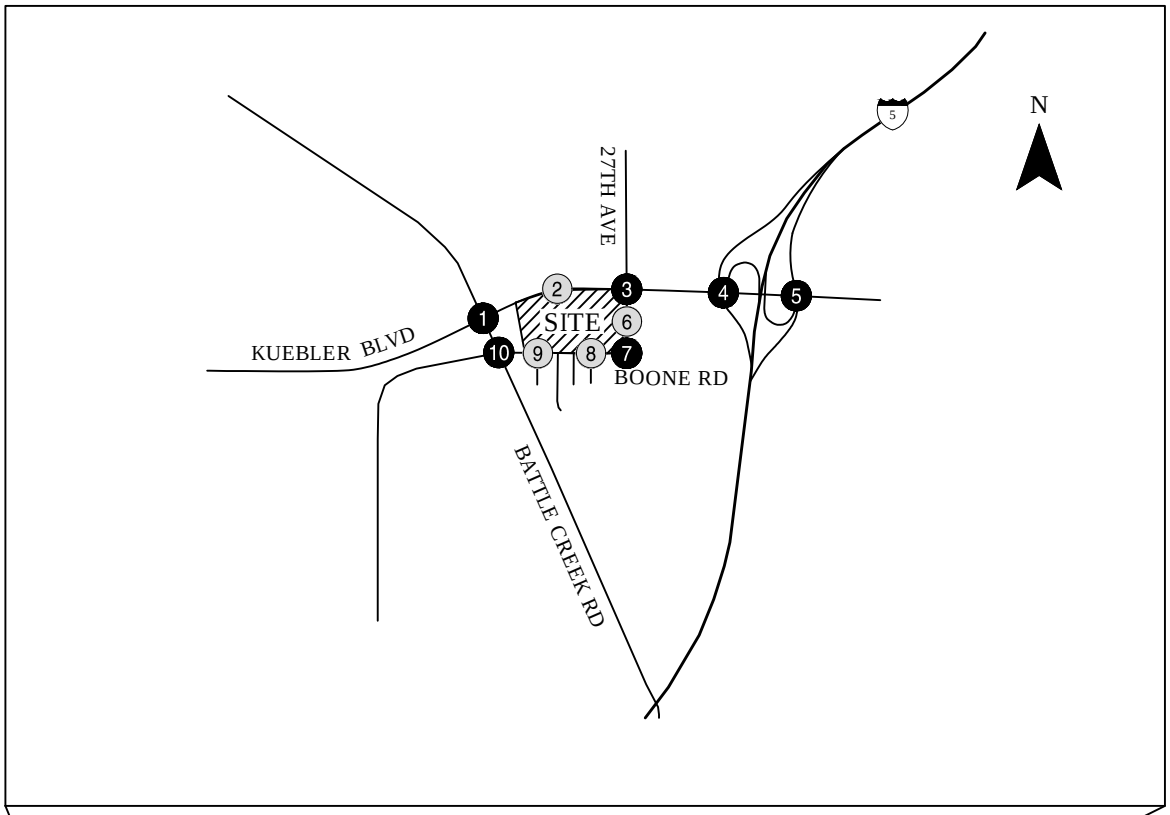
From the count data and video observations at study intersection 4, I-5 Southbound Ramps and Kuebler Boulevard, it was observed that a high volume of vehicles were able to make a right turn on red from the dual right turn lanes on the southbound off-ramp to westbound Kuebler Boulevard. This likely due to the low volume of conflicting westbound through traveling vehicles, as well as clear sight line from the off-ramp turn lanes. As such, an adjustment was made to the Synchro default volume of right turn on red vehicles at intersection 4, to reflect 42 percent of right turning vehicles able to make a right turn on red. This adjustment was made in all p.m. and Saturday peak hour analysis Synchro models.

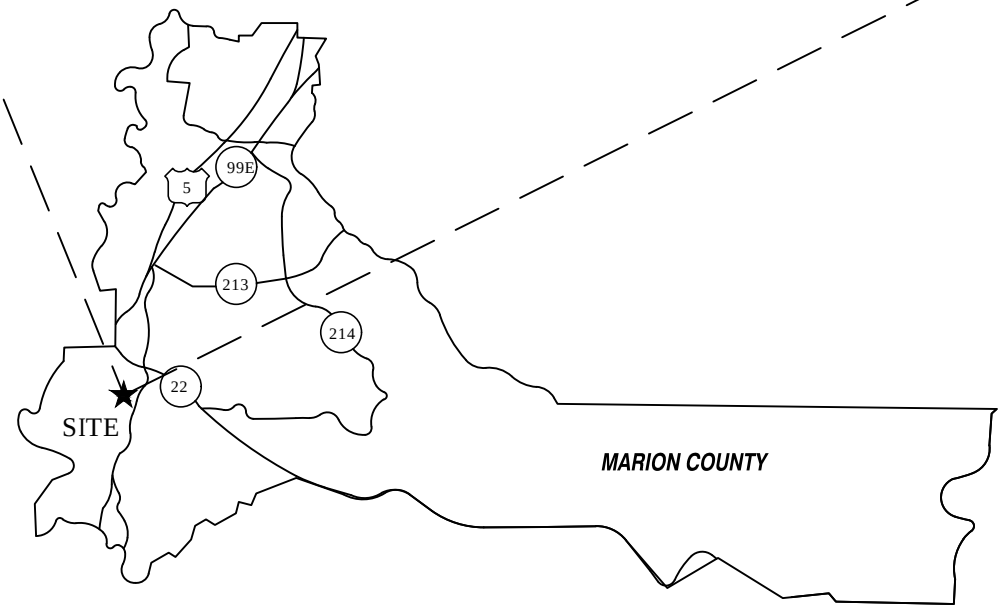
Signal Timing

Signal timing data was provided by the City of Salem on February 7, 2018 for the study signalized intersections. *Appendix "B" contains the signal timing data provided by the City of Salem.*

Crash Data

ODOT provided the five most recent years of crash data available for the study intersections, which included crashes that occurred from January 1, 2011 through December 31, 2015. Crash rates for each intersection are calculated and compared to the 90th percentile rates for similar facilities shown in Table 4-1 of the ODOT Analysis Procedures Manual (APM, Reference 4). *Appendix "C" contains the crash data provided by ODOT.*





● - Study Intersections
○ - Study Site Driveways

Site Vicinity Map
Salem, Oregon

Figure
1

EXISTING AND YEAR 2019 BACKGROUND TRAFFIC CONDITIONS

SITE CONDITIONS

The Kuebler site is approximately 28.4 acres of land zoned for CR (Commercial Retail) and CO (Commercial Office). The subject area is bound by Kuebler Boulevard, 27th Avenue, Boone Road, and Battle Creek Road. The first phase of the development (a spec medical office building and the Salem Clinic located on the CO property at the corner of the Battle Creek Road/Boone Road intersection) was completed in late 2012.

Roadway Facilities

An examination of the site vicinity revealed that five primary roadway facilities would accommodate most of the site-generated traffic. As illustrated in Figure 1, these roadways include 27th Avenue, Boone Road, Kuebler Boulevard, Battle Creek Road, and I-5. These roadway facilities and other supporting roadways that are pertinent to this traffic study are summarized in Table 2.

Table 2: Existing Transportation Facilities

Roadway	Functional Classification	Number of Lanes	Posted Speed (mph)	Sidewalks	Bicycle Lanes	On-Street Parking
Kuebler Boulevard	Parkway	4*	45	Yes**	Yes	No
Boone Road	Collector	2-3	35	Partial (both sides)	Partial (north side)	No
Battle Creek Road	Minor Arterial	2-3	40	Yes	Yes	No
27th Avenue	Collector	2	35	No	No	No
Interstate 5	Freeway	6	60	No	No	No

* Kuebler Boulevard becomes 3 lanes east of I-5.
** Kuebler Boulevard has no sidewalks east of I-5.

CRASH ANALYSIS

The crash history of the study intersections were reviewed in an effort to identify any potential safety issues. ODOT provided the five most recent years of crash data available for the study intersections, including January 1, 2011 through December 31, 2015. Table 3 summarizes the crash history of the study intersections over the five-year period.

Table 3: Study Intersection Crash Summary (January 1, 2011 – December 31, 2015)

Intersection	Crash Type						Crash Severity		Total	90th % Rate	Crash Rate[1]
	Rear-End	Object	Turning Movements	Angle	Head-On	Other	Non-Injury	Injury			
Battle Creek Road & Kuebler Boulevard	28	-	8	-	1	-	18	19	37	0.86	0.50
27th Ave & Kuebler Road	20	-	3	-	-	-	7	16	23	0.86	0.36
I-5 Southbound Ramps & Kuebler Boulevard	29	1	6	-	-	-	15	21	36	0.86	0.53
I-5 Northbound Ramps & Kuebler Boulevard	9	1	7	-	-	-	11	6	17	0.86	0.33
Battle Creek Road & Boone Road	3	-	3	6	-		6	6	12	0.408	0.58

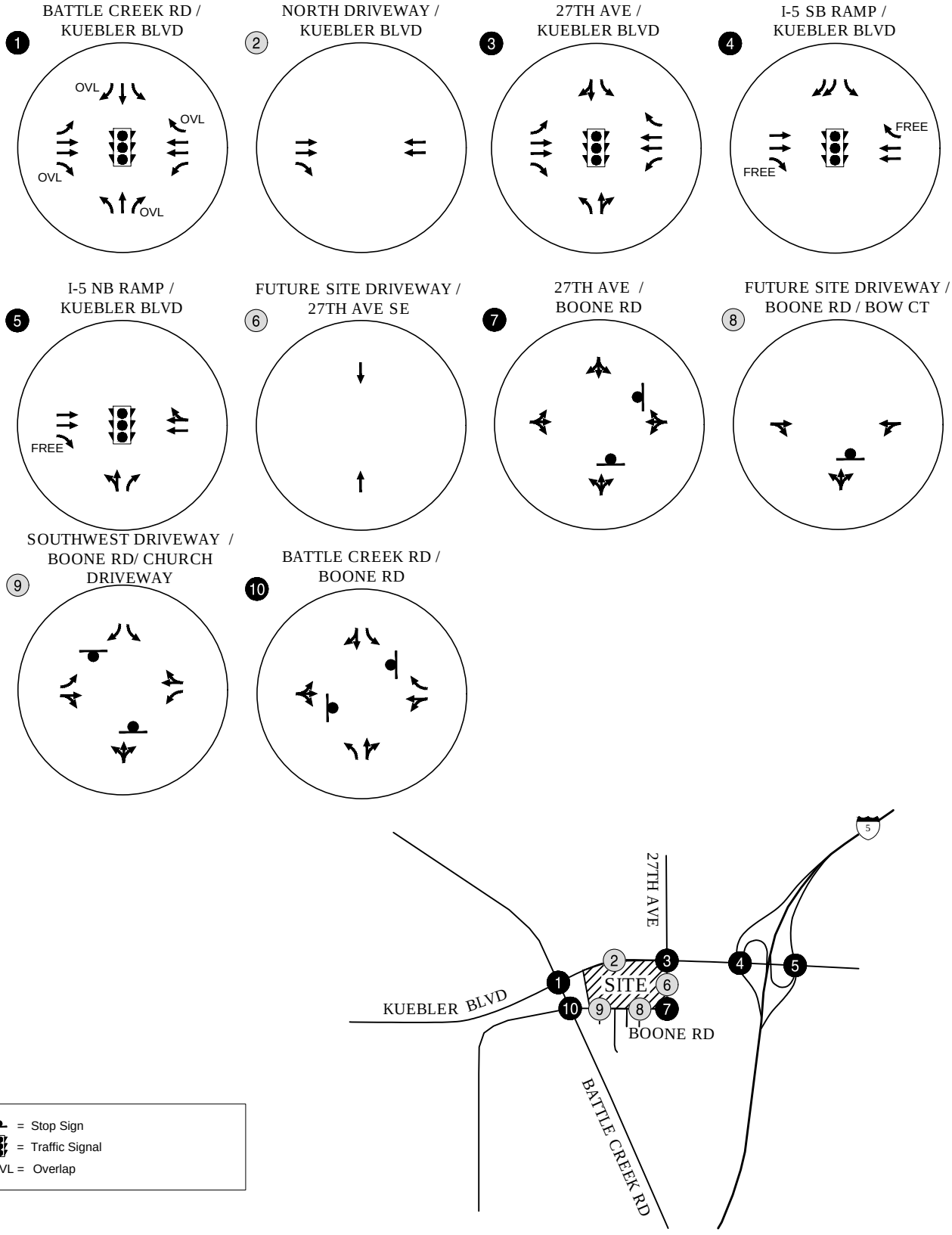
[1]Crash rate is calculated as the number of crashes per million entering vehicles. Average daily traffic volumes were estimated using PM peak hour total entering volume at the intersection.
Note – The I-5 southbound on and off-ramps were re-constructed in 2016-2017. The available 2011 – 2015 crash data is representative of the crashes that occurred in the prior ramp configuration.

The crash rates shown in Table 3 were compared to the 90th percentile rates for similar facilities shown in Table 4-1 of the ODOT Analysis Procedures Manual (APM). Per the APM, any intersection that has a crash rate equal to or greater than the corresponding 90th percentile rate should be flagged for further analysis, which is the case at the Battle Creek Road and Boone Road intersection. This intersection will be signalized in 2019 as part of the PacTrust off-site improvements, which is expected to improve the intersection safety performance.

EXISTING CONDITIONS

The existing traffic counts show that the weekday p.m. peak hour occurs between 4:35 to 5:35 PM and Saturday midday peak hour occurs between 1:00 to 2:00 PM. Figure 2 illustrates the existing lane configuration and traffic control devices at each of the study intersections. Figures 3 and 4 show the current level-of-service, delay, and v/c ratios for each of the existing study intersections during the weekday p.m. hour and Saturday midday peak hour, respectively.

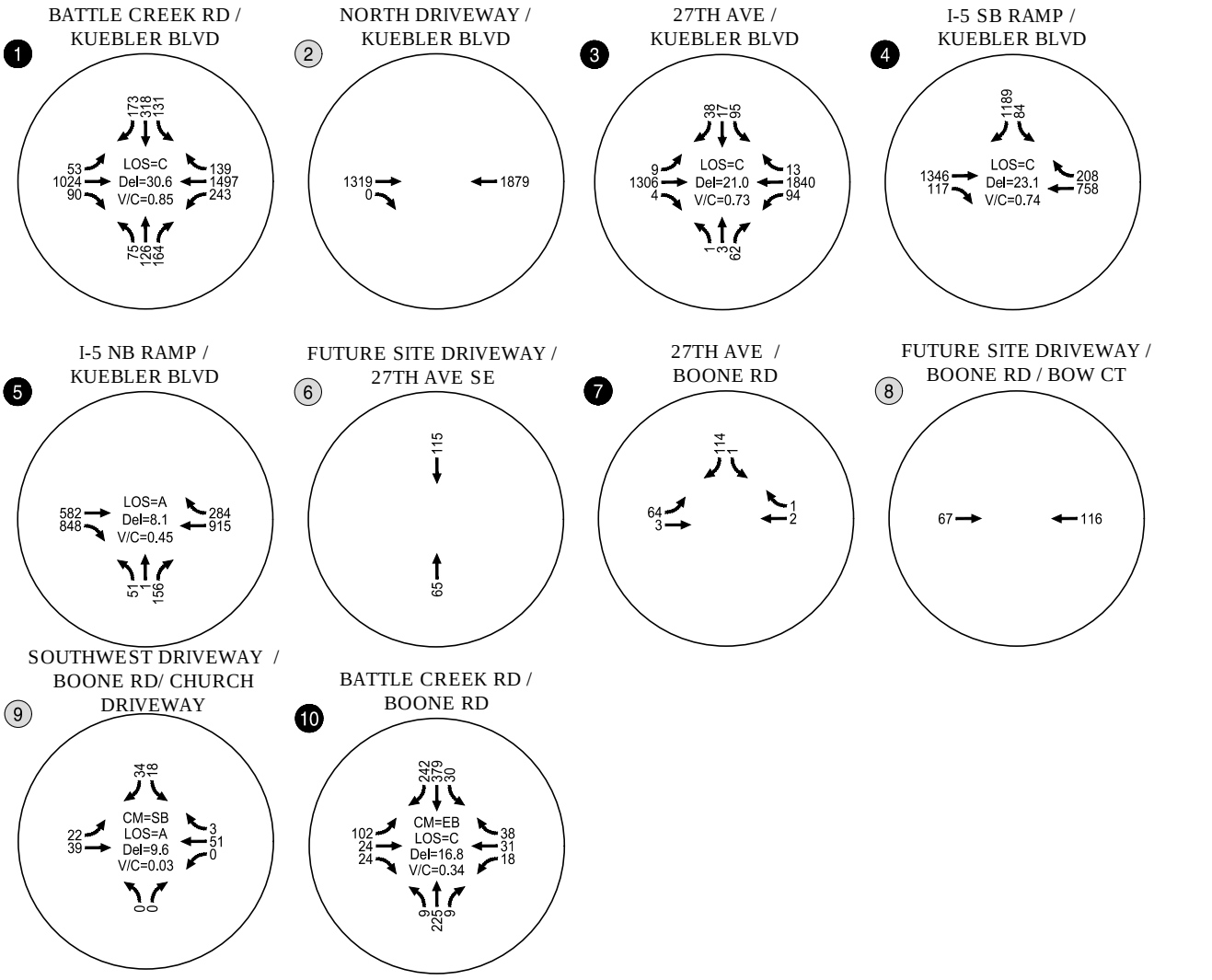
The operations results presented in the figures indicate that all existing study intersections currently operate at levels which meet agency mobility standards during the weekday p.m. and Saturday midday peak hours. *Appendix "D" includes the existing 2017 intersection traffic operations worksheets.*

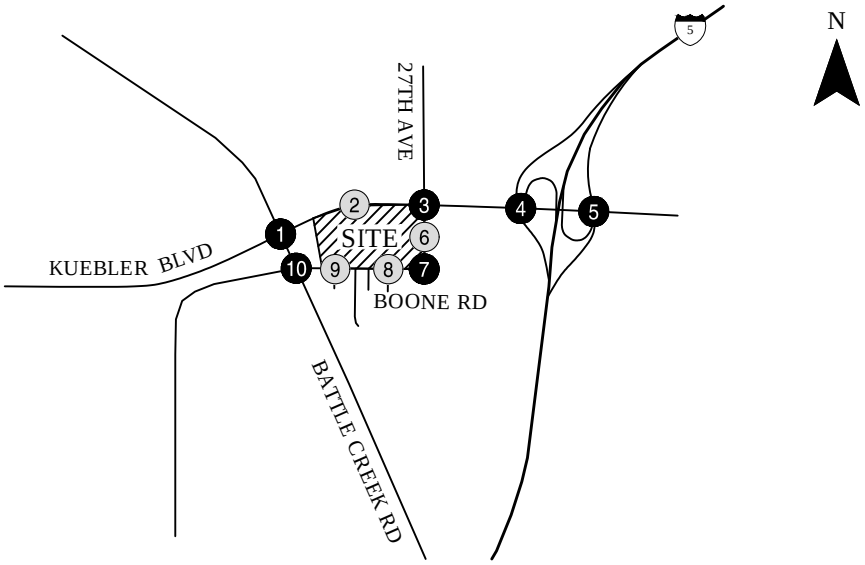


- Study Intersections
- Study Site Driveways

Existing Lane Configurations and Traffic Control Devices Salem, Oregon

Figure **2**





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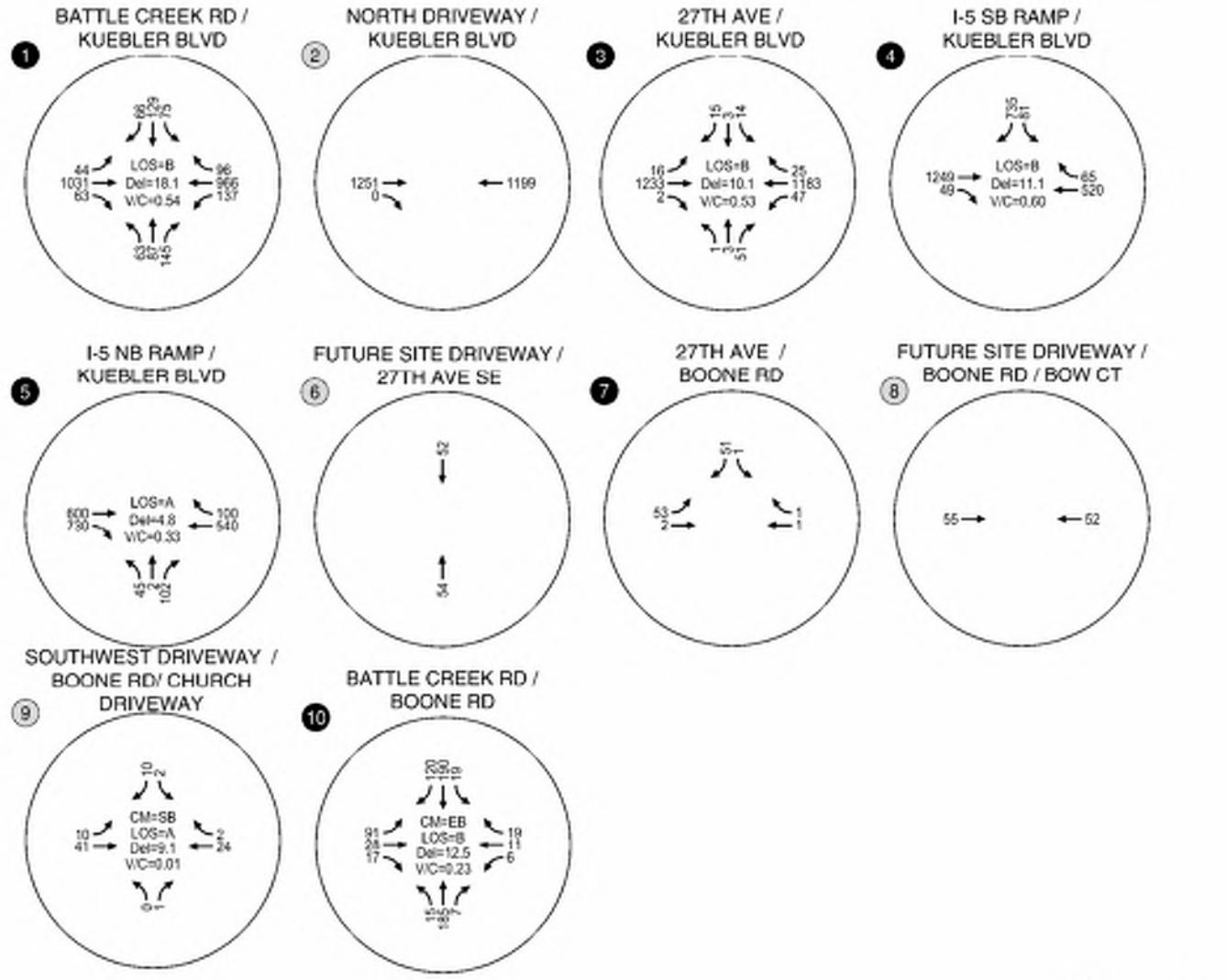
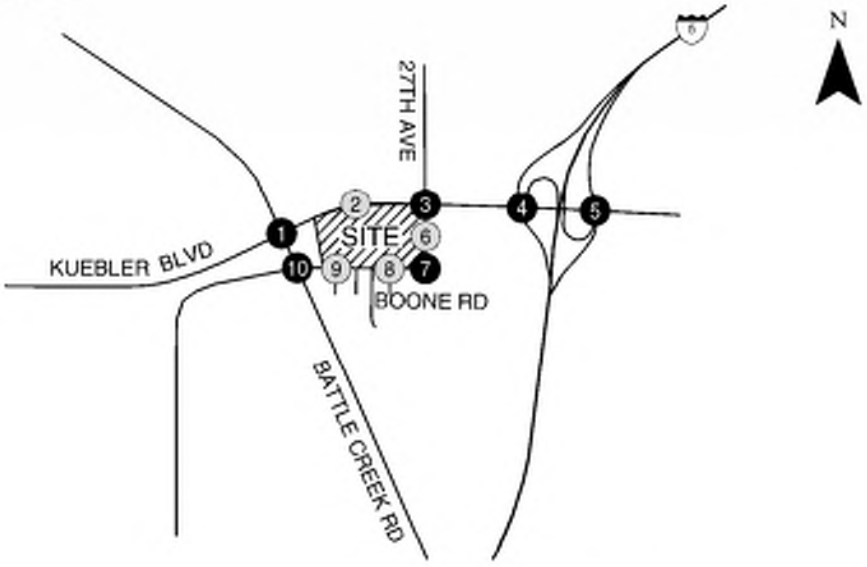
Del = Intersection Average Control Delay (Signalized) / Critical Movement Control Delay (Unsignalized)
V/C = Critical Volume-to-Capacity Ratio

(#) - Study Intersections
(#) - Study Site Driveways

Existing Traffic Conditions
Weekday PM Peak Hour
Salem, Oregon

Figure **3**





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(#) - Study Intersections
(#) - Study Site Driveways

Existing Traffic Conditions
Saturday Midday Peak Hour
Salem, Oregon

Figure **4**

H:\22\22051 - Salem Costco Relocation\mpo\fig\22051_TIA.dwg May 25, 2018 - 9:38am - cdaugherty Layout Tab: FIG 4_EX Sat

KITTELSON & ASSOCIATES

YEAR 2019 BACKGROUND TRAFFIC CONDITIONS

The year 2019 background traffic analysis identifies how the study area's transportation system is projected to operate without the proposed Kuebler Gateway Shopping Center. The year 2019 background analysis includes off-site transportation system improvements, regional growth and in-process developments.

Off-site Improvements

As was previously noted, there are several roadway and intersection improvements that were identified as future improvements as part of the rezone of the 28.4-acre Kuebler site. Some of these improvements are completed and the remaining are in-process and currently in the design phase. All of the following off-site improvements are scheduled to be complete prior to the opening of the Kuebler Gateway Shopping Center.

- Completed improvements:
  - Kuebler Boulevard – widening from a three-lane to a five-lane roadway with various dedicated right- and left-turn lanes at the Battle Creek Road and 27th Avenue intersections (completed and/or contributed by PacTrust).
  - Battle Creek Road – roadway widening and full site frontage improvements between Kuebler Boulevard and Boone Road (completed by PacTrust).
  - Boone Road – full site frontage improvements adjacent to the Salem Clinic site (completed by PacTrust).
  - I-5/Kuebler Boulevard Interchange – addition of a northbound on-ramp, reconstruction of the southbound ramps (completed in 2017 by ODOT).
- In-Process improvements (planned to be complete by the opening of the Kuebler Gateway Shopping Center):
  - Battle Creek Road/Boone Road – installation of a new traffic signal, restriping the intersection to accommodate exclusive left turn lanes, and signing.
  - Kuebler Boulevard/Battle Creek Road – modification of the existing traffic signal to accommodate dual northbound left-turn lanes, restriping on the north and south approaches of the intersection, and signing.
  - Kuebler Boulevard/27th Avenue – modification of the existing traffic signal to accommodate dual westbound left-turn lanes and an exclusive northbound right-turn lane, restriping for these lanes, and signing.
  - 27th Avenue – constructing an additional southbound through lane along a portion of the site frontage to accommodate a second westbound left-turn lane at the Kuebler Boulevard/27th Avenue intersection.
- In addition to the roadway and intersection improvements identified above that were identified as part of the rezone of the 28.4-acre Kuebler site, the following additional improvements are scheduled to be complete prior to the opening of the Kuebler Gateway Shopping Center.
  - Proposed full-access driveway (stop control) on Boone Road located approximately 375 feet to west of 27th Avenue and aligned with Bow Court.

- Proposed full-access driveway (single lane roundabout) on 27th Avenue located approximately 450 feet to the south of Kuebler Boulevard.
- Boone Road – full site frontage improvements between 27th Avenue and the Salem Clinic site.

Growth Rate

To account for regional traffic growth, a 1.0 percent annual growth rate was applied to existing traffic volumes, which is a similar approach to other traffic studies completed in the area. The year 2019 background analysis includes the addition of estimated trips from general growth in the region (application of a 1.0 percent annual growth).

In-Process Developments

Other planned developments in the area that may contribute future additional trips to the study vicinity include:

- A 5.53-acre parcel exists just south of the Boone Road/27th Avenue intersection. This parcel was recently approved for a 31-unit subdivision (Boone Wood Estates). A trip generation estimate was prepared for the approved development based on information provided in the standard reference manual, *Trip Generation, 9th Edition*, published by the Institute of Transportation Engineers (Reference 9). ITE Land Use Code 210 (Single Family Detached Housing) was selected as a basis for the estimate and were distributed to the study roadways.
- A 122 unit assisted senior care facility has been approved for development southeast of the Boone Road/27th Avenue intersection. The exact site development plan specifics are unknown, so a trip generation estimate was prepared using ITE Land Use Code 251 (Senior Adult Housing - Detached). This land use code is a conservative estimate compared to other similar uses within the ITE Trip Generation Manual. Site trips were distributed to the study roadways using the trip distribution pattern consistent with past and current area trip distributions.
- The existing 38,700 square-foot Salem Clinic and medical office building, located in the southwest corner of the PacTrust lot is not yet fully occupied, in that there is approximately 6,900 square-foot of space still available for lease. Therefore, a trip generation estimate was calculated for the vacant space using ITE code 720 (Medical Dental Office Building), and the site trips were distributed to the study roadways using the trip distribution pattern consistent with past and current area trip distributions.

Additionally, an independent party is pursuing an amendment to the zoning of the 25.2-acre property immediately east of the proposed shopping center, to allow for commercial/retail uses (Reference 5). Access to the adjacent property could be provided opposite of the proposed shopping center driveway on 27th Avenue. As the City of Salem is currently evaluating the proposed zone change and development plan of this east lot, no in-process trips were included in the year 2019 background traffic conditions analysis. Only in-process trips associated with the approved Boone Wood Estates housing development,

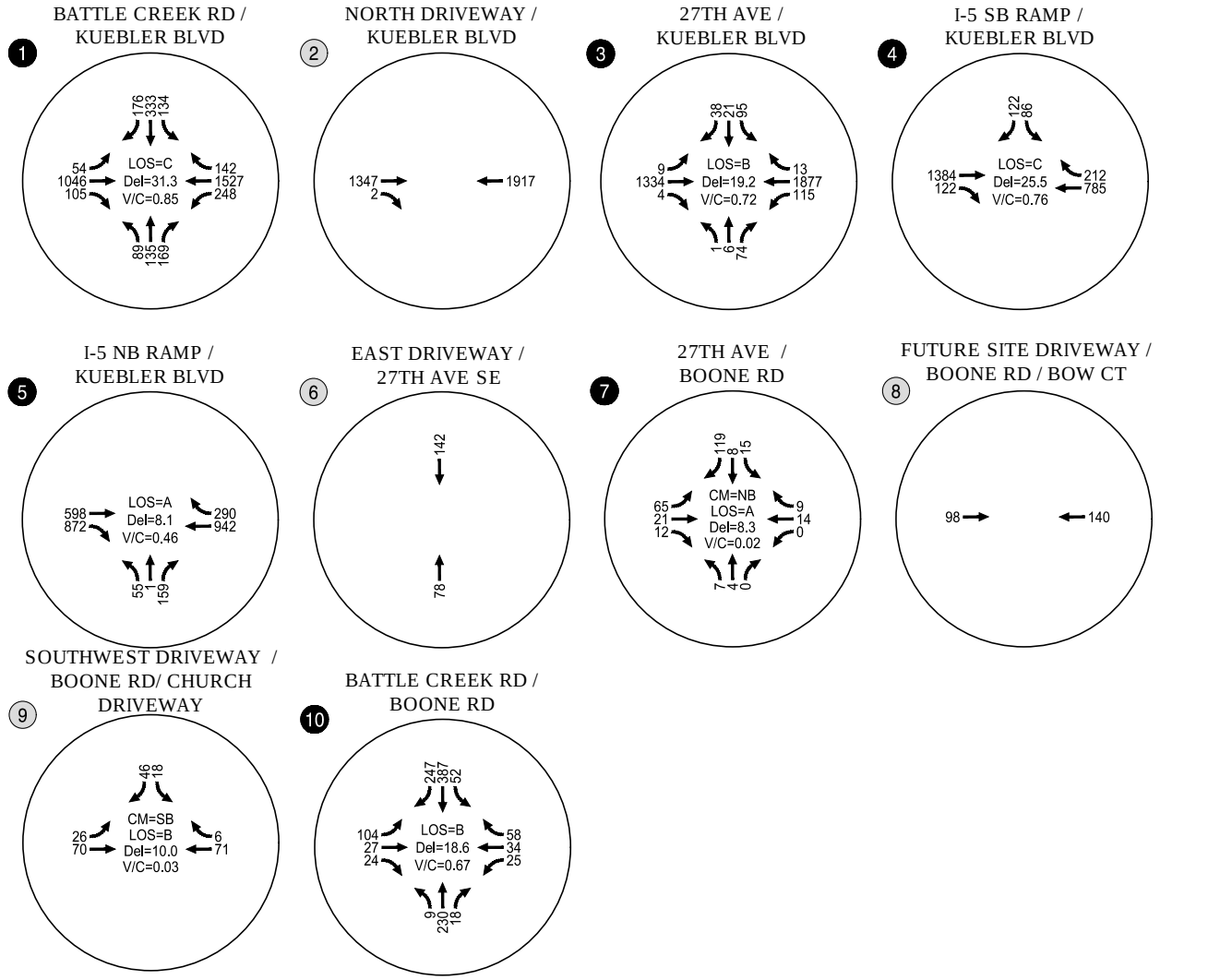
assisted living facility and full occupancy of the existing Salem Clinic and spec medical office building were included in the year 2019 background traffic conditions analysis.

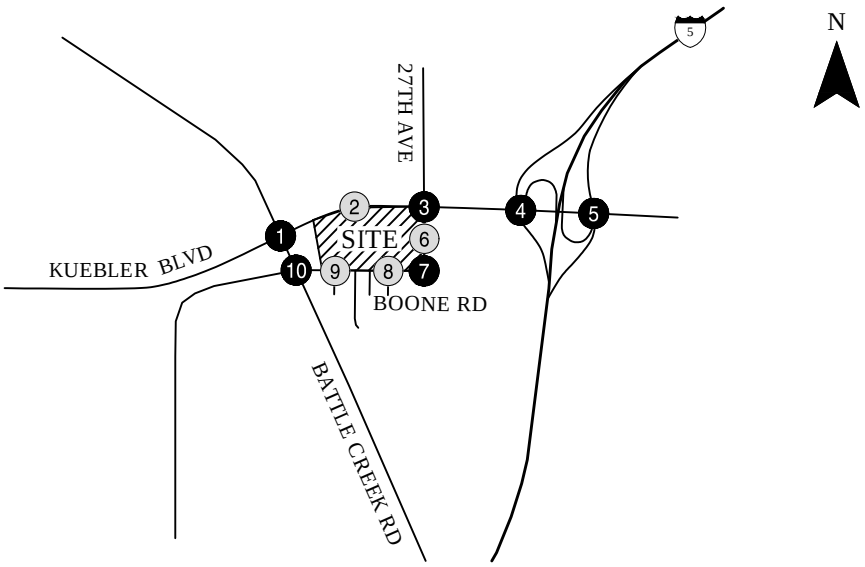
Lastly, it was assumed that with the approved development of the Boone Wood Estates to the south and the assisted living facility to the southeast, the 27th Avenue and Boone Road intersection would become an all-way stop-controlled intersection.

Traffic Operations

All of the intersections with changes included optimized signal timings given the significant changes planned at these intersections.

As shown in Figures 5 and 6, inclusive of regional growth and in-process developments, all of the study intersections are projected to continue to meet agency operating standards under year 2019 background traffic conditions during the weekday p.m. and Saturday midday peak hours. *Appendix "E" contains the 2019 background operational analysis worksheets, as well as Figure E-1 showing Year 2019 Background Traffic Conditions Lane Configuration and Traffic Control Devices and Figure E-2 showing the in-process trip distribution and assignment.*





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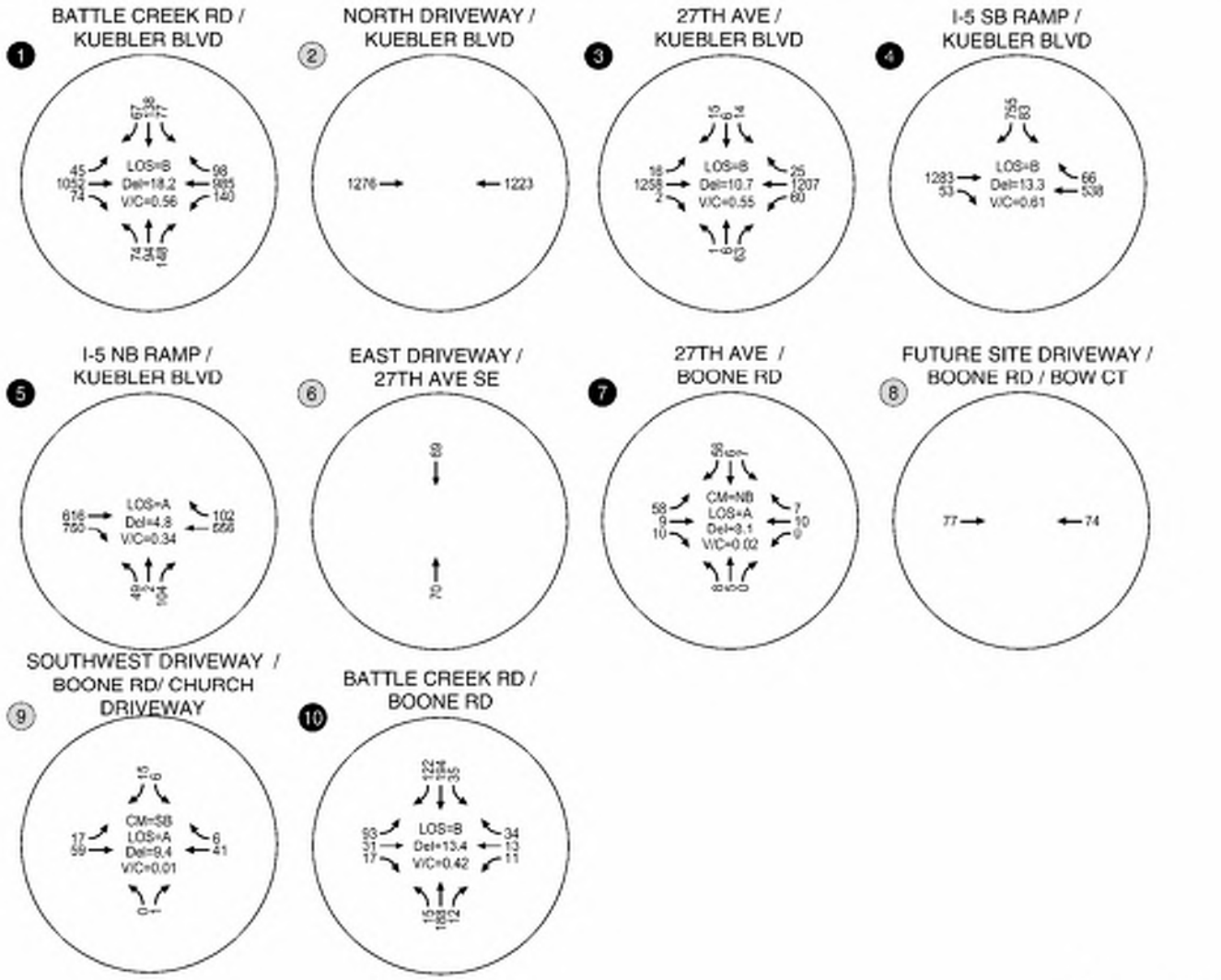
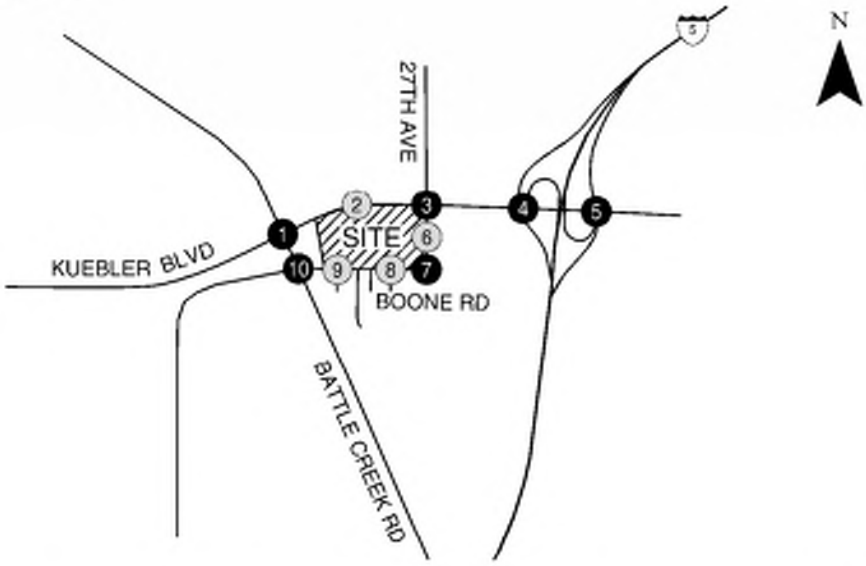
(#) - Study Intersections
(#) - Study Site Driveways

2019 Background Traffic Conditions
Weekday PM Peak Hour
Salem, Oregon

Figure **5**





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(#) - Study Intersections
(#) - Study Site Driveways

2019 Background Traffic Conditions
Saturday Midday Peak Hour
Salem, Oregon

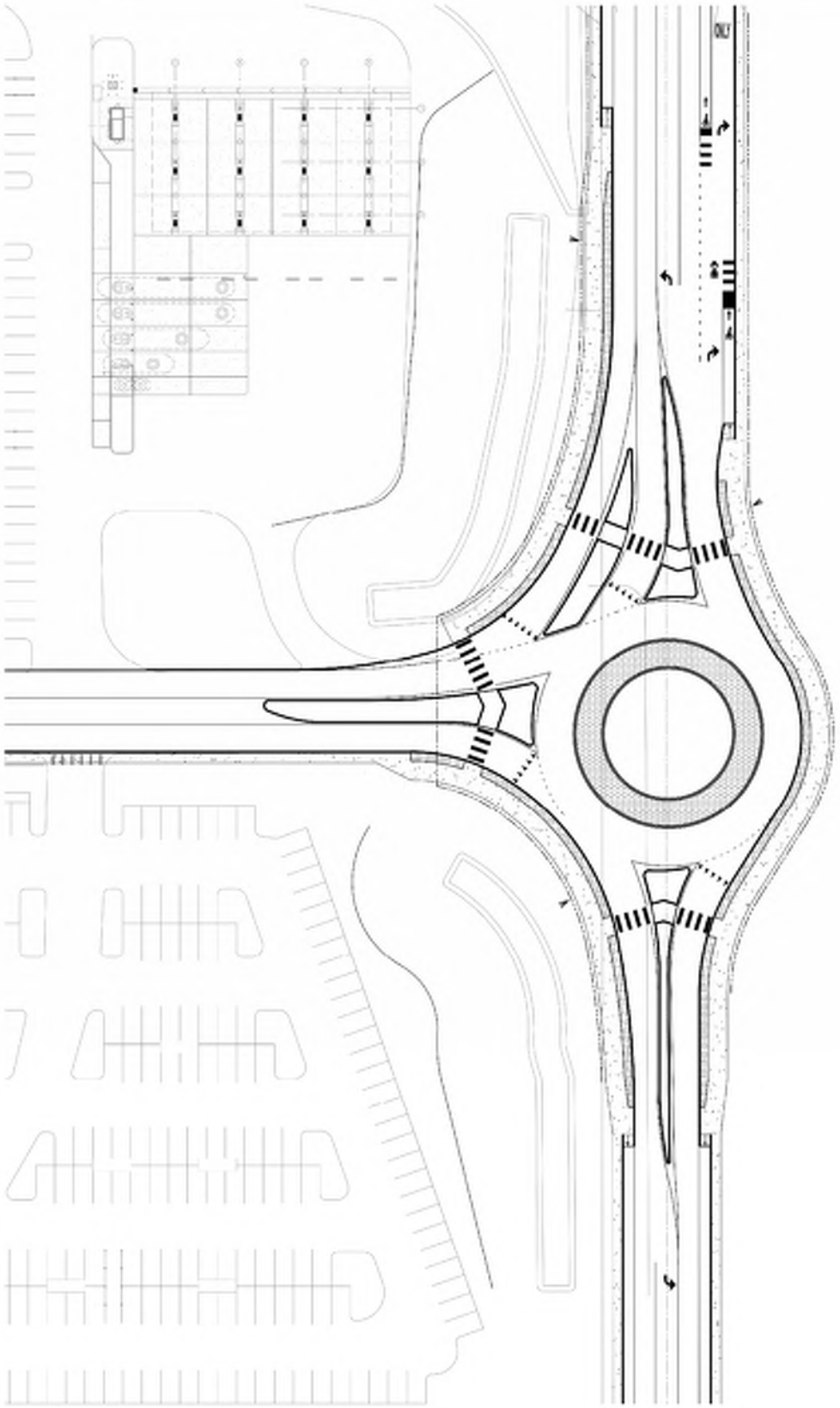
Figure **6**

PROPOSED DEVELOPMENT PLAN

The proposed Kuebler Gateway Shopping Center includes a Costco warehouse and fuel station, and four retail buildings of approximately 21,000 square-feet. The proposed Costco will include a warehouse and fuel station with four islands and the potential to add a fifth island in the future (30 fueling positions).

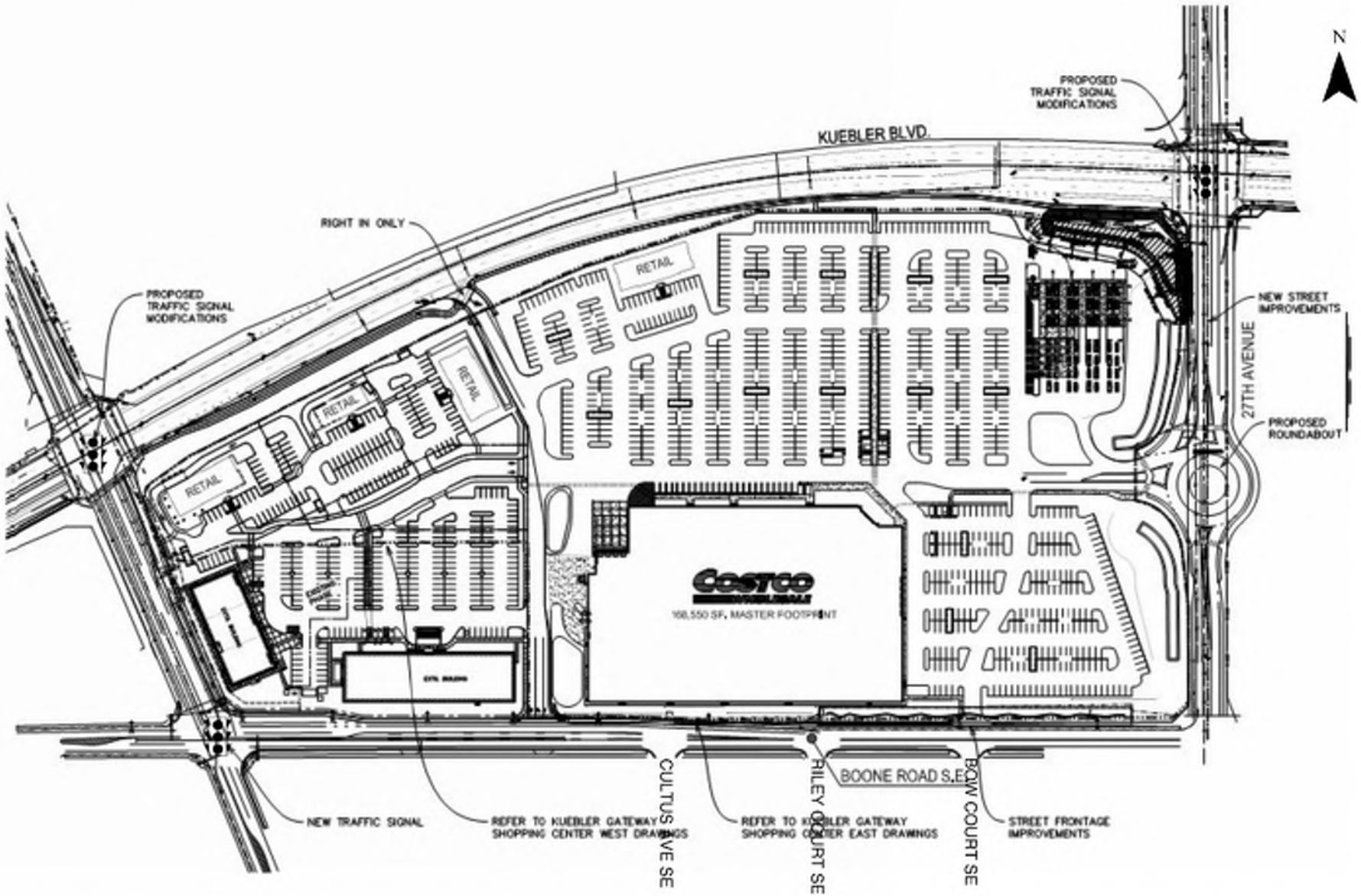
Figure 7 illustrates the preliminary site plan for the proposed Kuebler Gateway Shopping Center. Access to the shopping center is proposed via the following locations:

- Existing right-in only entrance driveway (no control) on Kuebler Boulevard located approximately 1,200 feet to the west of 27th Avenue,
- Existing full-access driveway (stop control) on Boone Road (currently serves the Salem Clinic) located approximately 500 feet to the east of Battle Creek Road,
- Proposed full-access driveway (stop control) on Boone Road located approximately 375 feet to west of 27th Avenue and aligned with Bow Court; and,
- Proposed full-access driveway (single lane roundabout) on 27th Avenue located approximately 450 feet to the south of Kuebler Boulevard.
    - As shown in Exhibit 1, the preliminary roundabout design for the site driveway and 27th Avenue intersection is a single lane circulating, three leg approach roundabout with an inscribed circle diameter (ICD) of 140 feet. The southbound approach includes a right-turn bypass lane, while the northbound and westbound are single lane approaches. The single lane roundabout is planned to be in place and operational at the opening of Kuebler Gateway Shopping Center.



Preliminary 27th Ave Roundabout Design
Salem, Oregon

Exhibit
1



Site Plan Received 5.30.2018

Preliminary Site Plan
Salem, OR

Figure
7

TRIP GENERATION

A trip generation estimate for the proposed Costco was determined using a Kittelson maintained database of traffic data and travel characteristics for Costco Wholesale, including trip generation data from the existing Salem Costco. Trip generation rates for the weekday p.m. peak hour and Saturday midday peak hour were derived from the existing Salem Costco warehouse and fuel station. Table 4 summarizes the estimated trip generation of the proposed Salem Costco.

Table 4. Estimated Trip Generation for the Proposed Salem Costco

Land Use	ITE Land Use Code	Size (Square Feet)	Daily	Weekday PM Peak Hour			Saturday Midday Peak Hour		
				Total	In	Out	Total	In	Out
Costco Warehouse with Gas Station (30 positions)	NA	160,000[1]	12,138	1,198	623	575	1,459	715	744
Internal Trips (10%)			*(1,214)*	*(120)*	*(62)*	*(58)*	*(146)*	*(72)*	*(74)*
Pass—by Trips (34% Daily, 35% AM/PM, 30% Sat)			*(3,714)*	*(377)*	*(196)*	*(181)*	*(394)*	*(193)*	*(201)*
Total Net New Trips			**7,210**	**701**	**365**	**336**	**919**	**450**	**469**

[1] *The building size of the Costco warehouse is 168,550 s.f., which includes 8,550 s.f. of mechanical elements and entry canopy that do not generate vehicle trips. Therefore, it is standard practice to base the estimated trip generation on the net warehouse area of 160,000 s.f.*

A trip generation estimate was also calculated for the additional 21,000 SF of retail shop space planned in the shopping center using ITE Land Use Code 820 (Shopping Center) as a basis for the estimate. Pass-by trips were estimated using the Trip Generation Handbook, 3rd Edition (Reference 11) published by the Institute of Transportation Engineers (ITE). Table 5 summarizes the trip generation for the proposed retail pads.

Table 5. Estimated Trip Generation for the Proposed Retail Pads

Land Use	ITE Land Use Code	Size (Square Feet)	Daily	Weekday PM Peak Hour			Saturday Midday Peak Hour		
				Total	In	Out	Total	In	Out
Retail (PacTrust)	820	21,000	897	78	37	41	101	53	48
Internal Trips (10%)			*(90)*	*(8)*	*(4)*	(4)	*(10)*	*(5)*	*(5)*
Pass-by Trips (34% Weekday, 26% Saturday)			*(274)*	*(24)*	*(11)*	*(13)*	*(24)*	*(12)*	*(11)*
Total Net New Trips			**533**	**46**	**22**	**24**	**67**	**35**	**32**

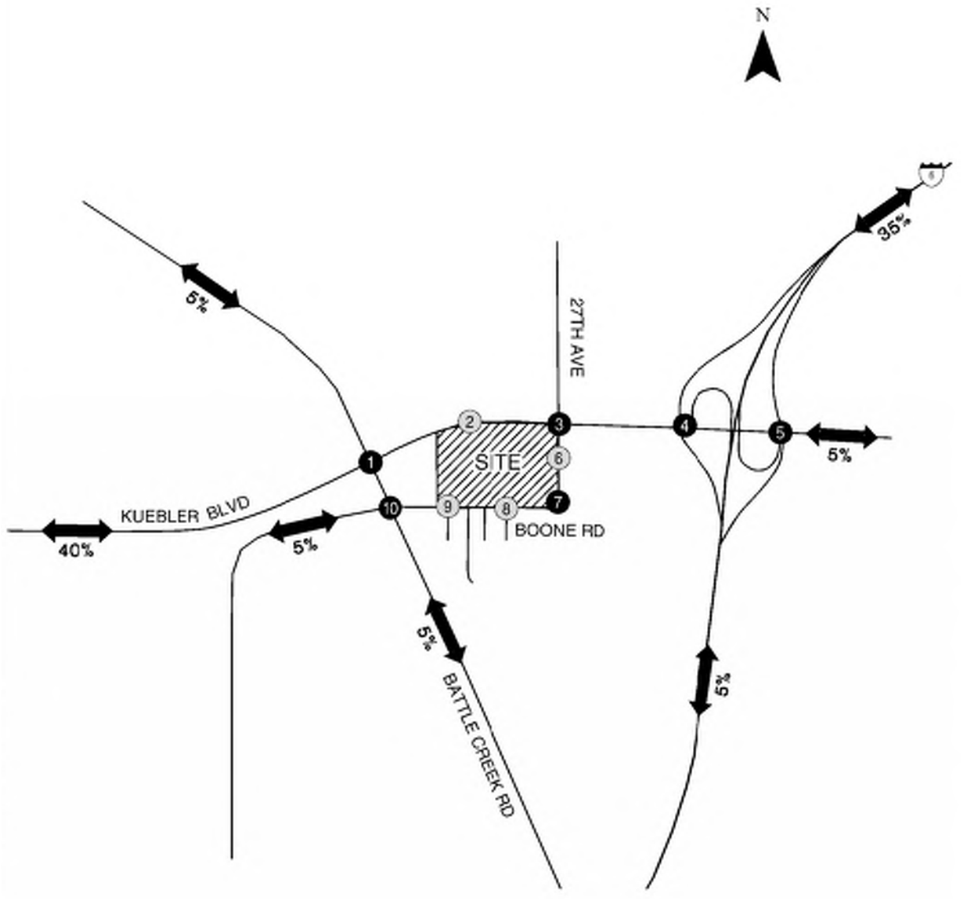
Since the proposed Kuebler Gateway Shopping Center includes a mix of uses (e.g. Costco warehouse with gas station, retail pads, medical office building and the Salem Clinic), an internal trip percentage of 10% was applied to the uses for estimating trip generation for the overall development. The site internalization rate was based off of other Costco sites with shopping centers/retail pads on site and is generally less than the internalization between retail uses published by ITE. The internal trip percentage between uses was limited to 10 percent. This internal trip percentage is much lower than the ITE percentages for retail-to-retail trips in mixed use developments of 20 to 30 percent.

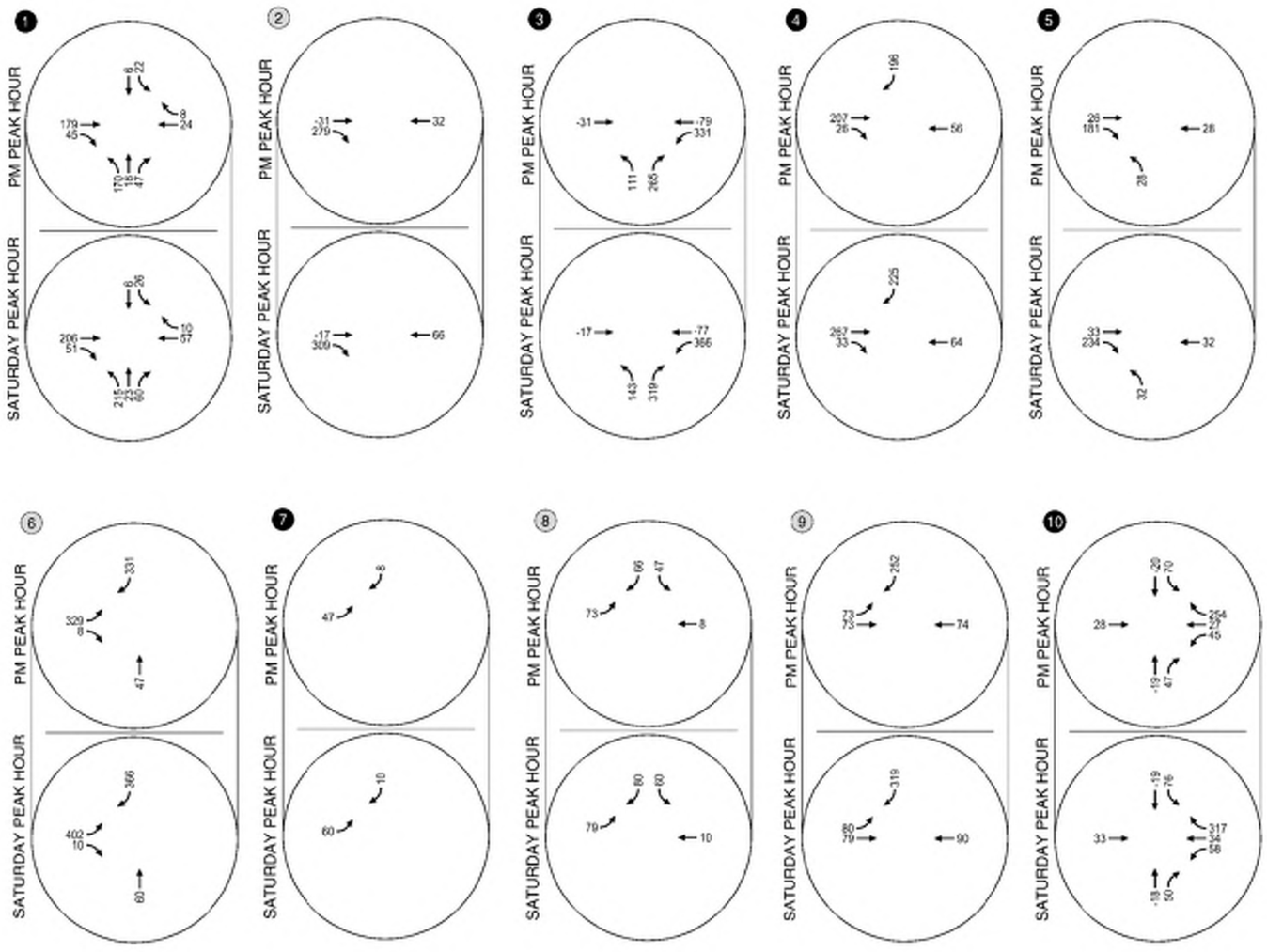
As shown in Tables 4 and 5, the proposed Kuebler Gateway Shopping Center is estimated to generate 7,743 daily net new trips, 747 weekday p.m. peak hour trips, and 986 Saturday midday peak hour trips.

TRIP DISTRIBUTION AND ASSIGNMENT

The distribution of Costco-generated trips onto the study area roadway system was based on historical Salem Costco sales data and examination of site access, parking layout and site circulation. The resulting trip distribution pattern for Costco trips is illustrated in Figure 8.

The distribution of the additional retail trips onto the study area roadway system was based on previous TIA studies in the area and is shown in Figure 9.





Trip distribution is based on FY 2014 - FY 2016 Salem Costco sales data.
Negative trips represent pass-by trips.

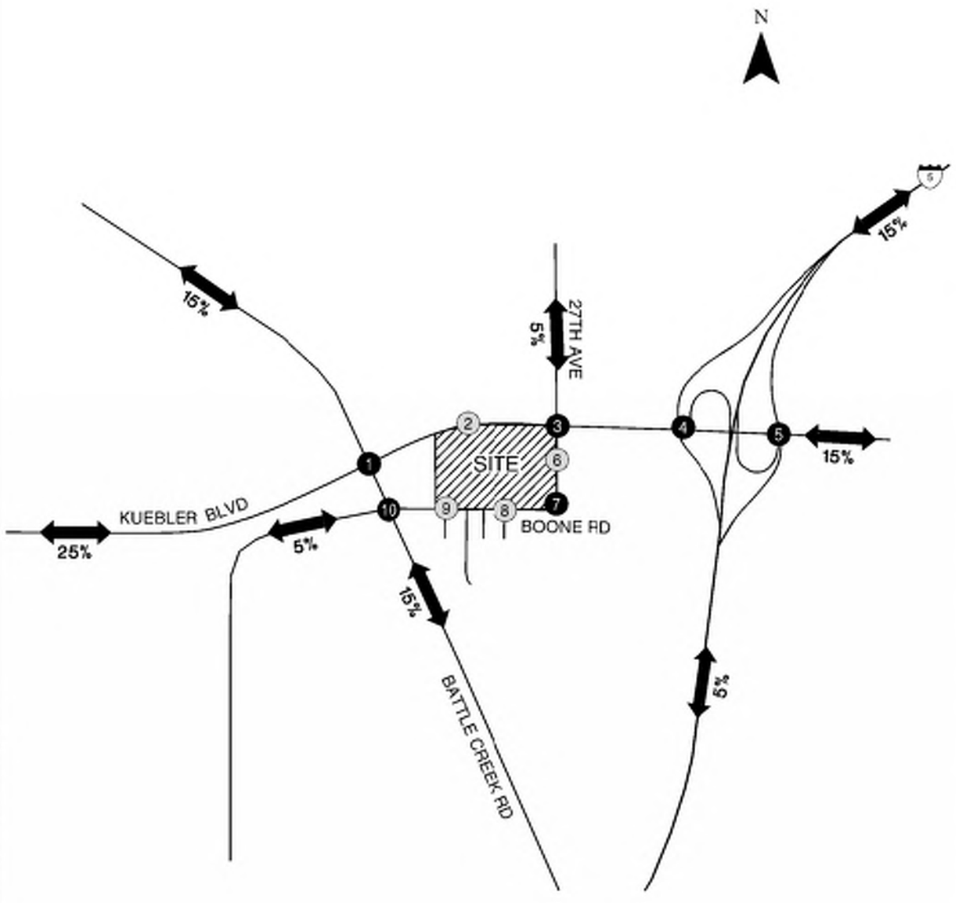
- Study Intersections
- Study Site Driveways

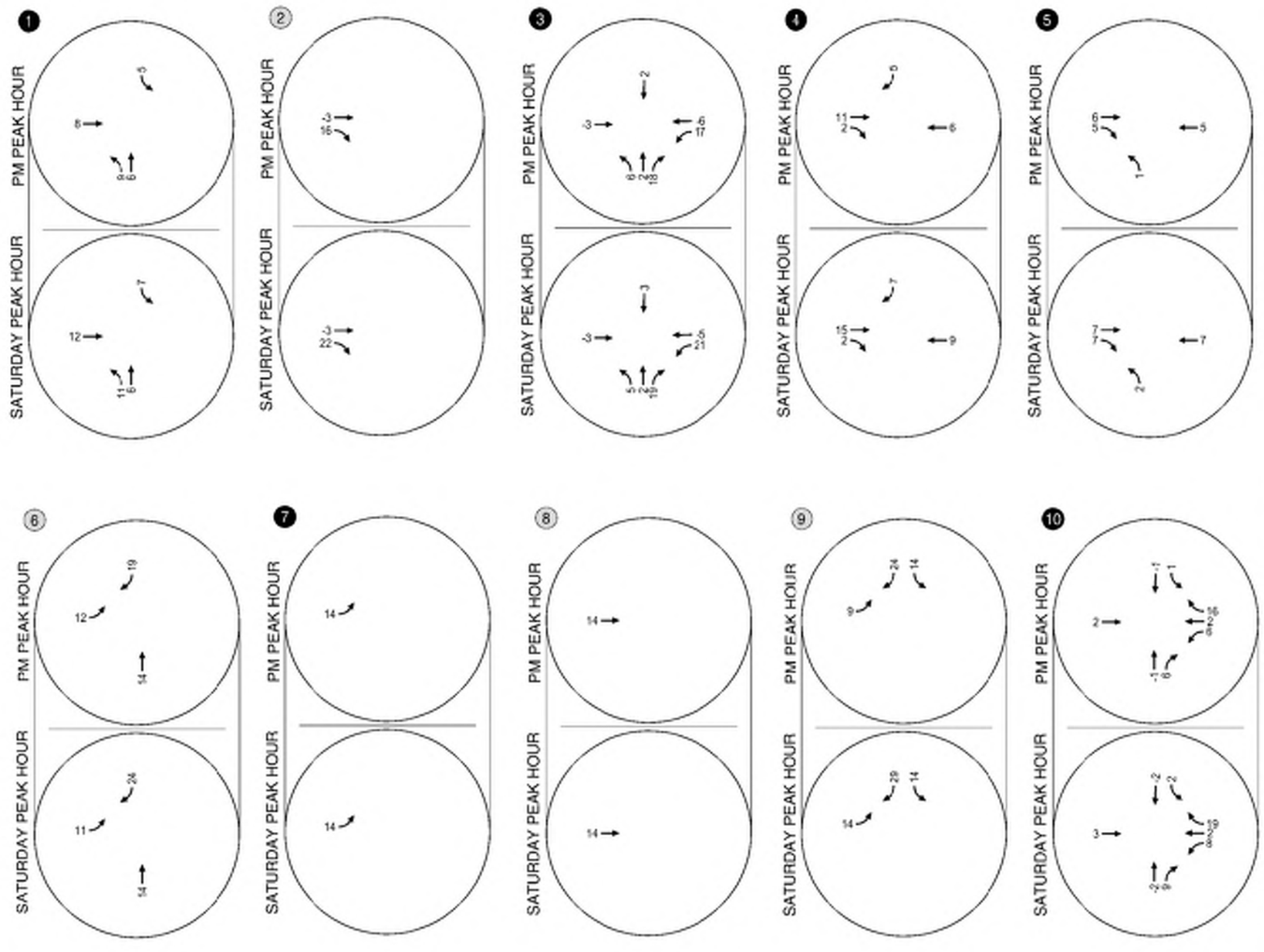
Estimated Costco Trip Distribution Pattern and Assignment (Total Trips)
Weekday PM and Saturday Midday Peak Hour
Salem, OR

Figure
8

H:\25\25051 - Salem Costco Relocation\exhibits\fig\25051_T14.dwg May 24, 2018 - 1:44pm cdougherty Layout Tab: H3 8, Costco10

KITTELSON & ASSOCIATES





Negative trips represent pass-by trips.

● - Study Intersections
(#) - Study Site Driveways

Estimated Retail Pads Trip Distribution Pattern and Assignment (Total Trips)
Weekday PM and Saturday Midday Peak Hour
Salem, OR

Figure **9**

KITTELSON & ASSOCIATES

YEAR 2019 TOTAL TRAFFIC CONDITIONS

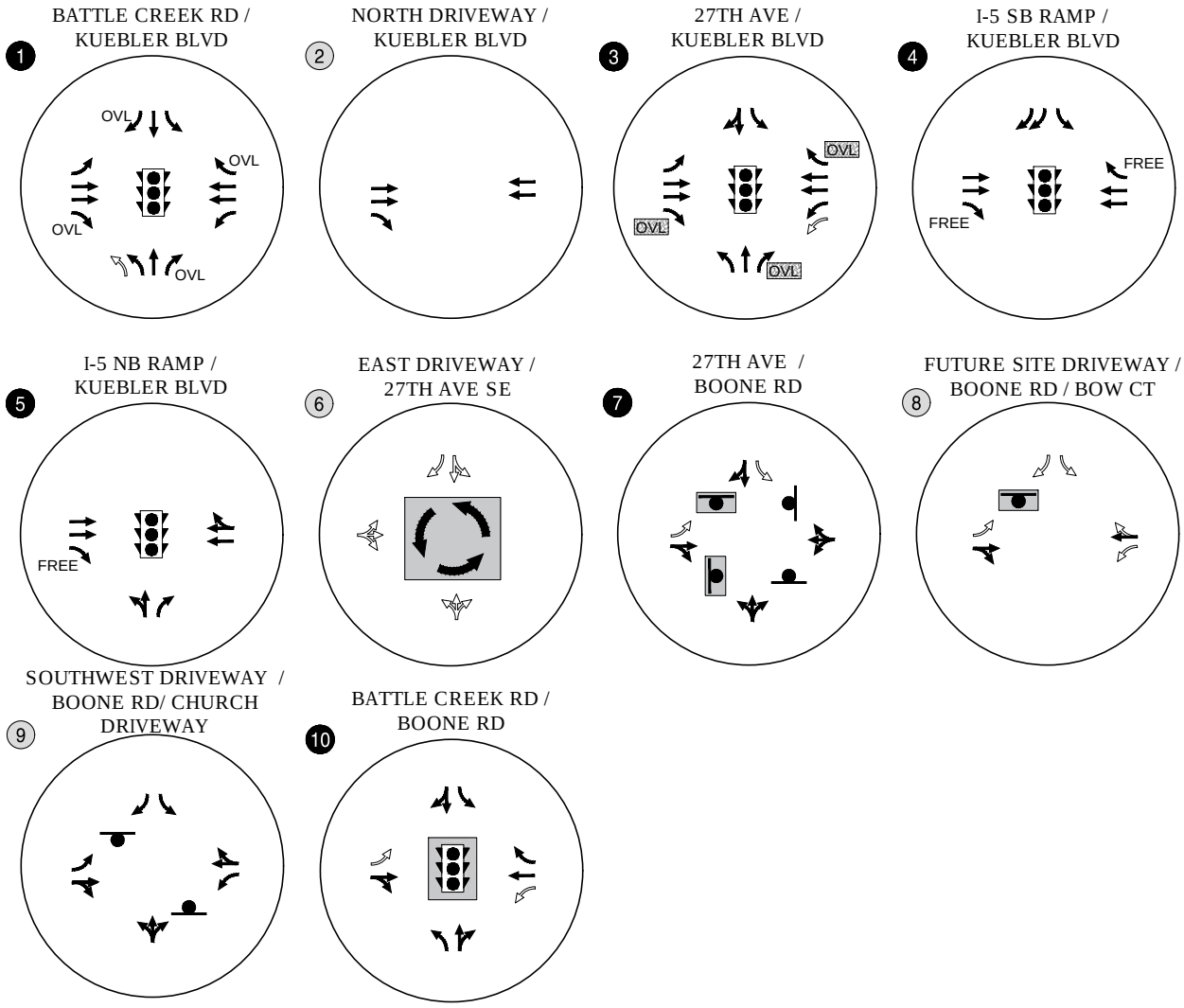
The year 2019 total traffic conditions analysis forecasts how the study area's transportation system will operate with the traffic generated by the proposed Kuebler Gateway Shopping Center, added to the year 2019 background conditions, which included regional growth and in-process developments.

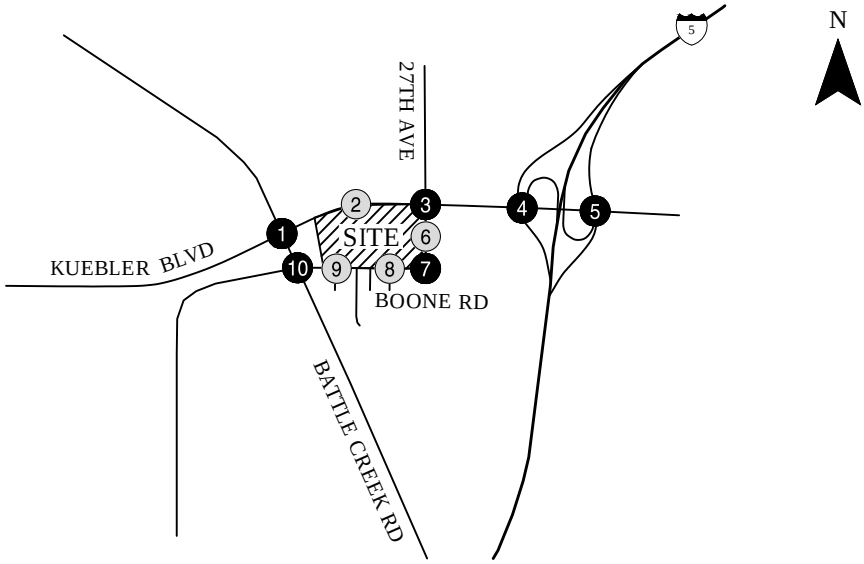
Opening Year 2019 With-Project Conditions

The site-generated trips shown in Figures 8 and 9 were added to the year 2019 background traffic volumes in Figures 5 and 6 to estimate the year 2019 total traffic volumes.

Figure 10 shows the year 2019 lane configurations and traffic control devices, including the area improvements discussed above. All of the intersections with changes included optimized signal timings given the significant changes planned at these intersections.

Figures 11 and 12 illustrate the year 2019 total traffic conditions during the weekday p.m. and Saturday midday peak hours, respectively. *Appendix "F" contains the year 2019 total traffic conditions operational analysis worksheets.*





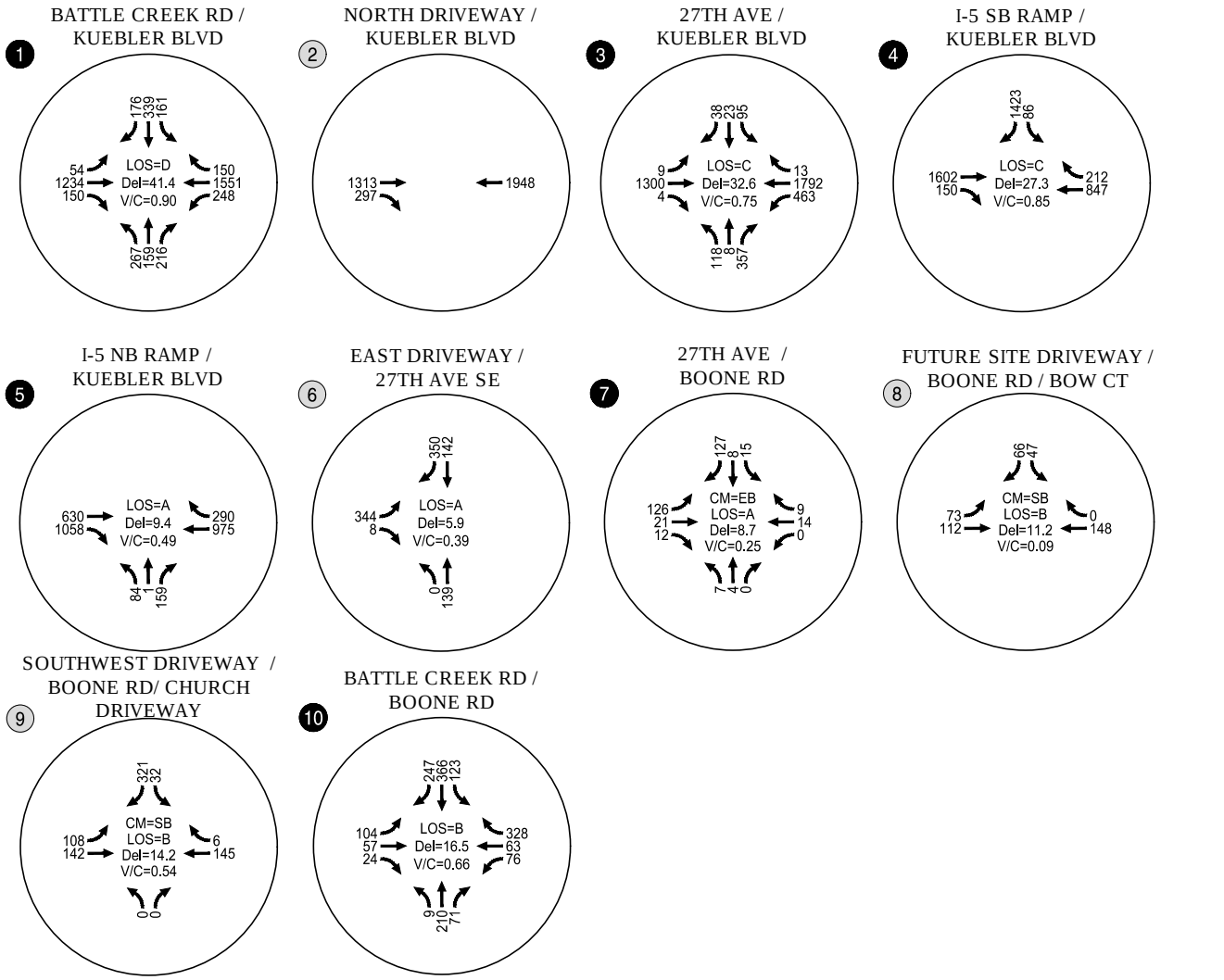
= Stop Sign
= Traffic Signal
OVL = Overlap

New Improvements
= New Turn Lane
OVL = New Overlap
= New Stop Control
= New Roundabout
= New Traffic Signal

(#) - Study Intersections
(#) - Study Site Driveways

Assumed Lane Configuration and Traffic Control Devices Salem, Oregon

Figure **10**



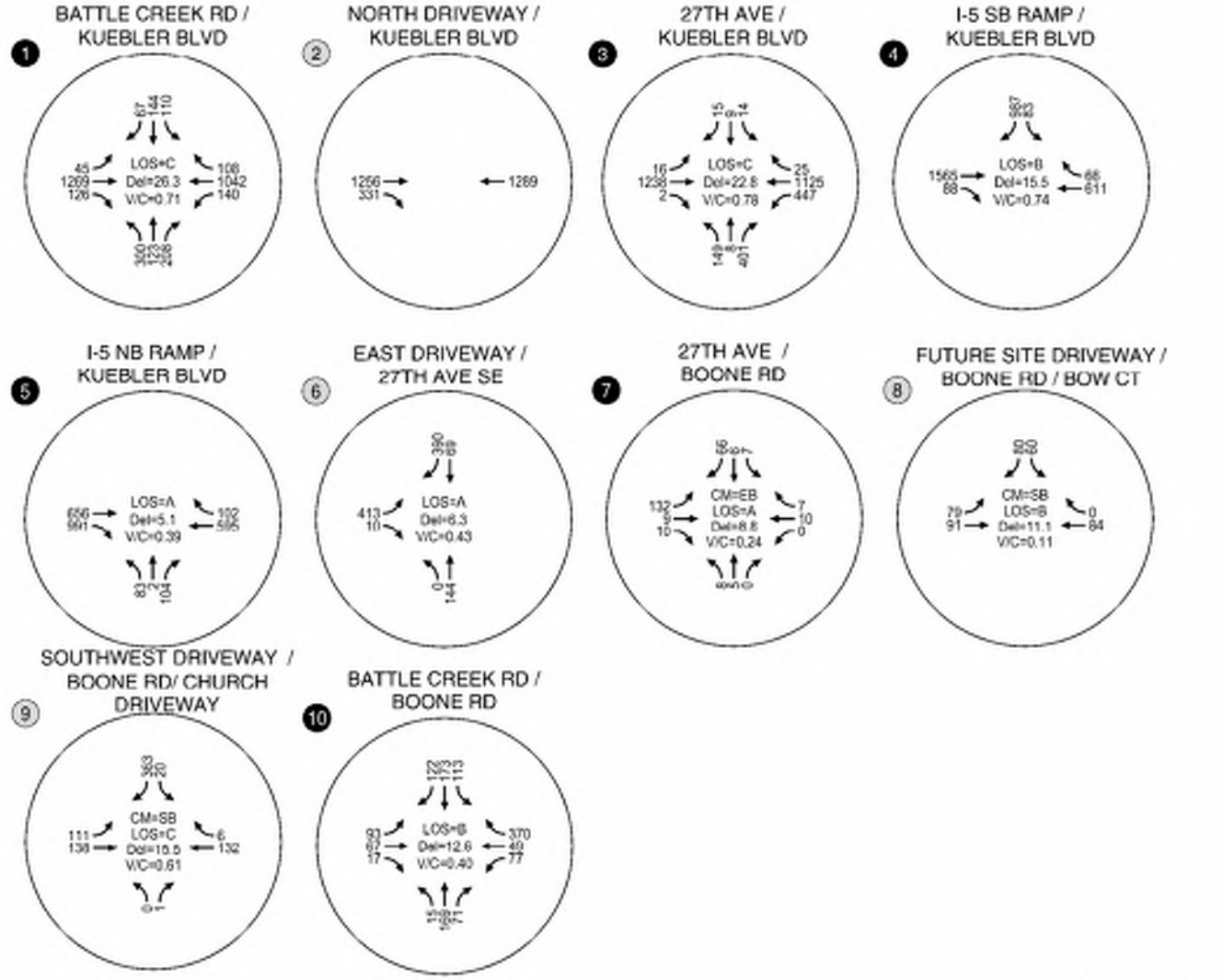
CM = Critical Movement (Unsignalized)
LOS = Intersection Level of Service (Signalized) / Critical Movement Level of Service (Unsignalized)
Del = Intersection Average Control Delay (Signalized) / Critical Movement Control Delay (Unsignalized)
V/C = Critical Volume-to-Capacity Ratio

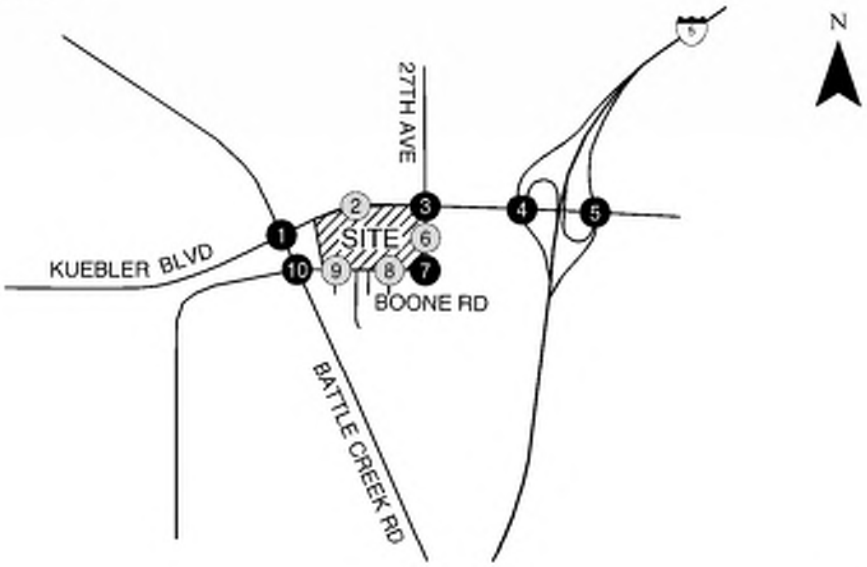
(#) - Study Intersections

(#) - Study Site Driveways

2019 Total Traffic Conditions
Weekday PM Peak Hour
Salem, Oregon

Figure **11**





CM = Critical Movement (Unsignalized)
LOS = Intersection Level of Service (Signalized) / Critical Movement Level of Service (Unsignalized)
Del = Intersection Average Control Delay (Signalized) / Critical Movement Control Delay (Unsignalized)
V/C = Critical Volume-to-Capacity Ratio

● - Study Intersections
(#) - Study Site Driveways

2019 Total Traffic Conditions
Saturday Midday Peak Hour
Salem, Oregon

Figure **12**

H:\22\22051 - Salem Costco Relocation\mycivil\fig\22051_TIA.dwg May 25, 2018 - 9:42am - oblaughenty Layout Tab: FIG 12_2019TotalSat

KITTELSON & ASSOCIATES

Total Traffic 2019 Analysis Results and Mitigation

As shown in Figures 11 and 12, all of the study intersections are projected to continue to meet agency operating standards under year 2019 total conditions during the weekday p.m. and Saturday midday peak hours, respectively. *Appendix "F" contains the 2019 total (with project) operational analysis worksheets.*

*Y*ear 2019 Total Traffic Conditions – 95th Percentile Vehicle Queues

Table 7 summarizes forecast weekday p.m. and Saturday build year 2019 total traffic queuing conditions for key study intersections in the site vicinity along Battle Creek Road, Kuebler Boulevard, 27th Avenue, and Boone Road, assuming full development of the Kuebler Gateway Shopping Center.

Table 7: 95th Percentile Vehicle Queuing Analysis Results

Intersection	Approach	Movement	95th-Percentile Queue (ft)		Available Storage (ft)	Comments
			P.M.	Saturday		
Kuebler Blvd/ Battle Creek Rd	EB	LT RT	75 50	25[m] 50[m]	420 220	
	WB	LT RT	375* 50[m]	175* 25	250 [1] 250	[1] While the WB left-turn is projected to exceed the existing 250 feet of striped storage, the WB left-turn lane will be restriped to provide 400 feet of storage for the WB left-turn.
	NB	LT RT	175* 150	200* 150	380 150	Available storage based future dual 190' northbound left turn lanes
	SB	LT RT	225* 150	175* 50	285 285	
Kuebler Blvd/ 27th Ave	EB	LT RT	25[m] 0[m]	50 0	290 210	
	WB	LT RT	300* 0[m]	275* 0	400 175	
	NB	LT RT	175 325	175 325	225 325	
	SB	LT	150	50	150	
Kuebler Blvd/ I-5 Southbound Ramps	EB	RT	0	0	300	
	WB	RT	0	0	425	
	SB	LT RT	175* 375	150* 275	1,350 525	
Kuebler Blvd/ I-5 Nouthbound Ramps	EB	RT	0	0	150	
	NB	RT	75	25	100	
Boone Rd/ Battle Creek Rd	EB	LT	75	50	140	
	WB	LT RT	50 50	50 50	140 140	
	SB	LT	50	50	95	
	NB	LT	25	25	125	

Notes: 95th percentile queue lengths have been rounded up to the nearest car length, assuming one vehicle equals 25 feet.
*95th percentile volume exceeds capacity, queues may be longer;
[m] volume for 95th percentile queue is metered by upstream signal;

As shown in Table 7 above, with assumed area improvements complete, all of the storage lengths are adequate to accommodate the projected 95th percentile vehicle queues.

FINDINGS AND RECOMMENDATIONS

Based on the results of this Transportation Impact Analysis, the proposed Kuebler Gateway Shopping Center can be developed while maintaining reasonable level of service on the surrounding transportation system. The analysis developed the findings and recommendations listed below.

Findings

- The proposed Kuebler Gateway Shopping Center and existing medical office building and Salem Clinic are estimated to generate less trips than the approved 2006 rezone TIA during the daily, weekday p.m. peak hour, and Saturday peak hour time periods.
- The proposed Kuebler Gateway Shopping Center is estimated to generate a total of 7,743 net new daily trips, 747 occurring during the p.m. peak hour and 986 during Saturday peak hour.
- All of the existing study intersections currently operate at levels which meet agency mobility standards during the weekday p.m. and Saturday midday peak hours.
- In-process improvements assumed in place for background year 2019 analysis include:
    - Battle Creek Road/Boone Road – installation of a new traffic signal, restriping the intersection to accommodate exclusive left turn lanes, and signing.
    - Kuebler Boulevard/Battle Creek Road – modification of the existing traffic signal to accommodate dual northbound left-turn lanes, restriping on the north and south approaches of the intersection, and signing.
    - Kuebler Boulevard/27th Avenue – modification of the existing traffic signal to accommodate dual westbound left-turn lanes and an exclusive northbound right-turn lane, restriping for these lanes, and signing.
    - 27th Avenue – constructing an additional southbound through lane along a portion of the site frontage to accommodate a second westbound left-turn lane at the Kuebler Boulevard/27th Avenue intersection.
- Year 2019 background traffic volumes were derived through application of a 1.0 percent annual growth rate to existing volumes. Additionally, in-process trips associated with the nearby Boone Wood Estates, senior care facility and full occupation of the Salem Clinic and medical office building were included in the background traffic volumes.
- Under year 2019 background traffic conditions (inclusive of regional growth and in-process developments), all of the study intersections are projected to continue to meet agency operating standards during the weekday p.m. and Saturday midday peak hours.
- Under year 2019 total traffic conditions (build-out of the Kuebler Gateway Shopping Center and off-site improvements), all of the study intersections are projected to continue to meet agency operating standards during the weekday p.m. and Saturday midday peak hours.

Recommendations

- Subject to City of Salem direction, installation of the following traffic control improvements are recommended in conjunction with site development in accordance with City of Salem standards and the *Manual on Uniform Traffic Control Devices* (MUTCD):

- The east site driveway on 27th Avenue should be constructed as a single lane roundabout, with southbound right turn by-pass lane to the site.
- A stop sign should be installed on at the new south site driveway (southbound) approach to Boone Road.
- The westbound left-turn lane at the Kuebler Boulvard/Battle Creek Road intersection should be restriped to provide 400 feet of storage.

- All future landscaping, above-ground utilities, and site signage should be located and maintained to ensure adequate sight-distance is provided at the site driveways.

We trust this memorandum adequately addresses the traffic impacts associated with the proposed Kuebler Gateway Shopping Center. Please contact us if you have any questions or comments regarding the contents of this analysis.

EXPIRES: 06/30/18

REFERENCES

1. Transportation Research Board. *Highway Capacity Manual*. 2000.

2. City of Salem. *Guidelines for the Preparation of Transportation Impact Analyses*. December 28, 1994.

3. Oregon Department of Transportation, *1999 Oregon Highway Plan.* Including amendments November 1999 through May 2015.

4. Oregon Department of Transportation. *Analysis Procedures Manual.* February 2017.

5. Kittelson & Associates, Inc. *Kuebler Cascade View Site Rezone- Final Report*. January 8, 2018.

6. City of Salem. *Salem Transportation System Plan*. As amended December 12, 2012, and July 2014.

7. Mid-Willamette Valley Council of Governments. *Regional Transportation Systems Plan.* May 2011.

8. Kittelson & Associates, Inc. *Traffic Impact Analysis PacTrust Kuebler Project.* September 2006.

9. Institute of Transportation Engineers. *Trip Generation Manual, 9th Edition*. 2012.

10. Institute of Transportation Engineers. *Trip Generation Handbook, 3rd Edition*. August 2014.

ATTACHMENTS

Appendix A: Traffic Count Data

Appendix B: Signal Timing Data

Appendix C: Crash Data

Appendix D: Existing Operations Worksheets

Appendix E: 2019 Background Operations Worksheets

Appendix F: 2019 With Project Conditions Operations Worksheets

Appendix A: Traffic Count Data

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: 27th Ave SE -- Kuebler Blvd

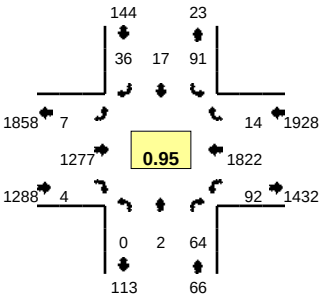
CITY/STATE: Salem, OR

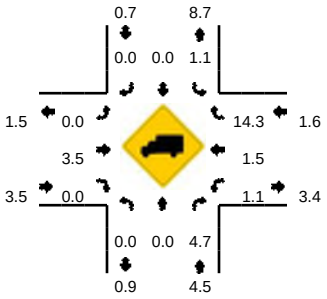
QC JOB #: 14579308

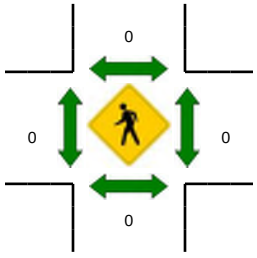
DATE: Thu, Dec 07 2017

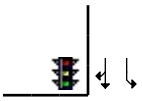
Peak-Hour: 4:40 PM -- 5:40 PM

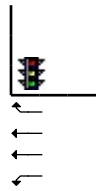
Peak 15-Min: 5:10 PM -- 5:25 PM

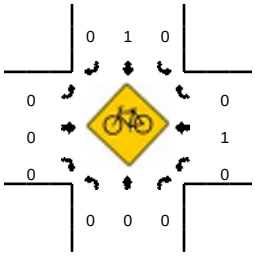


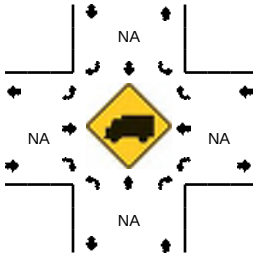


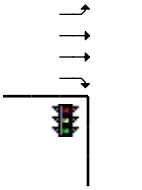


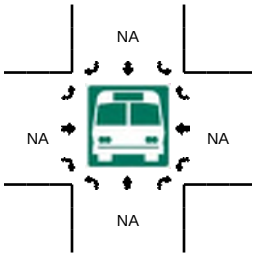












5-Min Count Period Beginning At	27th Ave SE (Northbound)				27th Ave SE (Southbound)				Kuebler Blvd (Eastbound)				Kuebler Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	4	0	4	0	2	0	1	115	0	0	1	123	1	0	251	
4:05 PM	0	0	2	0	6	0	1	0	0	96	1	0	4	135	1	0	246	
4:10 PM	0	0	3	0	9	0	2	0	1	109	0	0	5	137	0	0	266	
4:15 PM	0	0	4	0	8	0	4	0	1	125	0	0	10	142	3	0	297	
4:20 PM	0	0	2	0	2	1	3	0	2	103	0	0	5	134	2	1	255	
4:25 PM	0	0	4	0	2	0	4	0	0	85	0	0	6	148	4	0	253	
4:30 PM	0	0	5	0	7	0	3	0	2	107	0	0	2	133	2	0	261	
4:35 PM	0	1	3	0	7	1	5	0	1	104	0	0	9	132	1	0	264	
4:40 PM	0	0	6	0	5	0	1	0	2	112	0	0	8	156	1	0	291	
4:45 PM	0	1	2	0	5	0	1	0	0	111	1	0	4	171	2	0	298	
4:50 PM	0	0	8	0	6	2	2	0	1	98	0	0	9	141	3	0	270	
4:55 PM	0	0	8	0	5	1	2	0	0	110	1	0	3	174	2	0	306	3258
5:00 PM	0	0	7	0	7	1	2	0	0	102	0	0	16	150	0	0	285	3292
5:05 PM	0	0	4	0	10	4	6	0	1	105	0	0	6	118	1	0	255	3301
5:10 PM	0	0	7	0	12	2	2	0	1	125	0	0	2	145	1	0	297	3332
5:15 PM	0	1	6	0	11	2	4	0	0	103	0	0	10	174	0	0	311	3346
5:20 PM	0	0	7	0	14	2	4	0	0	101	1	0	11	153	0	0	293	3384
5:25 PM	0	0	1	0	8	1	7	0	0	89	1	0	6	167	2	0	282	3413
5:30 PM	0	0	3	0	4	1	2	0	2	107	0	0	8	143	0	0	270	3422
5:35 PM	0	0	5	0	4	1	3	0	0	114	0	0	9	130	2	0	268	3426
5:40 PM	0	0	6	0	7	0	0	0	0	99	2	0	9	132	1	0	256	3391
5:45 PM	0	0	7	0	2	0	2	0	0	91	0	0	6	148	2	0	258	3351
5:50 PM	1	0	3	0	5	0	1	0	0	115	0	0	5	135	1	0	266	3347
5:55 PM	0	0	4	0	1	1	0	0	2	81	0	0	9	120	2	0	220	3261

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	4	80	0	148	24	40	0	4	1316	4	0	92	1888	4	0	3604
Heavy Trucks	0	0	0		0	0	0		0	44	0		4	20	0		68
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	1	0		0	0	0		0	1	0		2
Railroad																	
Stopped Buses																	

Comments:

Report generated on 12/20/2017 2:05 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: I-5 SB Ramps -- Kuebler Blvd

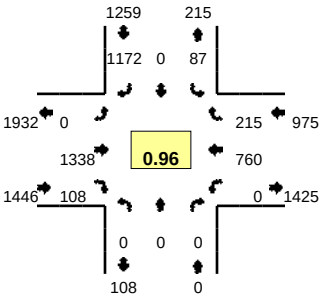
CITY/STATE: Salem, OR

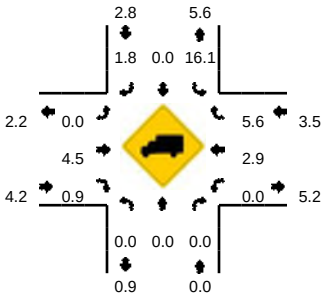
QC JOB #: 14579311

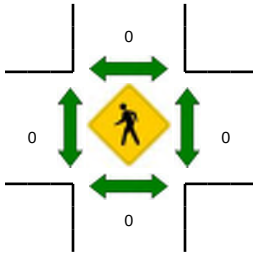
DATE: Thu, Dec 07 2017

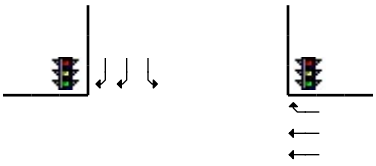
Peak-Hour: 4:25 PM -- 5:25 PM

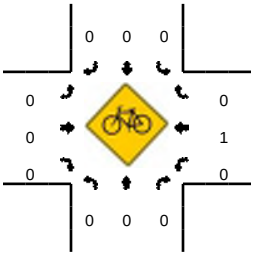
Peak 15-Min: 5:10 PM -- 5:25 PM

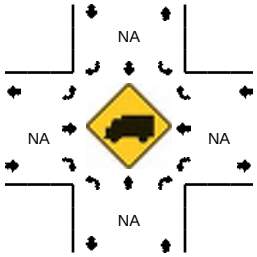


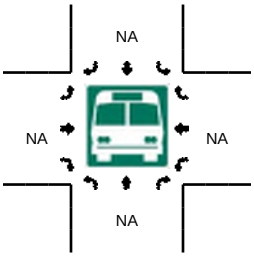












5-Min Count Period Beginning At	I-5 SB Ramps (Northbound)				I-5 SB Ramps (Southbound)				Kuebler Blvd (Eastbound)				Kuebler Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	8	0	77	0	0	113	7	0	0	48	15	0	268	
4:05 PM	0	0	0	0	9	0	78	0	0	97	6	0	0	60	16	0	266	
4:10 PM	0	0	0	0	9	0	75	0	0	114	18	0	0	66	23	0	305	
4:15 PM	0	0	0	0	9	0	99	0	0	132	7	0	0	57	18	0	322	
4:20 PM	0	0	0	0	20	0	85	0	0	79	11	0	0	52	17	0	264	
4:25 PM	0	0	0	0	12	0	92	0	0	104	11	0	0	77	12	0	308	
4:30 PM	0	0	0	0	8	0	100	0	0	105	4	0	0	47	21	0	285	
4:35 PM	0	0	0	0	13	0	85	0	0	97	10	0	0	57	25	0	287	
4:40 PM	0	0	0	0	3	0	101	0	0	130	5	0	0	66	19	0	324	
4:45 PM	0	0	0	0	10	0	95	0	0	107	6	0	0	80	14	0	312	
4:50 PM	0	0	0	0	6	0	111	0	0	115	5	0	0	54	12	0	303	
4:55 PM	0	0	0	0	8	0	114	0	0	113	8	0	0	64	13	0	320	3564
5:00 PM	0	0	0	0	3	0	82	0	0	100	9	0	0	76	24	0	294	3590
5:05 PM	0	0	0	0	2	0	86	0	0	116	14	0	0	53	18	0	289	3613
5:10 PM	0	0	0	0	10	0	99	0	0	115	8	0	0	50	25	0	307	3615
5:15 PM	0	0	0	0	8	0	113	0	0	132	11	0	0	65	16	0	345	3638
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5:25 PM	0	0	0	0	11	0	125	0	0	75	13	0	0	49	12	0	285	3657
5:30 PM	0	0	0	0	6	0	84	0	0	122	9	0	0	59	10	0	290	3662
5:35 PM	0	0	0	0	10	0	97	0	0	109	6	0	0	48	7	0	277	3652
5:40 PM	0	0	0	0	5	0	92	0	0	110	6	0	0	55	17	0	285	3613
5:45 PM	0	0	0	0	10	0	98	0	0	93	9	0	0	43	19	0	272	3573
5:50 PM	0	0	0	0	13	0	77	0	0	94	1	0	0	62	13	0	260	3530
5:55 PM	0	0	0	0	10	0	70	0	0	102	6	0	0	59	13	0	260	3470

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	0	0	0	88	0	1224	0	0	1404	144	0	0	744	228	0	3832
Heavy Trucks	0	0	0		8	0	12		0	60	0		0	16	12		108
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	1	0		1
Railroad																	
Stopped Buses																	

Comments:

Report generated on 12/20/2017 2:05 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

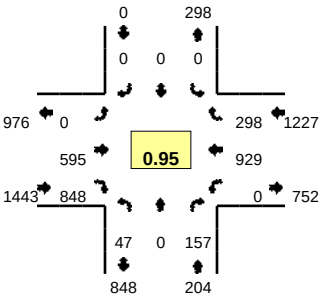
LOCATION: I-5 NB Ramps -- Kuebler Blvd

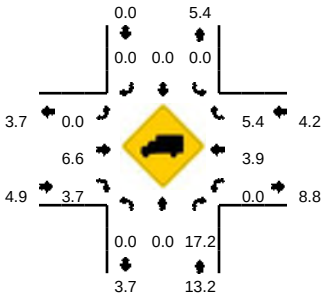
CITY/STATE: Salem, OR

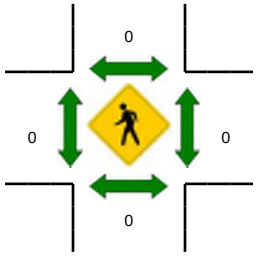
QC JOB #: 14579314

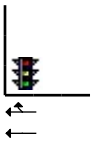
DATE: Thu, Dec 07 2017

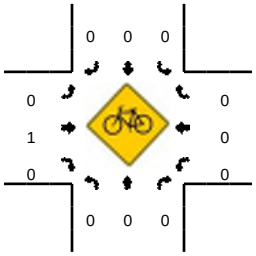
Peak-Hour: 4:25 PM -- 5:25 PM
Peak 15-Min: 4:35 PM -- 4:50 PM

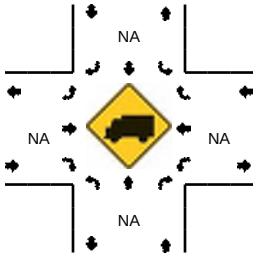


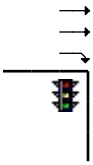


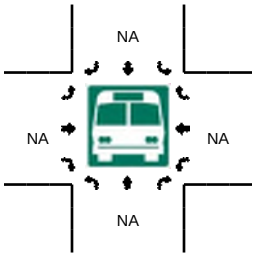












5-Min Count Period Beginning At	I-5 NB Ramps (Northbound)				I-5 NB Ramps (Southbound)				Kuebler Blvd (Eastbound)				Kuebler Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	1	0	9	0	0	0	0	0	0	46	67	0	0	61	20	0	204	
4:05 PM	6	0	5	0	0	0	0	0	0	38	65	0	0	80	22	0	216	
4:10 PM	3	0	11	0	0	0	0	0	0	54	78	0	0	75	24	0	245	
4:15 PM	3	0	8	0	0	0	0	0	0	62	67	0	0	76	20	0	236	
4:20 PM	2	0	9	0	0	0	0	0	0	47	58	0	0	79	19	0	214	
4:25 PM	5	0	19	0	0	0	0	0	0	58	58	0	0	80	21	0	241	
4:30 PM	0	0	9	0	0	0	0	0	0	45	69	0	0	65	25	0	213	
4:35 PM	6	0	10	0	0	0	0	0	0	54	62	0	0	83	33	0	248	
4:40 PM	6	0	14	0	0	0	0	0	0	51	68	0	0	89	25	0	253	
4:45 PM	3	0	17	0	0	0	0	0	0	57	84	0	0	80	16	0	257	
4:50 PM	1	0	14	0	0	0	0	0	0	53	69	0	0	67	26	0	230	
4:55 PM	6	0	18	0	0	0	0	0	0	44	63	0	0	79	22	0	232	2789
5:00 PM	8	0	9	0	0	0	0	0	0	44	77	0	0	82	22	0	242	2827
5:05 PM	2	0	16	0	0	0	0	0	0	49	66	0	0	67	34	0	234	2845
5:10 PM	2	0	9	0	0	0	0	0	0	39	81	0	0	84	27	0	242	2842
5:15 PM	4	0	10	0	0	0	0	0	0	62	80	0	0	84	24	0	264	2870
5:20 PM	4	0	12	0	0	0	0	0	0	39	71	0	0	69	23	0	218	2874
5:25 PM	3	0	19	0	0	0	0	0	0	39	50	0	0	73	20	0	204	2837
5:30 PM	5	0	8	0	0	0	0	0	0	48	73	0	0	58	12	0	204	2828
5:35 PM	8	1	15	0	0	0	0	0	0	53	69	0	0	40	20	0	206	2786
5:40 PM	6	0	10	0	0	0	0	0	0	52	71	0	0	73	18	0	230	2763
5:45 PM	7	0	14	0	0	0	0	0	0	52	50	0	0	74	10	0	207	2713
5:50 PM	3	0	15	0	0	0	0	0	0	60	81	0	0	50	23	0	232	2715
5:55 PM	3	0	7	0	0	0	0	0	0	48	50	0	0	71	10	0	189	2672

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	0	164	0	0	0	0	0	0	648	856	0	0	1008	296	0	3032
Heavy Trucks	0	0	40		0	0	0		0	28	28		0	20	4		120
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 12/20/2017 2:05 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

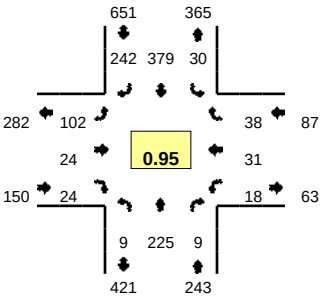
LOCATION: Battle Creek Rd SE -- Boone Rd SE

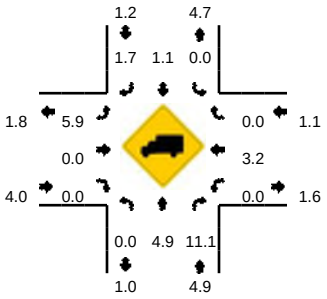
QC JOB #: 14579317

CITY/STATE: Salem, OR

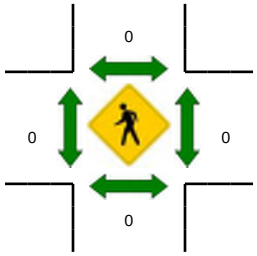
DATE: Thu, Dec 07 2017

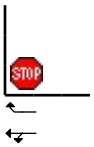
Peak-Hour: 4:35 PM -- 5:35 PM
Peak 15-Min: 5:05 PM -- 5:20 PM

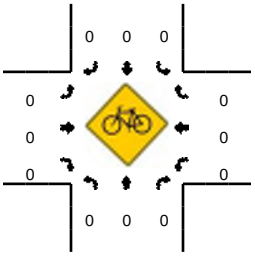


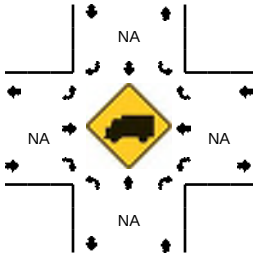


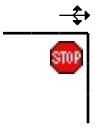
Quality Counts
TRANSPORTATION DATA COLLECTION SERVICES

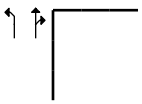


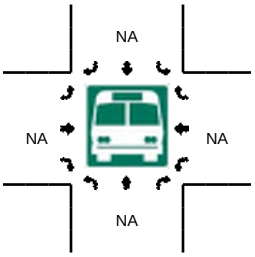












5-Min Count Period Beginning At	Battle Creek Rd SE (Northbound)				Battle Creek Rd SE (Southbound)				Boone Rd SE (Eastbound)				Boone Rd SE (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	2	25	1	0	4	29	15	0	9	0	2	0	0	0	3	0	90	
4:05 PM	1	17	0	0	3	26	13	0	11	0	2	0	0	0	4	0	77	
4:10 PM	1	24	2	0	1	17	17	0	6	2	4	0	2	0	4	0	80	
4:15 PM	1	21	0	0	0	17	14	0	10	2	2	0	1	3	3	0	74	
4:20 PM	0	20	1	0	3	25	29	0	7	4	0	0	1	2	1	0	93	
4:25 PM	1	20	2	0	3	19	26	0	2	0	3	0	2	1	0	0	79	
4:30 PM	0	15	0	0	4	21	15	0	9	3	2	0	1	0	7	0	77	
4:35 PM	0	28	0	0	3	27	14	0	8	2	2	0	1	2	5	0	92	
4:40 PM	1	8	0	0	3	34	23	0	11	2	3	0	1	2	2	0	90	
4:45 PM	2	18	2	0	4	30	14	0	9	1	3	0	2	0	4	0	89	
4:50 PM	0	17	2	0	0	33	22	0	9	1	1	0	0	4	3	0	92	
4:55 PM	0	15	2	0	4	38	25	0	5	3	1	0	1	2	5	0	101	1034
5:00 PM	1	17	2	0	2	30	18	0	7	0	1	0	3	6	3	0	90	1034
5:05 PM	2	19	0	0	1	25	17	0	12	3	3	0	4	5	6	0	97	1054
5:10 PM	1	19	1	0	4	32	20	0	6	2	0	0	0	0	1	0	86	1060
5:15 PM	1	30	0	0	1	26	26	0	12	5	4	0	4	3	3	0	115	1101
5:20 PM	0	18	0	0	1	32	19	0	12	2	2	0	2	3	3	0	94	1102
5:25 PM	0	19	0	0	2	34	27	0	3	0	1	0	0	1	0	0	87	1110
5:30 PM	1	17	0	0	5	38	17	0	8	3	3	0	0	3	3	0	98	1131
5:35 PM	2	18	0	0	1	23	19	0	5	2	3	0	1	2	2	0	78	1117
5:40 PM	0	21	0	0	1	27	21	0	9	5	1	0	2	1	1	0	89	1116
5:45 PM	0	17	1	0	2	30	18	0	8	3	2	0	3	4	2	0	90	1117
5:50 PM	2	12	0	0	1	18	17	0	9	1	0	0	1	2	1	0	64	1089
5:55 PM	3	8	0	0	3	25	12	0	6	1	1	0	0	2	6	0	67	1055

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	16	272	4	0	24	332	252	0	120	40	28	0	32	32	40	0	1192
Heavy Trucks	0	12	0		0	0	0		12	0	0		0	0	0		24
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 12/20/2017 2:05 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: 27th Ave SE -- Boone Rd SE

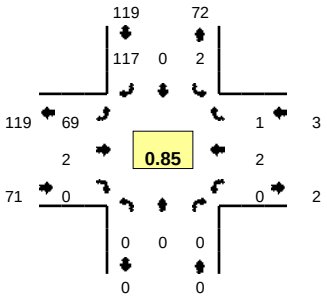
QC JOB #: 14579320

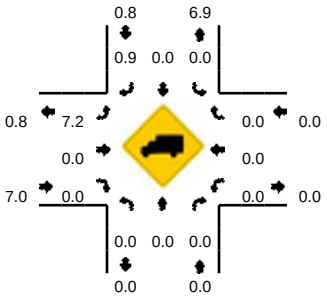
CITY/STATE: Marion, OR

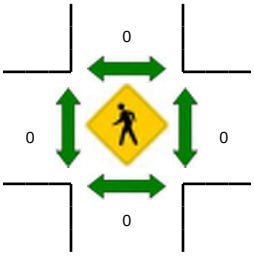
DATE: Thu, Dec 07 2017

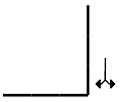
Peak-Hour: 4:50 PM -- 5:50 PM

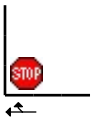
Peak 15-Min: 4:50 PM -- 5:05 PM

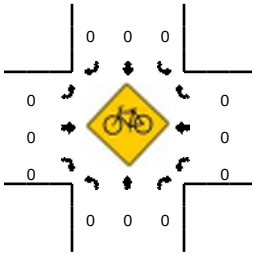


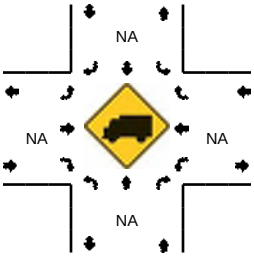


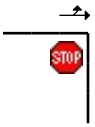


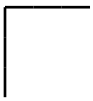


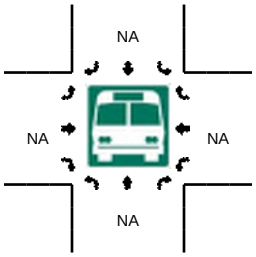












5-Min Count Period Beginning At	27th Ave SE (Northbound)				27th Ave SE (Southbound)				Boone Rd SE (Eastbound)				Boone Rd SE (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	0	0	1	0	4	0	0	0	0	0	0	0	5	
4:05 PM	0	0	0	0	0	0	5	0	2	0	0	0	0	0	0	0	7	
4:10 PM	0	0	0	0	0	0	5	0	1	0	0	0	0	0	0	0	6	
4:15 PM	0	0	0	0	0	0	10	0	4	0	0	0	0	0	0	0	14	
4:20 PM	0	0	0	0	0	0	6	0	3	0	0	1	0	0	0	0	10	
4:25 PM	0	0	0	0	0	0	4	0	3	0	0	0	0	0	0	0	7	
4:30 PM	0	0	0	0	0	0	6	0	7	0	0	0	0	0	0	0	13	
4:35 PM	0	0	0	0	0	0	8	0	3	0	0	1	0	0	0	0	12	
4:40 PM	0	0	0	0	0	0	8	0	5	0	0	0	0	0	0	0	13	
4:45 PM	0	0	0	0	0	0	4	0	3	1	0	0	0	0	0	0	8	
4:50 PM	0	0	0	0	0	0	11	0	8	0	0	0	0	0	0	0	19	
4:55 PM	0	0	0	0	0	0	4	1	7	1	0	0	0	0	0	0	13	127
5:00 PM	0	0	0	0	0	0	18	0	5	0	0	0	0	1	1	0	25	147
5:05 PM	0	0	0	0	0	0	10	0	4	0	0	0	0	0	0	0	14	154
5:10 PM	0	0	0	0	0	0	4	0	8	0	0	0	0	0	0	0	12	160
5:15 PM	0	0	0	0	0	0	12	0	9	0	0	0	0	0	0	0	21	167
5:20 PM	0	0	0	0	0	0	14	0	6	0	0	0	0	0	0	0	20	177
5:25 PM	0	0	0	0	0	0	9	0	1	1	0	0	0	0	0	0	11	181
5:30 PM	0	0	0	0	0	0	8	0	3	0	0	0	0	1	0	0	12	180
5:35 PM	0	0	0	0	0	0	10	0	6	0	0	0	0	0	0	0	16	184
5:40 PM	0	0	0	0	0	0	7	1	5	0	0	0	0	0	0	0	13	184
5:45 PM	0	0	0	0	0	0	10	0	7	0	0	0	0	0	0	0	17	193
5:50 PM	0	0	0	0	0	0	5	0	4	0	0	0	0	0	0	0	9	183
5:55 PM	0	0	0	0	0	0	8	1	3	0	0	0	0	0	0	0	12	182

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	0	0	0	0	0	132	4	80	4	0	0	0	4	4	0	228
Heavy Trucks	0	0	0		0	0	0		12	0	0		0	0	0		12
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 12/20/2017 2:05 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

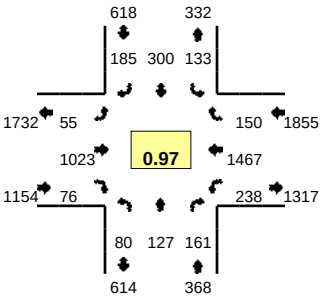
LOCATION: Battle Creek Rd SE -- Kuebler Blvd

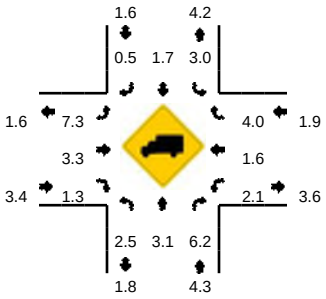
QC JOB #: 14579323

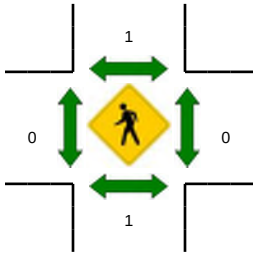
CITY/STATE: Salem, OR

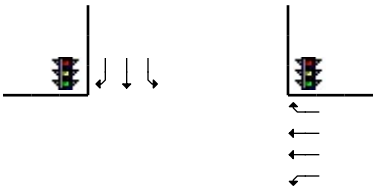
DATE: Thu, Dec 07 2017

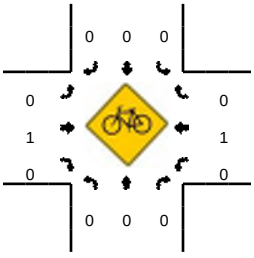
Peak-Hour: 4:25 PM -- 5:25 PM
Peak 15-Min: 5:10 PM -- 5:25 PM

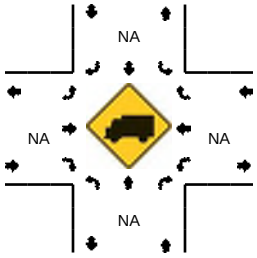


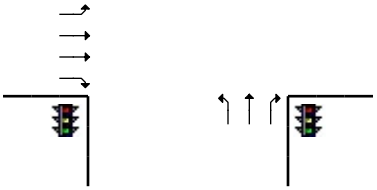


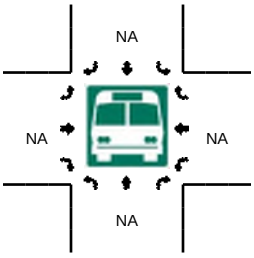












5-Min Count Period Beginning At	Battle Creek Rd SE (Northbound)				Battle Creek Rd SE (Southbound)				Kuebler Blvd (Eastbound)				Kuebler Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	15	6	19	0	14	22	13	0	6	76	13	0	16	86	16	0	302	
4:05 PM	10	9	18	0	8	10	22	0	6	59	12	0	17	97	20	0	288	
4:10 PM	7	10	10	0	13	20	16	0	4	99	2	0	13	119	10	0	323	
4:15 PM	9	12	9	0	15	18	12	0	9	104	4	0	14	112	9	0	327	
4:20 PM	6	20	13	0	8	22	4	0	15	68	5	0	28	90	15	0	294	
4:25 PM	5	9	6	0	13	23	9	0	7	76	0	0	23	134	10	0	315	
4:30 PM	8	8	10	0	7	19	15	0	8	97	6	0	17	123	19	0	337	
4:35 PM	13	18	17	0	14	30	25	0	5	82	7	0	11	87	10	0	319	
4:40 PM	2	7	10	0	15	22	11	0	5	95	8	0	25	121	12	0	333	
4:45 PM	4	14	10	0	8	21	14	0	4	96	8	0	20	130	13	0	342	
4:50 PM	7	11	20	0	11	30	14	0	5	77	4	0	22	122	11	0	334	
4:55 PM	3	7	13	0	4	32	8	0	7	75	5	0	28	126	18	0	326	3840
5:00 PM	3	12	10	0	16	26	12	0	1	90	7	0	15	150	9	0	351	3889
5:05 PM	13	6	13	0	14	23	22	0	3	81	6	0	15	103	13	0	312	3913
5:10 PM	5	10	19	0	8	34	22	0	3	83	5	0	21	106	9	0	325	3915
5:15 PM	11	13	20	0	8	16	17	0	4	90	11	0	20	153	9	0	372	3960
5:20 PM	6	12	13	0	15	24	16	0	3	81	9	0	21	112	17	0	329	3995
5:25 PM	5	9	6	0	8	38	5	0	8	59	5	0	26	125	10	0	304	3984
5:30 PM	3	7	13	0	10	21	7	0	4	86	12	0	19	147	8	0	337	3984
5:35 PM	2	9	9	0	8	24	8	0	6	101	4	0	16	106	8	0	301	3966
5:40 PM	10	15	16	0	16	23	11	0	3	64	5	0	21	100	10	0	294	3927
5:45 PM	6	13	5	0	9	25	6	0	5	84	10	0	14	118	11	0	306	3891
5:50 PM	2	7	17	0	8	11	6	0	6	89	7	0	19	123	11	0	306	3863
5:55 PM	9	3	8	0	4	22	11	0	6	53	8	0	18	85	9	0	236	3773

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	88	140	208	0	124	296	220	0	40	1016	100	0	248	1484	140	0	4104
Heavy Trucks	0	4	4		8	0	0		4	20	4		0	16	4		64
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 12/20/2017 2:05 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Site Dwy -- Boone Rd SE

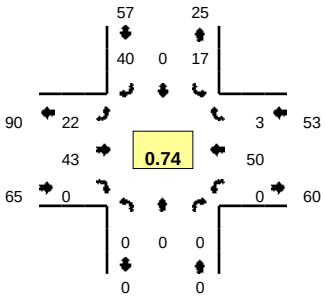
CITY/STATE: Marion, OR

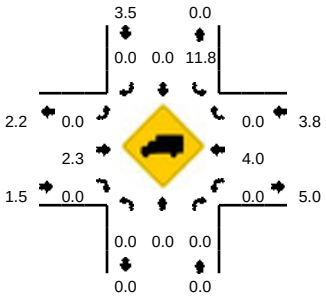
QC JOB #: 14579326

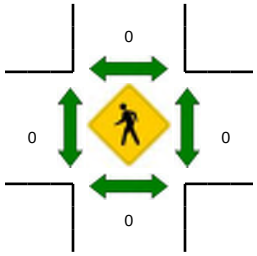
DATE: Thu, Dec 07 2017

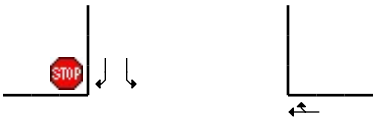
Peak-Hour: 4:25 PM -- 5:25 PM

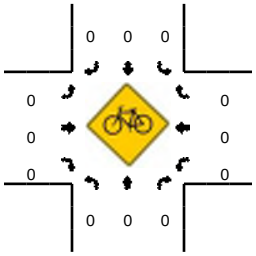
Peak 15-Min: 4:55 PM -- 5:10 PM

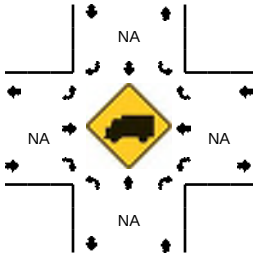


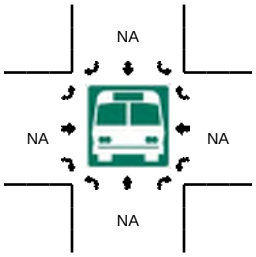












5-Min Count Period Beginning At	Site Dwy (Northbound)				Site Dwy (Southbound)				Boone Rd SE (Eastbound)				Boone Rd SE (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	1	0	5	0	2	2	1	0	0	0	1	0	12	
4:05 PM	0	0	0	0	1	0	2	0	3	0	0	0	0	0	2	0	8	
4:10 PM	1	0	0	0	1	0	3	0	1	3	0	0	0	3	1	0	13	
4:15 PM	1	0	0	0	0	0	3	0	0	3	1	0	0	3	0	0	11	
4:20 PM	0	0	0	0	0	0	1	0	2	5	0	0	0	1	1	0	10	
4:25 PM	0	0	0	0	1	0	0	0	2	3	0	0	0	3	0	0	9	
4:30 PM	0	0	0	0	0	0	8	0	4	3	0	0	0	3	0	0	18	
4:35 PM	0	0	0	0	1	0	3	0	2	2	0	0	0	3	1	0	12	
4:40 PM	0	0	0	0	1	0	3	0	0	4	0	0	0	2	0	0	10	
4:45 PM	0	0	0	0	1	0	3	0	4	4	0	0	0	2	0	0	14	
4:50 PM	0	0	0	0	3	0	2	0	1	1	0	0	0	4	0	0	11	
4:55 PM	0	0	0	0	2	0	4	0	2	7	0	0	0	4	0	0	19	147
5:00 PM	0	0	0	0	3	0	4	0	2	1	0	0	0	9	0	0	19	154
5:05 PM	0	0	0	0	1	0	6	0	2	4	0	0	0	7	1	0	21	167
5:10 PM	0	0	0	0	3	0	1	0	2	5	0	0	0	1	0	0	12	166
5:15 PM	0	0	0	0	0	0	4	0	1	5	0	0	0	5	0	0	15	170
5:20 PM	0	0	0	0	1	0	2	0	0	4	0	0	0	7	1	0	15	175
5:25 PM	0	0	0	0	2	0	0	0	2	0	0	0	0	2	0	0	6	172
5:30 PM	0	0	0	0	0	0	2	0	4	2	0	0	0	5	0	0	13	167
5:35 PM	0	0	0	0	1	0	2	0	1	3	0	0	0	2	0	0	9	164
5:40 PM	0	0	0	0	0	0	1	0	0	5	0	0	0	6	0	0	12	166
5:45 PM	0	0	0	0	0	0	0	0	1	6	0	0	0	5	0	0	12	164
5:50 PM	0	0	0	0	1	0	2	0	1	1	0	0	0	2	0	0	7	160
5:55 PM	0	0	0	0	0	0	4	0	0	2	0	0	0	2	0	0	8	149

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	0	0	0	24	0	56	0	24	48	0	0	0	80	4	0	236
Heavy Trucks	0	0	0		4	0	0		0	4	0		0	0	0		8
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 12/20/2017 2:05 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: 27th Ave SE -- Kuebler Blvd

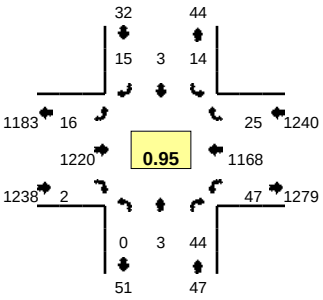
QC JOB #: 14579309

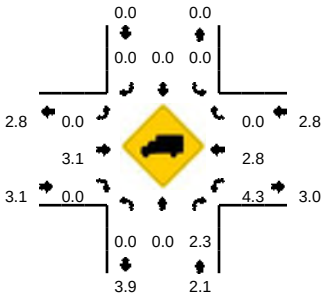
CITY/STATE: Salem, OR

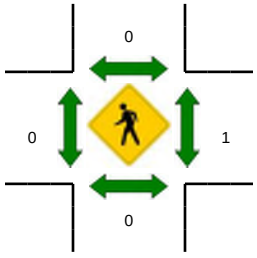
DATE: Sat, Dec 09 2017

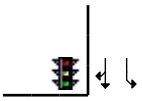
Peak-Hour: 1:00 PM -- 2:00 PM

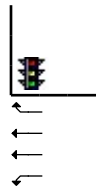
Peak 15-Min: 1:45 PM -- 2:00 PM

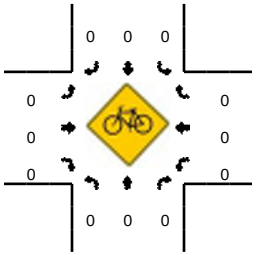


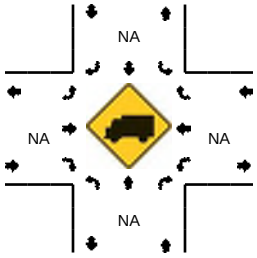


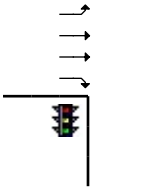


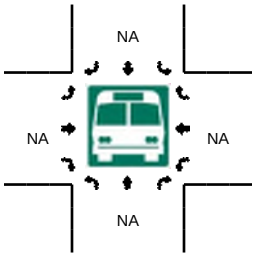












5-Min Count Period Beginning At	27th Ave SE (Northbound)				27th Ave SE (Southbound)				Kuebler Blvd (Eastbound)				Kuebler Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
12:00 PM	0	0	8	0	2	0	0	0	1	118	0	0	4	105	1	0	239	
12:05 PM	0	2	7	0	2	0	2	0	0	79	0	0	3	85	3	0	183	
12:10 PM	0	0	5	0	2	0	0	0	1	103	0	0	4	88	1	0	204	
12:15 PM	0	0	6	0	1	0	1	0	2	99	0	0	4	96	2	0	211	
12:20 PM	0	0	2	0	0	0	0	0	0	107	1	0	4	98	0	0	212	
12:25 PM	0	0	6	0	2	3	0	0	1	72	0	0	4	91	0	0	179	
12:30 PM	1	0	5	0	2	0	1	0	0	81	0	0	1	99	2	0	192	
12:35 PM	0	0	3	0	1	2	0	0	2	110	0	0	5	112	1	0	236	
12:40 PM	0	0	3	0	1	0	1	0	0	98	2	0	6	100	2	0	213	
12:45 PM	0	0	5	0	1	1	1	0	2	73	0	0	3	94	3	0	183	
12:50 PM	0	0	2	0	3	0	1	0	1	103	0	0	3	96	4	0	213	
12:55 PM	0	1	4	0	0	0	0	0	0	105	0	0	4	92	5	0	211	2476
1:00 PM	0	0	3	0	0	0	1	0	0	85	0	0	7	86	3	0	185	2422
1:05 PM	0	1	2	0	2	0	2	0	1	79	0	0	3	84	5	0	179	2418
1:10 PM	0	0	7	0	0	1	0	0	1	104	1	0	3	112	3	0	232	2446
1:15 PM	0	0	1	0	2	0	0	0	1	95	0	0	3	113	2	0	217	2452
1:20 PM	0	0	1	0	0	0	0	0	1	89	0	0	4	95	5	0	195	2435
1:25 PM	0	1	8	0	0	0	7	0	0	124	0	0	4	96	2	0	242	2498
1:30 PM	0	1	3	0	2	1	0	0	3	92	0	0	5	79	1	1	188	2494
1:35 PM	0	0	1	0	1	0	0	0	3	112	0	0	4	115	2	0	238	2496
1:40 PM	0	0	5	0	2	0	2	0	1	86	0	0	2	107	0	0	205	2488
1:45 PM	0	0	1	0	2	0	1	0	3	120	0	0	5	86	1	0	219	2524
1:50 PM	0	0	7	0	2	0	1	0	1	106	0	0	2	107	0	0	226	2537
1:55 PM	0	0	5	0	1	1	1	0	1	128	1	0	4	88	1	0	231	2557

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	0	52	0	20	4	12	0	20	1416	4	0	44	1124	8	0	2704
Heavy Trucks	0	0	0		0	0	0		0	44	0		4	36	0		84
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 12/20/2017 2:05 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

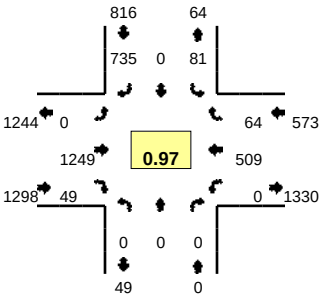
LOCATION: I-5 SB Ramps -- Kuebler Blvd

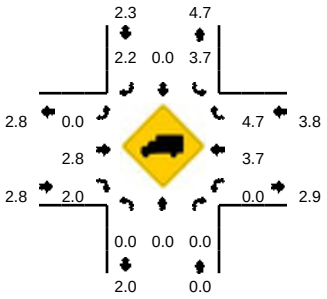
QC JOB #: 14579312

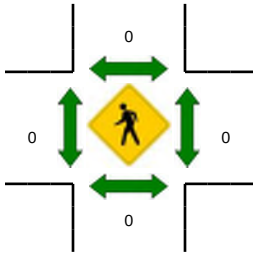
CITY/STATE: Salem, OR

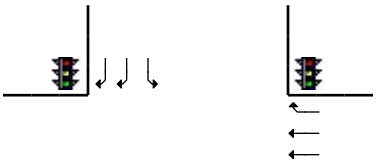
DATE: Sat, Dec 09 2017

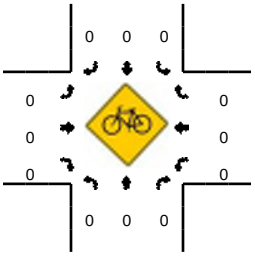
Peak-Hour: 1:00 PM -- 2:00 PM
Peak 15-Min: 1:25 PM -- 1:40 PM

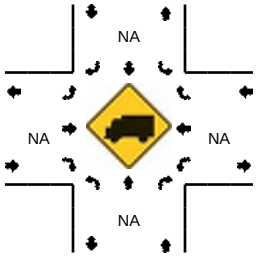


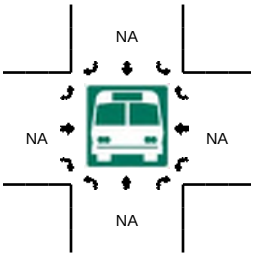












5-Min Count Period Beginning At	I-5 SB Ramps (Northbound)				I-5 SB Ramps (Southbound)				Kuebler Blvd (Eastbound)				Kuebler Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
12:00 PM	0	0	0	0	3	0	52	0	0	100	5	0	0	62	6	0	228	
12:05 PM	0	0	0	0	6	0	47	0	0	84	3	0	0	47	8	0	195	
12:10 PM	0	0	0	0	7	0	56	0	0	108	5	0	0	36	7	0	219	
12:15 PM	0	0	0	0	3	0	61	0	0	100	3	0	0	36	4	0	207	
12:20 PM	0	0	0	0	3	0	58	0	0	89	8	0	0	48	10	0	216	
12:25 PM	0	0	0	0	6	0	47	0	0	87	7	0	0	48	8	0	203	
12:30 PM	0	0	0	0	9	0	57	0	0	85	3	0	0	59	5	0	218	
12:35 PM	0	0	0	0	4	0	46	0	0	111	1	0	0	61	4	0	227	
12:40 PM	0	0	0	0	2	0	62	0	0	88	3	0	0	44	9	0	208	
12:45 PM	0	0	0	0	8	0	47	0	0	84	5	0	0	48	1	0	193	
12:50 PM	0	0	0	0	6	0	55	0	0	97	6	0	0	49	1	0	214	
12:55 PM	0	0	0	0	7	0	55	0	0	110	1	0	0	57	8	0	238	2566
1:00 PM	0	0	0	0	7	0	56	0	0	84	5	0	0	33	5	0	190	2528
1:05 PM	0	0	0	0	5	0	60	0	0	91	4	0	0	36	4	0	200	2533
1:10 PM	0	0	0	0	5	0	59	0	0	110	7	0	0	60	2	0	243	2557
1:15 PM	0	0	0	0	9	0	65	0	0	89	1	0	0	49	10	0	223	2573
1:20 PM	0	0	0	0	8	0	62	0	0	98	0	0	0	48	4	0	220	2577
1:25 PM	0	0	0	0	6	0	56	0	0	134	6	0	0	41	2	0	245	2619
1:30 PM	0	0	0	0	9	0	43	0	0	99	4	0	0	48	4	0	207	2608
1:35 PM	0	0	0	0	9	0	86	0	0	96	6	0	0	47	0	0	244	2625
1:40 PM	0	0	0	0	9	0	58	0	0	108	4	0	0	37	4	0	220	2637
1:45 PM	0	0	0	0	5	0	53	0	0	115	3	0	0	42	13	0	231	2675
1:50 PM	0	0	0	0	2	0	69	0	0	102	4	0	0	37	7	0	221	2682
1:55 PM	0	0	0	0	7	0	68	0	0	123	5	0	0	31	9	0	243	2687

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	0	0	0	96	0	740	0	0	1316	64	0	0	544	24	0	2784
Heavy Trucks	0	0	0		4	0	8		0	32	4		0	16	0		64
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 12/20/2017 2:05 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

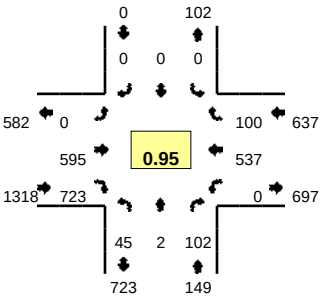
LOCATION: I-5 NB Ramps -- Kuebler Blvd

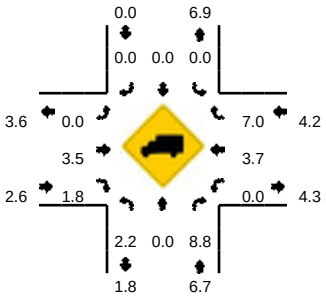
QC JOB #: 14579315

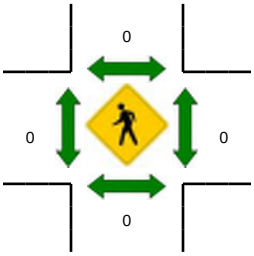
CITY/STATE: Salem, OR

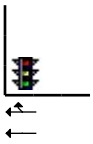
DATE: Sat, Dec 09 2017

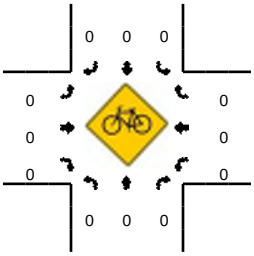
Peak-Hour: 1:00 PM -- 2:00 PM
Peak 15-Min: 1:20 PM -- 1:35 PM

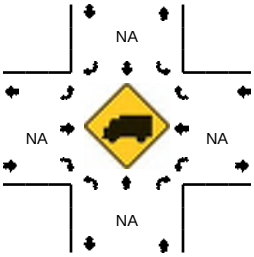


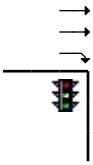


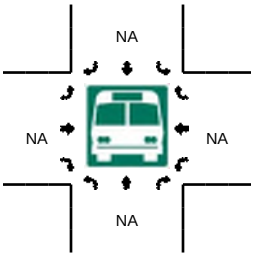












5-Min Count Period Beginning At	I-5 NB Ramps (Northbound)				I-5 NB Ramps (Southbound)				Kuebler Blvd (Eastbound)				Kuebler Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
12:00 PM	2	0	12	0	0	0	0	0	0	44	57	0	0	60	5	0	180	
12:05 PM	7	0	3	0	0	0	0	0	0	48	51	0	0	49	11	0	169	
12:10 PM	1	0	11	0	0	0	0	0	0	61	63	0	0	43	9	0	188	
12:15 PM	4	0	9	0	0	0	0	0	0	41	58	0	0	34	9	0	155	
12:20 PM	4	0	7	0	0	0	0	0	0	45	50	0	0	56	6	0	168	
12:25 PM	3	0	14	0	0	0	0	0	0	53	47	0	0	56	6	0	179	
12:30 PM	3	0	7	0	0	0	0	0	0	37	55	0	0	59	7	0	168	
12:35 PM	8	0	7	0	0	0	0	0	0	58	57	0	0	53	10	0	193	
12:40 PM	4	0	7	0	0	0	0	0	0	45	48	0	0	50	7	0	161	
12:45 PM	4	0	9	0	0	0	0	0	0	42	49	0	0	46	8	0	158	
12:50 PM	2	0	6	0	0	0	0	0	0	39	67	0	0	48	8	0	170	
12:55 PM	5	0	9	0	0	0	0	0	0	50	56	0	0	57	6	0	183	2072
1:00 PM	3	1	7	0	0	0	0	0	0	47	53	0	0	43	7	0	161	2053
1:05 PM	4	0	9	0	0	0	0	0	0	37	57	0	0	28	6	0	141	2025
1:10 PM	6	0	4	0	0	0	0	0	0	50	59	0	0	61	9	0	189	2026
1:15 PM	3	0	4	0	0	0	0	0	0	36	63	0	0	51	7	0	164	2035
1:20 PM	3	1	6	0	0	0	0	0	0	49	61	0	0	50	13	0	183	2050
1:25 PM	4	0	16	0	0	0	0	0	0	46	77	0	0	36	9	0	188	2059
1:30 PM	3	0	7	0	0	0	0	0	0	48	65	0	0	50	9	0	182	2073
1:35 PM	3	0	12	0	0	0	0	0	0	54	52	0	0	50	9	0	180	2060
1:40 PM	5	0	9	0	0	0	0	0	0	52	64	0	0	32	4	0	166	2065
1:45 PM	5	0	8	0	0	0	0	0	0	61	65	0	0	51	6	0	196	2103
1:50 PM	2	0	9	0	0	0	0	0	0	51	44	0	0	45	12	0	163	2096
1:55 PM	4	0	11	0	0	0	0	0	0	64	63	0	0	40	9	0	191	2104

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	40	4	116	0	0	0	0	0	0	572	812	0	0	544	124	0	2212
Heavy Trucks	4	0	8		0	0	0		0	8	20		0	20	8		68
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 12/20/2017 2:05 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Battle Creek Rd SE -- Boone Rd SE

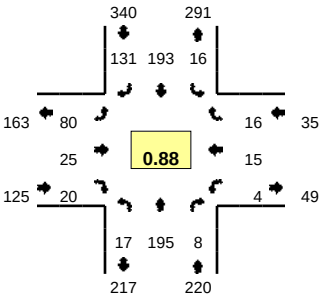
QC JOB #: 14579318

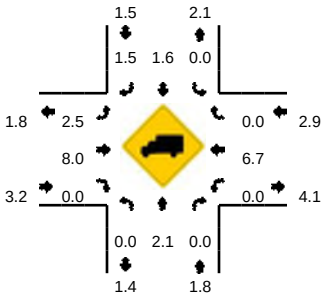
CITY/STATE: Salem, OR

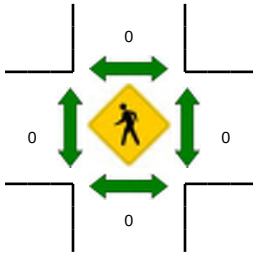
DATE: Sat, Dec 09 2017

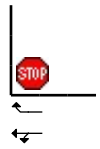
Peak-Hour: 12:30 PM -- 1:30 PM

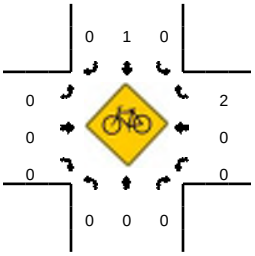
Peak 15-Min: 12:30 PM -- 12:45 PM

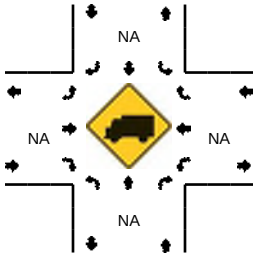


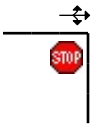


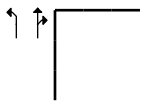


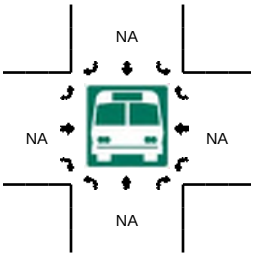












5-Min Count Period Beginning At	Battle Creek Rd SE (Northbound)				Battle Creek Rd SE (Southbound)				Boone Rd SE (Eastbound)				Boone Rd SE (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
12:00 PM	0	21	0	0	0	12	7	0	9	1	1	0	0	0	1	0	52	
12:05 PM	2	18	0	0	0	14	8	0	11	3	1	0	0	1	1	0	59	
12:10 PM	3	18	0	0	0	18	10	0	7	2	3	0	0	2	0	0	63	
12:15 PM	1	18	0	0	2	18	12	0	7	3	2	0	0	2	2	0	67	
12:20 PM	2	25	0	0	0	17	10	0	3	3	0	0	1	0	1	0	62	
12:25 PM	2	18	0	0	1	13	7	0	3	2	0	0	1	2	2	0	51	
12:30 PM	2	22	1	0	0	27	12	0	4	1	2	0	0	1	1	0	73	
12:35 PM	1	17	0	0	2	12	12	0	12	1	2	0	0	1	1	0	61	
12:40 PM	1	19	0	0	1	19	9	0	8	2	5	0	1	4	1	0	70	
12:45 PM	0	15	1	0	1	15	10	0	4	0	0	0	2	1	1	0	50	
12:50 PM	1	15	0	0	3	15	8	0	4	2	2	0	0	1	2	0	53	
12:55 PM	1	17	1	0	0	13	13	0	7	1	2	0	0	1	1	0	57	718
1:00 PM	1	14	0	0	2	10	10	0	2	3	1	0	1	2	0	0	46	712
1:05 PM	1	21	1	0	1	13	14	0	6	3	0	0	0	0	2	0	62	715
1:10 PM	2	11	0	0	2	20	12	0	11	2	1	0	0	1	1	0	63	715
1:15 PM	1	12	2	0	2	15	6	0	8	0	3	0	0	0	4	0	53	701
1:20 PM	4	17	1	0	0	17	8	0	9	4	2	0	0	2	1	0	65	704
1:25 PM	2	15	1	0	2	17	17	0	5	6	0	0	0	1	1	0	67	720
1:30 PM	0	9	1	0	2	10	5	0	9	1	3	0	1	1	4	0	46	693
1:35 PM	0	14	0	0	2	21	8	0	13	2	2	0	1	1	3	0	67	699
1:40 PM	1	18	0	0	2	20	10	0	6	0	0	0	0	0	1	0	58	687
1:45 PM	0	14	1	0	2	16	8	0	6	2	3	0	0	1	0	0	53	690
1:50 PM	1	24	0	0	1	12	11	0	9	4	0	0	2	1	0	0	65	702
1:55 PM	2	13	0	0	1	19	11	0	7	1	2	0	1	1	2	0	60	705

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	16	232	4	0	12	232	132	0	96	16	36	0	4	24	12	0	816
Heavy Trucks	0	0	0		0	4	0		0	4	0		0	0	0		8
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	2		2
Railroad																	
Stopped Buses																	

Comments:

Report generated on 12/20/2017 2:05 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: 27th Ave SE -- Boone Rd SE

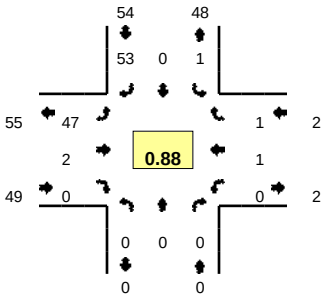
QC JOB #: 14579321

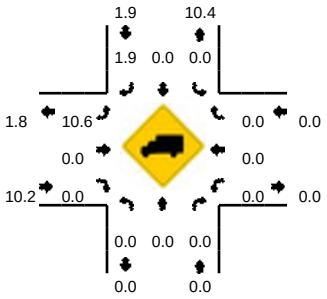
CITY/STATE: Marion, OR

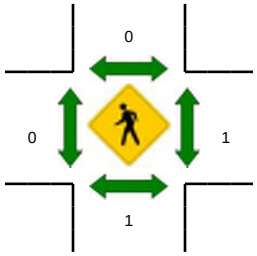
DATE: Sat, Dec 09 2017

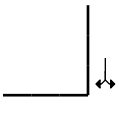
Peak-Hour: 12:15 PM -- 1:15 PM

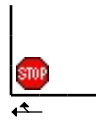
Peak 15-Min: 12:15 PM -- 12:30 PM

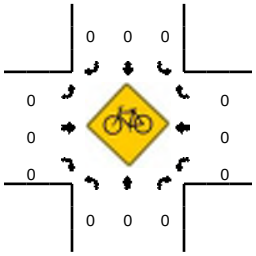


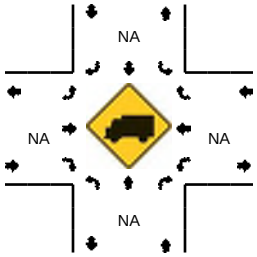


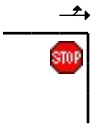


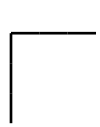


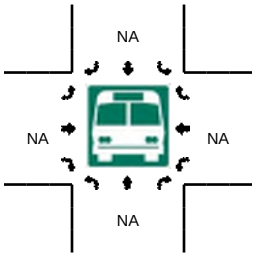












5-Min Count Period Beginning At	27th Ave SE (Northbound)				27th Ave SE (Southbound)				Boone Rd SE (Eastbound)				Boone Rd SE (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
12:00 PM	0	0	0	0	0	0	2	0	6	0	0	0	0	0	0	0	8	
12:05 PM	0	0	0	0	0	0	2	1	6	0	0	0	0	0	0	0	9	
12:10 PM	0	0	0	0	0	0	2	0	5	0	0	0	0	0	0	0	7	
12:15 PM	0	0	0	0	0	0	5	0	5	0	0	0	0	0	0	0	10	
12:20 PM	0	0	0	0	0	0	4	1	4	0	0	0	0	0	0	0	9	
12:25 PM	0	0	0	0	0	0	7	0	4	0	0	0	0	0	0	0	11	
12:30 PM	0	0	0	0	0	0	1	0	6	0	0	0	0	0	0	0	7	
12:35 PM	0	0	0	0	0	0	7	0	3	0	0	0	0	0	0	0	10	
12:40 PM	0	0	0	0	0	0	6	0	4	0	0	0	0	0	0	0	10	
12:45 PM	0	0	0	0	0	0	4	0	2	0	0	0	0	0	0	0	6	
12:50 PM	0	0	0	0	0	0	2	0	2	1	0	0	0	0	0	0	5	
12:55 PM	0	0	0	0	0	0	4	0	3	0	0	0	0	0	1	0	8	100
1:00 PM	0	0	0	0	0	0	7	0	3	0	0	0	0	0	0	0	10	102
1:05 PM	0	0	0	0	0	0	3	0	5	1	0	1	0	0	0	0	10	103
1:10 PM	0	0	0	0	0	0	3	0	5	0	0	0	0	1	0	0	9	105
1:15 PM	0	0	0	0	0	0	3	0	2	0	0	0	0	0	0	0	5	100
1:20 PM	0	0	0	0	0	0	4	0	4	0	0	0	0	0	0	0	8	99
1:25 PM	0	0	0	0	0	0	4	0	9	0	0	0	0	0	0	0	13	101
1:30 PM	0	0	0	0	0	0	3	0	4	0	0	0	0	0	0	0	7	101
1:35 PM	0	0	0	0	0	0	6	0	6	0	0	0	0	0	0	0	12	103
1:40 PM	0	0	0	0	0	0	1	0	4	0	0	0	0	0	0	0	5	98
1:45 PM	0	0	0	0	0	0	4	0	1	1	0	0	0	0	0	0	6	98
1:50 PM	0	0	0	0	0	0	3	1	5	0	0	0	0	0	1	0	10	103
1:55 PM	0	0	0	0	0	0	4	0	4	0	0	0	0	0	0	0	8	103

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	0	0	0	0	0	64	4	52	0	0	0	0	0	0	0	120
Heavy Trucks	0	0	0		0	0	4		4	0	0		0	0	0		8
Pedestrians		4				0				0				4			8
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 12/20/2017 2:05 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Battle Creek Rd SE -- Kuebler Blvd

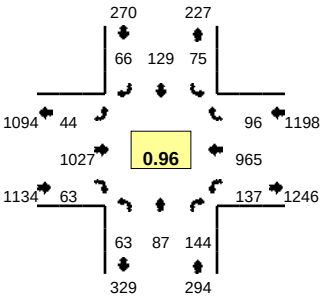
CITY/STATE: Salem, OR

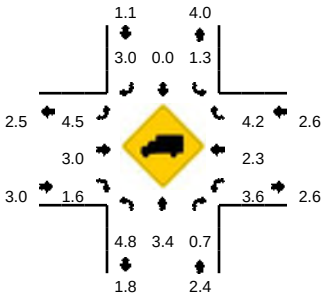
QC JOB #: 14579324

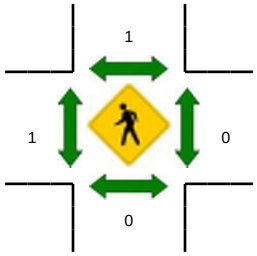
DATE: Sat, Dec 09 2017

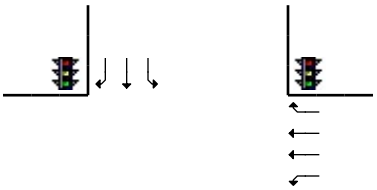
Peak-Hour: 1:00 PM -- 2:00 PM

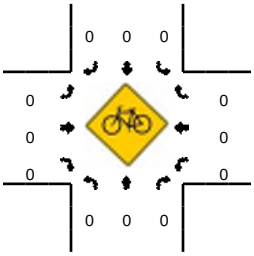
Peak 15-Min: 1:35 PM -- 1:50 PM

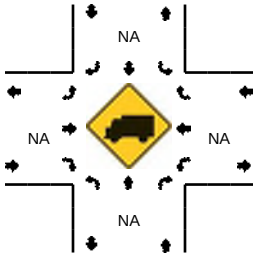


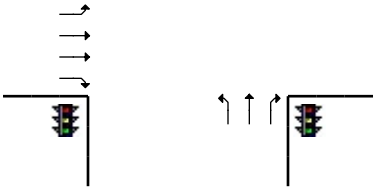


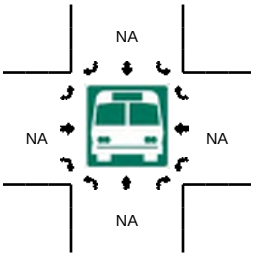












5-Min Count Period Beginning At	Battle Creek Rd SE (Northbound)				Battle Creek Rd SE (Southbound)				Kuebler Blvd (Eastbound)				Kuebler Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
12:00 PM	11	9	14	0	10	2	9	0	6	95	3	0	12	91	7	0	269	
12:05 PM	2	10	14	0	5	11	2	0	5	82	6	0	8	90	10	0	245	
12:10 PM	6	10	7	0	7	12	4	0	8	86	4	0	8	63	3	0	218	
12:15 PM	9	9	15	0	8	15	2	0	6	61	8	0	10	67	10	0	220	
12:20 PM	7	7	8	0	3	5	3	0	3	107	2	0	19	76	7	0	247	
12:25 PM	10	9	7	0	7	9	3	0	4	67	2	0	11	75	8	0	212	
12:30 PM	7	12	10	0	8	12	5	0	5	58	6	0	20	76	9	0	228	
12:35 PM	8	10	12	0	9	7	4	0	5	81	6	0	14	88	13	0	257	
12:40 PM	4	8	15	0	2	13	1	0	2	89	4	0	11	91	0	0	240	
12:45 PM	1	7	11	0	11	7	4	0	3	62	6	0	14	72	7	0	205	
12:50 PM	6	9	10	0	10	10	5	0	4	67	5	0	12	78	10	0	226	
12:55 PM	3	10	11	0	6	10	5	0	3	95	5	0	10	72	8	0	238	2805
1:00 PM	3	4	8	0	4	10	7	0	4	86	4	0	5	82	5	0	222	2758
1:05 PM	6	15	11	0	4	9	8	0	3	57	5	0	15	61	4	0	198	2711
1:10 PM	5	4	14	0	13	14	7	0	4	76	7	0	13	77	10	0	244	2737
1:15 PM	6	7	8	0	4	10	4	0	2	86	5	0	8	116	7	0	263	2780
1:20 PM	5	12	8	0	4	8	5	0	7	97	6	0	12	71	11	0	246	2779
1:25 PM	5	7	14	0	5	9	3	0	3	89	4	0	23	70	12	0	244	2811
1:30 PM	8	4	12	0	6	10	4	0	4	76	7	0	5	65	9	0	210	2793
1:35 PM	3	14	13	0	4	8	1	0	3	98	5	0	13	90	7	0	259	2795
1:40 PM	8	5	9	0	5	15	7	0	2	80	6	0	13	94	12	0	256	2811
1:45 PM	6	5	11	0	12	15	5	0	4	98	4	0	6	67	7	0	240	2846
1:50 PM	8	6	18	0	6	9	8	0	1	85	2	0	13	90	7	0	253	2873
1:55 PM	0	4	18	0	8	12	7	0	7	99	8	0	11	82	5	0	261	2896

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	96	132	0	84	152	52	0	36	1104	60	0	128	1004	104	0	3020
Heavy Trucks	0	4	4		4	0	0		0	44	0		0	32	0		88
Pedestrians		0				0				4				0			4
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 12/20/2017 2:05 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

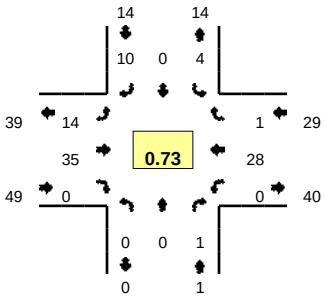
LOCATION: Site Dwy -- Boone Rd SE

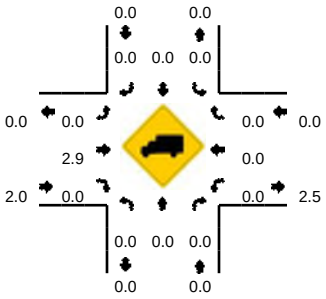
QC JOB #: 14579327

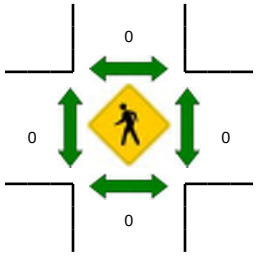
CITY/STATE: Marion, OR

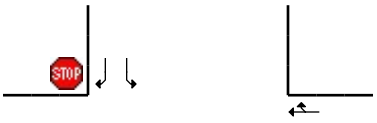
DATE: Sat, Dec 09 2017

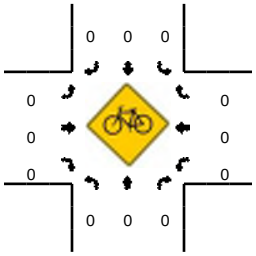
Peak-Hour: 12:40 PM -- 1:40 PM
Peak 15-Min: 1:20 PM -- 1:35 PM

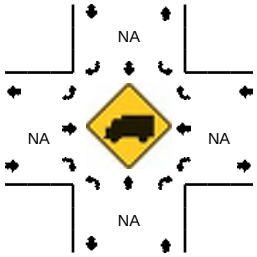


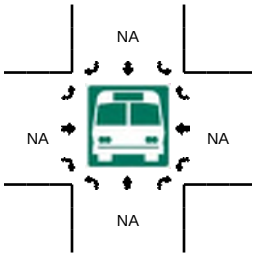












5-Min Count Period Beginning At	Site Dwy (Northbound)				Site Dwy (Southbound)				Boone Rd SE (Eastbound)				Boone Rd SE (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
12:00 PM	0	0	0	0	0	0	1	0	0	2	0	0	0	0	2	0	5	
12:05 PM	0	0	0	0	0	0	2	0	0	3	0	0	0	0	1	0	6	
12:10 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	4	
12:15 PM	0	0	0	0	0	0	0	0	1	4	0	0	0	3	0	0	8	
12:20 PM	0	0	0	0	0	0	1	0	0	3	0	0	0	1	1	0	6	
12:25 PM	0	0	0	0	1	0	2	0	0	4	0	0	0	3	1	0	11	
12:30 PM	0	0	0	0	1	0	0	0	0	1	0	0	0	1	0	0	3	
12:35 PM	0	0	0	0	0	0	0	0	1	2	0	0	0	2	0	0	5	
12:40 PM	0	0	0	0	1	0	0	0	0	1	0	0	0	5	0	0	7	
12:45 PM	0	0	0	0	1	0	1	0	2	1	0	0	0	3	0	0	8	
12:50 PM	0	0	0	0	0	0	0	0	2	2	0	1	0	1	0	0	6	
12:55 PM	0	0	0	0	0	0	1	0	0	2	0	0	0	1	0	0	4	73
1:00 PM	0	0	0	0	0	0	0	0	1	2	0	0	0	3	0	0	6	74
1:05 PM	0	0	0	0	0	0	0	0	1	4	0	0	0	1	0	0	6	74
1:10 PM	0	0	1	0	0	0	0	0	1	3	0	0	0	3	0	0	8	78
1:15 PM	0	0	0	0	1	0	2	0	1	2	0	0	0	1	1	0	8	78
1:20 PM	0	0	0	0	0	0	1	0	1	5	0	0	0	2	0	0	9	81
1:25 PM	0	0	0	0	0	0	0	0	1	7	0	0	0	2	0	0	10	80
1:30 PM	0	0	0	0	0	0	4	0	2	4	0	0	0	3	0	0	13	90
1:35 PM	0	0	0	0	1	0	1	0	1	2	0	0	0	3	0	0	8	93
1:40 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	88
1:45 PM	0	0	0	0	0	0	0	0	1	3	0	0	0	2	1	0	7	87
1:50 PM	0	0	0	0	0	0	0	0	0	4	0	0	0	2	0	0	6	87
1:55 PM	0	0	0	0	0	0	2	0	0	3	0	0	0	2	0	0	7	90

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	0	0	0	0	0	20	0	16	64	0	0	0	28	0	0	128
Heavy Trucks	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:

Report generated on 12/20/2017 2:05 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Appendix B: Signal Timing Data

Name	Type	EWStreet	NSStreet	Group	Drop#	Area	AreaAddr	Channel	Sys Ref #	Last Change	FM Name
007 Battle Cı	2033 RV	Kuebler	Battle creek	NONE	20	1	7	172.25.219.7	7	##########	NONE
								8003			
								172	25.	19	9.7

Holiday Dates																	
Bank 1				Bank 2												Bar	
Day	Year	Type	Month	Day	Year	Type	Month									Hour	Minute
0	0	0	0	0	0	0	0	7	0	0	0	50	0	0	0	0	0
0	0	0	0	0	0	0	0	10	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0	0
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0	0	0	0	0	0	0	0	70	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	40	0	0	0	0	0	5	0	0	0
0	0	0	0	0	0	0	0	5	0	0	0	0	0	2	0	0	0

0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F		
Page 0																0	1

Notes are in cells A32 through A40

Phase 2 = EBT

Ped Intervals meet 2009 MUTCD

INTERSECTION: 007 Battle Creek & Kuebler

Group Assignment: **NONE**
Field Master Assignment: **NONE**
System Reference Number: **7**

N/S Street Name: **Battle creek**
E/W Street Name: **Kuebler**

Last Database Change: **8/9/2017 9:15**

Change Record					
Change	By	Date	Change	By	Date

Notes: ***Phase 2 = EBT***
Ped Intervals meet 2009 MUTCD

Manual Plan
0 = Automatic
1-9 = Plan 1-9
14 = Free
15 = Flash

Manual Offset
0 = Automatic
1 = Offset A
2 = Offset B
3 = Offset C

Address	**20**

Area Number	**1**		
Area Address	**7**	Manual Plan	
QuicNet Channel	**UDP:8003:172.25.219.7**	Manual Offset	

Communication Addresses **Manual Selection**

Flash Start	**0**
Red Revert	**5.0**
All Red Start	**0.0**
FYA Red Revert	**0.0**

See Utilities Page

Start / Revert Times

Exclusive Walk	**0**
Exclusive FDW	**0**
All Red Clear	**0.0**

Exclusive Ped Phase

	Phase							
Column Numbers ---->	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Phase Names ---->								
Ped Walk	**0**	**7**	**0**	**7**	**0**	**7**	**0**	**7**
Ped FDW	**0**	**17**	**0**	**22**	**0**	**19**	**0**	**22**
Min Green	**3**	**10**	**3**	**6**	**3**	**10**	**3**	**6**
Type 3 Disconnect	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Added per Vehicle	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Veh Extension	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
Max Gap	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
Min Gap	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
Max Limit	**30**	**60**	**20**	**40**	**15**	**60**	**30**	**35**
Max Limit 2	**10**	**40**	**10**	**20**	**6**	**40**	**10**	**20**
Adv. / Delay Walk	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PE Min Ped FDW	**0**	**17**	**0**	**22**	**0**	**19**	**0**	**22**
Cond Serv Check	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Reduce Every	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Yellow Change	**4.0**	**5.0**	**4.0**	**5.0**	**4.0**	**5.0**	**4.0**	**5.0**
Red Clear	**0.0**	**1.0**	**0.0**	**0.0**	**0.0**	**1.0**	**0.0**	**0.0**

Phase Timing - Bank 1

	- - -	- - -	- - -	- - -	- - -
Phase 1	**0**	**0**	**0**	**0**	**0.0**
Phase 2	**0**	**0**	**0**	**0**	**0.0**
Phase 3	**0**	**0**	**0**	**0**	**0.0**
Phase 4	**0**	**0**	**0**	**0**	**0.0**
Phase 5	**0**	**0**	**0**	**0**	**0.0**
Phase 6	**0**	**0**	**0**	**0**	**0.0**
Phase 7	**0**	**0**	**0**	**0**	**0.0**
Phase 8	**0**	**0**	**0**	**0**	**0.0**

Max Initial
Alternate Walk
Alternate FDW
Alternate Initial
Alternate Extension

Alternate Timing

RR-1 Delay	**0**
RR-1 Clear	**0**
EV-A Delay	**0**
EV-A Clear	**0**
EV-B Delay	**0**
EV-B Clear	**0**
EV-C Delay	**0**
EV-C Clear	**0**
EV-D Delay	**0**
EV-D Clear	**0**
RR-2 Delay	**0**
RR-2 Clear	**0**

Preempt Timing

Permit	**12345678**
Red Lock	
Yellow Lock	
Min Recall	**_2___6__**
Ped Recall	
View Set Peds	
Rest In Walk	
Red Rest	
Dual Entry	**___4___8**
Max Recall	
Soft Recall	
Max 2	
Cond. Service	
Man Cntrl Calls	
Yellow Start	**_2___6__**
First Phases	**__3___7_**

Phase Functions

	Overlap							
Column Numbers ---->	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Overlap Name ---->								
Load Switch Number	**9**	**10**	**11**	**12**	**0**	**0**	**0**	**0**
Veh Set 1 - Phases	**1**	**3**	**5**	**7**				
Veh Set 2 - Phases	**1**		**5**	**7**				
Veh Set 3 - Phases								
Neg Veh Phases								
Neg Ped Phases								
Green Omit Phases								
Green Clear Omit Phs.								
Green Clear	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Yellow Change	**4.0**	**4.0**	**4.0**	**4.0**	**0.0**	**0.0**	**0.0**	**0.0**
Red Clear	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Overlap Assignments

Extra 1 Flags
1 = TBC Type 1
2 = NEMA Ext. Coord
3 = Auto Daylight Savings
4 = Solid FDW on EV
5 = Extended Status
6 = International Ped
7 = Flash - Clear Outputs
8 = Split Ring

Extra 2 Flags
1 = AWB During Initial
2 = Reserved
3 = Disable Min Walk
4 = QuicNet System
5 = Ignore P/P on EV
6 = Reserved
7 = Allow QuicNet PE
8 = Caltrans TRFM

		Row
EV-A	**0**	**0**
EV-B	**0**	**1**
EV-C	**0**	**2**
EV-D	**0**	**3**
RR-1 *		**4**
RR-2 *		**5**
SE-1	**0**	**6**
SE-2	**0**	**7**

Preempt Priority

(* RR-1 is always Highest, and RR-2 is always Second Highest)

		Row
		8
		9
		A
		B
		C
		D
		E
		F

PPLT FYA	**1 5**

Row		
0	Exclusive Phases	
1	RR-1 Clear Phases	
2	RR-2 Clear Phases	
3	RR-2 Limited Service	
4	Prot / Perm Phases	**1 5**
5	Flash to PE Circuits	
6	Flash Entry Phases	
7	Disable Yellow Range	
8	Disable Ovp Yel Range	
9	Overlap Yellow Flash	
A	EV-A Phases	**2 5**
B	EV-B Phases	**4 7**
C	EV-C Phases	**1 6**
D	EV-D Phases	**3 8**
E	Extra 1 Config. Bits	**1 3 5**
F	IC Select (Interconnect)	

Configuration

External Permit 1	
External Permit 2	
External Permit 3	
Exclusive Ped Assign	
Preempt Non-Lock	
Ped for 2P Output	**2**
Ped for 6P Output	**6**
Ped for 4P Output	**4**
Ped for 8P Output	**8**
Yellow Flash Phases	
Low Priority A Phases	
Low Priority B Phases	
Low Priority C Phases	
Low Priority D Phases	
Restricted Phases	
Extra 2 Config. Bits	**345**

Configuration

Fast Green Flash Phase	
Green Flash Phases	
Flashing Walk Phases	
Guaranteed Passage	
Simultaneous Gap Term	**12345678**
Sequential Timing	**12345678**
Advance Walk Phases	
Delay Walk Phases	
External Recall	
Start-up Overlap Green	
Max Extension	
Inhibit Ped Reservice	
Semi-Actuated	
Start-up Overlap Yellow	
Start-up Vehicle Calls	**12345678**
Start-up Ped Calls	**2 4 6 8**

Specials

Flash to PE & PE Non-Lock
1 = EV A 5 = RR 1
2 = EV B 6 = RR 2
3 = EV C 7 = SE 1
4 = EV D 8 = SE 2

		Row
		0
Phase 1	**7**	**1**
Phase 2	**30**	**2**
Phase 3	**7**	**3**
Phase 4	**34**	**4**
Phase 5	**7**	**5**
Phase 6	**31**	**6**
Phase 7	**7**	**7**
Phase 8	**34**	**8**
		9
		A
		B
		C
		D
		E
		F

Coordination Transition Minimums

Coord Extra
1 = Programmed WALK Time for Sync Phases
2 = Always Terminate Sync Phase Peds

Row	Column Numbers ---->	Plan 1	2	3	4	5	6	7	8	9	Row
	Plan Name ---->										
0	Cycle Length	130	110	130	105	130	130	130	110	130	0
1	Phase 1 - ForceOff	65	62	67	55	81	82	68	59	72	1
2	Phase 2 - ForceOff	0	0	0	0	16	0	0	0	0	2
3	Phase 3 - ForceOff	20	17	18	16	32	17	24	16	14	3
4	Phase 4 - ForceOff	46	43	45	39	66	52	50	39	45	4
5	Phase 5 - ForceOff	61	58	61	54	13	67	67	53	59	5
6	Phase 6 - ForceOff	0	0	0	0	0	0	0	0	0	6
7	Phase 7 - ForceOff	19	18	23	17	32	52	21	17	45	7
8	Phase 8 - ForceOff	46	43	45	39	66	24	50	39	24	8
9	Ring Offset	0	0	0	0	0	0	0	0	0	9
A	Offset 1	61	28	16	32	53	16	61	39	16	A
B	Offset 2	81	39	1	0	0	1	81	0	1	B
C	Offset 3	0	0	0	0	0	0	0	0	0	C
D	Perm 1 - End	7	2	0	0	2	0	7	2	0	D
E	Hold Release	255	255	255	255	255	255	255	255	255	E

Coordination - Bank 1

Row		E	Row
0			0
1	Plan 1 - Sync	_2___6__	1
2	Plan 2 - Sync	_2___6__	2
3	Plan 3 - Sync	_2___6__	3
4	Plan 4 - Sync	_2___6__	4
5	Plan 5 - Sync	_2___6__	5
6	Plan 6 - Sync	_2___6__	6
7	Plan 7 - Sync	_2___6__	7
8	Plan 8 - Sync	_2___6__	8
9	Plan 9 - Sync	_2___6__	9
A	NEMA Sync	_____	A
B	NEMA Hold	_____	B
C			C
D	Coord Extra	_2_____	D
E			E

Sync Phases

Row		1	2	3	4	5	6	7	8	9	Row
0	Ped Adjustment	6	7	9	7	0	9	7	8	9	0
1	Perm 2 - Start	7	2	2	0	2	0	7	2	0	1
2	Perm 2 - End	19	18	19	15	18	0	19	18	0	2
3	Perm 3 - Start	0	0	0	0	0	0	0	0	0	3
4	Perm 3 - End	0	0	0	0	0	0	0	0	0	4
5	Reservice Time	0	0	0	0	0	0	0	0	0	5
6	Reservice Phases	_____	_____	_____	_____	_____	_____	_____	_____	_____	6
7											7
8	Pretimed Phases	_____	_____	_____	_____	_____	_____	_____	_____	_____	8
9	Max Recall	_____	_____	_____	_____	_____	_____	_____	_____	_____	9
A	Perm 1 Veh Phase	__3___7_	__3___7_	__3___7_	__3___7_	__3___7_	__34__78	__3___7_	__3___7_	__34__78	A
B	Perm 1 Ped Phase	_____	_____	_____	_____	_____	__4___8	_____	_____	__4___8	B
C	Perm 2 Veh Phase	__4___8	__4___8	__4___8	__4___8	__4___8	_____	__4___8	__4___8	_____	C
D	Perm 2 Ped Phase	__4___8	__4___8	__4___8	__4___8	__4___8	_____	__4___8	__4___8	_____	D
E	Perm 3 Veh Phase	_____	_____	_____	_____	_____	_____	_____	_____	_____	E
F	Perm 3 Ped Phase	_____	_____	_____	_____	_____	_____	_____	_____	_____	F

Coordination - Bank 2

Row		F	Row
0	Free Lag	_2_4_6_8	0
1	Plan 1 - Lag	_2_4_6_8	1
2	Plan 2 - Lag	_2_4_6_8	2
3	Plan 3 - Lag	_2_4_6_8	3
4	Plan 4 - Lag	_2_4_6_8	4
5	Plan 5 - Lag	_2_4_6_8	5
6	Plan 6 - Lag	_2_4_67_	6
7	Plan 7 - Lag	_2_4_6_8	7
8	Plan 8 - Lag	_2_4_6_8	8
9	Plan 9 - Lag	_2_4_67_	9
A	External Lag	_____	A
B	Lag Hold	_____	B
C		_____	C
D		_____	D
E		_2_____	E
F		_____	F

Lag Phases

General		Preemption		Coordination Plan	
Ext. Perm 1	0	EV-A	71	Plan 1	0
Ext. Perm 2	0	EV-B	72	Plan 2	0
Ext. Perm 3	0	EV-C	73	Plan 3	0
External Lag	0	EV-D	74	Plan 4	0
		RR-1	51	Plan 5	0
Stop Time	82	RR-2	52	Plan 6	0
Flash Sense	81	Spec. Event 1	0	Plan 7	0
Manual Enable	0	Spec. Event 2	0	Plan 8	0
Man. Advance	0	Gate Down	0	Plan 9	0
		NEMA Functions		Free	0
Max Inhibit	0	Max Inhibit (nema)	0	Flash	0
Max 2	0	Force A (nema)	0	**Alarms**	
Max Recall	0	Force B (nema)	2	Alarm - 1	0
Min Recall	0	C.N.A. (nema)	0	Alarm - 2	0
		Hold (nema)	0	Alarm - 3	0
X Ped Omit	0			Alarm - 4	0

Banks & Sets		Logic Gates		Locic Gates		Logic Gates		Latches	
Phase Bank 2	0	AND-1 (a)	74	OR-1 (a)	0	OR-7 (a)	0	Latch 1 Set	74
Phase Bank 3	0	AND-1 (b)	94	OR-1 (b)	0	OR-7 (b)	0	Latch 1 Reset	202
Overlap Set 2	200	AND-2 (a)	201	OR-2 (a)	0	OR-7 (c)	0	Latch 2 Set	0
Overlap Set 3	0	AND-2 (b)	15	OR-2 (b)	0	OR-7 (d)	0	Latch 2 Reset	0
Detector Set 2	0	AND-3 (a)	0	OR-3 (a)	0	OR-8 (a)	0	Latch 3 Set	0
Detector Set 3	0	AND-3 (b)	0	OR-3 (b)	0	OR-8 (b)	0	Latch 3 Reset	0
FYA Inhibits		AND-4 (a)	0	OR-4 (a)	0	OR-8 (c)	0	Latch 4 Set	0
Phase 1	0	AND-4 (b)	0	OR-4 (b)	0	OR-8 (d)	0	Latch 4 Reset	0
Phase 2	0	NAND-1 (a)	0	OR-5 (a)	0			Latch 5 Set	0
Phase 3	0	NAND-1 (b)	0	OR-5 (b)	0			Latch 5 Reset	0
Phase 4	0	NAND-2 (a)	0	OR-6 (a)	0	DELAY-A	0	Latch 6 Set	0
Phase 5	0	NAND-2 (b)	0	OR-6 (b)	0	DELAY-B	0	Latch 6 Reset	0
Phase 6	0	NAND-3 (a)	0	NOT-1	74	DELAY-C	0	Latch 7 Set	0
Phase 7	0	NAND-3 (b)	0	NOT-2	0	DELAY-D	0	Latch 7 Reset	0
Phase 8	0	NAND-4 (a)	0	NOT-3	0	DELAY-E	0	Latch 8 Set	0
		NAND-4 (b)	0	NOT-4	0	DELAY-F	0	Latch 8 Reset	0

Assignable Inputs

General		TOD & Spec Event		Preempt			Coordination Plan		Spec Func & FYA		Phase ON / Check		Logic Gates		Latches	
Adv. Warn - 1	0	TOD Out 1	0		ON	Flash	Plan 1	0	Special Func 1	0	Phase ON - 1	0	AND-1	91	Latch 1 Out	200
Adv. Warn - 2	0	TOD Out 2	0	Preempt Fail	0	0	Plan 2	0	Special Func 2	0	Phase ON - 2	0	AND-2	202	Latch 1 Not Out	0
Detector Fail	0	TOD Out 3	0	RailRoad 1	0	0	Plan 3	0	Special Func 3	0	Phase ON - 3	0	AND-3	0	Latch 2 Out	0
Flasher 1	0	TOD Out 4	0	RailRoad 2	0	0	Plan 4	0	Special Func 4	0	Phase ON - 4	0	AND-4	0	Latch 2 Not Out	0
Flasher 2	0	TOD Out 5	0	Spec. Event 1	0	0	Plan 5	0	Special Func 5	0	Phase ON - 5	0	NAND-1	0	Latch 3 Out	0
Fast Flasher	0	TOD Out 6	0	Spec. Event 2	0	0	Plan 6	0	Special Func 6	0	Phase ON - 6	0	NAND-2	0	Latch 3 Not Out	0
Online	0	TOD Out 7	0	EV-A	0	0	Plan 7	0	Special Func 7	0	Phase ON - 7	0	NAND-3	0	Latch 4 Out	0
Excl. Ped DW	0	TOD Out 8	0	EV-B	0	0	Plan 8	0	Special Func 8	0	Phase ON - 8	0	NAND-4	0	Latch 4 Not Out	0
Excl. Ped WK	0	Sp Evnt Out 1	0	EV-C	0	0	Plan 9	0	Flh Yell Arrow 1	35	Ph. Check - 1	0	OR-1	0	Latch 5 Out	0
Delay Gate Outputs		Sp Evnt Out 2	0	EV-D	0	0	Free	0	Flh Yell Arrow 2	0	Ph. Check - 2	0	OR-2	0	Latch 5 Not Out	0
DELAY-A	0	Sp Evnt Out 3	0	Any Preempt	0	0	Flash	0	Flh Yell Arrow 3	0	Ph. Check - 3	0	OR-3	0	Latch 6 Out	0
DELAY-B	0	Sp Evnt Out 4	0	**NOT Outputs**					Flh Yell Arrow 4	0	Ph. Check - 4	0	OR-4	0	Latch 6 Not Out	0
DELAY-C	0	Sp Evnt Out 5	0	NOT-1	201				Flh Yell Arrow 5	36	Ph. Check - 5	0	OR-5	0	Latch 7 Out	0
DELAY-D	0	Sp Evnt Out 6	0	NOT-2	0				Flh Yell Arrow 6	0	Ph. Check - 6	0	OR-6	0	Latch 7 Not Out	0
DELAY-E	0	Sp Evnt Out 7	0	NOT-3	0				Flh Yell Arrow 7	0	Ph. Check - 7	0	OR-7	0	Latch 8 Out	0
DELAY-F	0	Sp Evnt Out 8	0	NOT-4	0				Flh Yell Arrow 8	0	Ph. Check - 8	0	OR-8	0	Latch 8 Not Out	0

Assignable Outputs

Row	Column Numbers ----> / Phase Names ---->	Phase 1	2	3	4	5	6	7	8
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	17	0	22	0	19	0	22
2	Min Green	3	10	3	6	3	10	3	6
3	Type 3 Disconnect	0	0	0	0	0	0	0	0
4	Added per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	Veh Extension	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
6	Max Gap	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
7	Min Gap	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
8	Max Limit	30	60	20	40	15	60	30	35
9	Max Limit 2	10	40	10	20	6	40	10	20
A	Adv. / Delay Walk	0	0	0	0	0	0	0	0
B	PE Min Ped FDW	0	17	0	22	0	19	0	22
C	Cond Serv Check	0	0	0	0	0	0	0	0
D	Reduce Every	0	0	0	0	0	0	0	0
E	Yellow Change	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
F	Red Clear	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0

Phase Timing - Bank 2

	9	A	B	C	D
	- - -	- - -	- - -	- - -	- - -
Phase 1	0	0	0	0	0.0
Phase 2	0	0	0	0	0.0
Phase 3	0	0	0	0	0.0
Phase 4	0	0	0	0	0.0
Phase 5	0	0	0	0	0.0
Phase 6	0	0	0	0	0.0
Phase 7	0	0	0	0	0.0
Phase 8	0	0	0	0	0.0

Max Initial
Alternate Walk
Alternate FDW
Alternate Initial
Alternate Extension

Alternate Timing

Transition Type
0.X = Shortway
1.X = Lengthen
X.1 thru X.4 = Number of cycles when lengthing

Transition Type	0.2	<C/5+1+9>

TBC Transition

Keyboard Beep	0
Backlight Timeout	0

Daylight Savings Date
If set to all zeros, standard dates will be used.

Begin Month	3	Utilities
Begin Week	2	
End Month	11	
End Week	1	

Daylight Savings Time

Time B4 Yellow	0.0	Utilities
Phase Number	0	

Advance Warning Beacon - Sign 1

Time B4 Yellow	0.0	Utilities
Phase Number	0	

Advance Warning Beacon - Sign 2

Row		1	2	3	4	5	6	7	8
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	17	0	22	0	19	0	22
2	Min Green	3	10	3	6	3	10	3	6
3	Type 3 Disconnect	0	0	0	0	0	0	0	0
4	Added per Vehicle	0	0	0	0	0	0	0	0
5	Veh Extension	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
6	Max Gap	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
7	Min Gap	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
8	Max Limit	30	60	20	40	15	60	30	35
9	Max Limit 2	10	40	10	20	10	40	10	20
A	Adv. / Delay Walk	0	0	0	0	0	0	0	0
B	PE Min Ped FDW	0	17	0	22	0	19	0	22
C	Cond Serv Check	0	0	0	0	0	0	0	0
D	Reduce Every	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	Yellow Change	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
F	Red Clear	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0

Phase Timing - Bank 3

	9	A	B	C	D
	- - -	- - -	- - -	- - -	- - -
Phase 1	0	0	0	0	0.0
Phase 2	0	0	0	0	0.0
Phase 3	0	0	0	0	0.0
Phase 4	0	0	0	0	0.0
Phase 5	0	0	0	0	0.0
Phase 6	0	0	0	0	0.0
Phase 7	0	0	0	0	0.0
Phase 8	0	0	0	0	0.0

Max Initial
Alternate Walk
Alternate FDW
Alternate Initial
Alternate Extension

Alternate Timing

Flash Entry	_____
Flash Yellow	_____
Flash OL Yellow	_____
Flash Type	0

FLASH

Det. #	C-1 Pin #	Delay	Carry-over	Phase Assignmrnts	Detector Attributes	Detector Set Assignments
1	39	0.0	2.0	_2_____	___45_7_	123____8
2	40	0.0	2.0	_____6__	___45_7_	123____8
3	41	0.0	2.0	___4____	___45_7_	123____8
4	42	0.0	2.0	_______8	___45_7_	123____8
5	43	0.0	1.2	_2_____	___45_7_	123____8
6	44	0.0	1.2	_____6__	___45_7_	123____8
7	45	0.0	1.2	___4____	___45_7_	123____8
8	46	0.0	1.2	_______8	___45_7_	123____8
9	47	0.0	0.0	_2_____	_____67_	123_____
10	48	0.0	0.0	_____6__	_____67_	123_____
11	49	15.0	0.0	___4____	___45_7_	123_____
12	50	15.0	0.0	_______8	___45_7_	123_____
13	55	0.0	0.0	_2__5___	___45_7_	123____8
14	56	0.0	0.0	1____6__	___45_7_	123____8
15	57	0.0	0.0	______7_	___45_7_	123____8
16	58	0.0	0.0	__3_____	___45_7_	123____8
17	11	0.0	0.0	_2_____	___4____	123_____
18	3	0.0	0.0	___4____	___4____	123_____
19	28	0.0	0.0	_____6__	___4____	123_____
20	20	0.0	0.0	_______8	___4____	123_____
21	63	0.0	0.0	_2_____	___45_7_	123____8
22	64	0.0	0.0	_____6__	___45_7_	123____8
23	65	0.0	0.0	___4____	___45_7_	123____8
24	66	0.0	0.0	_______8	___45_7_	123____8
25	67	0.0	0.0	_2_____	_2_4____	123_____
26	68	0.0	0.0	_____6__	_2_4____	123_____
27	69	0.0	0.0	___4____	_2_4____	123_____
28	70	0.0	0.0	_______8	_2_4____	123_____
29	76	0.0	3.0	_2_____	___45_7_	123_____
30	77	0.0	3.0	_____6__	___45_7_	123_____
31	78	0.0	2.5	___4____	___45_7_	123_____
32	79	0.0	2.5	_______8	___45_7_	123_____

Detector Assignments

Detector Attributes
1 = Full Time Delay
2 = Ped Call
3 =
4 = Count
5 = Extension
6 = Type 3
7 = Calling
8 = Alternate

Detector Assignments
1 = Detector Set 1
2 = Detector Set 2
3 = Detector Set 3
4 =
5 =
6 = Failure - Min Recall
7 = Failure - Max Recall
8 = Report on Failure

	Ped / Phase / Overlap							
	1	2	3	4	5	6	7	8
Walk	0	0	0	0	0	0	0	0
Don't Walk	0	0	0	0	0	0	0	0
Phase Green	0	0	0	0	0	0	0	0
Phase Yellow	0	0	0	0	0	0	0	0
Phase Red	0	0	0	0	0	0	0	0
Overlap Green	0	0	0	0	0	0	0	0
Overlap Yellow	0	0	0	0	0	0	0	0
Overlap Red	0	0	0	0	0	0	0	0

Redirect Phase Outputs

Max OFF (minutes)	20	Utilities
Max ON (minutes)	7	
Chatter Fail Time	0	

Detector Failure Monitor

In / Out Logic	
DELAY-A	0
DELAY-B	0
DELAY-C	0
DELAY-D	0
DELAY-E	0
DELAY-F	0

Delay Logic Times

Event	Day of Week	Season	Hour	Minute	Plan	Offset
0	_23456_	12345678	6	30	1	A
1	_23456_	12345678	9	0	2	A
2	_23456_	12345678	15	30	3	A
3	1234567	12345678	18	0	E	A
4	1_____7	12345678	11	0	2	A
5	_____	_____	0	0	0	0
6	_____	_____	0	0	0	0
7	_____	_____	0	0	0	0
8	_____	12345678	0	0	0	0
9	_____	12345678	0	0	0	0
10	_____	12345678	0	0	0	0
11	_____	12345678	0	0	0	0
12	_____	12345678	0	0	0	0
13	_____	12345678	0	0	0	0
14	_____	12345678	0	0	0	0
15	_____	12345678	0	0	0	0
16	_____	12345678	0	0	0	0
17	_____	12345678	0	0	0	0
18	_____	12345678	0	0	0	0
19	_____	12345678	0	0	0	0
20	_____	12345678	0	0	0	0
21	_____	12345678	0	0	0	0
22	_____	12345678	0	0	0	0
23	_____	12345678	0	0	0	0
24	_____	12345678	0	0	0	0
25	_____	12345678	0	0	0	0
26	_____	12345678	0	0	0	0
27	_____	12345678	0	0	0	0
28	_____	12345678	0	0	0	0
29	_____	12345678	0	0	0	0
30	_____	12345678	0	0	0	0
31	_____	12345678	0	0	0	0

Time Base Coordination Events

Event	Day of Week	Season	Hour	Minute	Funct.	Phase / Bits
0	1234567	12345678	0	0	14	_____78
1	1234567	12345678	18	30	11	12345678
2	1234567	12345678	6	30	11	_____
3	_____	12345678	0	0	0	_____
4	_____	12345678	0	0	0	_____
5	_____	12345678	0	0	0	_____
6	_____	12345678	0	0	0	_____
7	_____	12345678	0	0	0	_____
8	_____	12345678	0	0	0	_____
9	_____	12345678	0	0	0	_____
10	_____	12345678	0	0	0	_____
11	_____	12345678	0	0	0	_____
12	_____	12345678	0	0	0	_____
13	_____	12345678	0	0	0	_____
14	_____	12345678	0	0	0	_____
15	_____	12345678	0	0	0	_____

Time of Day Function Events

TOD Functions

0 = Permitted Phases
1 = Red Lock
2 = Yellow Lock
3 = Vehicle Min Recall
4 = Ped Recall
5 =
6 = Rest In Walk
7 = Red Rest
8 = Double Entry
9 = Vehicle Max Recall
A = Soft Recall
B= Max Extension 2
C = Conditional Service
D = Lag Free Phases
E, Bit 1 = Local Override
E, Bit 4 = Disable Det Off Monitoring
E, Bit 7 = Detector Count Monitor
E, Bit 8 = Real Time Split Monitor
F = TOD Outputs

#	Holiday Type	Day	Month	Year
0	_____	0	0	0
1	_____	0	0	0
2	_____	0	0	0
3	_____	0	0	0
4	_____	0	0	0
5	_____	0	0	0
6	_____	0	0	0
7	_____	0	0	0
8	_____	0	0	0
9	_____	0	0	0
10	_____	0	0	0
11	_____	0	0	0
12	_____	0	0	0
13	_____	0	0	0
14	_____	0	0	0
15	_____	0	0	0
16	_____	0	0	0
17	_____	0	0	0
18	_____	0	0	0
19	_____	0	0	0
20	_____	0	0	0
21	_____	0	0	0
22	_____	0	0	0
23	_____	0	0	0
24	_____	0	0	0
25	_____	0	0	0
26	_____	0	0	0
27	_____	0	0	0
28	_____	0	0	0
29	_____	0	0	0
30	_____	0	0	0
31	_____	0	0	0

Holiday Dates

Event	Holiday Type	Hour	Minute	Plan	Offset
0	12_____	0	0	E	A
1	_____	0	0	0	0
2	_____	0	0	0	0
3	_____	0	0	0	0
4	_____	0	0	0	0
5	_____	0	0	0	0
6	_____	0	0	0	0
7	_____	0	0	0	0
8	_____	0	0	0	0
9	_____	0	0	0	0
10	_____	0	0	0	0
11	_____	0	0	0	0
12	_____	0	0	0	0
13	_____	0	0	0	0
14	_____	0	0	0	0
15	_____	0	0	0	0
16	_____	0	0	0	0
17	_____	0	0	0	0
18	_____	0	0	0	0
19	_____	0	0	0	0
20	_____	0	0	0	0
21	_____	0	0	0	0
22	_____	0	0	0	0
23	_____	0	0	0	0
24	_____	0	0	0	0
25	_____	0	0	0	0
26	_____	0	0	0	0
27	_____	0	0	0	0
28	_____	0	0	0	0
29	_____	0	0	0	0
30	_____	0	0	0	0
31	_____	0	0	0	0

Holiday Time Base Coordination Events

Event	Holiday Type	Hour	Minute	Funct.	Phase / Bits
0	1234567	0	0	14	_____78
1	_____	0	0	0	_____
2	_____	0	0	0	_____
3	_____	0	0	0	_____
4	_____	0	0	0	_____
5	_____	0	0	0	_____
6	_____	0	0	0	_____
7	_____	0	0	0	_____
8	_____	0	0	0	_____
9	_____	0	0	0	_____
10	_____	0	0	0	_____
11	_____	0	0	0	_____
12	_____	0	0	0	_____
13	_____	0	0	0	_____
14	_____	0	0	0	_____
15	_____	0	0	0	_____

Holiday Time of Day Function Events

Season #	Start Month	Start Day	End Month	End Day
1	1	2	6	15
2	6	16	8	31
3	9	1	12	23
4	12	24	1	1
5	0	0	0	0
6	0	0	0	0
7	0	0	0	0
8	0	0	0	0

Season Definitions

INTERSECTION: 007 Battle Creek & Kuebler

Note: Set the Limited Service Interval on the "Utilities / Misc" page

Notes:

Step	Time	Clear	Ped Call	Hold	Advance	Force Off	Vehicle Call	Permit	Ped Omit	Output
0	0									
1	0									
2	0									
3	0									
4	0									
5	0									
6	0									
7	0									
8	0									
9	0									
10	0									
11	0									
12	0									
13	0									
14	0									
15	0									

Special Event Sequence - 1

0
Limited Service Interval

Min Grn Before PE Force-Off	**0**
Max Pre-Empt Time	**5**
Min Time Before Same PE	**0**

Notes:

Step	Time	Clear	Ped Call	Hold	Advance	Force Off	Vehicle Call	Permit	Ped Omit	Output
0	0									
1	0									
2	0									
3	0									
4	0									
5	0									
6	0									
7	0									
8	0									
9	0									
10	0									
11	0									
12	0									
13	0									
14	0									
15	0									

Special Event Sequence - 2

2
Limited Service Interval

Event	Day of Week	Hour	Minute	Headway	Direction
0	_____	0	0	0	0
1	_____	0	0	0	0
2	_____	0	0	0	0
3	_____	0	0	0	0
4	_____	0	0	0	0
5	_____	0	0	0	0
6	_____	0	0	0	0
7	_____	0	0	0	0
8	_____	0	0	0	0
9	_____	0	0	0	0
10	_____	0	0	0	0
11	_____	0	0	0	0
12	_____	0	0	0	0
13	_____	0	0	0	0
14	_____	0	0	0	0
15	_____	0	0	0	0

Bus Headway Schedule

Approach	A	B	C	D
Travel Time	0	0	0	0
Passage	0	0	0	0
Extension	0	0	0	0
Phases	_____	_____	_____	_____

Bus Approach

	A	B	C	D
Phase 1	0	0	0	0
Phase 2	0	0	0	0
Phase 3	0	0	0	0
Phase 4	0	0	0	0
Phase 5	0	0	0	0
Phase 6	0	0	0	0
Phase 7	0	0	0	0
Phase 8	0	0	0	0

Non-Priority Phase Maximums

INTERSECTION: 201 Kuebler & I5 SB off ra

Group Assignment: **I-5 Kuebler**
Field Master Assignment: **NONE**
System Reference Number: **201**

N/S Street Name: **I5 SB off ramp**
E/W Street Name: **Kuebler**

Last Database Change: **2/8/2017 10:37**

Change Record					
Change	By	Date	Change	By	Date

Notes: ***Phase 2 = EB through***

Manual Plan
0 = Automatic
1-9 = Plan 1-9
14 = Free
15 = Flash

Manual Offset
0 = Automatic
1 = Offset A
2 = Offset B
3 = Offset C

Address	**22**

Area Number	**1**		
Area Address	**201**	Manual Plan	
QuicNet Channel	**UDP:8003:172.25.219.201**	Manual Offset	

Communication Addresses **Manual Selection**

Flash Start	**0**
Red Revert	**5.0**
All Red Start	**0.0**
FYA Red Revert	**0.0**

See Utilities Page

Start / Revert Times

Exclusive Walk	**0**
Exclusive FDW	**0**
All Red Clear	**0.0**

Exclusive Ped Phase

	Phase							
Column Numbers ---->	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Phase Names ---->								
Ped Walk	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**6**
Ped FDW	**0**	**0**	**0**	**0**	**0**	**23**	**0**	**23**
Min Green	**0**	**10**	**0**	**0**	**6**	**10**	**6**	**3**
Type 3 Disconnect	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Added per Vehicle	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Veh Extension	**0.0**	**0.5**	**0.0**	**0.0**	**0.5**	**0.5**	**0.5**	**0.5**
Max Gap	**0.0**	**0.5**	**0.0**	**0.0**	**0.5**	**0.5**	**0.5**	**0.5**
Min Gap	**0.0**	**0.5**	**0.0**	**0.0**	**0.5**	**0.5**	**0.5**	**0.5**
Max Limit	**0**	**45**	**0**	**0**	**35**	**45**	**35**	**15**
Max Limit 2	**0**	**40**	**0**	**0**	**15**	**40**	**20**	**15**
Adv. / Delay Walk	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PE Min Ped FDW	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Cond Serv Check	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Reduce Every	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Yellow Change	**0.0**	**5.0**	**0.0**	**0.0**	**4.0**	**5.0**	**4.0**	**4.0**
Red Clear	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Phase Timing - Bank 1

	- - -	- - -	- - -	- - -	- - -
Phase 1	**0**	**0**	**0**	**0**	**0.0**
Phase 2	**0**	**0**	**0**	**0**	**0.0**
Phase 3	**0**	**0**	**0**	**0**	**0.0**
Phase 4	**0**	**0**	**0**	**0**	**0.0**
Phase 5	**0**	**0**	**0**	**0**	**0.0**
Phase 6	**0**	**0**	**0**	**0**	**0.0**
Phase 7	**0**	**0**	**0**	**0**	**0.0**
Phase 8	**0**	**0**	**0**	**0**	**0.0**

Max Initial
Alternate Walk
Alternate FDW
Alternate Initial
Alternate Extension

Alternate Timing

RR-1 Delay	**0**
RR-1 Clear	**0**
EV-A Delay	**0**
EV-A Clear	**0**
EV-B Delay	**0**
EV-B Clear	**0**
EV-C Delay	**0**
EV-C Clear	**0**
EV-D Delay	**0**
EV-D Clear	**0**
RR-2 Delay	**0**
RR-2 Clear	**0**

Preempt Timing

Permit	**_2__5678**
Red Lock	_____
Yellow Lock	_____
Min Recall	**_2___6__**
Ped Recall	_____
View Set Peds	_____
Rest In Walk	_____
Red Rest	_____
Dual Entry	_____
Max Recall	_____
Soft Recall	_____
Max 2	_____
Cond. Service	_____
Man Cntrl Calls	_____
Yellow Start	**_2___6__**
First Phases	**_____7_**

Phase Functions

	Overlap							
Column Numbers ---->	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Overlap Name ---->								
Load Switch Number	**0**	**0**	**11**	**0**	**0**	**0**	**0**	**0**
Veh Set 1 - Phases			**5 78**					
Veh Set 2 - Phases								
Veh Set 3 - Phases								
Neg Veh Phases								
Neg Ped Phases								
Green Omit Phases								
Green Clear Omit Phs.								
Green Clear	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Yellow Change	**0.0**	**0.0**	**4.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Red Clear	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Overlap Assignments

Extra 1 Flags
1 = TBC Type 1
2 = NEMA Ext. Coord
3 = Auto Daylight Savings
4 = Solid FDW on EV
5 = Extended Status
6 = International Ped
7 = Flash - Clear Outputs
8 = Split Ring

Extra 2 Flags
1 = AWB During Initial
2 = Reserved
3 = Disable Min Walk
4 = QuicNet System
5 = Ignore P/P on EV
6 = Reserved
7 = Allow QuicNet PE
8 = Caltrans TRFM

		Row
EV-A	**0**	**0**
EV-B	**0**	**1**
EV-C	**0**	**2**
EV-D	**0**	**3**
RR-1 *		**4**
RR-2 *		**5**
SE-1	**0**	**6**
SE-2	**0**	**7**

Preempt Priority

(* RR-1 is always Highest, and RR-2 is always Second Highest)

		Row
PPLT FYA		**8**

Row			Row
0	Exclusive Phases		**0**
1	RR-1 Clear Phases		**1**
2	RR-2 Clear Phases		**2**
3	RR-2 Limited Service		**3**
4	Prot / Perm Phases		**4**
5	Flash to PE Circuits		**5**
6	Flash Entry Phases		**6**
7	Disable Yellow Range		**7**
8	Disable Ovp Yel Range		**8**
9	Overlap Yellow Flash		**9**
A	EV-A Phases	**2**	**A**
B	EV-B Phases	**7**	**B**
C	EV-C Phases	**6**	**C**
D	EV-D Phases		**D**
E	Extra 1 Config. Bits	**1 3 5**	**E**
F	IC Select (Interconnect)		**F**

Configuration

		Row
External Permit 1		**0**
External Permit 2		**1**
External Permit 3		**2**
Exclusive Ped Assign		**3**
Preempt Non-Lock		**4**
Ped for 2P Output		**5**
Ped for 6P Output	**6**	**6**
Ped for 4P Output		**7**
Ped for 8P Output	**8**	**8**
Yellow Flash Phases		**9**
Low Priority A Phases		**A**
Low Priority B Phases		**B**
Low Priority C Phases		**C**
Low Priority D Phases		**D**
Restricted Phases		**E**
Extra 2 Config. Bits	**345**	**F**

Configuration

		Row
Fast Green Flash Phase		**0**
Green Flash Phases		**1**
Flashing Walk Phases		**2**
Guaranteed Passage		**3**
Simultaneous Gap Term	**2 6**	**4**
Sequential Timing	**2 5678**	**5**
Advance Walk Phases		**6**
Delay Walk Phases		**7**
External Recall		**8**
Start-up Overlap Green		**9**
Max Extension		**A**
Inhibit Ped Reservice		**B**
Semi-Actuated		**C**
Start-up Overlap Yellow		**D**
Start-up Vehicle Calls	**2 567**	**E**
Start-up Ped Calls	**6 8**	**F**

Specials

Flash to PE & PE Non-Lock
1 = EV A 5 = RR 1
2 = EV B 6 = RR 2
3 = EV C 7 = SE 1
4 = EV D 8 = SE 2

		Row
Phase 1	**0**	**0**
Phase 2	**25**	**1**
Phase 3	**0**	**2**
Phase 4	**0**	**3**
Phase 5	**12**	**4**
Phase 6	**34**	**5**
Phase 7	**12**	**6**
Phase 8	**33**	**7**

Coordination Transition Minimums

Coord Extra
1 = Programmed WALK Time for Sync Phases
2 = Always Terminate Sync Phase Peds

Row	Column Numbers ---->	Plan 1	2	3	4	5	6	7	8	9	Row
	Plan Name ---->										
0	Cycle Length	130	110	130	105	0	90	105	130	0	0
1	Phase 1 - ForceOff	0	0	0	0	0	0	0	0	0	1
2	Phase 2 - ForceOff	0	0	0	0	0	0	0	0	0	2
3	Phase 3 - ForceOff	0	0	0	0	0	0	0	0	0	3
4	Phase 4 - ForceOff	0	0	0	0	0	0	0	0	0	4
5	Phase 5 - ForceOff	53	50	55	38	0	34	24	26	0	5
6	Phase 6 - ForceOff	0	0	0	0	0	0	0	0	0	6
7	Phase 7 - ForceOff	32	25	32	22	0	20	45	50	0	7
8	Phase 8 - ForceOff	42	35	42	28	0	26	30	32	0	8
9	Ring Offset	0	0	0	0	0	0	0	0	0	9
A	Offset 1	30	60	44	78	0	8	0	0	0	A
B	Offset 2	0	0	0	0	0	0	0	0	0	B
C	Offset 3	0	0	0	0	0	0	0	0	0	C
D	Perm 1 - End	0	0	0	0	0	0	0	0	0	D
E	Hold Release	255	255	255	255	255	255	255	255	255	E

Coordination - Bank 1

Row		E	Row
1	Plan 1 - Sync	_2___6__	1
2	Plan 2 - Sync	_2___6__	2
3	Plan 3 - Sync	_2___6__	3
4	Plan 4 - Sync	_2___6__	4
5	Plan 5 - Sync	_2___6__	5
6	Plan 6 - Sync	_2___6__	6
7	Plan 7 - Sync	_2___6__	7
8	Plan 8 - Sync	_2___6__	8
9	Plan 9 - Sync	_2___6__	9
A	NEMA Sync	_____	A
B	NEMA Hold	_____	B
C			C
D	Coord Extra	1_____	D
E			E

Sync Phases

Row		1	2	3	4	5	6	7	8	9	Row
0	Ped Adjustment	0	0	0	0	0	0	0	0	0	0
1	Perm 2 - Start	0	0	0	0	0	0	0	0	0	1
2	Perm 2 - End	0	0	0	10	0	8	8	10	0	2
3	Perm 3 - Start	0	0	0	0	0	0	0	0	0	3
4	Perm 3 - End	0	0	0	0	0	0	0	0	0	4
5	Reservice Time	0	0	0	0	0	0	0	0	0	5
6	Reservice Phases	_____	_____	_____	_____	_____	_____	_____	_____	_____	6
7											7
8	Pretimed Phases	_____	_____	_____	_____	_____	_____	_____	_____	_____	8
9	Max Recall	_____	_____	_____	_____	_____	_____	_____	_____	_____	9
A	Perm 1 Veh Phase	____5_78	____5_78	____5_78	_____78	_____	_____78	____5__8	____5__8	_____	A
B	Perm 1 Ped Phase	_____8	_____8	_____8	_____8	_____	_____8	_____8	_____8	_____	B
C	Perm 2 Veh Phase	_____	_____	_____	____5___	_____	____5___	_____7_	_____7_	_____	C
D	Perm 2 Ped Phase	_____	_____	_____	_____	_____	_____	_____	_____	_____	D
E	Perm 3 Veh Phase	_____	_____	_____	_____	_____	_____	_____	_____	_____	E
F	Perm 3 Ped Phase	_____	_____	_____	_____	_____	_____	_____	_____	_____	F

Coordination - Bank 2

Row		F	Row
1	Free Lag	_2_4_6_8	1
2	Plan 1 - Lag	_2_4_6_8	2
3	Plan 2 - Lag	_2_4_6_8	3
4	Plan 3 - Lag	_2_4_6_8	4
5	Plan 4 - Lag	_2_4_6_8	5
6	Plan 5 - Lag	_2_4_6_8	6
7	Plan 6 - Lag	_2_4_6_8	7
8	Plan 7 - Lag	_2_45_7_	8
9	Plan 8 - Lag	_2_45_7_	9
A	Plan 9 - Lag	_2_4_6_8	A
B	External Lag	_2_4_6_8	B
C	Lag Hold	_____	C
D		_____	D
E		_____	E
F		_____	F

Lag Phases

General		Preemption		Coordination Plan	
Ext. Perm 1	0	EV-A	71	Plan 1	0
Ext. Perm 2	0	EV-B	72	Plan 2	0
Ext. Perm 3	0	EV-C	73	Plan 3	0
External Lag	0	EV-D	74	Plan 4	0
		RR-1	51	Plan 5	0
Stop Time	82	RR-2	52	Plan 6	0
Flash Sense	81	Spec. Event 1	0	Plan 7	0
Manual Enable	0	Spec. Event 2	0	Plan 8	0
Man. Advance	0	Gate Down	0	Plan 9	0
		NEMA Functions		Free	0
Max Inhibit	0	Max Inhibit (nema)	0	Flash	0
Max 2	0	Force A (nema)	0	**Alarms**	
Max Recall	0	Force B (nema)	1	Alarm - 1	0
Min Recall	0	C.N.A. (nema)	0	Alarm - 2	0
		Hold (nema)	0	Alarm - 3	0
X Ped Omit	0			Alarm - 4	0

Banks & Sets		Logic Gates		Locic Gates		Logic Gates		Latches	
Phase Bank 2	0	AND-1 (a)	0	OR-1 (a)	0	OR-7 (a)	0	Latch 1 Set	0
Phase Bank 3	0	AND-1 (b)	0	OR-1 (b)	0	OR-7 (b)	0	Latch 1 Reset	0
Overlap Set 2	0	AND-2 (a)	0	OR-2 (a)	0	OR-7 (c)	0	Latch 2 Set	0
Overlap Set 3	0	AND-2 (b)	0	OR-2 (b)	0	OR-7 (d)	0	Latch 2 Reset	0
Detector Set 2	0	AND-3 (a)	0	OR-3 (a)	0	OR-8 (a)	0	Latch 3 Set	0
Detector Set 3	220	AND-3 (b)	0	OR-3 (b)	0	OR-8 (b)	0	Latch 3 Reset	0
FYA Inhibits		AND-4 (a)	0	OR-4 (a)	0	OR-8 (c)	0	Latch 4 Set	0
Phase 1	0	AND-4 (b)	0	OR-4 (b)	0	OR-8 (d)	0	Latch 4 Reset	0
Phase 2	0	NAND-1 (a)	0	OR-5 (a)	0			Latch 5 Set	0
Phase 3	0	NAND-1 (b)	0	OR-5 (b)	0			Latch 5 Reset	0
Phase 4	0	NAND-2 (a)	0	OR-6 (a)	0	DELAY-A	0	Latch 6 Set	0
Phase 5	0	NAND-2 (b)	0	OR-6 (b)	0	DELAY-B	0	Latch 6 Reset	0
Phase 6	0	NAND-3 (a)	0	NOT-1	0	DELAY-C	0	Latch 7 Set	0
Phase 7	0	NAND-3 (b)	0	NOT-2	0	DELAY-D	0	Latch 7 Reset	0
Phase 8	0	NAND-4 (a)	0	NOT-3	0	DELAY-E	0	Latch 8 Set	0
		NAND-4 (b)	0	NOT-4	0	DELAY-F	0	Latch 8 Reset	0

Assignable Inputs

General		TOD & Spec Event		Preempt			Coordination Plan		Spec Func & FYA		Phase ON / Check		Logic Gates		Latches	
Adv. Warn - 1	0	TOD Out 1	0		ON	Flash	Plan 1	0	Special Func 1	0	Phase ON - 1	0	AND-1	0	Latch 1 Out	0
Adv. Warn - 2	0	TOD Out 2	0	Preempt Fail	0	0	Plan 2	0	Special Func 2	0	Phase ON - 2	0	AND-2	0	Latch 1 Not Out	0
Detector Fail	0	TOD Out 3	0	RailRoad 1	0	0	Plan 3	0	Special Func 3	0	Phase ON - 3	0	AND-3	0	Latch 2 Out	0
Flasher 1	0	TOD Out 4	0	RailRoad 2	0	0	Plan 4	0	Special Func 4	0	Phase ON - 4	0	AND-4	0	Latch 2 Not Out	0
Flasher 2	0	TOD Out 5	0	Spec. Event 1	0	0	Plan 5	0	Special Func 5	0	Phase ON - 5	220	NAND-1	0	Latch 3 Out	0
Fast Flasher	0	TOD Out 6	0	Spec. Event 2	0	0	Plan 6	0	Special Func 6	0	Phase ON - 6	0	NAND-2	0	Latch 3 Not Out	0
Online	0	TOD Out 7	0	EV-A	0	0	Plan 7	0	Special Func 7	0	Phase ON - 7	0	NAND-3	0	Latch 4 Out	0
Excl. Ped DW	0	TOD Out 8	0	EV-B	0	0	Plan 8	0	Special Func 8	0	Phase ON - 8	0	NAND-4	0	Latch 4 Not Out	0
Excl. Ped WK	0	Sp Evnt Out 1	0	EV-C	0	0	Plan 9	0	Flh Yell Arrow 1	0	Ph. Check - 1	0	OR-1	0	Latch 5 Out	0
Delay Gate Outputs		Sp Evnt Out 2	0	EV-D	0	0	Free	0	Flh Yell Arrow 2	0	Ph. Check - 2	0	OR-2	0	Latch 5 Not Out	0
DELAY-A	0	Sp Evnt Out 3	0	Any Preempt	0	0	Flash	0	Flh Yell Arrow 3	0	Ph. Check - 3	0	OR-3	0	Latch 6 Out	0
DELAY-B	0	Sp Evnt Out 4	0	**NOT Outputs**					Flh Yell Arrow 4	0	Ph. Check - 4	0	OR-4	0	Latch 6 Not Out	0
DELAY-C	0	Sp Evnt Out 5	0	NOT-1	0				Flh Yell Arrow 5	0	Ph. Check - 5	0	OR-5	0	Latch 7 Out	0
DELAY-D	0	Sp Evnt Out 6	0	NOT-2	0				Flh Yell Arrow 6	0	Ph. Check - 6	0	OR-6	0	Latch 7 Not Out	0
DELAY-E	0	Sp Evnt Out 7	0	NOT-3	0				Flh Yell Arrow 7	0	Ph. Check - 7	0	OR-7	0	Latch 8 Out	0
DELAY-F	0	Sp Evnt Out 8	0	NOT-4	0				Flh Yell Arrow 8	0	Ph. Check - 8	0	OR-8	0	Latch 8 Not Out	0

Assignable Outputs

Row	Column Numbers ----> / Phase Names ---->	Phase 1	2	3	4	5	6	7	8
0	Ped Walk	0	0	0	0	0	6	0	6
1	Ped FDW	0	0	0	0	0	23	0	23
2	Min Green	3	10	0	0	6	10	6	3
3	Type 3 Disconnect	0	0	0	0	0	0	0	0
4	Added per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	Veh Extension	0.5	0.5	0.0	0.0	0.5	0.5	0.5	0.5
6	Max Gap	0.5	0.5	0.0	0.0	0.5	0.5	0.5	0.5
7	Min Gap	0.5	0.5	0.0	0.0	0.5	0.5	0.5	0.5
8	Max Limit	5	45	0	0	10	45	25	7
9	Max Limit 2	5	40	0	0	5	40	15	5
A	Adv. / Delay Walk	0	0	0	0	0	0	0	0
B	PE Min Ped FDW	0	0	0	0	0	0	0	0
C	Cond Serv Check	0	0	0	0	0	0	0	0
D	Reduce Every	0	0	0	0	0	0	0	0
E	Yellow Change	4.0	5.0	0.0	0.0	4.0	5.0	4.0	4.0
F	Red Clear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Phase Timing - Bank 2

	9	A	B	C	D
	- - -	- - -	- - -	- - -	- - -
Phase 1	0	0	0	0	0.0
Phase 2	0	0	0	0	0.0
Phase 3	0	0	0	0	0.0
Phase 4	0	0	0	0	0.0
Phase 5	0	0	0	0	0.0
Phase 6	0	0	0	0	0.0
Phase 7	0	0	0	0	0.0
Phase 8	0	0	0	0	0.0
Max Initial					
Alternate Walk					
Alternate FDW					
Alternate Initial					
Alternate Extension					

Alternate Timing

Transition Type
0.X = Shortway
1.X = Lengthen
X.1 thru X.4 = Number of cycles when lengthing

Transition Type	0.2	<C/5+1+9>

TBC Transition

Keyboard Beep	0
Backlight Timeout	0

Daylight Savings Date
If set to all zeros, standard dates will be used.

Begin Month	3	Utilities
Begin Week	2	
End Month	11	
End Week	1	

Daylight Savings Time

Time B4 Yellow	0.0	Utilities
Phase Number	0	

Advance Warning Beacon - Sign 1

Time B4 Yellow	0.0	Utilities
Phase Number	0	

Advance Warning Beacon - Sign 2

Row		1	2	3	4	5	6	7	8
0	Ped Walk	0	0	0	0	0	6	0	6
1	Ped FDW	0	0	0	0	0	23	0	23
2	Min Green	3	10	0	0	6	10	6	3
3	Type 3 Disconnect	0	0	0	0	0	0	0	0
4	Added per Vehicle	0	0	0	0	0	0	0	0
5	Veh Extension	0.0	0.5	0.0	0.0	0.5	0.5	0.5	0.0
6	Max Gap	0.0	0.5	0.0	0.0	0.5	0.5	0.5	0.0
7	Min Gap	0.0	0.5	0.0	0.0	0.5	0.5	0.5	0.0
8	Max Limit	15	45	0	0	35	45	30	15
9	Max Limit 2	6	30	0	0	25	30	20	6
A	Adv. / Delay Walk	0	0	0	0	0	0	0	0
B	PE Min Ped FDW	0	0	0	0	0	0	0	0
C	Cond Serv Check	0	0	0	0	0	0	0	0
D	Reduce Every	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	Yellow Change	4.0	5.0	0.0	0.0	4.0	5.0	4.0	4.0
F	Red Clear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Phase Timing - Bank 3

	9	A	B	C	D
	- - -	- - -	- - -	- - -	- - -
Phase 1	0	0	0	0	0.0
Phase 2	0	0	0	0	0.0
Phase 3	0	0	0	0	0.0
Phase 4	0	0	0	0	0.0
Phase 5	0	0	0	0	0.0
Phase 6	0	0	0	0	0.0
Phase 7	0	0	0	0	0.0
Phase 8	0	0	0	0	0.0
Max Initial					
Alternate Walk					
Alternate FDW					
Alternate Initial					
Alternate Extension					

Alternate Timing

Flash Entry	_____
Flash Yellow	_____
Flash OL Yellow	_____
Flash Type	0

FLASH

Det. #	C-1 Pin #	Delay	Carry-over	Phase Assignmrnts	Detector Attributes	Detector Set Assignments
1	39	0.0	2.1	_2_____	___45_7_	123____8
2	40	0.0	2.1	_____6__	___45_7_	123____8
3	41	0.0	2.5	____5___	___45_7_	__3____8
4	42	0.0	0.0	_______8	___45_7_	123_____
5	43	0.0	1.2	_2_____	___45_7_	123____8
6	44	0.0	1.2	_____6__	___45_7_	123____8
7	45	0.0	1.5	____5___	___45_7_	__3____8
8	46	0.0	0.0	_______8	___45_7_	123_____
9	47	0.0	0.0	_2_____	_____67_	123_____
10	48	0.0	0.0	_____6__	_____67_	123_____
11	49	0.0	0.0	___4____	_____67_	123____8
12	50	0.0	0.0	_______8	_____67_	123_____
13	55	0.0	0.0	____5___	___45_7_	123_____
14	56	0.0	0.0	1_______	___45_7_	123_____
15	57	0.0	0.0	______7_	___45_7_	123____8
16	58	0.0	0.0	__3_____	___45_7_	123_____
17	59	0.0	2.5	______7_	___45_7_	123____8
18	60	0.0	0.0	1_______	___45_7_	123_____
19	61	0.0	1.5	______7_	___45_7_	123____8
20	62	0.0	0.0	__3_____	___45_7_	123_____
21	63	0.0	0.0	_2_____	___45_7_	123____8
22	64	0.0	0.0	_____6__	___45_7_	123____8
23	65	15.0	0.0	____5___	___45_7_	123____8
24	66	0.0	0.0	_______8	___45_7_	123_____
25	67	0.0	0.0	_2_____	_2_____	123_____
26	68	0.0	0.0	_____6__	_2_____	123_____
27	69	0.0	0.0	___4____	_2_____	123_____
28	70	0.0	0.0	_______8	_2_____	123_____
29	76	0.0	0.0	_2_____	___45_7_	123_____
30	77	0.0	2.0	_____6__	___45_7_	123_____
31	78	0.0	0.0	___4____	___45_7_	123_____
32	79	0.0	0.0	_______8	___45_7_	123_____

Detector Assignments

Detector Attributes
1 = Full Time Delay
2 = Ped Call
3 =
4 = Count
5 = Extension
6 = Type 3
7 = Calling
8 = Alternate

Detector Assignments
1 = Detector Set 1
2 = Detector Set 2
3 = Detector Set 3
4 =
5 =
6 = Failure - Min Recall
7 = Failure - Max Recall
8 = Report on Failure

	Ped / Phase / Overlap							
	1	2	3	4	5	6	7	8
Walk	0	0	0	0	0	0	0	0
Don't Walk	0	0	0	0	0	0	0	0
Phase Green	0	0	0	0	0	0	0	0
Phase Yellow	0	0	0	0	0	0	0	0
Phase Red	0	0	0	0	0	0	0	0
Overlap Green	0	0	0	0	0	0	0	0
Overlap Yellow	0	0	0	0	0	0	0	0
Overlap Red	0	0	0	0	0	0	0	0

Redirect Phase Outputs

Max OFF (minutes)	255	Utilities
Max ON (minutes)	7	
Chatter Fail Time	0	

Detector Failure Monitor

In / Out Logic	
DELAY-A	0
DELAY-B	0
DELAY-C	0
DELAY-D	0
DELAY-E	0
DELAY-F	0

Delay Logic Times

Event	Day of Week	Season	Hour	Minute	Plan	Offset
0	_23456_	12345678	6	30	1	A
1	_23456_	12345678	9	0	2	A
2	_23456_	12345678	15	30	3	A
3	_23456_	12345678	18	0	E	A
4	_____	12345678	0	0	0	0
5	_____	12345678	0	0	0	0
6	_____	12345678	0	0	0	0
7	_____	12345678	0	0	0	0
8	_____	12345678	0	0	0	0
9	_____	12345678	0	0	0	0
10	_____	12345678	0	0	0	0
11	_____	12345678	0	0	0	0
12	_____	12345678	0	0	0	0
13	_____	12345678	0	0	0	0
14	_____	12345678	0	0	0	0
15	_____	12345678	0	0	0	0
16	_____	12345678	0	0	0	0
17	_____	12345678	0	0	0	0
18	_____	12345678	0	0	0	0
19	_____	12345678	0	0	0	0
20	_____	12345678	0	0	0	0
21	_____	12345678	0	0	0	0
22	_____	12345678	0	0	0	0
23	_____	12345678	0	0	0	0
24	_____	12345678	0	0	0	0
25	_____	12345678	0	0	0	0
26	_____	12345678	0	0	0	0
27	_____	12345678	0	0	0	0
28	_____	12345678	0	0	0	0
29	_____	12345678	0	0	0	0
30	_____	12345678	0	0	0	0
31	_____	12345678	0	0	0	0

Time Base Coordination Events

Event	Day of Week	Season	Hour	Minute	Funct.	Phase / Bits
0	1234567	12345678	0	0	14	_____78
1	1234567	12345678	22	30	11	_2__5678
2	_23456_	12345678	6	30	11	_____
3	1_____7	12345678	9	0	11	_____
4	_____	12345678	0	0	0	_____
5	_____	12345678	0	0	0	_____
6	_____	12345678	0	0	0	_____
7	_____	12345678	0	0	0	_____
8	_____	12345678	0	0	0	_____
9	_____	12345678	0	0	0	_____
10	_____	12345678	0	0	0	_____
11	_____	12345678	0	0	0	_____
12	_____	12345678	0	0	0	_____
13	_____	12345678	0	0	0	_____
14	_____	12345678	0	0	0	_____
15	_____	12345678	0	0	0	_____

Time of Day Function Events

TOD Functions

0 = Permitted Phases
1 = Red Lock
2 = Yellow Lock
3 = Vehicle Min Recall
4 = Ped Recall
5 =
6 = Rest In Walk
7 = Red Rest
8 = Double Entry
9 = Vehicle Max Recall
A = Soft Recall
B= Max Extension 2
C = Conditional Service
D = Lag Free Phases
E, Bit 1 = Local Override
E, Bit 4 = Disable Det Off Monitoring
E, Bit 7 = Detector Count Monitor
E, Bit 8 = Real Time Split Monitor
F = TOD Outputs

#	Holiday Type	Day	Month	Year
0	_____	0	0	0
1	_____	0	0	0
2	_____	0	0	0
3	_____	0	0	0
4	_____	0	0	0
5	_____	0	0	0
6	_____	0	0	0
7	_____	0	0	0
8	_____	0	0	0
9	_____	0	0	0
10	_____	0	0	0
11	_____	0	0	0
12	_____	0	0	0
13	_____	0	0	0
14	_____	0	0	0
15	_____	0	0	0
16	_____	0	0	0
17	_____	0	0	0
18	_____	0	0	0
19	_____	0	0	0
20	_____	0	0	0
21	_____	0	0	0
22	_____	0	0	0
23	_____	0	0	0
24	_____	0	0	0
25	_____	0	0	0
26	_____	0	0	0
27	_____	0	0	0
28	_____	0	0	0
29	_____	0	0	0
30	_____	0	0	0
31	_____	0	0	0

Holiday Dates

Event	Holiday Type	Hour	Minute	Plan	Offset
0	_____	0	0	0	0
1	_____	0	0	0	0
2	_____	0	0	0	0
3	_____	0	0	0	0
4	_____	0	0	0	0
5	_____	0	0	0	0
6	_____	0	0	0	0
7	_____	0	0	0	0
8	_____	0	0	0	0
9	_____	0	0	0	0
10	_____	0	0	0	0
11	_____	0	0	0	0
12	_____	0	0	0	0
13	_____	0	0	0	0
14	_____	0	0	0	0
15	_____	0	0	0	0
16	_____	0	0	0	0
17	_____	0	0	0	0
18	_____	0	0	0	0
19	_____	0	0	0	0
20	_____	0	0	0	0
21	_____	0	0	0	0
22	_____	0	0	0	0
23	_____	0	0	0	0
24	_____	0	0	0	0
25	_____	0	0	0	0
26	_____	0	0	0	0
27	_____	0	0	0	0
28	_____	0	0	0	0
29	_____	0	0	0	0
30	_____	0	0	0	0
31	_____	0	0	0	0

Holiday Time Base Coordination Events

Event	Holiday Type	Hour	Minute	Funct.	Phase / Bits
0	_____	0	0	0	_____
1	_____	0	0	0	_____
2	_____	0	0	0	_____
3	_____	0	0	0	_____
4	_____	0	0	0	_____
5	_____	0	0	0	_____
6	_____	0	0	0	_____
7	_____	0	0	0	_____
8	_____	0	0	0	_____
9	_____	0	0	0	_____
10	_____	0	0	0	_____
11	_____	0	0	0	_____
12	_____	0	0	0	_____
13	_____	0	0	0	_____
14	_____	0	0	0	_____
15	_____	0	0	0	_____

Holiday Time of Day Function Events

Season #	Start Month	Start Day	End Month	End Day
1	1	1	12	31
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
7	0	0	0	0
8	0	0	0	0

Season Definitions

INTERSECTION: 201 Kuebler & I5 SB off ra

Note: Set the Limited Service Interval on the "Utilities / Misc" page

Notes:

Step	Time	Clear	Ped Call	Hold	Advance	Force Off	Vehicle Call	Permit	Ped Omit	Output
0	0									
1	0									
2	0									
3	0									
4	0									
5	0									
6	0									
7	0									
8	0									
9	0									
10	0									
11	0									
12	0									
13	0									
14	0									
15	0									

Special Event Sequence - 1

0
Limited Service Interval

Min Grn Before PE Force-Off	**0**
Max Pre-Empt Time	**5**
Min Time Before Same PE	**0**

Notes:

Step	Time	Clear	Ped Call	Hold	Advance	Force Off	Vehicle Call	Permit	Ped Omit	Output
0	0									
1	0									
2	0									
3	0									
4	0									
5	0									
6	0									
7	0									
8	0									
9	0									
10	0									
11	0									
12	0									
13	0									
14	0									
15	0									

Special Event Sequence - 2

0
Limited Service Interval

Event	Day of Week	Hour	Minute	Headway	Direction
0	_____	0	0	0	0
1	_____	0	0	0	0
2	_____	0	0	0	0
3	_____	0	0	0	0
4	_____	0	0	0	0
5	_____	0	0	0	0
6	_____	0	0	0	0
7	_____	0	0	0	0
8	_____	0	0	0	0
9	_____	0	0	0	0
10	_____	0	0	0	0
11	_____	0	0	0	0
12	_____	0	0	0	0
13	_____	0	0	0	0
14	_____	0	0	0	0
15	_____	0	0	0	0

Bus Headway Schedule

Approach	A	B	C	D
Travel Time	0	0	0	0
Passage	0	0	0	0
Extension	0	0	0	0
Phases	_____	_____	_____	_____

Bus Approach

	A	B	C	D
Phase 1	0	0	0	0
Phase 2	0	0	0	0
Phase 3	0	0	0	0
Phase 4	0	0	0	0
Phase 5	0	0	0	0
Phase 6	0	0	0	0
Phase 7	0	0	0	0
Phase 8	0	0	0	0

Non-Priority Phase Maximums

Name	Type	EWStreet	NSStreet	Group	Drop#	Area	AreaAddr	Channel	Sys Ref #	Last Change	FM Name
202 Kuebler	233RV2.X	Kuebler	I5 NB off ram	I-5 Kuebler	23	1	202	2.25.219.202	202	##########	NONE

		Coord Minimums														Bar	
																Hour	Minute
66	7	3	7	0	7	0	7	7	0	0	0	50	0	0	0	0	1
91	10	0	10	0	10	0	10	10	0	0	0	0	0	0	0	0	0
46	7	42	7	3	7	3	7	7	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	12	0	12	0	12	0	12	12	0	0	0	0	0	0	0	0	0
5	35	0	35	5	35	5	35	35	0	0	0	0	0	0	0	0	0
5	50	23	50	5	50	5	50	50	0	0	0	0	0	0	0	0	0
5	20	0	20	5	20	5	20	20	0	0	0	0	0	0	0	0	0
17	40	35	40	17	40	17	40	40	0	0	0	0	0	0	0	0	0
30	2	30	70	30	70	30	70	70	0	0	0	0	0	0	0	0	0
0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	2	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0
1	0	11	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0
10	10	1	10	10	10	10	10	10	0	0	0	0	0	0	0	0	0
30	233	30	40	30	40	30	40	40	0	0	0	0	0	5	0	0	0
0	5	0	10	0	5	0	10	5	0	0	0	0	0	2	0	0	0

0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F		
Page 0 <C/5>																0	1

Notes are in Column A, Rows 32 to 40

Phase 2 = EB Through

INTERSECTION: 202 Kuebler & I5 NB off ra

Group Assignment: **I-5 Kuebler**
Field Master Assignment: **NONE**
System Reference Number: **202**

N/S Street Name: **I5 NB off ramp**
E/W Street Name: **Kuebler**

Last Database Change: **10/29/2015 10:32**

Change Record					
Change	By	Date	Change	By	Date

Notes: ***Phase 2 = EB Through***

Manual Plan
0 = Automatic
1-9 = Plan 1-9
14 = Free
15 = Flash

Manual Offset
0 = Automatic
1 = Offset A
2 = Offset B
3 = Offset C

Drop Number	**23**	<C/0+0+0>
Zone Number	**1**	<C/0+0+1>
Area Number	**1**	<C/0+0+2>
Area Address	**202**	<C/0+0+3>
QuicNet Channel	**:8003:172.25.219**	(QuicNet)

Communication Addresses

Manual Plan		<C/0+A+1>
Manual Offset		<C/0+B+1>

Manual Selection

Flash Start	**0**	<F/1+0+E>
Red Revert	**5.0**	<F/1+0+F>
All Red Start	**0.0**	<F/1+C+0>

Start / Revert Times

Exclusive Walk	**0**	<F/1+0+0>
Exclusive FDW	**0**	<F/1+0+1>
All Red Clear	**0.0**	<F/1+0+2>

Exclusive Ped Phase
(Outputs specified in Assignable Outputs at E/127+A+E & F)

Row	Phase Names ---->	Phase 1	2	3	4	5	6	7	8
	Column Numbers ---->	1	2	3	4	5	6	7	8
0	Ped Walk	**0**	**5**	**0**	**0**	**0**	**7**	**0**	**5**
1	Ped FDW	**0**	**31**	**0**	**0**	**0**	**10**	**0**	**27**
2	Min Green	**0**	**10**	**0**	**0**	**0**	**10**	**0**	**6**
3	Type 3 Disconnect	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
4	Added per Vehicle	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
5	Veh Extension	**0.0**	**0.5**	**0.0**	**0.0**	**0.0**	**0.5**	**0.0**	**0.5**
6	Max Gap	**0.0**	**0.5**	**0.0**	**0.0**	**0.0**	**0.5**	**0.0**	**0.5**
7	Min Gap	**0.0**	**0.5**	**0.0**	**0.0**	**0.0**	**0.5**	**0.0**	**0.5**
8	Max Limit	**0**	**40**	**0**	**0**	**0**	**40**	**0**	**30**
9	Max Limit 2	**0**	**40**	**0**	**0**	**0**	**40**	**0**	**30**
A	Adv. / Delay Walk	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
B	PE Min Ped FDW	**0**	**19**	**0**	**0**	**0**	**0**	**0**	**18**
C	Cond Serv Check	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
D	Reduce Every	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
E	Yellow Change	**0.0**	**5.0**	**0.0**	**0.0**	**0.0**	**5.0**	**0.0**	**4.0**
F	Red Clear	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Phase Timing - Bank 1 <C+0+F=1>

	9	A	B	C	D
	- - -	- - -	- - -	- - -	- - -
Phase 1	**0**	**0**	**0**	**0**	**0.0**
Phase 2	**0**	**0**	**0**	**0**	**0.0**
Phase 3	**0**	**0**	**0**	**0**	**0.0**
Phase 4	**0**	**0**	**0**	**0**	**0.0**
Phase 5	**0**	**0**	**0**	**0**	**0.0**
Phase 6	**0**	**0**	**0**	**0**	**0.0**
Phase 7	**0**	**0**	**0**	**0**	**0.0**
Phase 8	**0**	**0**	**0**	**0**	**0.0**
Max Initial					
Alternate Walk					
Alternate FDW					
Alternate Initial					
Alternate Extension					

Alternate Timing <C+0+F=1>

	E
RR-1 Delay	**0**
RR-1 Clear	**0**
EV-A Delay	**0**
EV-A Clear	**0**
EV-B Delay	**0**
EV-B Clear	**0**
EV-C Delay	**0**
EV-C Clear	**0**
EV-D Delay	**0**
EV-D Clear	**0**
RR-2 Delay	**0**
RR-2 Clear	**0**
View EV Delay	- - -
View EV Clear	- - -
View RR Delay	- - -
View RR Clear	- - -

Preempt Timing

Row		F
0	Permit	**_2___6_8**
1	Red Lock	**_____**
2	Yellow Lock	**_____**
3	Min Recall	**_2___6__**
4	Ped Recall	**_____**
5	*View Set Peds*	**- - - - -**
6	Rest In Walk	**_____**
7	Red Rest	**_____**
8	Dual Entry	**_____**
9	Max Recall	**_____**
A	Soft Recall	**_____**
B	Max 2	**_____**
C	Cond. Service	**_____**
D	Man Cntrl Calls	**_____**
E	Yellow Start	**_2___6__**
F	First Phases	**_____8**

Phase Functions <C+0+F=1>

Row	Column Numbers ---->	Overlap 1	2	3	4	5	6	7	8
	Overlap Name ---->								
0	Load Switch Number	0	0	0	0	0	0	0	0
1	Veh Set 1 - Phases								
2	Veh Set 2 - Phases								
3	Veh Set 3 - Phases								
4	Neg Veh Phases								
5	Neg Ped Phases								
6	Green Omit Phases								
7	Green Clear Omit Phs.								
8									
9									
A									
B									
C									
D	Green Clear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	Yellow Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
F	Red Clear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Overlap Assignments <C+0+E=29>

Extra 1 Flags
1 = TBC Type 1
2 = NEMA Ext. Coord
3 = Auto Daylight Savings
4 = Solid FDW on EV
5 = Extended Status
6 = International Ped
7 = Flash - Clear Outputs
8 = Split Ring

Extra 2 Flags
1 = AWB During Initial
2 = LMU Installed
3 = Disable Min Walk
4 = QuicNet/4 System
5 = Ignore P/P on EV
6 =
7 = Reserved
8 =

Row		C
0	EV-A	0
1	EV-B	0
2	EV-C	0
3	EV-D	0
4	RR-1 *	- - -
5	RR-2 *	- - -
6	SE-1	0
7	SE-2	0

Preempt Priority <C+0+E=125>
(* RR-1 is always Highest, and RR-2 is always Second Highest)

Row	Column Numbers ---->	E
0	Exclusive Phases	
1	RR-1 Clear Phases	
2	RR-2 Clear Phases	
3	RR-2 Limited Service	
4	Prot / Perm Phases	
5	Flash to PE Circuits	
6	Flash Entry Phases	
7	Disable Yellow Range	
8	Disable Ovp Yel Range	
9	Overlap Yellow Flash	
A	EV-A Phases	2
B	EV-B Phases	
C	EV-C Phases	6
D	EV-D Phases	8
E	Extra 1 Config. Bits	1_3_5
F	IC Select (Interconnect)	2

Configuration <C+0+E=125>

	F
Ext. Permit 1 Phases	
Ext. Permit 2 Phases	
Exclusive Ped Assign	
Preempt Non-Lock	
Ped for 2P Output	2
Ped for 6P Output	6
Ped for 4P Output	
Ped for 8P Output	8
Yellow Flash Phases	
Low Priority A Phases	
Low Priority B Phases	
Low Priority C Phases	
Low Priority D Phases	
Restricted Phases	
Extra 2 Config. Bits	34

Configuration <C+0+E=125>

	F
Fast Green Flash Phase	
Green Flash Phases	
Flashing Walk Phases	
Guaranteed Passage	
Simultaneous Gap Term	2 6
Sequential Timing	2 6 8
Advance Walk Phases	
Delay Walk Phases	
External Recall	
Start-up Overlap Green	
Max Extension	
Inhibit Ped Reservice	
Semi-Actuated	
Start-up Overlap Yellow	
Start-up Vehicle Calls	2 6 8
Start-up Ped Calls	2 6 8

Specials <C+0+F=2>

Flash to PE & PE Non-Lock
1 = EV A 5 = RR 1
2 = EV B 6 = RR 2
3 = EV C 7 = SE 1
4 = EV D 8 = SE 2

IC Select Flags
1 =
2 = Modem
3 = 7-Wire Slave
4 = Flash / Free
5 =
6 = Simplex Master
7 = 7-Wire Master
8 = Offset Interrupter

	2
Phase 1	0
Phase 2	42
Phase 3	0
Phase 4	0
Phase 5	0
Phase 6	23
Phase 7	0
Phase 8	35

Coordination Transition Minimums <C+0+C=5>

Coord Extra
1 = Programmed WALK Time for Sync Phases
2 = Always Terminate Sync Phase Peds

Row	*Column Numbers ----> / Plan Name ---->	Plan 1	2	3	4	5	6	7	8	9	Row
0	Cycle Length	130	110	130	105	90	90	100	100	100	0
1	Phase 1 - ForceOff	0	0	0	0	0	0	55	55	55	1
2	Phase 2 - ForceOff	0	0	0	0	0	0	0	0	0	2
3	Phase 3 - ForceOff	0	0	0	0	0	0	20	20	20	3
4	Phase 4 - ForceOff	0	0	0	0	0	0	40	40	40	4
5	Phase 5 - ForceOff	0	0	0	0	0	0	55	55	55	5
6	Phase 6 - ForceOff	0	0	0	0	0	0	0	0	0	6
7	Phase 7 - ForceOff	0	0	0	0	0	0	20	20	20	7
8	Phase 8 - ForceOff	30	27	35	30	33	33	40	40	40	8
9	Ring Offset	0	0	0	0	0	0	0	0	0	9
A	Offset 1	8	79	75	79	19	19	0	0	0	A
B	Offset 2	0	0	51	0	0	0	0	0	0	B
C	Offset 3	0	0	0	0	0	0	0	0	0	C
D	Perm 1 - End	0	0	2	0	0	0	15	15	15	D
E	Hold Release	255	255	255	255	255	255	255	255	255	E
F	Zone Offset	0	0	0	0	0	0	0	0	0	F

Coordination - Bank 1 <C+0+C=1>

Row		E	Row
0			0
1	Plan 1 - Sync	_2___6__	1
2	Plan 2 - Sync	_2___6__	2
3	Plan 3 - Sync	_2___6__	3
4	Plan 4 - Sync	_2___6__	4
5	Plan 5 - Sync	_2___6__	5
6	Plan 6 - Sync	_2___6__	6
7	Plan 7 - Sync	_2___6__	7
8	Plan 8 - Sync	_2___6__	8
9	Plan 9 - Sync	_2___6__	9
A	NEMA Sync	_____	A
B	NEMA Hold	_____	B
C			C
D			D
E	Coord Extra	_2_____	E
F			F

Sync Phases <C+0+C=1>

Row		Plan 1	2	3	4	5	6	7	8	9	Row
0	Ped Adjustment	0	0	0	0	0	0	0	0	0	0
1	Perm 2 - Start	0	0	0	0	0	0	0	0	0	1
2	Perm 2 - End	0	0	0	0	0	0	0	0	0	2
3	Perm 3 - Start	0	0	0	0	0	0	0	0	0	3
4	Perm 3 - End	0	0	0	0	0	0	0	0	0	4
5	Reservice Time	0	0	0	0	0	0	0	0	0	5
6	Reservice Phases	_____	_____	_____	_____	_____	_____	_____	_____	_____	6
7											7
8	Pretimed Phases	_____	_____	_____	_____	_____	_____	_____	_____	_____	8
9	Max Recall	_____	_____	_____	_____	_____	_____	_____	_____	_____	9
A	Perm 1 Veh Phase	_____8	_____8	_____8	_____8	_____8	_____8	12345678	12345678	12345678	A
B	Perm 1 Ped Phase	_____8	_____8	_____8	_____8	_____8	_____8	12345678	12345678	12345678	B
C	Perm 2 Veh Phase	_____	_____	_____	_____	_____	_____	_____	_____	_____	C
D	Perm 2 Ped Phase	_____	_____	_____	_____	_____	_____	_____	_____	_____	D
E	Perm 3 Veh Phase	_____	_____	_____	_____	_____	_____	_____	_____	_____	E
F	Perm 3 Ped Phase	_____	_____	_____	_____	_____	_____	_____	_____	_____	F

Coordination - Bank 2 <C+0+C=2>

Row		F	Row
0	Free Lag	_2___6_8	0
1	Plan 1 - Lag	_2___6_8	1
2	Plan 2 - Lag	_2___6_8	2
3	Plan 3 - Lag	_2___6_8	3
4	Plan 4 - Lag	_2___6_8	4
5	Plan 5 - Lag	_2___6_8	5
6	Plan 6 - Lag	_2___6_8	6
7	Plan 7 - Lag	_2___6_8	7
8	Plan 8 - Lag	_2___6_8	8
9	Plan 9 - Lag	_2___6_8	9
A	External Lag	_____	A
B			B
C			C
D			D
E			E
F			F

Lag Phases <C+0+C=1>

Row	Column 9		Column A		Column B		Column C		Column D		Column E		Column F		Row
0	Spec. Funct. 1	0	NOT-3	0	Max 2	0	Pretimed	0	Set Monday	0	Dial 2 (7-Wire)	0	Sim Term	0	0
1	Spec. Funct. 2	0	NOT-4	0	System Det 1	0	Plan 1	0	Ext. Perm 1	0	Dial 3 (7-Wire)	0	EV-A	71	1
2	Spec. Funct. 3	0	OR-4 (a)	0	System Det 2	0	Plan 2	0	Ext. Perm 2	0	Offset 1 (7-Wire)	0	EV-B	72	2
3	Spec. Funct. 4	0	OR-4 (b)	0	System Det 3	0	Plan 3	0	Reserved	0	Offset 2 (7-Wire)	0	EV-C	73	3
4	NAND-3 (a)	0	OR-5 (a)	0	System Det 4	0	Plan 4	0	Set Clock	0	Offset 3 (7-Wire)	0	EV-D	74	4
5	NAND-3 (b)	0	OR-5 (b)	0	System Det 5	0	Plan 5	0	Stop Time	82	Free (7-Wire)	0	RR-1	51	5
6	NAND-4 (a)	0	OR-6 (a)	0	System Det 6	0	Plan 6	0	Flash Sense	81	Flash (7-Wire)	0	RR-2	52	6
7	NAND-4 (b)	0	OR-6 (b)	0	System Det 7	0	Plan 7	0	Manual Enable	0	Excl. Ped Omit	0	Spec. Event 1	0	7
8	OR-7 (a)	0	Fig 3 Diamond	0	System Det 8	0	Plan 8	0	Man. Advance	0	NOT-1	0	Spec. Event 2	0	8
9	OR-7 (b)	0	Fig 4 Diamond	0	Max Inhibit (nema)	0	Plan 9	0	External Alarm	0	NOT-2	0	External Lag	0	9
A	OR-7 (c)	0	AND-4 (a)	0	Force A (nema)	0	DELAY-A	0	Phase Bank 2	0	OR-1 (a)	0	AND-1 (a)	0	A
B	OR-7 (d)	0	AND-4 (b)	0	Force B (nema)	0	DELAY-B	0	Phase Bank 3	0	OR-1 (b)	0	AND-1 (b)	0	B
C	OR-8 (a)	0	NAND-1 (a)	0	C.N.A. (nema)	0	DELAY-C	0	Overlap Set 2	0	OR-2 (a)	0	AND-2 (a)	0	C
D	OR-8 (b)	0	NAND-1 (b)	0	Hold (nema)	0	DELAY-D	0	Overlap Set 3	0	OR-2 (b)	0	AND-2 (b)	0	D
E	OR-8 (c)	0	NAND-2 (a)	0	Max Recall	0	DELAY-E	0	Detector Set 2	0	OR-3 (a)	0	AND-3 (a)	0	E
F	OR-8 (d)	0	NAND-2 (b)	0	Min Recall	0	DELAY-F	0	Detector Set 3	0	OR-3 (b)	0	AND-3 (b)	0	F

Assignable Inputs <C+0+E=126>

Row	Column 9		Column A		Column B		Column C		Column D		Column E		Column F		Row
0	Phase ON - 1	0	Preempt Fail	0	Flasher 0	0	Free	0	NOT-1	0	TOD Out 1	0	Dial 2 (7-Wire)	0	0
1	Phase ON - 2	0	Sp Evnt Out 1	0	Flasher 1	0	Plan 1	0	OR-1	0	TOD Out 2	0	Dial 3 (7-Wire)	0	1
2	Phase ON - 3	0	Sp Evnt Out 2	0	Fast Flasher	0	Plan 2	0	OR-2	0	TOD Out 3	0	Offset 1 (7-Wire)	0	2
3	Phase ON - 4	0	Sp Evnt Out 3	0	Fig 3 Diamond	0	Plan 3	0	OR-3	0	TOD Out 4	0	Offset 2 (7-Wire)	0	3
4	Phase ON - 5	0	Sp Evnt Out 4	0	Fig 4 Diamond	0	Plan 4	0	AND-1	0	TOD Out 5	0	Offset 3 (7-Wire)	0	4
5	Phase ON - 6	0	Sp Evnt Out 5	0			Plan 5	0	AND-2	0	TOD Out 6	0	Free (7-Wire)	0	5
6	Phase ON - 7	0	Sp Evnt Out 6	0			Plan 6	0	AND-3	0	TOD Out 7	0	Flash (7-Wire)	0	6
7	Phase ON - 8	0	Sp Evnt Out 7	0			Plan 7	0	NOT-2	0	TOD Out 8	0	Preempt	0	7
8	Ph. Check - 1	0	Sp Evnt Out 8	0	NOT-3	0	Plan 8	0	EV-A	0	Adv. Warn - 1	0	Low Priority A	0	8
9	Ph. Check - 2	0			NOT-4	0	Plan 9	0	EV-B	0	Adv. Warn - 2	0	Low Priority B	0	9
A	Ph. Check - 3	0	Detector Fail	0	OR-4	0	Spec. Funct. 3	0	EV-C	0	DELAY-A	0	Low Priority C	0	A
B	Ph. Check - 4	0	Spec. Funct. 1	0	OR-5	0	Spec. Funct. 4	0	EV-D	0	DELAY-B	0	Low Priority D	0	B
C	Ph. Check - 5	0	Spec. Funct. 2	0	OR-6	0	NAND-3	0	RR-1	0	DELAY-C	0			C
D	Ph. Check - 6	0	Central Control	0	AND-4	0	NAND-4	0	RR-2	0	DELAY-D	0			D
E	Ph. Check - 7	0	Excl. Ped DW	0	NAND-1	0	OR-7	0	Spec. Event 1	0	DELAY-E	0			E
F	Ph. Check - 8	0	Excl. Ped WK	0	NAND-2	0	OR-8	0	Spec. Event 2	0	DELAY-F	0			F

Assignable Outputs <C+0+E=127>

Row	Column Numbers ----> / Phase Names ---->	Phase 1	2	3	4	5	6	7	8
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	15	0	15	0	15	0	15
2	Min Green	4	7	4	4	4	7	4	4
3	Type 3 Disconnect	0	20	0	20	0	20	0	20
4	Added per Vehicle	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
5	Veh Extension	2.0	4.0	2.0	2.5	2.0	4.0	2.0	2.5
6	Max Gap	3.0	6.0	3.0	3.0	3.0	6.0	3.0	3.0
7	Min Gap	0.5	2.0	0.5	1.5	0.5	2.0	0.5	1.5
8	Max Limit	20	30	20	25	20	30	20	25
9	Max Limit 2	30	50	30	40	30	50	30	40
A	Adv. / Delay Walk	0	0	0	0	0	0	0	0
B	PE Min Ped FDW	7	7	7	7	7	7	7	7
C	Cond Serv Check	10	10	10	10	10	10	10	10
D	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
E	Yellow Change	3.0	4.0	3.0	3.0	3.0	4.0	3.0	3.0
F	Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Phase Timing - Bank 2 <C+0+F=2>

	9	A	B	C	D
	- - -	- - -	- - -	- - -	- - -
Phase 1	0	0	0	0	0.0
Phase 2	0	0	0	0	0.0
Phase 3	0	0	0	0	0.0
Phase 4	0	0	0	0	0.0
Phase 5	0	0	0	0	0.0
Phase 6	0	0	0	0	0.0
Phase 7	0	0	0	0	0.0
Phase 8	0	0	0	0	0.0

Max Initial
Alternate Walk
Alternate FDW
Alternate Initial
Alternate Extension

Alternate Timing

Transition Type
0.X = Shortway
1.X = Lengthen
X.1 thru X.4 = Number of cycles when lengthing

Transition Type	0.2	<C/5+1+9>

TBC Transition

Lag Hold Phases	_____	<C/5+1+A>

Coordinated Lag Hold Phases

Sync Output Time	0.0	<C/5+1+C>

7-Wire Master

Daylight Savings Date
If set to all zeros, standard dates will be used.

Begin Month	3	<C/5+2+A>
Begin Week	2	<C/5+2+B>
End Month	11	<C/5+2+C>
End Week	1	<C/5+2+D>

Daylight Savings Time

Time B4 Yellow	0.0	<F/1+C+E>
Phase Number	0	<F/1+C+F>

Advance Warning Beacon - Sign 1

Time B4 Yellow	0.0	<F/1+D+E>
Phase Number	0	<F/1+D+F>

Advance Warning Beacon - Sign 2

Long Failure	0.7	<F/1+0+6>
Short Failure	0.7	<F/1+0+7>

Power Cycle Correction (Default = 0.7)

Row		1	2	3	4	5	6	7	8
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	15	0	15	0	15	0	15
2	Min Green	4	7	4	4	4	7	4	4
3	Type 3 Disconnect	0	20	0	20	0	20	0	20
4	Added per Vehicle	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
5	Veh Extension	2.0	4.0	2.0	2.5	2.0	4.0	2.0	2.5
6	Max Gap	3.0	6.0	3.0	3.0	3.0	6.0	3.0	3.0
7	Min Gap	0.5	2.0	0.5	1.5	0.5	2.0	0.5	1.5
8	Max Limit	20	30	20	25	20	30	20	25
9	Max Limit 2	30	50	30	40	30	50	30	40
A	Adv. / Delay Walk	0	0	0	0	0	0	0	0
B	PE Min Ped FDW	7	7	7	7	7	7	7	7
C	Cond Serv Check	10	10	10	10	10	10	10	10
D	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
E	Yellow Change	3.0	4.0	3.0	3.0	3.0	4.0	3.0	3.0
F	Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Phase Timing - Bank 3 <C+0+F=3>

	9	A	B	C	D
	- - -	- - -	- - -	- - -	- - -
Phase 1	0	0	0	0	0.0
Phase 2	0	0	0	0	0.0
Phase 3	0	0	0	0	0.0
Phase 4	0	0	0	0	0.0
Phase 5	0	0	0	0	0.0
Phase 6	0	0	0	0	0.0
Phase 7	0	0	0	0	0.0
Phase 8	0	0	0	0	0.0

Max Initial
Alternate Walk
Alternate FDW
Alternate Initial
Alternate Extension

Alternate Timing

Column Numbers ----->		0	1	2	3	1	3
Row	*Detector Name*	C1 Pin Number	Attributes	Phase(s)	Assign	Delay	Carry-over
0		39	___45_7_	_2_____	123___8	0.0	2.0
1		40	___45_7_	_____6__	123___8	0.0	2.0
2		41	___45_7_	___4____	123_____	0.0	0.0
3		42	___45____	_______8	123___8	0.0	2.5
4		43	___45_7_	_2_____	123_____	0.0	1.2
5		44	___45_7_	_____6__	123_____	0.0	1.2
6		45	___45_7_	___4____	123_____	0.0	0.0
7		46	___45____	_______8	123_____	0.0	1.2
8		47	_____67_	_2_____	123_____	0.0	0.0
9		48	_____67_	_____6__	123_____	0.0	0.0
A		49	_____67_	___4____	123_____	0.0	0.0
B		50	_____67_	_______8	123_____	0.0	0.0
C		55	___45_7_	____5___	123_____	0.0	0.0
D		56	___45_7_	1_______	123_____	0.0	0.0
E		57	___45_7_	_______7_	123_____	0.0	0.0
F		58	___45_7_	__3_____	123_____	0.0	0.0

		4	5	6	7	2	4
Row	*Detector Name*	C1 Pin Number	Attributes	Phase(s)	Assign	Delay	Carry-over
0		59	___45_7_	____5___	123_____	0.0	0.0
1		60	___45_7_	1_______	123_____	0.0	0.0
2		61	___45_7_	_______7_	123_____	0.0	0.0
3		62	___45_7_	__3_____	123_____	0.0	0.0
4		63	___45_7_	_2_____	123_____	0.0	0.0
5		64	___45_7_	_____6__	123_____	0.0	0.0
6		65	___45_7_	___4____	123_____	0.0	0.0
7		66	___45_7_	_______8	123_____	0.0	0.0
8		67	_2_____	_2_____	123_____	0.0	0.0
9		68	_2_____	_____6__	123_____	0.0	0.0
A		69	_2_____	___4____	123_____	0.0	0.0
B		70	_2_____	_______8	123_____	0.0	0.0
C		76	___45_7_	_2_____	123_____	0.0	3.0
D		77	___45_7_	_____6__	123_____	0.0	3.0
E		78	___45_7_	___4____	123_____	0.0	0.0
F		79	___45_7_	_______8	123___8	15.0	0.0

Detector Assignments <C+0+E=126> <C+0+D=0>

Detector Attributes
1 = Full Time Delay
2 = Ped Call
3 =
4 = Count
5 = Extension
6 = Type 3
7 = Calling
8 = Alternate

Det. Assignments
1 = Det. Set 1
2 = Det. Set 2
3 = Det. Set 3
4 =
5 =
6 = Failure - Min Recall
7 = Failure - Max Recall
8 = Report on Failure

Column Numbers ----->	Ped / Phase / Overlap 1	2	3	4	5	6	7	8	Row
Walk	0	0	0	0	0	0	0	0	0
Don't Walk	0	0	0	0	0	0	0	0	1
Phase Green	0	0	0	0	0	0	0	0	2
Phase Yellow	0	0	0	0	0	0	0	0	3
Phase Red	0	0	0	0	0	0	0	0	4
Overlap Green	0	0	0	0	0	0	0	0	5
Overlap Yellow	0	0	0	0	0	0	0	0	6
Overlap Red	0	0	0	0	0	0	0	0	7

Redirect Phase Outputs <C+0+E=127>

Cabinet Type	0	<E/125+D+0>

Enable Redirection
(Enable Redirection = 30)

Max OFF (minutes)	20	<D/0+0+1>
Max ON (minutes)	7	<D/0+0+2>

Detector Failure Monitor

	D	Row
		0
Output Port 1	_____	1
Output Port 2	_____	2
Output Port 3	_____	3
Output Port 4	_____	4
Output Port 5	_____	5
Output Port 6	_____	6
Output Port 7	_____	7

Dimming <C+0+E=125>

	D
Number of Digits	0
1 st Digit	0
2 ed Digit	0
3 ed Digit	0
4 th Digit	0
5 th Digit	0
6 th Digit	0
7 th Digit	0
8 th Digit	0
9 th Digit	0
10 th Digit	0
11 th Digit	0
12 th Digit	0
13 th Digit	0
14 th Digit	0
15 th Digit	0

<C+0+C=5>

Dial-Back Telephone Number

Disable Alarms
1 = Stop Time
2 = Flash Sense
3 = Keyboard Entry
4 = Manual Plan
5 = Police Control
6 = External Alarm
7 = Detector Failure
8 =

	B	Row
DELAY-A	0	A
DELAY-B	0	B
DELAY-C	0	C
DELAY-D	0	D
DELAY-E	0	E
DELAY-F	0	F

Delay Logic Times
<C+0+D=0> (seconds)

Omit Alarm	_____	<C/5+F+0>

Disable Alarm Reporting

Time	50	<C/5+C+0>

Redial Time (minutes)
(View Redial Timer at E/2+D+6)

Row	Time	Plan	Offset	Day of Week
0	06 : 30	1	A	_23456_
1	09 : 00	2	A	_23456_
2	16 : 00	3	A	_23456_
3	18 : 00	E	0	_23456_
4	00 : 00	0	0	_____
5	00 : 00	0	0	_____
6	00 : 00	0	0	_____
7	00 : 00	0	0	_____
8	00 : 00	0	0	_____
9	00 : 00	0	0	_____
A	00 : 00	0	0	_____
B	00 : 00	0	0	_____
C	00 : 00	0	0	_____
D	00 : 00	0	0	_____
E	00 : 00	0	0	_____
F	00 : 00	0	0	_____

TOD Coordination <C+0+9=0.1>
(Bank 1)

Time	Funct.	Day of Week	Column 4 Phases/Bits
00 : 01	E	1234567	_____78
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____

TOD Function <C+0+7=0.1> <C+0+E=27>

Day	Year	Month	Holiday Type
25	13	12	1_____
01	14	1	1_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____

Holiday Dates <C+0+8=1.1>
(Bank 1)

Time	Plan	Offset	Holiday Type
00 : 01	E	0	1_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____

Holiday Events <C+0+9=1.1>
(Bank 1)

T.O.D. Functions
0 =
1 = Red Lock
2 = Yellow Lock
3 = Veh Min Recall
4 = Ped Recall
5 =
6 = Rest In Walk
7 = Red Rest
8 = Double Entry
9 = Veh Max Recall
A = Veh Soft Recall
B = Maximum 2
C = Conditional Service
D = Free Lag Phases
E = Bit 1 - Local Override
Bit 4 - Disable Detector OFF Monitor
Bit 5 - Disable Low Priority Preempt
Bit 7 - Detector Count Monitor
Bit 8 - Real Time Split Monitor
F = Output Bits 1 thru 8

Row	Time	Plan	Offset	Day of Week
0	00 : 00	0	0	_____
1	00 : 00	0	0	_____
2	00 : 00	0	0	_____
3	00 : 00	0	0	_____
4	00 : 00	0	0	_____
5	00 : 00	0	0	_____
6	00 : 00	0	0	_____
7	00 : 00	0	0	_____
8	00 : 00	0	0	_____
9	00 : 00	0	0	_____
A	00 : 00	0	0	_____
B	00 : 00	0	0	_____
C	00 : 00	0	0	_____
D	00 : 00	0	0	_____
E	00 : 00	0	0	_____
F	00 : 00	0	0	_____

TOD Coordination <C+0+9=0.2>
(Bank 2)

Time	Funct.	Holiday Type	Column 4 Phases/Bits
00 : 01	E	1234567	_____78
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____

Holiday TOD Function <C+0+7=0.2> <C+0+E=28>

Day	Year	Month	Holiday Type
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____

Holiday Dates <C+0+8=1.2>
(Bank 2)

Time	Plan	Offset	Holiday Type
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____

Holiday Events <C+0+9=1.2>
(Bank 2)

Plan Select
1 thru 9 = Coordination Plan 1 thru 9
14 or E = Free
15 or F = Flash

Offset Select
A = Offset A
B = Offset B
C = Offset C

Month Select
1 = January
2 = February
3 = March
4 = April
5 = May
6 = June
7 = July
8 = August
9 = September
A = October
B = November
C = December

Row	6 Clear	7 Time	8 Ped Call	9 Hold	A Advance	B Force Off	C Vehicle Call	D Permit Phases	E Ped Omit	F Output
0		0								
1		0								
2		0								
3		0								
4		0								
5		0								
6		0								
7		0								
8		0								
9		0								
A		0								
B		0								
C		0								
D		0								
E		0								
F		0								

Notes:

0 <E/27+5+F>
Limited Service Interval

Special Event Schedule -- Table 1 <C+0+E=27>

Row	6 Clear	7 Time	8 Ped Call	9 Hold	A Advance	B Force Off	C Vehicle Call	D Permit Phases	E Ped Omit	F Output
0		0								
1		0								
2		0								
3		0								
4		0								
5		0								
6		0								
7		0								
8		0								
9		0								
A		0								
B		0								
C		0								
D		0								
E		0								
F		0								

Notes:

0 <E/28+5+F>
Limited Service Interval

Special Event Schedule -- Table 2 <C+0+E=28>

Min Time (seconds) **0** <F/1+0+8>
Min Green Before PE Force Off

Max Time (minutes) **5** <F/1+0+9>
Max Preempt Time Before Failure

Min Time (seconds) **0** <F/1+0+A>
Min Time Between Same Preempts
(Does Not Apply To Railroad Preempt)

Low Pri. Channel _____ <E/125+C+8>
Disable Low Priority Channel

Low Priority
1 = Channel A
2 = Channel B
3 = Channel C
4 = Channel D

Delay Time (seconds) **0** <F/1+A+D>
Bus Delay

Max Time (seconds) **0** <F/1+A+E>
Max Early Green

Max Time (seconds) **0** <F/1+A+F>
Max Green Extension

Row	Time	Headway	Direction	Day of Week
0	00 : 00	0	0	_____
1	00 : 00	0	0	_____
2	00 : 00	0	0	_____
3	00 : 00	0	0	_____
4	00 : 00	0	0	_____
5	00 : 00	0	0	_____
6	00 : 00	0	0	_____
7	00 : 00	0	0	_____
8	00 : 00	0	0	_____
9	00 : 00	0	0	_____
A	00 : 00	0	0	_____
B	00 : 00	0	0	_____
C	00 : 00	0	0	_____
D	00 : 00	0	0	_____
E	00 : 00	0	0	_____
F	00 : 00	0	0	_____

Headway <C+0+9=2.1>

Headway Time
(minutes)
1 thru 9 = 1 thru 9
A = 10
B = 11
C = 12
D = 13
E = 14
F = 15

Low Priority Preemption (Bus Priority)

Only available with *Program 233RV2.B* (and above)
Note: Also see "Time of Day Functions", Function E, Bit 5 (Disable Low Priority)

INTERSECTION: 265 Kuebler & 27th

Group Assignment: **NONE**
Field Master Assignment: **NONE**
System Reference Number: **265**

N/S Street Name: **27th**
E/W Street Name: **Kuebler**

Last Database Change: **5/15/2017 9:59**

Change Record					
Change	By	Date	Change	By	Date

Notes: ***Phase 2 = EB through***

Manual Plan
0 = Automatic
1-9 = Plan 1-9
14 = Free
15 = Flash

Manual Offset
0 = Automatic
1 = Offset A
2 = Offset B
3 = Offset C

Address	**21**

Area Number	**2**		
Area Address	**15**	Manual Plan	
QuicNet Channel	**UDP:8003:172.25.219.65**	Manual Offset	

Communication Addresses **Manual Selection**

Flash Start	**0**	See Utilities Page
Red Revert	**5.0**	
All Red Start	**0.0**	
FYA Red Revert	**0.0**	

Start / Revert Times

Exclusive Walk	**0**
Exclusive FDW	**0**
All Red Clear	**0.0**

Exclusive Ped Phase

	Phase							
Column Numbers ---->	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Phase Names ----->								
Ped Walk	**0**	**7**	**0**	**5**	**0**	**7**	**0**	**5**
Ped FDW	**0**	**16**	**0**	**26**	**0**	**13**	**0**	**25**
Min Green	**3**	**10**	**3**	**6**	**3**	**10**	**3**	**6**
Type 3 Disconnect	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Added per Vehicle	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Veh Extension	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
Max Gap	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
Min Gap	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
Max Limit	**20**	**60**	**8**	**25**	**20**	**60**	**8**	**25**
Max Limit 2	**15**	**40**	**6**	**15**	**15**	**40**	**6**	**15**
Adv. / Delay Walk	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PE Min Ped FDW	**0**	**16**	**0**	**26**	**0**	**13**	**0**	**25**
Cond Serv Check	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Reduce Every	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Yellow Change	**4.0**	**5.0**	**4.0**	**4.0**	**4.0**	**5.0**	**4.0**	**4.0**
Red Clear	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Phase Timing - Bank 1

	- - -	- - -	- - -	- - -	- - -
Phase 1	**0**	**0**	**0**	**0**	**0.0**
Phase 2	**0**	**0**	**0**	**0**	**0.0**
Phase 3	**0**	**0**	**0**	**0**	**0.0**
Phase 4	**0**	**0**	**0**	**0**	**0.0**
Phase 5	**0**	**0**	**0**	**0**	**0.0**
Phase 6	**0**	**0**	**0**	**0**	**0.0**
Phase 7	**0**	**0**	**0**	**0**	**0.0**
Phase 8	**0**	**0**	**0**	**0**	**0.0**

Max Initial
Alternate Walk
Alternate FDW
Alternate Initial
Alternate Extension

Alternate Timing

RR-1 Delay	**0**
RR-1 Clear	**0**
EV-A Delay	**0**
EV-A Clear	**0**
EV-B Delay	**0**
EV-B Clear	**0**
EV-C Delay	**0**
EV-C Clear	**0**
EV-D Delay	**0**
EV-D Clear	**0**
RR-2 Delay	**0**
RR-2 Clear	**0**

Preempt Timing

Permit	**12345678**
Red Lock	
Yellow Lock	
Min Recall	**_2___6__**
Ped Recall	
View Set Peds	
Rest In Walk	
Red Rest	
Dual Entry	**___4___8**
Max Recall	
Soft Recall	
Max 2	
Cond. Service	
Man Cntrl Calls	
Yellow Start	**_2___6__**
First Phases	**__3___7_**

Phase Functions

	Overlap							
Column Numbers ---->	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Overlap Name ---->								
Load Switch Number	**0**	**10**	**0**	**12**	**0**	**0**	**0**	**0**
Veh Set 1 - Phases		**3**		**7**				
Veh Set 2 - Phases								
Veh Set 3 - Phases								
Neg Veh Phases								
Neg Ped Phases								
Green Omit Phases								
Green Clear Omit Phs.								
Green Clear	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Yellow Change	**0.0**	**4.0**	**0.0**	**4.0**	**0.0**	**0.0**	**0.0**	**0.0**
Red Clear	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Overlap Assignments

Extra 1 Flags
1 = TBC Type 1
2 = NEMA Ext. Coord
3 = Auto Daylight Savings
4 = Solid FDW on EV
5 = Extended Status
6 = International Ped
7 = Flash - Clear Outputs
8 = Split Ring

Extra 2 Flags
1 = AWB During Initial
2 = Reserved
3 = Disable Min Walk
4 = QuicNet System
5 = Ignore P/P on EV
6 = Reserved
7 = Allow QuicNet PE
8 = Caltrans TRFM

		Row
EV-A	**0**	**0**
EV-B	**0**	**1**
EV-C	**0**	**2**
EV-D	**0**	**3**
RR-1 *		**4**
RR-2 *		**5**
SE-1	**0**	**6**
SE-2	**0**	**7**

Preempt Priority

(* RR-1 is always Highest, and RR-2 is always Second Highest)

		Row
		8
		9
		A
		B
		C
		D
		E
		F

PPLT FYA	**1_3_5_7_**

Row		
0	Exclusive Phases	
1	RR-1 Clear Phases	
2	RR-2 Clear Phases	
3	RR-2 Limited Service	
4	Prot / Perm Phases	**1___5___**
5	Flash to PE Circuits	
6	Flash Entry Phases	
7	Disable Yellow Range	
8	Disable Ovp Yel Range	
9	Overlap Yellow Flash	
A	EV-A Phases	**_2__5___**
B	EV-B Phases	**___4__7_**
C	EV-C Phases	**1____6__**
D	EV-D Phases	**__3____8**
E	Extra 1 Config. Bits	**1_3_5___**
F	IC Select (Interconnect)	

Configuration

External Permit 1	
External Permit 2	
External Permit 3	
Exclusive Ped Assign	
Preempt Non-Lock	
Ped for 2P Output	**_2_____**
Ped for 6P Output	**_____6__**
Ped for 4P Output	**___4____**
Ped for 8P Output	**_____8**
Yellow Flash Phases	
Low Priority A Phases	
Low Priority B Phases	
Low Priority C Phases	
Low Priority D Phases	
Restricted Phases	
Extra 2 Config. Bits	**__345___**

Configuration

Fast Green Flash Phase	
Green Flash Phases	
Flashing Walk Phases	
Guaranteed Passage	
Simultaneous Gap Term	**12345678**
Sequential Timing	**12345678**
Advance Walk Phases	
Delay Walk Phases	
External Recall	
Start-up Overlap Green	
Max Extension	
Inhibit Ped Reservice	
Semi-Actuated	
Start-up Overlap Yellow	
Start-up Vehicle Calls	**12345678**
Start-up Ped Calls	**_2_4_6_8**

Specials

Flash to PE & PE Non-Lock
1 = EV A 5 = RR 1
2 = EV B 6 = RR 2
3 = EV C 7 = SE 1
4 = EV D 8 = SE 2

		Row
		0
Phase 1	**7**	**1**
Phase 2	**30**	**2**
Phase 3	**7**	**3**
Phase 4	**30**	**4**
Phase 5	**7**	**5**
Phase 6	**30**	**6**
Phase 7	**7**	**7**
Phase 8	**30**	**8**

Coordination Transition Minimums

		Row
		9
		A
		B
		C
		D
		E
		F

Coord Extra
1 = Programmed WALK Time for Sync Phases
2 = Always Terminate Sync Phase Peds

Row	Column Numbers ---->	Plan 1	2	3	4	5	6	7	8	9	Row
	Plan Name ---->										
0	Cycle Length	130	110	130	105	90	90	100	0	130	0
1	Phase 1 - ForceOff	61	58	60	58	54	54	55	0	60	1
2	Phase 2 - ForceOff	14	14	14	14	13	13	0	0	0	2
3	Phase 3 - ForceOff	25	25	25	26	24	24	20	0	18	3
4	Phase 4 - ForceOff	49	46	46	44	42	40	40	0	42	4
5	Phase 5 - ForceOff	14	14	14	14	13	13	55	0	60	5
6	Phase 6 - ForceOff	0	0	0	0	0	0	0	0	0	6
7	Phase 7 - ForceOff	26	27	26	26	24	24	20	0	18	7
8	Phase 8 - ForceOff	49	46	46	44	42	40	40	0	42	8
9	Ring Offset	0	0	0	0	0	0	0	0	0	9
A	Offset 1	78	9	1	40	0	70	0	0	73	A
B	Offset 2	84	0	17	0	0	0	0	0	0	B
C	Offset 3	56	0	0	0	0	0	0	0	0	C
D	Perm 1 - End	2	2	2	0	0	0	15	0	4	D
E	Hold Release	255	255	255	255	255	255	255	255	255	E

Coordination - Bank 1

Row		E	Row
1	Plan 1 - Sync	_2___6__	1
2	Plan 2 - Sync	_2___6__	2
3	Plan 3 - Sync	_2___6__	3
4	Plan 4 - Sync	_2___6__	4
5	Plan 5 - Sync	_2___6__	5
6	Plan 6 - Sync	_2___6__	6
7	Plan 7 - Sync	_2___6__	7
8	Plan 8 - Sync	_2___6__	8
9	Plan 9 - Sync	_2___6__	9
A	NEMA Sync	_____	A
B	NEMA Hold	_____	B
C			C
D	Coord Extra	1_____	D
E			E

Sync Phases

Row		Plan 1	2	3	4	5	6	7	8	9	Row
0	Ped Adjustment	10	15	15	10	3	3	0	0	0	0
1	Perm 2 - Start	14	14	14	14	13	0	0	0	0	1
2	Perm 2 - End	17	17	17	14	15	13	0	0	0	2
3	Perm 3 - Start	17	17	17	14	13	0	0	0	0	3
4	Perm 3 - End	55	55	60	46	44	0	0	0	0	4
5	Reservice Time	0	0	0	0	0	0	0	0	0	5
6	Reservice Phases	_____	_____	_____	_____	_____	_____	_____	_____	_____	6
7											7
8	Pretimed Phases	_____	_____	_____	_____	_____	_____	_____	_____	_____	8
9	Max Recall	_____	_____	_____	_____	_____	_____	_____	_____	_____	9
A	Perm 1 Veh Phase	___5___	___5___	___5___	___5___	___5___	__3__7_	12345678	12345678	__3__7_	A
B	Perm 1 Ped Phase	_____	_____	_____	_____	_____	_____	_2_4_6_8	_2_4_6_8	_____	B
C	Perm 2 Veh Phase	__34__78	__34__78	__34__78	__34__78	__34__78	___4___8	_____	_____	___4___8	C
D	Perm 2 Ped Phase	___4___8	___4___8	___4___8	___4___8	___4___8	___4___8	_____	_____	___4___8	D
E	Perm 3 Veh Phase	1_____	1_____	1_____	1_____	1_____	_____	_____	_____	1___5___	E
F	Perm 3 Ped Phase	_____	_____	_____	_____	_____	_____	_____	_____	_____	F

Coordination - Bank 2

Row		F	Row
1	Free Lag	_2_4_6_8	1
2	Plan 1 - Lag	_2_45__8	2
3	Plan 2 - Lag	_2_45__8	3
4	Plan 3 - Lag	_2_45__8	4
5	Plan 4 - Lag	_2_45__8	5
6	Plan 5 - Lag	_2_45__8	6
7	Plan 6 - Lag	_2_45__8	7
8	Plan 7 - Lag	_2_4_6_8	8
9	Plan 8 - Lag	_2_4_6_8	9
A	Plan 9 - Lag	_2_4_6_8	A
B	External Lag	_____	B
C	Lag Hold	_____	C
D		_____	D
E		_____	E
F		_____	F

Lag Phases

General		Preemption		Coordination Plan	
Ext. Perm 1	0	EV-A	71	Plan 1	0
Ext. Perm 2	0	EV-B	72	Plan 2	0
Ext. Perm 3	0	EV-C	73	Plan 3	0
External Lag	0	EV-D	74	Plan 4	0
		RR-1	51	Plan 5	0
Stop Time	82	RR-2	52	Plan 6	0
Flash Sense	81	Spec. Event 1	0	Plan 7	0
Manual Enable	0	Spec. Event 2	0	Plan 8	0
Man. Advance	0	Gate Down	0	Plan 9	0
		NEMA Functions		Free	0
Max Inhibit	0	Max Inhibit (nema)	0	Flash	0
Max 2	0	Force A (nema)	0	**Alarms**	
Max Recall	0	Force B (nema)	1	Alarm - 1	0
Min Recall	0	C.N.A. (nema)	0	Alarm - 2	0
		Hold (nema)	0	Alarm - 3	0
X Ped Omit	0			Alarm - 4	0

Banks & Sets		Logic Gates		Locic Gates		Logic Gates		Latches	
Phase Bank 2	0	AND-1 (a)	0	OR-1 (a)	210	OR-7 (a)	0	Latch 1 Set	0
Phase Bank 3	0	AND-1 (b)	0	OR-1 (b)	211	OR-7 (b)	0	Latch 1 Reset	0
Overlap Set 2	0	AND-2 (a)	0	OR-2 (a)	0	OR-7 (c)	0	Latch 2 Set	0
Overlap Set 3	0	AND-2 (b)	0	OR-2 (b)	0	OR-7 (d)	0	Latch 2 Reset	0
Detector Set 2	212	AND-3 (a)	0	OR-3 (a)	0	OR-8 (a)	0	Latch 3 Set	0
Detector Set 3	0	AND-3 (b)	0	OR-3 (b)	0	OR-8 (b)	0	Latch 3 Reset	0
FYA Inhibits		AND-4 (a)	0	OR-4 (a)	0	OR-8 (c)	0	Latch 4 Set	0
Phase 1	0	AND-4 (b)	0	OR-4 (b)	0	OR-8 (d)	0	Latch 4 Reset	0
Phase 2	0	NAND-1 (a)	0	OR-5 (a)	0			Latch 5 Set	0
Phase 3	0	NAND-1 (b)	0	OR-5 (b)	0			Latch 5 Reset	0
Phase 4	0	NAND-2 (a)	0	OR-6 (a)	0	DELAY-A	0	Latch 6 Set	0
Phase 5	0	NAND-2 (b)	0	OR-6 (b)	0	DELAY-B	0	Latch 6 Reset	0
Phase 6	0	NAND-3 (a)	0	NOT-1	0	DELAY-C	0	Latch 7 Set	0
Phase 7	0	NAND-3 (b)	0	NOT-2	0	DELAY-D	0	Latch 7 Reset	0
Phase 8	0	NAND-4 (a)	0	NOT-3	0	DELAY-E	0	Latch 8 Set	0
		NAND-4 (b)	0	NOT-4	0	DELAY-F	0	Latch 8 Reset	0

Assignable Inputs

General		TOD & Spec Event		Preempt			Coordination Plan		Spec Func & FYA		Phase ON / Check		Logic Gates		Latches	
Adv. Warn - 1	0	TOD Out 1	0		ON	Flash	Plan 1	0	Special Func 1	0	Phase ON - 1	0	AND-1	0	Latch 1 Out	0
Adv. Warn - 2	0	TOD Out 2	0	Preempt Fail	0	0	Plan 2	0	Special Func 2	0	Phase ON - 2	0	AND-2	0	Latch 1 Not Out	0
Detector Fail	0	TOD Out 3	0	RailRoad 1	0	0	Plan 3	0	Special Func 3	0	Phase ON - 3	0	AND-3	0	Latch 2 Out	0
Flasher 1	0	TOD Out 4	0	RailRoad 2	0	0	Plan 4	0	Special Func 4	0	Phase ON - 4	210	AND-4	0	Latch 2 Not Out	0
Flasher 2	0	TOD Out 5	0	Spec. Event 1	0	0	Plan 5	0	Special Func 5	0	Phase ON - 5	0	NAND-1	0	Latch 3 Out	0
Fast Flasher	0	TOD Out 6	0	Spec. Event 2	0	0	Plan 6	0	Special Func 6	0	Phase ON - 6	0	NAND-2	0	Latch 3 Not Out	0
Online	0	TOD Out 7	0	EV-A	0	0	Plan 7	0	Special Func 7	0	Phase ON - 7	0	NAND-3	0	Latch 4 Out	0
Excl. Ped DW	0	TOD Out 8	0	EV-B	0	0	Plan 8	0	Special Func 8	0	Phase ON - 8	211	NAND-4	0	Latch 4 Not Out	0
Excl. Ped WK	0	Sp Evnt Out 1	0	EV-C	0	0	Plan 9	0	Flh Yell Arrow 1	35	Ph. Check - 1	0	OR-1	212	Latch 5 Out	0
Delay Gate Outputs		Sp Evnt Out 2	0	EV-D	0	0	Free	0	Flh Yell Arrow 2	0	Ph. Check - 2	0	OR-2	0	Latch 5 Not Out	0
DELAY-A	0	Sp Evnt Out 3	0	Any Preempt	0	0	Flash	0	Flh Yell Arrow 3	37	Ph. Check - 3	0	OR-3	0	Latch 6 Out	0
DELAY-B	0	Sp Evnt Out 4	0	**NOT Outputs**					Flh Yell Arrow 4	0	Ph. Check - 4	0	OR-4	0	Latch 6 Not Out	0
DELAY-C	0	Sp Evnt Out 5	0	NOT-1	0				Flh Yell Arrow 5	36	Ph. Check - 5	0	OR-5	0	Latch 7 Out	0
DELAY-D	0	Sp Evnt Out 6	0	NOT-2	0				Flh Yell Arrow 6	0	Ph. Check - 6	0	OR-6	0	Latch 7 Not Out	0
DELAY-E	0	Sp Evnt Out 7	0	NOT-3	0				Flh Yell Arrow 7	38	Ph. Check - 7	0	OR-7	0	Latch 8 Out	0
DELAY-F	0	Sp Evnt Out 8	0	NOT-4	0				Flh Yell Arrow 8	0	Ph. Check - 8	0	OR-8	0	Latch 8 Not Out	0

Assignable Outputs

Row	Column Numbers ----> / Phase Names ---->	Phase 1	2	3	4	5	6	7	8
0	Ped Walk	0	7	0	5	0	7	0	5
1	Ped FDW	0	16	0	26	0	13	0	25
2	Min Green	3	10	3	6	3	10	3	6
3	Type 3 Disconnect	0	0	0	0	0	0	0	0
4	Added per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	Veh Extension	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
6	Max Gap	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
7	Min Gap	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
8	Max Limit	20	60	8	25	20	60	8	25
9	Max Limit 2	15	40	6	15	15	40	6	15
A	Adv. / Delay Walk	0	0	0	0	0	0	0	0
B	PE Min Ped FDW	0	16	0	26	0	13	0	25
C	Cond Serv Check	0	0	0	0	0	0	0	0
D	Reduce Every	0	0	0	0	0	0	0	0
E	Yellow Change	4.0	5.0	4.0	4.0	4.0	5.0	4.0	4.0
F	Red Clear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Phase Timing - Bank 2

	9	A	B	C	D
	- - -	- - -	- - -	- - -	- - -
Phase 1	0	0	0	0	0.0
Phase 2	0	0	0	0	0.0
Phase 3	0	0	0	0	0.0
Phase 4	0	0	0	0	0.0
Phase 5	0	0	0	0	0.0
Phase 6	0	0	0	0	0.0
Phase 7	0	0	0	0	0.0
Phase 8	0	0	0	0	0.0
Max Initial					
Alternate Walk					
Alternate FDW					
Alternate Initial					
Alternate Extension					

Alternate Timing

Transition Type
0.X = Shortway
1.X = Lengthen
X.1 thru X.4 = Number of cycles when lengthing

Transition Type	0.2	<C/5+1+9>

TBC Transition

Keyboard Beep	0
Backlight Timeout	0

Daylight Savings Date
If set to all zeros, standard dates will be used.

Begin Month	3	Utilities
Begin Week	2	
End Month	11	
End Week	1	

Daylight Savings Time

Time B4 Yellow	0.0	Utilities
Phase Number	0	

Advance Warning Beacon - Sign 1

Time B4 Yellow	0.0	Utilities
Phase Number	0	

Advance Warning Beacon - Sign 2

Row		1	2	3	4	5	6	7	8
0	Ped Walk	0	7	0	5	0	7	0	5
1	Ped FDW	0	16	0	26	0	13	0	25
2	Min Green	3	10	3	6	3	10	3	6
3	Type 3 Disconnect	0	0	0	0	0	0	0	0
4	Added per Vehicle	0	0	0	0	0	0	0	0
5	Veh Extension	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
6	Max Gap	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
7	Min Gap	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
8	Max Limit	20	60	8	25	20	60	8	25
9	Max Limit 2	15	40	6	15	15	40	6	15
A	Adv. / Delay Walk	0	0	0	0	0	0	0	0
B	PE Min Ped FDW	0	16	0	26	0	13	0	25
C	Cond Serv Check	0	0	0	0	0	0	0	0
D	Reduce Every	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	Yellow Change	4.0	5.0	4.0	4.0	4.0	5.0	4.0	4.0
F	Red Clear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Phase Timing - Bank 3

	9	A	B	C	D
	- - -	- - -	- - -	- - -	- - -
Phase 1	0	0	0	0	0.0
Phase 2	0	0	0	0	0.0
Phase 3	0	0	0	0	0.0
Phase 4	0	0	0	0	0.0
Phase 5	0	0	0	0	0.0
Phase 6	0	0	0	0	0.0
Phase 7	0	0	0	0	0.0
Phase 8	0	0	0	0	0.0
Max Initial					
Alternate Walk					
Alternate FDW					
Alternate Initial					
Alternate Extension					

Alternate Timing

Flash Entry	_____
Flash Yellow	_____
Flash OL Yellow	_____
Flash Type	0

FLASH

Det. #	C-1 Pin #	Delay	Carry-over	Phase Assignmrnts	Detector Attributes	Detector Set Assignments
1	39	0.0	2.0	_2_____	___45_7_	123_____
2	40	0.0	2.0	_____6__	___45_7_	123_____
3	41	0.0	2.4	___4____	___45_7_	_2_____
4	42	0.0	2.4	_______8	___45_7_	_2_____
5	43	0.0	1.2	_2_____	___45_7_	123_____
6	44	0.0	1.2	_____6__	___45_7_	123_____
7	45	0.0	0.0	___4____	___45_7_	123_____
8	46	0.0	0.0	_______8	___45_7_	123_____
9	47	0.0	0.0	_2_____	_____67_	123_____
10	48	0.0	0.0	_____6__	_____67_	123_____
11	49	0.0	0.0	___4____	_____67_	123_____
12	50	0.0	0.0	_______8	_____67_	123_____
13	55	0.0	0.0	_2__5___	___45_7_	123_____
14	56	0.0	0.0	1____6__	___45_7_	123_____
15	57	0.0	0.0	___4__7_	___45_7_	123_____
16	58	0.0	0.0	__3____8	___45_7_	123_____
17	11	0.0	0.0	_2_____	___4____	123_____
18	3	0.0	0.0	___4____	___4____	123_____
19	28	0.0	0.0	_____6__	___4____	123_____
20	20	0.0	0.0	_______8	___4____	123_____
21	63	0.0	0.0	_2_____	___45_7_	123_____
22	64	0.0	0.0	_____6__	___45_7_	123_____
23	65	0.0	0.0	___4____	___45_7_	123_____
24	66	0.0	0.0	_______8	___45_7_	123_____
25	67	0.0	0.0	_2_____	_2_____	123_____
26	68	0.0	0.0	_____6__	_2_____	123_____
27	69	0.0	0.0	___4____	_2_____	123_____
28	70	0.0	0.0	_______8	_2_____	123_____
29	76	0.0	3.0	_2_____	___45_7_	123_____
30	77	0.0	3.0	_____6__	___45_7_	123_____
31	78	15.0	2.5	___4____	___45_7_	123_____
32	79	15.0	2.5	_______8	___45_7_	123_____

Detector Assignments

Detector Attributes
1 = Full Time Delay
2 = Ped Call
3 =
4 = Count
5 = Extension
6 = Type 3
7 = Calling
8 = Alternate

Detector Assignments
1 = Detector Set 1
2 = Detector Set 2
3 = Detector Set 3
4 =
5 =
6 = Failure - Min Recall
7 = Failure - Max Recall
8 = Report on Failure

	Ped / Phase / Overlap							
	1	2	3	4	5	6	7	8
Walk	0	0	0	0	0	0	0	0
Don't Walk	0	0	0	0	0	0	0	0
Phase Green	0	0	0	0	0	0	0	0
Phase Yellow	0	0	0	0	0	0	0	0
Phase Red	0	0	0	0	0	0	0	0
Overlap Green	0	0	0	0	0	0	0	0
Overlap Yellow	0	0	0	0	0	0	0	0
Overlap Red	0	0	0	0	0	0	0	0

Redirect Phase Outputs

Max OFF (minutes)	20	Utilities
Max ON (minutes)	7	
Chatter Fail Time	0	

Detector Failure Monitor

In / Out Logic	
DELAY-A	0
DELAY-B	0
DELAY-C	0
DELAY-D	0
DELAY-E	0
DELAY-F	0

Delay Logic Times

Event	Day of Week	Season	Hour	Minute	Plan	Offset
0	_23456_	12345678	6	30	1	A
1	_23456_	12345678	9	0	2	A
2	_23456_	12345678	15	30	3	A
3	_23456_	12345678	18	0	E	A
4	_____	_____	0	0	0	0
5	_____	_____	0	0	0	A
6	_____	_____	0	0	0	A
7	_____	_____	0	0	0	A
8	_____	_____	0	0	0	A
9	_____	_____	0	0	0	A
10	_____	_____	0	0	0	A
11	_____	_____	0	0	0	A
12	_____	_____	0	0	0	A
13	_____	_____	0	0	0	A
14	_____	_____	0	0	0	A
15	_____	_____	0	0	0	A
16	_____	_____	0	0	0	0
17	_____	_____	0	0	0	0
18	_____	_____	0	0	0	0
19	_____	_____	0	0	0	0
20	_____	_____	0	0	0	0
21	_____	_____	0	0	0	0
22	_____	_____	0	0	0	0
23	_____	_____	0	0	0	0
24	_____	_____	0	0	0	0
25	_____	_____	0	0	0	0
26	_____	_____	0	0	0	0
27	_____	_____	0	0	0	0
28	_____	_____	0	0	0	0
29	_____	_____	0	0	0	0
30	_____	_____	0	0	0	0
31	_____	_____	0	0	0	0

Time Base Coordination Events

Event	Day of Week	Season	Hour	Minute	Funct.	Phase / Bits
0	1234567	12345678	0	0	14	1_____78
1	_23456_	12345678	18	30	11	12345678
2	_23456_	12345678	6	30	11	_____
3	_____	12345678	0	0	0	_____
4	_____	12345678	0	0	0	_____
5	_____	12345678	0	0	0	_____
6	_____	12345678	0	0	0	_____
7	_____	_____	0	0	0	_____
8	_____	_____	0	0	0	_____
9	_____	_____	0	0	0	_____
10	_____	_____	0	0	0	_____
11	_____	_____	0	0	0	_____
12	_____	_____	0	0	0	_____
13	_____	_____	0	0	0	_____
14	_____	_____	0	0	0	_____
15	_____	_____	0	0	0	_____

Time of Day Function Events

TOD Functions

0 = Permitted Phases
1 = Red Lock
2 = Yellow Lock
3 = Vehicle Min Recall
4 = Ped Recall
5 =
6 = Rest In Walk
7 = Red Rest
8 = Double Entry
9 = Vehicle Max Recall
A = Soft Recall
B= Max Extension 2
C = Conditional Service
D = Lag Free Phases
E, Bit 1 = Local Override
E, Bit 4 = Disable Det Off Monitoring
E, Bit 7 = Detector Count Monitor
E, Bit 8 = Real Time Split Monitor
F = TOD Outputs

#	Holiday Type	Day	Month	Year
0	_2_____	14	12	16
1	_____	0	0	0
2	_____	0	0	0
3	_____	0	0	0
4	_____	0	0	0
5	_____	0	0	0
6	_____	0	0	0
7	_____	0	0	0
8	_____	0	0	0
9	_____	0	0	0
10	_____	0	0	0
11	_____	0	0	0
12	_____	0	0	0
13	_____	0	0	0
14	_____	0	0	0
15	_____	0	0	0
16	_____	0	0	0
17	_____	0	0	0
18	_____	0	0	0
19	_____	0	0	0
20	_____	0	0	0
21	_____	0	0	0
22	_____	0	0	0
23	_____	0	0	0
24	_____	0	0	0
25	_____	0	0	0
26	_____	0	0	0
27	_____	0	0	0
28	_____	0	0	0
29	_____	0	0	0
30	_____	0	0	0
31	_____	0	0	0

Holiday Dates

Event	Holiday Type	Hour	Minute	Plan	Offset
0	1_3____	6	30	1	A
1	1_3____	9	0	2	A
2	1_3____	15	30	3	A
3	1_3____	17	30	E	0
4	_____	0	0	0	0
5	_2_____	0	0	E	0
6	_____	0	0	0	0
7	_____	0	0	0	0
8	_____	0	0	0	0
9	_____	0	0	0	0
10	_____	0	0	0	0
11	_____	0	0	0	0
12	_____	0	0	0	0
13	_____	0	0	0	0
14	_____	0	0	0	0
15	_____	0	0	0	0
16	_____	0	0	0	0
17	_____	0	0	0	0
18	_____	0	0	0	0
19	_____	0	0	0	0
20	_____	0	0	0	0
21	_____	0	0	0	0
22	_____	0	0	0	0
23	_____	0	0	0	0
24	_____	0	0	0	0
25	_____	0	0	0	0
26	_____	0	0	0	0
27	_____	0	0	0	0
28	_____	0	0	0	0
29	_____	0	0	0	0
30	_____	0	0	0	0
31	_____	0	0	0	0

Holiday Time Base Coordination Events

Event	Holiday Type	Hour	Minute	Funct.	Phase / Bits
0	1234567	0	0	14	1_____78
1	1_____	19	0	11	12__56__
2	1_____	22	0	11	12345678
3	_____	0	0	0	_____
4	_____	0	0	0	_____
5	_____	0	0	0	_____
6	_____	0	0	0	_____
7	_____	0	0	0	_____
8	_____	0	0	0	_____
9	_____	0	0	0	_____
10	_____	0	0	0	_____
11	_____	0	0	0	_____
12	_____	0	0	0	_____
13	_____	0	0	0	_____
14	_____	0	0	0	_____
15	_____	0	0	0	_____

Holiday Time of Day Function Events

Season #	Start Month	Start Day	End Month	End Day
1	1	2	6	15
2	6	16	8	31
3	9	1	12	23
4	12	24	1	1
5	0	0	0	0
6	0	0	0	0
7	0	0	0	0
8	0	0	0	0

Season Definitions

INTERSECTION: 265 Kuebler & 27th

Note: Set the Limited Service Interval on the "Utilities / Misc" page

Notes:

Step	Time	Clear	Ped Call	Hold	Advance	Force Off	Vehicle Call	Permit	Ped Omit	Output
0	0									
1	0									
2	0									
3	0									
4	0									
5	0									
6	0									
7	0									
8	0									
9	0									
10	0									
11	0									
12	0									
13	0									
14	0									
15	0									

Special Event Sequence - 1

0
Limited Service Interval

Min Grn Before PE Force-Off	**0**
Max Pre-Empt Time	**5**
Min Time Before Same PE	**0**

Notes:

Step	Time	Clear	Ped Call	Hold	Advance	Force Off	Vehicle Call	Permit	Ped Omit	Output
0	0									
1	0									
2	0									
3	0									
4	0									
5	0									
6	0									
7	0									
8	0									
9	0									
10	0									
11	0									
12	0									
13	0									
14	0									
15	0									

Special Event Sequence - 2

0
Limited Service Interval

Event	Day of Week	Hour	Minute	Headway	Direction
0	_____	0	0	0	0
1	_____	0	0	0	0
2	_____	0	0	0	0
3	_____	0	0	0	0
4	_____	0	0	0	0
5	_____	0	0	0	0
6	_____	0	0	0	0
7	_____	0	0	0	0
8	_____	0	0	0	0
9	_____	0	0	0	0
10	_____	0	0	0	0
11	_____	0	0	0	0
12	_____	0	0	0	0
13	_____	0	0	0	0
14	_____	0	0	0	0
15	_____	0	0	0	0

Bus Headway Schedule

Approach	A	B	C	D
Travel Time	0	0	0	0
Passage	0	0	0	0
Extension	0	0	0	0
Phases	_____	_____	_____	_____

Bus Approach

	A	B	C	D
Phase 1	0	0	0	0
Phase 2	0	0	0	0
Phase 3	0	0	0	0
Phase 4	0	0	0	0
Phase 5	0	0	0	0
Phase 6	0	0	0	0
Phase 7	0	0	0	0
Phase 8	0	0	0	0

Non-Priority Phase Maximums

Appendix C: Crash Data

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Battle Creek Rd & Boone Rd
January 1, 2011 through December 31, 2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2015														
ANGLE	0	1	1	2	0	2	0	0	2	1	1	2	0	0
2015 TOTAL	0	1	1	2	0	2	0	0	2	1	1	2	0	0
YEAR: 2014														
ANGLE	0	2	0	2	0	4	0	2	0	2	0	2	0	0
TURNING MOVEMENTS	0	1	0	1	0	2	0	1	0	1	0	1	0	0
2014 TOTAL	0	3	0	3	0	6	0	3	0	3	0	3	0	0
YEAR: 2013														
REAR-END	0	0	1	1	0	0	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	1	1	2	0	1	0	0	2	2	0	2	0	0
2013 TOTAL	0	1	2	3	0	1	0	1	2	3	0	3	0	0
YEAR: 2012														
ANGLE	0	1	1	2	0	1	0	2	0	2	0	2	0	0
2012 TOTAL	0	1	1	2	0	1	0	2	0	2	0	2	0	0
YEAR: 2011														
REAR-END	0	0	2	2	0	0	0	2	0	1	1	2	0	0
2011 TOTAL	0	0	2	2	0	0	0	2	0	1	1	2	0	0
FINAL TOTAL	0	6	6	12	0	10	0	8	4	10	2	12	0	0

Disclaimer: A higher number of crashes may be reported as of 2011 compared to prior years. This does not reflect an increase in annual crashes. The higher numbers result from a change to an internal departmental process that allows the Crash Analysis and Reporting Unit to add previously unavailable, non-fatal crash reports to the annual data file. Please be aware of this change when comparing pre-2011 crash statistics.

TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

I-5 Northbound Ramps & Kuebler Blvd

January 1, 2011 through December 31, 2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2015														
REAR-END	0	1	0	1	0	1	0	0	1	1	0	1	0	0
TURNING MOVEMENTS	0	1	2	3	0	4	0	3	0	2	1	3	0	0
2015 TOTAL	0	2	2	4	0	5	0	3	1	3	1	4	0	0
YEAR: 2014														
FIXED / OTHER OBJECT	0	0	1	1	0	0	0	1	0	0	1	1	0	1
REAR-END	0	1	0	1	0	1	0	1	0	1	0	1	0	0
2014 TOTAL	0	1	1	2	0	1	0	2	0	1	1	2	0	1
YEAR: 2013														
REAR-END	0	0	4	4	0	0	1	3	1	4	0	4	0	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	1	0	1	0	0
2013 TOTAL	0	0	5	5	0	0	1	4	1	5	0	5	0	0
YEAR: 2012														
REAR-END	0	1	1	2	0	2	0	2	0	1	1	2	0	0
TURNING MOVEMENTS	0	2	1	3	0	3	0	2	1	1	2	3	0	0
2012 TOTAL	0	3	2	5	0	5	0	4	1	2	3	5	0	0
YEAR: 2011														
REAR-END	0	0	1	1	0	0	0	1	0	1	0	1	0	0
2011 TOTAL	0	0	1	1	0	0	0	1	0	1	0	1	0	0
FINAL TOTAL	0	6	11	17	0	11	1	14	3	12	5	17	0	1

Disclaimer: A higher number of crashes may be reported as of 2011 compared to prior years. This does not reflect an increase in annual crashes. The higher numbers result from a change to an internal departmental process that allows the Crash Analysis and Reporting Unit to add previously unavailable, non-fatal crash reports to the annual data file. Please be aware of this change when comparing pre-2011 crash statistics.

TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

I-5 Southbound Ramps & Kuebler Blvd

January 1, 2011 through December 31, 2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2015														
REAR-END	0	7	3	10	0	13	0	10	0	8	2	10	0	0
TURNING MOVEMENTS	0	2	0	2	0	4	1	2	0	2	0	2	0	0
2015 TOTAL	0	9	3	12	0	17	1	12	0	10	2	12	0	0
YEAR: 2014														
REAR-END	0	2	2	4	0	4	0	4	0	4	0	4	0	0
TURNING MOVEMENTS	0	2	0	2	0	5	0	2	0	2	0	2	0	0
2014 TOTAL	0	4	2	6	0	9	0	6	0	6	0	6	0	0
YEAR: 2013														
FIXED / OTHER OBJECT	0	1	0	1	0	2	0	1	0	1	0	1	0	1
REAR-END	0	2	4	6	0	3	0	5	1	4	2	6	0	0
TURNING MOVEMENTS	0	2	0	2	0	2	1	1	1	1	1	2	0	0
2013 TOTAL	0	5	4	9	0	7	1	7	2	6	3	9	0	1
YEAR: 2012														
REAR-END	0	1	5	6	0	1	0	5	1	5	1	6	0	0
2012 TOTAL	0	1	5	6	0	1	0	5	1	5	1	6	0	0
YEAR: 2011														
REAR-END	0	2	1	3	0	2	0	3	0	1	2	3	0	0
2011 TOTAL	0	2	1	3	0	2	0	3	0	1	2	3	0	0
FINAL TOTAL	0	21	15	36	0	36	2	33	3	28	8	36	0	1

Disclaimer: A higher number of crashes may be reported as of 2011 compared to prior years. This does not reflect an increase in annual crashes. The higher numbers result from a change to an internal departmental process that allows the Crash Analysis and Reporting Unit to add previously unavailable, non-fatal crash reports to the annual data file. Please be aware of this change when comparing pre-2011 crash statistics.

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Kuebler Blvd & 27th Ave SE
January 1, 2011 through December 31, 2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2015														
REAR-END	0	2	1	3	0	3	0	1	2	3	0	3	0	0
TURNING MOVEMENTS	0	1	0	1	0	1	0	1	0	1	0	1	0	0
2015 TOTAL	0	3	1	4	0	4	0	2	2	4	0	4	0	0
YEAR: 2014														
REAR-END	0	2	3	5	0	2	0	3	2	5	0	5	0	0
2014 TOTAL	0	2	3	5	0	2	0	3	2	5	0	5	0	0
YEAR: 2013														
REAR-END	0	2	2	4	0	4	1	3	1	3	1	4	0	0
2013 TOTAL	0	2	2	4	0	4	1	3	1	3	1	4	0	0
YEAR: 2012														
REAR-END	0	1	1	2	0	1	0	2	0	1	1	2	0	0
TURNING MOVEMENTS	0	1	0	1	0	2	0	1	0	1	0	1	0	0
2012 TOTAL	0	2	1	3	0	3	0	3	0	2	1	3	0	0
YEAR: 2011														
REAR-END	0	6	0	6	0	9	1	2	4	3	3	6	0	0
TURNING MOVEMENTS	0	1	0	1	0	1	0	1	0	1	0	1	0	0
2011 TOTAL	0	7	0	7	0	10	1	3	4	4	3	7	0	0
FINAL TOTAL	0	16	7	23	0	23	2	14	9	18	5	23	0	0

Disclaimer: A higher number of crashes may be reported as of 2011 compared to prior years. This does not reflect an increase in annual crashes. The higher numbers result from a change to an internal departmental process that allows the Crash Analysis and Reporting Unit to add previously unavailable, non-fatal crash reports to the annual data file. Please be aware of this change when comparing pre-2011 crash statistics.

TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Kuebler Blvd & Battle Creek Rd

January 1, 2011 through December 31, 2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2015														
HEAD-ON	0	1	0	1	0	1	0	1	0	0	1	1	0	0
REAR-END	0	3	5	8	0	5	0	5	1	7	1	8	0	0
TURNING MOVEMENTS	0	1	0	1	0	1	0	0	1	0	1	1	0	0
2015 TOTAL	0	5	5	10	0	7	0	6	2	7	3	10	0	0
YEAR: 2014														
REAR-END	0	2	2	4	0	2	0	4	0	4	0	4	0	0
TURNING MOVEMENTS	0	1	2	3	0	1	0	3	0	3	0	3	0	0
2014 TOTAL	0	3	4	7	0	3	0	7	0	7	0	7	0	0
YEAR: 2013														
REAR-END	0	4	2	6	0	5	0	3	3	6	0	6	0	0
TURNING MOVEMENTS	0	1	1	2	0	1	0	0	2	1	1	2	0	0
2013 TOTAL	0	5	3	8	0	6	0	3	5	7	1	8	0	0
YEAR: 2012														
REAR-END	0	3	2	5	0	10	0	4	1	5	0	5	0	0
TURNING MOVEMENTS	0	1	0	1	0	2	0	1	0	0	1	1	0	0
2012 TOTAL	0	4	2	6	0	12	0	5	1	5	1	6	0	0
YEAR: 2011														
REAR-END	0	1	4	5	0	3	0	2	3	5	0	5	0	0
TURNING MOVEMENTS	0	1	0	1	0	2	0	1	0	1	0	1	0	0
2011 TOTAL	0	2	4	6	0	5	0	3	3	6	0	6	0	0
FINAL TOTAL	0	19	18	37	0	33	0	24	11	32	5	37	0	0

Disclaimer: A higher number of crashes may be reported as of 2011 compared to prior years. This does not reflect an increase in annual crashes. The higher numbers result from a change to an internal departmental process that allows the Crash Analysis and Reporting Unit to add previously unavailable, non-fatal crash reports to the annual data file. Please be aware of this change when comparing pre-2011 crash statistics.

Appendix D: Existing Operations Worksheets

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	55	1056	93	251	1543	143	77	130	169	135	328	178
v/c Ratio	0.45	0.62	0.10	0.77	0.80	0.14	0.66	0.41	0.32	0.78	0.85	0.35
Control Delay	24.2	27.1	1.3	31.1	20.5	1.2	84.4	53.8	15.8	84.8	71.0	19.7
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	24.2	27.1	1.3	31.1	20.5	1.2	84.4	53.8	15.8	84.8	71.0	19.7
Queue Length 50th (ft)	17	334	0	87	497	12	64	98	41	113	268	54
Queue Length 95th (ft)	37	442	14	167	280	m0	116	173	102	177	#478	122
Internal Link Dist (ft)		2582			824			385			4570	
Turn Bay Length (ft)	420		215	250		250	225		150	275		275
Base Capacity (vph)	201	1707	1002	381	1920	1116	188	316	589	249	385	584
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	0.27	0.62	0.09	0.66	0.80	0.13	0.41	0.41	0.29	0.54	0.85	0.30

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	1024	90	243	1497	139	75	126	164	131	318	173
Future Volume (vph)	53	1024	90	243	1497	139	75	126	164	131	318	173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			3%	
Total Lost time (s)	4.0	6.0	4.0	4.0	6.0	4.0	4.0	5.0	4.0	4.0	5.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	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)	1641	3505	1566	1787	3539	1524	1752	1827	1524	1710	1853	1575
Flt Permitted	0.07	1.00	1.00	0.16	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	125	3505	1566	299	3539	1524	1752	1827	1524	1710	1853	1575
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	55	1056	93	251	1543	143	77	130	169	135	328	178
RTOR Reduction (vph)	0	0	41	0	0	51	0	0	76	0	0	71
Lane Group Flow (vph)	55	1056	52	251	1543	92	77	130	93	135	328	107
Confl. Peds. (#/hr)	1		1	1		1						
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	10%	3%	1%	1%	2%	4%	3%	4%	6%	4%	1%	1%
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases	2		2	6		6			8			4
Actuated Green, G (s)	68.1	63.3	72.0	79.3	70.5	83.7	8.7	22.5	34.5	13.2	27.0	31.8
Effective Green, g (s)	68.1	63.3	72.0	79.3	70.5	83.7	8.7	22.5	34.5	13.2	27.0	31.8
Actuated g/C Ratio	0.52	0.49	0.55	0.61	0.54	0.64	0.07	0.17	0.27	0.10	0.21	0.24
Clearance Time (s)	4.0	6.0	4.0	4.0	6.0	4.0	4.0	5.0	4.0	4.0	5.0	4.0
Vehicle Extension (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lane Grp Cap (vph)	121	1706	867	319	1919	981	117	316	404	173	384	385
v/s Ratio Prot	0.02	0.30	0.00	c0.07	c0.44	0.01	0.04	0.07	0.02	c0.08	c0.18	0.01
v/s Ratio Perm	0.22		0.03	0.41		0.05			0.04			0.06
v/c Ratio	0.45	0.62	0.06	0.79	0.80	0.09	0.66	0.41	0.23	0.78	0.85	0.28
Uniform Delay, d1	21.3	24.5	13.4	17.4	24.1	8.8	59.2	47.9	37.4	57.0	49.6	39.8
Progression Factor	1.00	1.00	1.00	1.45	0.72	1.07	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.0	1.7	0.0	8.1	2.6	0.0	9.7	0.3	0.1	18.7	16.1	0.1
Delay (s)	22.3	26.2	13.4	33.4	20.0	9.4	68.9	48.2	37.5	75.6	65.7	39.9
Level of Service	C	C	B	C	B	A	E	D	D	E	E	D
Approach Delay (s)		25.0			20.9			47.6			60.6	
Approach LOS		C			C			D			E	

Intersection Summary			
HCM 2000 Control Delay	30.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	81.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	9	1375	4	99	1937	14	1	68	100	58
v/c Ratio	0.17	0.58	0.00	0.81	0.71	0.01	0.01	0.41	0.56	0.23
Control Delay	65.2	24.0	0.0	93.9	10.9	0.0	44.0	19.8	60.0	22.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.2	24.0	0.0	93.9	10.9	0.0	44.0	19.8	60.0	22.1
Queue Length 50th (ft)	7	440	0	86	221	0	1	4	78	13
Queue Length 95th (ft)	m13	421	m0	m120	725	m0	m4	m42	117	51
Internal Link Dist (ft)		872			1344			798		5233
Turn Bay Length (ft)	250		200	375			100		125	
Base Capacity (vph)	138	2416	1270	137	2738	1082	275	259	198	285
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	0.07	0.57	0.00	0.72	0.71	0.01	0.00	0.26	0.51	0.20

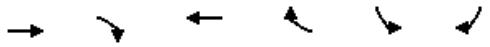
Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	1306	4	94	1840	13	1	3	62	95	17	38
Future Volume (vph)	9	1306	4	94	1840	13	1	3	62	95	17	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0	4.0	4.0	5.0	5.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.86		1.00	0.90	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	3471	1615	1787	3539	1376	1805	1553		1787	1687	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.72	1.00		0.48	1.00	
Satd. Flow (perm)	1805	3471	1615	1787	3539	1376	1366	1553		897	1687	
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)	9	1375	4	99	1937	14	1	3	65	100	18	40
RTOR Reduction (vph)	0	0	1	0	0	4	0	60	0	0	35	0
Lane Group Flow (vph)	9	1375	3	99	1937	10	1	8	0	100	23	0
Confl. Bikes (#/hr)						1						1
Heavy Vehicles (%)	0%	4%	0%	1%	2%	15%	0%	0%	5%	1%	0%	0%
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2			6	8			4		
Actuated Green, G (s)	1.0	86.3	87.0	8.9	94.2	94.2	10.9	10.2		21.8	17.1	
Effective Green, g (s)	1.0	86.3	87.0	8.9	94.2	94.2	10.9	10.2		21.8	17.1	
Actuated g/C Ratio	0.01	0.66	0.67	0.07	0.72	0.72	0.08	0.08		0.17	0.13	
Clearance Time (s)	4.0	5.0	4.0	4.0	5.0	5.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	
Lane Grp Cap (vph)	13	2304	1080	122	2564	997	116	121		202	221	
v/s Ratio Prot	c0.00	0.40	0.00	0.06	c0.55		0.00	0.01		c0.03	0.01	
v/s Ratio Perm			0.00			0.01	0.00			c0.05		
v/c Ratio	0.69	0.60	0.00	0.81	0.76	0.01	0.01	0.07		0.50	0.11	
Uniform Delay, d1	64.3	12.2	7.1	59.7	10.9	5.0	54.6	55.5		47.8	49.7	
Progression Factor	0.97	1.89	1.00	1.01	0.95	1.00	1.07	0.95		1.00	1.00	
Incremental Delay, d2	72.3	1.0	0.0	24.1	1.6	0.0	0.0	0.1		0.7	0.1	
Delay (s)	134.5	23.9	7.1	84.3	12.0	5.0	58.6	52.6		48.5	49.8	
Level of Service	F	C	A	F	B	A	E	D		D	D	
Approach Delay (s)		24.6			15.4			52.7			49.0	
Approach LOS		C			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	21.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	77.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	1402	122	790	217	88	1239
v/c Ratio	0.64	0.08	0.41	0.15	0.27	0.85
Control Delay	15.5	0.1	22.0	0.2	46.0	25.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.5	0.1	22.0	0.2	46.0	25.5
Queue Length 50th (ft)	453	0	215	0	63	337
Queue Length 95th (ft)	56	0	286	0	113	443
Internal Link Dist (ft)	1344		678			
Turn Bay Length (ft)		150		250		475
Base Capacity (vph)	2246	1599	1959	1493	326	1473
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.62	0.08	0.40	0.15	0.27	0.84

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1346	117	0	758	208	0	0	0	84	0	1189
Future Volume (vph)	0	1346	117	0	758	208	0	0	0	84	0	1189
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	4.0		5.0	4.0				4.0		1.5
Lane Util. Factor		0.95	1.00		0.95	1.00				1.00		0.88
Frpb, ped/bikes		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
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		3471	1599		3539	1493				1570		2787
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		3471	1599		3539	1493				1570		2787
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	1402	122	0	790	217	0	0	0	88	0	1239
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	316
Lane Group Flow (vph)	0	1402	122	0	790	217	0	0	0	88	0	923
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	4%	1%	0%	2%	6%	0%	0%	0%	15%	0%	2%
Turn Type		NA	Free		NA	Free				Perm		custom
Protected Phases		2			6							5 7 8
Permitted Phases			Free			Free				7		
Actuated Green, G (s)		81.8	130.0		70.2	130.0				26.9		50.8
Effective Green, g (s)		81.8	130.0		70.2	130.0				26.9		53.3
Actuated g/C Ratio		0.63	1.00		0.54	1.00				0.21		0.41
Clearance Time (s)		5.0			5.0					4.0		
Vehicle Extension (s)		0.5			0.5					0.5		
Lane Grp Cap (vph)		2184	1599		1911	1493				324		1142
v/s Ratio Prot		c0.40			0.22							c0.33
v/s Ratio Perm			0.08			0.15				0.06		
v/c Ratio		0.64	0.08		0.41	0.15				0.27		0.81
Uniform Delay, d1		15.0	0.0		17.7	0.0				43.3		33.8
Progression Factor		0.92	1.00		1.18	1.00				1.00		1.00
Incremental Delay, d2		1.2	0.1		0.6	0.2				0.2		4.1
Delay (s)		15.1	0.1		21.4	0.2				43.5		37.9
Level of Service		B	A		C	A				D		D
Approach Delay (s)		13.9			16.9			0.0			38.3	
Approach LOS		B			B			A			D	

Intersection Summary			
HCM 2000 Control Delay	23.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		

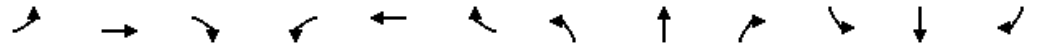
c Critical Lane Group

Lane Group	EBT	WBT	NBT	NBR
Lane Group Flow (vph)	626	1289	56	168
v/c Ratio	0.21	0.45	0.50	0.70
Control Delay	2.0	2.4	73.9	24.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	2.0	2.4	73.9	24.0
Queue Length 50th (ft)	27	70	47	0
Queue Length 95th (ft)	120	134	90	71
Internal Link Dist (ft)	678	1854	904	
Turn Bay Length (ft)				150
Base Capacity (vph)	3019	2877	417	442
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.21	0.45	0.13	0.38

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	582	0	0	915	284	51	1	156	0	0	0
Future Volume (vph)	0	582	0	0	915	284	51	1	156	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-4%			4%			0%			0%	
Total Lost time (s)		5.0			5.0			4.0	4.0			
Lane Util. Factor		0.95			0.95			1.00	1.00			
Frpb, ped/bikes		1.00			1.00			1.00	1.00			
Flpb, ped/bikes		1.00			1.00			1.00	1.00			
Frt		1.00			0.96			1.00	0.85			
Flt Protected		1.00			1.00			0.95	1.00			
Satd. Flow (prot)		3474			3298			1811	1357			
Flt Permitted		1.00			1.00			0.95	1.00			
Satd. Flow (perm)		3474			3298			1811	1357			
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	626	0	0	984	305	55	1	168	0	0	0
RTOR Reduction (vph)	0	0	0	0	10	0	0	0	158	0	0	0
Lane Group Flow (vph)	0	626	0	0	1279	0	0	56	10	0	0	0
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	6%	4%	0%	3%	5%	0%	0%	19%	0%	0%	0%
Turn Type		NA			NA		Split	NA	Perm			
Protected Phases		2			6		8	8				
Permitted Phases									8			
Actuated Green, G (s)		113.0			113.0			8.0	8.0			
Effective Green, g (s)		113.0			113.0			8.0	8.0			
Actuated g/C Ratio		0.87			0.87			0.06	0.06			
Clearance Time (s)		5.0			5.0			4.0	4.0			
Vehicle Extension (s)		0.5			0.5			0.5	0.5			
Lane Grp Cap (vph)		3019			2866			111	83			
v/s Ratio Prot		0.18			c0.39			c0.03				
v/s Ratio Perm									0.01			
v/c Ratio		0.21			0.45			0.50	0.12			
Uniform Delay, d1		1.4			1.8			59.1	57.7			
Progression Factor		1.29			1.00			1.00	1.00			
Incremental Delay, d2		0.1			0.5			1.3	0.2			
Delay (s)		1.9			2.3			60.4	57.9			
Level of Service		A			A			E	E			
Approach Delay (s)		1.9			2.3			58.5			0.0	
Approach LOS		A			A			E			A	

Intersection Summary			
HCM 2000 Control Delay	8.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	46.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	39	0	0	51	3	0	0	0	18	0	34
Future Volume (Veh/h)	22	39	0	0	51	3	0	0	0	18	0	34
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
Hourly flow rate (vph)	31	55	0	0	72	4	0	0	0	25	0	48
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			None							
Median storage veh)		2										
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	76			55			239	193	55	191	191	74
vC1, stage 1 conf vol							117	117		74	74	
vC2, stage 2 conf vol							122	76		117	117	
vCu, unblocked vol	76			55			239	193	55	191	191	74
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.2	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.2	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.6	4.0	3.3
p0 queue free %	98			100			100	100	100	97	100	95
cM capacity (veh/h)	1536			1563			764	742	1018	807	749	993

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1	SB 2
Volume Total	31	55	76	0	25	48
Volume Left	31	0	0	0	25	0
Volume Right	0	0	4	0	0	48
cSH	1536	1700	1563	1700	807	993
Volume to Capacity	0.02	0.03	0.00	0.00	0.03	0.05
Queue Length 95th (ft)	2	0	0	0	2	4
Control Delay (s)	7.4	0.0	0.0	0.0	9.6	8.8
Lane LOS	A			A	A	A
Approach Delay (s)	2.7		0.0	0.0	9.1	
Approach LOS				A	A	

Intersection Summary				
Average Delay	3.8			
Intersection Capacity Utilization	17.9%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	102	24	24	18	31	38	9	225	9	30	379	242
Future Volume (Veh/h)	102	24	24	18	31	38	9	225	9	30	379	242
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	107	25	25	19	33	40	9	237	9	32	399	255
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)						5						
Median type								None			TWLTL	
Median storage veh)											2	
Upstream signal (ft)											465	
pX, platoon unblocked	0.76	0.76	0.76	0.76	0.76		0.76					
vC, conflicting volume	882	854	526	760	978	242	654			246		
vC1, stage 1 conf vol	590	590		260	260							
vC2, stage 2 conf vol	292	264		500	718							
vCu, unblocked vol	689	653	223	529	814	242	390			246		
tC, single (s)	7.2	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)	6.2	5.5		6.1	5.5							
tF (s)	3.6	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	75	94	96	96	91	95	99			98		
cM capacity (veh/h)	435	448	626	497	378	802	899			1332		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	157	92	9	246	32	654
Volume Left	107	19	9	0	32	0
Volume Right	25	40	0	9	0	255
cSH	460	746	899	1700	1332	1700
Volume to Capacity	0.34	0.12	0.01	0.14	0.02	0.38
Queue Length 95th (ft)	37	10	1	0	2	0
Control Delay (s)	16.8	12.6	9.0	0.0	7.8	0.0
Lane LOS	C	B	A		A	
Approach Delay (s)	16.8	12.6	0.3		0.4	
Approach LOS	C	B				

Intersection Summary				
Average Delay	3.5			
Intersection Capacity Utilization	56.4%	ICU Level of Service	B	
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	46	1074	66	143	1006	100	66	91	151	78	134	69
v/c Ratio	0.13	0.51	0.06	0.42	0.44	0.09	0.59	0.47	0.37	0.58	0.65	0.23
Control Delay	4.7	13.4	2.8	10.3	13.1	1.5	70.3	52.6	10.8	65.5	60.4	9.4
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	4.7	13.4	2.8	10.3	13.1	1.5	70.3	52.6	10.8	65.5	60.4	9.4
Queue Length 50th (ft)	3	262	3	27	179	0	46	62	17	55	93	0
Queue Length 95th (ft)	m10	479	m28	74	332	19	89	103	58	101	141	33
Internal Link Dist (ft)		2582			824			385			4570	
Turn Bay Length (ft)	420		215	250		250	225		150	275		275
Base Capacity (vph)	449	2097	1221	443	2269	1202	187	339	516	208	360	390
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	0.10	0.51	0.05	0.32	0.44	0.08	0.35	0.27	0.29	0.38	0.37	0.18

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	1031	63	137	966	96	63	87	145	75	129	66
Future Volume (vph)	44	1031	63	137	966	96	63	87	145	75	129	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			3%	
Total Lost time (s)	4.0	6.0	4.0	4.0	6.0	4.0	4.0	5.0	4.0	4.0	5.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	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)	1719	3505	1583	1736	3539	1522	1719	1845	1599	1760	1872	1529
Flt Permitted	0.25	1.00	1.00	0.19	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	458	3505	1583	354	3539	1522	1719	1845	1599	1760	1872	1529
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	46	1074	66	143	1006	100	66	91	151	78	134	69
RTOR Reduction (vph)	0	0	23	0	0	30	0	0	102	0	0	59
Lane Group Flow (vph)	46	1074	43	143	1006	70	66	91	49	78	134	10
Confl. Peds. (#/hr)	1					1	1					1
Heavy Vehicles (%)	5%	3%	2%	4%	2%	4%	5%	3%	1%	1%	0%	3%
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases	2		2	6		6			8			4
Actuated Green, G (s)	68.1	64.7	71.2	76.1	68.7	77.2	6.5	10.4	17.8	8.5	12.4	15.8
Effective Green, g (s)	68.1	64.7	71.2	76.1	68.7	77.2	6.5	10.4	17.8	8.5	12.4	15.8
Actuated g/C Ratio	0.62	0.59	0.65	0.69	0.62	0.70	0.06	0.09	0.16	0.08	0.11	0.14
Clearance Time (s)	4.0	6.0	4.0	4.0	6.0	4.0	4.0	5.0	4.0	4.0	5.0	4.0
Vehicle Extension (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lane Grp Cap (vph)	322	2061	1024	337	2210	1068	101	174	258	136	211	219
v/s Ratio Prot	0.00	c0.31	0.00	c0.03	0.28	0.01	0.04	0.05	0.01	c0.04	c0.07	0.00
v/s Ratio Perm	0.08		0.02	0.26		0.04			0.02			0.01
v/c Ratio	0.14	0.52	0.04	0.42	0.46	0.07	0.65	0.52	0.19	0.57	0.64	0.05
Uniform Delay, d1	8.5	13.5	7.0	8.0	10.8	5.1	50.6	47.4	39.9	49.0	46.6	40.6
Progression Factor	0.54	0.80	1.15	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.8	0.0	0.3	0.7	0.0	11.0	1.3	0.1	3.6	4.5	0.0
Delay (s)	4.6	11.6	8.1	8.3	11.5	5.1	61.6	48.7	40.0	52.6	51.2	40.6
Level of Service	A	B	A	A	B	A	E	D	D	D	D	D
Approach Delay (s)		11.1			10.6			47.2			49.0	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	18.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	62.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

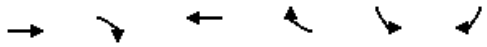
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	17	1298	2	49	1245	26	1	57	15	19
v/c Ratio	0.13	0.55	0.00	0.31	0.48	0.02	0.00	0.20	0.06	0.07
Control Delay	41.4	12.1	0.0	42.3	9.2	0.0	27.0	12.2	27.4	17.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.4	12.1	0.0	42.3	9.2	0.0	27.0	12.2	27.4	17.1
Queue Length 50th (ft)	5	137	0	15	63	0	0	1	4	1
Queue Length 95th (ft)	37	507	0	79	476	0	5	36	25	22
Internal Link Dist (ft)		872			1344			798		5233
Turn Bay Length (ft)	250		200	375			100		125	
Base Capacity (vph)	660	3094	1351	635	3094	1435	735	764	714	786
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	0.03	0.42	0.00	0.08	0.40	0.02	0.00	0.07	0.02	0.02

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	1233	2	47	1183	25	1	3	51	14	3	15
Future Volume (vph)	16	1233	2	47	1183	25	1	3	51	14	3	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0	4.0	4.0	5.0	5.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	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		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.86		1.00	0.87	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	3505	1615	1736	3505	1615	1805	1580		1804	1660	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.75	1.00		0.71	1.00	
Satd. Flow (perm)	1805	3505	1615	1736	3505	1615	1416	1580		1349	1660	
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)	17	1298	2	49	1245	26	1	3	54	15	3	16
RTOR Reduction (vph)	0	0	1	0	0	9	0	48	0	0	14	0
Lane Group Flow (vph)	17	1298	1	49	1245	17	1	9	0	15	5	0
Confl. Peds. (#/hr)									1	1		
Heavy Vehicles (%)	0%	3%	0%	4%	3%	0%	0%	0%	2%	0%	0%	0%
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2			6	8			4		
Actuated Green, G (s)	1.0	43.8	44.2	3.6	46.4	46.4	7.8	7.4		8.0	7.5	
Effective Green, g (s)	1.0	43.8	44.2	3.6	46.4	46.4	7.8	7.4		8.0	7.5	
Actuated g/C Ratio	0.01	0.61	0.61	0.05	0.64	0.64	0.11	0.10		0.11	0.10	
Clearance Time (s)	4.0	5.0	4.0	4.0	5.0	5.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	
Lane Grp Cap (vph)	24	2123	987	86	2249	1036	154	161		152	172	
v/s Ratio Prot	c0.01	c0.37	0.00	0.03	c0.36		0.00	0.01		c0.00	0.00	
v/s Ratio Perm			0.00			0.01	0.00			c0.01		
v/c Ratio	0.71	0.61	0.00	0.57	0.55	0.02	0.01	0.05		0.10	0.03	
Uniform Delay, d1	35.5	8.9	5.5	33.6	7.2	4.7	28.8	29.3		28.8	29.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	56.1	0.4	0.0	5.1	0.2	0.0	0.0	0.1		0.1	0.0	
Delay (s)	91.6	9.3	5.5	38.7	7.4	4.7	28.8	29.3		28.9	29.1	
Level of Service	F	A	A	D	A	A	C	C		C	C	
Approach Delay (s)		10.3			8.5			29.3			29.1	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	10.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	72.3	Sum of lost time (s)	17.0
Intersection Capacity Utilization	54.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	1288	51	536	67	84	758
v/c Ratio	0.69	0.03	0.42	0.04	0.27	0.47
Control Delay	13.2	0.0	15.7	0.0	27.1	7.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.2	0.0	15.7	0.0	27.1	7.1
Queue Length 50th (ft)	163	0	74	0	29	51
Queue Length 95th (ft)	303	0	134	0	73	120
Internal Link Dist (ft)	1344		678			
Turn Bay Length (ft)		150		250		475
Base Capacity (vph)	3256	1583	2569	1538	1016	2017
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.03	0.21	0.04	0.08	0.38

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1249	49	0	520	65	0	0	0	81	0	735
Future Volume (vph)	0	1249	49	0	520	65	0	0	0	81	0	735
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	4.0		5.0	4.0				4.0		1.5
Lane Util. Factor		0.95	1.00		0.95	1.00				1.00		0.88
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		3505	1583		3471	1538				1736		2787
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		3505	1583		3471	1538				1736		2787
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	1288	51	0	536	67	0	0	0	84	0	758
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	160
Lane Group Flow (vph)	0	1288	51	0	536	67	0	0	0	84	0	598
Heavy Vehicles (%)	0%	3%	2%	0%	4%	5%	0%	0%	0%	4%	0%	2%
Turn Type		NA	Free		NA	Free				Perm		custom
Protected Phases		2			6							5 7 8
Permitted Phases			Free			Free				7		
Actuated Green, G (s)		33.9	62.4		23.6	62.4				11.2		29.8
Effective Green, g (s)		33.9	62.4		23.6	62.4				11.2		32.3
Actuated g/C Ratio		0.54	1.00		0.38	1.00				0.18		0.52
Clearance Time (s)		5.0			5.0					4.0		
Vehicle Extension (s)		0.5			0.5					0.5		
Lane Grp Cap (vph)		1904	1583		1312	1538				311		1442
v/s Ratio Prot		c0.37			0.15							c0.21
v/s Ratio Perm			0.03			0.04				0.05		
v/c Ratio		0.68	0.03		0.41	0.04				0.27		0.41
Uniform Delay, d1		10.3	0.0		14.3	0.0				22.1		9.2
Progression Factor		1.00	1.00		1.00	1.00				1.00		1.00
Incremental Delay, d2		0.8	0.0		0.1	0.1				0.2		0.1
Delay (s)		11.0	0.0		14.3	0.1				22.2		9.3
Level of Service		B	A		B	A				C		A
Approach Delay (s)		10.6			12.8			0.0			10.6	
Approach LOS		B			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	11.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	62.4	Sum of lost time (s)	9.5
Intersection Capacity Utilization	47.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

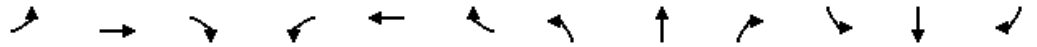
Lane Group	EBT	WBT	NBT	NBR
Lane Group Flow (vph)	632	673	49	107
v/c Ratio	0.31	0.35	0.13	0.27
Control Delay	5.1	5.0	9.5	4.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	5.1	5.0	9.5	4.6
Queue Length 50th (ft)	25	25	5	0
Queue Length 95th (ft)	41	42	18	17
Internal Link Dist (ft)	678	1854	904	
Turn Bay Length (ft)				150
Base Capacity (vph)	3541	3309	1762	1470
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.18	0.20	0.03	0.07

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	600	0	0	540	100	45	2	102	0	0	0
Future Volume (vph)	0	600	0	0	540	100	45	2	102	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-4%			4%			0%			0%	
Total Lost time (s)		5.0			5.0			4.0	4.0			
Lane Util. Factor		0.95			0.95			1.00	1.00			
Frt		1.00			0.98			1.00	0.85			
Flt Protected		1.00			1.00			0.95	1.00			
Satd. Flow (prot)		3541			3307			1779	1482			
Flt Permitted		1.00			1.00			0.95	1.00			
Satd. Flow (perm)		3541			3307			1779	1482			
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)	0	632	0	0	568	105	47	2	107	0	0	0
RTOR Reduction (vph)	0	0	0	0	18	0	0	0	89	0	0	0
Lane Group Flow (vph)	0	632	0	0	655	0	0	49	18	0	0	0
Heavy Vehicles (%)	0%	4%	2%	0%	4%	7%	2%	0%	9%	0%	0%	0%
Turn Type		NA			NA		Split	NA	Perm			
Protected Phases		2			6		8	8				
Permitted Phases									8			
Actuated Green, G (s)		15.3			15.3			4.9	4.9			
Effective Green, g (s)		15.3			15.3			4.9	4.9			
Actuated g/C Ratio		0.52			0.52			0.17	0.17			
Clearance Time (s)		5.0			5.0			4.0	4.0			
Vehicle Extension (s)		0.5			0.5			0.5	0.5			
Lane Grp Cap (vph)		1855			1732			298	248			
v/s Ratio Prot		0.18			c0.20			c0.03				
v/s Ratio Perm									0.01			
v/c Ratio		0.34			0.38			0.16	0.07			
Uniform Delay, d1		4.0			4.1			10.4	10.2			
Progression Factor		1.00			1.00			1.00	1.00			
Incremental Delay, d2		0.0			0.1			0.1	0.0			
Delay (s)		4.1			4.2			10.5	10.3			
Level of Service		A			A			B	B			
Approach Delay (s)		4.1			4.2			10.3			0.0	
Approach LOS		A			A			B			A	

Intersection Summary			
HCM 2000 Control Delay	4.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	29.2	Sum of lost time (s)	9.0
Intersection Capacity Utilization	30.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	41	0	0	24	2	0	0	1	2	0	10
Future Volume (Veh/h)	10	41	0	0	24	2	0	0	1	2	0	10
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Hourly flow rate (vph)	14	59	0	0	34	3	0	0	1	3	0	14
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			None							
Median storage veh)		2										
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	37			59			136	124	59	124	122	36
vC1, stage 1 conf vol							87	87		36	36	
vC2, stage 2 conf vol							50	37		88	87	
vCu, unblocked vol	37			59			136	124	59	124	122	36
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			100	100	100	100	100	99
cM capacity (veh/h)	1587			1558			871	789	1012	885	792	1043

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1	SB 2
Volume Total	14	59	37	1	3	14
Volume Left	14	0	0	0	3	0
Volume Right	0	0	3	1	0	14
cSH	1587	1700	1700	1012	885	1043
Volume to Capacity	0.01	0.03	0.02	0.00	0.00	0.01
Queue Length 95th (ft)	1	0	0	0	0	1
Control Delay (s)	7.3	0.0	0.0	8.6	9.1	8.5
Lane LOS	A			A	A	A
Approach Delay (s)	1.4		0.0	8.6	8.6	
Approach LOS				A	A	

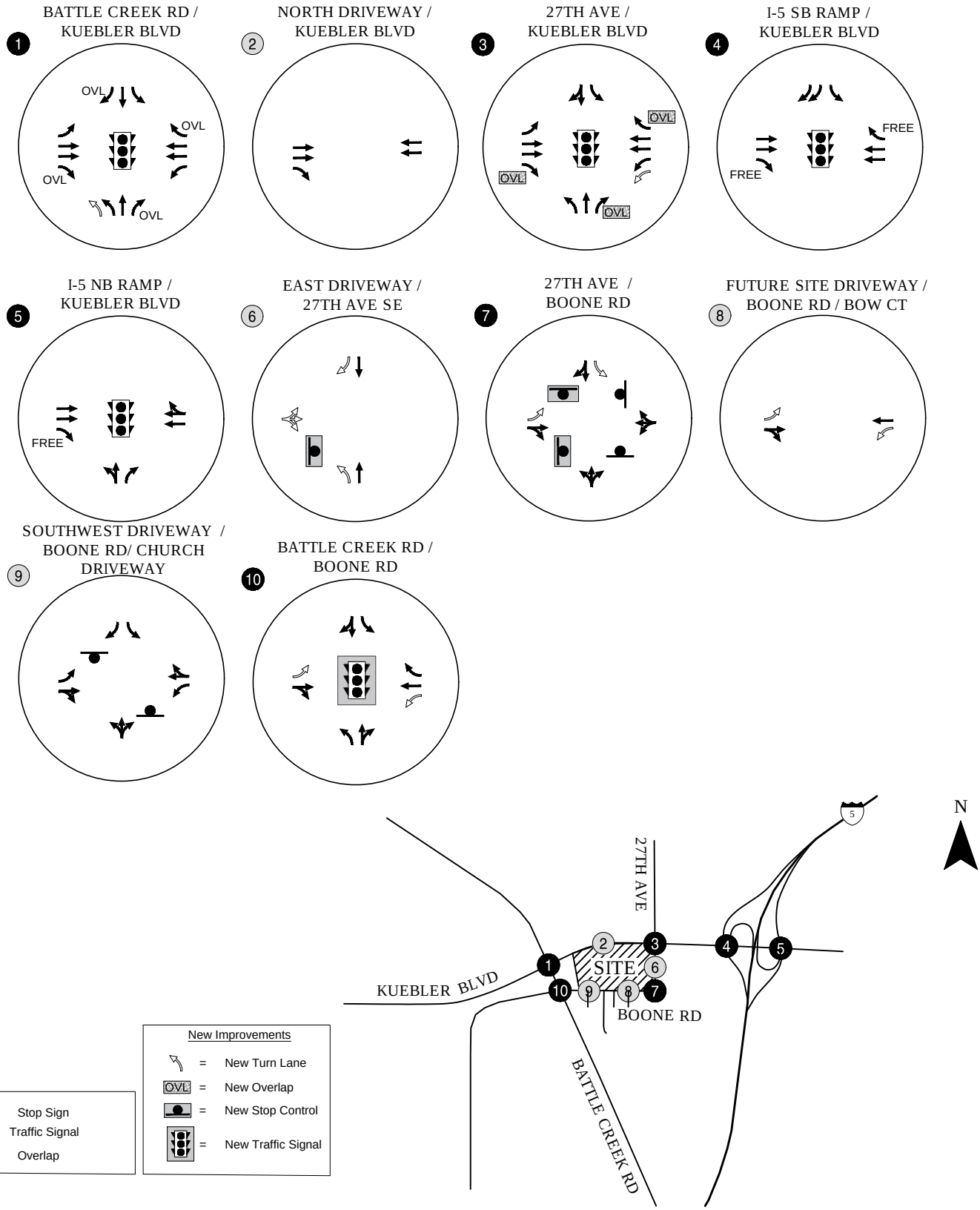
Intersection Summary				
Average Delay	2.0			
Intersection Capacity Utilization	20.0%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	91	28	17	6	11	19	15	185	7	19	190	120
Future Volume (Veh/h)	91	28	17	6	11	19	15	185	7	19	190	120
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	96	29	18	6	12	20	16	195	7	20	200	126
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)						5						
Median type								None			TWLTL	
Median storage veh)											2	
Upstream signal (ft)											465	
pX, platoon unblocked	0.92	0.92	0.92	0.92	0.92		0.92					
vC, conflicting volume	546	537	263	503	596	198	326			202		
vC1, stage 1 conf vol	303	303		230	230							
vC2, stage 2 conf vol	243	234		272	366							
vCu, unblocked vol	466	456	159	419	521	198	228			202		
tC, single (s)	7.1	6.5	6.2	7.3	6.6	6.2	4.1			4.1		
tC, 2 stage (s)	6.1	5.5		6.3	5.6							
tF (s)	3.5	4.0	3.3	3.7	4.1	3.3	2.2			2.2		
p0 queue free %	84	95	98	99	98	98	99			99		
cM capacity (veh/h)	607	582	822	593	542	848	1248			1382		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	143	38	16	202	20	326
Volume Left	96	6	16	0	20	0
Volume Right	18	20	0	7	0	126
cSH	622	1180	1248	1700	1382	1700
Volume to Capacity	0.23	0.03	0.01	0.12	0.01	0.19
Queue Length 95th (ft)	22	2	1	0	1	0
Control Delay (s)	12.5	10.4	7.9	0.0	7.6	0.0
Lane LOS	B	B	A		A	
Approach Delay (s)	12.5	10.4	0.6		0.4	
Approach LOS	B	B				

Intersection Summary				
Average Delay	3.3			
Intersection Capacity Utilization	38.2%	ICU Level of Service	A	
Analysis Period (min)	15			

Appendix E: 2019 Background Operations Worksheets

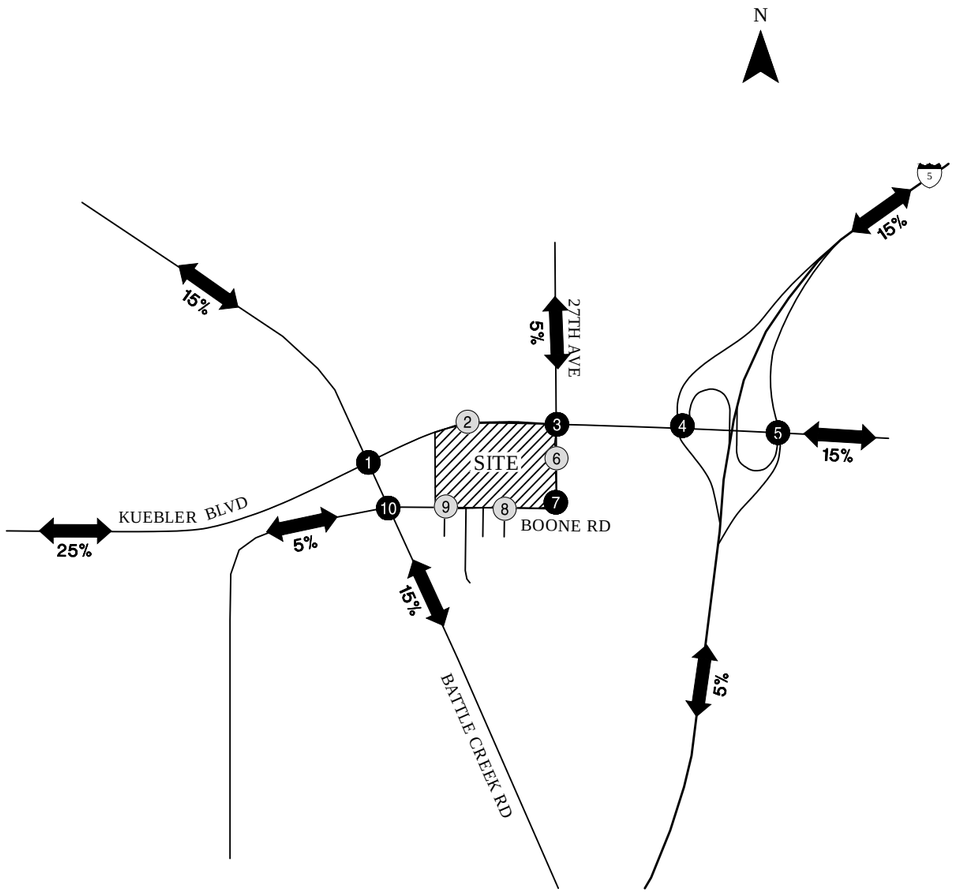


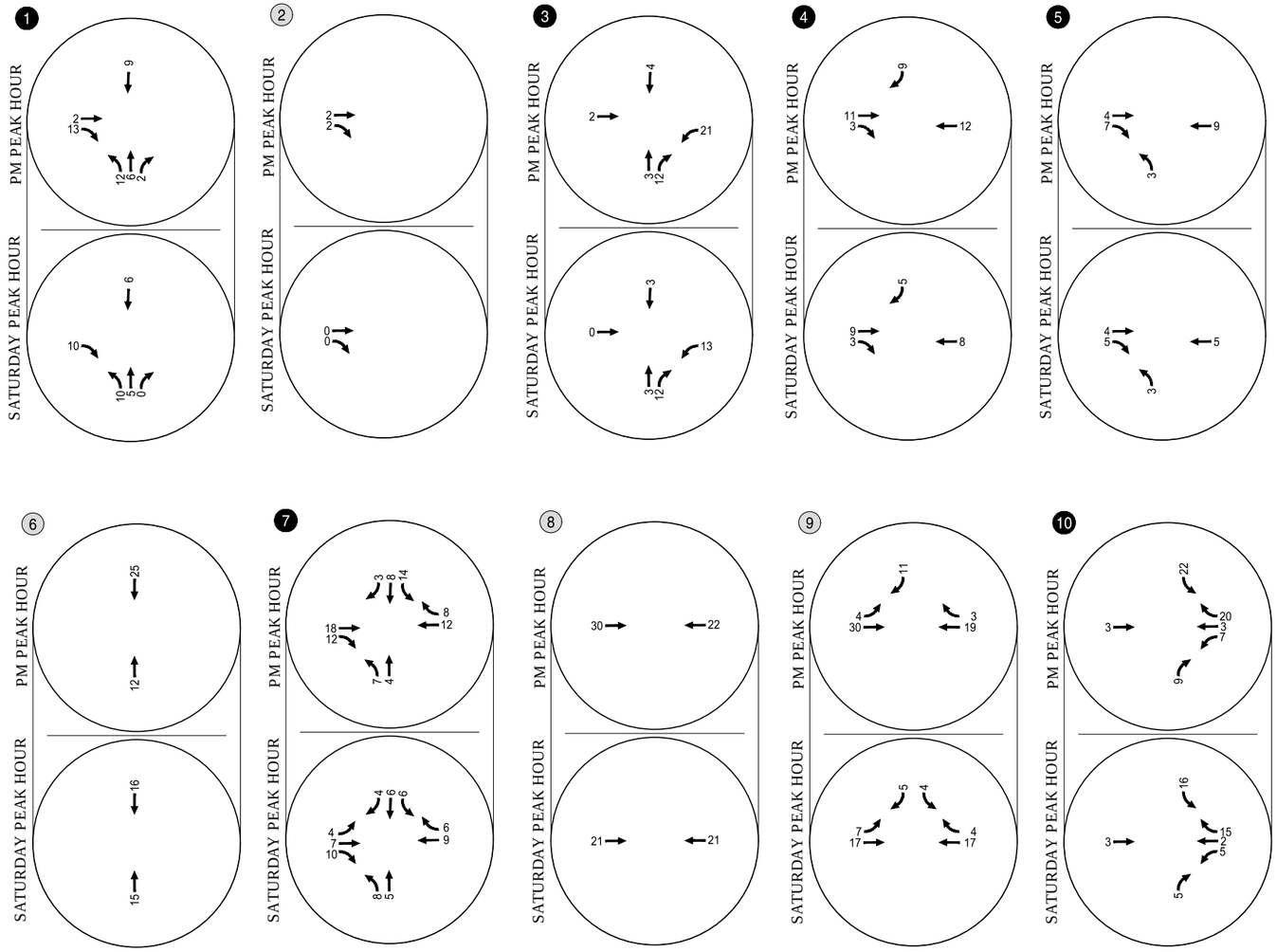
(#) - Study Intersections
(#) - Study Site Driveways

Assumed Background Year 2019
Lane Configuration and Traffic Control Devices
Salem, Oregon

Figure
E-1

KITTELSON & ASSOCIATES





- Study Intersections
(#) - Study Site Driveways

Estimated In-Process Trip Distribution Pattern and Assignment
Weekday PM and Saturday Midday Peak Hour
Salem, OR

Figure
E-2

KITTELSON & ASSOCIATES

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	56	1078	108	256	1574	146	92	139	174	138	343	181
v/c Ratio	0.46	0.62	0.12	0.74	0.78	0.14	0.59	0.47	0.33	0.88	0.89	0.36
Control Delay	27.2	28.3	2.7	25.9	21.4	1.6	75.8	53.3	15.8	103.5	74.3	18.8
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	27.2	28.3	2.7	25.9	21.4	1.6	75.8	53.3	15.8	103.5	74.3	18.8
Queue Length 50th (ft)	16	351	0	94	546	16	39	108	50	116	283	57
Queue Length 95th (ft)	#52	496	26	167	680	m11	69	163	97	#228	371	114
Internal Link Dist (ft)		2582			824			385			4570	
Turn Bay Length (ft)	420		215	250		250	225		150	275		275
Base Capacity (vph)	123	1729	931	387	2006	1084	183	407	570	171	498	505
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	0.46	0.62	0.12	0.66	0.78	0.13	0.50	0.34	0.31	0.81	0.69	0.36

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	1046	105	248	1527	142	89	135	169	134	333	176
Future Volume (vph)	54	1046	105	248	1527	142	89	135	169	134	333	176
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			3%	
Total Lost time (s)	4.0	6.0	4.0	4.0	6.0	4.0	4.0	5.0	4.0	4.0	5.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	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)	1641	3505	1565	1787	3539	1523	3400	1827	1524	1710	1853	1575
Flt Permitted	0.08	1.00	1.00	0.15	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	137	3505	1565	291	3539	1523	3400	1827	1524	1710	1853	1575
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	56	1078	108	256	1574	146	92	139	174	138	343	181
RTOR Reduction (vph)	0	0	50	0	0	49	0	0	67	0	0	70
Lane Group Flow (vph)	56	1078	58	256	1574	97	92	139	107	138	343	111
Confl. Peds. (#/hr)	1		1	1		1						
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	10%	3%	1%	1%	2%	4%	3%	4%	6%	4%	1%	1%
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases	2		2	6		6			8			4
Actuated Green, G (s)	68.3	64.1	70.1	81.9	73.7	85.6	6.0	21.2	35.0	11.9	27.1	31.3
Effective Green, g (s)	68.3	64.1	70.1	81.9	73.7	85.6	6.0	21.2	35.0	11.9	27.1	31.3
Actuated g/C Ratio	0.53	0.49	0.54	0.63	0.57	0.66	0.05	0.16	0.27	0.09	0.21	0.24
Clearance Time (s)	4.0	6.0	4.0	4.0	6.0	4.0	4.0	5.0	4.0	4.0	5.0	4.0
Vehicle Extension (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lane Grp Cap (vph)	120	1728	843	342	2006	1002	156	297	410	156	386	379
v/s Ratio Prot	0.02	0.31	0.00	c0.08	c0.44	0.01	0.03	0.08	0.03	c0.08	c0.19	0.01
v/s Ratio Perm	0.23		0.03	0.39		0.05			0.04			0.06
v/c Ratio	0.47	0.62	0.07	0.75	0.78	0.10	0.59	0.47	0.26	0.88	0.89	0.29
Uniform Delay, d1	20.2	24.1	14.3	16.7	22.0	8.1	60.8	49.3	37.3	58.4	50.0	40.3
Progression Factor	1.00	1.00	1.00	1.17	0.80	1.03	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.0	1.7	0.0	5.7	2.4	0.0	3.6	0.4	0.1	39.4	20.7	0.2
Delay (s)	21.3	25.8	14.3	25.3	19.9	8.3	64.4	49.7	37.5	97.8	70.6	40.5
Level of Service	C	C	B	C	B	A	E	D	D	F	E	D
Approach Delay (s)		24.6			19.7			47.8			68.1	
Approach LOS		C			B			D			E	

Intersection Summary			
HCM 2000 Control Delay	31.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	82.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	9	1404	4	121	1976	14	1	6	78	100	62
v/c Ratio	0.21	0.54	0.00	0.63	0.68	0.01	0.01	0.05	0.36	0.70	0.34
Control Delay	78.8	19.5	0.0	65.8	8.0	0.0	48.0	56.2	11.1	80.8	29.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	78.8	19.5	0.0	65.8	8.0	0.0	48.0	56.2	11.1	80.8	29.5
Queue Length 50th (ft)	7	361	0	54	274	0	1	5	0	83	17
Queue Length 95th (ft)	m13	521	m0	m72	445	m0	6	18	32	#135	61
Internal Link Dist (ft)		872			1344			436			5233
Turn Bay Length (ft)	250		200	375			200		290	125	
Base Capacity (vph)	43	2598	1316	240	2917	1148	494	453	234	311	436
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.54	0.00	0.50	0.68	0.01	0.00	0.01	0.33	0.32	0.14

Intersection Summary

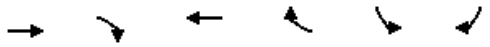
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	1334	4	115	1877	13	1	6	74	95	21	38
Future Volume (vph)	9	1334	4	115	1877	13	1	6	74	95	21	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0	4.0	4.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	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	0.90	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1805	3471	1615	3467	3539	1376	1805	1900	1538	1787	1700	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.58	1.00	
Satd. Flow (perm)	1805	3471	1615	3467	3539	1376	1900	1900	1538	1091	1700	
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)	9	1404	4	121	1976	14	1	6	78	100	22	40
RTOR Reduction (vph)	0	0	1	0	0	3	0	0	72	0	37	0
Lane Group Flow (vph)	9	1404	3	121	1976	11	1	6	6	100	25	0
Confl. Bikes (#/hr)						1						1
Heavy Vehicles (%)	0%	4%	0%	1%	2%	15%	0%	0%	5%	1%	0%	0%
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA	
Protected Phases	5	2	3	1	6		3	8	1	7	4	
Permitted Phases			2			6	8		8	4		
Actuated Green, G (s)	0.6	94.2	94.8	7.2	100.8	100.8	3.5	2.9	10.1	15.6	11.0	
Effective Green, g (s)	0.6	94.2	94.8	7.2	100.8	100.8	3.5	2.9	10.1	15.6	11.0	
Actuated g/C Ratio	0.00	0.72	0.73	0.06	0.78	0.78	0.03	0.02	0.08	0.12	0.08	
Clearance Time (s)	4.0	5.0	4.0	4.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
Lane Grp Cap (vph)	8	2515	1177	192	2744	1066	50	42	166	177	143	
v/s Ratio Prot	c0.00	0.40	0.00	0.03	c0.56		0.00	0.00	0.00	c0.04	0.01	
v/s Ratio Perm			0.00			0.01	0.00		0.00	c0.03		
v/c Ratio	1.12	0.56	0.00	0.63	0.72	0.01	0.02	0.14	0.04	0.56	0.18	
Uniform Delay, d1	64.7	8.3	4.8	60.1	7.4	3.3	61.6	62.3	55.4	53.4	55.3	
Progression Factor	1.11	2.37	1.00	0.92	1.15	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	333.5	0.7	0.0	3.6	1.2	0.0	0.1	0.6	0.0	2.5	0.2	
Delay (s)	405.6	20.4	4.8	58.9	9.8	3.3	61.6	62.9	55.5	55.8	55.5	
Level of Service	F	C	A	E	A	A	E	E	E	E	E	
Approach Delay (s)		22.8			12.5			56.1			55.7	
Approach LOS		C			B			E			E	

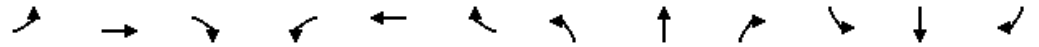
Intersection Summary			
HCM 2000 Control Delay	19.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	71.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	1442	127	818	221	90	1273
v/c Ratio	0.66	0.08	0.43	0.15	0.28	0.86
Control Delay	20.9	0.1	22.9	0.2	46.0	26.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.9	0.1	22.9	0.2	46.0	26.2
Queue Length 50th (ft)	453	0	246	0	64	346
Queue Length 95th (ft)	544	0	294	0	116	473
Internal Link Dist (ft)	1344		678			
Turn Bay Length (ft)		150		250		475
Base Capacity (vph)	2242	1599	1943	1493	326	1489
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.64	0.08	0.42	0.15	0.28	0.85

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↱		↑↑	↱				↰		↱↱
Traffic Volume (vph)	0	1384	122	0	785	212	0	0	0	86	0	1222
Future Volume (vph)	0	1384	122	0	785	212	0	0	0	86	0	1222
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	4.0		5.0	4.0				4.0		1.5
Lane Util. Factor		0.95	1.00		0.95	1.00				1.00		0.88
Frpb, ped/bikes		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
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		3471	1599		3539	1493				1570		2787
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		3471	1599		3539	1493				1570		2787
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	1442	127	0	818	221	0	0	0	90	0	1273
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	323
Lane Group Flow (vph)	0	1442	127	0	818	221	0	0	0	90	0	950
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	4%	1%	0%	2%	6%	0%	0%	0%	15%	0%	2%
Turn Type		NA	Free		NA	Free				Perm		custom
Protected Phases		2			6							5 7 8
Permitted Phases			Free			Free				7		
Actuated Green, G (s)		81.9	130.0		69.8	130.0				27.0		51.2
Effective Green, g (s)		81.9	130.0		69.8	130.0				27.0		53.7
Actuated g/C Ratio		0.63	1.00		0.54	1.00				0.21		0.41
Clearance Time (s)		5.0			5.0					4.0		
Vehicle Extension (s)		0.5			0.5					0.5		
Lane Grp Cap (vph)		2186	1599		1900	1493				326		1151
v/s Ratio Prot		c0.42			0.23							c0.34
v/s Ratio Perm			0.08			0.15				0.06		
v/c Ratio		0.66	0.08		0.43	0.15				0.28		0.83
Uniform Delay, d1		15.2	0.0		18.1	0.0				43.3		34.0
Progression Factor		1.25	1.00		1.21	1.00				1.00		1.00
Incremental Delay, d2		1.4	0.1		0.7	0.2				0.2		4.7
Delay (s)		20.4	0.1		22.5	0.2				43.5		38.7
Level of Service		C	A		C	A				D		D
Approach Delay (s)		18.8			17.8			0.0			39.0	
Approach LOS		B			B			A			D	

Intersection Summary			
HCM 2000 Control Delay	25.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	71.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBT	NBT	NBR
Lane Group Flow (vph)	643	1325	60	171
v/c Ratio	0.21	0.46	0.53	0.70
Control Delay	1.8	2.5	75.1	23.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	1.8	2.5	75.1	23.6
Queue Length 50th (ft)	27	76	50	0
Queue Length 95th (ft)	82	142	94	72
Internal Link Dist (ft)	678	1854	904	
Turn Bay Length (ft)				150
Base Capacity (vph)	3015	2873	417	444
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.21	0.46	0.14	0.39

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	598	0	0	942	290	55	1	159	0	0	0
Future Volume (vph)	0	598	0	0	942	290	55	1	159	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-4%			4%			0%			0%	
Total Lost time (s)		5.0			5.0			4.0	4.0			
Lane Util. Factor		0.95			0.95			1.00	1.00			
Frpb, ped/bikes		1.00			1.00			1.00	1.00			
Flpb, ped/bikes		1.00			1.00			1.00	1.00			
Frt		1.00			0.96			1.00	0.85			
Flt Protected		1.00			1.00			0.95	1.00			
Satd. Flow (prot)		3474			3298			1811	1357			
Flt Permitted		1.00			1.00			0.95	1.00			
Satd. Flow (perm)		3474			3298			1811	1357			
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	643	0	0	1013	312	59	1	171	0	0	0
RTOR Reduction (vph)	0	0	0	0	10	0	0	0	160	0	0	0
Lane Group Flow (vph)	0	643	0	0	1315	0	0	60	11	0	0	0
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	6%	4%	0%	3%	5%	0%	0%	19%	0%	0%	0%
Turn Type		NA			NA		Split	NA	Perm			
Protected Phases		2			6		8	8				
Permitted Phases									8			
Actuated Green, G (s)		112.8			112.8			8.2	8.2			
Effective Green, g (s)		112.8			112.8			8.2	8.2			
Actuated g/C Ratio		0.87			0.87			0.06	0.06			
Clearance Time (s)		5.0			5.0			4.0	4.0			
Vehicle Extension (s)		0.5			0.5			0.5	0.5			
Lane Grp Cap (vph)		3014			2861			114	85			
v/s Ratio Prot		0.19			c0.40			c0.03				
v/s Ratio Perm									0.01			
v/c Ratio		0.21			0.46			0.53	0.13			
Uniform Delay, d1		1.4			1.9			59.0	57.5			
Progression Factor		1.08			1.00			1.00	1.00			
Incremental Delay, d2		0.1			0.5			2.0	0.2			
Delay (s)		1.6			2.4			61.0	57.8			
Level of Service		A			A			E	E			
Approach Delay (s)		1.6			2.4			58.6			0.0	
Approach LOS		A			A			E			A	

Intersection Summary			
HCM 2000 Control Delay	8.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	47.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	65	21	12	0	14	9	7	4	0	15	8	119
Future Volume (vph)	65	21	12	0	14	9	7	4	0	15	8	119
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Hourly flow rate (vph)	82	27	15	0	18	11	9	5	0	19	10	151

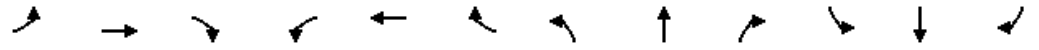
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1	SB 2
Volume Total (vph)	82	42	29	14	19	161
Volume Left (vph)	82	0	0	9	19	0
Volume Right (vph)	0	15	11	0	0	151
Hadj (s)	0.58	-0.25	-0.23	0.13	0.50	-0.64
Departure Headway (s)	5.6	4.7	4.9	5.2	5.4	4.3
Degree Utilization, x	0.13	0.06	0.04	0.02	0.03	0.19
Capacity (veh/h)	618	729	698	659	639	812
Control Delay (s)	8.2	6.8	8.1	8.3	7.4	7.1
Approach Delay (s)	7.7		8.1	8.3	7.1	
Approach LOS	A		A	A	A	

Intersection Summary				
Delay	7.4			
Level of Service	A			
Intersection Capacity Utilization	24.7%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	98	140	0	0	0
Future Volume (Veh/h)	0	98	140	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79
Hourly flow rate (vph)	0	124	177	0	0	0
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		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (ft)		1222				
pX, platoon unblocked						
vC, conflicting volume	178				302	179
vC1, stage 1 conf vol					178	
vC2, stage 2 conf vol					124	
vCu, unblocked vol	178				302	179
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1409				797	868

Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2
Volume Total	0	124	177	0	0
Volume Left	0	0	0	0	0
Volume Right	0	0	0	0	0
cSH	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.07	0.10	0.00	0.00
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0
Lane LOS				A	A
Approach Delay (s)	0.0		0.0	0.0	
Approach LOS				A	

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	17.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	70	0	0	71	6	0	0	0	18	0	46
Future Volume (Veh/h)	26	70	0	0	71	6	0	0	0	18	0	46
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
Hourly flow rate (vph)	37	99	0	0	100	8	0	0	0	25	0	65
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)		462										
pX, platoon unblocked												
vC, conflicting volume	108			99			342	281	99	277	277	104
vC1, stage 1 conf vol							173	173		104	104	
vC2, stage 2 conf vol							169	108		173	173	
vCu, unblocked vol	108			99			342	281	99	277	277	104
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.2	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.2	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.6	4.0	3.3
p0 queue free %	98			100			100	100	100	97	100	93
cM capacity (veh/h)	1495			1507			685	691	962	743	700	956

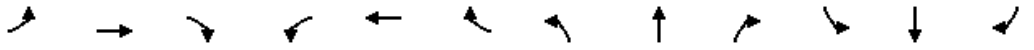
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1	SB 2
Volume Total	37	99	108	0	25	65
Volume Left	37	0	0	0	25	0
Volume Right	0	0	8	0	0	65
cSH	1495	1700	1700	1700	743	956
Volume to Capacity	0.02	0.06	0.06	0.00	0.03	0.07
Queue Length 95th (ft)	2	0	0	0	3	5
Control Delay (s)	7.5	0.0	0.0	0.0	10.0	9.0
Lane LOS	A			A	B	A
Approach Delay (s)	2.0		0.0	0.0	9.3	
Approach LOS				A	A	

Intersection Summary					
Average Delay	3.3				
Intersection Capacity Utilization	18.1%	ICU Level of Service		A	
Analysis Period (min)	15				

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	109	53	26	36	61	9	261	55	667
v/c Ratio	0.31	0.11	0.07	0.12	0.08	0.03	0.34	0.10	0.75
Control Delay	17.9	12.7	15.0	22.1	0.2	6.4	12.8	6.7	18.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.9	12.7	15.0	22.1	0.2	6.4	12.8	6.7	18.1
Queue Length 50th (ft)	24	6	5	10	0	1	58	8	131
Queue Length 95th (ft)	66	37	22	35	0	6	108	20	#384
Internal Link Dist (ft)		664		382			5454		385
Turn Bay Length (ft)	150		150		150	125		200	
Base Capacity (vph)	356	657	347	666	959	277	979	573	994
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.08	0.07	0.05	0.06	0.03	0.27	0.10	0.67

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	27	24	25	34	58	9	230	18	52	387	247
Future Volume (vph)	104	27	24	25	34	58	9	230	18	52	387	247
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	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	1.00	
Frt	1.00	0.93		1.00	1.00	0.85	1.00	0.99		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1703	1766		1805	1845	1615	1805	1782		1805	1764	
Flt Permitted	0.60	1.00		0.72	1.00	1.00	0.17	1.00		0.53	1.00	
Satd. Flow (perm)	1079	1766		1373	1845	1615	330	1782		1006	1764	
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)	109	28	25	26	36	61	9	242	19	55	407	260
RTOR Reduction (vph)	0	19	0	0	0	37	0	4	0	0	30	0
Lane Group Flow (vph)	109	34	0	26	36	24	9	257	0	55	637	0
Heavy Vehicles (%)	6%	0%	0%	0%	3%	0%	0%	5%	11%	0%	1%	2%
Turn Type	pm+pt	NA		pm+pt	NA	custom	pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6		8	8			4		
Actuated Green, G (s)	16.5	13.4		11.7	11.0	23.0	23.7	23.0		26.7	24.5	
Effective Green, g (s)	16.5	13.4		11.7	11.0	23.0	23.7	23.0		26.7	24.5	
Actuated g/C Ratio	0.29	0.23		0.20	0.19	0.40	0.41	0.40		0.47	0.43	
Clearance Time (s)	4.5	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	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	344	412		285	354	648	154	715		499	754	
v/s Ratio Prot	c0.02	0.02		0.00	0.02		0.00	0.14		c0.00	c0.36	
v/s Ratio Perm	c0.07			0.02		0.02	0.02			0.05		
v/c Ratio	0.32	0.08		0.09	0.10	0.04	0.06	0.36		0.11	0.84	
Uniform Delay, d1	15.6	17.1		18.4	19.1	10.4	11.5	12.0		8.5	14.7	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	0.1		0.1	0.1	0.0	0.2	0.3		0.1	8.6	
Delay (s)	16.1	17.2		18.5	19.2	10.4	11.6	12.3		8.6	23.3	
Level of Service	B	B		B	B	B	B	B		A	C	
Approach Delay (s)		16.5			14.7			12.3			22.2	
Approach LOS		B			B			B			C	

Intersection Summary			
HCM 2000 Control Delay	18.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	57.3	Sum of lost time (s)	18.0
Intersection Capacity Utilization	62.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	47	1096	77	146	1026	102	77	98	154	80	144	70
v/c Ratio	0.15	0.53	0.07	0.45	0.46	0.09	0.50	0.46	0.38	0.73	0.59	0.20
Control Delay	5.1	13.0	2.4	11.7	13.5	1.8	62.2	50.2	20.1	84.6	52.8	2.7
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	5.1	13.0	2.4	11.7	13.5	1.8	62.2	50.2	20.1	84.6	52.8	2.7
Queue Length 50th (ft)	3	260	0	27	178	0	27	68	52	56	100	0
Queue Length 95th (ft)	m16	492	m25	83	349	21	52	99	83	#124	134	11
Internal Link Dist (ft)		2582			824			385			4570	
Turn Bay Length (ft)	420		215	250		250	200		150	275		275
Base Capacity (vph)	323	2062	1134	367	2232	1127	181	486	453	128	527	352
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	0.15	0.53	0.07	0.40	0.46	0.09	0.43	0.20	0.34	0.63	0.27	0.20

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	1052	74	140	985	98	74	94	148	77	138	67
Future Volume (vph)	45	1052	74	140	985	98	74	94	148	77	138	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			3%	
Total Lost time (s)	4.0	6.0	4.0	4.0	6.0	4.0	4.0	5.0	4.0	4.0	5.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	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)	1719	3505	1583	1736	3539	1522	3335	1845	1599	1760	1872	1528
Flt Permitted	0.25	1.00	1.00	0.19	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	444	3505	1583	342	3539	1522	3335	1845	1599	1760	1872	1528
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	47	1096	77	146	1026	102	77	98	154	80	144	70
RTOR Reduction (vph)	0	0	28	0	0	32	0	0	57	0	0	59
Lane Group Flow (vph)	47	1096	49	146	1026	70	77	98	97	80	144	11
Confl. Peds. (#/hr)	1					1	1					1
Heavy Vehicles (%)	5%	3%	2%	4%	2%	4%	5%	3%	1%	1%	0%	3%
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases	2		2	6		6			8			4
Actuated Green, G (s)	67.6	64.7	69.8	75.4	68.6	75.5	5.1	12.6	19.4	6.9	14.4	17.3
Effective Green, g (s)	67.6	64.7	69.8	75.4	68.6	75.5	5.1	12.6	19.4	6.9	14.4	17.3
Actuated g/C Ratio	0.61	0.59	0.63	0.69	0.62	0.69	0.05	0.11	0.18	0.06	0.13	0.16
Clearance Time (s)	4.0	6.0	4.0	4.0	6.0	4.0	4.0	5.0	4.0	4.0	5.0	4.0
Vehicle Extension (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lane Grp Cap (vph)	306	2061	1004	320	2207	1044	154	211	282	110	245	240
v/s Ratio Prot	0.00	c0.31	0.00	c0.03	0.29	0.00	0.02	0.05	0.02	c0.05	c0.08	0.00
v/s Ratio Perm	0.09		0.03	0.28		0.04			0.04			0.01
v/c Ratio	0.15	0.53	0.05	0.46	0.46	0.07	0.50	0.46	0.34	0.73	0.59	0.05
Uniform Delay, d1	8.7	13.6	7.6	8.4	11.0	5.7	51.2	45.5	39.7	50.6	45.0	39.3
Progression Factor	0.54	0.75	1.49	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.9	0.0	0.4	0.7	0.0	0.9	0.6	0.3	18.2	2.3	0.0
Delay (s)	4.8	11.0	11.3	8.8	11.7	5.7	52.1	46.1	40.0	68.9	47.3	39.4
Level of Service	A	B	B	A	B	A	D	D	D	E	D	D
Approach Delay (s)		10.8			10.9			44.7			51.3	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	18.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	63.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

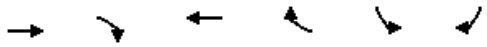
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	17	1324	2	63	1271	26	1	6	66	15	22
v/c Ratio	0.13	0.56	0.00	0.24	0.45	0.02	0.00	0.02	0.19	0.06	0.08
Control Delay	43.2	10.9	0.0	39.8	7.7	0.0	28.0	30.2	4.3	27.9	18.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.2	10.9	0.0	39.8	7.7	0.0	28.0	30.2	4.3	27.9	18.8
Queue Length 50th (ft)	5	134	0	9	65	0	0	2	0	4	2
Queue Length 95th (ft)	39	478	0	50	451	0	5	15	18	25	26
Internal Link Dist (ft)		872			1344			461			5233
Turn Bay Length (ft)	250		200	375			200		290	125	
Base Capacity (vph)	177	3216	1281	389	3222	1491	872	1134	399	882	1017
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.41	0.00	0.16	0.39	0.02	0.00	0.01	0.17	0.02	0.02

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	1258	2	60	1207	25	1	6	63	14	6	15
Future Volume (vph)	16	1258	2	60	1207	25	1	6	63	14	6	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0	4.0	4.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	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	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.89	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1805	3505	1615	3367	3505	1615	1805	1900	1571	1804	1693	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.74	1.00	1.00	0.75	1.00	
Satd. Flow (perm)	1805	3505	1615	3367	3505	1615	1412	1900	1571	1431	1693	
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)	17	1324	2	63	1271	26	1	6	66	15	6	16
RTOR Reduction (vph)	0	0	1	0	0	9	0	0	57	0	15	0
Lane Group Flow (vph)	17	1324	1	63	1271	17	1	6	9	15	7	0
Confl. Peds. (#/hr)									1	1		
Heavy Vehicles (%)	0%	3%	0%	4%	3%	0%	0%	0%	2%	0%	0%	0%
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA	
Protected Phases	5	2	3	1	6		3	8	1	7	4	
Permitted Phases			2			6	8		8	4		
Actuated Green, G (s)	0.6	44.0	44.3	3.8	47.2	47.2	6.1	5.8	9.6	6.1	5.8	
Effective Green, g (s)	0.6	44.0	44.3	3.8	47.2	47.2	6.1	5.8	9.6	6.1	5.8	
Actuated g/C Ratio	0.01	0.62	0.62	0.05	0.67	0.67	0.09	0.08	0.14	0.09	0.08	
Clearance Time (s)	4.0	5.0	4.0	4.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
Lane Grp Cap (vph)	15	2175	1009	180	2333	1075	123	155	301	124	138	
v/s Ratio Prot	c0.01	c0.38	0.00	0.02	c0.36		0.00	0.00	0.00	c0.00	0.00	
v/s Ratio Perm			0.00			0.01	0.00		0.00	c0.01		
v/c Ratio	1.13	0.61	0.00	0.35	0.54	0.02	0.01	0.04	0.03	0.12	0.05	
Uniform Delay, d1	35.2	8.2	5.0	32.4	6.2	4.0	29.6	30.0	26.6	29.9	30.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	279.2	0.3	0.0	0.4	0.1	0.0	0.0	0.0	0.0	0.2	0.1	
Delay (s)	314.3	8.5	5.0	32.8	6.4	4.0	29.6	30.0	26.6	30.0	30.1	
Level of Service	F	A	A	C	A	A	C	C	C	C	C	
Approach Delay (s)		12.4			7.5			26.9			30.1	
Approach LOS		B			A			C			C	

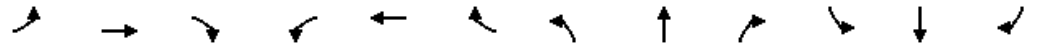
Intersection Summary			
HCM 2000 Control Delay	10.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	70.9	Sum of lost time (s)	17.0
Intersection Capacity Utilization	53.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	1323	55	555	68	86	778
v/c Ratio	0.73	0.03	0.44	0.04	0.41	0.47
Control Delay	16.9	0.0	18.2	0.1	41.8	7.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.9	0.0	18.2	0.1	41.8	7.9
Queue Length 50th (ft)	202	0	86	0	35	55
Queue Length 95th (ft)	433	0	176	0	108	164
Internal Link Dist (ft)	1344		678			
Turn Bay Length (ft)		150		250		475
Base Capacity (vph)	3153	1583	2570	1538	365	2016
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.03	0.22	0.04	0.24	0.39

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↱		↑↑	↱				↰		↱↱
Traffic Volume (vph)	0	1283	53	0	538	66	0	0	0	83	0	755
Future Volume (vph)	0	1283	53	0	538	66	0	0	0	83	0	755
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	4.0		5.0	4.0				4.0		1.5
Lane Util. Factor		0.95	1.00		0.95	1.00				1.00		0.88
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		3505	1583		3471	1538				1736		2787
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		3505	1583		3471	1538				1736		2787
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	1323	55	0	555	68	0	0	0	86	0	778
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	160
Lane Group Flow (vph)	0	1323	55	0	555	68	0	0	0	86	0	618
Heavy Vehicles (%)	0%	3%	2%	0%	4%	5%	0%	0%	0%	4%	0%	2%
Turn Type		NA	Free		NA	Free				Perm		custom
Protected Phases		2			6							5 7 8
Permitted Phases			Free			Free				7		
Actuated Green, G (s)		37.8	71.6		27.2	71.6				8.9		35.4
Effective Green, g (s)		37.8	71.6		27.2	71.6				8.9		37.9
Actuated g/C Ratio		0.53	1.00		0.38	1.00				0.12		0.53
Clearance Time (s)		5.0			5.0					4.0		
Vehicle Extension (s)		0.5			0.5					0.5		
Lane Grp Cap (vph)		1850	1583		1318	1538				215		1475
v/s Ratio Prot		c0.38			0.16							c0.22
v/s Ratio Perm			0.03			0.04				0.05		
v/c Ratio		0.72	0.03		0.42	0.04				0.40		0.42
Uniform Delay, d1		12.8	0.0		16.4	0.0				28.9		10.2
Progression Factor		1.00	1.00		1.00	1.00				1.00		1.00
Incremental Delay, d2		1.1	0.0		0.1	0.1				0.4		0.1
Delay (s)		13.9	0.0		16.5	0.1				29.3		10.3
Level of Service		B	A		B	A				C		B
Approach Delay (s)		13.4			14.7			0.0			12.2	
Approach LOS		B			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	13.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	71.6	Sum of lost time (s)	9.5
Intersection Capacity Utilization	48.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBT	NBT	NBR
Lane Group Flow (vph)	648	692	54	109
v/c Ratio	0.32	0.37	0.14	0.27
Control Delay	5.1	5.1	9.7	4.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	5.1	5.1	9.7	4.6
Queue Length 50th (ft)	26	26	5	0
Queue Length 95th (ft)	42	44	19	17
Internal Link Dist (ft)	678	1854	904	
Turn Bay Length (ft)				150
Base Capacity (vph)	3541	3309	1772	1478
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.18	0.21	0.03	0.07

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	616	0	0	556	102	49	2	104	0	0	0
Future Volume (vph)	0	616	0	0	556	102	49	2	104	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-4%			4%			0%			0%	
Total Lost time (s)		5.0			5.0			4.0	4.0			
Lane Util. Factor		0.95			0.95			1.00	1.00			
Frt		1.00			0.98			1.00	0.85			
Flt Protected		1.00			1.00			0.95	1.00			
Satd. Flow (prot)		3541			3308			1778	1482			
Flt Permitted		1.00			1.00			0.95	1.00			
Satd. Flow (perm)		3541			3308			1778	1482			
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)	0	648	0	0	585	107	52	2	109	0	0	0
RTOR Reduction (vph)	0	0	0	0	18	0	0	0	91	0	0	0
Lane Group Flow (vph)	0	648	0	0	674	0	0	54	18	0	0	0
Heavy Vehicles (%)	0%	4%	2%	0%	4%	7%	2%	0%	9%	0%	0%	0%
Turn Type		NA			NA		Split	NA	Perm			
Protected Phases		2			6		8	8				
Permitted Phases									8			
Actuated Green, G (s)		15.2			15.2			4.9	4.9			
Effective Green, g (s)		15.2			15.2			4.9	4.9			
Actuated g/C Ratio		0.52			0.52			0.17	0.17			
Clearance Time (s)		5.0			5.0			4.0	4.0			
Vehicle Extension (s)		0.5			0.5			0.5	0.5			
Lane Grp Cap (vph)		1849			1727			299	249			
v/s Ratio Prot		0.18			c0.20			c0.03				
v/s Ratio Perm									0.01			
v/c Ratio		0.35			0.39			0.18	0.07			
Uniform Delay, d1		4.1			4.2			10.4	10.2			
Progression Factor		1.00			1.00			1.00	1.00			
Incremental Delay, d2		0.0			0.1			0.1	0.0			
Delay (s)		4.1			4.2			10.5	10.2			
Level of Service		A			A			B	B			
Approach Delay (s)		4.1			4.2			10.3			0.0	
Approach LOS		A			A			B			A	

Intersection Summary			
HCM 2000 Control Delay	4.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	29.1	Sum of lost time (s)	9.0
Intersection Capacity Utilization	31.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	58	9	10	0	10	7	8	5	0	7	6	56
Future Volume (vph)	58	9	10	0	10	7	8	5	0	7	6	56
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	73	11	13	0	13	9	10	6	0	9	8	70

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1	SB 2
Volume Total (vph)	73	24	22	16	9	78
Volume Left (vph)	73	0	0	10	9	0
Volume Right (vph)	0	13	9	0	0	70
Hadj (s)	0.53	-0.38	-0.25	0.13	0.50	-0.57
Departure Headway (s)	5.3	4.4	4.6	5.0	5.3	4.2
Degree Utilization, x	0.11	0.03	0.03	0.02	0.01	0.09
Capacity (veh/h)	666	795	759	691	652	818
Control Delay (s)	7.7	6.3	7.7	8.1	7.2	6.5
Approach Delay (s)	7.4		7.7	8.1	6.6	
Approach LOS	A		A	A	A	

Intersection Summary				
Delay	7.1			
Level of Service	A			
Intersection Capacity Utilization	23.9%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	59	0	0	41	6	0	0	1	6	0	15
Future Volume (Veh/h)	17	59	0	0	41	6	0	0	1	6	0	15
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Hourly flow rate (vph)	24	84	0	0	59	9	0	0	1	9	0	21
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)		462										
pX, platoon unblocked												
vC, conflicting volume	68			84			216	200	84	196	196	64
vC1, stage 1 conf vol							132	132		64	64	
vC2, stage 2 conf vol							84	68		133	132	
vCu, unblocked vol	68			84			216	200	84	196	196	64
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			100			100	100	100	99	100	98
cM capacity (veh/h)	1546			1526			802	741	981	825	746	1007

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1	SB 2
Volume Total	24	84	68	1	9	21
Volume Left	24	0	0	0	9	0
Volume Right	0	0	9	1	0	21
cSH	1546	1700	1700	981	825	1007
Volume to Capacity	0.02	0.05	0.04	0.00	0.01	0.02
Queue Length 95th (ft)	1	0	0	0	1	2
Control Delay (s)	7.4	0.0	0.0	8.7	9.4	8.7
Lane LOS	A			A	A	A
Approach Delay (s)	1.6		0.0	8.7	8.9	
Approach LOS				A	A	

Intersection Summary				
Average Delay	2.2			
Intersection Capacity Utilization	20.0%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	98	51	12	14	36	16	212	37	332
v/c Ratio	0.21	0.09	0.03	0.03	0.06	0.04	0.37	0.08	0.52
Control Delay	11.2	10.7	10.5	16.6	0.2	7.6	13.8	7.8	12.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.2	10.7	10.5	16.6	0.2	7.6	13.8	7.8	12.6
Queue Length 50th (ft)	10	3	1	2	0	2	31	5	45
Queue Length 95th (ft)	46	31	11	15	0	9	90	16	131
Internal Link Dist (ft)		664		382			5454		385
Turn Bay Length (ft)	150		150		150	125		200	
Base Capacity (vph)	476	844	386	820	868	419	870	489	873
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.06	0.03	0.02	0.04	0.04	0.24	0.08	0.38

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	93	31	17	11	13	34	15	189	12	35	194	122
Future Volume (vph)	93	31	17	11	13	34	15	189	12	35	194	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	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	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	1.00	0.85	1.00	0.99		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1754		1543	1743	1615	1805	1831		1805	1730	
Flt Permitted	0.66	1.00		0.72	1.00	1.00	0.47	1.00		0.60	1.00	
Satd. Flow (perm)	1229	1754		1175	1743	1615	898	1831		1132	1730	
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)	98	33	18	12	14	36	16	199	13	37	204	128
RTOR Reduction (vph)	0	13	0	0	0	26	0	4	0	0	38	0
Lane Group Flow (vph)	98	38	0	12	14	10	16	208	0	37	294	0
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	2%	4%	0%	17%	9%	0%	0%	3%	0%	0%	3%	2%
Turn Type	pm+pt	NA		pm+pt	NA	custom	pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6		8	8			4		
Actuated Green, G (s)	13.8	11.8		11.0	10.4	12.2	12.8	12.2		14.0	12.8	
Effective Green, g (s)	13.8	11.8		11.0	10.4	12.2	12.8	12.2		14.0	12.8	
Actuated g/C Ratio	0.32	0.27		0.25	0.24	0.28	0.29	0.28		0.32	0.29	
Clearance Time (s)	4.5	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	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	411	472		300	413	449	274	510		380	505	
v/s Ratio Prot	c0.01	0.02		0.00	0.01		0.00	0.11		c0.00	c0.17	
v/s Ratio Perm	c0.06			0.01		0.01	0.02			0.03		
v/c Ratio	0.24	0.08		0.04	0.03	0.02	0.06	0.41		0.10	0.58	
Uniform Delay, d1	10.9	11.9		12.4	12.8	11.5	11.1	12.9		10.4	13.2	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	0.1		0.1	0.0	0.0	0.1	0.5		0.1	1.7	
Delay (s)	11.2	12.0		12.4	12.9	11.5	11.2	13.4		10.5	14.9	
Level of Service	B	B		B	B	B	B	B		B	B	
Approach Delay (s)		11.5			12.0			13.2			14.5	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	13.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	43.8	Sum of lost time (s)	18.0
Intersection Capacity Utilization	44.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Appendix F: 2019 With Project Conditions Operations Worksheets

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	56	1272	155	256	1599	155	275	164	223	166	349	181
v/c Ratio	0.47	0.90	0.18	0.82	0.89	0.15	0.84	0.47	0.36	0.82	0.89	0.36
Control Delay	29.1	47.0	5.1	51.0	29.7	2.2	79.2	50.7	18.4	85.5	73.1	24.7
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	29.1	47.0	5.1	51.0	29.7	2.2	79.2	50.7	18.4	85.5	73.1	24.7
Queue Length 50th (ft)	20	548	14	132	672	19	118	123	73	138	287	80
Queue Length 95th (ft)	47	#727	50	#356	#947	m27	#175	189	145	210	374	129
Internal Link Dist (ft)		2582			824			385			4570	
Turn Bay Length (ft)	420		215	250		250	200		150	275		275
Base Capacity (vph)	193	1414	883	312	1789	1082	366	407	622	276	513	567
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	0.29	0.90	0.18	0.82	0.89	0.14	0.75	0.40	0.36	0.60	0.68	0.32

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	1234	150	248	1551	150	267	159	216	161	339	176
Future Volume (vph)	54	1234	150	248	1551	150	267	159	216	161	339	176
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			3%	
Total Lost time (s)	4.0	6.0	4.0	4.0	6.0	4.0	4.0	5.0	4.0	4.0	5.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	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)	1641	3505	1569	1787	3539	1525	3400	1827	1524	1710	1853	1575
Flt Permitted	0.08	1.00	1.00	0.07	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	132	3505	1569	133	3539	1525	3400	1827	1524	1710	1853	1575
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	56	1272	155	256	1599	155	275	164	223	166	349	181
RTOR Reduction (vph)	0	0	60	0	0	48	0	0	61	0	0	44
Lane Group Flow (vph)	56	1272	95	256	1599	107	275	164	162	166	349	137
Confl. Peds. (#/hr)	1		1	1		1						
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	10%	3%	1%	1%	2%	4%	3%	4%	6%	4%	1%	1%
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases	2		2	6		6			8			4
Actuated Green, G (s)	57.4	52.4	65.0	74.7	65.7	81.1	12.6	24.9	43.2	15.4	27.7	32.7
Effective Green, g (s)	57.4	52.4	65.0	74.7	65.7	81.1	12.6	24.9	43.2	15.4	27.7	32.7
Actuated g/C Ratio	0.44	0.40	0.50	0.57	0.51	0.62	0.10	0.19	0.33	0.12	0.21	0.25
Clearance Time (s)	4.0	6.0	4.0	4.0	6.0	4.0	4.0	5.0	4.0	4.0	5.0	4.0
Vehicle Extension (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lane Grp Cap (vph)	116	1412	784	309	1788	951	329	349	506	202	394	396
v/s Ratio Prot	0.02	0.36	0.01	c0.12	c0.45	0.01	0.08	0.09	0.04	c0.10	c0.19	0.01
v/s Ratio Perm	0.19		0.05	0.36		0.06			0.06			0.07
v/c Ratio	0.48	0.90	0.12	0.83	0.89	0.11	0.84	0.47	0.32	0.82	0.89	0.35
Uniform Delay, d1	27.0	36.4	17.3	38.4	29.0	9.9	57.7	46.7	32.4	56.0	49.6	39.9
Progression Factor	1.00	1.00	1.00	1.04	0.75	0.83	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.2	9.5	0.0	12.3	5.7	0.0	15.9	0.4	0.1	21.8	20.0	0.2
Delay (s)	28.2	45.9	17.3	52.2	27.5	8.2	73.6	47.1	32.6	77.8	69.6	40.1
Level of Service	C	D	B	D	C	A	E	D	C	E	E	D
Approach Delay (s)		42.3			29.2			53.2			63.9	
Approach LOS		D			C			D			E	

Intersection Summary			
HCM 2000 Control Delay	41.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	89.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	9	1368	4	487	1886	14	124	8	376	100	64
v/c Ratio	0.21	0.66	0.00	0.90	0.69	0.01	0.76	0.05	0.76	0.58	0.33
Control Delay	90.6	38.9	0.0	67.7	11.6	0.0	81.1	51.0	41.8	65.3	28.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
Total Delay	90.6	38.9	0.0	67.7	11.6	0.0	81.1	51.0	42.1	65.3	28.8
Queue Length 50th (ft)	7	567	0	215	419	0	97	6	219	77	19
Queue Length 95th (ft)	m10	579	m0	#285	678	m0	152	22	318	127	62
Internal Link Dist (ft)		872			1344			436			5233
Turn Bay Length (ft)	250		200	375			200		290	125	
Base Capacity (vph)	43	2076	1080	586	2738	1082	356	453	514	378	437
Starvation Cap Reductn	0	0	0	0	0	0	0	0	11	0	0
Spillback Cap Reductn	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
Reduced v/c Ratio	0.21	0.66	0.00	0.83	0.69	0.01	0.35	0.02	0.75	0.26	0.15

Intersection Summary

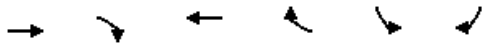
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	1300	4	463	1792	13	118	8	357	95	23	38
Future Volume (vph)	9	1300	4	463	1792	13	118	8	357	95	23	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0	4.0	4.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	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	0.91	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1805	3471	1615	3467	3539	1376	1805	1900	1538	1787	1706	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.69	1.00	1.00	0.75	1.00	
Satd. Flow (perm)	1805	3471	1615	3467	3539	1376	1319	1900	1538	1415	1706	
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)	9	1368	4	487	1886	14	124	8	376	100	24	40
RTOR Reduction (vph)	0	0	2	0	0	4	0	0	69	0	36	0
Lane Group Flow (vph)	9	1368	2	487	1886	10	124	8	307	100	28	0
Confl. Bikes (#/hr)						1						1
Heavy Vehicles (%)	0%	4%	0%	1%	2%	15%	0%	0%	5%	1%	0%	0%
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA	
Protected Phases	5	2	3	1	6		3	8	1	7	4	
Permitted Phases			2			6	8		8	4		
Actuated Green, G (s)	0.6	77.8	80.8	20.2	97.4	97.4	15.0	12.0	32.2	15.0	12.0	
Effective Green, g (s)	0.6	77.8	80.8	20.2	97.4	97.4	15.0	12.0	32.2	15.0	12.0	
Actuated g/C Ratio	0.00	0.60	0.62	0.16	0.75	0.75	0.12	0.09	0.25	0.12	0.09	
Clearance Time (s)	4.0	5.0	4.0	4.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
Lane Grp Cap (vph)	8	2077	1003	538	2651	1030	163	175	428	171	157	
v/s Ratio Prot	c0.00	0.39	0.00	c0.14	c0.53		c0.02	0.00	c0.11	0.01	0.02	
v/s Ratio Perm			0.00			0.01	0.07		0.09	0.05		
v/c Ratio	1.12	0.66	0.00	0.91	0.71	0.01	0.76	0.05	0.72	0.58	0.18	
Uniform Delay, d1	64.7	17.3	9.3	54.0	8.8	4.1	55.4	53.8	44.7	54.1	54.4	
Progression Factor	1.34	2.03	1.00	0.95	1.25	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	291.0	1.0	0.0	14.4	1.2	0.0	17.0	0.0	4.7	3.3	0.2	
Delay (s)	377.6	36.1	9.3	65.6	12.1	4.1	72.4	53.8	49.5	57.4	54.6	
Level of Service	F	D	A	E	B	A	E	D	D	E	D	
Approach Delay (s)		38.2			23.0			55.1			56.3	
Approach LOS		D			C			E			E	

Intersection Summary			
HCM 2000 Control Delay	32.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	76.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

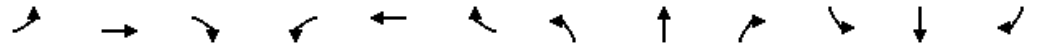


Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	1669	156	882	221	90	1482
v/c Ratio	0.81	0.10	0.56	0.15	0.68	0.86
Control Delay	26.3	0.1	33.9	0.2	83.2	20.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.3	0.1	33.9	0.2	83.2	20.5
Queue Length 50th (ft)	674	0	301	0	75	388
Queue Length 95th (ft)	715	m0	444	0	#155	366
Internal Link Dist (ft)	1344		678			
Turn Bay Length (ft)		150		250		475
Base Capacity (vph)	2105	1599	1588	1493	132	1974
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.79	0.10	0.56	0.15	0.68	0.75

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.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↱		↑↑	↱				↰		↱↱
Traffic Volume (vph)	0	1602	150	0	847	212	0	0	0	86	0	1423
Future Volume (vph)	0	1602	150	0	847	212	0	0	0	86	0	1423
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	4.0		5.0	4.0				4.0		1.5
Lane Util. Factor		0.95	1.00		0.95	1.00				1.00		0.88
Frpb, ped/bikes		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
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		3471	1599		3539	1493				1570		2787
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		3471	1599		3539	1493				1570		2787
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	1669	156	0	882	221	0	0	0	90	0	1482
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	320
Lane Group Flow (vph)	0	1669	156	0	882	221	0	0	0	90	0	1162
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	4%	1%	0%	2%	6%	0%	0%	0%	15%	0%	2%
Turn Type		NA	Free		NA	Free				Perm		custom
Protected Phases		2			6							5 7 8
Permitted Phases			Free			Free				7		
Actuated Green, G (s)		77.7	130.0		58.4	130.0				11.0		62.6
Effective Green, g (s)		77.7	130.0		58.4	130.0				11.0		65.1
Actuated g/C Ratio		0.60	1.00		0.45	1.00				0.08		0.50
Clearance Time (s)		5.0			5.0					4.0		
Vehicle Extension (s)		0.5			0.5					0.5		
Lane Grp Cap (vph)		2074	1599		1589	1493				132		1395
v/s Ratio Prot		c0.48			0.25							c0.42
v/s Ratio Perm			0.10			0.15				0.06		
v/c Ratio		0.80	0.10		0.56	0.15				0.68		0.83
Uniform Delay, d1		20.3	0.0		26.3	0.0				57.8		27.8
Progression Factor		1.11	1.00		1.12	1.00				1.00		1.00
Incremental Delay, d2		2.6	0.1		1.3	0.2				11.0		4.2
Delay (s)		25.1	0.1		30.8	0.2				68.8		32.0
Level of Service		C	A		C	A				E		C
Approach Delay (s)		23.0			24.7			0.0			34.1	
Approach LOS		C			C			A			C	

Intersection Summary			
HCM 2000 Control Delay	27.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	80.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBT	NBT	NBR
Lane Group Flow (vph)	677	1360	91	171
v/c Ratio	0.23	0.48	0.67	0.66
Control Delay	3.1	3.0	81.7	20.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	3.1	3.0	81.7	20.5
Queue Length 50th (ft)	89	98	76	0
Queue Length 95th (ft)	100	165	131	71
Internal Link Dist (ft)	678	1854	904	
Turn Bay Length (ft)				150
Base Capacity (vph)	2973	2835	529	517
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.23	0.48	0.17	0.33

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑↱			↰	↱			
Traffic Volume (vph)	0	630	0	0	975	290	84	1	159	0	0	0
Future Volume (vph)	0	630	0	0	975	290	84	1	159	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-4%			4%			0%			0%	
Total Lost time (s)		5.0			5.0			4.0	4.0			
Lane Util. Factor		0.95			0.95			1.00	1.00			
Frpb, ped/bikes		1.00			1.00			1.00	1.00			
Flpb, ped/bikes		1.00			1.00			1.00	1.00			
Frt		1.00			0.97			1.00	0.85			
Flt Protected		1.00			1.00			0.95	1.00			
Satd. Flow (prot)		3474			3302			1810	1357			
Flt Permitted		1.00			1.00			0.95	1.00			
Satd. Flow (perm)		3474			3302			1810	1357			
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	677	0	0	1048	312	90	1	171	0	0	0
RTOR Reduction (vph)	0	0	0	0	8	0	0	0	158	0	0	0
Lane Group Flow (vph)	0	677	0	0	1352	0	0	91	13	0	0	0
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	6%	4%	0%	3%	5%	0%	0%	19%	0%	0%	0%
Turn Type		NA			NA		Split	NA	Perm			
Protected Phases		2			6		8	8				
Permitted Phases									8			
Actuated Green, G (s)		111.3			111.3			9.7	9.7			
Effective Green, g (s)		111.3			111.3			9.7	9.7			
Actuated g/C Ratio		0.86			0.86			0.07	0.07			
Clearance Time (s)		5.0			5.0			4.0	4.0			
Vehicle Extension (s)		0.5			0.5			0.5	0.5			
Lane Grp Cap (vph)		2974			2827			135	101			
v/s Ratio Prot		0.19			c0.41			c0.05				
v/s Ratio Perm									0.01			
v/c Ratio		0.23			0.48			0.67	0.13			
Uniform Delay, d1		1.7			2.3			58.6	56.2			
Progression Factor		1.61			1.00			1.00	1.00			
Incremental Delay, d2		0.1			0.6			10.0	0.2			
Delay (s)		2.8			2.9			68.6	56.4			
Level of Service		A			A			E	E			
Approach Delay (s)		2.8			2.9			60.6			0.0	
Approach LOS		A			A			E			A	

Intersection Summary			
HCM 2000 Control Delay	9.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	48.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

MOVEMENT SUMMARY

Site: 9 [Site Access East]

27th Ave and Site Drive East -PM Peak Hour
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: 27th Ave											
3	L2	1	1.0	0.207	6.3	LOS A	0.9	23.2	0.54	0.48	27.6
8	T1	176	2.0	0.207	6.3	LOS A	0.9	23.2	0.54	0.48	27.4
18	R2	1	1.0	0.207	6.3	LOS A	0.9	23.2	0.54	0.48	26.8
Approach		178	2.0	0.207	6.3	LOS A	0.9	23.2	0.54	0.48	27.4
East: Zone Change Lot Drive											
1	L2	1	1.0	0.005	5.0	LOS A	0.0	0.5	0.55	0.37	27.4
6	T1	1	1.0	0.005	5.0	LOS A	0.0	0.5	0.55	0.37	27.2
16	R2	1	1.0	0.005	5.0	LOS A	0.0	0.5	0.55	0.37	26.5
Approach		4	1.0	0.005	5.0	LOS A	0.0	0.5	0.55	0.37	27.0
North: 27th Ave											
7	L2	1	1.0	0.130	3.6	LOS A	0.6	14.3	0.03	0.00	28.5
4	T1	180	2.0	0.130	3.6	LOS A	0.6	14.3	0.03	0.00	28.3
14	R2	443	1.0	0.316	5.3	LOS A	1.8	44.2	0.04	0.01	26.7
Approach		624	1.3	0.316	4.8	LOS A	1.8	44.2	0.04	0.01	27.2
West: Costco Site Access East											
5	L2	435	1.0	0.395	7.2	LOS A	2.4	59.5	0.46	0.31	25.7
2	T1	1	1.0	0.395	7.2	LOS A	2.4	59.5	0.46	0.31	25.6
12	R2	10	1.0	0.395	7.2	LOS A	2.4	59.5	0.46	0.31	25.0
Approach		447	1.0	0.395	7.2	LOS A	2.4	59.5	0.46	0.31	25.7
All Vehicles		1253	1.3	0.395	5.9	LOS A	2.4	59.5	0.26	0.18	26.7

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	126	21	12	0	14	9	7	4	0	15	8	127
Future Volume (vph)	126	21	12	0	14	9	7	4	0	15	8	127
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Hourly flow rate (vph)	159	27	15	0	18	11	9	5	0	19	10	161

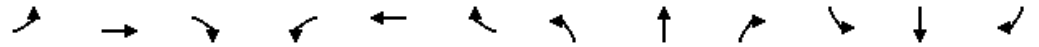
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1	SB 2
Volume Total (vph)	159	42	29	14	19	171
Volume Left (vph)	159	0	0	9	19	0
Volume Right (vph)	0	15	11	0	0	161
Hadj (s)	0.58	-0.25	-0.23	0.13	0.50	-0.64
Departure Headway (s)	5.6	4.8	5.0	5.5	5.6	4.5
Degree Utilization, x	0.25	0.06	0.04	0.02	0.03	0.21
Capacity (veh/h)	616	723	676	622	608	765
Control Delay (s)	9.2	6.8	8.2	8.6	7.6	7.5
Approach Delay (s)	8.7		8.2	8.6	7.5	
Approach LOS	A		A	A	A	

Intersection Summary				
Delay	8.2			
Level of Service	A			
Intersection Capacity Utilization	28.6%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	73	112	148	0	47	66
Future Volume (Veh/h)	73	112	148	0	47	66
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79
Hourly flow rate (vph)	92	142	187	0	59	84
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		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (ft)		1222				
pX, platoon unblocked						
vC, conflicting volume	188				514	189
vC1, stage 1 conf vol					188	
vC2, stage 2 conf vol					326	
vCu, unblocked vol	188				514	189
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	93				91	90
cM capacity (veh/h)	1397				639	857

Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2
Volume Total	92	142	187	59	84
Volume Left	92	0	0	59	0
Volume Right	0	0	0	0	84
cSH	1397	1700	1700	639	857
Volume to Capacity	0.07	0.08	0.11	0.09	0.10
Queue Length 95th (ft)	5	0	0	8	8
Control Delay (s)	7.8	0.0	0.0	11.2	9.7
Lane LOS	A			B	A
Approach Delay (s)	3.1		0.0	10.3	
Approach LOS				B	

Intersection Summary			
Average Delay	3.9		
Intersection Capacity Utilization	25.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	108	142	0	0	145	6	0	0	0	32	0	321
Future Volume (Veh/h)	108	142	0	0	145	6	0	0	0	32	0	321
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
Hourly flow rate (vph)	152	200	0	0	204	8	0	0	0	45	0	452
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)		462										
pX, platoon unblocked												
vC, conflicting volume	212			200			1164	716	200	712	712	208
vC1, stage 1 conf vol							504	504		208	208	
vC2, stage 2 conf vol							660	212		504	504	
vCu, unblocked vol	212			200			1164	716	200	712	712	208
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.2	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.2	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.6	4.0	3.3
p0 queue free %	89			100			100	100	100	90	100	46
cM capacity (veh/h)	1370			1384			73	440	846	449	456	837

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1	SB 2
Volume Total	152	200	212	0	45	452
Volume Left	152	0	0	0	45	0
Volume Right	0	0	8	0	0	452
cSH	1370	1700	1700	1700	449	837
Volume to Capacity	0.11	0.12	0.12	0.00	0.10	0.54
Queue Length 95th (ft)	9	0	0	0	8	82
Control Delay (s)	8.0	0.0	0.0	0.0	13.9	14.2
Lane LOS	A			A	B	B
Approach Delay (s)	3.4		0.0	0.0	14.2	
Approach LOS				A	B	

Intersection Summary				
Average Delay	7.8			
Intersection Capacity Utilization	34.5%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	109	85	80	66	345	9	296	129	645
v/c Ratio	0.31	0.21	0.22	0.20	0.44	0.03	0.49	0.25	0.75
Control Delay	17.8	17.4	16.2	22.7	4.0	6.9	16.6	8.1	18.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.8	17.4	16.2	22.7	4.0	6.9	16.6	8.1	18.2
Queue Length 50th (ft)	23	16	17	18	0	1	67	19	123
Queue Length 95th (ft)	65	55	50	53	44	6	133	43	#381
Internal Link Dist (ft)		664		382			5454		385
Turn Bay Length (ft)	150		150		150	125		200	
Base Capacity (vph)	350	682	360	677	999	292	898	528	1024
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.12	0.22	0.10	0.35	0.03	0.33	0.24	0.63

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	57	24	76	63	328	9	210	71	123	366	247
Future Volume (vph)	104	57	24	76	63	328	9	210	71	123	366	247
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	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	1.00	
Frt	1.00	0.96		1.00	1.00	0.85	1.00	0.96		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1703	1816		1805	1845	1615	1805	1716		1805	1760	
Flt Permitted	0.66	1.00		0.70	1.00	1.00	0.23	1.00		0.42	1.00	
Satd. Flow (perm)	1183	1816		1333	1845	1615	432	1716		793	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)	109	60	25	80	66	345	9	221	75	129	385	260
RTOR Reduction (vph)	0	20	0	0	0	223	0	17	0	0	32	0
Lane Group Flow (vph)	109	65	0	80	66	122	9	279	0	129	613	0
Heavy Vehicles (%)	6%	0%	0%	0%	3%	0%	0%	5%	11%	0%	1%	2%
Turn Type	pm+pt	NA		pm+pt	NA	custom	pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6		8	8			4		
Actuated Green, G (s)	13.6	10.6		12.0	9.8	19.5	20.1	19.5		28.3	23.6	
Effective Green, g (s)	13.6	10.6		12.0	9.8	19.5	20.1	19.5		28.3	23.6	
Actuated g/C Ratio	0.25	0.19		0.22	0.18	0.35	0.37	0.35		0.51	0.43	
Clearance Time (s)	4.5	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	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	320	349		309	328	572	172	608		494	755	
v/s Ratio Prot	c0.02	0.04		0.01	0.04		0.00	0.16		c0.02	c0.35	
v/s Ratio Perm	c0.07			0.05		0.08	0.02			0.11		
v/c Ratio	0.34	0.19		0.26	0.20	0.21	0.05	0.46		0.26	0.81	
Uniform Delay, d1	16.7	18.6		17.6	19.3	12.4	11.9	13.7		7.4	13.8	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	0.3		0.4	0.3	0.2	0.1	0.5		0.3	6.6	
Delay (s)	17.3	18.8		18.0	19.6	12.6	12.0	14.2		7.7	20.4	
Level of Service	B	B		B	B	B	B	B		A	C	
Approach Delay (s)		18.0			14.4			14.2			18.3	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	16.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	61.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	47	1322	131	146	1085	113	313	128	217	115	150	70
v/c Ratio	0.18	0.73	0.12	0.62	0.54	0.11	0.89	0.45	0.44	0.81	0.62	0.22
Control Delay	6.0	19.7	2.5	24.7	17.8	2.0	76.4	45.6	23.6	88.0	54.9	8.7
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	6.0	19.7	2.5	24.7	17.8	2.0	76.4	45.6	23.6	88.0	54.9	8.7
Queue Length 50th (ft)	3	302	9	34	234	0	113	86	86	80	104	1
Queue Length 95th (ft)	m15	m#630	m32	#153	405	24	#189	121	132	#168	143	32
Internal Link Dist (ft)		2582			824			385			4570	
Turn Bay Length (ft)	420		215	250		250	200		150	275		275
Base Capacity (vph)	262	1815	1120	235	2026	1074	363	519	488	160	493	319
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	0.18	0.73	0.12	0.62	0.54	0.11	0.86	0.25	0.44	0.72	0.30	0.22

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	1269	126	140	1042	108	300	123	208	110	144	67
Future Volume (vph)	45	1269	126	140	1042	108	300	123	208	110	144	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			3%	
Total Lost time (s)	4.0	6.0	4.0	4.0	6.0	4.0	4.0	5.0	4.0	4.0	5.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	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)	1719	3505	1583	1736	3539	1523	3335	1845	1599	1760	1872	1528
Flt Permitted	0.21	1.00	1.00	0.10	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	384	3505	1583	184	3539	1523	3335	1845	1599	1760	1872	1528
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	47	1322	131	146	1085	112	312	128	217	115	150	70
RTOR Reduction (vph)	0	0	49	0	0	40	0	0	53	0	0	58
Lane Group Flow (vph)	47	1322	82	146	1085	73	313	128	164	115	150	12
Confl. Peds. (#/hr)	1					1	1					1
Heavy Vehicles (%)	5%	3%	2%	4%	2%	4%	5%	3%	1%	1%	0%	3%
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases	2		2	6		6			8			4
Actuated Green, G (s)	60.0	57.0	68.6	69.2	62.2	71.1	11.6	16.9	25.1	8.9	14.2	17.2
Effective Green, g (s)	60.0	57.0	68.6	69.2	62.2	71.1	11.6	16.9	25.1	8.9	14.2	17.2
Actuated g/C Ratio	0.55	0.52	0.62	0.63	0.57	0.65	0.11	0.15	0.23	0.08	0.13	0.16
Clearance Time (s)	4.0	6.0	4.0	4.0	6.0	4.0	4.0	5.0	4.0	4.0	5.0	4.0
Vehicle Extension (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lane Grp Cap (vph)	245	1816	987	231	2001	984	351	283	364	142	241	238
v/s Ratio Prot	0.01	c0.38	0.01	c0.05	0.31	0.01	c0.09	c0.07	0.03	0.07	c0.08	0.00
v/s Ratio Perm	0.10		0.04	0.35		0.04			0.07			0.01
v/c Ratio	0.19	0.73	0.08	0.63	0.54	0.07	0.89	0.45	0.45	0.81	0.62	0.05
Uniform Delay, d1	12.3	20.5	8.2	15.5	15.0	7.2	48.6	42.3	36.5	49.7	45.4	39.5
Progression Factor	0.47	0.76	1.34	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	2.0	0.0	4.1	1.1	0.0	23.0	0.4	0.3	26.4	3.6	0.0
Delay (s)	5.9	17.5	11.0	19.6	16.0	7.2	71.6	42.8	36.8	76.1	48.9	39.5
Level of Service	A	B	B	B	B	A	E	D	D	E	D	D
Approach Delay (s)		16.6			15.7			54.5			56.3	
Approach LOS		B			B			D			E	

Intersection Summary			
HCM 2000 Control Delay	26.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	75.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

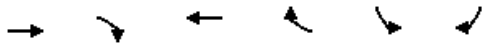
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	17	1303	2	471	1184	26	157	8	422	15	25
v/c Ratio	0.18	0.78	0.00	0.75	0.49	0.02	0.67	0.03	0.70	0.06	0.11
Control Delay	55.8	26.0	0.0	47.1	10.4	0.0	52.6	38.2	25.9	34.1	24.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.8	26.0	0.0	47.1	10.4	0.0	52.6	38.2	25.9	34.1	24.2
Queue Length 50th (ft)	10	297	0	130	116	0	83	4	145	7	5
Queue Length 95th (ft)	39	626	0	260	444	0	163	19	301	27	30
Internal Link Dist (ft)		872			1344			461			5233
Turn Bay Length (ft)	250		200	375			200		290	125	
Base Capacity (vph)	121	2266	1004	910	2855	1331	440	714	733	583	636
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.58	0.00	0.52	0.41	0.02	0.36	0.01	0.58	0.03	0.04

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	1238	2	447	1125	25	149	8	401	14	9	15
Future Volume (vph)	16	1238	2	447	1125	25	149	8	401	14	9	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0	4.0	4.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	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	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.90	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1805	3505	1615	3367	3505	1615	1805	1900	1574	1804	1718	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.51	1.00	1.00	0.75	1.00	
Satd. Flow (perm)	1805	3505	1615	3367	3505	1615	961	1900	1574	1429	1718	
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)	17	1303	2	471	1184	26	157	8	422	15	9	16
RTOR Reduction (vph)	0	0	1	0	0	9	0	0	62	0	15	0
Lane Group Flow (vph)	17	1303	1	471	1184	17	157	8	360	15	10	0
Confl. Peds. (#/hr)									1	1		
Heavy Vehicles (%)	0%	3%	0%	4%	3%	0%	0%	0%	2%	0%	0%	0%
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA	
Protected Phases	5	2	3	1	6		3	8	1	7	4	
Permitted Phases			2			6	8		8	4		
Actuated Green, G (s)	1.5	47.7	54.9	17.1	63.3	63.3	19.8	14.9	32.0	9.5	8.6	
Effective Green, g (s)	1.5	47.7	54.9	17.1	63.3	63.3	19.8	14.9	32.0	9.5	8.6	
Actuated g/C Ratio	0.02	0.49	0.56	0.18	0.65	0.65	0.20	0.15	0.33	0.10	0.09	
Clearance Time (s)	4.0	5.0	4.0	4.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
Lane Grp Cap (vph)	27	1712	908	589	2273	1047	257	290	580	142	151	
v/s Ratio Prot	0.01	c0.37	0.00	c0.14	0.34		c0.05	0.00	c0.11	0.00	0.01	
v/s Ratio Perm			0.00			0.01	0.08		0.12	0.01		
v/c Ratio	0.63	0.76	0.00	0.80	0.52	0.02	0.61	0.03	0.62	0.11	0.07	
Uniform Delay, d1	47.8	20.3	9.3	38.6	9.1	6.1	34.2	35.2	27.7	40.1	40.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	28.6	1.8	0.0	7.0	0.1	0.0	3.0	0.0	1.5	0.1	0.1	
Delay (s)	76.4	22.2	9.3	45.6	9.2	6.1	37.2	35.2	29.2	40.2	40.9	
Level of Service	E	C	A	D	A	A	D	D	C	D	D	
Approach Delay (s)		22.8			19.4			31.4			40.6	
Approach LOS		C			B			C			D	

Intersection Summary			
HCM 2000 Control Delay	22.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	97.6	Sum of lost time (s)	17.0
Intersection Capacity Utilization	73.3%	ICU Level of Service	D
Analysis Period (min)	15		

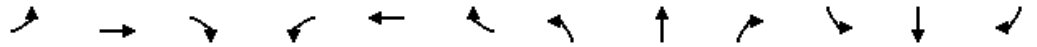
c Critical Lane Group



Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	1613	91	630	68	86	1018
v/c Ratio	0.77	0.06	0.39	0.04	0.42	0.68
Control Delay	17.1	0.1	15.9	0.1	49.3	13.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.1	0.1	15.9	0.1	49.3	13.6
Queue Length 50th (ft)	269	0	97	0	40	124
Queue Length 95th (ft)	584	0	199	0	#126	271
Internal Link Dist (ft)	1344		678			
Turn Bay Length (ft)		150		250		475
Base Capacity (vph)	2816	1583	1984	1538	211	1893
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.06	0.32	0.04	0.41	0.54

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↱		↑↑	↱				↰		↱↱
Traffic Volume (vph)	0	1565	88	0	611	66	0	0	0	83	0	987
Future Volume (vph)	0	1565	88	0	611	66	0	0	0	83	0	987
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	4.0		5.0	4.0				4.0		1.5
Lane Util. Factor		0.95	1.00		0.95	1.00				1.00		0.88
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		3505	1583		3471	1538				1736		2787
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		3505	1583		3471	1538				1736		2787
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	1613	91	0	630	68	0	0	0	86	0	1018
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	246
Lane Group Flow (vph)	0	1613	91	0	630	68	0	0	0	86	0	772
Heavy Vehicles (%)	0%	3%	2%	0%	4%	5%	0%	0%	0%	4%	0%	2%
Turn Type		NA	Free		NA	Free				Perm		custom
Protected Phases		2			6							5 7 8
Permitted Phases			Free			Free				7		
Actuated Green, G (s)		51.5	85.7		41.0	85.7				10.3		35.7
Effective Green, g (s)		51.5	85.7		41.0	85.7				10.3		38.2
Actuated g/C Ratio		0.60	1.00		0.48	1.00				0.12		0.45
Clearance Time (s)		5.0			5.0					4.0		
Vehicle Extension (s)		0.5			0.5					0.5		
Lane Grp Cap (vph)		2106	1583		1660	1538				208		1242
v/s Ratio Prot		c0.46			0.18							c0.28
v/s Ratio Perm			0.06			0.04				0.05		
v/c Ratio		0.77	0.06		0.38	0.04				0.41		0.62
Uniform Delay, d1		12.6	0.0		14.2	0.0				34.9		18.2
Progression Factor		1.00	1.00		1.00	1.00				1.00		1.00
Incremental Delay, d2		1.5	0.1		0.1	0.1				0.5		0.7
Delay (s)		14.2	0.1		14.3	0.1				35.4		18.9
Level of Service		B	A		B	A				D		B
Approach Delay (s)		13.4			12.9			0.0			20.2	
Approach LOS		B			B			A			C	

Intersection Summary			
HCM 2000 Control Delay	15.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	85.7	Sum of lost time (s)	9.5
Intersection Capacity Utilization	58.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBT	NBT	NBR
Lane Group Flow (vph)	691	733	89	109
v/c Ratio	0.35	0.40	0.23	0.26
Control Delay	5.4	5.4	10.6	4.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	5.4	5.4	10.6	4.6
Queue Length 50th (ft)	28	29	9	0
Queue Length 95th (ft)	48	51	30	19
Internal Link Dist (ft)	678	1854	904	
Turn Bay Length (ft)				150
Base Capacity (vph)	3541	3313	1776	1482
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.20	0.22	0.05	0.07

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	656	0	0	595	102	83	2	104	0	0	0
Future Volume (vph)	0	656	0	0	595	102	83	2	104	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-4%			4%			0%			0%	
Total Lost time (s)		5.0			5.0			4.0	4.0			
Lane Util. Factor		0.95			0.95			1.00	1.00			
Frt		1.00			0.98			1.00	0.85			
Flt Protected		1.00			1.00			0.95	1.00			
Satd. Flow (prot)		3541			3313			1777	1482			
Flt Permitted		1.00			1.00			0.95	1.00			
Satd. Flow (perm)		3541			3313			1777	1482			
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)	0	691	0	0	626	107	87	2	109	0	0	0
RTOR Reduction (vph)	0	0	0	0	17	0	0	0	90	0	0	0
Lane Group Flow (vph)	0	691	0	0	716	0	0	89	19	0	0	0
Heavy Vehicles (%)	0%	4%	2%	0%	4%	7%	2%	0%	9%	0%	0%	0%
Turn Type		NA			NA		Split	NA	Perm			
Protected Phases		2			6		8	8				
Permitted Phases									8			
Actuated Green, G (s)		14.5			14.5			5.0	5.0			
Effective Green, g (s)		14.5			14.5			5.0	5.0			
Actuated g/C Ratio		0.51			0.51			0.18	0.18			
Clearance Time (s)		5.0			5.0			4.0	4.0			
Vehicle Extension (s)		0.5			0.5			0.5	0.5			
Lane Grp Cap (vph)		1801			1685			311	260			
v/s Ratio Prot		0.20			c0.22			c0.05				
v/s Ratio Perm									0.01			
v/c Ratio		0.38			0.43			0.29	0.07			
Uniform Delay, d1		4.3			4.4			10.2	9.8			
Progression Factor		1.00			1.00			1.00	1.00			
Incremental Delay, d2		0.0			0.1			0.2	0.0			
Delay (s)		4.3			4.5			10.4	9.9			
Level of Service		A			A			B	A			
Approach Delay (s)		4.3			4.5			10.1			0.0	
Approach LOS		A			A			B			A	

Intersection Summary			
HCM 2000 Control Delay	5.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	28.5	Sum of lost time (s)	9.0
Intersection Capacity Utilization	32.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

MOVEMENT SUMMARY

Site: 9 [Site Access East]

27th Ave and Site Drive East - Saturday Peak Hour
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: 27th Ave											
3	L2	1	1.0	0.232	7.1	LOS A	1.0	25.9	0.59	0.56	27.4
8	T1	182	1.0	0.232	7.1	LOS A	1.0	25.9	0.59	0.56	27.2
18	R2	1	1.0	0.232	7.1	LOS A	1.0	25.9	0.59	0.56	26.5
Approach		185	1.0	0.232	7.1	LOS A	1.0	25.9	0.59	0.56	27.2
East: Zone Change Lot Drive											
1	L2	1	1.0	0.006	5.5	LOS A	0.0	0.5	0.58	0.42	27.2
6	T1	1	1.0	0.006	5.5	LOS A	0.0	0.5	0.58	0.42	27.0
16	R2	1	1.0	0.006	5.5	LOS A	0.0	0.5	0.58	0.42	26.4
Approach		4	1.0	0.006	5.5	LOS A	0.0	0.5	0.58	0.42	26.9
North: 27th AVe											
7	L2	1	1.0	0.064	3.1	LOS A	0.3	6.5	0.03	0.00	28.7
4	T1	87	2.0	0.064	3.1	LOS A	0.3	6.5	0.03	0.00	28.5
14	R2	494	1.0	0.352	5.7	LOS A	2.1	51.9	0.04	0.01	26.6
Approach		582	1.2	0.352	5.3	LOS A	2.1	51.9	0.04	0.01	26.9
West: Costco Site Access East											
5	L2	523	1.0	0.431	7.2	LOS A	2.9	72.9	0.34	0.18	25.7
2	T1	1	1.0	0.431	7.2	LOS A	2.9	72.9	0.34	0.18	25.6
12	R2	13	1.0	0.431	7.2	LOS A	2.9	72.9	0.34	0.18	25.0
Approach		537	1.0	0.431	7.2	LOS A	2.9	72.9	0.34	0.18	25.7
All Vehicles		1308	1.1	0.431	6.3	LOS A	2.9	72.9	0.24	0.16	26.4

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	132	9	10	0	10	7	8	5	0	7	6	66
Future Volume (vph)	132	9	10	0	10	7	8	5	0	7	6	66
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	165	11	13	0	13	9	10	6	0	9	8	83

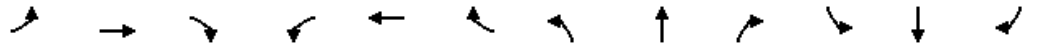
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1	SB 2
Volume Total (vph)	165	24	22	16	9	91
Volume Left (vph)	165	0	0	10	9	0
Volume Right (vph)	0	13	9	0	0	83
Hadj (s)	0.53	-0.38	-0.25	0.13	0.50	-0.58
Departure Headway (s)	5.3	4.4	4.8	5.3	5.6	4.5
Degree Utilization, x	0.24	0.03	0.03	0.02	0.01	0.11
Capacity (veh/h)	652	788	721	645	614	762
Control Delay (s)	8.8	6.4	7.9	8.4	7.5	6.9
Approach Delay (s)	8.5		7.9	8.4	6.9	
Approach LOS	A		A	A	A	

Intersection Summary				
Delay	8.0			
Level of Service	A			
Intersection Capacity Utilization	28.0%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	79	91	84	0	60	80
Future Volume (Veh/h)	79	91	84	0	60	80
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	99	114	105	0	75	100
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		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (ft)		1172				
pX, platoon unblocked						
vC, conflicting volume	106				418	107
vC1, stage 1 conf vol					106	
vC2, stage 2 conf vol					312	
vCu, unblocked vol	106				418	107
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	93				89	89
cM capacity (veh/h)	1497				667	951

Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2
Volume Total	99	114	105	75	100
Volume Left	99	0	0	75	0
Volume Right	0	0	0	0	100
cSH	1497	1700	1700	667	951
Volume to Capacity	0.07	0.07	0.06	0.11	0.11
Queue Length 95th (ft)	5	0	0	9	9
Control Delay (s)	7.6	0.0	0.0	11.1	9.2
Lane LOS	A			B	A
Approach Delay (s)	3.5		0.0	10.0	
Approach LOS				B	

Intersection Summary			
Average Delay	5.1		
Intersection Capacity Utilization	21.4%	ICU Level of Service	A
Analysis Period (min)	15		



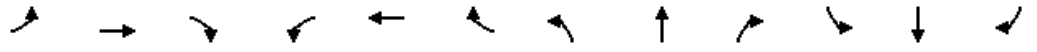
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	111	138	0	0	132	6	0	0	1	20	0	363
Future Volume (Veh/h)	111	138	0	0	132	6	0	0	1	20	0	363
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Hourly flow rate (vph)	159	197	0	0	189	9	0	0	1	29	0	519
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)		462										
pX, platoon unblocked												
vC, conflicting volume	198			197			1228	713	197	710	708	194
vC1, stage 1 conf vol							515	515		194	194	
vC2, stage 2 conf vol							712	198		516	515	
vCu, unblocked vol	198			197			1228	713	197	710	708	194
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	89			100			100	100	100	94	100	39
cM capacity (veh/h)	1387			1388			56	437	849	459	451	853

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1	SB 2
Volume Total	159	197	198	1	29	519
Volume Left	159	0	0	0	29	0
Volume Right	0	0	9	1	0	519
cSH	1387	1700	1700	849	459	853
Volume to Capacity	0.11	0.12	0.12	0.00	0.06	0.61
Queue Length 95th (ft)	10	0	0	0	5	106
Control Delay (s)	7.9	0.0	0.0	9.2	13.4	15.5
Lane LOS	A			A	B	C
Approach Delay (s)	3.5		0.0	9.2	15.4	
Approach LOS				A	C	

Intersection Summary					
Average Delay	8.8				
Intersection Capacity Utilization	43.1%	ICU Level of Service		A	
Analysis Period (min)	15				

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	98	89	81	52	389	16	253	119	310
v/c Ratio	0.24	0.22	0.23	0.14	0.52	0.03	0.47	0.24	0.42
Control Delay	13.1	16.0	13.3	18.0	4.9	7.6	15.1	8.9	10.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.1	16.0	13.3	18.0	4.9	7.6	15.1	8.9	10.5
Queue Length 50th (ft)	17	16	14	12	0	2	48	17	40
Queue Length 95th (ft)	46	50	40	37	49	10	104	42	125
Internal Link Dist (ft)		664		382			5454		385
Turn Bay Length (ft)	150		150		150	125		200	
Base Capacity (vph)	404	756	346	728	904	470	768	487	845
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.12	0.23	0.07	0.43	0.03	0.33	0.24	0.37

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	93	67	17	77	49	370	15	169	71	113	173	122
Future Volume (vph)	93	67	17	77	49	370	15	169	71	113	173	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	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	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	1.00	0.85	1.00	0.96		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1785		1543	1743	1615	1805	1778		1805	1722	
Flt Permitted	0.72	1.00		0.70	1.00	1.00	0.57	1.00		0.49	1.00	
Satd. Flow (perm)	1347	1785		1136	1743	1615	1086	1778		932	1722	
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)	98	71	18	81	52	389	16	178	75	119	182	128
RTOR Reduction (vph)	0	15	0	0	0	268	0	25	0	0	38	0
Lane Group Flow (vph)	98	74	0	81	52	121	16	228	0	119	272	0
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	2%	4%	0%	17%	9%	0%	0%	3%	0%	0%	3%	2%
Turn Type	pm+pt	NA		pm+pt	NA	custom	pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6		8	8			4		
Actuated Green, G (s)	11.0	9.0		11.0	9.0	14.5	15.1	14.5		19.9	16.9	
Effective Green, g (s)	11.0	9.0		11.0	9.0	14.5	15.1	14.5		19.9	16.9	
Actuated g/C Ratio	0.24	0.19		0.24	0.19	0.31	0.32	0.31		0.43	0.36	
Clearance Time (s)	4.5	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	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	336	345		286	337	503	361	554		455	625	
v/s Ratio Prot	c0.01	0.04		0.01	0.03		0.00	0.13		c0.02	c0.16	
v/s Ratio Perm	c0.06			0.05		0.08	0.01			0.09		
v/c Ratio	0.29	0.22		0.28	0.15	0.24	0.04	0.41		0.26	0.43	
Uniform Delay, d1	14.3	15.8		14.3	15.6	11.9	10.7	12.6		8.3	11.2	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	0.3		0.5	0.2	0.3	0.1	0.5		0.3	0.5	
Delay (s)	14.8	16.1		14.8	15.8	12.2	10.7	13.1		8.6	11.7	
Level of Service	B	B		B	B	B	B	B		A	B	
Approach Delay (s)		15.4			12.9			13.0			10.8	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	12.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	46.5	Sum of lost time (s)	18.0
Intersection Capacity Utilization	52.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group