

## MEMORANDUM

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Date: October 15, 2019

Project #: 21539

To: Jinde Zhu, PE  
Washington County DLUT - Traffic Engineering  
1400 SW Walnut Street MS 17  
Hillsboro, OR 97213

From: Diego Arguea and Nick Platte  
Project: West Union Gas Station  
Subject: Traffic Operations Assessment

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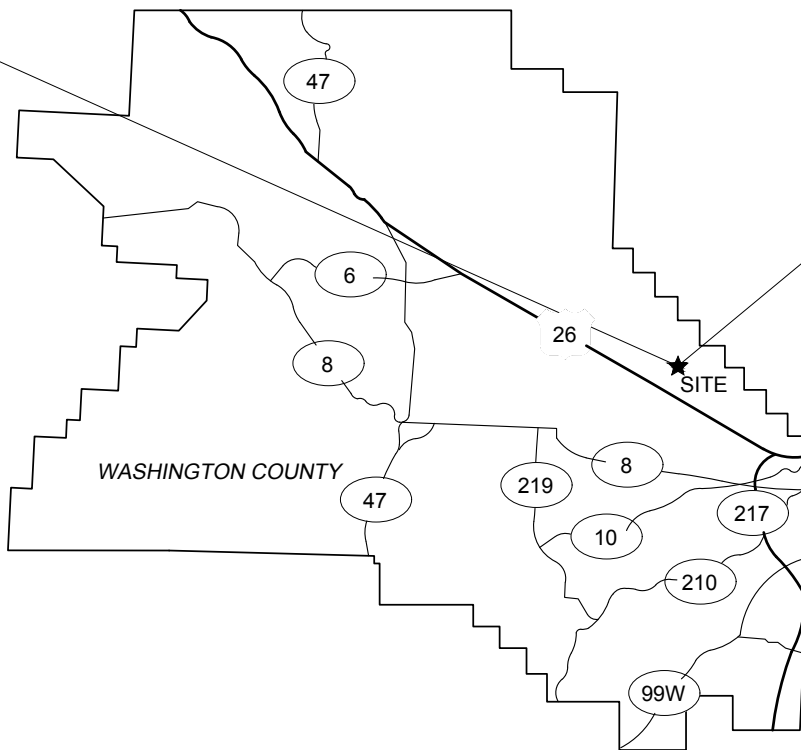
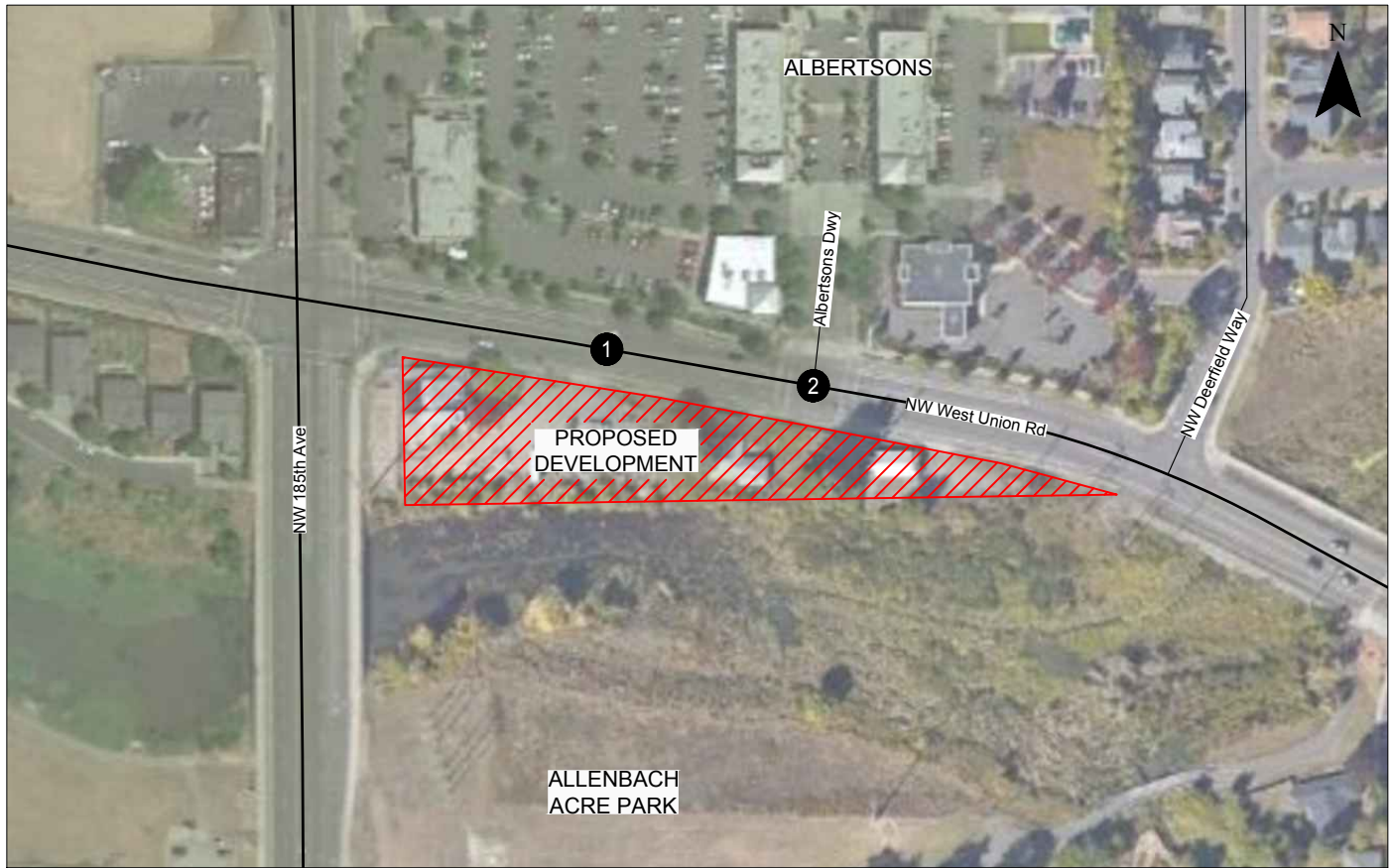
Robert Barman is proposing to redevelop the property located on the south-east corner of NW West Union Road and NW 185<sup>th</sup> Avenue, Hillsboro, Washington County. The site will be redeveloped into a gas station with a convenience store consisting of 12 fueling positions. No land use zone change is required. This memorandum documents a traffic operations assessment for the redevelopment of the proposed West Union Gas Station. Figure 1 shows the site vicinity.

Access is proposed via a right-in only along NW West Union Road and via a newly constructed south leg of the existing West Union/Albertsons traffic signal. Figure 2 provides the proposed site plan. Buildout is expected by 2021.

As documented herein, the proposed accesses can support the proposed site redevelopment.

## BACKGROUND

The existing site is currently zoned as Neighborhood Commercial (NC) The land parcel has a unique triangular shape and the proposed site has been designed to accommodate heavy vehicle turning movements as well as the potential future roadway widening project along NW West Union Road. This project is intended to upgrade West Union Road to 4-5 lanes (Reference 1). Currently one through lane is provided in the westbound direction along NW West Union Road. This will be upgraded to two through lanes in the future. Refer to Exhibit 1 for an extract from the Washington County Transportation System Plan or TSP (Reference 1).



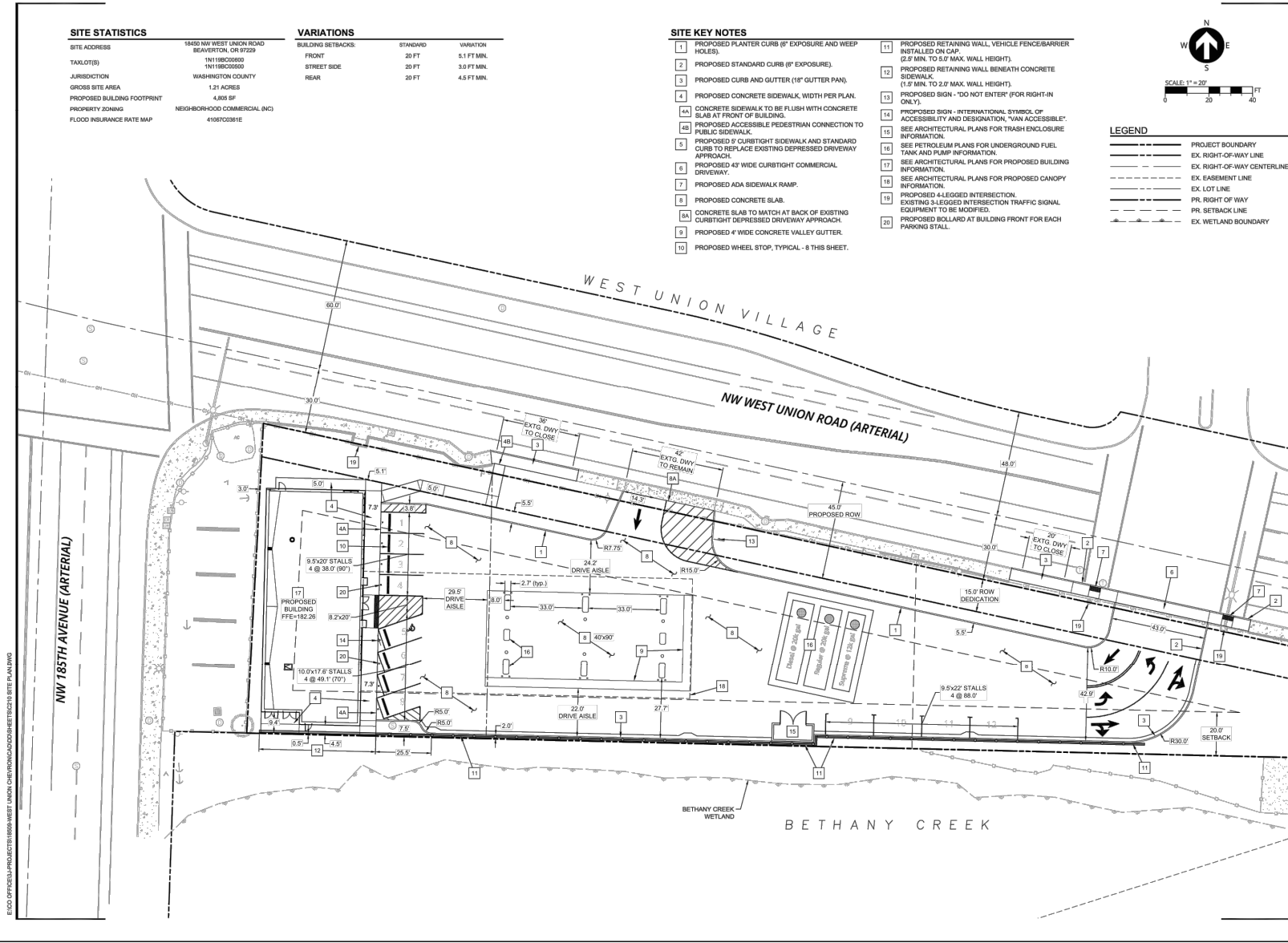
● - Study Intersection

Site Vicinity Map  
Washington County, OR

Figure  
1

C:\KAI Applications\Autodesk\TEMP\AcPublish\_11092\21539\_TIA West Union\_Figures\_NP\_2019-07-01.dwg Oct 15, 2019 - 3:35pm - nick Layout Tab. 01 Site Vicinity

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**SITE STATISTICS**

SITE ADDRESS	1840 NW WEST UNION ROAD BEAVERTON, OR 97009
TAX(L)ID#	1N1180C0050
JURISDICTION	WASHINGTON COUNTY
GROSS SITE AREA	1.21 ACRES
PROPOSED BUILDING FOOTPRINT	4,805 SF
PROPERTY ZONING	NEIGHBORHOOD COMMERCIAL (NC)
FLOOD INSURANCE RATE MAP	41067C001E

**VARIATIONS**

BUILDING SETBACKS	STANDARD	VARIATION
FRONT	20 FT	5.1 FT MIN.
STREET SIDE	20 FT	3.0 FT MIN.
REAR	20 FT	4.5 FT MIN.

**SITE KEY NOTES**

- 1 PROPOSED PLANTER CURB (8" EXPOSURE AND WEEP HOLES).
- 2 PROPOSED STANDARD CURB (8" EXPOSURE).
- 3 PROPOSED CURB AND GUTTER (18" GUTTER PAN).
- 4 PROPOSED CONCRETE SIDEWALK, WIDTH PER PLAN.
- 4A CONCRETE SIDEWALK TO BE FLUSH WITH CONCRETE SLAB AT FRONT OF BUILDING.
- 4B PROPOSED ACCESSIBLE PEDESTRIAN CONNECTION TO PUBLIC SIDEWALK.
- 5 PROPOSED 5' CURBTIGHT SIDEWALK AND STANDARD CURB TO REPLACE EXISTING DEPRESSED DRIVEWAY APPROACH.
- 6 PROPOSED 43" WIDE CURBTIGHT COMMERCIAL DRIVEWAY.
- 7 PROPOSED ADA SIDEWALK RAMP.
- 8 PROPOSED CONCRETE SLAB.
- 8A CONCRETE SLAB TO MATCH AT BACK OF EXISTING CURBTIGHT DEPRESSED DRIVEWAY APPROACH.
- 9 PROPOSED 4" WIDE CONCRETE VALLEY GUTTER.
- 10 PROPOSED WHEEL STOP, TYPICAL - 8 THIS SHEET.
- 11 PROPOSED RETAINING WALL, VEHICLE FENCE/BARRIER INSTALLED ON CAP. (2' MIN. TO 5.0' MAX. WALL HEIGHT).
- 12 PROPOSED RETAINING WALL BENEATH CONCRETE SIDEWALK (1' MIN. TO 2.0' MAX. WALL HEIGHT).
- 13 PROPOSED SIGN - "DO NOT ENTER" (FOR RIGHT-IN ONLY).
- 14 PROPOSED SIGN - INTERNATIONAL SYMBOL OF ACCESSIBILITY AND DESIGNATION, "VAN ACCESSIBLE".
- 15 SEE ARCHITECTURAL PLANS FOR TRASH ENCLOSURE INFORMATION.
- 16 SEE PETROLEUM PLANS FOR UNDERGROUND FUEL TANK AND PUMP INFORMATION.
- 17 SEE ARCHITECTURAL PLANS FOR PROPOSED BUILDING INFORMATION.
- 18 SEE ARCHITECTURAL PLANS FOR PROPOSED CANOPY INFORMATION.
- 19 PROPOSED 4 LEGGED INTERSECTION. EXISTING 4 LEGGED INTERSECTION TRAFFIC SIGNAL EQUIPMENT TO BE MODIFIED.
- 20 PROPOSED BOLLARD AT BUILDING FRONT FOR EACH PARKING STALL.

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S

SCALE: 1" = 20'

**LEGEND**

- PROJECT BOUNDARY
- - - EX. RIGHT-OF-WAY LINE
- - - EX. RIGHT-OF-WAY CENTERLINE
- - - EX. EASEMENT LINE
- - - EX. LOT LINE
- - - PR. RIGHT OF WAY
- - - PR. SETBACK LINE
- - - EX. WETLAND BOUNDARY

PUBLISH DATE  
ISSUED FOR  
LAND USE DOCUMENTS  
REVISIONS

**PRELIMINARY SITE PLAN**  
**WEST UNION CHEVRON**

CRW, LLC  
WASHINGTON COUNTY, OREGON

**3J CONSULTING**

CIVIL ENGINEERING  
WATER RESOURCES  
COMMUNITY PLANNING

9000 SWY NUMBLES AVE, SUITE 100, BEAVERTON, OR 97008

**PROJECT INFORMATION**

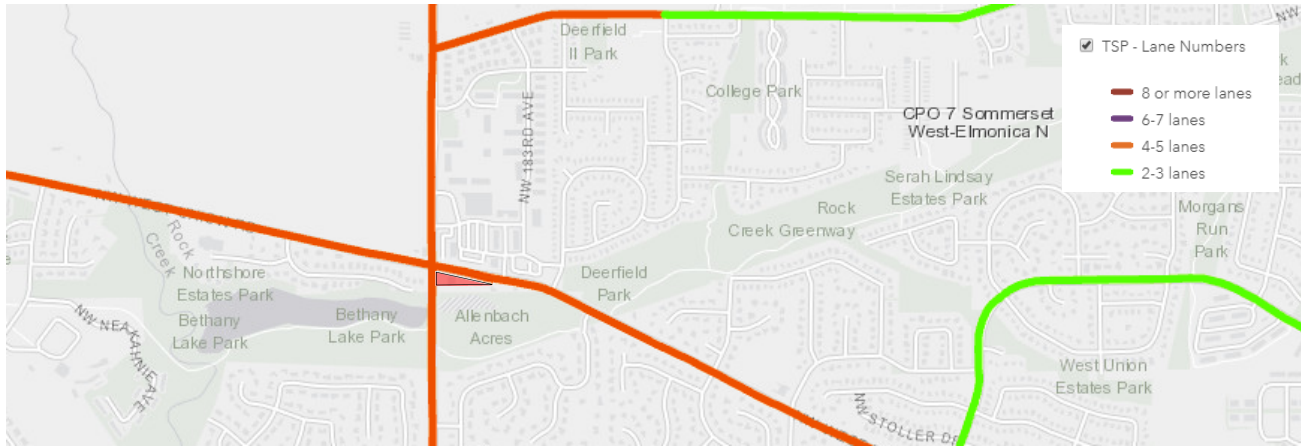
3J PROJECT # | 18099  
TAX LOTS # | 1N1180C0050,009  
LAND USE # | -  
DESIGNED BY | JEU  
CHECKED BY | AJM

SHEET NUMBER  
**C211**

Site plan provided by 3J Consulting on July 8, 2019

Proposed Redevelopment Site Plan  
Washington County, OR

Figure  
2



**Exhibit 1: Washington County TSP (Lane Numbers)**

Table 1 provides estimated trip generation characteristics assuming full occupancy of the site for the existing land use. The trip generation estimates are based on information provided in the standard reference manual, *Trip Generation, 10th Edition*, published by the Institute of Transportation Engineers (ITE – Reference 2) The trip generation estimate for existing approved land use type was categorized as a Fast-Food Restaurant without Drive-Through Window.

**Table 1: Trip Generation (Existing Land Use)**

Land Use	ITE Code	Size (SF)	Weekday Daily	Weekday AM Peak Hour			Weekday PM Peak Hour		
				Total	In	Out	Total	In	Out
<b>Existing Land Uses - To Be Demolished (ITE Rates)</b>									
<b>Fast-Food Restaurant without Drive-Through Window</b>	933	4 828	1 672	122	74	48	136	68	68
<i>Pass-by Trips (43% Daily, 43% AM, 43% PM)</i>			-718	-52	-32	-20	-58	-29	-29
<b>Total Trips (net)</b>			954	70	42	28	78	39	39

## WASHINGTON COUNTY REQUIREMENTS

Traffic study requirements per Washington County are as follows:

- A transportation impact statement (TIS) is required if the development generates more than 40 daily trips.
- An Access Report is required if the development generates more than 500 daily trips.

The development is expected to generate a net increase of daily trips between 40 and 500. The site therefore requires a TIS and was prepared in accordance with Washington County staff direction to address traffic operations at the signal and at the proposed access. In addition, if the site is expected to generate a net increase in peak hour trips compared with the existing approved land use, an analysis of the NW West Union Road/NW 185<sup>th</sup> traffic signal would also be required.

## TRAFFIC OPERATIONS ASSESSMENT

The following sections address the Washington County requirements for the proposed development.

### Proposed Development

It is proposed to redevelop the site into a gas station with 12 fueling positions and a convenience store. All existing buildings will be removed. Access is proposed via a right-in only driveway along NW West Union Road and via a newly constructed south leg of the existing NW West Union Road/Albertsons traffic signal (refer to Figure 2). The site was developed to accommodate heavy vehicle maneuverability. It is expected that all heavy vehicles will enter the site from the west. These vehicles will enter the site via the right-in driveway and will subsequently exit the site via the traffic signal.

A trip generation estimate was prepared for the proposed redevelopment based on ITE trip generation rates (Reference 2). Table 2 summarizes the trip generation estimate. Pass-by trip reduction rates were also based on ITE data and recommended methodology.

**Table 2: Trip Generation (Proposed Land Use)**

Land Use	ITE Code	Size (Fueling Positions)	Weekday Daily	Weekday AM Peak Hour			Weekday PM Peak Hour		
				Total	In	Out	Total	In	Out
<b>Proposed Land Use (ITE Rates)</b>									
Gas Station with Convenience Store	945	12	2 464	150	76	74	168	86	82
<i>Pass-by Trips (56% Daily, 62% AM, 56% PM)</i>			-1 380	-94	-48	-46	-94	-48	-46
<b>Total Trips (net)</b>			1 084	56	28	28	74	38	36

Table 3 summarizes the proposed trips compared with the existing potential trip generation under existing conditions.

**Table 3: Trip Generation (Net Impact)**

Trip Type	Weekday Daily	Weekday AM Peak Hour			Weekday PM Peak Hour		
		Total	In	Out	Total	In	Out
<b>Net New Trips (Proposed - Existing)</b>							
<b>Gross Trips</b>	792	28	2	26	32	18	14
<b>Pass-by Trips</b>	-662	-42	-16	-26	-36	-19	-17
<b>Total Trips (net new on system)</b>	130	-14	-14	0	-4	-1	-3

As shown in the table, the proposed development could generate up to approximately 130 more net daily trips, with 14 fewer in the weekday morning peak hour and 4 fewer in the evening commuter peak hour. Based on this finding and the Washington requirements as set out in the previous section, it is concluded that this report be limited to a TIS and an assessment of access operations.

Figure 3 illustrates the estimated trip distribution pattern, as well as the assignment of site-generated trips, and pass-by trips during the weekday AM and PM peak hours. The trip distribution pattern was calculated based on existing traffic patterns, locations of existing gas stations, and the location of major trip origins and destinations in the site vicinity. Pass by trips were assigned based on the existing distribution of traffic along NW West Union Road.

## Traffic Operations

All traffic operations analyses described in this report were performed in accordance with the procedures stated in the *2000 Highway Capacity Manual* (Reference 3) and using Synchro 10 software. All LOS analyses used the peak 15-minute flow rate that occurred during the weekday AM and PM peak hours. Using the peak 15-minute flow rate provides analyses based on a reasonable worst-case scenario.

All intersection operations discussed hereafter are summarized in Figure 3.

## Facility Standards

Table 4 in the Washington County TSP (Reference 1) provides Motor Vehicle Performance Measure targets as defined by volume-to-capacity (v/c) and level of Service (LOS) thresholds for roads within development areas. The target performance measure within the first peak hour is a v/c less than or equal to 0.90 and LOS equal to or better than D. The acceptable performance measure within the first hour is a v/c less than or equal to 0.99 and LOS equal to or better than E.

## Traffic Volumes

Washington County Staff provided existing traffic volumes at the NW West Union Road/Albertsons intersection. These were obtained from a recent traffic study for a Starbucks (Reference 4) within the Albertsons shopping center. The volume estimates employed in this study therefore used the build volume scenarios from the Access Engineering report that was previously completed as part of the Starbucks application.

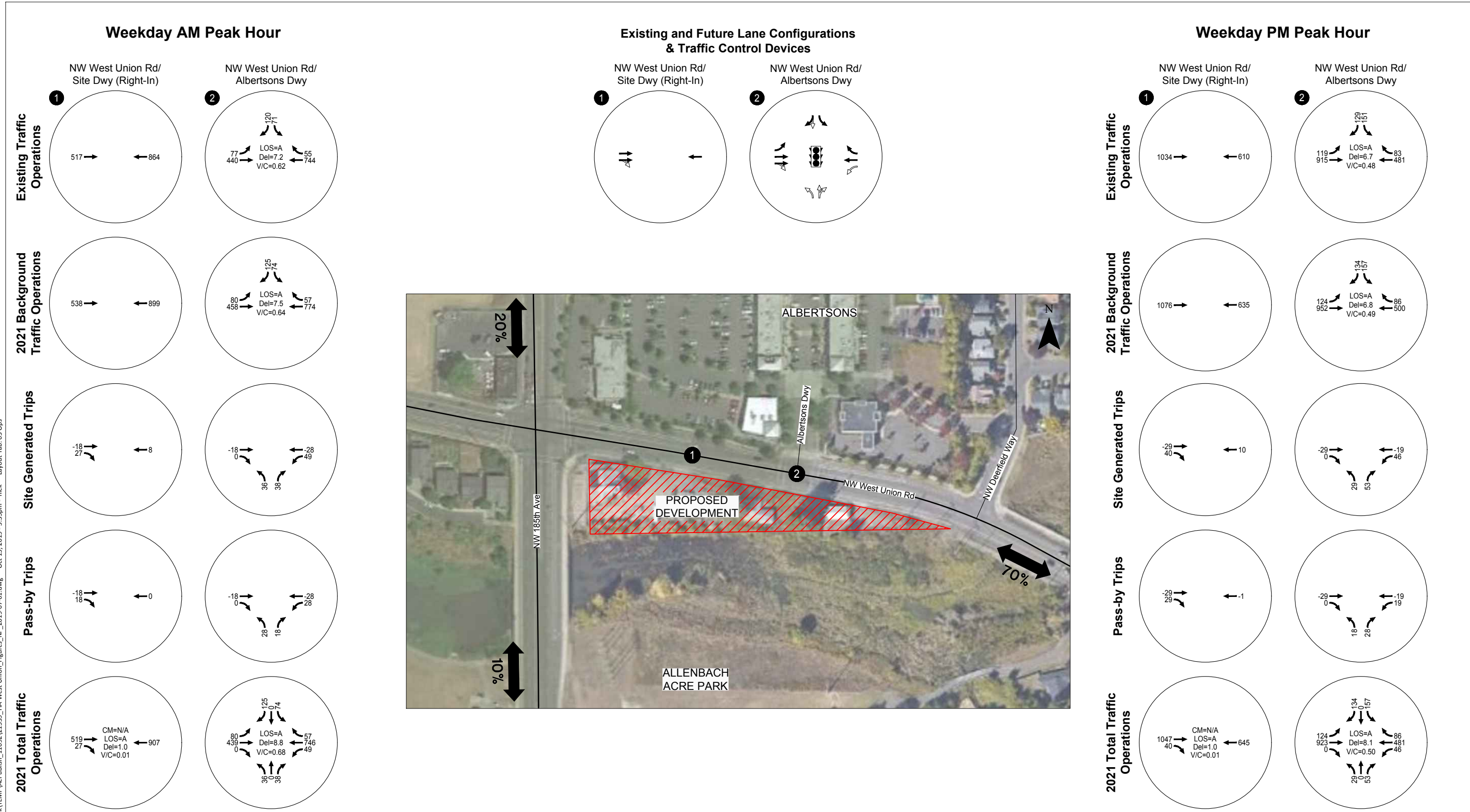
*Attachment "A" contains the Starbucks Traffic Operations Queuing Analysis report.*

## Existing Traffic Conditions

Figure 3 summarizes the results of the existing traffic conditions analysis. As shown, all of the study intersections currently operate within the Washington County standards during the weekday AM and PM peak hours.

Weekday AM peak hour field observations revealed maximum westbound queuing to periodically extend from NW 185<sup>th</sup> Avenue through the signalized West Union Village Driveway and NW Deerfield Drive. All such queues were observed to dissipate after a single cycle. Maximum eastbound queues





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CM = CRITICAL MOVEMENT (UNSIGNALIZED)  
 LOS = CRITICAL MOVEMENT 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

- STOP SIGN  
 - TRAFFIC SIGNAL  
 - EXISTING  
 - FUTURE (BUILT, SITE SPECIFIC)

NEGATIVE TRIPS INDICATE PASS-BY TRIPS

Traffic Operations  
 Weekday AM and PM Peak Hours  
 Washington County, OR

Figure  
 3

were always observed to be within the available space between the West Union Village Drive signal and the NW 185<sup>th</sup> Avenue traffic signal.

*Attachment "B" contains the report and worksheets used for the traffic volumes at the study intersections and the existing signal timing plan for the NW West Union Road/Albertsons intersection.*

### **2021 Background Traffic Conditions**

Background traffic volumes were estimated based the existing traffic volumes and an assumed general regional growth rate of 2% compounded annually. This growth rate assumption was based on direction received from Washington County staff. The volumes do not account for the possible re-tenant of the property based on existing approved land use rights and estimated trip generation. The planned future widening of NW West Union Road was also excluded.

Figure 3 summarizes the background traffic volumes and operational analysis results at the study intersections during the weekday AM and PM peak hours. As shown, all study intersections are forecast to continue operating acceptably during both peak hours. The Synchro 95<sup>th</sup> percentile westbound through queues are projected to be 400 feet, which exceeds the 300 feet available between the unsignalized NW Deerfield Way intersection and the Albertsons study intersection.

*Attachment "C" contains the worksheets used to evaluate background traffic conditions at the study intersections.*

### **2021 Total Traffic Conditions**

Total traffic volumes include the site-generated trips in addition to the 2021 background traffic volumes. No trips from the existing site were removed from the system, which is a conservative approach that most likely overestimates the total directional traffic volumes during each analysis time period. The 2021 total traffic volumes and operational results are shown in Figure 3 for the weekday AM and PM peak hours. As shown, all the study intersections are forecast to continue to satisfy their respective operational standards.

The 95<sup>th</sup> percentile queue length results indicate sufficient storage is currently available to accommodate the anticipated vehicle queues turning into the site. The westbound left turn queues are anticipated to be 25 and 50 feet during the weekday AM and PM peak hours, respectively.

The 95<sup>th</sup> percentile westbound through queues are projected to be 425 feet during the weekday AM peak hour<sup>1</sup> and go past the NW Deerfield Way intersection. As previously discussed, the analysis results

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<sup>1</sup> 200 feet during the weekday PM peak hour.



indicate that this also occurs during the existing and background conditions . In addition, no site-generated trips are expected to use the westbound through movement.

The 95<sup>th</sup> percentile eastbound through queues are not projected to exceed 175 feet and will be within the 400 feet of storage available between the two traffic signals along NW West Union Road. Therefore, no queue mitigation measures are recommended as part of the site development. In addition, the future upgrade of NW West Union Road will be capable of providing whatever additional mitigation might be required.

The traffic signal was analyzed with permissive phasing on all approaches for the above narrative. The signal was also run with protected-permissive phasing for the east and west approaches to test the sensitivity of the operations. The results indicated that the signal will still satisfy the operational standards. Increased delay and queueing along the NW West Union Road is expected with this signal plan compared with permissive phasing on all approaches.

*Attachment "D" contains the worksheets used to evaluate total traffic conditions at the study intersections.*

## CONCLUSIONS AND RECOMMENDATIONS

Based on the assessment provided herein, the findings and recommendations are summarized below.

- Trips generated by the proposed redevelopment of the site are not expected to exceed existing conditions during the weekday AM and PM peak hours.
- The proposed accesses can support the proposed site redevelopment and no additional queuing mitigation measures are required.
- Truck circulation will be inbound at the right-in only along NW West Union Road, and restricted to outbound left at the signal.
- All landscaping, signage, and utilities near the site access points should be placed and maintained to provide adequate sight distance.

We trust this memorandum adequately summarizes the traffic operational analyses for the proposed West Union Gas Station. Please contact us if you have any questions or comments.

Sincerely,

**KITTELSON & ASSOCIATE, INC.**



Wayne Kittelson, PE  
Engineer



Nick Platte  
Transportation Analyst



## REFERENCES

1. Washington County. Transportation System Plan. Users' Guide. November 23, 2018.  
<https://washcomultimedia.s3.amazonaws.com/CMSBigFiles/TSP+Flipbook+5.30.19/mobile/index.html>
2. Institute of Transportation Engineers. *Trip Generation*, 10th Edition. 2017.
3. Transportation Research Board. *2000 Highway Capacity Manual*. 2000.
4. Access Engineering, *Proposed Starbucks Development, 18215 NW West Union Road, Washington County, Oregon – Traffic Operations Queuing Analysis*, April 24, 2019.

## ATTACHMENTS

- A. Access Engineering Starbucks Traffic Operations Queuing Analysis
- B. Existing traffic conditions worksheets
- C. 2021 Background traffic conditions worksheets
- D. 2021 Total traffic conditions worksheets

Attachment A  
Starbucks Traffic Operations  
Queuing Analysis Report





April 24, 2019

Patrick McKechnie,  
 Mark McKechnie  
 Oregon Architecture Inc.  
 132 West Main Street #101  
 Medford, Oregon 97501

**RE: Proposed Starbucks Development, 18215 NW West Union Road, Washington County, Oregon - Traffic Operations Queuing Analysis**

This is the Traffic Operations addendum to the April 17, 2019 Capacity Analysis for the development located at 19215 NW West Union Road, on the northwest quadrant of the West Union Road intersection with the Albertsons' Shopping Center Driveway. This report analyzes the queues on the approaches to the West Union Road and Shopping Center Driveway intersection during the AM and PM peak hours.

**Queuing Analysis**

The queuing analysis is based on the seasonally adjusted traffic volumes and the subsequent operational analysis of the two-phase traffic signal found in the April 17<sup>th</sup> Capacity Analysis. The queuing analysis uses the SimTraffic simulation component of the Synchro computer program. The results of the capacity analysis of the West Union Road at the shopping center driveway are summarized below.

**Capacity Analysis Results**

Intersection	AM Peak Hour				PM Peak Hour			
	No Build		Build		No Build		Build	
	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS
W Union Rd @ Shopping Center Driveway	0.61	A	0.62	A	0.42	A	0.44	A

Even though the shopping center driveway intersection operates well within standards, the intersection is only approximately 500 feet east of the NW 185<sup>th</sup> Avenue and NW West Union Road intersection. There is a heavy westbound left-turn movement on West Union Road at 185<sup>th</sup> Avenue that currently limits the eastbound left-turn lane at the Shopping Center Driveway to 75 feet in length. The current striping on West Union Road between 185<sup>th</sup> and the driveway has a 250 feet westbound left-turn lane at 185<sup>th</sup>, a 115 feet transition, and a 75 feet eastbound left-turn. A queuing analysis is needed to determine the adequacy of that eastbound left-turn lane with and without the proposed Starbucks development.

SimTraffic was used to evaluate the queue lengths at the study area intersections following the guidelines in Chapter 8 of ODOT's "Analysis Procedures Manual" (APM v2).

134 E. 13<sup>th</sup> Ave. Suite 2

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541-485-3215

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Transportation Engineering

Traffic Design

Trip Generation

Access Management

Traffic Counts

Street Lighting



Five runs of the model with a random seed were averaged for the AM and PM peak hours. The intersection was modeled as an isolated intersection since we have no traffic movement or timing data for the 185<sup>th</sup> Avenue intersection. The 95<sup>th</sup> percentile and the maximum queues are reported and are rounded to the next nearest 25-foot increment. The Synchro and SimTraffic reports are attached. The results for existing conditions are tabulated below.

### Queuing Analysis - Existing 75 Feet Eastbound Left Turn Storage

Intersection Movement	Available Storage (ft.)	AM Peak Hour				PM Peak Hour			
		No Build		Build		No Build		Build	
		95th	Max	95th	Max	95th	Max	95th	Max
W. Union Rd. @ Driveway									
Eastbound Left turn	75	100	150	100	150	75	100	100	125
Eastbound Through	425	100	150	100	100	150	200	175	200
Westbound Through	300	200	225	250	325	150	200	200	300
Westbound Right turn	200	50	75	50	50	75	75	50	50
Southbound Left turn	100	75	75	75	100	100	125	125	175
Southbound Right turn	100	75	75	100	125	75	100	75	100

Since the eastbound left-turn lane exceeded the available storage of 75 feet with a 95<sup>th</sup> percentile queue of 100 feet and a maximum queue of 150 feet, the queuing analysis was rerun twice; with 100 feet of storage and with 125 feet storage. The results are shown below.

### Queuing Analysis - 100 Feet Eastbound Left Turn Storage

Intersection Movement	Available Storage (ft.)	AM Peak Hour				PM Peak Hour			
		No Build		Build		No Build		Build	
		95th	Max	95th	Max	95th	Max	95th	Max
W. Union Rd. @ Driveway									
Eastbound Left turn	100	75	100	100	125	100	125	100	150
Eastbound Through	425	75	100	100	100	150	175	200	275
Westbound Through	300	275	375	225	250	125	150	175	200
Westbound Right turn	200	50	75	50	50	50	75	50	75
Southbound Left turn	100	75	75	75	100	100	125	125	175
Southbound Right turn	100	75	125	75	100	75	100	75	100

### Queuing Analysis - 125 Feet Eastbound Left Turn Storage

Intersection Movement	Available Storage (ft.)	AM Peak Hour				PM Peak Hour			
		No Build		Build		No Build		Build	
		95th	Max	95th	Max	95th	Max	95th	Max
W. Union Rd. @ Driveway									
Eastbound Left turn	100	75	75	100	100	100	100	100	100
Eastbound Through	425	100	125	125	200	150	175	150	175
Westbound Through	300	275	375	300	375	150	200	150	150
Westbound Right turn	200	125	350	150	350	50	50	75	75
Southbound Left turn	100	50	75	100	125	100	125	100	125
Southbound Right turn	100	75	100	100	150	75	100	100	125



The results of the analyses indicate that a 100 feet eastbound left-turn lane would operate acceptably based on the 95<sup>th</sup> percentile queue and is recommended at this time. For a future improvement project for NW West Union Road at 185<sup>th</sup> Avenue, we recommend a 125 feet eastbound left-turn lane for West Union Road at the shopping center driveway to account for continued traffic volume growth in the area.

Yours very truly,



RENEWS  
6/30/20

Michael Weishar, PE  
Access Engineering LLC

Lanes, Volumes, Timings  
1: West Union Road & Driveway

West Union Starbucks TIA  
2019 AM Peak Hour - No Build



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	54	440	744	19	49	83
Future Volume (vph)	54	440	744	19	49	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75			175	0	0
Storage Lanes	1			1	1	1
Taper Length (ft)	100				25	
Right Turn on Red				Yes		Yes
Link Speed (mph)		40	40		20	
Link Distance (ft)		535	367		175	
Travel Time (s)		9.1	6.3		6.0	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)						
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		10	10		10	
Two way Left Turn Lane			Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2	1	2	2
Detector Template						
Leading Detector (ft)	75	323	283	143	75	75
Trailing Detector (ft)	1	157	157	137	0	0
Detector 1 Position(ft)	1	157	157	137	1	1
Detector 1 Size(ft)	74	6	6	6	74	74
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		317	277		0	0
Detector 2 Size(ft)		6	6		0	0
Detector 2 Type		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0		0.0	0.0
Turn Type	Perm	NA	NA	Perm	Perm	Perm
Protected Phases		2	6			
Permitted Phases	2			6	4	4
Detector Phase	2	2	6	6	4	4
Switch Phase						
Minimum Initial (s)	8.0	8.0	10.0	10.0	5.0	5.0
Minimum Split (s)	26.5	26.5	27.3	27.3	28.5	28.5
Total Split (s)	41.5	41.5	41.5	41.5	28.5	28.5
Total Split (%)	59.3%	59.3%	59.3%	59.3%	40.7%	40.7%
Maximum Green (s)	36.0	36.0	36.5	36.5	24.5	24.5
Yellow Time (s)	4.5	4.5	4.0	4.0	3.0	3.0

Lanes, Volumes, Timings  
 1: West Union Road & Driveway

West Union Starbucks TIA  
 2019 AM Peak Hour - No Build

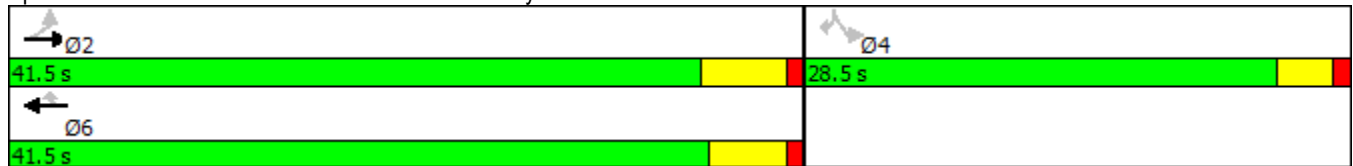


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	1.5	-1.5	-1.0	-1.0	0.0	0.0
Total Lost Time (s)	7.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.1	3.1	3.1	3.1	2.9	2.9
Minimum Gap (s)	1.1	1.1	1.1	1.1	1.0	1.0
Time Before Reduce (s)	10.0	10.0	10.0	10.0	5.0	5.0
Time To Reduce (s)	15.0	15.0	15.0	15.0	10.0	10.0
Recall Mode	Min	Min	Min	Min	None	None
Walk Time (s)			5.0	5.0	5.0	5.0
Flash Dont Walk (s)			14.0	14.0	17.0	17.0
Pedestrian Calls (#/hr)			1	1	1	1
90th %ile Green (s)	36.0	36.0	36.5	36.5	22.0	22.0
90th %ile Term Code	Max	Max	Max	Max	Ped	Ped
70th %ile Green (s)	28.2	28.2	28.7	28.7	7.8	7.8
70th %ile Term Code	Hold	Hold	Gap	Gap	Gap	Gap
50th %ile Green (s)	23.3	23.3	23.8	23.8	7.0	7.0
50th %ile Term Code	Hold	Hold	Gap	Gap	Gap	Gap
30th %ile Green (s)	29.2	29.2	29.7	29.7	6.3	6.3
30th %ile Term Code	Dwell	Dwell	Dwell	Dwell	Gap	Gap
10th %ile Green (s)	25.1	25.1	25.6	25.6	0.0	0.0
10th %ile Term Code	Dwell	Dwell	Dwell	Dwell	Skip	Skip

Intersection Summary

Area Type: Other  
 Cycle Length: 70  
 Actuated Cycle Length: 45.7  
 Natural Cycle: 70  
 Control Type: Actuated-Uncoordinated  
 90th %ile Actuated Cycle: 67.5  
 70th %ile Actuated Cycle: 45.5  
 50th %ile Actuated Cycle: 39.8  
 30th %ile Actuated Cycle: 45  
 10th %ile Actuated Cycle: 30.6

Splits and Phases: 1: West Union Road & Driveway



Intersection: 1: West Union Road & Driveway

Movement	EB	EB	EB	WB	WB	SB	SB
Directions Served	L	T	T	T	R	L	R
Maximum Queue (ft)	142	130	61	216	60	58	55
Average Queue (ft)	36	43	12	89	7	26	24
95th Queue (ft)	91	93	43	187	32	52	51
Link Distance (ft)		504	504	342		136	136
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	75				175		
Storage Blk Time (%)	5	1		1			
Queuing Penalty (veh)	12	0		0			

Network Summary

Network wide Queuing Penalty: 13

Lanes, Volumes, Timings  
1: West Union Road & Driveway

West Union Starbucks TIA  
2019 AM Peak Hour - Build



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	77	440	744	55	71	120
Future Volume (vph)	77	440	744	55	71	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75			175	0	0
Storage Lanes	1			1	1	1
Taper Length (ft)	100				25	
Right Turn on Red				Yes		Yes
Link Speed (mph)		40	40		20	
Link Distance (ft)		535	367		175	
Travel Time (s)		9.1	6.3		6.0	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)						
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		10	10		10	
Two way Left Turn Lane			Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2	1	2	2
Detector Template						
Leading Detector (ft)	75	323	283	143	75	75
Trailing Detector (ft)	1	157	157	137	0	0
Detector 1 Position(ft)	1	157	157	137	1	1
Detector 1 Size(ft)	74	6	6	6	74	74
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		317	277		0	0
Detector 2 Size(ft)		6	6		0	0
Detector 2 Type		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0		0.0	0.0
Turn Type	Perm	NA	NA	Perm	Perm	Perm
Protected Phases		2	6			
Permitted Phases	2			6	4	4
Detector Phase	2	2	6	6	4	4
Switch Phase						
Minimum Initial (s)	8.0	8.0	10.0	10.0	5.0	5.0
Minimum Split (s)	26.5	26.5	27.3	27.3	28.5	28.5
Total Split (s)	46.5	46.5	46.5	46.5	28.5	28.5
Total Split (%)	62.0%	62.0%	62.0%	62.0%	38.0%	38.0%
Maximum Green (s)	41.0	41.0	41.5	41.5	24.5	24.5
Yellow Time (s)	4.5	4.5	4.0	4.0	3.0	3.0



Lanes, Volumes, Timings  
 1: West Union Road & Driveway

West Union Starbucks TIA  
 2019 AM Peak Hour - Build

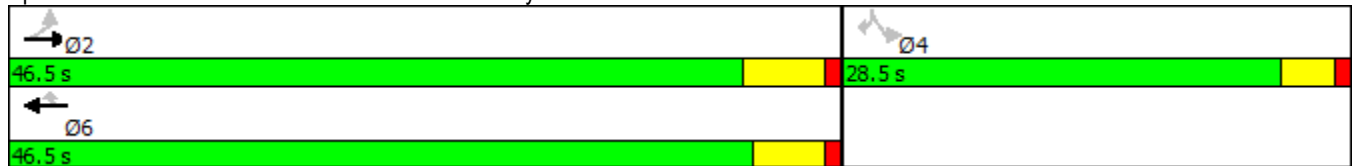


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.5	-1.5	-1.0	-1.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.1	3.1	3.1	3.1	2.9	2.9
Minimum Gap (s)	1.1	1.1	1.1	1.1	1.0	1.0
Time Before Reduce (s)	10.0	10.0	10.0	10.0	5.0	5.0
Time To Reduce (s)	15.0	15.0	15.0	15.0	10.0	10.0
Recall Mode	Min	Min	Min	Min	None	None
Walk Time (s)			5.0	5.0	5.0	5.0
Flash Dont Walk (s)			14.0	14.0	17.0	17.0
Pedestrian Calls (#/hr)			1	1	1	1
90th %ile Green (s)	41.0	41.0	41.5	41.5	22.0	22.0
90th %ile Term Code	Max	Max	Max	Max	Ped	Ped
70th %ile Green (s)	41.0	41.0	41.5	41.5	9.1	9.1
70th %ile Term Code	Max	Max	Hold	Hold	Gap	Gap
50th %ile Green (s)	32.3	32.3	32.8	32.8	8.0	8.0
50th %ile Term Code	Gap	Gap	Hold	Hold	Gap	Gap
30th %ile Green (s)	20.7	20.7	21.2	21.2	6.6	6.6
30th %ile Term Code	Gap	Gap	Hold	Hold	Gap	Gap
10th %ile Green (s)	26.3	26.3	26.8	26.8	0.0	0.0
10th %ile Term Code	Dwell	Dwell	Dwell	Dwell	Skip	Skip

Intersection Summary

Area Type: Other  
 Cycle Length: 75  
 Actuated Cycle Length: 50.1  
 Natural Cycle: 75  
 Control Type: Actuated-Uncoordinated  
 90th %ile Actuated Cycle: 72.5  
 70th %ile Actuated Cycle: 59.6  
 50th %ile Actuated Cycle: 49.8  
 30th %ile Actuated Cycle: 36.8  
 10th %ile Actuated Cycle: 31.8

Splits and Phases: 1: West Union Road & Driveway



Intersection: 1: West Union Road & Driveway

Movement	EB	EB	EB	WB	WB	SB	SB
Directions Served	L	T	T	T	R	L	R
Maximum Queue (ft)	130	87	60	314	35	86	110
Average Queue (ft)	43	45	19	123	17	34	48
95th Queue (ft)	83	85	55	236	43	69	84
Link Distance (ft)		504	504	342		136	136
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	75				175		
Storage Blk Time (%)	3	1		2			
Queuing Penalty (veh)	7	1		1			

Network Summary

Network wide Queuing Penalty: 9

Lanes, Volumes, Timings  
1: West Union Road & Driveway

West Union Starbucks TIA  
2019 PM Peak Hour - No Build



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑	↑	↗	↖	↗
Traffic Volume (vph)	93	915	481	69	130	111
Future Volume (vph)	93	915	481	69	130	111
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75			175	0	0
Storage Lanes	1			1	1	1
Taper Length (ft)	100				25	
Right Turn on Red				Yes		Yes
Link Speed (mph)		40	40		20	
Link Distance (ft)		535	367		175	
Travel Time (s)		9.1	6.3		6.0	
Confl. Bikes (#/hr)				1		
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)						
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		10	10		10	
Two way Left Turn Lane			Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2	1	2	2
Detector Template						
Leading Detector (ft)	75	323	283	143	75	75
Trailing Detector (ft)	1	157	157	137	0	0
Detector 1 Position(ft)	1	157	157	137	1	1
Detector 1 Size(ft)	74	6	6	6	74	74
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		317	277		0	0
Detector 2 Size(ft)		6	6		0	0
Detector 2 Type		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0		0.0	0.0
Turn Type	Perm	NA	NA	Perm	Perm	Perm
Protected Phases		2	6			
Permitted Phases	2			6	4	4
Detector Phase	2	2	6	6	4	4
Switch Phase						
Minimum Initial (s)	8.0	8.0	10.0	10.0	5.0	5.0
Minimum Split (s)	26.5	26.5	27.3	27.3	28.5	28.5
Total Split (s)	31.0	31.0	31.0	31.0	29.0	29.0
Total Split (%)	51.7%	51.7%	51.7%	51.7%	48.3%	48.3%
Maximum Green (s)	25.5	25.5	26.0	26.0	25.0	25.0

Lanes, Volumes, Timings  
 1: West Union Road & Driveway

West Union Starbucks TIA  
 2019 PM Peak Hour - No Build

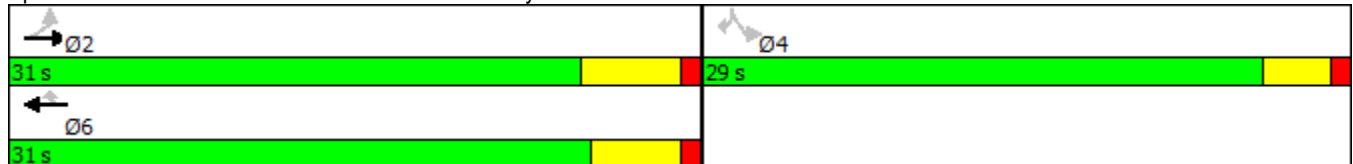


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Yellow Time (s)	4.5	4.5	4.0	4.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	0.0	0.0
Total Lost Time (s)	4.0	4.0	3.5	3.5	4.0	4.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.1	3.1	3.1	3.1	2.9	2.9
Minimum Gap (s)	1.1	1.1	1.1	1.1	1.0	1.0
Time Before Reduce (s)	10.0	10.0	10.0	10.0	5.0	5.0
Time To Reduce (s)	15.0	15.0	15.0	15.0	10.0	10.0
Recall Mode	Min	Min	Min	Min	None	None
Walk Time (s)			5.0	5.0	5.0	5.0
Flash Dont Walk (s)			14.0	14.0	17.0	17.0
Pedestrian Calls (#/hr)			1	1	1	1
90th %ile Green (s)	25.5	25.5	26.0	26.0	22.0	22.0
90th %ile Term Code	Max	Max	Hold	Hold	Ped	Ped
70th %ile Green (s)	17.8	17.8	18.3	18.3	9.0	9.0
70th %ile Term Code	Gap	Gap	Hold	Hold	Gap	Gap
50th %ile Green (s)	15.9	15.9	16.4	16.4	7.7	7.7
50th %ile Term Code	Gap	Gap	Hold	Hold	Gap	Gap
30th %ile Green (s)	12.4	12.4	12.9	12.9	6.7	6.7
30th %ile Term Code	Gap	Gap	Hold	Hold	Gap	Gap
10th %ile Green (s)	24.5	24.5	25.0	25.0	0.0	0.0
10th %ile Term Code	Dwell	Dwell	Dwell	Dwell	Skip	Skip

Intersection Summary

Area Type: Other  
 Cycle Length: 60  
 Actuated Cycle Length: 37  
 Natural Cycle: 60  
 Control Type: Actuated-Uncoordinated  
 90th %ile Actuated Cycle: 57  
 70th %ile Actuated Cycle: 36.3  
 50th %ile Actuated Cycle: 33.1  
 30th %ile Actuated Cycle: 28.6  
 10th %ile Actuated Cycle: 30

Splits and Phases: 1: West Union Road & Driveway



Intersection: 1: West Union Road & Driveway

Movement	EB	EB	EB	WB	WB	SB	SB
Directions Served	L	T	T	T	R	L	R
Maximum Queue (ft)	82	190	186	181	62	110	81
Average Queue (ft)	38	78	46	73	20	55	36
95th Queue (ft)	61	140	110	144	51	95	61
Link Distance (ft)		504	504	342		136	136
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	75				175		
Storage Blk Time (%)	1	5		0			
Queuing Penalty (veh)	4	5		0			

Network Summary

Network wide Queuing Penalty: 9



Lanes, Volumes, Timings  
1: West Union Road & Driveway

West Union Starbucks TIA  
2019 PM Peak Hour - Build



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↗↗	↖	↗	↘	↘
Traffic Volume (vph)	119	915	481	83	151	129
Future Volume (vph)	119	915	481	83	151	129
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75			175	0	0
Storage Lanes	1			1	1	1
Taper Length (ft)	100				25	
Right Turn on Red				Yes		Yes
Link Speed (mph)		40	40		20	
Link Distance (ft)		535	367		175	
Travel Time (s)		9.1	6.3		6.0	
Confl. Bikes (#/hr)				1		
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)						
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		10	10		10	
Two way Left Turn Lane			Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2	1	2	2
Detector Template						
Leading Detector (ft)	75	323	283	143	75	75
Trailing Detector (ft)	1	157	157	137	0	0
Detector 1 Position(ft)	1	157	157	137	1	1
Detector 1 Size(ft)	74	6	6	6	74	74
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		317	277		0	0
Detector 2 Size(ft)		6	6		0	0
Detector 2 Type		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0		0.0	0.0
Turn Type	Perm	NA	NA	Perm	Perm	Perm
Protected Phases		2	6			
Permitted Phases	2			6	4	4
Detector Phase	2	2	6	6	4	4
Switch Phase						
Minimum Initial (s)	8.0	8.0	10.0	10.0	5.0	5.0
Minimum Split (s)	26.5	26.5	27.3	27.3	28.5	28.5
Total Split (s)	31.0	31.0	31.0	31.0	29.0	29.0
Total Split (%)	51.7%	51.7%	51.7%	51.7%	48.3%	48.3%
Maximum Green (s)	25.5	25.5	26.0	26.0	25.0	25.0

Lanes, Volumes, Timings  
 1: West Union Road & Driveway

West Union Starbucks TIA  
 2019 PM Peak Hour - Build

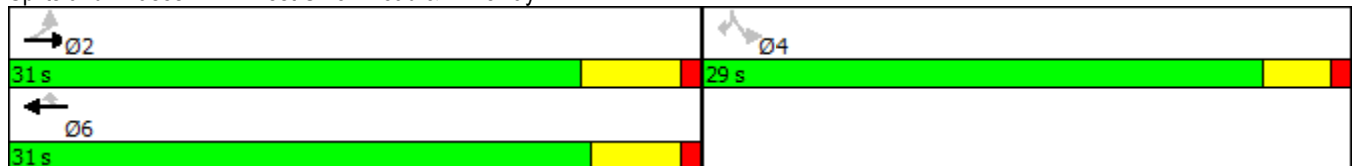


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Yellow Time (s)	4.5	4.5	4.0	4.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	0.0	0.0
Total Lost Time (s)	4.0	4.0	3.5	3.5	4.0	4.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.1	3.1	3.1	3.1	2.9	2.9
Minimum Gap (s)	1.1	1.1	1.1	1.1	1.0	1.0
Time Before Reduce (s)	10.0	10.0	10.0	10.0	5.0	5.0
Time To Reduce (s)	15.0	15.0	15.0	15.0	10.0	10.0
Recall Mode	Min	Min	Min	Min	None	None
Walk Time (s)			5.0	5.0	5.0	5.0
Flash Dont Walk (s)			14.0	14.0	17.0	17.0
Pedestrian Calls (#/hr)			1	1	1	1
90th %ile Green (s)	25.5	25.5	26.0	26.0	22.0	22.0
90th %ile Term Code	Max	Max	Hold	Hold	Ped	Ped
70th %ile Green (s)	18.0	18.0	18.5	18.5	9.6	9.6
70th %ile Term Code	Gap	Gap	Hold	Hold	Gap	Gap
50th %ile Green (s)	17.1	17.1	17.6	17.6	8.1	8.1
50th %ile Term Code	Gap	Gap	Hold	Hold	Gap	Gap
30th %ile Green (s)	12.5	12.5	13.0	13.0	7.0	7.0
30th %ile Term Code	Gap	Gap	Hold	Hold	Gap	Gap
10th %ile Green (s)	24.5	24.5	25.0	25.0	0.0	0.0
10th %ile Term Code	Dwell	Dwell	Dwell	Dwell	Skip	Skip

Intersection Summary

Area Type: Other  
 Cycle Length: 60  
 Actuated Cycle Length: 37.6  
 Natural Cycle: 60  
 Control Type: Actuated-Uncoordinated  
 90th %ile Actuated Cycle: 57  
 70th %ile Actuated Cycle: 37.1  
 50th %ile Actuated Cycle: 34.7  
 30th %ile Actuated Cycle: 29  
 10th %ile Actuated Cycle: 30

Splits and Phases: 1: West Union Road & Driveway



Intersection: 1: West Union Road & Driveway

Movement	EB	EB	EB	WB	WB	SB	SB
Directions Served	L	T	T	T	R	L	R
Maximum Queue (ft)	112	183	134	289	36	156	77
Average Queue (ft)	52	91	49	86	20	60	38
95th Queue (ft)	92	158	94	176	45	122	62
Link Distance (ft)		504	504	342		136	136
Upstream Blk Time (%)						1	
Queuing Penalty (veh)						0	
Storage Bay Dist (ft)	75				175		
Storage Blk Time (%)	3	6		1			
Queuing Penalty (veh)	12	7		0			

Network Summary

Network wide Queuing Penalty: 19

Lanes, Volumes, Timings  
1: West Union Road & Driveway

West Union Starbucks TIA  
2019 AM Peak Hour - No Build - EBLT 100'



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↶	↷↷	↷	↷	↶	↷
Traffic Volume (vph)	54	440	744	19	49	83
Future Volume (vph)	54	440	744	19	49	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100			175	0	0
Storage Lanes	1			1	1	1
Taper Length (ft)	100				25	
Right Turn on Red				Yes		Yes
Link Speed (mph)		40	40		20	
Link Distance (ft)		535	367		175	
Travel Time (s)		9.1	6.3		6.0	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)						
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		10	10		10	
Two way Left Turn Lane			Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2	1	1	1
Detector Template						
Leading Detector (ft)	75	323	283	143	75	75
Trailing Detector (ft)	1	157	157	137	1	1
Detector 1 Position(ft)	1	157	157	137	1	1
Detector 1 Size(ft)	74	6	6	6	74	74
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		317	277			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	Perm	NA	NA	Perm	Perm	Perm
Protected Phases		2	6			
Permitted Phases	2			6	4	4
Detector Phase	2	2	6	6	4	4
Switch Phase						
Minimum Initial (s)	8.0	8.0	10.0	10.0	5.0	5.0
Minimum Split (s)	26.5	26.5	27.3	27.3	28.5	28.5
Total Split (s)	41.5	41.5	41.5	41.5	28.5	28.5
Total Split (%)	59.3%	59.3%	59.3%	59.3%	40.7%	40.7%
Maximum Green (s)	36.0	36.0	36.5	36.5	24.5	24.5
Yellow Time (s)	4.5	4.5	4.0	4.0	3.0	3.0

Lanes, Volumes, Timings  
1: West Union Road & Driveway

West Union Starbucks TIA  
2019 AM Peak Hour - No Build - EBLT 100'

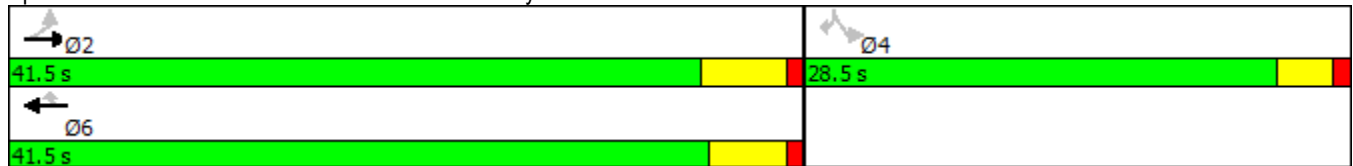


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	1.5	-1.5	-1.0	-1.0	0.0	0.0
Total Lost Time (s)	7.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.1	3.1	3.1	3.1	2.9	2.9
Minimum Gap (s)	1.1	1.1	1.1	1.1	1.0	1.0
Time Before Reduce (s)	10.0	10.0	10.0	10.0	5.0	5.0
Time To Reduce (s)	15.0	15.0	15.0	15.0	10.0	10.0
Recall Mode	Min	Min	Min	Min	None	None
Walk Time (s)			5.0	5.0	5.0	5.0
Flash Dont Walk (s)			14.0	14.0	17.0	17.0
Pedestrian Calls (#/hr)			1	1	1	1
90th %ile Green (s)	36.0	36.0	36.5	36.5	22.0	22.0
90th %ile Term Code	Max	Max	Max	Max	Ped	Ped
70th %ile Green (s)	28.1	28.1	28.6	28.6	7.7	7.7
70th %ile Term Code	Hold	Hold	Gap	Gap	Gap	Gap
50th %ile Green (s)	23.2	23.2	23.7	23.7	6.9	6.9
50th %ile Term Code	Hold	Hold	Gap	Gap	Gap	Gap
30th %ile Green (s)	29.1	29.1	29.6	29.6	6.2	6.2
30th %ile Term Code	Dwell	Dwell	Dwell	Dwell	Gap	Gap
10th %ile Green (s)	25.1	25.1	25.6	25.6	0.0	0.0
10th %ile Term Code	Dwell	Dwell	Dwell	Dwell	Skip	Skip

Intersection Summary

Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	45.6
Natural Cycle:	70
Control Type:	Actuated-Uncoordinated
90th %ile Actuated Cycle:	67.5
70th %ile Actuated Cycle:	45.3
50th %ile Actuated Cycle:	39.6
30th %ile Actuated Cycle:	44.8
10th %ile Actuated Cycle:	30.6

Splits and Phases: 1: West Union Road & Driveway



Intersection: 1: West Union Road & Driveway

Movement	EB	EB	EB	WB	WB	SB	SB
Directions Served	L	T	T	T	R	L	R
Maximum Queue (ft)	81	88	35	361	56	60	107
Average Queue (ft)	34	38	11	111	5	32	31
95th Queue (ft)	74	75	36	260	26	59	70
Link Distance (ft)		504	504	342		136	136
Upstream Blk Time (%)				0			
Queuing Penalty (veh)				0			
Storage Bay Dist (ft)	100				175		
Storage Blk Time (%)	0	0		2			
Queuing Penalty (veh)	0	0		0			

Network Summary

Network wide Queuing Penalty: 0



Lanes, Volumes, Timings  
1: West Union Road & Driveway

West Union Starbucks TIA  
2019 AM Peak Hour - Build - EBLT 100'



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	77	440	744	55	71	120
Future Volume (vph)	77	440	744	55	71	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100			175	0	0
Storage Lanes	1			1	1	1
Taper Length (ft)	100				25	
Right Turn on Red				Yes		Yes
Link Speed (mph)		40	40		20	
Link Distance (ft)		535	367		175	
Travel Time (s)		9.1	6.3		6.0	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)						
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		10	10		10	
Two way Left Turn Lane			Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2	1	1	1
Detector Template						
Leading Detector (ft)	75	323	283	143	75	75
Trailing Detector (ft)	1	157	157	137	1	1
Detector 1 Position(ft)	1	157	157	137	1	1
Detector 1 Size(ft)	74	6	6	6	74	74
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		317	277			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	Perm	NA	NA	Perm	Perm	Perm
Protected Phases		2	6			
Permitted Phases	2			6	4	4
Detector Phase	2	2	6	6	4	4
Switch Phase						
Minimum Initial (s)	8.0	8.0	10.0	10.0	5.0	5.0
Minimum Split (s)	26.5	26.5	27.3	27.3	28.5	28.5
Total Split (s)	46.5	46.5	46.5	46.5	28.5	28.5
Total Split (%)	62.0%	62.0%	62.0%	62.0%	38.0%	38.0%
Maximum Green (s)	41.0	41.0	41.5	41.5	24.5	24.5
Yellow Time (s)	4.5	4.5	4.0	4.0	3.0	3.0

Lanes, Volumes, Timings  
1: West Union Road & Driveway

West Union Starbucks TIA  
2019 AM Peak Hour - Build - EBLT 100'



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.5	-1.5	-1.0	-1.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.1	3.1	3.1	3.1	2.9	2.9
Minimum Gap (s)	1.1	1.1	1.1	1.1	1.0	1.0
Time Before Reduce (s)	10.0	10.0	10.0	10.0	5.0	5.0
Time To Reduce (s)	15.0	15.0	15.0	15.0	10.0	10.0
Recall Mode	Min	Min	Min	Min	None	None
Walk Time (s)			5.0	5.0	5.0	5.0
Flash Dont Walk (s)			14.0	14.0	17.0	17.0
Pedestrian Calls (#/hr)			1	1	1	1
90th %ile Green (s)	41.0	41.0	41.5	41.5	22.0	22.0
90th %ile Term Code	Max	Max	Max	Max	Ped	Ped
70th %ile Green (s)	41.0	41.0	41.5	41.5	9.0	9.0
70th %ile Term Code	Max	Max	Hold	Hold	Gap	Gap
50th %ile Green (s)	32.2	32.2	32.7	32.7	7.9	7.9
50th %ile Term Code	Gap	Gap	Hold	Hold	Gap	Gap
30th %ile Green (s)	20.7	20.7	21.2	21.2	6.5	6.5
30th %ile Term Code	Gap	Gap	Hold	Hold	Gap	Gap
10th %ile Green (s)	26.3	26.3	26.8	26.8	0.0	0.0
10th %ile Term Code	Dwell	Dwell	Dwell	Dwell	Skip	Skip

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 50

Natural Cycle: 75

Control Type: Actuated-Uncoordinated

90th %ile Actuated Cycle: 72.5

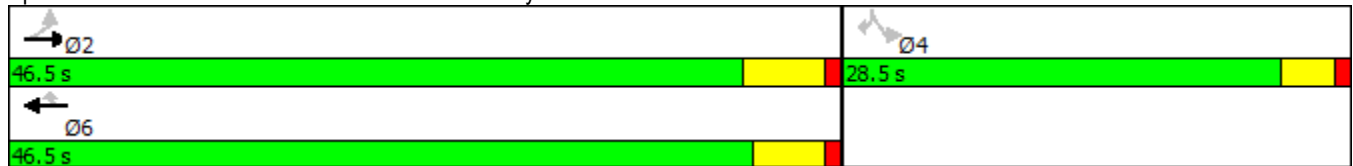
70th %ile Actuated Cycle: 59.5

50th %ile Actuated Cycle: 49.6

30th %ile Actuated Cycle: 36.7

10th %ile Actuated Cycle: 31.8

Splits and Phases: 1: West Union Road & Driveway



Intersection: 1: West Union Road & Driveway

Movement	EB	EB	EB	WB	WB	SB	SB
Directions Served	L	T	T	T	R	L	R
Maximum Queue (ft)	112	88	61	246	34	83	99
Average Queue (ft)	50	53	16	126	16	34	40
95th Queue (ft)	91	91	45	218	41	68	73
Link Distance (ft)		504	504	342		136	136
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	100				175		
Storage Blk Time (%)	1	0		2			
Queuing Penalty (veh)	4	0		1			

Network Summary

Network wide Queuing Penalty: 5

Lanes, Volumes, Timings  
1: West Union Road & Driveway

West Union Starbucks TIA  
2019 PM Peak Hour - No Build - EBLT 100'



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	93	915	481	69	130	111
Future Volume (vph)	93	915	481	69	130	111
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100			175	0	0
Storage Lanes	1			1	1	1
Taper Length (ft)	100				25	
Right Turn on Red				Yes		Yes
Link Speed (mph)		40	40		20	
Link Distance (ft)		535	367		175	
Travel Time (s)		9.1	6.3		6.0	
Confl. Bikes (#/hr)				1		
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)						
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		10	10		10	
Two way Left Turn Lane			Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2	1	1	1
Detector Template						
Leading Detector (ft)	75	323	283	143	75	75
Trailing Detector (ft)	1	157	157	137	1	1
Detector 1 Position(ft)	1	157	157	137	1	1
Detector 1 Size(ft)	74	6	6	6	74	74
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		317	277			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	Perm	NA	NA	Perm	Perm	Perm
Protected Phases		2	6			
Permitted Phases	2			6	4	4
Detector Phase	2	2	6	6	4	4
Switch Phase						
Minimum Initial (s)	8.0	8.0	10.0	10.0	5.0	5.0
Minimum Split (s)	26.5	26.5	27.3	27.3	28.5	28.5
Total Split (s)	31.0	31.0	31.0	31.0	29.0	29.0
Total Split (%)	51.7%	51.7%	51.7%	51.7%	48.3%	48.3%
Maximum Green (s)	25.5	25.5	26.0	26.0	25.0	25.0

Lanes, Volumes, Timings  
1: West Union Road & Driveway

West Union Starbucks TIA  
2019 PM Peak Hour - No Build - EBLT 100'

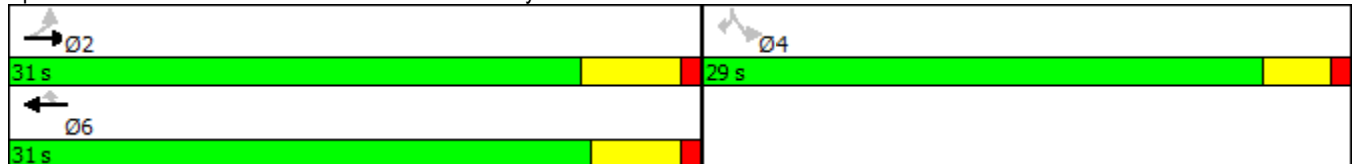


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Yellow Time (s)	4.5	4.5	4.0	4.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	0.0	0.0
Total Lost Time (s)	4.0	4.0	3.5	3.5	4.0	4.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.1	3.1	3.1	3.1	2.9	2.9
Minimum Gap (s)	1.1	1.1	1.1	1.1	1.0	1.0
Time Before Reduce (s)	10.0	10.0	10.0	10.0	5.0	5.0
Time To Reduce (s)	15.0	15.0	15.0	15.0	10.0	10.0
Recall Mode	Min	Min	Min	Min	None	None
Walk Time (s)			5.0	5.0	5.0	5.0
Flash Dont Walk (s)			14.0	14.0	17.0	17.0
Pedestrian Calls (#/hr)			1	1	1	1
90th %ile Green (s)	25.5	25.5	26.0	26.0	22.0	22.0
90th %ile Term Code	Max	Max	Hold	Hold	Ped	Ped
70th %ile Green (s)	17.7	17.7	18.2	18.2	8.9	8.9
70th %ile Term Code	Gap	Gap	Hold	Hold	Gap	Gap
50th %ile Green (s)	15.9	15.9	16.4	16.4	7.6	7.6
50th %ile Term Code	Gap	Gap	Hold	Hold	Gap	Gap
30th %ile Green (s)	12.4	12.4	12.9	12.9	6.6	6.6
30th %ile Term Code	Gap	Gap	Hold	Hold	Gap	Gap
10th %ile Green (s)	24.5	24.5	25.0	25.0	0.0	0.0
10th %ile Term Code	Dwell	Dwell	Dwell	Dwell	Skip	Skip

Intersection Summary

Area Type: Other  
 Cycle Length: 60  
 Actuated Cycle Length: 36.9  
 Natural Cycle: 60  
 Control Type: Actuated-Uncoordinated  
 90th %ile Actuated Cycle: 57  
 70th %ile Actuated Cycle: 36.1  
 50th %ile Actuated Cycle: 33  
 30th %ile Actuated Cycle: 28.5  
 10th %ile Actuated Cycle: 30

Splits and Phases: 1: West Union Road & Driveway



Intersection: 1: West Union Road & Driveway

Movement	EB	EB	EB	WB	WB	SB	SB
Directions Served	L	T	T	T	R	L	R
Maximum Queue (ft)	109	162	83	138	60	113	80
Average Queue (ft)	41	87	42	66	17	55	36
95th Queue (ft)	86	140	72	112	46	99	66
Link Distance (ft)		504	504	342		136	136
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	100				175		
Storage Blk Time (%)	1	1					
Queuing Penalty (veh)	3	1					

Network Summary

Network wide Queuing Penalty: 4



Lanes, Volumes, Timings  
1: West Union Road & Driveway

West Union Starbucks TIA  
2019 PM Peak Hour - Build - EBLT 100'



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	119	915	481	83	151	129
Future Volume (vph)	119	915	481	83	151	129
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100			175	0	0
Storage Lanes	1			1	1	1
Taper Length (ft)	100				25	
Right Turn on Red				Yes		Yes
Link Speed (mph)		40	40		20	
Link Distance (ft)		535	367		175	
Travel Time (s)		9.1	6.3		6.0	
Confl. Bikes (#/hr)				1		
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)						
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		10	10		10	
Two way Left Turn Lane			Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2	1	1	1
Detector Template						
Leading Detector (ft)	75	323	283	143	75	75
Trailing Detector (ft)	1	157	157	137	1	1
Detector 1 Position(ft)	1	157	157	137	1	1
Detector 1 Size(ft)	74	6	6	6	74	74
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		317	277			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	Perm	NA	NA	Perm	Perm	Perm
Protected Phases		2	6			
Permitted Phases	2			6	4	4
Detector Phase	2	2	6	6	4	4
Switch Phase						
Minimum Initial (s)	8.0	8.0	10.0	10.0	5.0	5.0
Minimum Split (s)	26.5	26.5	27.3	27.3	28.5	28.5
Total Split (s)	31.0	31.0	31.0	31.0	29.0	29.0
Total Split (%)	51.7%	51.7%	51.7%	51.7%	48.3%	48.3%
Maximum Green (s)	25.5	25.5	26.0	26.0	25.0	25.0

Lanes, Volumes, Timings  
1: West Union Road & Driveway

West Union Starbucks TIA  
2019 PM Peak Hour - Build - EBLT 100'

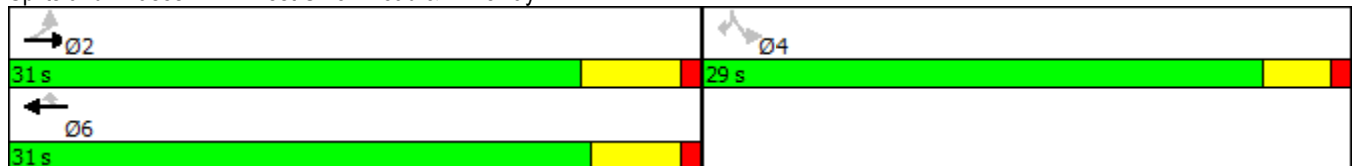


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Yellow Time (s)	4.5	4.5	4.0	4.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	0.0	0.0
Total Lost Time (s)	4.0	4.0	3.5	3.5	4.0	4.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.1	3.1	3.1	3.1	2.9	2.9
Minimum Gap (s)	1.1	1.1	1.1	1.1	1.0	1.0
Time Before Reduce (s)	10.0	10.0	10.0	10.0	5.0	5.0
Time To Reduce (s)	15.0	15.0	15.0	15.0	10.0	10.0
Recall Mode	Min	Min	Min	Min	None	None
Walk Time (s)			5.0	5.0	5.0	5.0
Flash Dont Walk (s)			14.0	14.0	17.0	17.0
Pedestrian Calls (#/hr)			1	1	1	1
90th %ile Green (s)	25.5	25.5	26.0	26.0	22.0	22.0
90th %ile Term Code	Max	Max	Hold	Hold	Ped	Ped
70th %ile Green (s)	18.0	18.0	18.5	18.5	9.5	9.5
70th %ile Term Code	Gap	Gap	Hold	Hold	Gap	Gap
50th %ile Green (s)	17.1	17.1	17.6	17.6	8.0	8.0
50th %ile Term Code	Gap	Gap	Hold	Hold	Gap	Gap
30th %ile Green (s)	12.5	12.5	13.0	13.0	6.9	6.9
30th %ile Term Code	Gap	Gap	Hold	Hold	Gap	Gap
10th %ile Green (s)	24.5	24.5	25.0	25.0	0.0	0.0
10th %ile Term Code	Dwell	Dwell	Dwell	Dwell	Skip	Skip

Intersection Summary

Area Type: Other  
 Cycle Length: 60  
 Actuated Cycle Length: 37.5  
 Natural Cycle: 60  
 Control Type: Actuated-Uncoordinated  
 90th %ile Actuated Cycle: 57  
 70th %ile Actuated Cycle: 37  
 50th %ile Actuated Cycle: 34.6  
 30th %ile Actuated Cycle: 28.9  
 10th %ile Actuated Cycle: 30

Splits and Phases: 1: West Union Road & Driveway



Intersection: 1: West Union Road & Driveway

Movement	EB	EB	EB	WB	WB	SB	SB
Directions Served	L	T	T	T	R	L	R
Maximum Queue (ft)	132	254	225	191	60	156	77
Average Queue (ft)	57	102	68	97	20	60	43
95th Queue (ft)	92	192	147	165	49	118	70
Link Distance (ft)		504	504	342		136	136
Upstream Blk Time (%)						1	
Queuing Penalty (veh)						0	
Storage Bay Dist (ft)	100				175		
Storage Blk Time (%)	0	5		0			
Queuing Penalty (veh)	1	5		0			

Network Summary

Network wide Queuing Penalty: 7

Lanes, Volumes, Timings  
1: West Union Road & Driveway

West Union Starbucks TIA  
2019 AM Peak Hour - No Build - EBLT 125'



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	54	440	744	19	49	83
Future Volume (vph)	54	440	744	19	49	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125			175	0	0
Storage Lanes	1			1	1	1
Taper Length (ft)	100				25	
Right Turn on Red				Yes		Yes
Link Speed (mph)		40	40		20	
Link Distance (ft)		535	367		175	
Travel Time (s)		9.1	6.3		6.0	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)						
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		10	10		10	
Two way Left Turn Lane			Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2	1	1	1
Detector Template						
Leading Detector (ft)	75	323	283	143	75	75
Trailing Detector (ft)	1	157	157	137	1	1
Detector 1 Position(ft)	1	157	157	137	1	1
Detector 1 Size(ft)	74	6	6	6	74	74
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		317	277			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	Perm	NA	NA	Perm	Perm	Perm
Protected Phases		2	6			
Permitted Phases	2			6	4	4
Detector Phase	2	2	6	6	4	4
Switch Phase						
Minimum Initial (s)	8.0	8.0	10.0	10.0	5.0	5.0
Minimum Split (s)	26.5	26.5	27.3	27.3	28.5	28.5
Total Split (s)	41.5	41.5	41.5	41.5	28.5	28.5
Total Split (%)	59.3%	59.3%	59.3%	59.3%	40.7%	40.7%
Maximum Green (s)	36.0	36.0	36.5	36.5	24.5	24.5
Yellow Time (s)	4.5	4.5	4.0	4.0	3.0	3.0

Lanes, Volumes, Timings  
 1: West Union Road & Driveway

West Union Starbucks TIA  
 2019 AM Peak Hour - No Build - EBLT 125'

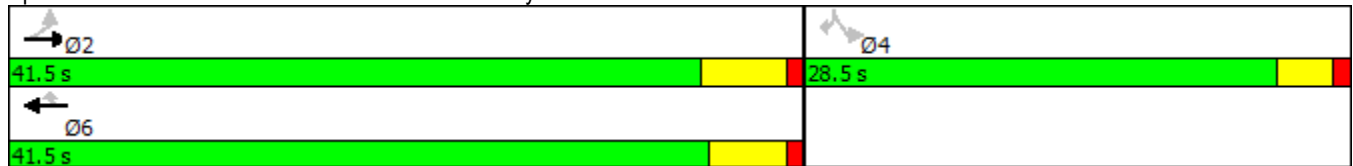


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	1.5	-1.5	-1.0	-1.0	0.0	0.0
Total Lost Time (s)	7.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.1	3.1	3.1	3.1	2.9	2.9
Minimum Gap (s)	1.1	1.1	1.1	1.1	1.0	1.0
Time Before Reduce (s)	10.0	10.0	10.0	10.0	5.0	5.0
Time To Reduce (s)	15.0	15.0	15.0	15.0	10.0	10.0
Recall Mode	Min	Min	Min	Min	None	None
Walk Time (s)			5.0	5.0	5.0	5.0
Flash Dont Walk (s)			14.0	14.0	17.0	17.0
Pedestrian Calls (#/hr)			1	1	1	1
90th %ile Green (s)	36.0	36.0	36.5	36.5	22.0	22.0
90th %ile Term Code	Max	Max	Max	Max	Ped	Ped
70th %ile Green (s)	28.1	28.1	28.6	28.6	7.7	7.7
70th %ile Term Code	Hold	Hold	Gap	Gap	Gap	Gap
50th %ile Green (s)	23.2	23.2	23.7	23.7	6.9	6.9
50th %ile Term Code	Hold	Hold	Gap	Gap	Gap	Gap
30th %ile Green (s)	29.1	29.1	29.6	29.6	6.2	6.2
30th %ile Term Code	Dwell	Dwell	Dwell	Dwell	Gap	Gap
10th %ile Green (s)	25.1	25.1	25.6	25.6	0.0	0.0
10th %ile Term Code	Dwell	Dwell	Dwell	Dwell	Skip	Skip

Intersection Summary

Area Type: Other  
 Cycle Length: 70  
 Actuated Cycle Length: 45.6  
 Natural Cycle: 70  
 Control Type: Actuated-Uncoordinated  
 90th %ile Actuated Cycle: 67.5  
 70th %ile Actuated Cycle: 45.3  
 50th %ile Actuated Cycle: 39.6  
 30th %ile Actuated Cycle: 44.8  
 10th %ile Actuated Cycle: 30.6

Splits and Phases: 1: West Union Road & Driveway



Intersection: 1: West Union Road & Driveway

Movement	EB	EB	EB	WB	WB	SB	SB
Directions Served	L	T	T	T	R	L	R
Maximum Queue (ft)	61	112	35	361	342	57	78
Average Queue (ft)	36	37	9	115	16	23	37
95th Queue (ft)	68	78	33	269	120	50	70
Link Distance (ft)		504	504	342		136	136
Upstream Blk Time (%)				1	0		
Queuing Penalty (veh)				0	0		
Storage Bay Dist (ft)	125				175		
Storage Blk Time (%)		0		3			
Queuing Penalty (veh)		0		1			

Network Summary

Network wide Queuing Penalty: 1

Lanes, Volumes, Timings  
1: West Union Road & Driveway

West Union Starbucks TIA  
2019 AM Peak Hour - Build - EBLT 125'



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	77	440	744	55	71	120
Future Volume (vph)	77	440	744	55	71	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125			175	0	0
Storage Lanes	1			1	1	1
Taper Length (ft)	100				25	
Right Turn on Red				Yes		Yes
Link Speed (mph)		40	40		20	
Link Distance (ft)		535	367		175	
Travel Time (s)		9.1	6.3		6.0	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)						
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		10	10		10	
Two way Left Turn Lane			Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2	1	1	1
Detector Template						
Leading Detector (ft)	75	323	283	143	75	75
Trailing Detector (ft)	1	157	157	137	1	1
Detector 1 Position(ft)	1	157	157	137	1	1
Detector 1 Size(ft)	74	6	6	6	74	74
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		317	277			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	Perm	NA	NA	Perm	Perm	Perm
Protected Phases		2	6			
Permitted Phases	2			6	4	4
Detector Phase	2	2	6	6	4	4
Switch Phase						
Minimum Initial (s)	8.0	8.0	10.0	10.0	5.0	5.0
Minimum Split (s)	26.5	26.5	27.3	27.3	28.5	28.5
Total Split (s)	46.5	46.5	46.5	46.5	28.5	28.5
Total Split (%)	62.0%	62.0%	62.0%	62.0%	38.0%	38.0%
Maximum Green (s)	41.0	41.0	41.5	41.5	24.5	24.5
Yellow Time (s)	4.5	4.5	4.0	4.0	3.0	3.0



Lanes, Volumes, Timings  
1: West Union Road & Driveway

West Union Starbucks TIA  
2019 AM Peak Hour - Build - EBLT 125'



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.5	-1.5	-1.0	-1.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.1	3.1	3.1	3.1	2.9	2.9
Minimum Gap (s)	1.1	1.1	1.1	1.1	1.0	1.0
Time Before Reduce (s)	10.0	10.0	10.0	10.0	5.0	5.0
Time To Reduce (s)	15.0	15.0	15.0	15.0	10.0	10.0
Recall Mode	Min	Min	Min	Min	None	None
Walk Time (s)			5.0	5.0	5.0	5.0
Flash Dont Walk (s)			14.0	14.0	17.0	17.0
Pedestrian Calls (#/hr)			1	1	1	1
90th %ile Green (s)	41.0	41.0	41.5	41.5	22.0	22.0
90th %ile Term Code	Max	Max	Max	Max	Ped	Ped
70th %ile Green (s)	41.0	41.0	41.5	41.5	9.0	9.0
70th %ile Term Code	Max	Max	Hold	Hold	Gap	Gap
50th %ile Green (s)	32.2	32.2	32.7	32.7	7.9	7.9
50th %ile Term Code	Gap	Gap	Hold	Hold	Gap	Gap
30th %ile Green (s)	20.7	20.7	21.2	21.2	6.5	6.5
30th %ile Term Code	Gap	Gap	Hold	Hold	Gap	Gap
10th %ile Green (s)	26.3	26.3	26.8	26.8	0.0	0.0
10th %ile Term Code	Dwell	Dwell	Dwell	Dwell	Skip	Skip

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 50

Natural Cycle: 75

Control Type: Actuated-Uncoordinated

90th %ile Actuated Cycle: 72.5

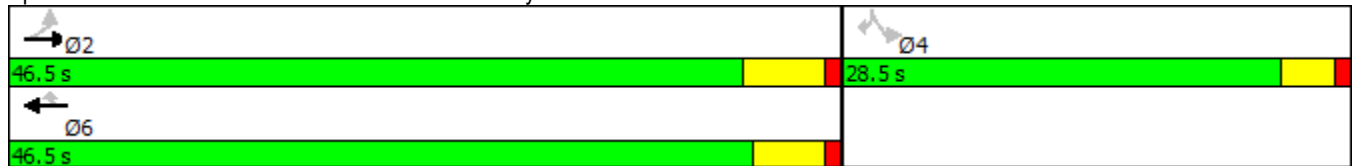
70th %ile Actuated Cycle: 59.5

50th %ile Actuated Cycle: 49.6

30th %ile Actuated Cycle: 36.7

10th %ile Actuated Cycle: 31.8

Splits and Phases: 1: West Union Road & Driveway



Intersection: 1: West Union Road & Driveway

Movement	EB	EB	EB	WB	WB	SB	SB
Directions Served	L	T	T	T	R	L	R
Maximum Queue (ft)	87	186	109	361	342	110	129
Average Queue (ft)	49	51	22	133	27	40	44
95th Queue (ft)	91	110	59	278	129	82	86
Link Distance (ft)		504	504	342		136	136
Upstream Blk Time (%)				2	0		0
Queuing Penalty (veh)				0	0		0
Storage Bay Dist (ft)	125				175		
Storage Blk Time (%)		1		4			
Queuing Penalty (veh)		0		3			

Network Summary

Network wide Queuing Penalty: 3

Lanes, Volumes, Timings  
1: West Union Road & Driveway

West Union Starbucks TIA  
2019 PM Peak Hour - No Build - EBLT 125'



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	93	915	481	69	130	111
Future Volume (vph)	93	915	481	69	130	111
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125			175	0	0
Storage Lanes	1			1	1	1
Taper Length (ft)	100				25	
Right Turn on Red				Yes		Yes
Link Speed (mph)		40	40		20	
Link Distance (ft)		535	367		175	
Travel Time (s)		9.1	6.3		6.0	
Confl. Bikes (#/hr)				1		
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)						
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		10	10		10	
Two way Left Turn Lane			Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2	1	1	1
Detector Template						
Leading Detector (ft)	75	323	283	143	75	75
Trailing Detector (ft)	1	157	157	137	1	1
Detector 1 Position(ft)	1	157	157	137	1	1
Detector 1 Size(ft)	74	6	6	6	74	74
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		317	277			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	Perm	NA	NA	Perm	Perm	Perm
Protected Phases		2	6			
Permitted Phases	2			6	4	4
Detector Phase	2	2	6	6	4	4
Switch Phase						
Minimum Initial (s)	8.0	8.0	10.0	10.0	5.0	5.0
Minimum Split (s)	26.5	26.5	27.3	27.3	28.5	28.5
Total Split (s)	31.0	31.0	31.0	31.0	29.0	29.0
Total Split (%)	51.7%	51.7%	51.7%	51.7%	48.3%	48.3%
Maximum Green (s)	25.5	25.5	26.0	26.0	25.0	25.0

Lanes, Volumes, Timings  
 1: West Union Road & Driveway

West Union Starbucks TIA  
 2019 PM Peak Hour - No Build - EBLT 125'

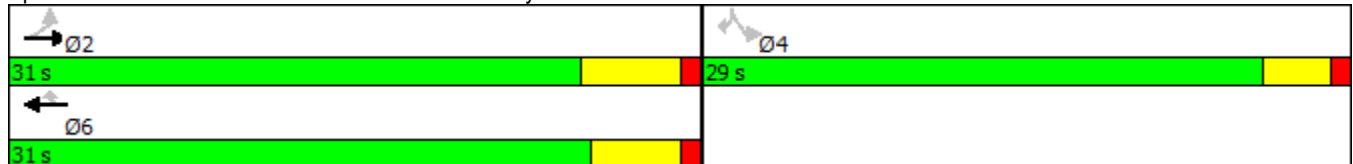


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Yellow Time (s)	4.5	4.5	4.0	4.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	0.0	0.0
Total Lost Time (s)	4.0	4.0	3.5	3.5	4.0	4.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.1	3.1	3.1	3.1	2.9	2.9
Minimum Gap (s)	1.1	1.1	1.1	1.1	1.0	1.0
Time Before Reduce (s)	10.0	10.0	10.0	10.0	5.0	5.0
Time To Reduce (s)	15.0	15.0	15.0	15.0	10.0	10.0
Recall Mode	Min	Min	Min	Min	None	None
Walk Time (s)			5.0	5.0	5.0	5.0
Flash Dont Walk (s)			14.0	14.0	17.0	17.0
Pedestrian Calls (#/hr)			1	1	1	1
90th %ile Green (s)	25.5	25.5	26.0	26.0	22.0	22.0
90th %ile Term Code	Max	Max	Hold	Hold	Ped	Ped
70th %ile Green (s)	17.7	17.7	18.2	18.2	8.9	8.9
70th %ile Term Code	Gap	Gap	Hold	Hold	Gap	Gap
50th %ile Green (s)	15.9	15.9	16.4	16.4	7.6	7.6
50th %ile Term Code	Gap	Gap	Hold	Hold	Gap	Gap
30th %ile Green (s)	12.4	12.4	12.9	12.9	6.6	6.6
30th %ile Term Code	Gap	Gap	Hold	Hold	Gap	Gap
10th %ile Green (s)	24.5	24.5	25.0	25.0	0.0	0.0
10th %ile Term Code	Dwell	Dwell	Dwell	Dwell	Skip	Skip

Intersection Summary

Area Type: Other  
 Cycle Length: 60  
 Actuated Cycle Length: 36.9  
 Natural Cycle: 60  
 Control Type: Actuated-Uncoordinated  
 90th %ile Actuated Cycle: 57  
 70th %ile Actuated Cycle: 36.1  
 50th %ile Actuated Cycle: 33  
 30th %ile Actuated Cycle: 28.5  
 10th %ile Actuated Cycle: 30

Splits and Phases: 1: West Union Road & Driveway



Intersection: 1: West Union Road & Driveway

Movement	EB	EB	EB	WB	WB	SB	SB
Directions Served	L	T	T	T	R	L	R
Maximum Queue (ft)	88	152	105	190	35	114	76
Average Queue (ft)	44	89	51	81	19	53	36
95th Queue (ft)	84	132	88	147	45	93	66
Link Distance (ft)		504	504	342		136	136
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	125				175		
Storage Blk Time (%)		1		0			
Queuing Penalty (veh)		0		0			

Network Summary

Network wide Queuing Penalty: 1

Lanes, Volumes, Timings  
1: West Union Road & Driveway

West Union Starbucks TIA  
2019 PM Peak Hour - Build - EBLT 125'



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	119	915	481	83	151	129
Future Volume (vph)	119	915	481	83	151	129
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125			175	0	0
Storage Lanes	1			1	1	1
Taper Length (ft)	100				25	
Right Turn on Red				Yes		Yes
Link Speed (mph)		40	40		20	
Link Distance (ft)		535	367		175	
Travel Time (s)		9.1	6.3		6.0	
Confl. Bikes (#/hr)				1		
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)						
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		10	10		10	
Two way Left Turn Lane			Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2	1	1	1
Detector Template						
Leading Detector (ft)	75	323	283	143	75	75
Trailing Detector (ft)	1	157	157	137	1	1
Detector 1 Position(ft)	1	157	157	137	1	1
Detector 1 Size(ft)	74	6	6	6	74	74
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		317	277			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	Perm	NA	NA	Perm	Perm	Perm
Protected Phases		2	6			
Permitted Phases	2			6	4	4
Detector Phase	2	2	6	6	4	4
Switch Phase						
Minimum Initial (s)	8.0	8.0	10.0	10.0	5.0	5.0
Minimum Split (s)	26.5	26.5	27.3	27.3	28.5	28.5
Total Split (s)	31.0	31.0	31.0	31.0	29.0	29.0
Total Split (%)	51.7%	51.7%	51.7%	51.7%	48.3%	48.3%
Maximum Green (s)	25.5	25.5	26.0	26.0	25.0	25.0

Lanes, Volumes, Timings  
1: West Union Road & Driveway

West Union Starbucks TIA  
2019 PM Peak Hour - Build - EBLT 125'

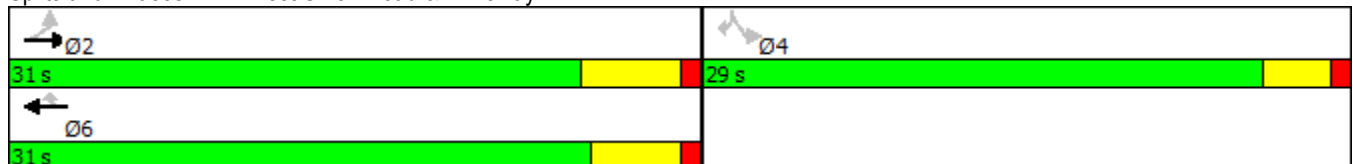


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Yellow Time (s)	4.5	4.5	4.0	4.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	0.0	0.0
Total Lost Time (s)	4.0	4.0	3.5	3.5	4.0	4.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.1	3.1	3.1	3.1	2.9	2.9
Minimum Gap (s)	1.1	1.1	1.1	1.1	1.0	1.0
Time Before Reduce (s)	10.0	10.0	10.0	10.0	5.0	5.0
Time To Reduce (s)	15.0	15.0	15.0	15.0	10.0	10.0
Recall Mode	Min	Min	Min	Min	None	None
Walk Time (s)			5.0	5.0	5.0	5.0
Flash Dont Walk (s)			14.0	14.0	17.0	17.0
Pedestrian Calls (#/hr)			1	1	1	1
90th %ile Green (s)	25.5	25.5	26.0	26.0	22.0	22.0
90th %ile Term Code	Max	Max	Hold	Hold	Ped	Ped
70th %ile Green (s)	18.0	18.0	18.5	18.5	9.5	9.5
70th %ile Term Code	Gap	Gap	Hold	Hold	Gap	Gap
50th %ile Green (s)	17.1	17.1	17.6	17.6	8.0	8.0
50th %ile Term Code	Gap	Gap	Hold	Hold	Gap	Gap
30th %ile Green (s)	12.5	12.5	13.0	13.0	6.9	6.9
30th %ile Term Code	Gap	Gap	Hold	Hold	Gap	Gap
10th %ile Green (s)	24.5	24.5	25.0	25.0	0.0	0.0
10th %ile Term Code	Dwell	Dwell	Dwell	Dwell	Skip	Skip

Intersection Summary

Area Type: Other  
 Cycle Length: 60  
 Actuated Cycle Length: 37.5  
 Natural Cycle: 60  
 Control Type: Actuated-Uncoordinated  
 90th %ile Actuated Cycle: 57  
 70th %ile Actuated Cycle: 37  
 50th %ile Actuated Cycle: 34.6  
 30th %ile Actuated Cycle: 28.9  
 10th %ile Actuated Cycle: 30

Splits and Phases: 1: West Union Road & Driveway





Intersection: 1: West Union Road & Driveway

Movement	EB	EB	EB	WB	WB	SB	SB
Directions Served	L	T	T	T	R	L	R
Maximum Queue (ft)	87	162	135	137	60	110	107
Average Queue (ft)	50	79	56	76	22	58	47
95th Queue (ft)	86	129	104	129	52	98	78
Link Distance (ft)		504	504	342		136	136
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	125				175		
Storage Blk Time (%)		1					
Queuing Penalty (veh)		1					

Network Summary

Network wide Queuing Penalty: 1

Attachment B Existing traffic conditions  
worksheets

HCM Unsignalized Intersection Capacity Analysis  
1: NW West Union Rd

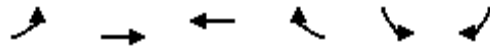
21539 West Union Gas Station  
07/17/2019



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		
Traffic Volume (veh/h)	517	0	0	864	0	0
Future Volume (Veh/h)	517	0	0	864	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	623	0	0	1041	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage (veh)						
Upstream signal (ft)	309			219		
pX, platoon unblocked					0.73	
vC, conflicting volume			623		1664 312	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			623		1725 312	
tC, single (s)			4.1		6.8 6.9	
tC, 2 stage (s)						
tF (s)			2.2		3.5 3.3	
p0 queue free %			100		100 100	
cM capacity (veh/h)			968		59 690	
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>EB 2</b>	<b>WB 1</b>			
Volume Total	415	208	1041			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1700			
Volume to Capacity	0.24	0.12	0.61			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS						
Approach Delay (s)	0.0		0.0			
Approach LOS						
<b>Intersection Summary</b>						
Average Delay			0.0			
Intersection Capacity Utilization			48.8%		ICU Level of Service A	
Analysis Period (min)			15			

Queues

2: NW West Union Rd & Albertsons Driveway



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	93	530	896	66	86	145
v/c Ratio	0.27	0.20	0.65	0.06	0.40	0.51
Control Delay	7.0	3.7	8.6	2.0	29.9	15.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.0	3.7	8.6	2.0	29.9	15.2
Queue Length 50th (ft)	7	21	105	1	30	14
Queue Length 95th (ft)	42	66	353	14	59	48
Internal Link Dist (ft)		139	280		110	
Turn Bay Length (ft)	100			175	100	100
Base Capacity (vph)	340	2587	1376	1182	951	899
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	0.27	0.20	0.65	0.06	0.09	0.16

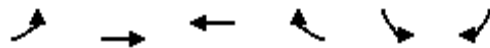
Intersection Summary

# HCM Signalized Intersection Capacity Analysis

## 2: NW West Union Rd & Albertsons Driveway

21539 West Union Gas Station

07/17/2019



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	77	440	744	55	71	120
Future Volume (vph)	77	440	744	55	71	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.0	5.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	3539	1863	1583	1770	1583
Flt Permitted	0.25	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	465	3539	1863	1583	1770	1583
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	93	530	896	66	86	145
RTOR Reduction (vph)	0	0	0	12	0	93
Lane Group Flow (vph)	93	530	896	54	86	52
Turn Type	Perm	NA	NA	Perm	Perm	Perm
Protected Phases		2	6			
Permitted Phases	2			6	4	4
Actuated Green, G (s)	48.1	48.1	48.6	48.6	8.1	8.1
Effective Green, g (s)	48.1	48.1	48.6	48.6	8.1	8.1
Actuated g/C Ratio	0.73	0.73	0.74	0.74	0.12	0.12
Clearance Time (s)	5.5	5.5	5.0	5.0	4.0	4.0
Vehicle Extension (s)	3.1	3.1	3.1	3.1	2.9	2.9
Lane Grp Cap (vph)	340	2590	1378	1170	218	195
v/s Ratio Prot		0.15	c0.48			
v/s Ratio Perm	0.20			0.03	c0.05	0.03
v/c Ratio	0.27	0.20	0.65	0.05	0.39	0.27
Uniform Delay, d1	2.9	2.8	4.3	2.3	26.5	26.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	0.0	1.1	0.0	1.1	0.7
Delay (s)	3.4	2.8	5.4	2.3	27.7	26.8
Level of Service	A	A	A	A	C	C
Approach Delay (s)		2.9	5.2		27.1	
Approach LOS		A	A		C	

### Intersection Summary

HCM 2000 Control Delay	7.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	65.7	Sum of lost time (s)	9.5
Intersection Capacity Utilization	62.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis  
1: NW West Union Rd

21539 West Union Gas Station  
07/17/2019



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		
Traffic Volume (veh/h)	1034	0	0	610	0	0
Future Volume (Veh/h)	1034	0	0	610	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	1055	0	0	622	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage (veh)						
Upstream signal (ft)	309			219		
pX, platoon unblocked					0.82	
vC, conflicting volume			1055		1677	528
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1055		1715	528
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			668		68	501
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>EB 2</b>	<b>WB 1</b>			
Volume Total	703	352	622			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1700			
Volume to Capacity	0.41	0.21	0.37			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS						
Approach Delay (s)	0.0		0.0			
Approach LOS						
<b>Intersection Summary</b>						
Average Delay			0.0			
Intersection Capacity Utilization			35.4%		ICU Level of Service	
Analysis Period (min)			15			
						A

Queues  
2: NW West Union Rd & Albertsons Driveway

21539 West Union Gas Station

07/17/2019



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	121	934	491	85	154	132
v/c Ratio	0.29	0.52	0.50	0.10	0.40	0.29
Control Delay	9.0	8.2	9.1	2.5	14.7	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.0	8.2	9.1	2.5	14.7	4.7
Queue Length 50th (ft)	9	44	42	0	23	0
Queue Length 95th (ft)	55	153	179	18	62	25
Internal Link Dist (ft)		139	280		110	
Turn Bay Length (ft)	100			175	100	100
Base Capacity (vph)	816	3461	1825	1553	1642	1478
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	0.15	0.27	0.27	0.05	0.09	0.09

Intersection Summary

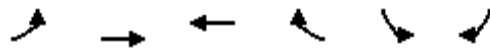


# HCM Signalized Intersection Capacity Analysis

## 2: NW West Union Rd & Albertsons Driveway

21539 West Union Gas Station

07/17/2019



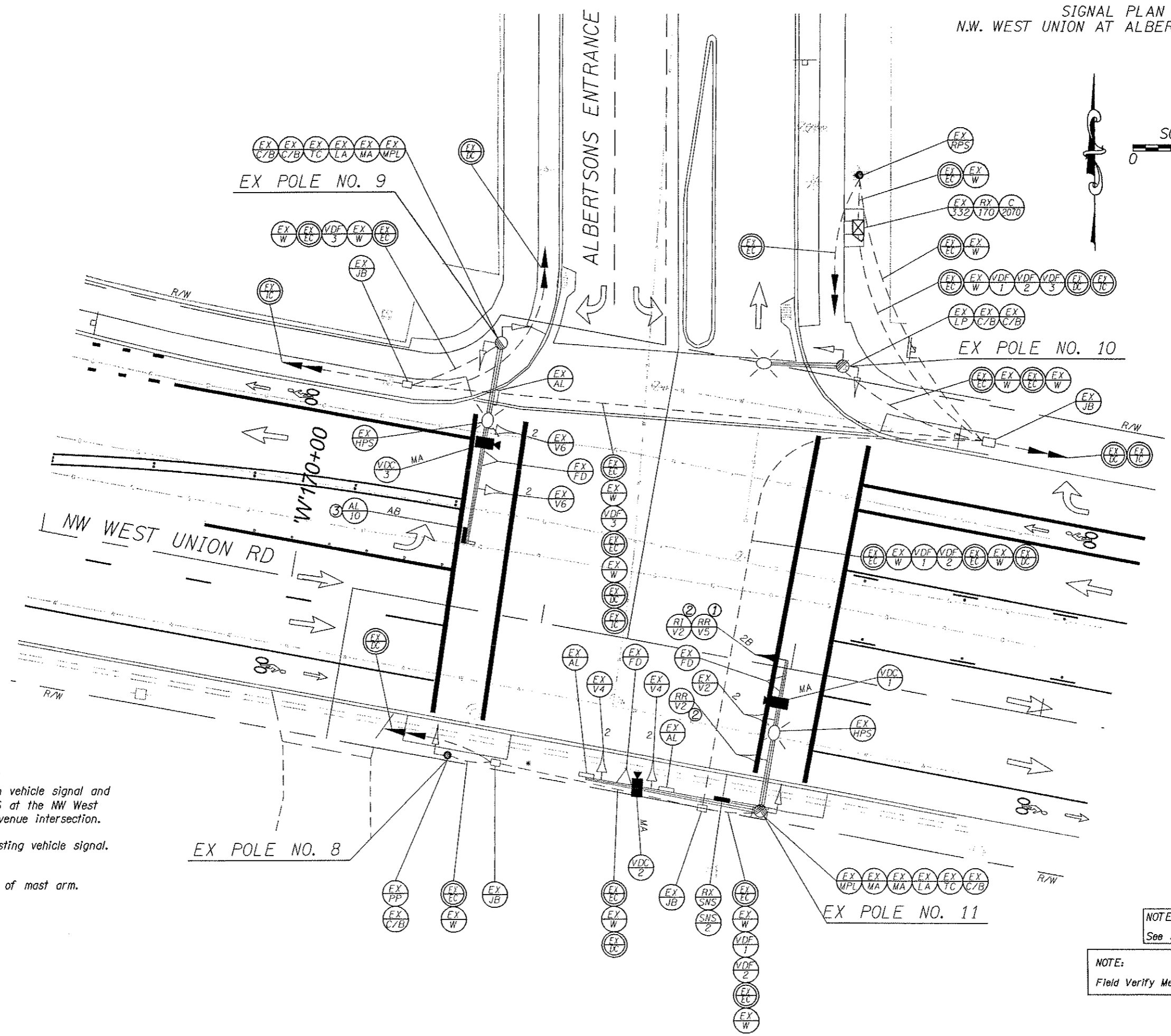
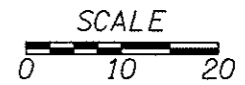
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↕↕	↕	↗	↖	↗
Traffic Volume (vph)	119	915	481	83	151	129
Future Volume (vph)	119	915	481	83	151	129
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.0	5.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	3539	1863	1583	1770	1583
Flt Permitted	0.45	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	835	3539	1863	1583	1770	1583
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	121	934	491	85	154	132
RTOR Reduction (vph)	0	0	0	40	0	103
Lane Group Flow (vph)	121	934	491	45	154	29
Turn Type	Perm	NA	NA	Perm	Perm	Perm
Protected Phases		2	6			
Permitted Phases	2			6	4	4
Actuated Green, G (s)	18.5	18.5	19.0	19.0	8.0	8.0
Effective Green, g (s)	18.5	18.5	19.0	19.0	8.0	8.0
Actuated g/C Ratio	0.51	0.51	0.53	0.53	0.22	0.22
Clearance Time (s)	5.5	5.5	5.0	5.0	4.0	4.0
Vehicle Extension (s)	3.1	3.1	3.1	3.1	2.9	2.9
Lane Grp Cap (vph)	429	1818	983	835	393	351
v/s Ratio Prot		c0.26	0.26			
v/s Ratio Perm	0.14			0.03	c0.09	0.02
v/c Ratio	0.28	0.51	0.50	0.05	0.39	0.08
Uniform Delay, d1	5.0	5.8	5.5	4.1	11.9	11.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	0.3	0.4	0.0	0.6	0.1
Delay (s)	5.3	6.0	5.9	4.2	12.5	11.2
Level of Service	A	A	A	A	B	B
Approach Delay (s)		6.0	5.6		11.9	
Approach LOS		A	A		B	

### Intersection Summary

HCM 2000 Control Delay	6.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	36.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	52.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

SIGNAL PLAN  
N.W. WEST UNION AT ALBERTSONS DRWY.



CONSTRUCTION NOTES:

- 1 Remove existing left-turn vehicle signal and reinstall on new pole #6 at the NW West Union Road/NW 185th Avenue intersection.
- 2 Remove and reinstall existing vehicle signal. Utilize existing wires.
- 3 Mount sign to back side of mast arm.

"UTILITIES NOT SHOWN"  
Contractor to contact utility companies for field locations.

NOTE:  
See sheet TS-1 for Legend

NOTE:  
Field Verify Measurements Before Construction

KITTELSON & ASSOCIATES, INC.  
TRANSPORTATION ENGINEERING / PLANNING  
610 S.W. ALDER, SUITE 700  
PORTLAND, OREGON 97205  
(503) 228-9230

PLOT STAMP: 03/04/11 9:24A JHENRIKSEN  
CAD: 11430-SIG1.DWG, TAB: TS-4

Table with columns for NO. and REVISIONS.

NW 185TH AVENUE  
NW EVERGREEN PARKWAY TO NW WEST UNION RD.  
WASHINGTON COUNTY, OREGON

SIGNAL PLAN

PROJECT NUMBER  
**100091**  
SHEET NO.  
**138** of **177**  
SHEET TITLE  
**TS-4**

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DETECTOR PLAN  
N.W. WEST UNION AT ALBERTSONS DRWY.



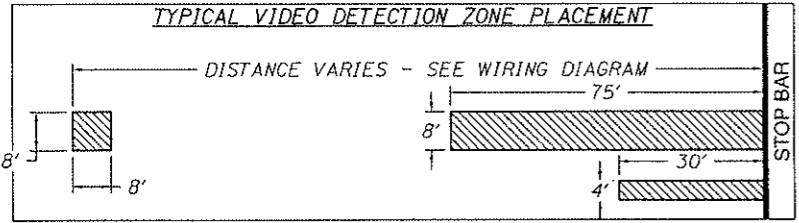
**KITTELSON & ASSOCIATES, INC.**  
TRANSPORTATION ENGINEERING / PLANNING  
810 S.W. ALDER, SUITE 700  
PORTLAND, OREGON 97205  
(503) 228-5230

PLOT STAMP: 03/04/11 9:24A JHENRIKSEN  
CAD: 11430-SIG1.DWG, TAB: TS-5

NW 185TH AVENUE  
NW EVERGREEN PARKWAY TO NW WEST UNION RD.  
WASHINGTON COUNTY, OREGON

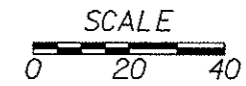
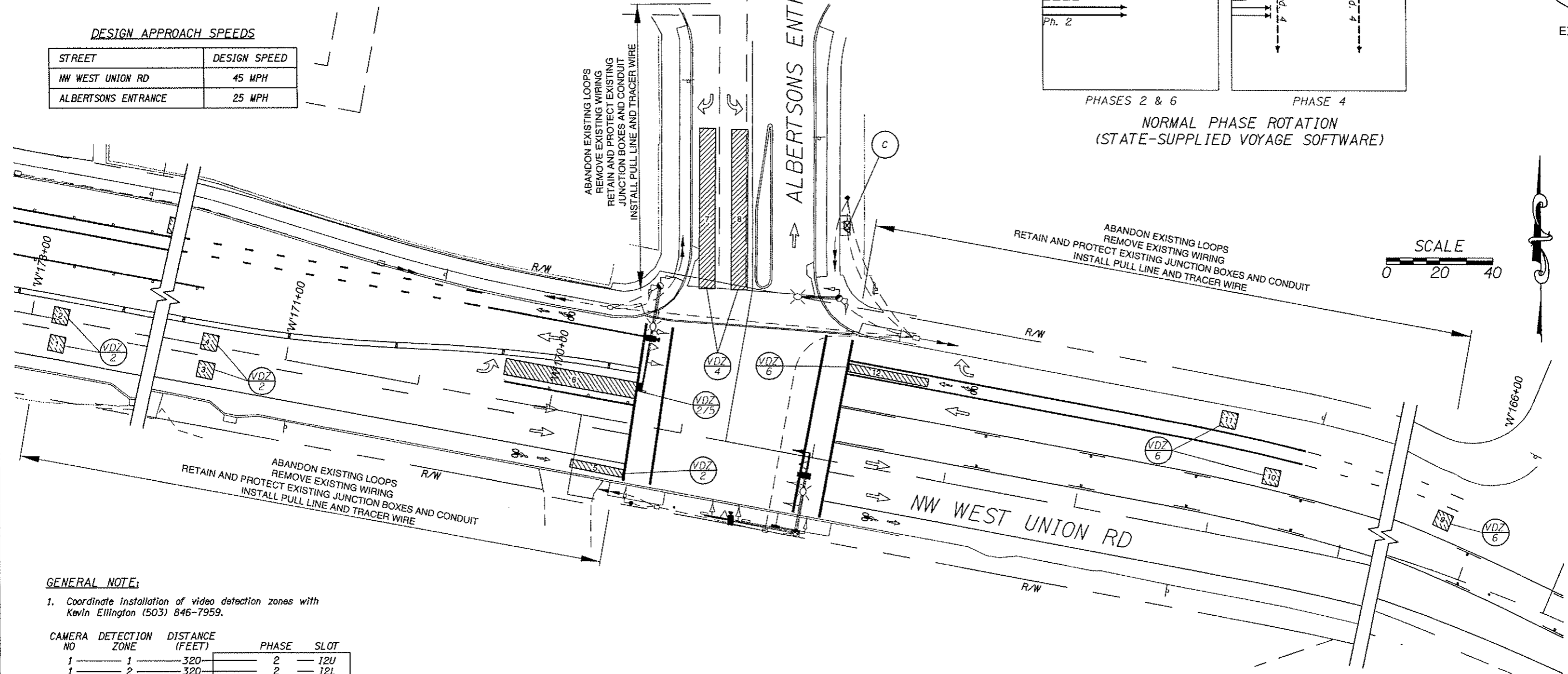
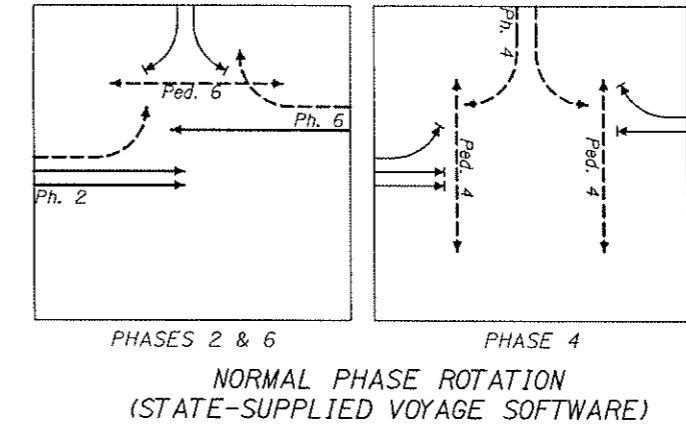
DETECTOR PLAN

PROJECT NUMBER  
**100091**  
SHEET NO.  
**139** OF **177**  
SHEET TITLE  
**TS-5**



DESIGN APPROACH SPEEDS

STREET	DESIGN SPEED
NW WEST UNION RD	45 MPH
ALBERTSONS ENTRANCE	25 MPH



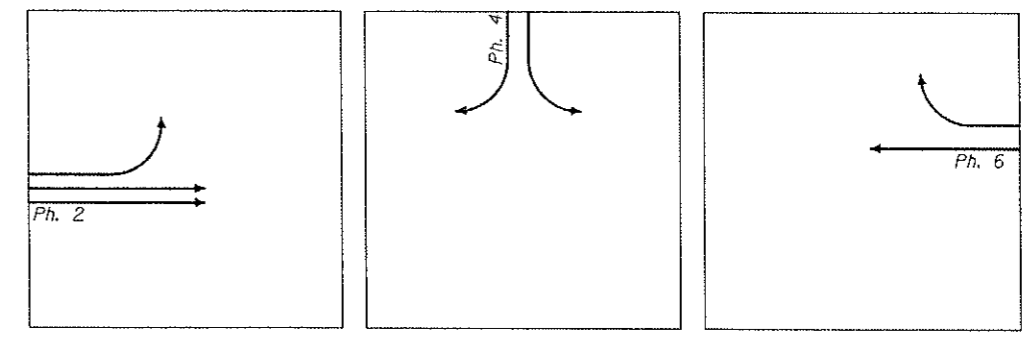
GENERAL NOTE:

- Coordinate installation of video detection zones with Kevin Ellington (503) 846-7959.

CAMERA NO	DETECTION ZONE	DISTANCE (FEET)	PHASE	SLOT
1	1	320	2	12U
1	2	320	2	12L
1	3	160	2	13L
1	4	160	2	13U
1	5	30	2	13U
1	6	75	5(2)	J1
2	7	75	4	16U
2	8	75	4	16L
3	9	280	6	J2U
3	10	160	6	J2L
3	11	140	6	J3L
3	12	30	6	J3U

CONTROLLER CABINET

VIDEO DETECTOR WIRING DIAGRAM  
DISTANCE IS FROM THE STOP BAR TO THE END OF DETECTION ZONE IN FEET.



FIRE PREEMPTION OPERATION

NOTE:  
See sheet TS-1 for Legend

= VIDEO DETECTION ZONE NUMBER (N)

NOTE:  
Field Verify Measurements Before Construction

"UTILITIES NOT SHOWN"  
Contractor to contact utility companies for field locations.

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WASHI

Friday, January 11, 2013 15:43

<b>Intersection Name</b>	2 - Albertsons	<b>Local ID</b>	2
<b>Intersection Telephone Number</b>			
<b>System Name</b>	11 - West Union	<b>System ID</b>	11
<b>Controller Type</b>	Voyage - C1-C11		
<b>Controller Serial Number</b>		<b>Installation Date</b>	
<b>Programmed by</b>		<b>Programmed Date</b>	

<b>Graphic Map Background</b>	<b>Phase Rotation Diagram</b>

**Control Data (next/2/2)**

**Controller Function and Timing (next/2/1, next/2/2)**

**Security, Sequence, Initialization**

<b>Security Code</b>	****	0 = disabled, or 1000-9999
<b>Sequence</b>	2	0 = sequential, 1 = quad left turn, 2-6 = special A-E, 7 = lead lag

	<b>Lead Lag (next/2/2/3)</b>			
	<b>Phases 1 - 2</b>	<b>Phases 3 - 4</b>	<b>Phases 5 - 6</b>	<b>Phases 7 - 8</b>
	0	0	0	0
	0 = no reversal, 1 = reversal, 2 = by coord plan or clock			

**Initialization and Flash (next/2/2/5)**

	<b>Initialization</b>	<b>Flash Entry</b>	<b>Flash Exit</b>	
<b>Ring 1 Phase</b>	2	0	2	phase 1-8
<b>Ring 2 Phase</b>	6	0	6	phase 1-8
<b>Interval</b>	0	0	0	0 = red, 1 = yellow, 2 = green
<b>Power up Flash</b>	0.0	0.0 - 25.5 seconds	<b>First All Red</b>	8.0 0.0 - 25.5 seconds

**Soft Flash (next/2/2/5)**

<b>Phase</b>	1	2	3	4	5	6	7	8	0 = dark, 1=flash yel WIG, 2 = flash yel WAG, 3 = flash red WIG, 4 = flash red WAG				
	3	4	3	4	3	4	3	4					
<b>Overlap</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>	<b>H</b>	<b>I</b>	<b>J</b>	<b>K</b>	<b>L</b>	same as phase
	3	4	3	4	3	4	3	4	3	4	3	4	
<b>Internal Logic Output</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	0 = normal, 1 = dark, 2 = flash WIG
	0	0	0	0	0	0	0	0	0	0	0	0	

Per Phase Functions (next/2/2/3, next/2/2/1)									
	1	2	3	4	5	6	7	8	
Phases Used		X		X		X		X	X = on
Restricted Phases									X = on (Sequence 2, 6, 7 only)
Exclusive Phases									X = on (Sequence 7 only)
Yellow Lock									X = on
Min Recall		X				X			
Max Recall									
Ped Recall									
Red Lock									
Max Out Recall Inhibit		X		X		X		X	
Soft Recall									
Free Walk Rest									
Conditional Ped									
Disable Inhibit Max Termination									
Call to Non Act 1									
Call to Non Act 2									
Dual Entry (next/2/2/9/3)									
Mode	0	0 = off, 1 = on, 2 = Not Used, 3 = by coord plan, 4 = by time clock circuit 61							
Dual Entry Phase -->	1	2	3	4	5	6	7	8	
Phase	0	0	0	0	0	0	0	0	0 = none, 1-8 = phase 1-8
Conditional Service, Five Section Head									
Conditional Service (next/2/2/9/3)			5 Section Head Logic (next/2/2/9/4)						
Phase	Mode	CS Max Time	X Omits Y		Anti-Trap			Yellow Blanking LT	
			X : Y		Trap Protected Phase	Next Phase	Phase		
Phase 1	0	0	6 : 1	0	1		< (5)	1	
Phase 3	0	0	8 : 3	0	3		< (7)	3	
Phase 5	0	0	2 : 5	0	5		< (1)	5	
Phase 7	0	0	4 : 7	0	7		< (3)	7	
0 = off, 1 = C.S.On. 2 = C.S. on by TOD circuit 57, 3 = N/A, 4 = C.S. and C.R. On, 5 = C.R. on by TOD circuit 57.			0=off, 1=side call, 2=no side call		X = On				

Phase Times (next/2/2/2, next/2/2/9/5)								
	1	2	3	4	5	6	7	8
<b>Movement</b>								
<b>Minimum Green</b>	0	8	0	5	0	8	0	0
<b>Passage</b>	0.0	3.1	0.0	2.9	0.0	3.1	0.0	0.0
<b>Yellow</b>	0.0	4.5	0.0	3.0	0.0	4.0	0.0	3.0
<b>Red Clearance</b>	0.0	1.0	0.0	1.0	0.0	1.0	0.0	1.0
<b>Max 1</b>	0	45	0	16	0	45	0	0
<b>Max 2</b>	0	45	0	15	0	45	0	0
<b>Walk</b>	0	0	0	4	0	5	0	5
<b>Ped Clear</b>	0	0	0	15	0	14	0	17
<b>Seconds Per Actuation</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Time Before Reduction</b>	0	10	0	5	0	10	0	0
<b>Time to Reduce</b>	0	15	0	10	0	15	0	0
<b>Minimum Gap</b>	0.0	1.1	0.0	1.0	0.0	1.1	0.0	0.0
<b>Max Variable Initial</b>	0	0	0	0	0	0	0	0
<b>Auto Max Adjust</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Auto Max Limit</b>	0	0	0	0	0	0	0	0
<b>Inhibit Min Yellow</b>								X = On
<b>Red Decimal Off</b>								X = On
<b>Advance Walk</b>	0	0	0	0	0	0	0	0
<b>Other Controller Functions (next/2/2/9)</b>								
<b>Phase --&gt;</b>	1	2	3	4	5	6	7	8
<b>Inhibit Simultaneous Gap Out</b>								
<b>Last Car Passage</b>	2	0 = recall phase, 1 = last car passage, 2 = NOT recall - Not last car passage						
<b>Red Revert (+2 seconds)</b>	0.0	0 - 25.5 sec						
<b>Auto Ped Clear</b>		X = On						
<b>Flashing Don't Walk Into Yellow</b>		X = On						
<b>Soft Recall / Red Rest Delay</b>	0.0	0 - 25.5 sec						
<b>Ped Pushbutton</b>	0	0 - 5 sec, 0 = disable						
<b>Advance Flash Rate</b>	0	0 = disable, 1 = 120 FPM						
<b>Change Sequence</b>		X = On (After a download with a power on - off cycle)						
<b>Phase --&gt;</b>	1	2	3	4	5	6	7	8
<b>Red Clear Extension Detector</b>	0	0	0	0	0	0	0	0
<b>Red Clear Extension Red Time</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Local Detectors (next/2/2/4)**

**Detector Data**

	Yellow Lock	Detector Inhibit	Call Phase	Extend Phase	Switch Phase	Delay Time	Stretch / Disconnect Time	Delay or Disconnect Mode
Detector 1 -			1	1	0	0	0.0	0
Detector 2 -			1	1	0	0	0.0	0
Detector 3 -			3	3	0	0	0.0	0
Detector 4 -			3	3	0	0	0.0	0
Detector 5 -			5	5	0	0	0.0	0
Detector 6 -			5	5	0	0	0.0	0
Detector 7 -			7	7	0	0	0.0	0
Detector 8 -			7	7	0	0	0.0	0
Detector 9 -			2	2	0	0	2.0	0
Detector 10 -			2	2	0	0	2.0	0
Detector 11 -			2	2	0	0	0.0	0
Detector 12 -			0	2	0	0	2.0	0
Detector 13 -			2	0	0	0	0.0	0
Detector 14 -			4	4	0	0	0.0	0
Detector 15 -			4	4	0	0	0.0	0
Detector 16 -			4	4	0	0	0.0	0
Detector 17 -			0	4	0	0	0.0	0
Detector 18 -			4	0	0	0	0.0	0
Detector 19 -			6	6	0	0	2.0	0
Detector 20 -			6	6	0	0	2.0	0
Detector 21 -			6	6	0	0	0.0	0
Detector 22 -			0	6	0	0	1.5	0
Detector 23 -			6	0	0	0	0.0	0
Detector 24 -			8	8	0	0	0.0	0
Detector 25 -			8	8	0	0	0.0	0
Detector 26 -			8	8	0	0	0.0	0
Detector 27 -			0	8	0	0	0.0	0
Detector 28 -			8	0	0	0	0.0	0
Detector 29 -			0	0	0	0	0.0	0
Detector 30 -			0	0	0	0	0.0	0
Detector 31 -			0	0	0	0	0.0	0
Detector 32 -			0	0	0	0	0.0	0

yellow lock, detector inhibit, - X = On; call, extend, phase - 0 = none 1 - 8 = phase 1 - 8; delay time - 0 - 255 sec  
stretch / disconnect time - 0.0 - 25.5 sec.; delay or disconnect Mode - 0 - 13

**Detector Plans (next/2/2/4/5)**

<b>Loop Number</b>										
<b>Plan Detectors</b> 0 0 0 0 0 0 0 0 0 0 - 32, 0 = none, 1 - 3 2 = detectors 1 - 32										
<b>Detector Plan 1</b>	<b>Call Phase</b>									0 - 8, 0 = none, 1 - 8 = phase 1 - 8
	<b>Extend Phase</b>	0	0	0	0	0	0	0	0	
	<b>Switch Phase</b>	0	0	0	0	0	0	0	0	
	<b>Delay Time</b>	0	0	0	0	0	0	0	0	0 - 255 sec
	<b>Stretch/Disconnect Time</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec
	<b>Delay/ Disconnect Mode</b>	0	0	0	0	0	0	0	0	0 - 13
<b>Detector Plan 2</b>	<b>Call Phase</b>									0 - 8, 0 = none, 1 - 8 = phase 1 - 8
	<b>Extend Phase</b>	0	0	0	0	0	0	0	0	
	<b>Switch Phase</b>	0	0	0	0	0	0	0	0	
	<b>Delay Time</b>	0	0	0	0	0	0	0	0	0 - 255 sec
	<b>Stretch/Disconnect Time</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec
	<b>Delay/ Disconnect Mode</b>	0	0	0	0	0	0	0	0	0 - 13
<b>Detector Plan 3</b>	<b>Call Phase</b>									0 - 8, 0 = none, 1 - 8 = phase 1 - 8
	<b>Extend Phase</b>	0	0	0	0	0	0	0	0	
	<b>Switch Phase</b>	0	0	0	0	0	0	0	0	
	<b>Delay Time</b>	0	0	0	0	0	0	0	0	0 - 255 sec
	<b>Stretch/Disconnect Time</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 - 25.5 sec
	<b>Delay/ Disconnect Mode</b>	0	0	0	0	0	0	0	0	0 - 13

Detector Fail Monitor (next/2/2/4/3)					Detectors 33-64 (next/2/2/4/6)					
	Fail Monitor Enable	Recall Phase	Min Counts	Max Counts		Call Phase	Extend Phase			
Detector 1 -		0	0	0	Detector 33 -	0	0			
Detector 2 -		0	0	0	Detector 34 -	0	0			
Detector 3 -		0	0	0	Detector 35 -	0	0			
Detector 4 -		0	0	0	Detector 36 -	0	0			
Detector 5 -		0	0	0	Detector 37 -	0	0			
Detector 6 -		0	0	0	Detector 38 -	0	0			
Detector 7 -		0	0	0	Detector 39 -	0	0			
Detector 8 -		0	0	0	Detector 40 -	0	0			
Detector 9 -		0	0	0	Detector 41 -	0	0			
Detector 10 -		0	0	0	Detector 42 -	0	0			
Detector 11 -		0	0	0	Detector 43 -	0	0			
Detector 12 -		0	0	0	Detector 44 -	0	0			
Detector 13 -		0	0	0	Detector 45 -	0	0			
Detector 14 -		0	0	0	Detector 46 -	0	0			
Detector 15 -		0	0	0	Detector 47 -	0	0			
Detector 16 -		0	0	0	Detector 48 -	0	0			
Detector 17 -		0	0	0	Detector 49 -	0	0			
Detector 18 -		0	0	0	Detector 50 -	0	0			
Detector 19 -		0	0	0	Detector 51 -	0	0			
Detector 20 -		0	0	0	Detector 52 -	0	0			
Detector 21 -		0	0	0	Detector 53 -	0	0			
Detector 22 -		0	0	0	Detector 54 -	0	0			
Detector 23 -		0	0	0	Detector 55 -	0	0			
Detector 24 -		0	0	0	Detector 56 -	0	0			
Detector 25 -		0	0	0	Detector 57 -	0	0			
Detector 26 -		0	0	0	Detector 58 -	0	0			
Detector 27 -		0	0	0	Detector 59 -	0	0			
Detector 28 -		0	0	0	Detector 60 -	0	0			
Detector 29 -		0	0	0	Detector 61 -	0	0			
Detector 30 -		0	0	0	Detector 62 -	0	0			
Detector 31 -		0	0	0	Detector 63 -	0	0			
Detector 32 -		0	0	0	Detector 64 -	0	0			
fail monitor enable - X = On, recall phase - 0 = none 1 - 8 = phase 1 - 8, min, max					call / extend phase - 0 = none 1 - 8 = phase 1 - 8					
<b>Detector Fail Sample Period (all detectors)</b>			0	0 - 255 minutes						
<b>Video Fail Inputs (next/2/2/4/3) --&gt;</b>		1	2	3	4	5	6	7	8	0 = none, 1 - 8 = phase 1 - 8
<b>Phase Recalled</b>		0	0	0	0	0	0	0	0	
<b>System Detectors (next/2/2/4/4)</b>										
<b>System Detectors --&gt;</b>		1	2	3	4	5	6	7	8	0 = none, 1 - 32 = phase 1 - 32
<b>Local Detector</b>		0	0	0	0	0	0	0	0	



Overlaps / FYLTA (next/2/2/8)														
Vehicle Overlaps		Phase or Movement	Phases								Extension Green	Clearance		A - D 0 = none 1 = overlap 2 = 60 FPM 3 = Not ped 4=Comp. Ph. 5=Prevent. Ext. 6=Not Veh. 7=Adv. FF  E - L 0 = no Overlap 1 = Overlap  Green, Yellow Red
			1	2	3	4	5	6	7	8		Yellow	Red	
Overlaps	A		0	0	0	0	0	0	0	0	0.0	0.0	0.0	
	B		0	0	0	0	0	0	0	0	0.0	0.0	0.0	
	C		0	0	0	0	0	0	0	0	0.0	0.0	0.0	
	D		0	0	0	0	0	0	0	0	0.0	0.0	0.0	
	E		0	0	0	0	0	0	0	0	0.0	0.0	0.0	
	F		0	0	0	0	0	0	0	0	0.0	0.0	0.0	
	G		0	0	0	0	0	0	0	0	0.0	0.0	0.0	
	H		0	0	0	0	0	0	0	0	0.0	0.0	0.0	
	I		0	0	0	0	0	0	0	0	0.0	0.0	0.0	
	J		0	0	0	0	0	0	0	0	0.0	0.0	0.0	
	K		0	0	0	0	0	0	0	0	0.0	0.0	0.0	
	L		0	0	0	0	0	0	0	0	0.0	0.0	0.0	
Not Ped - Ped Overlaps (next/2/2/8/5)														
Ped Overlaps -->		A	B	C	D	E	F	G	H					
Overlaps	A									X = Nor Ped Ped Overlap				
	B													
	C													
	D													
Advance Warning (next/2/2/8/3)														
			E	F	G	H	I	J	K	L				
Enable			0	0	0	0	0	0	0	0	0 = disabled, 1 = enabled			
1st Conditional Overlap			0	0	0	0	0	0	0	0	0 = none, 1 - overlap E, 2 = overlap F, etc.			
2nd Conditional Overlap			0	0	0	0	0	0	0	0				
Advance Deactivation Delay			0	0	0	0	0	0	0	0	0 - 99 seconds			
Ped Overlaps (next/2/2/8/5)														
Phase -->		1	2	3	4	5	6	7	8	Walk	Ped Clear	Ped Recall	Phase, Ped Recall: X = on  Walk, Ped Clear: 0 - 255 seconds	
Ped Overlap	A									0	0			
	B									0	0			
	C									0	0			
	D									0	0			
	E									0	0			
	F									0	0			
	G									0	0			
	H									0	0			
Flashing Yellow Left Turn Arrow (FYLTA) (next/2/2/8/6)														
Phase Pairs -->		1 - 2	3 - 4	5 - 6	7 - 8									
Enable		0	0	0	0	0 = off, 3 = 3 outputs, 4 = 4 outputs, 5 = 5 outputs								
Even Omits Odd		0	0	0	0	0 = off, 1 = on, 2 = on, place call across barrier								
Detector Switch Odd / Even		X	X	X	X	X = on, odd phase must be omitted								
Red Transition		2.0	2.0	2.0	2.0	0.0 or 2.0 - 25.5 sec								
Red Extension		0.0	0.0	0.0	0.0	0.0 - 25.5 sec								
Return to GLTA		0	0	0	0	0 = off, 1 = max out, 2 = yellow lock								
Flashing Yellow Left Turn Arrow (FYLTA) - Continued on last page														

**Service Plans (next/2/2/6)**

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

**Service Plans Cont.**

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

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

**Max Plans (next/2/2/7)**

Phase -->		1	2	3	4	5	6	7	8	
<b>Max Plan 1</b>	<b>Normal Max</b>	0	0	0	0	0	0	0	0	0 - 255 sec
	<b>Fail Max</b>	0	0	0	0	0	0	0	0	
	<b>Auto Max Adjust</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0 - 25.5 sec
	<b>Auto Max Limit</b>	0	0	0	0	0	0	0	0	0 - 255 sec
<b>Max Plan 2</b>	<b>Normal Max</b>	0	0	0	0	0	0	0	0	0 - 255 sec
	<b>Fail Max</b>	0	0	0	0	0	0	0	0	
	<b>Auto Max Adjust</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0 - 25.5 sec
	<b>Auto Max Limit</b>	0	0	0	0	0	0	0	0	0 - 255 sec
<b>Max Plan 3</b>	<b>Normal Max</b>	0	0	0	0	0	0	0	0	0 - 255 sec
	<b>Fail Max</b>	0	0	0	0	0	0	0	0	
	<b>Auto Max Adjust</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0 - 25.5 sec
	<b>Auto Max Limit</b>	0	0	0	0	0	0	0	0	0 - 255 sec
<b>Max Plan 4</b>	<b>Normal Max</b>	0	0	0	0	0	0	0	0	0 - 255 sec
	<b>Fail Max</b>	0	0	0	0	0	0	0	0	
	<b>Auto Max Adjust</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0 - 25.5 sec
	<b>Auto Max Limit</b>	0	0	0	0	0	0	0	0	0 - 255 sec
<b>Max Plan 5</b>	<b>Normal Max</b>	0	0	0	0	0	0	0	0	0 - 255 sec
	<b>Fail Max</b>	0	0	0	0	0	0	0	0	
	<b>Auto Max Adjust</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0 - 25.5 sec
	<b>Auto Max Limit</b>	0	0	0	0	0	0	0	0	0 - 255 sec
<b>Max Plan 6</b>	<b>Normal Max</b>	0	0	0	0	0	0	0	0	0 - 255 sec
	<b>Fail Max</b>	0	0	0	0	0	0	0	0	
	<b>Auto Max Adjust</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0 - 25.5 sec
	<b>Auto Max Limit</b>	0	0	0	0	0	0	0	0	0 - 255 sec
<b>Max Plan 7</b>	<b>Normal Max</b>	0	0	0	0	0	0	0	0	0 - 255 sec
	<b>Fail Max</b>	0	0	0	0	0	0	0	0	
	<b>Auto Max Adjust</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0 - 25.5 sec
	<b>Auto Max Limit</b>	0	0	0	0	0	0	0	0	0 - 255 sec
<b>Max Plan 8</b>	<b>Normal Max</b>	0	0	0	0	0	0	0	0	0 - 255 sec
	<b>Fail Max</b>	0	0	0	0	0	0	0	0	
	<b>Auto Max Adjust</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0 - 25.5 sec
	<b>Auto Max Limit</b>	0	0	0	0	0	0	0	0	0 - 255 sec

## Coordination Data (next/2/3)

### Coordination Modes (next/2/3/1, next/2/3/4/1, next/2/3/4/3)

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

	<b>Phase --&gt;</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>		
<b>Omit Phase During Repeated Phase Service</b>		0	0	0	0	0	0	0	0	0	0 = service allowed 1 = service prevented
<b>Auto Permissive Min Green</b>		0	0	0	0	0	0	0	0	0	0 - 255 seconds

### Coordination Plans (next/2/3/2)

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

**Coordination Plans cont.**

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

Circuit Mapping (next/2/3/3)																	
Circuit Map	Coord Plan	Time Clock Circuit		Time Clock Circuit		Time Clock Circuit		Time Clock Circuit		Time Clock Circuit		Time Clock Circuit		Time Clock Circuit		Time Clock Circuit	
1	34	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U
2	34	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U
3	34	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U
4	34	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U
5	34	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U
6	34	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U
7	34	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U
8	34	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U
9	34	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U
10	34	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U
11	34	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U
12	34	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U
13	34	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U
14	34	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U
15	34	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U
16	34	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U
17	34	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U
18	34	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U
19	34	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U
20	34	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U	0	N/U

coord plan - 0 = free, 1 - 32 = coord plan 1 - 32, 33 = any, 34 none selected  
time clock circuits - 0 = not used, or circuits 6 - 196

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

Platoon Progression (next/2/3/4/5)					
Entry Local Only			Master Local Only		
Platoon Max	0	0 - 255 sec	Smoothing Factor	0.0	0.0 - 1.0
Min Platoon Green	0	0 - 255 sec			
Entry Detector Gap	0.0	0.0 - 25.5			
Min Platoon Cycle	0	0 - 255 sec			

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

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

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

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

## Time of Day Data (next/2/4)

Day Program (next/2/4/1)												
	Day Prog.	Time	Coord Plan	Coord Plan or Circuit	State On / Off		Day Prog.	Time	Coord Plan	Coord Plan or Circuit	State On/Off	
1							51					
2							52					
3							53					
4							54					
5							55					
6							56					
7							57					
8							58					
9							59					
10							60					
11							61					
12							62					
13							63					
14							64					
15							65					
16							66					
17							67					
18							68					
19							69					
20							70					
21							71					
22							72					
23							73					
24							74					
25							75					
26							76					
27							77					
28							78					
29							79					
30							80					
31							81					
32							82					
33							83					
34							84					
35							85					
36							86					
37							87					
38							88					
39							89					
40							90					
41							91					
42							92					
43							93					
44							94					
45							95					
46							96					
47							97					
48							98					
49							99					
50							100					
	1 - 15	hh : mm	X = on	coord plan 0 - 32 or circuit 1-196	X = on		1 - 15	hh : mm	X = on	coord plan 0 - 32 or circuit 1-196	X = on	

Day Program cont.

	Day Prog.	Time	Coord Plan	Coord Plan or Circuit	State On / Off		Day Prog.	Time	Coord Plan	Coord Plan or Circuit	State On / Off
101							151				
102							152				
103							153				
104							154				
105							155				
106							156				
107							157				
108							158				
109							159				
110							160				
111							161				
112							162				
113							163				
114							164				
115							165				
116							166				
117							167				
118							168				
119							169				
120							170				
121							171				
122							172				
123							173				
124							174				
125							175				
126							176				
127							177				
128							178				
129							179				
130							180				
131							181				
132							182				
133							183				
134							184				
135							185				
136							186				
137							187				
138							188				
139							189				
140							190				
141							191				
142							192				
143							193				
144							194				
145							195				
146							196				
147							197				
148							198				
149							199				
150							200				
	1 - 15	hh : mm	X = on	coord plan 0 - 32 or circuit 1-196	X = on		1 - 15	hh : mm	X = on	coord plan 0 - 32 or circuit 1-196	X = on





**Circuit Overrides (next/2/4/4)**

1 - Coord Line 1	CL1	TOD		51 - Ped Omit 3	PO3	TOD	
2 - Coord Line 2	CL2	TOD		52 - Ped Omit 4	PO4	TOD	
3 - Coord Line 4	CL4	TOD		53 - Ped Omit 5	PO5	TOD	
4 - Coord Line 8	CL8	TOD		54 - Ped Omit 6	PO6	TOD	
5 - Coord Line 16	C16	TOD		55 - Ped Omit 7	PO7	TOD	
6 - Coord Operation	CRD	TOD		56 - Ped Omit 8	PO8	TOD	
7 - Soft Flash	SFL	TOD		57 - Conditional Service	CVS	TOD	
8 - Enable System Relays	ESR	On		58 - Inhibit Simultaneous Gap Out	ISG	On	
9 - Call to Non Act 1	CN1	TOD		59 - Inhibit Hardwire	HWI	TOD	
10 - Call to Non Act 2	CN2	TOD		60 - Ped Override Mode	POM	On	
11 - Walk Rest Modifier	WRM	TOD		61 - Dual Entry	DLE	On	
12 - Min Recall	MIN	TOD		62 - Exclusive Ped	EPD	TOD	
13 - Max 2 Both Rings	MX2	TOD		63 - Call to Time Clock Mode	CTC	TOD	
14 - Coord Inhibit Max Ring 1, 2	IMT	TOD		64 - Dual Enhanced Ped	DEP	TOD	
15 - Not Used	N/U	TOD		65 - Service Plan 1	SP1	TOD	
16 - Call to Free	CTF	TOD		66 - Service Plan 2	SP2	TOD	
17 - TOD Output 1	TO1	TOD		67 - Service Plan 3	SP3	TOD	
18 - TOD Output 2	TO2	TOD		68 - Service Plan 4	SP4	TOD	
19 - TOD Output 3	TO3	TOD		69 - Service Plan 5	SP5	TOD	
20 - TOD Output 4	TO4	TOD		70 - Service Plan 6	SP6	TOD	
21 - TOD Output 5	TO5	TOD		71 - Service Plan 7	SP7	TOD	
22 - TOD Output 6	TO6	TOD		72 - Service Plan 8	SP8	TOD	
23 - TOD Output 7	TO7	TOD		73 - Max Plan 1	MP1	TOD	
24 - TOD Output 8	TO8	TOD		74 - Max Plan 2	MP2	TOD	
25 - Vehicle Call Phase 1	VC1	TOD	On /	75 - Max Plan 3	MP3	TOD	On /
26 - Vehicle Call Phase 2	VC2	TOD	Off /	76 - Max Plan 4	MP4	TOD	Off /
27 - Vehicle Call Phase 3	VC3	TOD	TOD	77 - Max Plan 5	MP5	TOD	TOD
28 - Vehicle Call Phase 4	VC4	TOD		78 - Max Plan 6	MP6	TOD	
29 - Vehicle Call Phase 5	VC5	TOD		79 - Max Plan 7	MP7	TOD	
30 - Vehicle Call Phase 6	VC6	TOD		80 - Max Plan 8	MP8	TOD	
31 - Vehicle Call Phase 7	VC7	TOD		81 - Transit Priority Max Group 1	TG1	TOD	
32 - Vehicle Call Phase 8	VC8	TOD		82 - Transit Priority Max Group 2	TG2	TOD	
33 - Ped Call Phase 1	PC1	TOD		83 - Transit Priority Max Group 3	TG3	TOD	
34 - Ped Call Phase 2	PC2	TOD		84 - Transit Priority Max Group 4	TG4	TOD	
35 - Ped Call Phase 3	PC3	TOD		85 - Transit Priority Max Group 5	TG5	TOD	
36 - Ped Call Phase 4	PC4	TOD		86 - Transit Priority Max Group 6	TG6	TOD	
37 - Ped Call Phase 5	PC5	TOD		87 - Transit Priority Max Group 7	TG7	TOD	
38 - Ped Call Phase 6	PC6	TOD		88 - Transit Priority Max Group 8	TG8	TOD	
39 - Ped Call Phase 7	PC7	TOD		89 - Inhibit Volume Density 1	IV1	TOD	
40 - Ped Call Phase 8	PC8	TOD		90 - Inhibit Volume Density 2	IV2	TOD	
41 - Vehicle Omit 1	VO1	TOD		91 - Inhibit Volume Density 3	IV3	TOD	
42 - Vehicle Omit 2	VO2	TOD		92 - Inhibit Volume Density 4	IV4	TOD	
43 - Vehicle Omit 3	VO3	TOD		93 - Inhibit Volume Density 5	IV5	TOD	
44 - Vehicle Omit 4	VO4	TOD		94 - Inhibit Volume Density 6	IV6	TOD	
45 - Vehicle Omit 5	VO5	TOD		95 - Inhibit Volume Density 7	IV7	TOD	
46 - Vehicle Omit 6	VO6	TOD		96 - Inhibit Volume Density 8	IV8	TOD	
47 - Vehicle Omit 7	VO7	TOD		97 - Lag 1	LG1	TOD	
48 - Vehicle Omit 8	VO8	TOD		98 - Lag 3	LG3	TOD	
49 - Ped Omit 1	PO1	TOD		99 - Lag 5	LG5	TOD	
50 - Ped Omit 2	PO2	TOD		100 - Lag 7	LG7	TOD	

**Circuit Overrides cont.**

101 - Inhibit Overlap A	OLA	TOD		151 - Coord Hold 7	HD7	TOD
102 - Inhibit Overlap B	OLB	TOD		152 - Coord Hold 8	HD8	TOD
103 - Inhibit Overlap C	OLC	TOD		153 - PE Priority Return B	PRB	TOD
104 - Inhibit Overlap D	OLD	TOD		154 - PE Priority Return C	PRC	TOD
105 - Enable Schedule A Phone 1	AT1	TOD		155 - PE Priority Return D	PRD	TOD
106 - Enable Schedule A Phone 2	AT2	TOD		156 - PE Priority Return E	PRE	TOD
107 - Enable Schedule B Phone 1	BT1	TOD		157 - Platoon Inbound	PPI	TOD
108 - Enable Schedule B Phone 2	BT2	TOD		158 - Platoon Outbound	PPO	TOD
109 - Enable Schedule C Phone 1	CT1	TOD		159 - Platoon Spl 2	PS2	TOD
110 - Enable Schedule C Phone 2	CT2	TOD		160 - Coord Walk Rest	CWR	TOD
111 - Enable Volume to Call Phone 1	VT1	TOD		161 - Dynamic Phase Length Short Inhibit 1	SI1	TOD
112 - Enable Volume to Call Phone 2	VT2	TOD		162 - Dynamic Phase Length Short Inhibit 2	SI2	TOD
113 - Enable Volume Logging	EVL	On		163 - Dynamic Phase Length Short Inhibit 3	SI3	TOD
114 - Enable MOE Logging	EML	On		164 - Dynamic Phase Length Short Inhibit 4	SI4	TOD
115 - Detector Low Threshold Inhibit	DLI	TOD		165 - Dynamic Phase Length Short Inhibit 5	SI5	TOD
116 - Detector Continue Presence Inhibit	DPI	TOD		166 - Dynamic Phase Length Short Inhibit 6	SI6	TOD
117 - Inhibit Detector Based on Programming	IND	TOD		167 - Dynamic Phase Length Short Inhibit 7	SI7	TOD
118 - Inhibit Detector Delay	IDD	TOD		168 - Dynamic Phase Length Short Inhibit 8	SI8	TOD
119 - Inhibit Conditional Ped	ICP	TOD		169 - Coord Late Left Turn 1	CT1	TOD
120 - Inhibit Transit Priority	ITP	TOD		170 - Coord Late Left Turn 3	CT3	TOD
121 - Red Rest Ring 1,2	RRM	TOD		171 - Coord Late Left Turn 5	CT5	TOD
122 - Not Used	N/U	TOD		172 - Coord Late Left Turn 7	CT7	TOD
123 - Omit Red Clear Ring 1,2	ORC	TOD		173 - Dynamic Phase Length Enable A	DPA	TOD
124 - Not Used	N/U	TOD		174 - Dynamic Phase Length Enable B	DPB	TOD
125 - Ped Recycle Ring 1,2	PCY	TOD	On /	175 - Dynamic Phase Length Enable C	DPC	TOD
126 - Not Used	N/U	TOD	Off /	176 - Dynamic Phase Length Enable D	DPD	TOD
127 - Enable MOE Log to Call Phone 1	MT1	TOD	TOD	177 - Proactive Plan Select Average	PSA	TOD
128 - Enable MOE Log to Call Phone 2	MT2	TOD		178 - Proactive Plan Select Inbound	PSI	TOD
129 - Transit Inhibit Short Time 1	IS1	TOD		179 - Proactive Plan Select Outbound	PSO	TOD
130 - Transit Inhibit Short Time 2	IS2	TOD		180 - Split Variant Inbound	SVI	TOD
131 - Transit Inhibit Short Time 3	IS3	TOD		181 - Split Variant Outbound	SVO	TOD
132 - Transit Inhibit Short Time 4	IS4	TOD		182 - Disable Coord Walk Rest Ring 1	DW1	TOD
133 - Transit Inhibit Short Time 5	IS5	TOD		183 - Disable Coord Walk Rest Ring 2	DW2	TOD
134 - Transit Inhibit Short Time 6	IS6	TOD		184 - Proactive Plan Select New Look	NLK	TOD
135 - Transit Inhibit Short Time 7	IS7	TOD		185 - Disable Red Clearance Extension	DRX	TOD
136 - Transit Inhibit Short Time 8	IS8	TOD		186 - Detector Plan Line 1	DL1	TOD
137 - Enable Transit Priority Logging	ETL	TOD		187 - Detector Plan Line 2	DL2	TOD
138 - Disable Flashing Yellow Arrow 1	DF1	TOD		188 - Disable LRT 1 Vertical Flashing Bar	DV1	TOD
139 - Disable Flashing Yellow Arrow 3	DF3	TOD		189 - Disable LRT 2 Vertical Flashing Bar	DV2	TOD
140 - Disable Flashing Yellow Arrow 5	DF5	TOD		190 - Disable LRT 3 Vertical Flashing Bar	DV3	TOD
141 - Disable Flashing Yellow Arrow 7	DF7	TOD		191 - Disable LRT 4 Vertical Flashing Bar	DV4	TOD
142 - Disable Auto Max	DAM	TOD		192 - Datakey Enable	DKE	On
143 - Disable Repeat Phase Service	DRS	TOD		193 - Dynamic Phase Reversal Enable 1	DR1	TOD
144 - Coord End of Main Street	EMS	TOD		194 - Dynamic Phase Reversal Enable 3	DR3	TOD
145 - Coord Hold 1	HD1	TOD		195 - Dynamic Phase Reversal Enable 5	DR5	TOD
146 - Coord Hold 2	HD2	TOD		196 - Dynamic Phase Reversal Enable 7	DR7	TOD
147 - Coord Hold 3	HD3	TOD		197 - Enable Coord Logging	ECL	TOD
148 - Coord Hold 4	HD4	TOD		198 - Disable Gap FYLTA 1,3,5,7	DGF	TOD
149 - Coord Hold 5	HD5	TOD		199 - Coordination Auto Walk	CAW	TOD
150 - Coord Hold 6	HD6	TOD		200 - Enable Coordinated Auto Max	ECM	TOD

## Preemption Data (next/2/5)

Sequence (next/2/5/1 - 8)							Instructions
Sequences / Intervals	Instruction	Phases Serviced	Interval Time	Hold On Input	Outputs On	Output Mode	
1	1	0	2	0	X		0
	2	98		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
2	1	0	4	0	X		0
	2	98		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
3	1	0	6	0	X		0
	2	98		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
4	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
5	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

Instructions

0 - Service Phases  
 1-9 = Special Interval 1-9  
 10 - Preempt Sequence Allows FYLTA  
 11 - Preempt Interval Disables FYLTA  
 15 - Alternate Trap Protection  
 90 - Go to all Red  
 91 - Soft Flash On  
 92 - Soft Flash Off  
 93 - Enable Ped  
 94 - Disable Peds  
 95 - Priority Return  
 96 - Enable Coordination with peds  
 97 - Enable Coordination without peds  
 98 - Return with NO Calls  
 99 - Return with Vehicle Calls  
 100 - jump to step in Interval Time  
 101 - Use Interval Time as Resettable Gap Timer  
 196 - Coord Re-synch with Peds  
 197 - Coord Re-synch without Peds  
 200 - Light Rail Train phase without Peds  
 201 - Light Rail Train phase with Peds  
 202 - Return to highest queue/delay phase (this uses the Dynamic Phase Length Back Detectors)  
 216 - Light Rail Train Coord Re-synch with Peds  
 217 - Light Rail Train Coord Re-synch without Peds

Phases Serviced - phases 1 - 8  
 Interval Time - 0 - 255 sec or interval 1 - 10  
 Hold on Input - X = on  
 Outputs On - output 1 - 8

Output Modes -  
 0 = all steady on  
 1 = all flash together  
 2 = odd flashes WIG, even flashes WAG  
 3 = 1 - 4 steady on, 5 - 8 all flash together

Sequence cont.							
Sequences / Intervals	Instruction	Phases Serviced	Interval Time	Hold On Input	Outputs On	Output Mode	
6	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
7	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
8	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

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

Priority Return and Special Intervals (next/2/5/0/6, next/2/5/9)														
Phase / Overlap -->		1	2	3	4	5	6	7	8	A	B	C	D	
Priority Return	Enable	0	0 = disabled, 1 = enabled, 2 = enabled, skip preemption phases on exit											
	A (max)	0	0	0	0	0	0	0	0	0	0 - 100% of currently used max			
	B (max)	0	0	0	0	0	0	0	0					
	C (max)	0	0	0	0	0	0	0	0					
	D (max)	0	0	0	0	0	0	0	0					
	E (max)	0	0	0	0	0	0	0	0					
Ped Clear	0	0	0	0	0	0	0	0	0	0 - 100% of currently used ped clearance				
Queue Delay Recovery	0	0	0	0	0	0	0	0	0	0 - 255 sec.				
Special Intervals	1	0	0	0	0	0	0	0	0	0	0	0	0	0 = Dark 1 = green don't walk 2 = green walk 3 = green flashing don't walk 4 = yellow 5 = red 6 = flashing yellow WIG 7 = flashing yellow WAG 8 = flashing red WIG 9 = flashing red WAG 10 = walk only 11=flashing don't walk only
	2	0	0	0	0	0	0	0	0	0	0	0	0	
	3	0	0	0	0	0	0	0	0	0	0	0	0	
	4	0	0	0	0	0	0	0	0	0	0	0	0	
	5	0	0	0	0	0	0	0	0	0	0	0	0	
	6	0	0	0	0	0	0	0	0	0	0	0	0	
	7	0	0	0	0	0	0	0	0	0	0	0	0	
	8	0	0	0	0	0	0	0	0	0	0	0	0	
	9	0	0	0	0	0	0	0	0	0	0	0	0	
Light Rail Train (next/2/5/0/7)														
Light Rail Train -->		1	2	3	4									
Associated Preempt		0	0	0	0	0 = none, preempt 1 - 8								
Time to Green		0	0	0	0	0 - 255 sec								
Horizontal Bar Flash Time		0.0	0.0	0.0	0.0	0.0 - 25.5 sec								
Vertical Bar Flash Time		0.0	0.0	0.0	0.0	0 - 255 sec								
Min Duration		0	0	0	0	0 - 255 sec								

## Communications Data (next/2/6)

<b>1st Central Phone Number</b>				<b>2nd Central Phone Number</b>			
<b>Modem Setup String</b>				<b>Intersection Name</b>		<i>West Union @ Albertsons</i>	
<b>Subnet Mask</b>		<i>255.0.0.0</i>					
<b>IP ( ethernet ) Port</b>		<i>5</i>					
<b>Central Port</b>		<i>4</i>					
<b>System Mode</b>		<i>0</i>					
<b>System Port</b>		<i>1</i>		<b>Alternate System Port</b>		<i>0</i>	
<b>System ID</b>	<i>0</i>	<b>AB3418e Physical Address</b>	<i>0</i>		<b>IP Address</b>	<i>0.0.0.0</i>	
<b>Local ID</b>	<i>0</i>	<b>AB3418e Group Address</b>	<i>0</i>		<b>Gateway Address</b>	<i>0.0.0.0</i>	
<b>Baud Rates</b>		<b>Flow Control</b>		<b>Port Use</b>			
<b>Port 1 (Slot A2 Upper)</b>		<i>0</i>		<i>1</i>		<i>Suggested Use - FSK</i>	
<b>Port 2 (Slot A2 Lower)</b>		<i>0</i>		<i>1</i>		<i>Suggested Use - Not Used</i>	
<b>Port 3 (Slot A1 Upper)</b>		<i>0</i>		<i>0</i>		<i>Suggested Use - Modem to Central</i>	
<b>Port 4 (Slot A1 Lower or C50S)</b>		<i>2</i>		<i>NU</i>		<i>Suggested Use - RS232 to Laptop</i>	
0 = 1200, 1 = 2400, 2 = 9600, 3 = 19200 baud				0 = off, 1 = on			
<b>Reports</b>							
<b>Volume Log Period</b>		<i>15</i>		0-255 min. or below		<b>MOE Log Period</b>	
						<i>15</i> below	
0 = disabled, 1,2,3,4,5,6,10,12,15,20,30,60 minutes							
<b>Function Schedule Mapping (next/2/6/7)</b>							
<b>Alarm 1</b>	<i>0</i>	0 = none 1 = schedule A 2 = schedule B 3 = schedule C 4 = schedule R	<b>Soft Flash</b>	<i>1</i>	0 = none 1 = schedule A 2 = schedule B 3 = schedule C 4 = schedule R		
<b>Alarm 2</b>	<i>0</i>		<b>Manual Control Enable (MCE)</b>	<i>4</i>			
<b>Alarm 3</b>	<i>0</i>		<b>Emergency or Railroad Preempt</b>	<i>1</i>			
<b>Alarm 4</b>	<i>0</i>		<b>Not Used</b>	<i>0</i>			
<b>Alarm 5</b>	<i>0</i>		<b>Cycle Failure</b>	<i>2</i>			
<b>Not Used</b>	<i>0</i>		<b>Coordination Failure</b>	<i>2</i>			
<b>Not Used</b>	<i>0</i>		<b>Keyboard use / Data Changed</b>	<i>3</i>			
<b>Not Used</b>	<i>0</i>		<b>Coord Running / Free</b>	<i>2</i>			
<b>Power On / Off</b>	<i>1</i>		<b>Cabinet Door</b>	<i>3</i>			
<b>Checksum Failure</b>	<i>4</i>		<b>Extended Ped Pushbutton</b>	<i>0</i>			
<b>Video / Detector Failure</b>	<i>4</i>	<b>Monitor Status</b>	<i>4</i>				
<b>Master to Local Comm Lost</b>	<i>0</i>						

## Miscellaneous Data

Transit Priority (next/2/7)									
	1	2	3	4	5	6	7	8	
<b>Phases</b>									Phases 1 - 8 (max of 2 compatible phases)
<b>PE Enable (6.25Hz TP call on PE)</b>									X = 6.25 Hz signal will activate TP
<b>Priority</b>	0	0	0	0	0	0	0	0	0 - 8, 8 = highest
<b>Memory</b>									X = on
<b>Delay Time</b>	0	0	0	0	0	0	0	0	0 - 255 sec
<b>Minimum Reservice Time (per input)</b>	0	0	0	0	0	0	0	0	0 - 255 min
<b>Override Time</b>	0	0	0	0	0	0	0	0	0 - 255 sec
<b>Bus Extend</b>	0	0	0	0	0	0	0	0	0 - 255 sec
<b>Minimum Reservice Time (all inputs)</b>	0	0 - 255 min							
<b>Free Operation Mode</b>	0	0 = use shortest of max 1 or 2, 1 - 8 = use max time of group 1 - 8, 9 = use time of day							

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

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

Truck Priority (next/2/7/9)					
Truck Priority-->	1	2	3	4	
<b>Associated Transit Priority</b>	0	0	0	0	0 = none 1 - 8 = transit priority 1 - 8
<b>Leading Detector</b>	0	0	0	0	0 = none, 1 - 32 = detector 1 - 32
<b>Trailing Detector</b>	0	0	0	0	
<b>Stop Bar Distance</b>	0	0	0	0	0 - 999 feet
<b>Trap Distance</b>	0	0	0	0	0.0 - 99.9 feet
<b>Minimum Speed</b>	0	0	0	0	0 - 100 mph
<b>Minimum Length</b>	0	0	0	0	0 - 255 feet
<b>Downhill Grade</b>	0	0	0	0	0 - 20 %
<b>Uphill Grade</b>	0	0	0	0	
<b>Undersized Vehicle</b>					X = Enabled

<b>Change I/O</b>	X = On (After a download with a power on - off cycle)
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**Inputs (Non Default I/O is offset to the right) (next/2/8/1)**

<b>C1-39</b>	101	VD9	<b>C1-55</b>	15	VD5	<b>C1-67</b>	22	PED2	<b>C11-15</b>	254	N/U
<b>C1-40</b>	113	VD19	<b>C1-56</b>	11	VD1	<b>C1-68</b>	26	PED6	<b>C11-16</b>	254	N/U
<b>C1-41</b>	106	VD14	<b>C1-57</b>	17	VD7	<b>C1-69</b>	24	PED4	<b>C11-17</b>	254	N/U
<b>C1-42</b>	118	VD24	<b>C1-58</b>	13	VD3	<b>C1-70</b>	28	PED8	<b>C11-18</b>	254	N/U
<b>C1-43</b>	102	VD10	<b>C1-59</b>	16	VD6	<b>C1-71</b>	151	PE1	<b>C11-19</b>	254	N/U
<b>C1-44</b>	114	VD20	<b>C1-60</b>	12	VD2	<b>C1-72</b>	152	PE2	<b>C11-20</b>	254	N/U
<b>C1-45</b>	107	VD15	<b>C1-61</b>	18	VD8	<b>C1-73</b>	153	PE3	<b>C11-21</b>	254	N/U
<b>C1-46</b>	161	VD25	<b>C1-62</b>	14	VD4	<b>C1-74</b>	154	PE4	<b>C11-22</b>	254	N/U
<b>C1-47</b>	105	VD13	<b>C11-10</b>	254	N/U	<b>C1-75</b>	254	N/U	<b>C11-23</b>	254	N/U
<b>C1-48</b>	117	VD23	<b>C11-11</b>	254	N/U	<b>C1-76</b>	104	VD12	<b>C11-24</b>	254	N/U
<b>C1-49</b>	112	VD18	<b>C11-12</b>	254	N/U	<b>C1-77</b>	116	VD22	<b>C11-25</b>	254	N/U
<b>C1-50</b>	164	VD28	<b>C11-13</b>	254	N/U	<b>C1-78</b>	111	VD17	<b>C11-26</b>	254	N/U
<b>C1-51</b>	199	PEDI	<b>C1-63</b>	103	VD11	<b>C1-79</b>	163	VD27	<b>C11-27</b>	254	N/U
<b>C1-52</b>	155	PE5	<b>C1-64</b>	115	VD21	<b>C1-80</b>	82	IADV	<b>C11-28</b>	254	N/U
<b>C1-53</b>	85	MCE	<b>C1-65</b>	108	VD16	<b>C1-81</b>	137	MONS	<b>C11-29</b>	254	N/U
<b>C1-54</b>	254	N/U	<b>C1-66</b>	162	VD26	<b>C1-82</b>	62	ST1	<b>C11-30</b>	254	N/U

**Outputs (Non Default I/O is offset to the right) (next/2/8/2)**

<b>C1-2</b>	44	4DWK	<b>C1-19</b>	48	8DWK	<b>C1-35</b>	131	TO1	<b>C1-91</b>	41	1DWK
<b>C1-3</b>	64	4WLK	<b>C1-20</b>	68	8WLK	<b>C1-36</b>	132	TO2	<b>C1-93</b>	61	1WLK
<b>C1-4</b>	14	4RED	<b>C1-21</b>	18	8RED	<b>C1-37</b>	133	TO3	<b>C1-94</b>	106	OLBR
<b>C1-5</b>	24	4YEL	<b>C1-22</b>	28	8YEL	<b>C1-38</b>	134	TO4	<b>C1-95</b>	105	OLBY
<b>C1-6</b>	34	4GRN	<b>C1-23</b>	38	8GRN	<b>C1-100</b>	53	3PCL	<b>C1-96</b>	104	OLBG
<b>C1-7</b>	13	3RED	<b>C1-24</b>	17	7RED	<b>C1-101</b>	51	1PCL	<b>C1-97</b>	103	OLAR
<b>C1-8</b>	23	3YEL	<b>C1-25</b>	27	7YEL	<b>C1-102</b>	187	SFL	<b>C1-98</b>	102	OLAY
<b>C1-9</b>	33	3GRN	<b>C1-26</b>	37	7GRN	<b>C1-103</b>	147	WDOG	<b>C1-99</b>	101	OLAG
<b>C1-10</b>	42	2DWK	<b>C1-27</b>	46	6DWK	<b>C1-83</b>	43	3DWK	<b>C11-1</b>	254	N/U
<b>C1-11</b>	62	2WLK	<b>C1-28</b>	66	6WLK	<b>C1-84</b>	63	3WLK	<b>C11-2</b>	254	N/U
<b>C1-12</b>	12	2RED	<b>C1-29</b>	16	6RED	<b>C1-85</b>	116	OLDR	<b>C11-3</b>	254	N/U
<b>C1-13</b>	22	2YEL	<b>C1-30</b>	26	6YEL	<b>C1-86</b>	115	OLDY	<b>C11-4</b>	254	N/U
<b>C1-15</b>	32	2GRN	<b>C1-31</b>	36	6GRN	<b>C1-87</b>	114	OLDG	<b>C11-5</b>	254	N/U
<b>C1-16</b>	11	1RED	<b>C1-32</b>	15	5RED	<b>C1-88</b>	113	OLCR	<b>C11-6</b>	254	N/U
<b>C1-17</b>	21	1YEL	<b>C1-33</b>	25	5YEL	<b>C1-89</b>	112	OLCY	<b>C11-7</b>	254	N/U
<b>C1-18</b>	31	1GRN	<b>C1-34</b>	35	5GRN	<b>C1-90</b>	111	OLCG	<b>C11-8</b>	254	N/U

Internal Logic (next/2/9)			
Step	Inst.	Description	Comment
1	212	Hold a Phase if Test(s) are True	Place hold on Phase 6 when Relay 1 is set
2	6	Phase - 6	
3	35	System Relay 1-8 - Tested for Set	
4	1	Relay - 1	
5	20	AND - Another Test	
6	24	NOT - Invert result of next test	
7	29	Preemption Active Test	
8	9	Any Preempt	
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**Internal Logic cont.**

<b>Step</b>	<b>Inst.</b>	<b>Description</b>	<b>Comment</b>
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Internal Logic cont.

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Internal Logic cont.

Step	Inst.	Description	Comment
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Internal Logic cont.

Step	Inst.	Description	Comment
221			
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233			
234			
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252			
253			
254			
255			
256			

**FYLTA - Continued (next/2/2/8/6)**

		Phase Pairs -->	1 - 2	3 - 4	5 - 6	7 - 8	
<b>Gap-Dependent FYLTA (next/2/2/8/6-A)</b>	<b>Detector Input</b>		0	0	0	0	0 = disable, 1 - 64 detectors
	<b>Min Delay</b>		0.0	0.0	0.0	0.0	0 - 255 sec
	<b>Detector Gap</b>		0	0	0	0	0 - 25.5 sec
	<b>Max Delay</b>		0	0	0	0	0 - 255 sec
	<b>Not Ped</b>		0	0	0	0	0 - 255 sec

**FYLTA Gap-Dependent Plans (next/2/2/8/6)**

		Phase Pairs -->	1 - 2	3 - 4	5 - 6	7 - 8	
<b>FYLTA Gap-Dependent Plan A</b>	<b>Detector Input</b>		0	0	0	0	0 = disable, 1 - 64 detectors
	<b>Min Delay</b>		0	0	0	0	0 - 255 sec
	<b>Detector Gap</b>		0.0	0.0	0.0	0.0	0 - 25.5 sec
	<b>Max Delay</b>		0	0	0	0	0 - 255 sec
	<b>Not Ped</b>		0	0	0	0	0 - 255 sec
<b>FYLTA Gap-Dependent Plan B</b>	<b>Detector Input</b>		0	0	0	0	0 = disable, 1 - 64 detectors
	<b>Min Delay</b>		0	0	0	0	0 - 255 sec
	<b>Detector Gap</b>		0.0	0.0	0.0	0.0	0 - 25.5 sec
	<b>Max Delay</b>		0	0	0	0	0 - 255 sec
	<b>Not Ped</b>		0	0	0	0	0 - 255 sec
<b>FYLTA Gap-Dependent Plan C</b>	<b>Detector Input</b>		0	0	0	0	0 = disable, 1 - 64 detectors
	<b>Min Delay</b>		0	0	0	0	0 - 255 sec
	<b>Detector Gap</b>		0.0	0.0	0.0	0.0	0 - 25.5 sec
	<b>Max Delay</b>		0	0	0	0	0 - 255 sec

	<b>Not Ped</b>	0	0	0	0	0 - 255 sec
<b>FYLTA Gap-Dependent Plan D</b>	<b>Detector Input</b>	0	0	0	0	0 = disable, 1 - 64 detectors
	<b>Min Delay</b>	0	0	0	0	0 - 255 sec
	<b>Detector Gap</b>	0.0	0.0	0.0	0.0	0 - 25.5 sec
	<b>Max Delay</b>	0	0	0	0	0 - 255 sec
	<b>Not Ped</b>	0	0	0	0	0 - 255 sec

Attachment C 2021 Background traffic  
conditions worksheets



HCM Unsignalized Intersection Capacity Analysis  
1: NW West Union Rd

21539 West Union Gas Station  
07/17/2019



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		
Traffic Volume (veh/h)	538	0	0	899	0	0
Future Volume (Veh/h)	538	0	0	899	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	648	0	0	1083	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage (veh)						
Upstream signal (ft)	309			219		
pX, platoon unblocked					0.70	
vC, conflicting volume			648	1731	324	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			648	1830	324	
tC, single (s)			4.1	6.8	6.9	
tC, 2 stage (s)						
tF (s)			2.2	3.5	3.3	
p0 queue free %			100	100	100	
cM capacity (veh/h)			947	49	678	
Direction, Lane #	EB 1	EB 2	WB 1			
Volume Total	432	216	1083			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1700			
Volume to Capacity	0.25	0.13	0.64			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS						
Approach Delay (s)	0.0		0.0			
Approach LOS						
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			50.6%	ICU Level of Service		A
Analysis Period (min)			15			

Queues  
2: NW West Union Rd & Albertsons Driveway

21539 West Union Gas Station

07/17/2019



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	96	552	933	69	89	151
v/c Ratio	0.31	0.21	0.68	0.06	0.41	0.54
Control Delay	7.9	3.7	9.5	2.1	30.2	17.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.9	3.7	9.5	2.1	30.2	17.9
Queue Length 50th (ft)	8	22	115	1	32	19
Queue Length 95th (ft)	45	69	383	14	61	54
Internal Link Dist (ft)		139	280		110	
Turn Bay Length (ft)	100			175	100	100
Base Capacity (vph)	314	2585	1375	1181	950	894
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	0.31	0.21	0.68	0.06	0.09	0.17

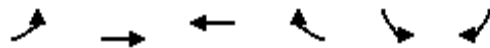
Intersection Summary

# HCM Signalized Intersection Capacity Analysis

## 2: NW West Union Rd & Albertsons Driveway

21539 West Union Gas Station

07/17/2019



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	80	458	774	57	74	125
Future Volume (vph)	80	458	774	57	74	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.0	5.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	3539	1863	1583	1770	1583
Flt Permitted	0.23	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	431	3539	1863	1583	1770	1583
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	96	552	933	69	89	151
RTOR Reduction (vph)	0	0	0	12	0	84
Lane Group Flow (vph)	96	552	933	57	89	67
Turn Type	Perm	NA	NA	Perm	Perm	Perm
Protected Phases		2	6			
Permitted Phases	2			6	4	4
Actuated Green, G (s)	48.1	48.1	48.6	48.6	8.1	8.1
Effective Green, g (s)	48.1	48.1	48.6	48.6	8.1	8.1
Actuated g/C Ratio	0.73	0.73	0.74	0.74	0.12	0.12
Clearance Time (s)	5.5	5.5	5.0	5.0	4.0	4.0
Vehicle Extension (s)	3.1	3.1	3.1	3.1	2.9	2.9
Lane Grp Cap (vph)	315	2590	1378	1170	218	195
v/s Ratio Prot		0.16	c0.50			
v/s Ratio Perm	0.22			0.04	c0.05	0.04
v/c Ratio	0.30	0.21	0.68	0.05	0.41	0.34
Uniform Delay, d1	3.0	2.8	4.5	2.3	26.6	26.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.6	0.0	1.3	0.0	1.2	1.0
Delay (s)	3.6	2.8	5.8	2.3	27.8	27.4
Level of Service	A	A	A	A	C	C
Approach Delay (s)		2.9	5.6		27.5	
Approach LOS		A	A		C	

### Intersection Summary

HCM 2000 Control Delay	7.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	65.7	Sum of lost time (s)	9.5
Intersection Capacity Utilization	63.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis  
1: NW West Union Rd

21539 West Union Gas Station  
07/17/2019



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		
Traffic Volume (veh/h)	1076	0	0	635	0	0
Future Volume (Veh/h)	1076	0	0	635	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	1098	0	0	648	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage (veh)						
Upstream signal (ft)	309			219		
pX, platoon unblocked					0.82	
vC, conflicting volume			1098		1746 549	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1098		1801 549	
tC, single (s)			4.1		6.8 6.9	
tC, 2 stage (s)						
tF (s)			2.2		3.5 3.3	
p0 queue free %			100		100 100	
cM capacity (veh/h)			643		59 485	
Direction, Lane #	EB 1	EB 2	WB 1			
Volume Total	732	366	648			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1700			
Volume to Capacity	0.43	0.22	0.38			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS						
Approach Delay (s)	0.0		0.0			
Approach LOS						
Intersection Summary						
Average Delay	0.0					
Intersection Capacity Utilization	36.8%		ICU Level of Service		A	
Analysis Period (min)	15					

Queues  
2: NW West Union Rd & Albertsons Driveway

21539 West Union Gas Station

07/17/2019



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	127	971	510	88	160	137
v/c Ratio	0.31	0.53	0.52	0.10	0.42	0.30
Control Delay	9.2	8.2	9.1	2.5	15.6	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.2	8.2	9.1	2.5	15.6	4.9
Queue Length 50th (ft)	10	48	46	0	25	0
Queue Length 95th (ft)	58	161	188	18	67	26
Internal Link Dist (ft)		139	280		110	
Turn Bay Length (ft)	100			175	100	100
Base Capacity (vph)	785	3451	1820	1549	1633	1471
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	0.16	0.28	0.28	0.06	0.10	0.09

Intersection Summary

# HCM Signalized Intersection Capacity Analysis

## 2: NW West Union Rd & Albertsons Driveway

21539 West Union Gas Station

07/17/2019



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	124	952	500	86	157	134
Future Volume (vph)	124	952	500	86	157	134
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.0	5.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	3539	1863	1583	1770	1583
Flt Permitted	0.43	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	805	3539	1863	1583	1770	1583
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	127	971	510	88	160	137
RTOR Reduction (vph)	0	0	0	41	0	107
Lane Group Flow (vph)	127	971	510	47	160	30
Turn Type	Perm	NA	NA	Perm	Perm	Perm
Protected Phases		2	6			
Permitted Phases	2			6	4	4
Actuated Green, G (s)	19.3	19.3	19.8	19.8	8.1	8.1
Effective Green, g (s)	19.3	19.3	19.8	19.8	8.1	8.1
Actuated g/C Ratio	0.52	0.52	0.54	0.54	0.22	0.22
Clearance Time (s)	5.5	5.5	5.0	5.0	4.0	4.0
Vehicle Extension (s)	3.1	3.1	3.1	3.1	2.9	2.9
Lane Grp Cap (vph)	421	1851	999	849	388	347
v/s Ratio Prot		c0.27	0.27			
v/s Ratio Perm	0.16			0.03	c0.09	0.02
v/c Ratio	0.30	0.52	0.51	0.06	0.41	0.09
Uniform Delay, d1	5.0	5.8	5.5	4.1	12.4	11.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	0.3	0.5	0.0	0.7	0.1
Delay (s)	5.4	6.1	5.9	4.1	13.0	11.6
Level of Service	A	A	A	A	B	B
Approach Delay (s)		6.0	5.6		12.4	
Approach LOS		A	A		B	

### Intersection Summary

HCM 2000 Control Delay	6.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	36.9	Sum of lost time (s)	9.5
Intersection Capacity Utilization	54.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Attachment D 2021 Total traffic conditions  
worksheets

HCM Unsignalized Intersection Capacity Analysis  
 1: Site Dwy (Right-in) & NW West Union Rd

21539 West Union Gas Station  
 07/19/2019



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		
Traffic Volume (veh/h)	519	27	0	907	0	0
Future Volume (Veh/h)	519	27	0	907	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	625	33	0	1093	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage (veh)						
Upstream signal (ft)	309			219		
pX, platoon unblocked					0.62	
vC, conflicting volume			658		1734 329	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			658		1880 329	
tC, single (s)			4.1		6.8 6.9	
tC, 2 stage (s)						
tF (s)			2.2		3.5 3.3	
p0 queue free %			100		100 100	
cM capacity (veh/h)			939		40 673	

Direction, Lane #	EB 1	EB 2	WB 1
Volume Total	417	241	1093
Volume Left	0	0	0
Volume Right	0	33	0
cSH	1700	1700	1700
Volume to Capacity	0.25	0.14	0.64
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			
Approach Delay (s)	0.0		0.0
Approach LOS			

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	51.1%	ICU Level of Service	A
Analysis Period (min)	15		



Queues

2: Albertsons Driveway & NW West Union Rd



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	96	529	59	899	69	43	46	89	151
v/c Ratio	0.39	0.22	0.10	0.72	0.06	0.17	0.08	0.32	0.34
Control Delay	12.8	5.3	6.0	13.1	1.9	20.1	0.2	21.9	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.8	5.3	6.0	13.1	1.9	20.1	0.2	21.9	7.0
Queue Length 50th (ft)	11	27	5	149	0	9	0	19	1
Queue Length 95th (ft)	57	75	25	405	12	36	0	62	34
Internal Link Dist (ft)		139		280			94		110
Turn Bay Length (ft)	100		175		175			100	
Base Capacity (vph)	327	3124	764	1644	1405	591	953	651	837
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	0.29	0.17	0.08	0.55	0.05	0.07	0.05	0.14	0.18

Intersection Summary

HCM Signalized Intersection Capacity Analysis  
2: Albertsons Driveway & NW West Union Rd

21539 West Union Gas Station

07/19/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	439	0	49	746	57	36	0	38	74	0	125
Future Volume (vph)	80	439	0	49	746	57	36	0	38	74	0	125
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		5.5	5.5	5.5	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.85		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539		1805	1863	1583	1770	1615		1770	1583	
Flt Permitted	0.20	1.00		0.46	1.00	1.00	0.66	1.00		0.73	1.00	
Satd. Flow (perm)	370	3539		866	1863	1583	1231	1615		1354	1583	
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	96	529	0	59	899	69	43	0	46	89	0	151
RTOR Reduction (vph)	0	0	0	0	0	25	0	38	0	0	120	0
Lane Group Flow (vph)	96	529	0	59	899	44	43	8	0	89	31	0
Heavy Vehicles (%)	2%	2%	0%	0%	2%	2%	2%	0%	0%	2%	0%	2%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8				4
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)	31.6	31.6		31.6	31.6	31.6	8.7	8.7		8.7	8.7	
Effective Green, g (s)	31.6	31.6		31.6	31.6	31.6	8.7	8.7		8.7	8.7	
Actuated g/C Ratio	0.63	0.63		0.63	0.63	0.63	0.17	0.17		0.17	0.17	
Clearance Time (s)	5.5	5.5		5.5	5.5	5.5	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.1	3.1		3.1	3.1	3.1	2.9	2.9		2.9	2.9	
Lane Grp Cap (vph)	234	2245		549	1182	1004	215	282		236	276	
v/s Ratio Prot		0.15			c0.48			0.00				0.02
v/s Ratio Perm	0.26			0.07		0.03	0.03			c0.07		
v/c Ratio	0.41	0.24		0.11	0.76	0.04	0.20	0.03		0.38	0.11	
Uniform Delay, d1	4.5	3.9		3.6	6.4	3.4	17.6	17.0		18.2	17.3	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.2	0.1		0.1	3.0	0.0	0.4	0.0		1.0	0.2	
Delay (s)	5.7	4.0		3.7	9.4	3.4	18.0	17.1		19.1	17.5	
Level of Service	A	A		A	A	A	B	B		B	B	
Approach Delay (s)		4.2			8.7			17.5			18.1	
Approach LOS		A			A			B			B	

Intersection Summary

HCM 2000 Control Delay	8.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	49.8	Sum of lost time (s)	9.5
Intersection Capacity Utilization	72.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis  
 1: Site Dwy (Right-in) & NW West Union Rd

21539 West Union Gas Station  
 07/19/2019



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		
Traffic Volume (veh/h)	1047	40	0	645	0	0
Future Volume (Veh/h)	1047	40	0	645	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	1068	41	0	658	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage veh						
Upstream signal (ft)	309			219		
pX, platoon unblocked					0.82	
vC, conflicting volume			1109		1746 554	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1109		1802 554	
tC, single (s)			4.1		6.8 6.9	
tC, 2 stage (s)						
tF (s)			2.2		3.5 3.3	
p0 queue free %			100		100 100	
cM capacity (veh/h)			637		59 481	
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>EB 2</b>	<b>WB 1</b>			
Volume Total	712	397	658			
Volume Left	0	0	0			
Volume Right	0	41	0			
cSH	1700	1700	1700			
Volume to Capacity	0.42	0.23	0.39			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS						
Approach Delay (s)	0.0		0.0			
Approach LOS						
<b>Intersection Summary</b>						
Average Delay			0.0			
Intersection Capacity Utilization			37.3%		ICU Level of Service A	
Analysis Period (min)			15			

Queues  
2: Albertsons Driveway & NW West Union Rd

21539 West Union Gas Station

07/19/2019



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	127	942	47	491	88	30	54	160	137
v/c Ratio	0.32	0.53	0.18	0.53	0.11	0.09	0.10	0.45	0.20
Control Delay	10.7	9.5	10.0	10.9	2.8	11.7	0.4	16.5	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.7	9.5	10.0	10.9	2.8	11.7	0.4	16.5	0.6
Queue Length 50th (ft)	14	61	5	61	0	5	0	27	0
Queue Length 95th (ft)	63	172	29	202	20	19	1	73	0
Internal Link Dist (ft)		139		280			94		110
Turn Bay Length (ft)	100		175		175			100	
Base Capacity (vph)	776	3402	493	1791	1525	677	938	731	1029
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	0.16	0.28	0.10	0.27	0.06	0.04	0.06	0.22	0.13

Intersection Summary

HCM Signalized Intersection Capacity Analysis  
2: Albertsons Driveway & NW West Union Rd

21539 West Union Gas Station

07/19/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗↘		↖	↗	↗	↖	↗		↖	↗	
Traffic Volume (vph)	124	923	0	46	481	86	29	0	53	157	0	134
Future Volume (vph)	124	923	0	46	481	86	29	0	53	157	0	134
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		5.5	5.5	5.5	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.85		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539		1805	1863	1583	1770	1615		1770	1583	
Flt Permitted	0.43	1.00		0.27	1.00	1.00	0.67	1.00		0.72	1.00	
Satd. Flow (perm)	806	3539		512	1863	1583	1247	1615		1345	1583	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	127	942	0	47	491	88	30	0	54	160	0	137
RTOR Reduction (vph)	0	0	0	0	0	44	0	40	0	0	100	0
Lane Group Flow (vph)	127	942	0	47	491	44	30	14	0	160	37	0
Heavy Vehicles (%)	2%	2%	0%	0%	2%	2%	2%	0%	0%	2%	0%	2%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8				4
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)	20.9	20.9		20.9	20.9	20.9	11.1	11.1		11.1	11.1	
Effective Green, g (s)	20.9	20.9		20.9	20.9	20.9	11.1	11.1		11.1	11.1	
Actuated g/C Ratio	0.50	0.50		0.50	0.50	0.50	0.27	0.27		0.27	0.27	
Clearance Time (s)	5.5	5.5		5.5	5.5	5.5	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.1	3.1		3.1	3.1	3.1	2.9	2.9		2.9	2.9	
Lane Grp Cap (vph)	405	1782		257	938	797	333	431		359	423	
v/s Ratio Prot		c0.27			0.26			0.01				0.02
v/s Ratio Perm	0.16			0.09		0.03	0.02			c0.12		
v/c Ratio	0.31	0.53		0.18	0.52	0.06	0.09	0.03		0.45	0.09	
Uniform Delay, d1	6.1	7.0		5.6	6.9	5.3	11.4	11.2		12.6	11.4	
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		0.4	0.5	0.0	0.1	0.0		0.8	0.1	
Delay (s)	6.5	7.3		6.0	7.5	5.3	11.5	11.3		13.5	11.5	
Level of Service	A	A		A	A	A	B	B		B	B	
Approach Delay (s)		7.2			7.1			11.4			12.6	
Approach LOS		A			A			B			B	

Intersection Summary

HCM 2000 Control Delay	8.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	41.5	Sum of lost time (s)	9.5
Intersection Capacity Utilization	60.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

## Queues

21539 West Union Gas Station

## 2: Albertsons Driveway &amp; NW West Union Rd

07/18/2019



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	96	529	59	899	69	43	46	89	151
v/c Ratio	0.29	0.24	0.09	0.83	0.07	0.27	0.08	0.43	0.32
Control Delay	5.8	7.7	4.2	23.8	3.8	32.7	0.3	35.6	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	5.8	7.7	4.2	23.8	3.8	32.7	0.3	35.6	1.8
Queue Length 50th (ft)	8	52	5	308	1	18	0	38	0
Queue Length 95th (ft)	30	104	20	#639	19	43	0	75	0
Internal Link Dist (ft)		139		280			94		110
Turn Bay Length (ft)	100		175		175			100	
Base Capacity (vph)	369	2354	725	1208	1048	330	794	429	684
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	0.26	0.22	0.08	0.74	0.07	0.13	0.06	0.21	0.22

## Intersection Summary

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

HCM Signalized Intersection Capacity Analysis  
2: Albertsons Driveway & NW West Union Rd

21539 West Union Gas Station

07/18/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	439	0	49	746	57	36	0	38	74	0	125
Future Volume (vph)	80	439	0	49	746	57	36	0	38	74	0	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.5		4.0	5.5	5.5	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.85		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539		1805	1863	1583	1770	1615		1770	1583	
Flt Permitted	0.13	1.00		0.46	1.00	1.00	0.56	1.00		0.73	1.00	
Satd. Flow (perm)	236	3539		866	1863	1583	1041	1615		1354	1583	
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	96	529	0	59	899	69	43	0	46	89	0	151
RTOR Reduction (vph)	0	0	0	0	0	26	0	39	0	0	128	0
Lane Group Flow (vph)	96	529	0	59	899	43	43	7	0	89	23	0
Heavy Vehicles (%)	2%	2%	0%	0%	2%	2%	2%	0%	0%	2%	0%	2%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8				4
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)	51.6	45.4		45.8	42.5	42.5	11.0	11.0		11.0	11.0	
Effective Green, g (s)	51.6	45.4		45.8	42.5	42.5	11.0	11.0		11.0	11.0	
Actuated g/C Ratio	0.70	0.62		0.63	0.58	0.58	0.15	0.15		0.15	0.15	
Clearance Time (s)	4.0	5.5		4.0	5.5	5.5	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	2.5	3.1		2.5	3.1	3.1	2.9	2.9		2.9	2.9	
Lane Grp Cap (vph)	296	2194		584	1081	919	156	242		203	237	
v/s Ratio Prot	c0.03	0.15		0.00	c0.48			0.00				0.01
v/s Ratio Perm	0.20			0.06		0.03	0.04			c0.07		
v/c Ratio	0.32	0.24		0.10	0.83	0.05	0.28	0.03		0.44	0.10	
Uniform Delay, d1	9.7	6.2		5.3	12.4	6.6	27.6	26.5		28.3	26.8	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	0.1		0.1	5.6	0.0	0.9	0.0		1.4	0.2	
Delay (s)	10.2	6.3		5.4	18.1	6.6	28.5	26.6		29.7	27.0	
Level of Service	B	A		A	B	A	C	C		C	C	
Approach Delay (s)		6.9			16.6			27.5			28.0	
Approach LOS		A			B			C			C	

Intersection Summary

HCM 2000 Control Delay	15.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	73.2	Sum of lost time (s)	13.5
Intersection Capacity Utilization	69.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis  
 1: Site Dwy (Right-in) & NW West Union Rd

21539 West Union Gas Station  
 07/19/2019



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		
Traffic Volume (veh/h)	1047	40	0	645	0	0
Future Volume (Veh/h)	1047	40	0	645	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	1068	41	0	658	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage (veh)						
Upstream signal (ft)	309			219		
pX, platoon unblocked					0.78	
vC, conflicting volume			1109		1746 554	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1109		1815 554	
tC, single (s)			4.1		6.8 6.9	
tC, 2 stage (s)						
tF (s)			2.2		3.5 3.3	
p0 queue free %			100		100 100	
cM capacity (veh/h)			637		56 481	
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>EB 2</b>	<b>WB 1</b>			
Volume Total	712	397	658			
Volume Left	0	0	0			
Volume Right	0	41	0			
cSH	1700	1700	1700			
Volume to Capacity	0.42	0.23	0.39			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS						
Approach Delay (s)	0.0		0.0			
Approach LOS						
<b>Intersection Summary</b>						
Average Delay			0.0			
Intersection Capacity Utilization			37.3%		ICU Level of Service A	
Analysis Period (min)			15			



## Queues

21539 West Union Gas Station

## 2: Albertsons Driveway &amp; NW West Union Rd

07/19/2019



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	127	942	47	491	88	30	54	160	137
v/c Ratio	0.26	0.53	0.11	0.68	0.13	0.10	0.09	0.50	0.19
Control Delay	6.5	12.0	6.0	20.6	4.2	18.5	0.3	25.0	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.5	12.0	6.0	20.6	4.2	18.5	0.3	25.0	0.6
Queue Length 50th (ft)	13	69	4	123	0	7	0	41	0
Queue Length 95th (ft)	44	230	20	280	25	29	0	111	0
Internal Link Dist (ft)		139		280			94		110
Turn Bay Length (ft)	100		175		175			100	
Base Capacity (vph)	549	3049	541	1605	1376	577	885	623	968
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	0.23	0.31	0.09	0.31	0.06	0.05	0.06	0.26	0.14

## Intersection Summary

# HCM Signalized Intersection Capacity Analysis

## 2: Albertsons Driveway & NW West Union Rd

21539 West Union Gas Station

07/19/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	124	923	0	46	481	86	29	0	53	157	0	134
Future Volume (vph)	124	923	0	46	481	86	29	0	53	157	0	134
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.5		4.0	5.5	5.5	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.85		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539		1805	1863	1583	1770	1615		1770	1583	
Flt Permitted	0.29	1.00		0.29	1.00	1.00	0.67	1.00		0.72	1.00	
Satd. Flow (perm)	541	3539		548	1863	1583	1247	1615		1345	1583	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	127	942	0	47	491	88	30	0	54	160	0	137
RTOR Reduction (vph)	0	0	0	0	0	52	0	42	0	0	106	0
Lane Group Flow (vph)	127	942	0	47	491	36	30	12	0	160	31	0
Heavy Vehicles (%)	2%	2%	0%	0%	2%	2%	2%	0%	0%	2%	0%	2%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8				4
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)	31.4	25.5		23.6	21.6	21.6	12.1	12.1		12.1	12.1	
Effective Green, g (s)	31.4	25.5		23.6	21.6	21.6	12.1	12.1		12.1	12.1	
Actuated g/C Ratio	0.59	0.48		0.44	0.41	0.41	0.23	0.23		0.23	0.23	
Clearance Time (s)	4.0	5.5		4.0	5.5	5.5	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	2.5	3.1		2.5	3.1	3.1	2.9	2.9		2.9	2.9	
Lane Grp Cap (vph)	456	1699		290	757	643	284	368		306	360	
v/s Ratio Prot	c0.03	0.27		0.01	c0.26			0.01				0.02
v/s Ratio Perm	0.13			0.07		0.02	0.02			c0.12		
v/c Ratio	0.28	0.55		0.16	0.65	0.06	0.11	0.03		0.52	0.09	
Uniform Delay, d1	5.9	9.8		8.4	12.7	9.6	16.2	16.0		18.0	16.1	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.4		0.2	1.9	0.0	0.2	0.0		1.5	0.1	
Delay (s)	6.2	10.2		8.6	14.6	9.6	16.4	16.0		19.5	16.2	
Level of Service	A	B		A	B	A	B	B		B	B	
Approach Delay (s)		9.7			13.5			16.1			18.0	
Approach LOS		A			B			B			B	

### Intersection Summary

HCM 2000 Control Delay	12.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	53.1	Sum of lost time (s)	13.5
Intersection Capacity Utilization	58.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			