TRAFFIC ANALYSIS REPORT

FOR

PLAMBECK GARDENS

SW BOONES FERRY ROAD

TUALATIN

SUBMITTED BY

CHARBONNEAU ENGINEERING LLC

February 2022

Project 21-14

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FL2203

INTRODUCTION

This traffic study has been prepared to evaluate and document the operations and safety conditions for the Plambeck Gardens development being planned in Tualatin. The development will construct a total of 116 affordable apartment type units along the east side of SW Boones Ferry Road between SW Norwood Road and SW Greenhill Lane at addresses #23500 & #23550 SW Boones Ferry Road on tax lot #2S135D000303. Figure 'a' in the appendix is a vicinity map highlighting the project location.

In accordance with the City`s requirements the traffic study area was defined as the section of SW Boones Ferry Road between SW Day Road and SW Iowa Drive and included several intersections and the site access point (referenced as Street `H` in this report).

TRAFFIC ANALYSIS CONSIDERATIONS

In the project scope established with Washington County and Tualatin staff, a number of important elements were identified and considered in this study.

- Inventory and record pertinent information such as traffic control devices, circulation patterns, lane conditions, pedestrian & bicycle facilities, transit zones, parking, and street characteristics.
- Record data on typical weekdays during the AM and PM peak traffic hours.
- As confirmed by Washington County and the City of Tualatin the following study intersections were analyzed.

    - SW Boones Ferry Road at SW Day Road
    - SW Boones Ferry Road at site access
    - SW Boones Ferry Road at Horizon School access
    - SW Boones Ferry Road at SW Norwood Road
    - SW Boones Ferry Road at SW Iowa Drive

- Traffic count data was obtained for the study intersections from Lancaster-Mobley Engineering for their Autumn Sunrise study. The data consisted of intersection turning movement counts for the AM & PM peak hours that were recorded in the September 2020 and March 2021. The peak hour counts at SW Boones Ferry Road and the Horizon School intersection were recorded on September 14th when school was in session.
- Traffic growth at 2.0% per year was applied to establish the year 2026 background traffic scenarios.
- City staff confirmed that in-process traffic for the upcoming Autumn Sunrise subdivision project was applicable and was therefore incorporated into the study.
- Level of service (LOS) analysis of the study intersections to measure the approach delays for comparison to agency standards.
- Documentation of the access spacing conditions along SW Boones Ferry Road, a three-lane arterial with a minimum 600 feet of separation per County standard.
- Determination of vehicular queuing at the study intersections.

- Access to the site will occur at the Street `H` future Autumn Sunrise intersection with SW Boones Ferry Road as shown on the site plan. The two properties will be connected through Tract `L`.
- Review intersection sight distance at the future Street `H` intersection on SW Boones Ferry Road.
- Review traffic accident data furnished by ODOT. Determine the intersection crash rates at the study intersections.
- In the future Washington County will construct the Basalt Creek Parkway extension as an east-west arterial connecting Grahams Ferry Road to SW Boones Ferry Road. The intersection with SW Boones Ferry Road south of Greenhill Lane will be signalized. The exact timing to construct the road is not established at this time. Although not analyzed in the Plambeck Gardens traffic study the development's trip distribution and trip assignments with the road extension in place are included for reference purposes.

SITE DESCRIPTION, STREETS, ACCESS, AND CRITICAL INTERSECTIONS

Development of Plambeck Gardens is planned for 116 affordable apartment dwelling units in Tualatin along the east side of SW Boones Ferry Road. The apartment buildings will be constructed as four-story facilities and a total of 170 parking spaces will be provided on the site.

Vehicular access as shown on the site plan will occur at Street `H` and SW Boones Ferry Road. This street is planned in conjunction with the future Autumn Sunrise Subdivision development and is positioned approximately 730 feet south of the Horizon School driveway and 750 feet north of the Greenhill Lane intersection. An emergency vehicle access will be located on the Plambeck Gardens site at the property's north end. The access will not be available to the general public, residents, or staff. The driveway connecting Plambeck Gardens and Autumn Sunrise will occur at Tract `L`.

Currently there are two existing housing units on the Plambeck Gardens site. The buildings and associated driveways will be demolished.

The project site plan (Figure 'b') illustrates access location, building locations, internal driveways, and parking design.

The intersection of SW Boones Ferry Road and Day Road operates with signal control. The other study intersections are controlled by stop signing. The existing and proposed lane configurations and traffic control are presented in Figure `c` in the report's appendix.

SW Boones Ferry Road is classified as an arterial along the site`s frontage in Washington County and is a fully-improved as a three-lane street consisting of two travel lanes and a center two-way left turn median lane. Bike lanes and curbs are present. Sidewalk occurs along the west side of the street and will be added on the east side at the development's frontage. The travel speed is posted at 45 MPH. Development in the area is primarily

residential with Horizon Christian High School located just to the north and Tualatin High School located north of Iowa Drive.

SW Boones Ferry Road at Day Road is a four-way signalized intersection with separate left turn lanes and protected left turn phasing on the north and south approaches. The northbound approach incudes dual left turn lanes and the eastbound approach includes a separate right turn lane. All approaches have pedestrian crosswalks with pushbutton actuation.

SW Boones Ferry Road at the Horizon School driveway intersections consists of the school's private access on the road's east side, controlled by stop signing. The approach does not have lane markings although there is sufficient width for traffic turning right onto SW Boones Ferry Road to stack one to two cars. A private (residential) access occurs across from the school's approach. SW Boones Ferry Road includes a separate southbound left turn lane and separate right turn lane for traffic entering the school property.

SW Boones Ferry Road at Norwood Road is a tee-shaped design with stop sign control on the Norwood Road approach. Norwood Road contains a single lane approach. There is separate northbound right turn lane and separate southbound left turn lane on SW Boones Ferry Road. Crosswalks are not marked at the intersection.

SW Boones Ferry Road at Iowa Drive is a stop controlled four-way intersection with stop signing on the Iowa Drive approaches. There are no separate turn lanes on Iowa Drive. SW Boones Ferry Road is striped with separate left turn lanes. Only the north intersection leg is marked with a crosswalk and has pedestrian crossing symbol signing in both directions.

The proposed Street `H` intersection serving traffic for Plambeck Gardens and Autumn Sunrise will require stop signing and stop bar marking on the approach to Boones Ferry Road. The access will have one lane in each direction. Separate turn lanes on the approach to SW Boones Ferry Road are not required. SW Boones Ferry Road currently has a center turn lane which will serve as the southbound left turn lane for traffic turning into the site access. Consideration for a northbound right turn lane is addressed and documented later in the report.

The proposed Tract `L` intersection at `H` Street will be configured as a tee-shaped design and require stop signing and stop bar marking on the southbound approach to `H` Street. Tract `L` will have one lane in each direction. Separate turn lanes are not required at the intersection based on the low volume of projected traffic.

TRAFFIC OPERATIONAL ANALYSIS

The study intersections were analyzed for level of service (LOS) conditions, delay, and safety. Including the site access location a total of five intersections were evaluated. LOS and queuing analyses were completed in the AM and PM peak hour periods for the following scenarios:

- Year 2021 Existing Traffic
- Year 2026 Background Traffic
- Year 2026 Total Traffic

In order to perform the LOS analysis traffic counts from September 2020, March 2021, and September 2021 were obtained. Due to the traffic flow impacts associated with the COVID-19 pandemic adjustment factors were applied (by Lancaster-Mobley) to compensate. The count data is included in the appendix. Figure 1 illustrates the modeled year 2021 volume data.

Traffic growth at 2.0% per year has been added to the year 2021 volumes to account for the year 2026 background traffic volumes. The year 2026 background traffic volumes are illustrated in Figure 3.

Tualatin staff confirmed that it was necessary to account for the in-process traffic associated with the future Autumn Sunrise development which is projected to buildout a total of 321 single-family homes and 80 apartment units in four phases. Listed below is the anticipated phasing plan.

Phase #	Buildout Year	#Single-Family Homes	#Apartments
1	2023	86	24
2	2024	43	14
3	2025	91	42
4	2026	101	0
		321	**80**

The in-process traffic flow results for the Autumn Sunrise Subdivision are illustrated on Figure 2 for all phases 1-4 (401 units). The trips have been included in the background traffic figures.

The year 2026 total traffic (the summation of background traffic volumes and site generated traffic for Plambeck Gardens) is presented in Figure 6.

VEHICULAR TRIP GENERATION

Trip rates presented in the Institute of Transportation Engineers (ITE) Trip Generation manual, 10th edition (year 2017) were utilized to estimate the site's trip generation for 116 mid-rise type apartments. The trip generation is summarized in Table 1.

Table 1 Trip Generation Summary

ITE Land Use	Dwelling Units (#)	Weekday						
		ADT	AM Peak Hour			PM Peak Hour		
			Total	Enter	Exit	Total	Enter	Exit
Mid-Rise Housing (#221)	116							
Generation Rate [1]		5.44	0.36	26%	74%	0.44	61%	39%
Site Trips		**631**	**42**	11	31	**51**	31	20

[1] Source: *Trip Generation*, 10th Edition, ITE, 2017, average rates.

Two existing homes are located on the property site and will be demolished in conjunction with the proposed development. Trip credits totaling 19 daily trips, one AM trip, and two PM trips will result in a net trip generation of 612 daily trips, 41 AM peak hour trips, and 49 PM peak hour trips for Plambeck Gardens.

The Plambeck Gardens trip distribution was based on the existing count data and engineering judgment. This information is presented on Figure 4. The corresponding trip assignments are presented on Figure 5 for the AM & PM peak hours.

CAPACITY ANALYSIS

Capacity analyses were performed to determine the levels of service for the weekday peak hours. Synchro v11.1 software was used to determine the approach delays and level of service for the study intersections. The program is based on the Highway Capacity Manual (6^{th} edition) methodology. Table 2 summarizes the analysis results for the year 2021 existing traffic and for the year 2026 background and total traffic scenarios. Copies of the capacity analysis summaries are included in the appendix.

Table 2 Capacity Analysis Summary

Intersection	Type of Control	Peak Hour	Traffic Scenario											
			Year 2021				2026 Background				2026 Total			
			Crit. Mov't	LOS	Delay	v/c	Crit. Mov't	LOS	Delay	v/c	Crit. Mov't	LOS	Delay	v/c
Boones Ferry Road and Iowa Drive	Two-way Stop	AM	EB	F	52.3	0.63	EB	F	149.5	1.01	EB	F	158.7	1.04
		PM	EB	F	58.2	0.54	EB	F	159.0	0.92	EB	F	171.5	0.95
	Mitigated [1]	*AM*	*EB*	*E*	*38.5*	*0.20*	*EB*	*F*	*85.8*	*0.26*	*EB*	*F*	*90.5*	*0.26*
		PM	*EB*	*E*	*46.9*	*0.16*	*EB*	*F*	*106.4*	*0.23*	*EB*	*F*	*113.4*	*0.24*
	Mitigated [2]	*AM*	*-*	*A*	*7.9*	*0.40*	*-*	*A*	*9.3*	*0.46*	*-*	*A*	*9.5*	*0.46*
		PM	*-*	*A*	*6.1*	*0.40*	*-*	*A*	*8.0*	*0.46*	*-*	*A*	*8.1*	*0.47*
Boones Ferry Road and Norwood Road	Two-way Stop	AM	WB	E	43.2	0.62	WB	F	157.0	1.13	WB	F	176.3	1.18
		PM	WB	D	25.9	0.41	WB	F	68.3	0.80	WB	F	86.6	0.88
	Mitigated [2]	*AM*	-	A	9.0	0.41	-	B	13.5	0.48	-	B	13.7	0.48
		PM	-	-	-	-	-	A	8.7	0.55	-	A	9.1	0.55
Boones Ferry Road and Horizon HS access	Two-way Stop	AM	WB	F	91.6	0.24	WB	F	201.8	0.30	WB	F	217.9	0.31
		PM	WB	C	20.9	0.07	WB	D	27.7	0.08	WB	D	28.9	0.08
Street 'H' and Boones Ferry Road	Two-way Stop	AM	-	-	-	-	WB	C	20.9	0.39	WB	C	23.7	0.48
		PM	-	-	-	-	WB	C	21.5	0.30	WB	C	24.1	0.38
Boones Ferry Road and Day Road	Signal	AM	-	C	25.2	0.49	-	C	27.4	0.57	-	C	27.3	0.57
		PM	-	C	26.6	0.55	-	C	27.5	0.63	-	C	27.4	0.64

Notes: 2016 Highway Capacity Manual methodology used in analysis, Synchro v11. EB - Eastbound, WB - Westbound, Crit. Mov't - Critical movement or critical approach.

[1] Mitigation: Re-stripe west approach to provide a separate left turn lane and shared through-right lane.

[2] Mitigation: Install traffic signal.

The City of Tualatin's LOS standard is LOS `E` or better. The intersections at Day Road and at the site access will experience acceptable LOS conditions through the year 2026 background and total traffic scenarios with stop control on the side street approaches.

The stop controlled intersection at SW Boones Ferry Road and Iowa Drive currently experiences LOS `F` conditions in the AM & PM peak hours due to the vehicular delays occurring on the eastbound approach. The failing condition will continue through the year 2026 background and total traffic scenarios. To mitigate the situation will require the installation of a traffic signal which would improve the operations to acceptable LOS `A`. However, the peak hour signal warrant is not met at this location through the year 2026 total traffic scenario and installing a signal without meeting warrants is typically not recommended according to the Manual on Uniform Traffic Control Devices (MUTCD) unless there are safety issues that could be improved. Research of the intersection's crash history confirmed that there were a total of six reported accidents within the latest available five-year study period resulting in a crash rate of 0.22 crashes per million entering vehicles

(MEV) per year. The rate is well below the crash rate of 1.0 MEV/year at which safety improvements need to be considered.

It is noted that the proposed development will not distribute any site trips on either of the Iowa Drive approaches to SW Boones Ferry Road. Additionally approximately 50% of the traffic using the failing east approach makes right turns onto SW Boones Ferry Road diminishing the need for signalized control. Based on the crash research results, signal warrant findings, and the lack of trip distribution to Iowa Drive by the proposed development installing a traffic signal is not recommended.

The Norwood Road stop controlled intersection will experience failing conditions (LOS `F`) in the year 2026 background and total traffic scenarios. To mitigate the situation will require the installation of a traffic signal which would improve the operations to acceptable LOS `B`. The peak hour signal warrant is met in the year 2026 background and total traffic scenarios. Research of the intersection's crash history confirmed that there were a total of five reported accidents within the latest five-year study period resulting in a crash rate of 0.19 crashes per million entering vehicles (MEV) per year. The rate is well below the crash rate of 1.0 MEV/year at which safety improvements need to be considered. Installation of a signal is not recommended in conjunction with the proposed development as the signal warrant is met due to the background traffic conditions and Plambeck Gardens will distribute only two trips in the worst case AM peak hour on the westbound approach, representing only a 1.1% impact.

The Horizon School access at SW Boones Ferry Road operates at LOS `F` currently during the AM peak hour. The delays on the school's approach drive experience long delays that could be mitigated with traffic signalization. The peak hour signal warrant is not met and no site trips are projected to occur on the school's private street approach. Effectively the westbound approach will not be impacted by the Plambeck Gardens development. No reported traffic crashes were reported at the location. Therefore, no improvements are proposed at the intersection in conjunction with the development project.

Street `H` at SW Boones Ferry Road which provides traffic access to the site will operate at acceptable LOS `C` through the year 2026 total traffic scenario with stop control on Street `H`.

Day Road at SW Boones Ferry Road is signalized and will experience acceptable LOS `C` through the year 2026 scenario.

Generally, LOS `A`, `B`, `C`, and `D` are desirable service levels ranging from no vehicle delays to average or longer than average delays in the peak hours. Level `E` represents long delays indicating signalization warrants need to be reviewed and signals considered only if warrants are met. Level `F` indicates that intersection improvements, such as widening and signalization, may be required. According to the Highway Capacity Manual (HCM*)*, the following delay times are associated with the LOS at stop controlled unsignalized and signalized intersections.

Level of Service criteria defined in Highway Capacity Manual

Level of Service (LOS)	Unsignalized Control Stopped Delay (sec/veh)	Signalized Control Stopped Delay (sec/veh)
A	≤ 10	≤ 10
B	> 10 and ≤ 15	> 10 and ≤ 20
C	> 15 and ≤ 25	> 20 and ≤ 35
D	> 25 and ≤ 35	> 35 and ≤ 55
E	> 35 and ≤ 50	> 55 and ≤ 80
F	> 50	> 80

QUEUING ANALYSIS

Queue lengths based on the 95th percentile demand values for the study intersections were established in the Synchro analysis. Copies of the reports are included in the appendix.

Queues at the signalized intersection of SW Boones Ferry Road and Day Road are projected to reach 625 feet on the eastbound approach in the year 2026 total traffic scenario. No public intersections will be blocked on Day Road due to the projected queues. There are dual northbound left turn lanes with stacking lengths of 250 feet each and queues will reach 300 feet in the year 2026 total traffic scenario. No public intersections will be blocked on SW Boones Ferry Road due to the projected queues.

At SW Boones Ferry Road and Street `H` the traffic queues were determined for the southbound left turn and westbound approach. The southbound demand queue will typically not exceed one vehicle in the existing turn lane. On the westbound approach to SW Boones Ferry Road the projected queue will total three to four vehicles, stacking for a distance of 75 feet to 100 feet from the stop bar.

The intersection of SW Boones Ferry Road and the Horizon School access will experience queues of five to six vehicles on the westbound stop approach in the worst case AM peak hour in the year 2026 total traffic scenario. No intersections on the private road approach will be blocked as a substantial vehicle stacking capacity exists on-site with over 500 feet available. The demand queue in year 2026 is projected at less than 200 feet.

The intersection of SW Boones Ferry Road and Norwood Road will experience queues of 11 to 12 vehicles on the westbound stop approach in the worst case AM peak hour in the year 2026 total traffic scenario. No public intersections on Norwood Road will be blocked due to the operating conditions.

The intersection of SW Boones Ferry Road at Iowa Drive will experience queues of eight vehicles on the west approach and four vehicles on the east approach during the worst case AM peak hour. No public intersections on Iowa Drive will be blocked due to the operating conditions.

SIGHT DISTANCE

Intersection sight distance along SW Boones Ferry Road at the proposed Street `H` location was reviewed in the field. The speed limit is posted at 45 MPH on SW Boones Ferry Road and according to Washington County standards an intersection sight distance of 450 feet is required. At the Street `H` location the intersection sight distance standard is met to the north and south as over 500 feet of sightline is available.

At the future Tract `L` intersection with Street `H` the intersection sight distance standard based on a 25 MPH travel speed along Street `H` shall be met. In this case a distance of 250 feet must be available and maintained in both directions along `H` Street from the vehicle's southbound stop position on Tract `L`.

LEFT TURN & RIGHT TURN LANE REQUIREMENTS

A center median left turn is currently available on SW Boones Ferry Road to provide stacking for southbound vehicles turning into the site. The continuous left turn lane will be sufficient to handle left turn demand.

The warrant for a northbound right turn (deceleration) lane on SW Boones Ferry Road at Street `H` was evaluated. A total of 35 vehicles are projected to make the right turn in the AM peak hour and 115 vehicles will make the turn in the PM peak hour. According to the analysis it will be necessary to provide a right turn lane and curb return radius for northbound traffic turning onto Street `H` for safety reasons. The considerations include the roadway approach volume, number of right turns, and vehicular travel speeds along SW Boones Ferry Road. These findings are consistent with the recommendations documented in the July 2021 TIA for the Autumn Sunrise Subdivision as the Plambeck Gardens' traffic was included as in-process traffic in the Autumn Sunrise analysis. Effectively the transportation system needs for the Plambeck Gardens development does not exceed the requirements beyond those established in the Autumn Sunrise TIA.

The warrant curve is included in the appendix.

TRAFFIC SIGNAL WARRANTS

The peak hour signal warrant was evaluated for the stop controlled intersections on SW Boones Ferry Road at Iowa Drive, Norwood Road, Horizon School access, and Street `H`. It was determined that the warrant is not met through the year 2026 total traffic scenario for the Iowa Drive, Horizon School, and Street `H` intersections.

The Norwood Road intersection met the warrant in the PM peak hour for the year 2026 background and total traffic scenarios. Effectively the warrant is met due to the traffic growth and in-process traffic conditions. Considering that there is a high percentage of right turns on the Norwood Road approach (over 50% of the approach volumes in the PM peak hour) the minor street volumes may be discounted and the warrant voided. Because the safety analysis has determined that there is a low crash history (five reported crashes, rate = 0.19 MEV/year), the warrant is met due to the background traffic, and the site distributes five or

fewer trips on the failing approach in the peak hours installation of a traffic signal is not recommended in conjunction with the Plambeck Gardens development.

ACCIDENT HISTORY

Crash data for the study intersections was obtained from ODOT staff and reviewed to help identify any traffic safety problems. The study period covered five years from January 2014 through December 2018.

The crash rates presented in Table 3 are based on the number of accidents per million entering vehicles (MEV) per year. Typically, an intersection is not considered unsafe unless its accident rate exceeds the threshold value of 1.0 accidents per MEV.

Table 3 Crash Rate Results

Intersection	Crash History (Years)	Number of Crashes	Crashes per year	Annual Traffic Entering (veh/yr)	Crash rate per M.E.V.*
Iowa Drive & Boones Ferry Road	5	6	1.2	5354418	**0.22**
Norwood Road & Boones Ferry Road	5	5	1.0	5193713	**0.19**
Horizon High School & Boones Ferry Road	5	0	0.0	4313484	**0.00**
Day Road & Boones Ferry Road	5	1	0.2	9353796	**0.02**

* M.E.V. - million entering vehicles.

None of the study intersections experienced a rate greater 0.22 MEV/year and therefore no safety improvements are recommended.

PEDESTRIANS, BICYCLES, & BUSES

Sidewalk is currently available along the west side of SW Boones Ferry Road. Sidewalk will be constructed on the east side along the development's property frontage. Sidewalk will also be constructed within the development site to provide connectivity to SW Boones Ferry Road.

Bicycle lanes are currently provided along SW Boones Ferry Road. No new bike lanes will be constructed with the development project.

Transit service is provided along on SW Boones Ferry Road with line #96 – Tualatin/I-5.

ACCESS STANDARDS & SPACING

As an arterial SW Boones Ferry Road requires an access spacing minimum of 600 feet. From the proposed Street `H` location no streets will be present within 600 feet when the Autumn Sunrise Subdivision development is built.

Approximately 80 feet north of the proposed `H` Street intersection a minor private driveway exists on the east side of Boones Ferry Road that will remain in place. The access appears to serve a private residence and/or small business. No traffic safety or vehicle movement conflicts are anticipated when the new `H` Street intersection is constructed.

SUMMARY AND RECOMMENDATIONS

The traffic study for the Plambeck Gardens development containing 116 affordable housing apartment units has been prepared to determine the potential impacts at several study intersections along SW Boones Ferry Road. Development of the site is expected to generate a net of 612 daily trips, 41 AM peak hour trips, and 49 PM peak hour trips.

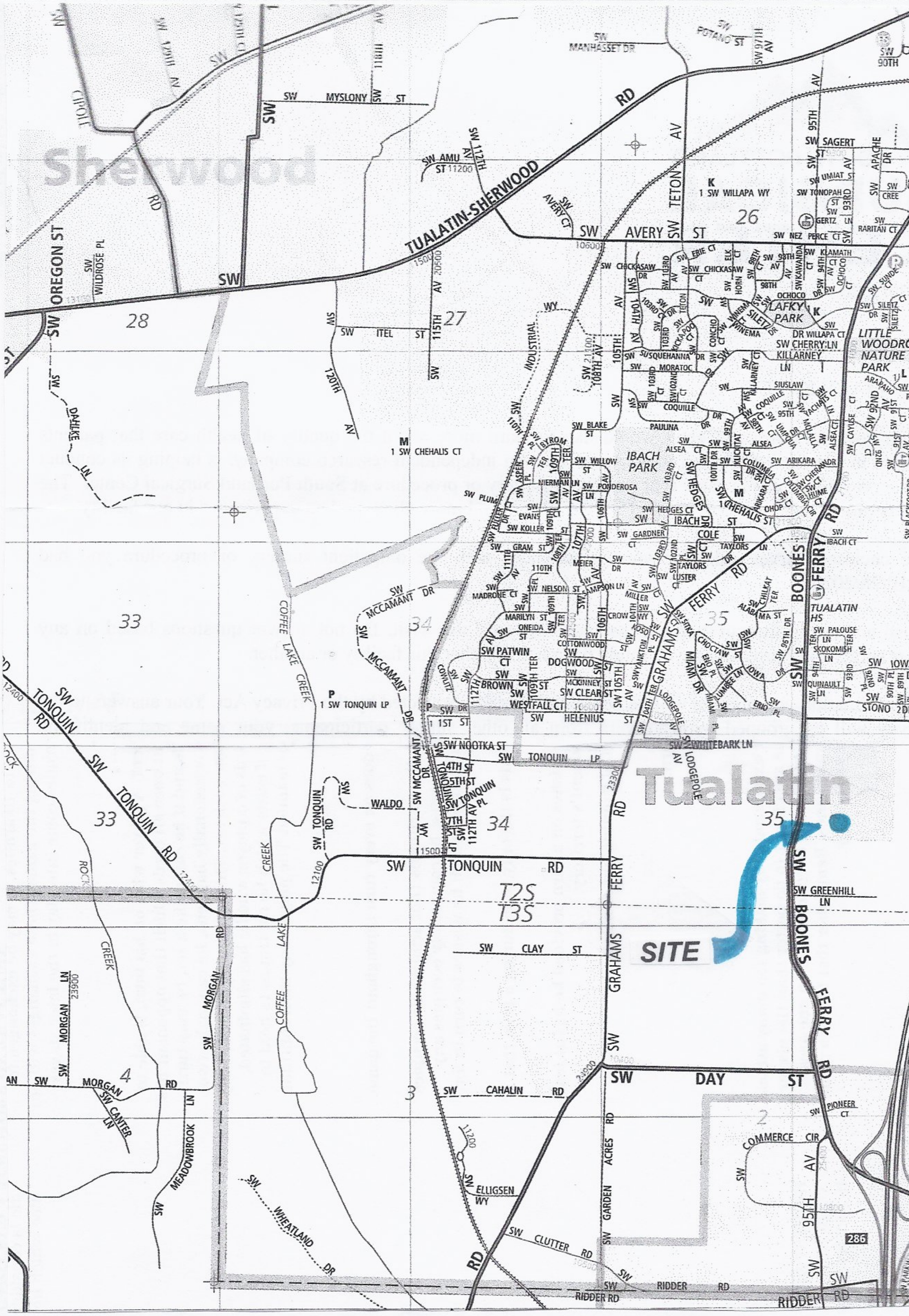
The traffic analysis has determined the following results.

- The intersection sight distance standard (450 feet) on SW Boones Ferry Road at the proposed Street `H` approach is met in both directions.
- The capacity analysis determined that the Iowa Drive intersection on SW Boones Ferry Road is failing. The stop controlled intersection currently operates LOS `F` in the peak hours and will continue to fail through the year 2026 total traffic scenario. The condition can be mitigated if a traffic signal is installed. As the signal warrant is not met, the crash history is very low (crash rate = 0.22 MEV/year), and traffic associated Plambeck Gardens will not be distributed on the Iowa Drive approaches installing a traffic signal is not recommend in conjunction with the proposed development.
- The Norwood Road stop controlled intersection will experience failing conditions (LOS `F`) in the year 2026 background and total traffic scenarios. To mitigate the situation will require the installation of a traffic signal. The peak hour signal warrant is met in the year 2026 background and total traffic scenarios. The crash rate of 0.19 crashes/MEV is well below the threshold rate of 1.0 MEV/year. Installation of a signal is not recommended in conjunction with the proposed development as the signal warrant is met due to the background traffic conditions and Plambeck Gardens will distribute only two trips in the worst case AM peak hour on the westbound approach.
- According to the analysis it will be necessary to provide a right turn lane and curb return radius for northbound traffic making a right turn from SW Boones Ferry Road onto Street `H`. The safety considerations include the roadway approach volume, number of right turns, and vehicular travel speeds along SW Boones Ferry Road. The turn lane will be built as part of the Autumn Sunrise Subdivision development.
- Review of the intersection crash data furnished by ODOT documented that none of the study intersections experienced a rate greater 0.22 MEV/year and therefore no safety improvements are recommended at the existing locations.
- The Street `H` approach at SW Boones Ferry Road will need to be controlled with a stop sign and stop bar pavement marking as part of the Autumn Sunrise Development.

- The site's access occurring at Street `H` on SW Boones Ferry Road will be built in conjunction with the Autumn Sunrise Subdivision development project.
- No other intersection improvements are recommended on SW Boones Ferry Road in conjunction with the Plambeck Gardens development at the study intersections including Day Road, Norwood Road, and Iowa Drive.

APPENDIX

- Vicinity Map — Figure `a`
- Site Plan — Figure `b`
- Lane Configurations &Traffic Control — Figure `c`
- Traffic Flow Diagrams
  - Figure 1 — Year 2021 Existing Traffic, AM & PM Peak Hours
  - Figure 2 — In-Process Traffic, Year 2023 (Autumn Sunrise, Phases 1-4)
  - Figure 3 — Year 2026 Background Traffic, AM & PM Peak Hours
  - Figure 4 — Trip Distribution
  - Figure 5 — Trip Assignment, AM & PM Peak Hours
  - Figure 6 — Year 2026 Total Traffic, AM & PM Peak Hours
- Autumn Sunrise Site Plan (In-Process Traffic Development Project)
- Traffic Count Data
- Right Turn Lane Warrant
- Peak Hour Signal Warrant
- Accident History Summary (furnished by ODOT)
- Synchro Capacity Analysis Reports



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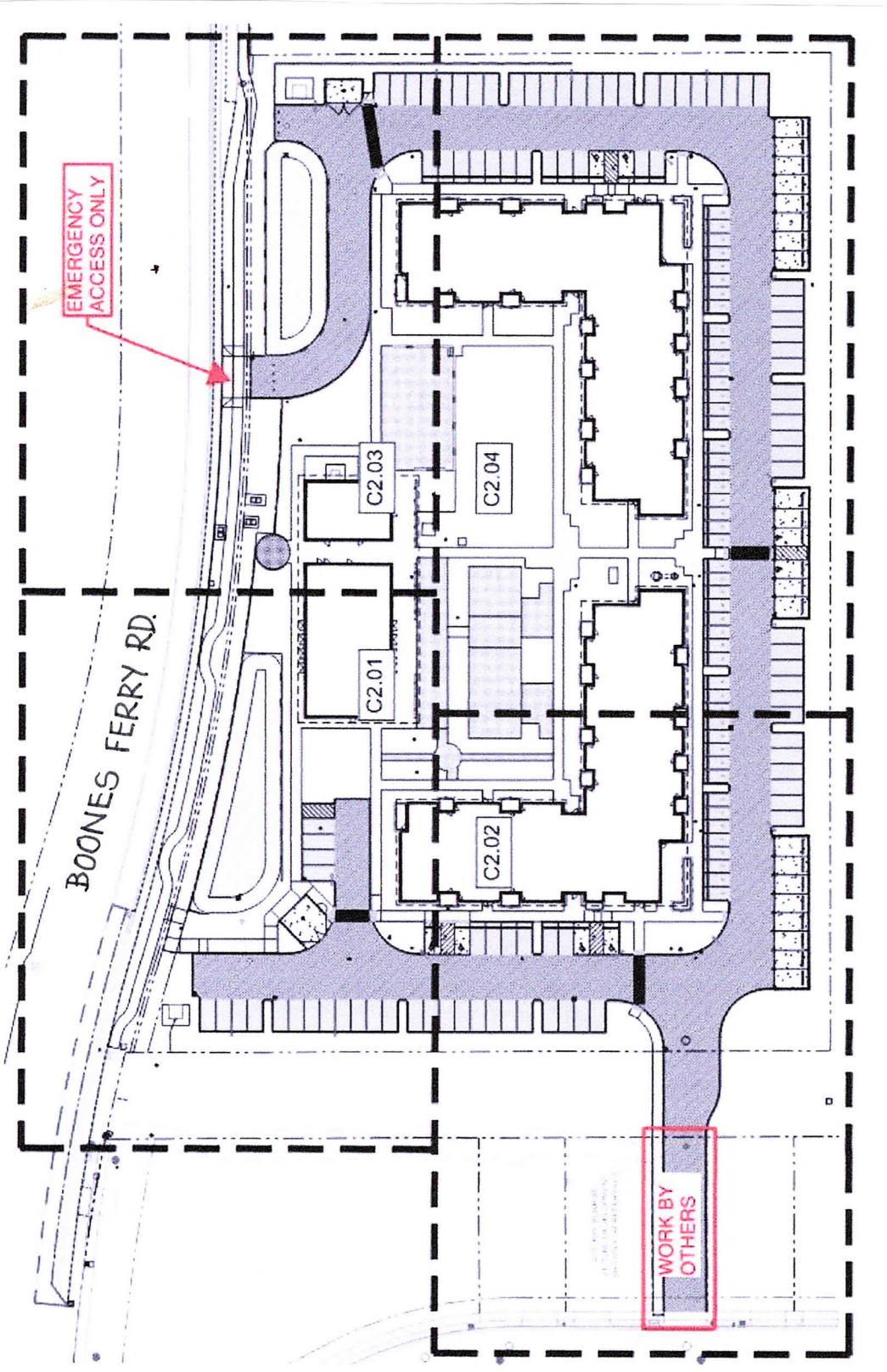
PLOT DATE: 05.07.21

CHARBONNEAU ENGINEERING LLC PROJECT: 21-14	NOTES: NO SCALE	N	VICINITY MAP PLAMBACK GARDENS - CPAH	FIGURE a



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CHARBONNEAU ENGINEERING LLC

PROJECT: 21-14

NOTES:
NO SCALE

N

SITE PLAN
PLAMBECK GARDENS - CPAH

FIGURE
b

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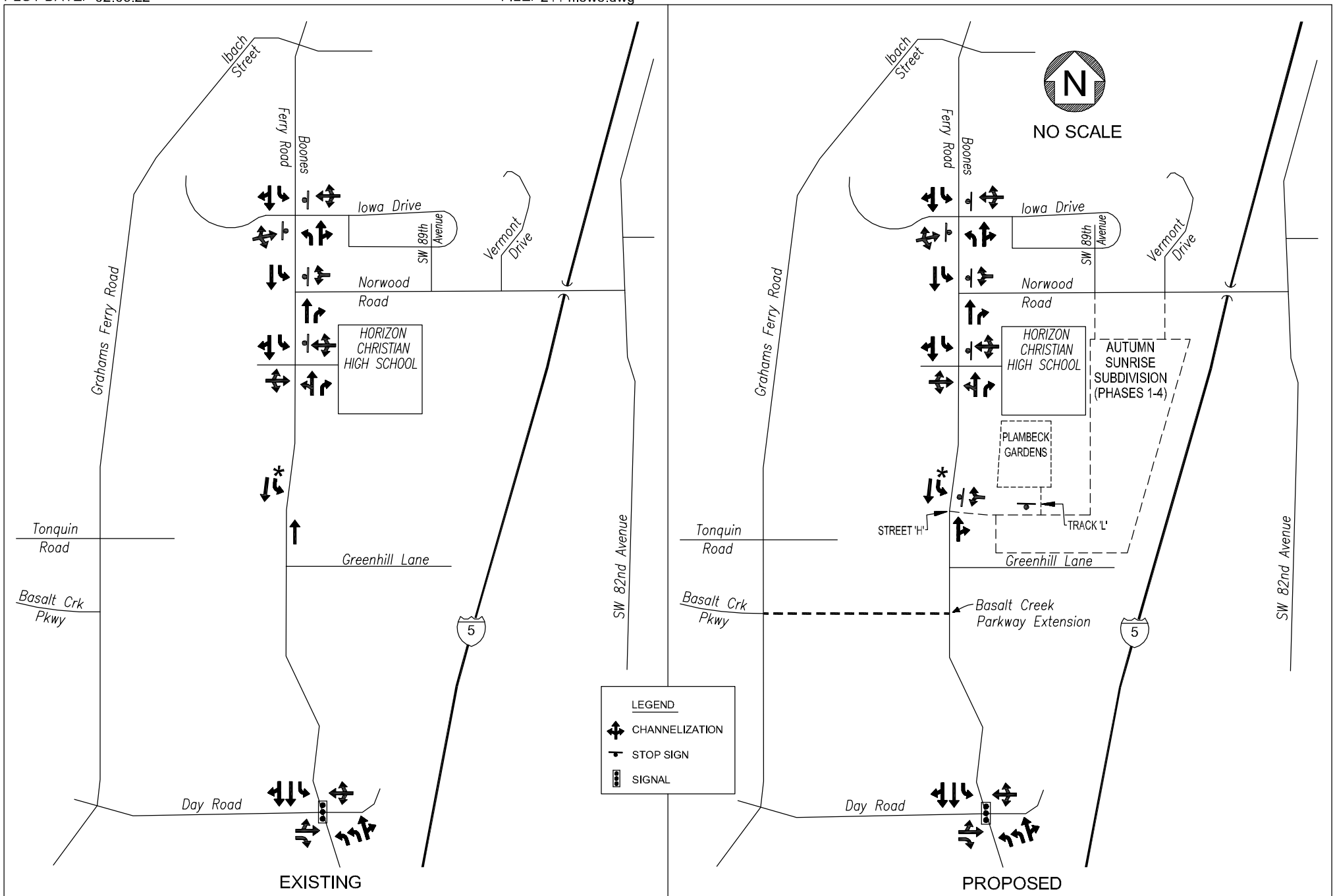

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PROJECT: 21-14

NOTES: Plambeck Gardens will take its access through the Autumn Sunrise subdivision. The Basalt Creek Parkway Extension will be constructed by Washington County.

* Two-Way Left Turn Lane

LANE CONFIGURATIONS AND TRAFFIC CONTROL
PLAMBECK GARDENS - CPAH

FIGURE C

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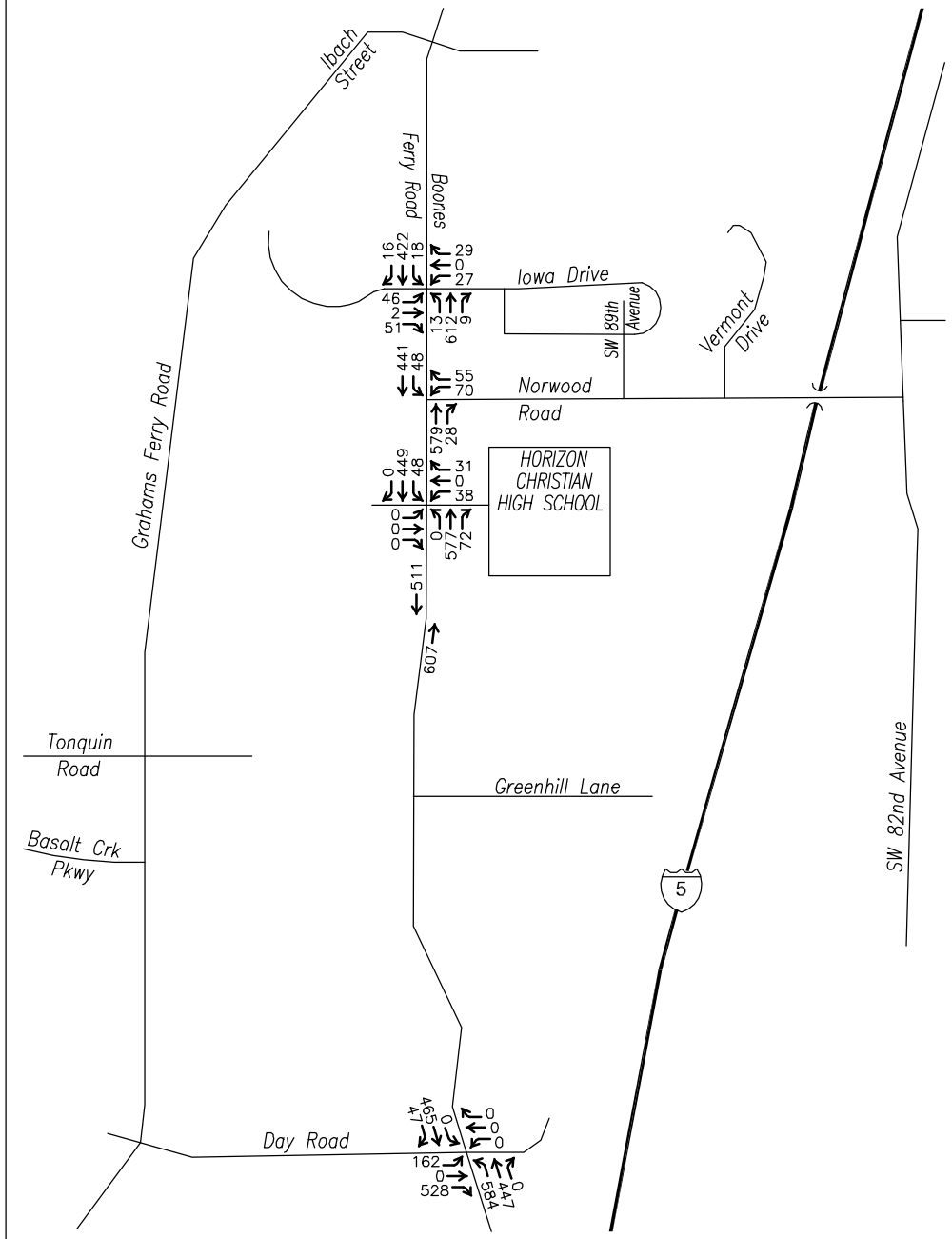
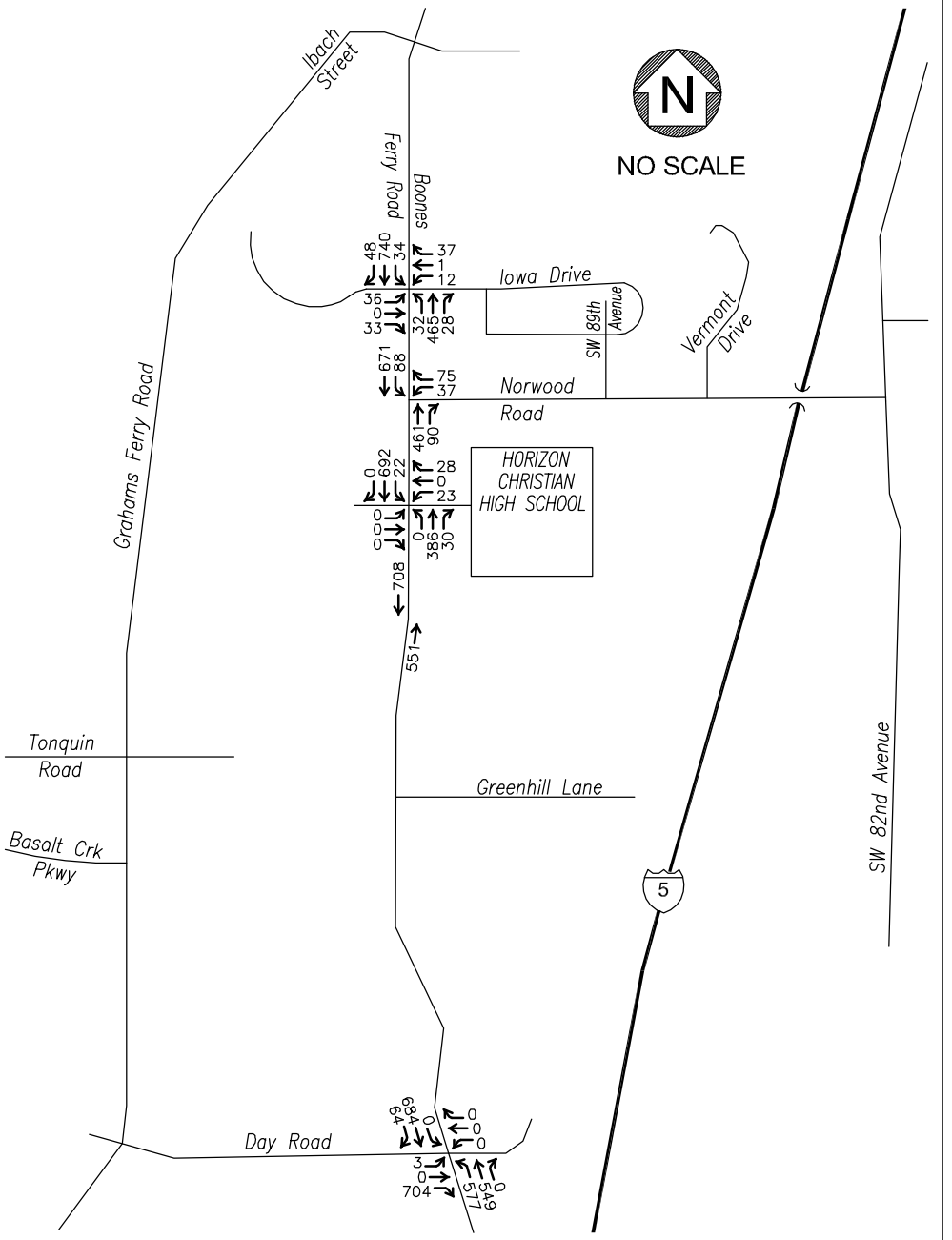


AM PEAK HOUR



PM PEAK HOUR

CHARBONNEAU ENGINEERING LLC

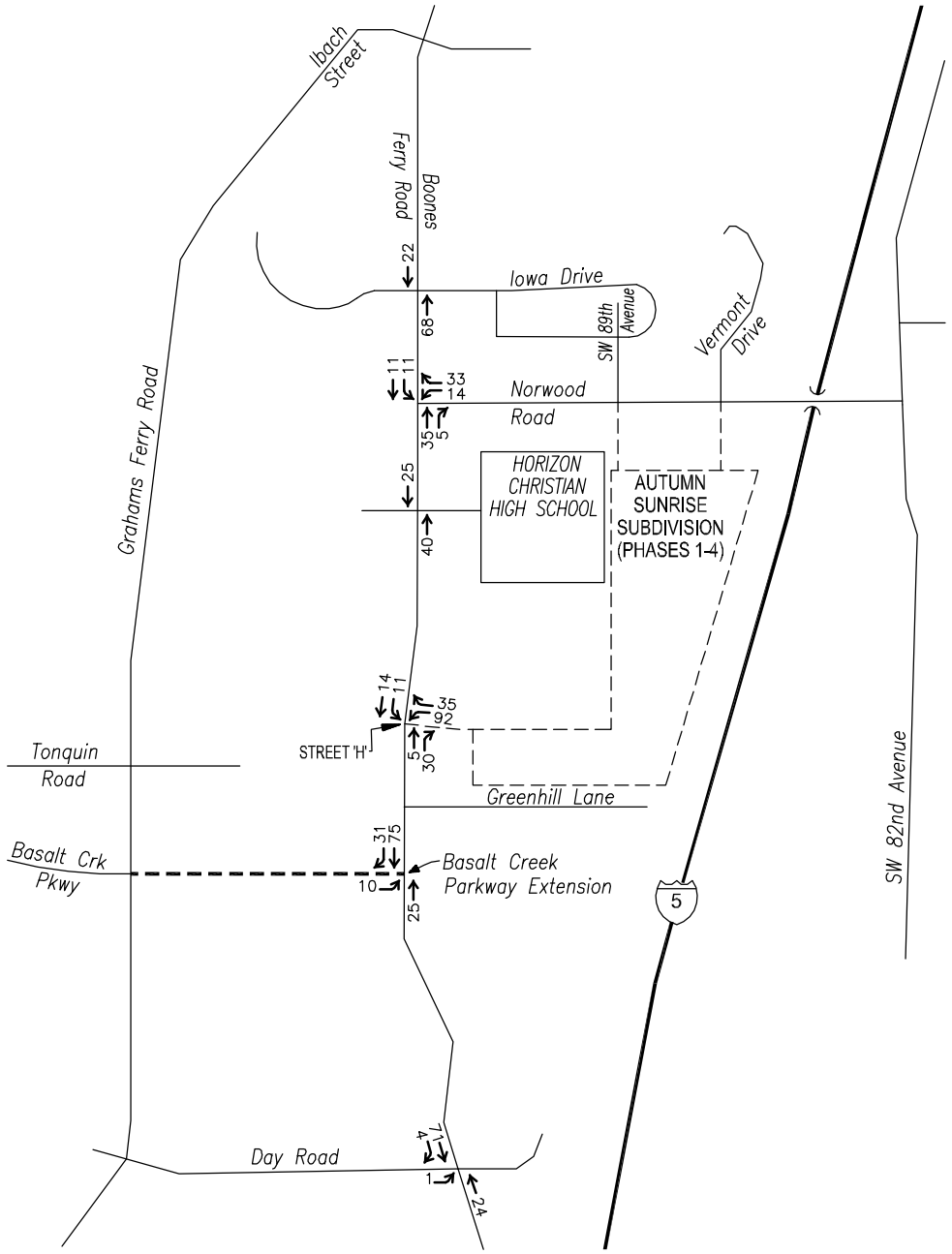
PROJECT: 21-14

NOTES: Year 2021 volumes were developed from turning movement counts (conducted in Sept. 2020 and March 2021) and adjustment factors developed by Lancaster-Mobley staff. Adjustments have not been applied to the Horizon HS traffic.

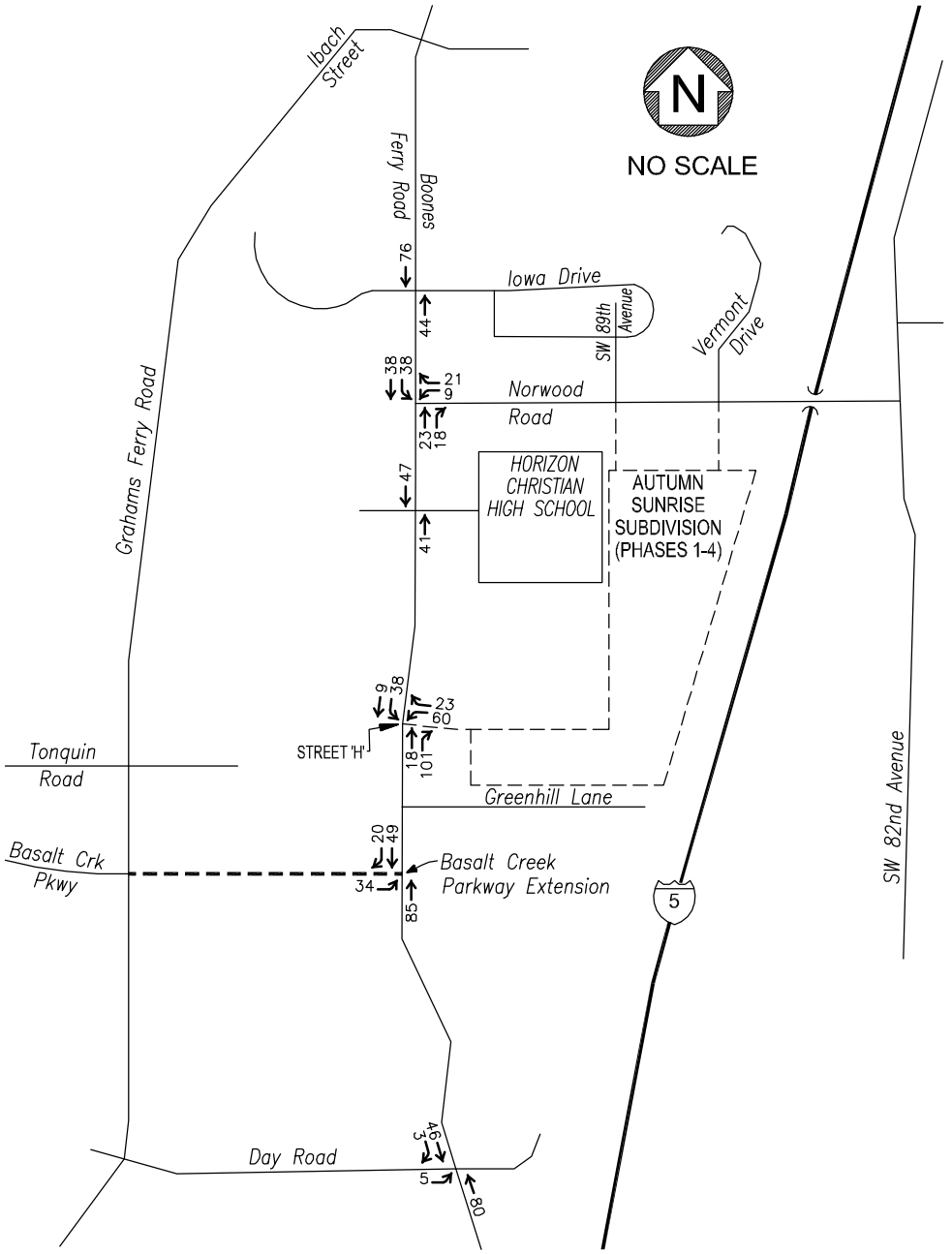
YEAR 2021 TRAFFIC
PLAMBECK GARDENS - CPAH

FIGURE 1

PLOT DATE: 01.25.22 FILE: 2114flow3.dwg



AM PEAK HOUR



PM PEAK HOUR

CHARBONNEAU ENGINEERING LLC

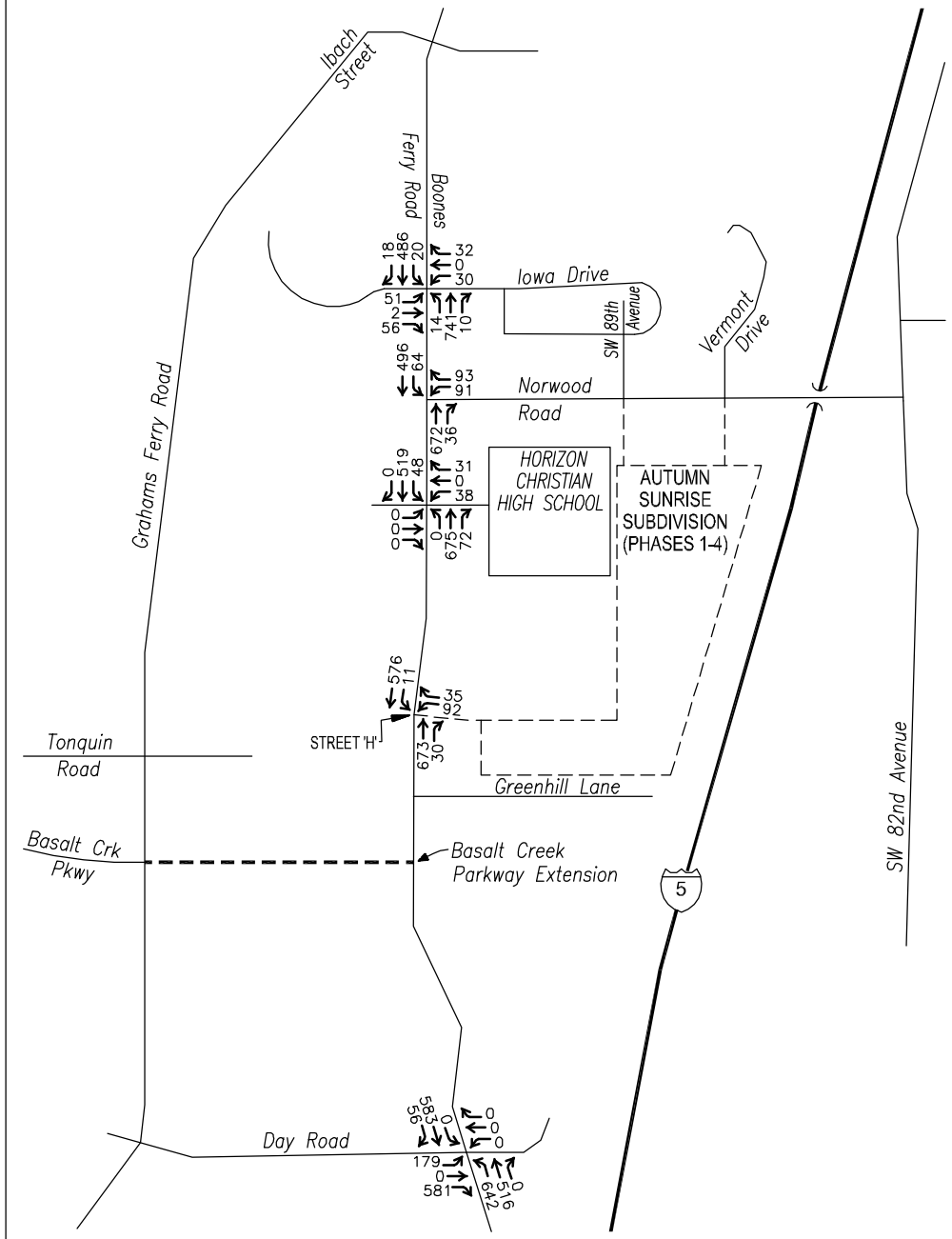
PROJECT: 21-14

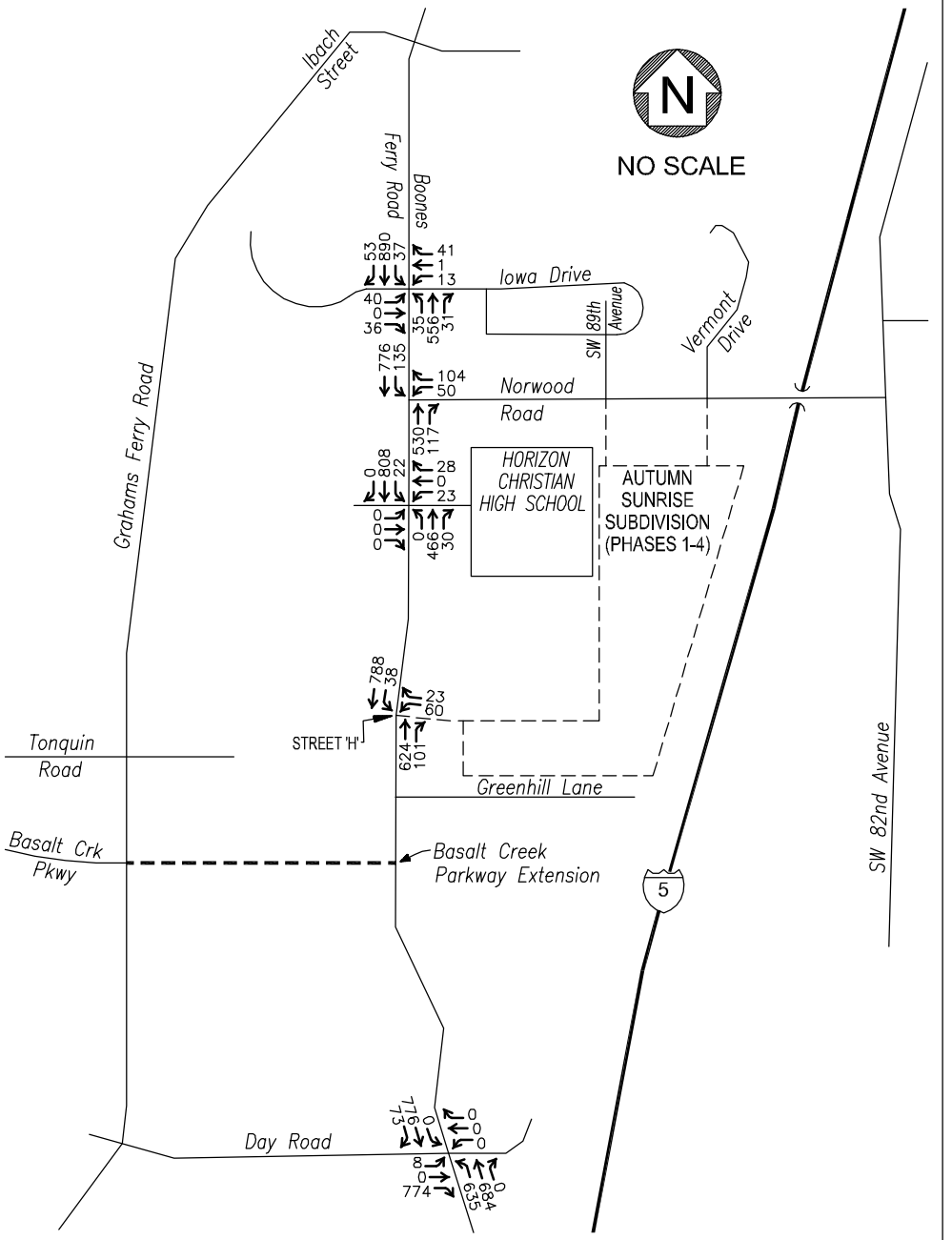
NOTES: In-process Traffic includes trips generated by Autumn Sunrise (Phases 1-4) and reflects the future Basalt Creek Pkwy Expansion.

IN-PROCESS TRAFFIC
PLAMBECK GARDENS - CPAH

FIGURE 2

PLOT DATE: 01.25.22 FILE: 2114flow3.dwg





CHARBONNEAU ENGINEERING LLC

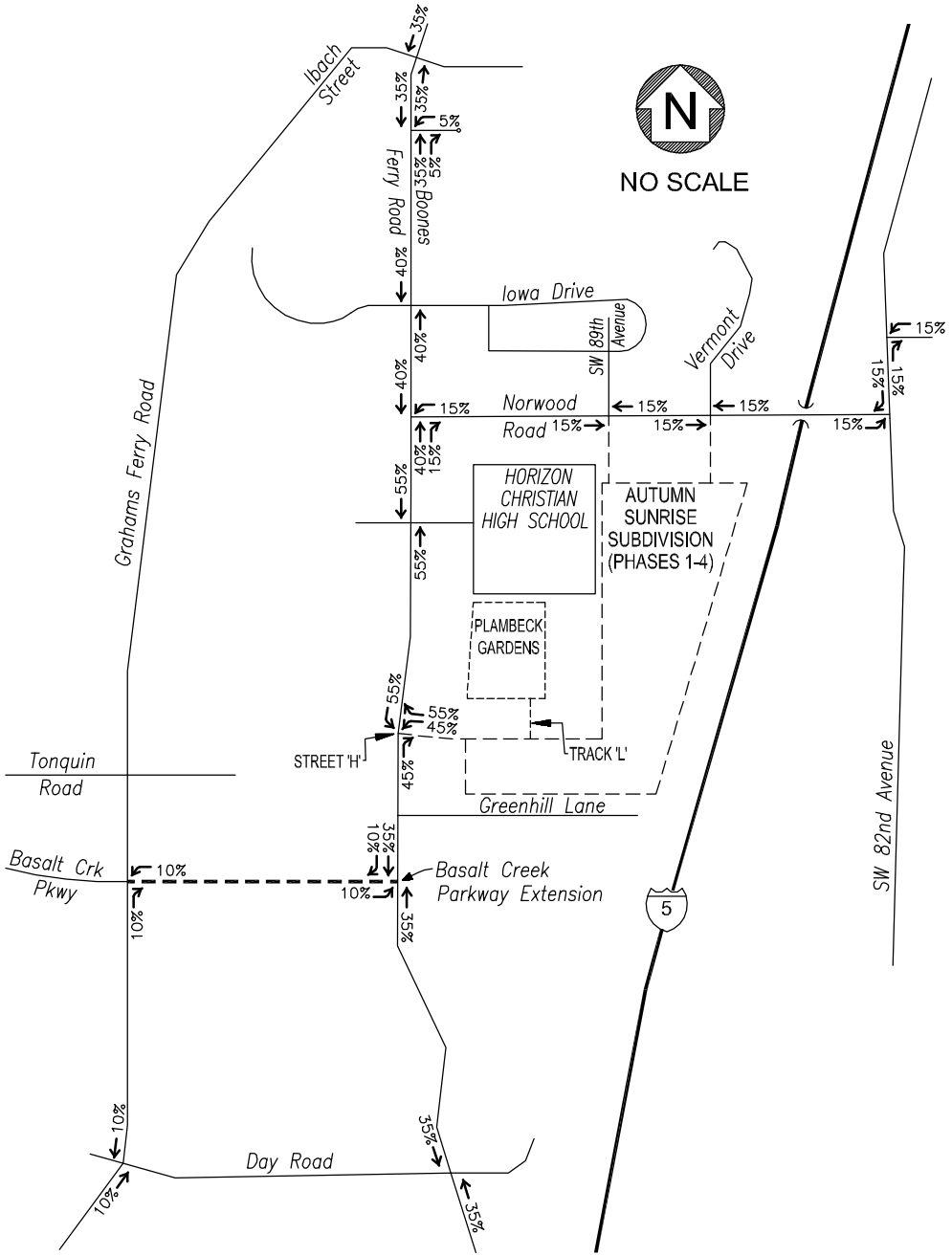
PROJECT: 21-14

NOTES: 2026 Background Traffic = Year 2021 Traffic + growth (2%/yr for 5 years) + In-process Traffic (Autumn Sunrise Phases 1-4 with Basalt Creek Pkwy Extension). Growth has not been added to the Horizon HS traffic.

2026 BACKGROUND TRAFFIC
PLAMBECK GARDENS - CPAH

FIGURE 3

PLOT DATE: 01.25.22 FILE: 2114flow3.dwg



CHARBONNEAU ENGINEERING LLC

PROJECT: 21-14

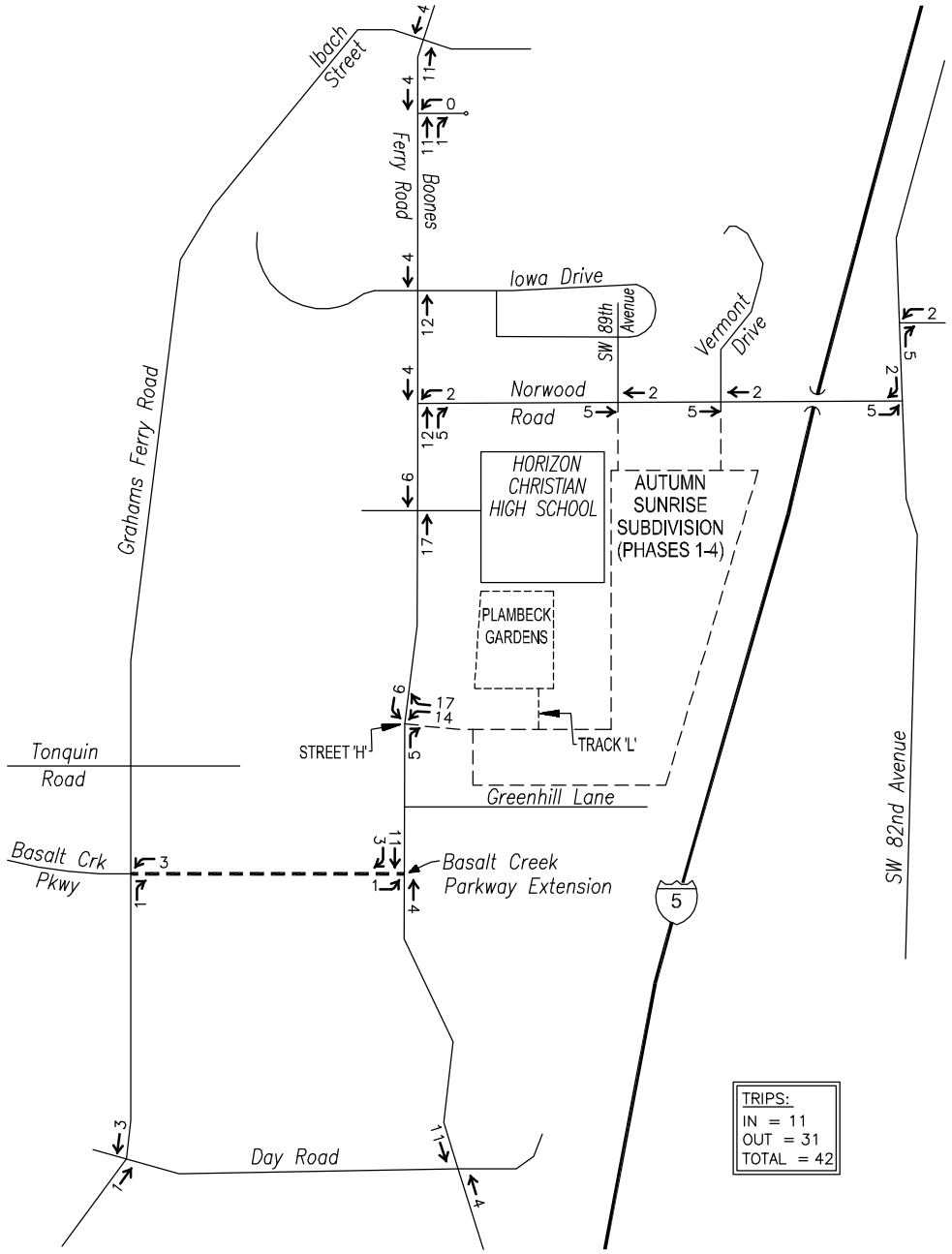
NOTES: The Plambeck Gardens site will take its access from the Autumn Sunrise access to Boones Ferry Road. Trip distribution for Plambeck Gardens is based on engineering judgment.

--- Basalt Creek Pkwy Ext. estimated completion is in Fall 2014.

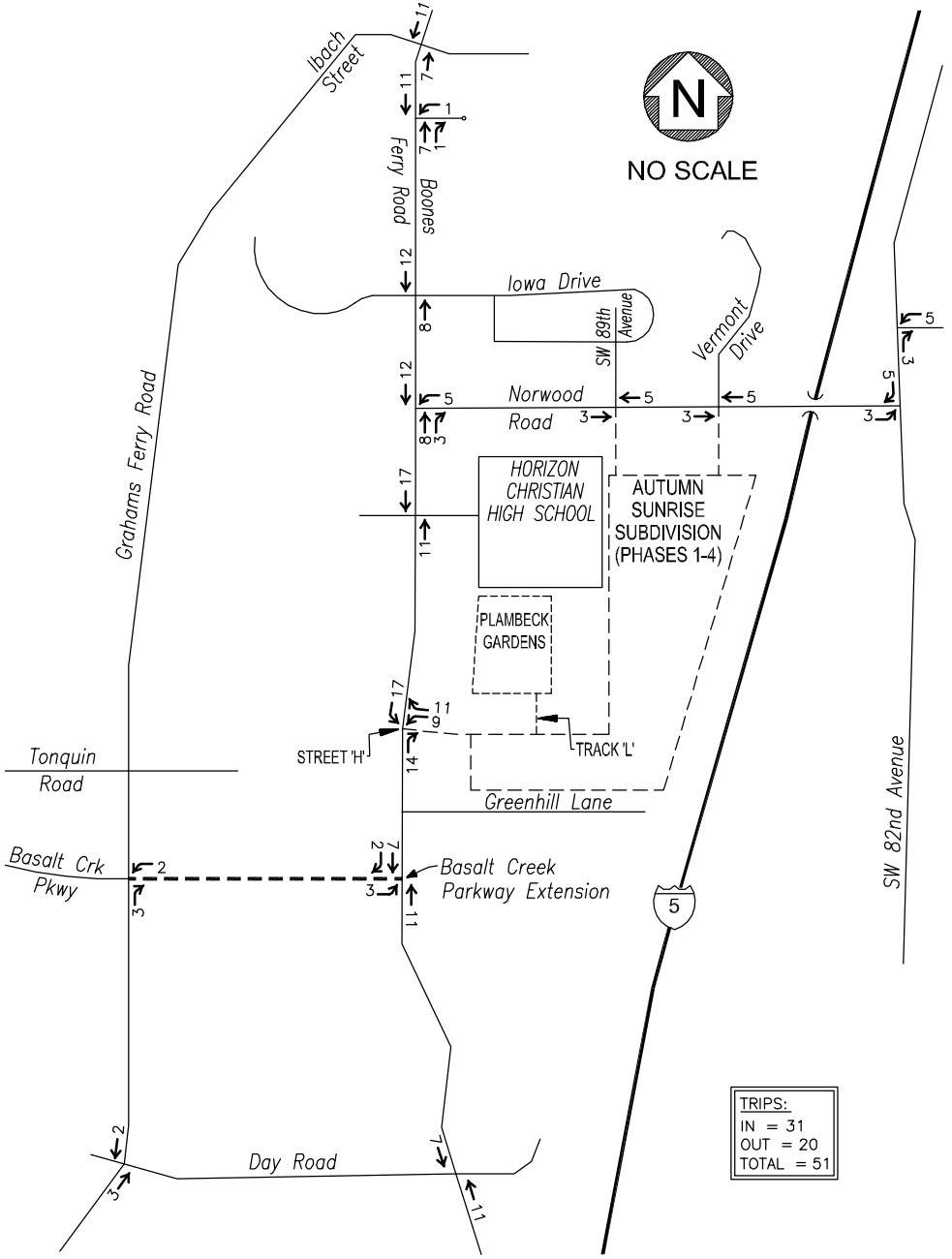
TRIP DISTRIBUTION
AM PEAK HOUR & PM PEAK HOUR
PLAMBECK GARDENS - CPAH

FIGURE 4

PLOT DATE: 01.25.22 FILE: 2114flow3.dwg



AM PEAK HOUR



PM PEAK HOUR

CHARBONNEAU ENGINEERING LLC

PROJECT: 21-14

NOTES: Plambeck Gardens' trip generation was calculated with Mid-Rise Housing (ITE 221) trip rates.

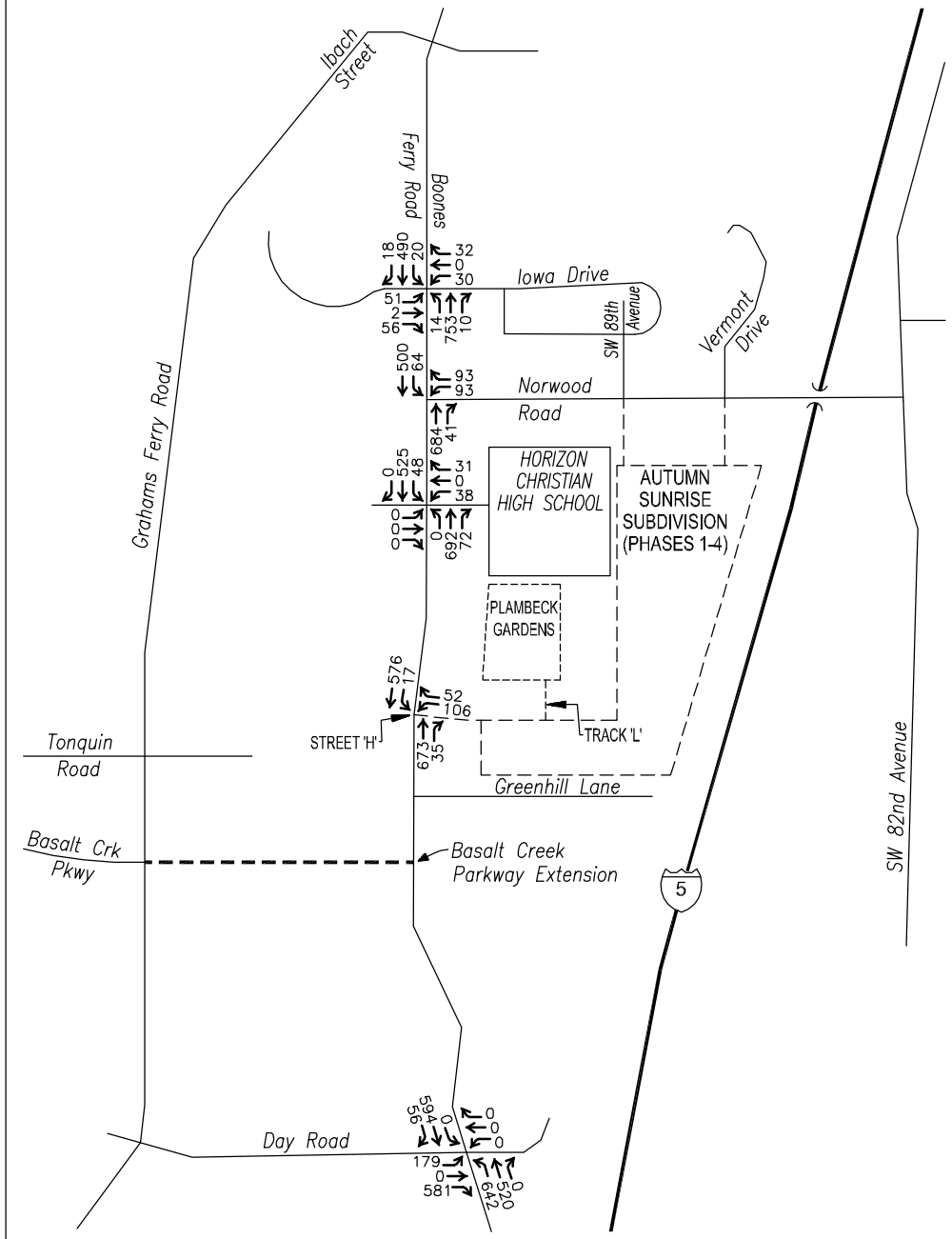
- - - Basalt Creek Pkwy Extension estimated completion is in Fall 2014.

TRIP ASSIGNMENT

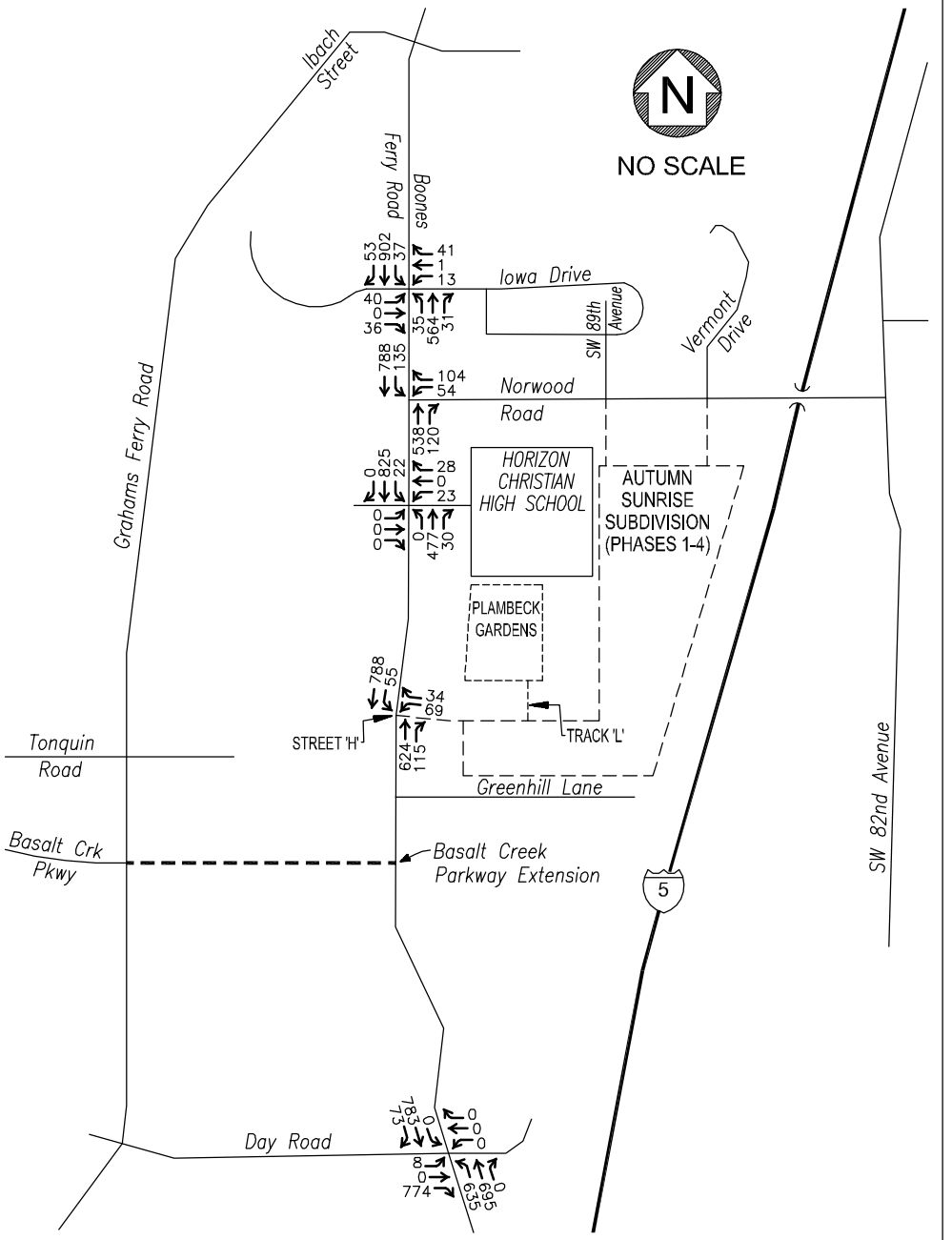
PLAMBECK GARDENS - CPAH

FIGURE 5

PLOT DATE: 01.25.22 FILE: 2114flow3.dwg



AM PEAK HOUR



PM PEAK HOUR

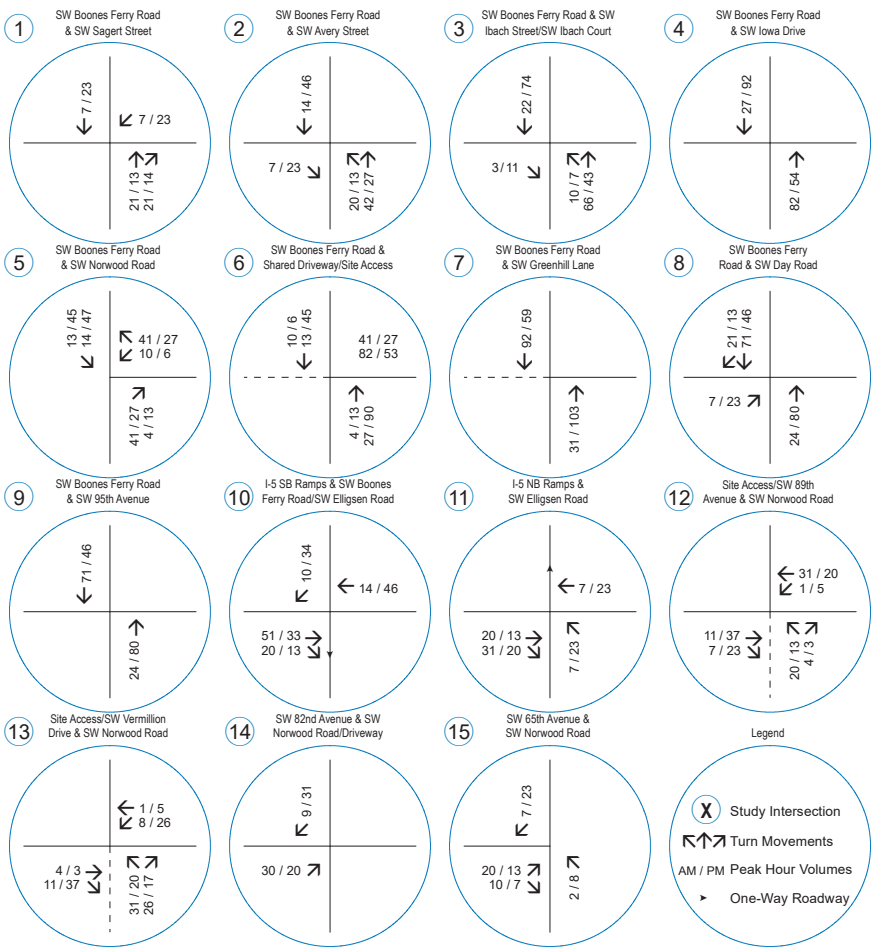
CHARBONNEAU ENGINEERING LLC

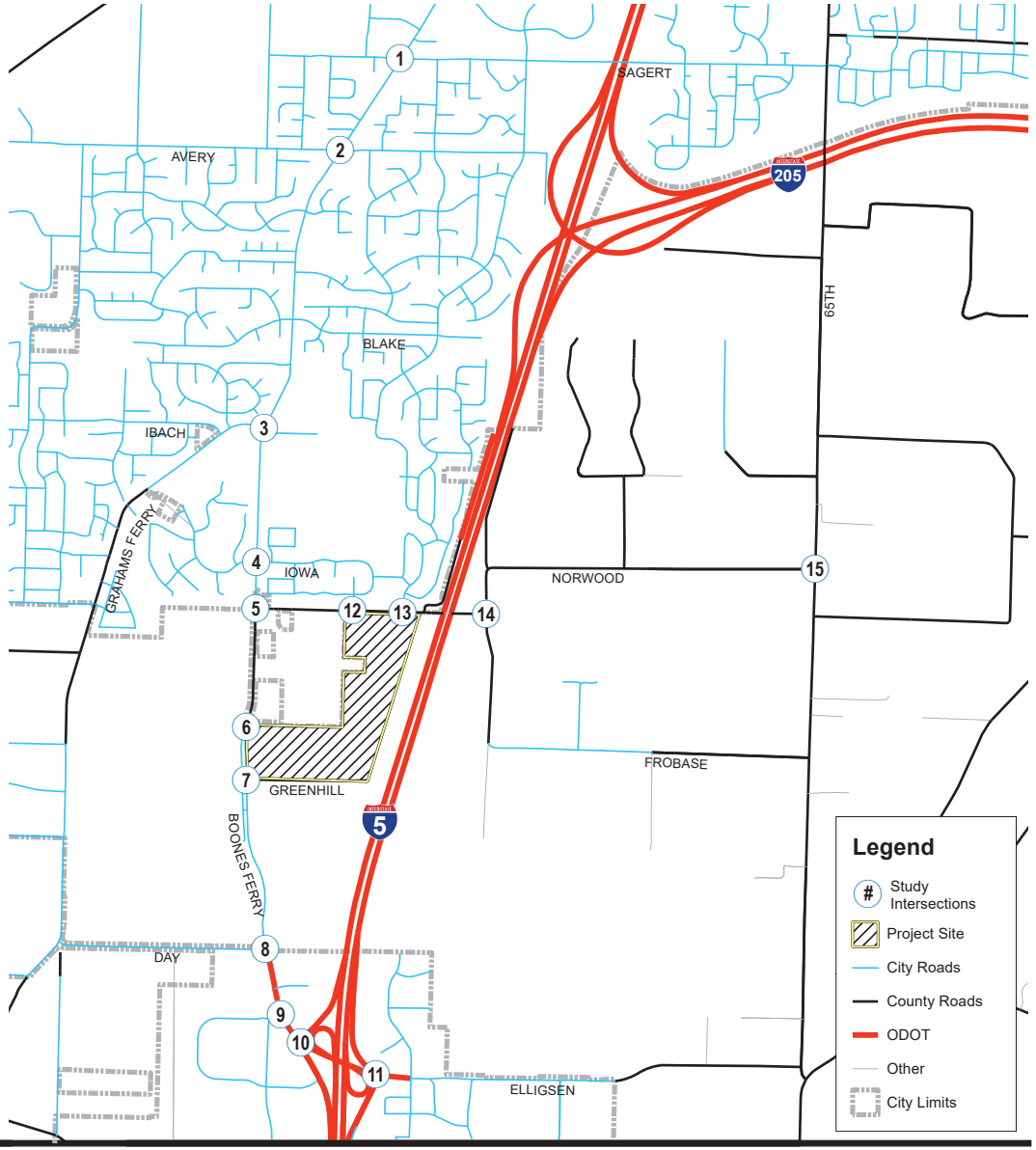
PROJECT: 21-14

NOTES: 2026 Total Traffic = 2026 Background Traffic + Plambeck Gardens Trip Assignment.

2026 TOTAL TRAFFIC
PLAMBECK GARDENS - CPAH

FIGURE 6





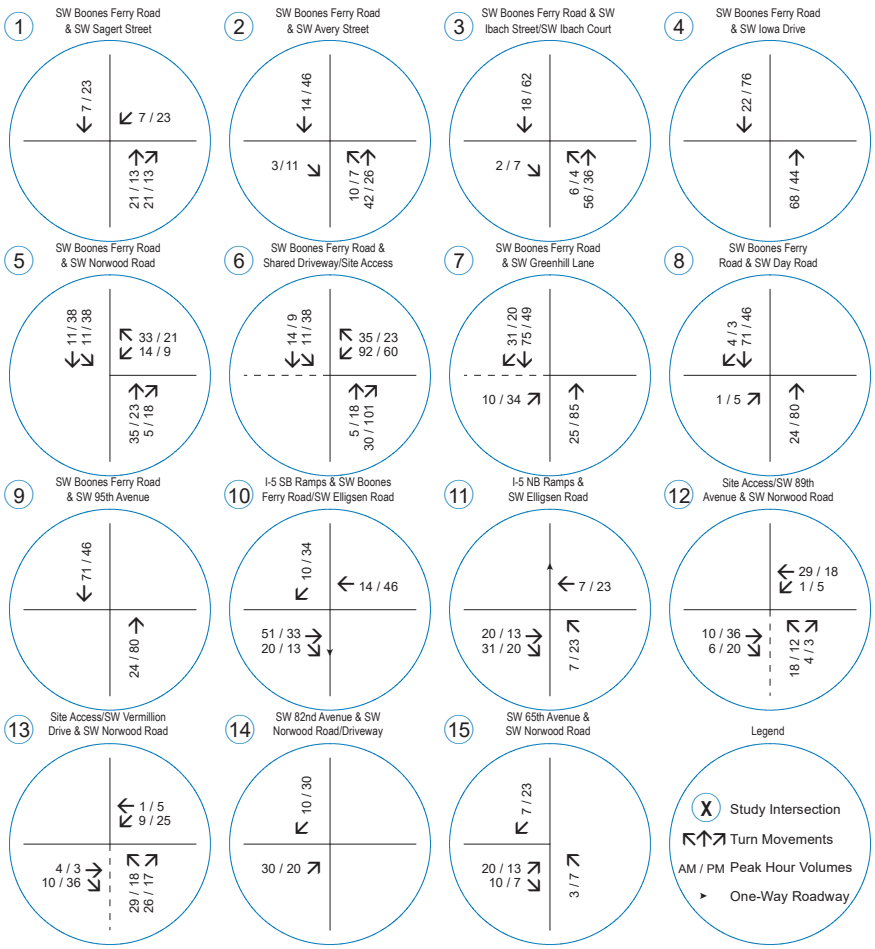
lancaster mobley

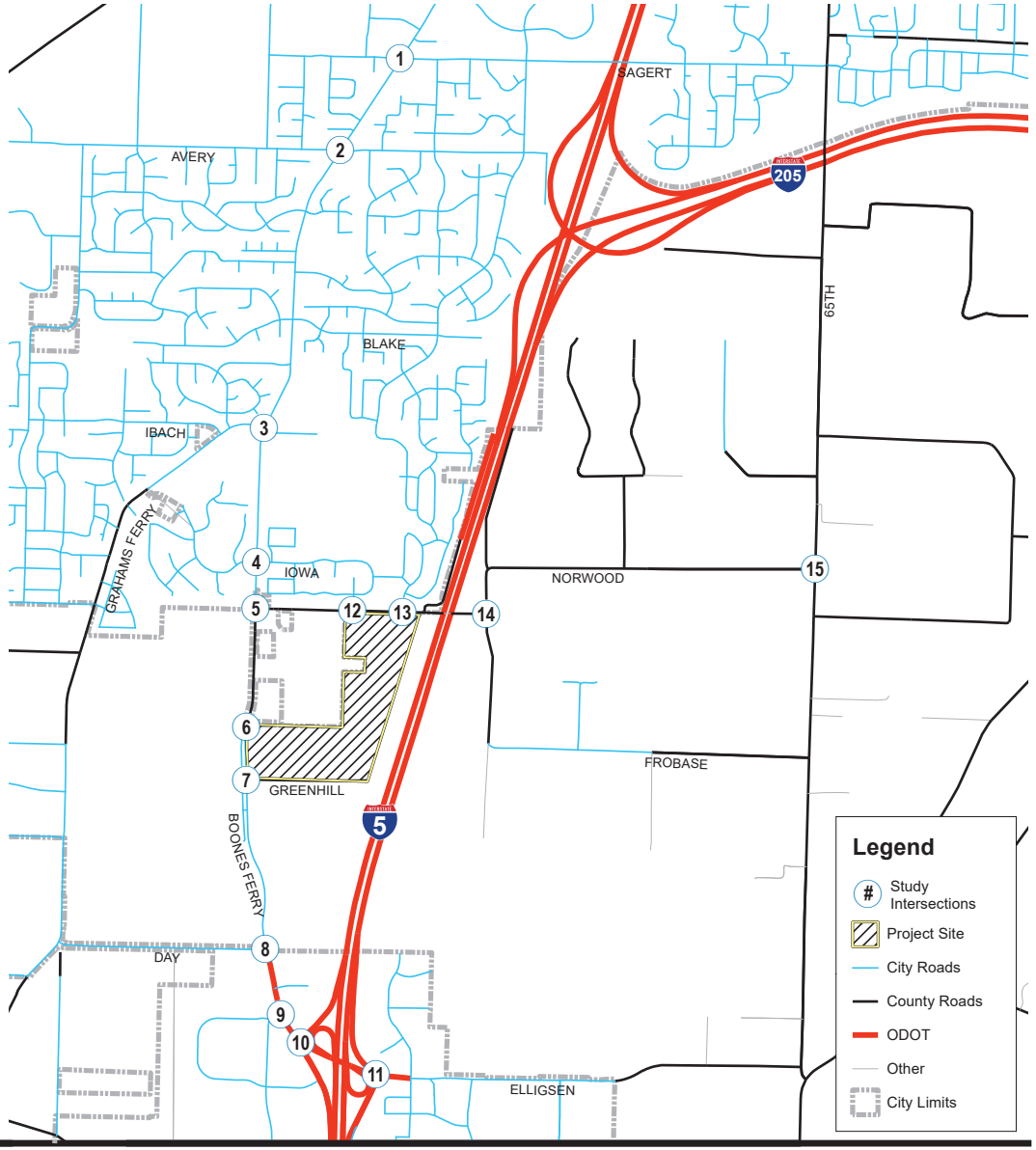
TRAFFIC VOLUMES

Trip Assignment - Phases 1-4

NOT TO SCALE

Figure 3B
Autumn Sunrise Subdivision TIS
6/24/2021





TRAFFIC VOLUMES

Trip Assignment - Phases 1-4 with Basalt Creek Parkway Extension

NOT TO SCALE

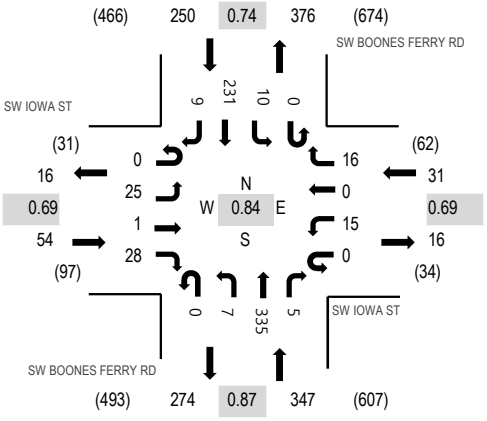
Figure 3C
Autumn Sunrise Subdivision TIS
6/24/2021

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

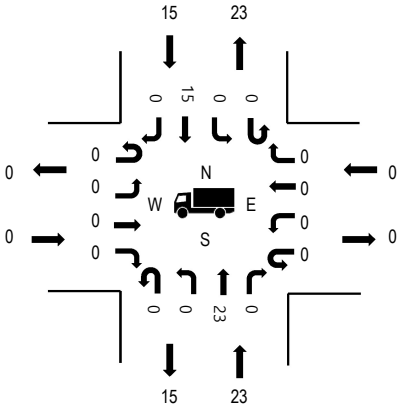
Location: 2 SW BOONES FERRY RD & SW IOWA ST AM
Date: Tuesday, September 29, 2020
Peak Hour: 07:15 AM - 08:15 AM
Peak 15-Minutes: 07:40 AM - 07:55 AM

Peak Hour

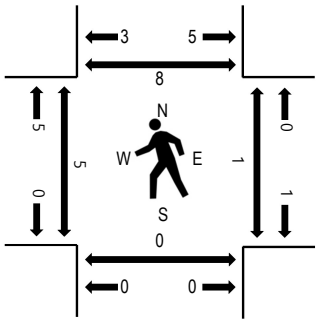
Motorized Vehicles



Heavy Vehicles



Pedestrians



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.69
WB	0.0%	0.69
NB	6.6%	0.87
SB	6.0%	0.74
All	5.6%	0.84

Traffic Counts - Motorized Vehicles

Interval Start Time	SW IOWA ST Eastbound				SW IOWA ST Westbound				SW BOONES FERRY RD Northbound				SW BOONES FERRY RD Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
7:00 AM	0	2	0	0	0	0	0	1	0	0	30	0	0	1	17	1	52	673
7:05 AM	0	3	0	1	0	0	0	2	0	0	27	2	0	0	19	0	54	675
7:10 AM	0	2	0	0	0	0	0	0	0	0	24	0	0	0	15	0	41	670
7:15 AM	0	1	0	3	0	1	0	1	0	1	30	1	0	1	15	0	54	682
7:20 AM	0	0	0	0	0	1	0	0	0	0	25	0	0	0	20	0	46	669
7:25 AM	0	0	0	3	0	1	0	2	0	0	37	0	0	0	19	1	63	662
7:30 AM	0	2	0	3	0	1	0	2	0	1	31	1	0	1	14	0	56	640
7:35 AM	0	4	0	3	0	1	0	2	0	0	30	0	0	1	15	0	56	623
7:40 AM	0	1	1	3	0	1	0	0	0	2	33	0	0	1	23	2	67	607
7:45 AM	0	5	0	4	0	3	0	0	0	0	30	0	0	1	28	0	71	591
7:50 AM	0	3	0	1	0	1	0	4	0	0	25	0	0	1	28	1	64	575
7:55 AM	0	3	0	2	0	2	0	2	0	1	15	0	0	2	19	3	49	551
8:00 AM	0	4	0	3	0	2	0	1	0	2	24	2	0	0	15	1	54	559
8:05 AM	0	0	0	1	0	1	0	0	0	0	29	1	0	1	16	0	49	
8:10 AM	0	2	0	2	0	0	0	2	0	0	26	0	0	1	19	1	53	
8:15 AM	0	2	0	1	0	1	0	3	0	1	16	0	0	4	13	0	41	
8:20 AM	0	2	0	1	0	0	0	1	0	0	18	0	0	0	17	0	39	
8:25 AM	0	2	0	3	0	2	0	2	0	1	19	0	0	0	12	0	41	
8:30 AM	0	2	0	2	0	1	0	1	0	0	19	1	0	1	12	0	39	
8:35 AM	0	0	0	2	0	1	0	1	0	1	19	1	0	1	14	0	40	
8:40 AM	0	2	0	2	0	1	0	1	0	1	25	0	0	0	15	4	51	
8:45 AM	0	5	0	2	0	1	0	5	0	0	21	0	0	1	17	3	55	
8:50 AM	0	2	0	1	0	0	0	4	0	1	13	1	0	1	16	1	40	
8:55 AM	0	3	0	1	0	0	0	3	0	1	16	2	0	2	29	0	57	
Count Total	0	52	1	44	0	22	0	40	0	13	582	12	0	21	427	18	1,232	
Peak Hour	0	25	1	28	0	15	0	16	0	7	335	5	0	10	231	9	682	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

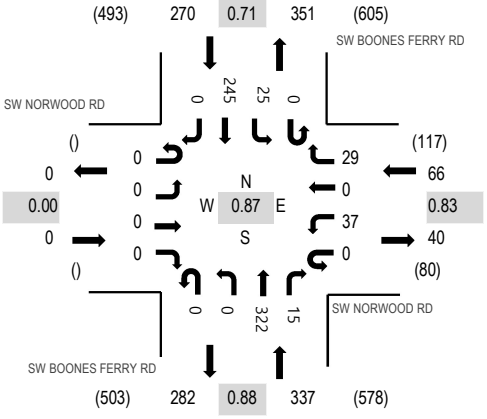
Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	0	3	0	0	3	7:00 AM						7:00 AM	0	0	1	0	1
7:05 AM	0	1	0	0	1	7:05 AM						7:05 AM	1	0	0	0	1
7:10 AM	0	1	0	2	3	7:10 AM						7:10 AM	0	0	1	0	1
7:15 AM	0	0	0	0	0	7:15 AM						7:15 AM	0	0	1	0	1
7:20 AM	0	3	0	0	3	7:20 AM						7:20 AM	0	0	0	2	2
7:25 AM	0	0	0	0	0	7:25 AM						7:25 AM	0	0	0	1	1
7:30 AM	0	2	0	3	5	7:30 AM						7:30 AM	1	0	0	0	1
7:35 AM	0	2	0	1	3	7:35 AM						7:35 AM	0	0	0	2	2
7:40 AM	0	3	0	2	5	7:40 AM						7:40 AM	0	0	0	1	1
7:45 AM	0	1	0	2	3	7:45 AM						7:45 AM	3	0	0	0	3
7:50 AM	0	2	0	1	3	7:50 AM						7:50 AM	0	0	0	0	0
7:55 AM	0	1	0	0	1	7:55 AM						7:55 AM	0	0	0	2	2
8:00 AM	0	2	0	2	4	8:00 AM						8:00 AM	0	0	0	0	0
8:05 AM	0	2	0	1	3	8:05 AM						8:05 AM	0	0	0	0	0
8:10 AM	0	5	0	3	8	8:10 AM						8:10 AM	1	0	0	0	1
8:15 AM	0	0	0	3	3	8:15 AM						8:15 AM	0	0	0	0	0
8:20 AM	0	1	0	0	1	8:20 AM						8:20 AM	0	0	0	0	0
8:25 AM	0	1	0	0	1	8:25 AM						8:25 AM	0	0	2	0	2
8:30 AM	0	1	0	1	2	8:30 AM						8:30 AM	0	0	0	0	0
8:35 AM	0	2	0	2	4	8:35 AM						8:35 AM	0	0	0	0	0
8:40 AM	0	2	0	1	3	8:40 AM						8:40 AM	0	0	0	0	0
8:45 AM	0	1	0	2	3	8:45 AM						8:45 AM	1	0	0	1	2
8:50 AM	0	1	0	3	4	8:50 AM						8:50 AM	0	0	0	1	1
8:55 AM	0	0	0	4	4	8:55 AM						8:55 AM	0	0	0	0	0
Count Total	0	37	0	33	70	Count Total						Count Total	7	0	5	10	22
Peak Hour	0	23	0	15	38	Peak Hour						Peak Hour	5	0	1	8	14

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

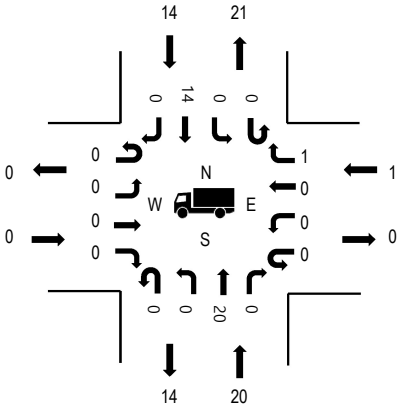
Location: 3 SW BOONES FERRY RD & SW NORWOOD RD AM
Date: Tuesday, September 29, 2020
Peak Hour: 07:10 AM - 08:10 AM
Peak 15-Minutes: 07:35 AM - 07:50 AM

Peak Hour

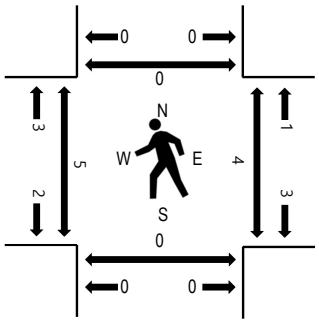
Motorized Vehicles



Heavy Vehicles



Pedestrians



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.00
WB	1.5%	0.83
NB	5.9%	0.88
SB	5.2%	0.71
All	5.2%	0.87

Traffic Counts - Motorized Vehicles

Interval Start Time	SW NORWOOD RD Eastbound				SW NORWOOD RD Westbound				SW BOONES FERRY RD Northbound				SW BOONES FERRY RD Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
7:00 AM	0	0	0	0	0	1	0	1	0	0	30	0	0	3	18	0	53	665
7:05 AM	0	0	0	0	0	1	0	2	0	0	24	1	0	1	14	0	43	657
7:10 AM	0	0	0	0	0	5	0	3	0	0	27	1	0	5	13	0	54	673
7:15 AM	0	0	0	0	0	1	0	3	0	0	25	0	0	3	21	0	53	665
7:20 AM	0	0	0	0	0	4	0	1	0	0	27	0	0	2	16	0	50	649
7:25 AM	0	0	0	0	0	3	0	3	0	0	34	0	0	1	20	0	61	637
7:30 AM	0	0	0	0	0	5	0	1	0	0	27	2	0	1	18	0	54	618
7:35 AM	0	0	0	0	0	1	0	4	0	0	32	1	0	2	17	0	57	603
7:40 AM	0	0	0	0	0	7	0	2	0	0	26	2	0	2	31	0	70	582
7:45 AM	0	0	0	0	0	1	0	2	0	0	29	3	0	1	31	0	67	568
7:50 AM	0	0	0	0	0	2	0	3	0	0	18	1	0	3	28	0	55	538
7:55 AM	0	0	0	0	0	2	0	2	0	0	24	0	0	3	17	0	48	521
8:00 AM	0	0	0	0	0	2	0	2	0	0	18	3	0	2	18	0	45	523
8:05 AM	0	0	0	0	0	4	0	3	0	0	35	2	0	0	15	0	59	
8:10 AM	0	0	0	0	0	2	0	4	0	0	16	2	0	2	20	0	46	
8:15 AM	0	0	0	0	0	3	0	2	0	0	11	3	0	1	17	0	37	
8:20 AM	0	0	0	0	0	3	0	2	0	0	19	0	0	4	10	0	38	
8:25 AM	0	0	0	0	0	3	0	4	0	0	19	1	0	1	14	0	42	
8:30 AM	0	0	0	0	0	2	0	3	0	0	14	2	0	2	16	0	39	
8:35 AM	0	0	0	0	0	1	0	3	0	0	14	1	0	3	14	0	36	
8:40 AM	0	0	0	0	0	2	0	3	0	0	29	2	0	1	19	0	56	
8:45 AM	0	0	0	0	0	1	0	0	0	0	18	2	0	1	15	0	37	
8:50 AM	0	0	0	0	0	2	0	3	0	0	14	2	0	2	15	0	38	
8:55 AM	0	0	0	0	0	1	0	2	0	0	17	0	0	3	27	0	50	
Count Total	0	0	0	0	0	59	0	58	0	0	547	31	0	49	444	0	1,188	
Peak Hour	0	0	0	0	0	37	0	29	0	0	322	15	0	25	245	0	673	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

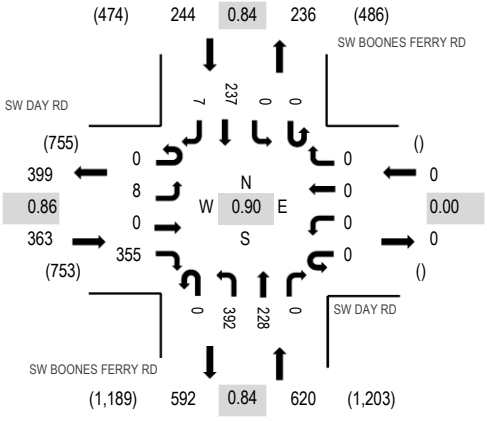
Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	0	2	1	0	3	7:00 AM						7:00 AM	1	0	0	0	1
7:05 AM	0	1	0	0	1	7:05 AM						7:05 AM	0	0	0	0	0
7:10 AM	0	1	0	2	3	7:10 AM						7:10 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0	7:15 AM						7:15 AM	0	0	1	0	1
7:20 AM	0	1	1	0	2	7:20 AM						7:20 AM	0	0	0	0	0
7:25 AM	0	1	0	1	2	7:25 AM						7:25 AM	1	0	0	0	1
7:30 AM	0	1	0	2	3	7:30 AM						7:30 AM	1	0	0	0	1
7:35 AM	0	3	0	2	5	7:35 AM						7:35 AM	1	0	1	0	2
7:40 AM	0	2	0	2	4	7:40 AM						7:40 AM	1	0	1	0	2
7:45 AM	0	1	0	2	3	7:45 AM						7:45 AM	0	0	1	0	1
7:50 AM	0	2	0	0	2	7:50 AM						7:50 AM	0	0	0	0	0
7:55 AM	0	3	0	1	4	7:55 AM						7:55 AM	0	0	0	0	0
8:00 AM	0	2	0	1	3	8:00 AM						8:00 AM	0	0	0	0	0
8:05 AM	0	3	0	1	4	8:05 AM						8:05 AM	1	0	0	0	1
8:10 AM	0	3	0	3	6	8:10 AM						8:10 AM	0	0	0	0	0
8:15 AM	0	0	0	3	3	8:15 AM						8:15 AM	0	0	0	0	0
8:20 AM	0	2	0	0	2	8:20 AM						8:20 AM	0	0	0	0	0
8:25 AM	0	1	0	0	1	8:25 AM						8:25 AM	2	0	1	0	3
8:30 AM	0	1	0	2	3	8:30 AM						8:30 AM	0	0	0	0	0
8:35 AM	0	1	1	1	3	8:35 AM						8:35 AM	0	0	0	0	0
8:40 AM	0	1	0	1	2	8:40 AM						8:40 AM	0	0	0	0	0
8:45 AM	0	1	0	2	3	8:45 AM						8:45 AM	1	0	0	0	1
8:50 AM	0	1	0	3	4	8:50 AM						8:50 AM	0	0	0	0	0
8:55 AM	0	0	0	4	4	8:55 AM						8:55 AM	0	0	0	0	0
Count Total	0	34	3	33	70	Count Total						Count Total	9	0	5	0	14
Peak Hour	0	20	1	14	35	Peak Hour						Peak Hour	5	0	4	0	9

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

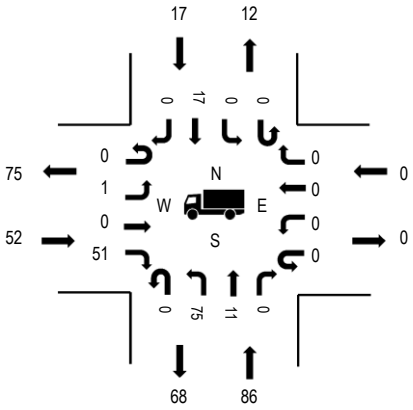
Location: 1 SW BOONES FERRY RD & SW DAY RD AM
Date: Tuesday, March 30, 2021
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:20 AM - 08:35 AM

Peak Hour

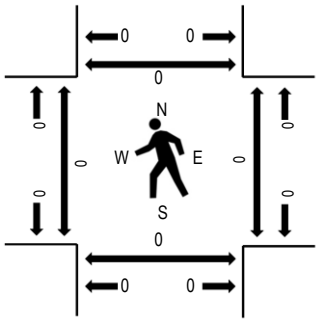
Motorized Vehicles



Heavy Vehicles



Pedestrians



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	14.3%	0.86
WB	0.0%	0.00
NB	13.9%	0.84
SB	7.0%	0.84
All	12.6%	0.90

Traffic Counts - Motorized Vehicles

Interval Start Time	SW DAY RD Eastbound				SW DAY RD Westbound				SW BOONES FERRY RD Northbound				SW BOONES FERRY RD Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
7:00 AM	0	2	0	34	0	0	0	0	0	33	22	0	0	0	21	1	113	1,203
7:05 AM	0	3	0	31	0	0	0	0	0	16	15	0	0	0	18	4	87	1,183
7:10 AM	0	2	0	29	0	0	0	0	0	42	23	0	0	0	22	1	119	1,179
7:15 AM	0	1	0	29	0	0	0	0	0	28	21	0	0	0	24	1	104	1,154
7:20 AM	0	0	0	24	0	0	0	0	0	21	23	0	0	0	20	4	92	1,135
7:25 AM	0	0	0	32	0	0	0	0	0	21	17	0	0	0	12	0	82	1,170
7:30 AM	0	0	0	33	0	0	0	0	0	34	34	0	0	0	25	1	127	1,197
7:35 AM	0	0	0	32	0	0	0	0	0	21	19	0	0	0	9	0	81	1,176
7:40 AM	0	1	0	36	0	0	0	0	0	35	23	0	0	0	16	1	112	1,210
7:45 AM	0	0	0	42	0	0	0	0	0	31	15	0	0	0	18	0	106	1,204
7:50 AM	0	0	0	34	0	0	0	0	0	24	18	0	0	0	21	0	97	1,212
7:55 AM	0	0	0	25	0	0	0	0	0	36	11	0	0	0	10	1	83	1,196
8:00 AM	0	0	0	30	0	0	0	0	0	27	20	0	0	0	16	0	93	1,227
8:05 AM	0	1	0	20	0	0	0	0	0	37	14	0	0	0	11	0	83	
8:10 AM	0	1	0	29	0	0	0	0	0	34	12	0	0	0	18	0	94	
8:15 AM	0	0	0	20	0	0	0	0	0	22	16	0	0	0	26	1	85	
8:20 AM	0	0	0	35	0	0	0	0	0	56	14	0	0	0	22	0	127	
8:25 AM	0	2	0	29	0	0	0	0	0	32	24	0	0	0	21	1	109	
8:30 AM	0	1	0	22	0	0	0	0	0	29	29	0	0	0	24	1	106	
8:35 AM	0	0	0	39	0	0	0	0	0	26	24	0	0	0	26	0	115	
8:40 AM	0	0	0	30	0	0	0	0	0	30	24	0	0	0	20	2	106	
8:45 AM	0	1	0	37	0	0	0	0	0	38	21	0	0	0	17	0	114	
8:50 AM	0	0	0	27	0	0	0	0	0	27	14	0	0	0	13	0	81	
8:55 AM	0	2	0	37	0	0	0	0	0	34	16	0	0	0	23	2	114	
Count Total	0	17	0	736	0	0	0	0	0	734	469	0	0	0	453	21	2,430	
Peak Hour	0	8	0	355	0	0	0	0	0	392	228	0	0	0	237	7	1,227	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	8	4	0	3	15	7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0
7:05 AM	7	2	0	1	10	7:05 AM	0	0	0	0	0	7:05 AM	0	0	0	0	0
7:10 AM	2	6	0	1	9	7:10 AM	0	0	0	0	0	7:10 AM	0	0	0	0	0
7:15 AM	5	2	0	0	7	7:15 AM	0	0	0	0	0	7:15 AM	0	0	0	0	0
7:20 AM	3	5	0	3	11	7:20 AM	0	0	0	0	0	7:20 AM	0	0	0	0	0
7:25 AM	6	4	0	0	10	7:25 AM	0	0	0	0	0	7:25 AM	0	0	0	0	0
7:30 AM	5	11	0	2	18	7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	0	0
7:35 AM	6	7	0	0	13	7:35 AM	0	0	0	0	0	7:35 AM	0	0	0	0	0
7:40 AM	3	7	0	0	10	7:40 AM	0	0	0	0	0	7:40 AM	0	0	0	0	0
7:45 AM	10	8	0	0	18	7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	0	0
7:50 AM	7	2	0	2	11	7:50 AM	0	0	0	0	0	7:50 AM	0	0	0	0	0
7:55 AM	2	3	0	1	6	7:55 AM	0	0	0	0	0	7:55 AM	0	0	0	0	0
8:00 AM	5	5	0	2	12	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0
8:05 AM	2	2	0	3	7	8:05 AM	0	0	0	0	0	8:05 AM	0	0	0	0	0
8:10 AM	5	6	0	2	13	8:10 AM	0	0	0	0	0	8:10 AM	0	0	0	0	0
8:15 AM	2	7	0	2	11	8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	0	0
8:20 AM	7	9	0	1	17	8:20 AM	0	0	0	0	0	8:20 AM	0	0	0	0	0
8:25 AM	6	15	0	1	22	8:25 AM	0	0	0	0	0	8:25 AM	0	0	0	0	0
8:30 AM	4	9	0	3	16	8:30 AM	0	0	0	0	0	8:30 AM	0	0	0	0	0
8:35 AM	1	6	0	1	8	8:35 AM	0	0	0	0	0	8:35 AM	0	0	0	0	0
8:40 AM	2	1	0	0	3	8:40 AM	0	0	0	0	0	8:40 AM	0	0	0	0	0
8:45 AM	6	7	0	2	15	8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	0	0
8:50 AM	8	10	0	0	18	8:50 AM	0	0	0	0	0	8:50 AM	0	0	0	0	0
8:55 AM	4	9	0	0	13	8:55 AM	0	0	0	0	0	8:55 AM	0	0	0	0	0
Count Total	116	147	0	30	293	Count Total	0	0	0	0	0	Count Total	0	0	0	0	0
Peak Hour	52	86	0	17	155	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0

ALL TRAFFIC DATA SERVICES
(303) 216-2439
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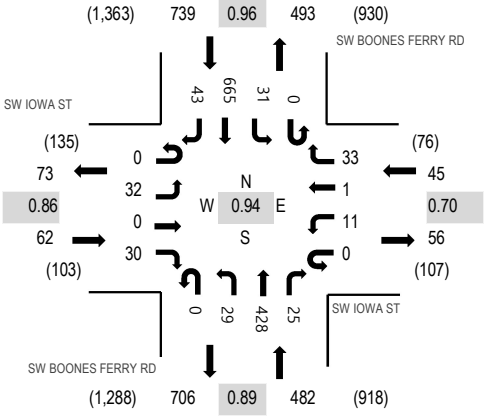
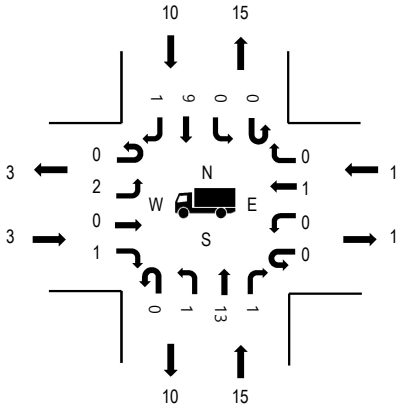
Location: 2 SW BOONES FERRY RD & SW IOWA ST PM
Date: Tuesday, September 29, 2020
Peak Hour: 04:35 PM - 05:35 PM
Peak 15-Minutes: 04:45 PM - 05:00 PM

Peak Hour

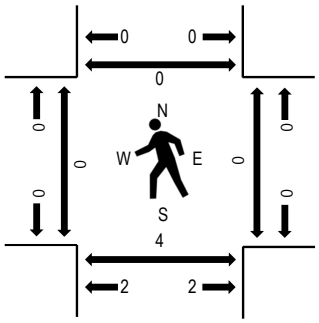
Motorized Vehicles



Heavy Vehicles



Pedestrians



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	4.8%	0.86
WB	2.2%	0.70
NB	3.1%	0.89
SB	1.4%	0.96
All	2.2%	0.94

Traffic Counts - Motorized Vehicles

Interval Start Time	SW IOWA ST Eastbound				SW IOWA ST Westbound				SW BOONES FERRY RD Northbound				SW BOONES FERRY RD Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
4:00 PM	0	2	0	2	0	0	0	2	0	3	31	0	0	2	48	1	91	1,278
4:05 PM	0	0	0	1	0	2	0	4	0	4	30	0	0	2	41	4	88	1,292
4:10 PM	0	4	0	0	0	1	0	0	0	1	35	1	0	2	51	1	96	1,313
4:15 PM	0	3	0	3	0	1	0	0	0	4	38	2	0	2	63	6	122	1,325
4:20 PM	0	3	0	1	0	1	0	3	0	1	30	6	0	3	48	2	98	1,307
4:25 PM	0	2	0	0	0	1	0	2	0	2	37	1	0	6	50	3	104	1,319
4:30 PM	0	1	0	1	0	1	0	2	0	3	34	1	0	2	55	2	102	1,323
4:35 PM	0	5	0	3	0	2	0	5	0	3	39	1	0	1	55	2	116	1,328
4:40 PM	0	1	0	1	0	0	0	1	0	0	39	2	0	3	56	6	109	1,311
4:45 PM	0	4	0	2	0	1	0	2	0	2	38	3	0	1	56	2	111	1,306
4:50 PM	0	2	0	1	0	0	1	4	0	3	46	4	0	4	55	8	128	1,281
4:55 PM	0	2	0	1	0	4	0	4	0	3	28	3	0	2	61	5	113	1,230
5:00 PM	0	3	0	2	0	0	0	1	0	1	37	2	0	3	55	1	105	1,182
5:05 PM	0	2	0	4	0	0	0	3	0	4	30	2	0	4	58	2	109	
5:10 PM	0	4	0	3	0	0	0	0	0	1	36	2	0	3	53	6	108	
5:15 PM	0	2	0	2	0	1	0	3	0	3	31	0	0	2	57	3	104	
5:20 PM	0	3	0	3	0	1	0	3	0	4	37	3	0	3	50	3	110	
5:25 PM	0	2	0	6	0	0	0	3	0	2	30	2	0	3	58	2	108	
5:30 PM	0	2	0	2	0	2	0	4	0	3	37	1	0	2	51	3	107	
5:35 PM	0	2	0	2	0	0	0	1	0	4	29	2	0	5	50	4	99	
5:40 PM	0	0	0	3	0	0	0	5	0	1	43	2	0	3	43	4	104	
5:45 PM	0	2	0	3	0	0	0	0	0	1	28	1	0	3	46	2	86	
5:50 PM	0	1	0	1	0	0	0	2	0	2	36	1	0	3	30	1	77	
5:55 PM	0	3	0	1	0	0	0	3	0	3	19	0	0	1	32	3	65	
Count Total	0	55	0	48	0	18	1	57	0	58	818	42	0	65	1,222	76	2,460	
Peak Hour	0	32	0	30	0	11	1	33	0	29	428	25	0	31	665	43	1,328	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	4	0	2	6	4:00 PM						4:00 PM	0	0	0	0	0
4:05 PM	0	1	0	0	1	4:05 PM						4:05 PM	0	0	0	0	0
4:10 PM	0	0	0	1	1	4:10 PM						4:10 PM	0	0	0	0	0
4:15 PM	1	1	0	2	4	4:15 PM						4:15 PM	0	0	0	0	0
4:20 PM	0	3	0	1	4	4:20 PM						4:20 PM	0	0	0	0	0
4:25 PM	0	2	0	2	4	4:25 PM						4:25 PM	1	0	0	0	1
4:30 PM	0	0	0	1	1	4:30 PM						4:30 PM	0	0	0	0	0
4:35 PM	0	4	0	0	4	4:35 PM						4:35 PM	0	0	0	0	0
4:40 PM	0	1	0	1	2	4:40 PM						4:40 PM	0	2	0	0	2
4:45 PM	0	2	0	2	4	4:45 PM						4:45 PM	0	0	0	0	0
4:50 PM	0	2	1	2	5	4:50 PM						4:50 PM	0	0	0	0	0
4:55 PM	0	2	0	2	4	4:55 PM						4:55 PM	0	0	0	0	0
5:00 PM	1	1	0	0	2	5:00 PM						5:00 PM	0	0	0	0	0
5:05 PM	1	0	0	0	1	5:05 PM						5:05 PM	0	2	0	0	2
5:10 PM	1	1	0	0	2	5:10 PM						5:10 PM	0	0	0	0	0
5:15 PM	0	0	0	1	1	5:15 PM						5:15 PM	0	0	0	0	0
5:20 PM	0	0	0	0	0	5:20 PM						5:20 PM	0	0	0	0	0
5:25 PM	0	1	0	1	2	5:25 PM						5:25 PM	0	0	0	0	0
5:30 PM	0	1	0	1	2	5:30 PM						5:30 PM	0	0	0	0	0
5:35 PM	0	0	0	1	1	5:35 PM						5:35 PM	0	0	0	0	0
5:40 PM	0	2	0	2	4	5:40 PM						5:40 PM	1	0	0	0	1
5:45 PM	0	1	0	0	1	5:45 PM						5:45 PM	0	0	0	1	1
5:50 PM	0	2	0	0	2	5:50 PM						5:50 PM	0	0	0	0	0
5:55 PM	0	0	0	0	0	5:55 PM						5:55 PM	0	0	1	0	1
Count Total	4	31	1	22	58	Count Total						Count Total	2	4	1	1	8
Peak Hour	3	15	1	10	29	Peak Hour						Peak Hour	0	4	0	0	4

ALL TRAFFIC DATA SERVICES
(303) 216-2439
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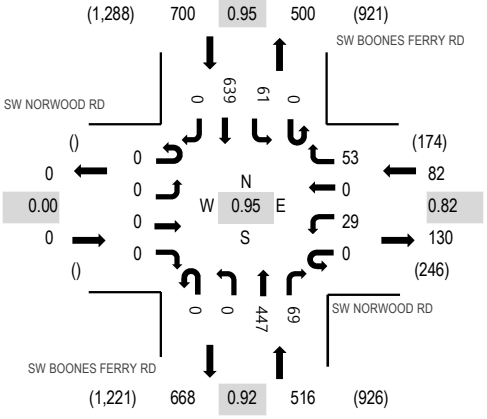
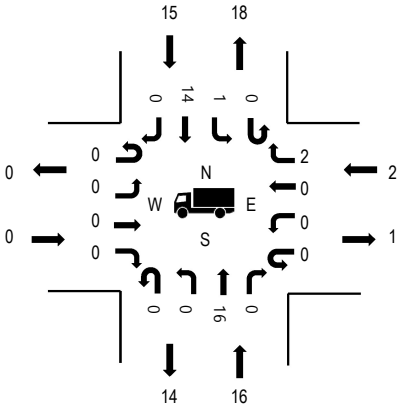
Location: 3 SW BOONES FERRY RD & SW NORWOOD RD PM
Date: Tuesday, September 29, 2020
Peak Hour: 04:10 PM - 05:10 PM
Peak 15-Minutes: 04:40 PM - 04:55 PM

Peak Hour

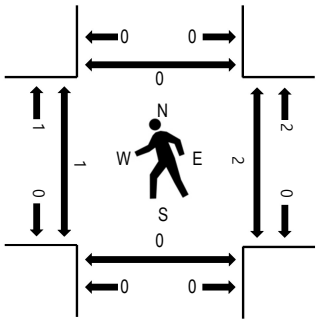
Motorized Vehicles



Heavy Vehicles



Pedestrians



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.00
WB	2.4%	0.82
NB	3.1%	0.92
SB	2.1%	0.95
All	2.5%	0.95

Traffic Counts - Motorized Vehicles

Interval Start Time	SW NORWOOD RD Eastbound				SW NORWOOD RD Westbound				SW BOONES FERRY RD Northbound				SW BOONES FERRY RD Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
4:00 PM	0	0	0	0	0	5	0	5	0	0	31	4	0	2	48	0	95	1,255
4:05 PM	0	0	0	0	0	4	0	4	0	0	26	4	0	7	34	0	79	1,272
4:10 PM	0	0	0	0	0	4	0	6	0	0	39	4	0	8	49	0	110	1,298
4:15 PM	0	0	0	0	0	3	0	3	0	0	41	7	0	9	63	0	126	1,282
4:20 PM	0	0	0	0	0	0	0	4	0	0	32	4	0	6	44	0	90	1,260
4:25 PM	0	0	0	0	0	2	0	3	0	0	40	3	0	5	44	0	97	1,286
4:30 PM	0	0	0	0	0	1	0	5	0	0	35	5	0	3	53	0	102	1,291
4:35 PM	0	0	0	0	0	2	0	5	0	0	36	5	0	4	55	0	107	1,291
4:40 PM	0	0	0	0	0	3	0	5	0	0	34	8	0	4	54	0	108	1,271
4:45 PM	0	0	0	0	0	3	0	5	0	0	49	6	0	2	59	0	124	1,261
4:50 PM	0	0	0	0	0	4	0	5	0	0	35	8	0	3	56	0	111	1,221
4:55 PM	0	0	0	0	0	1	0	5	0	0	30	3	0	5	62	0	106	1,183
5:00 PM	0	0	0	0	0	3	0	4	0	0	38	12	0	6	49	0	112	1,133
5:05 PM	0	0	0	0	0	3	0	3	0	0	38	4	0	6	51	0	105	
5:10 PM	0	0	0	0	0	2	0	5	0	0	26	4	0	5	52	0	94	
5:15 PM	0	0	0	0	0	4	0	6	0	0	29	6	0	4	55	0	104	
5:20 PM	0	0	0	0	0	4	0	6	0	0	39	5	0	6	56	0	116	
5:25 PM	0	0	0	0	0	0	0	2	0	0	35	6	0	7	52	0	102	
5:30 PM	0	0	0	0	0	2	0	6	0	0	34	4	0	8	48	0	102	
5:35 PM	0	0	0	0	0	1	0	5	0	0	36	2	0	4	39	0	87	
5:40 PM	0	0	0	0	0	2	0	7	0	0	29	7	0	11	42	0	98	
5:45 PM	0	0	0	0	0	3	0	6	0	0	24	7	0	3	41	0	84	
5:50 PM	0	0	0	0	0	2	0	6	0	0	34	1	0	1	29	0	73	
5:55 PM	0	0	0	0	0	1	0	4	0	0	16	1	0	7	27	0	56	
Count Total	0	0	0	0	0	59	0	115	0	0	806	120	0	126	1,162	0	2,388	
Peak Hour	0	0	0	0	0	29	0	53	0	0	447	69	0	61	639	0	1,298	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

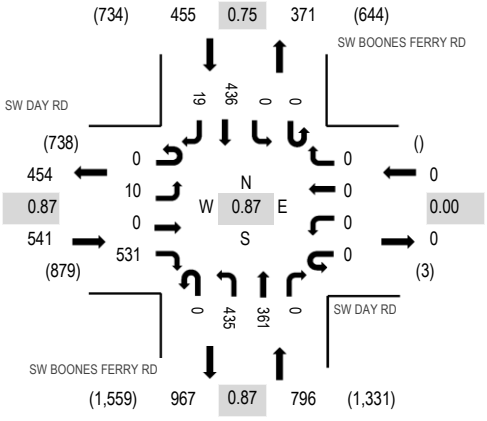
Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	4	0	2	6	4:00 PM						4:00 PM	0	0	0	0	0
4:05 PM	0	2	0	0	2	4:05 PM						4:05 PM	0	0	0	0	0
4:10 PM	0	0	0	2	2	4:10 PM						4:10 PM	0	0	0	0	0
4:15 PM	0	2	0	2	4	4:15 PM						4:15 PM	0	0	0	0	0
4:20 PM	0	2	0	1	3	4:20 PM						4:20 PM	1	0	0	0	1
4:25 PM	0	2	0	2	4	4:25 PM						4:25 PM	0	0	0	0	0
4:30 PM	0	0	0	1	1	4:30 PM						4:30 PM	0	0	0	0	0
4:35 PM	0	3	1	1	5	4:35 PM						4:35 PM	0	0	0	0	0
4:40 PM	0	1	1	1	3	4:40 PM						4:40 PM	0	0	2	0	2
4:45 PM	0	3	0	2	5	4:45 PM						4:45 PM	0	0	0	0	0
4:50 PM	0	0	0	2	2	4:50 PM						4:50 PM	0	0	0	0	0
4:55 PM	0	3	0	0	3	4:55 PM						4:55 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0	5:00 PM						5:00 PM	0	0	0	0	0
5:05 PM	0	0	0	1	1	5:05 PM						5:05 PM	0	0	0	0	0
5:10 PM	0	1	0	0	1	5:10 PM						5:10 PM	0	0	0	0	0
5:15 PM	0	0	0	1	1	5:15 PM						5:15 PM	0	0	0	0	0
5:20 PM	0	0	0	0	0	5:20 PM						5:20 PM	0	0	0	0	0
5:25 PM	0	1	0	2	3	5:25 PM						5:25 PM	0	0	0	0	0
5:30 PM	0	1	0	0	1	5:30 PM						5:30 PM	0	0	0	0	0
5:35 PM	0	1	0	0	1	5:35 PM						5:35 PM	0	0	0	0	0
5:40 PM	0	2	0	2	4	5:40 PM						5:40 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0	5:45 PM						5:45 PM	0	0	0	0	0
5:50 PM	0	2	0	0	2	5:50 PM						5:50 PM	0	0	0	0	0
5:55 PM	0	0	0	0	0	5:55 PM						5:55 PM	0	0	1	0	1
Count Total	0	30	2	22	54	Count Total						Count Total	1	0	3	0	4
Peak Hour	0	16	2	15	33	Peak Hour						Peak Hour	1	0	2	0	3

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

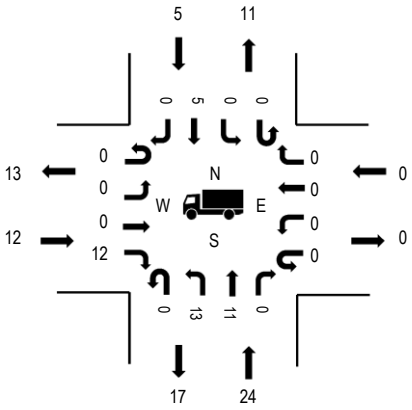
Location: 1 SW BOONES FERRY RD & SW DAY RD PM
Date: Tuesday, March 30, 2021
Peak Hour: 04:00 PM - 05:00 PM
Peak 15-Minutes: 04:10 PM - 04:25 PM

Peak Hour

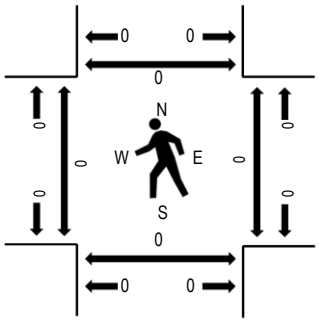
Motorized Vehicles



Heavy Vehicles



Pedestrians



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	2.2%	0.87
WB	0.0%	0.00
NB	3.0%	0.87
SB	1.1%	0.75
All	2.3%	0.87

Traffic Counts - Motorized Vehicles

Interval Start Time	SW DAY RD Eastbound				SW DAY RD Westbound				SW BOONES FERRY RD Northbound				SW BOONES FERRY RD Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	2	0	56	0	0	0	0	0	53	29	0	0	0	44	2	186	1,792
4:05 PM	0	0	0	48	0	0	0	0	0	42	40	0	0	0	35	2	167	1,723
4:10 PM	0	1	0	49	0	0	0	0	0	31	32	0	0	0	41	2	156	1,678
4:15 PM	0	1	0	47	0	0	0	0	0	41	42	0	0	0	61	0	192	1,614
4:20 PM	0	2	0	50	0	0	0	0	0	33	37	0	0	0	46	1	169	1,541
4:25 PM	0	1	0	49	0	0	0	0	0	34	24	0	0	0	27	1	136	1,461
4:30 PM	0	0	0	37	0	0	0	0	0	27	24	0	0	0	24	0	112	1,411
4:35 PM	0	0	0	38	0	0	0	0	0	33	21	0	0	0	33	2	127	1,388
4:40 PM	0	0	0	43	0	0	0	0	0	34	25	0	0	0	32	3	137	1,342
4:45 PM	0	0	0	37	0	0	0	0	0	50	36	0	0	0	36	0	159	1,295
4:50 PM	0	2	0	41	0	0	0	0	0	33	27	0	0	0	26	2	131	1,213
4:55 PM	0	1	0	36	0	0	0	0	0	24	24	0	0	0	31	4	120	1,166
5:00 PM	0	0	0	38	0	0	0	0	0	28	28	0	0	0	20	3	117	1,152
5:05 PM	0	1	0	27	0	0	0	0	0	44	31	0	0	0	18	1	122	
5:10 PM	0	0	0	34	0	0	0	0	0	19	17	0	0	0	22	0	92	
5:15 PM	0	1	0	40	0	0	0	0	0	25	20	0	0	0	32	1	119	
5:20 PM	0	0	0	21	0	0	0	0	0	26	23	0	0	0	19	0	89	
5:25 PM	0	1	0	23	0	0	0	0	0	15	22	0	0	0	25	0	86	
5:30 PM	0	1	0	31	0	0	0	0	0	22	9	0	0	0	26	0	89	
5:35 PM	0	1	0	20	0	0	0	0	0	13	17	0	0	0	30	0	81	
5:40 PM	0	1	0	30	0	0	0	0	0	21	15	0	0	0	20	3	90	
5:45 PM	0	0	0	19	0	0	0	0	0	16	20	0	0	0	20	2	77	
5:50 PM	0	0	2	16	0	0	0	0	0	19	29	0	0	0	18	0	84	
5:55 PM	0	4	1	26	0	0	0	0	0	24	32	0	0	0	17	2	106	
Count Total	0	20	3	856	0	0	0	0	0	707	624	0	0	0	703	31	2,944	
Peak Hour	0	10	0	531	0	0	0	0	0	435	361	0	0	0	436	19	1,792	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	2	3	0	0	5	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:05 PM	0	2	0	0	2	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	3	2	0	0	5	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	2	2	0	1	5	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:20 PM	0	3	0	0	3	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	2	1	0	1	4	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	1	0	0	0	1	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	0	0	0	1	1	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	1	7	0	0	8	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	0	3	0	2	5	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	0	1	0	0	1	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	1	0	0	0	1	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	1	0	0	1	2	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	2	1	0	1	4	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	1	0	0	0	1	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	0	1	0	2	3	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	2	0	0	0	2	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	3	0	0	0	3	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	0	0	0	2	2	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	0	0	0	2	2	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	0	2	0	0	2	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	1	1	0	0	2	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	2	1	0	0	3	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	2	0	0	1	3	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	26	30	0	14	70	Count Total	0	0	0	0	0	Count Total	0	0	0	0	0
Peak Hour	12	24	0	5	41	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0

Type of report: Tube Count - Volume Data

LOCATION: Norwood Rd 0.1m E of Boones Ferry Rd - #443 **QC JOB #:** 14908836

SPECIFIC LOCATION: **DIRECTION:** EB

CITY/STATE: Washington, OR **DATE:** Apr 24 2019 - Apr 24 2019

Start Time	Mon	Tue	Wed 24 Apr 19	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM			1			1			1	
01:00 AM			1			1			1	
02:00 AM			4			4			4	
03:00 AM			0			0			0	
04:00 AM			2			2			2	
05:00 AM			6			6			6	
06:00 AM			25			25			25	
07:00 AM			77			77			77	
08:00 AM			**78**			**78**			**78**	
09:00 AM			38			38			38	
10:00 AM			46			46			46	
11:00 AM			55			55			55	
12:00 PM			52			52			52	
01:00 PM			75			75			75	
02:00 PM			74			74			74	
03:00 PM			117			117			117	
04:00 PM			137			137			137	
05:00 PM			**141**			**141**			**141**	
06:00 PM			106			106			106	
07:00 PM			93			93			93	
08:00 PM			67			67			67	
09:00 PM			30			30			30	
10:00 PM			13			13			13	
11:00 PM			8			8			8	
Day Total			1246			1246			1246	
% Weekday Average			100%							
% Week Average			100%			100%				
AM Peak Volume			8:00 AM 78			8:00 AM 78			8:00 AM 78	
PM Peak Volume			5:00 PM 141			5:00 PM 141			5:00 PM 141	

Comments:

Report generated on 10/7/2020 10:18 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Type of report: Tube Count - Volume Data

LOCATION: Norwood Rd 0.1m E of Boones Ferry Rd - #443 **QC JOB #:** 14908836

SPECIFIC LOCATION: **DIRECTION:** WB

CITY/STATE: Washington, OR **DATE:** Apr 24 2019 - Apr 24 2019

Start Time	Mon	Tue	Wed 24 Apr 19	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM			2			2			2	
01:00 AM			2			2			2	
02:00 AM			1			1			1	
03:00 AM			0			0			0	
04:00 AM			8			8			8	
05:00 AM			29			29			29	
06:00 AM			51			51			51	
07:00 AM			**125**			**125**			**125**	
08:00 AM			86			86			86	
09:00 AM			62			62			62	
10:00 AM			35			35			35	
11:00 AM			38			38			38	
12:00 PM			25			25			25	
01:00 PM			32			32			32	
02:00 PM			32			32			32	
03:00 PM			51			51			51	
04:00 PM			**95**			**95**			**95**	
05:00 PM			91			91			91	
06:00 PM			67			67			67	
07:00 PM			87			87			87	
08:00 PM			48			48			48	
09:00 PM			58			58			58	
10:00 PM			2			2			2	
11:00 PM			1			1			1	
Day Total			1028			1028			1028	
% Weekday Average			100%							
% Week Average			100%			100%				
AM Peak Volume			7:00 AM 125			7:00 AM 125			7:00 AM 125	
PM Peak Volume			4:00 PM 95			4:00 PM 95			4:00 PM 95	

Comments:

Report generated on 10/7/2020 10:18 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Type of report: Tube Count - Volume Data

LOCATION: Norwood Rd 0.1m E of Boones Ferry Rd - #443 **QC JOB #:** 14908836

SPECIFIC LOCATION: **DIRECTION:** EB, WB

CITY/STATE: Washington, OR **DATE:** Apr 24 2019 - Apr 24 2019

Start Time	Mon	Tue	Wed 24 Apr 19	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM			3			3			3	
01:00 AM			3			3			3	
02:00 AM			5			5			5	
03:00 AM			0			0			0	
04:00 AM			10			10			10	
05:00 AM			35			35			35	
06:00 AM			76			76			76	
07:00 AM			**202**			**202**			**202**	
08:00 AM			164			164			164	
09:00 AM			100			100			100	
10:00 AM			81			81			81	
11:00 AM			93			93			93	
12:00 PM			77			77			77	
01:00 PM			107			107			107	
02:00 PM			106			106			106	
03:00 PM			168			168			168	
04:00 PM			**232**			**232**			**232**	
05:00 PM			232			232			232	
06:00 PM			173			173			173	
07:00 PM			180			180			180	
08:00 PM			115			115			115	
09:00 PM			88			88			88	
10:00 PM			15			15			15	
11:00 PM			9			9			9	
Day Total			2274			2274			2274	
% Weekday Average			100%							
% Week Average			100%			100%				
AM Peak Volume			7:00 AM 202			7:00 AM 202			7:00 AM 202	
PM Peak Volume			4:00 PM 232			4:00 PM 232			4:00 PM 232	

Comments:

Report generated on 10/7/2020 10:18 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Type of report: Tube Count - Volume Data

LOCATION: #464 SW Boones Ferry Rd S of SW Norwood Rd **QC JOB #:** 14908851

SPECIFIC LOCATION: **DIRECTION:** NB

CITY/STATE: Washington, OR **DATE:** Apr 24 2019 - Apr 24 2019

Start Time	Mon	Tue	Wed 24 Apr 19	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM			20			20			20	
01:00 AM			11			11			11	
02:00 AM			10			10			10	
03:00 AM			45			45			45	
04:00 AM			180			180			180	
05:00 AM			235			235			235	
06:00 AM			386			386			386	
07:00 AM			**493**			**493**			**493**	
08:00 AM			350			350			350	
09:00 AM			238			238			238	
10:00 AM			221			221			221	
11:00 AM			271			271			271	
12:00 PM			265			265			265	
01:00 PM			306			306			306	
02:00 PM			317			317			317	
03:00 PM			403			403			403	
04:00 PM			**448**			**448**			**448**	
05:00 PM			428			428			428	
06:00 PM			376			376			376	
07:00 PM			252			252			252	
08:00 PM			201			201			201	
09:00 PM			104			104			104	
10:00 PM			59			59			59	
11:00 PM			32			32			32	
Day Total			5651			5651			5651	
% Weekday Average			100%							
% Week Average			100%			100%				
AM Peak Volume			7:00 AM 493			7:00 AM 493			7:00 AM 493	
PM Peak Volume			4:00 PM 448			4:00 PM 448			4:00 PM 448	

Comments:

Report generated on 10/7/2020 10:18 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Type of report: Tube Count - Volume Data

LOCATION: #464 SW Boones Ferry Rd S of SW Norwood Rd
QC JOB #: 14908851
SPECIFIC LOCATION:
DIRECTION: SB
CITY/STATE: Washington, OR
DATE: Apr 24 2019 - Apr 24 2019

Start Time	Mon	Tue	Wed 24 Apr 19	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM			52			52			52	
01:00 AM			8			8			8	
02:00 AM			13			13			13	
03:00 AM			17			17			17	
04:00 AM			28			28			28	
05:00 AM			102			102			102	
06:00 AM			186			186			186	
07:00 AM			**325**			**325**			**325**	
08:00 AM			287			287			287	
09:00 AM			270			270			270	
10:00 AM			231			231			231	
11:00 AM			263			263			263	
12:00 PM			269			269			269	
01:00 PM			279			279			279	
02:00 PM			287			287			287	
03:00 PM			431			431			431	
04:00 PM			384			384			384	
05:00 PM			**444**			**444**			**444**	
06:00 PM			349			349			349	
07:00 PM			281			281			281	
08:00 PM			199			199			199	
09:00 PM			121			121			121	
10:00 PM			53			53			53	
11:00 PM			36			36			36	
Day Total			4915			4915			4915	
% Weekday Average			100%							
% Week Average			100%			100%				
AM Peak Volume			7:00 AM 325			7:00 AM 325			7:00 AM 325	
PM Peak Volume			5:00 PM 444			5:00 PM 444			5:00 PM 444	

Comments:

Report generated on 10/7/2020 10:18 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Type of report: Tube Count - Volume Data

LOCATION: #464 SW Boones Ferry Rd S of SW Norwood Rd **QC JOB #:** 14908851

SPECIFIC LOCATION: **DIRECTION:** NB, SB

CITY/STATE: Washington, OR **DATE:** Apr 24 2019 - Apr 24 2019

Start Time	Mon	Tue	Wed 24 Apr 19	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM			72			72			72	
01:00 AM			19			19			19	
02:00 AM			23			23			23	
03:00 AM			62			62			62	
04:00 AM			208			208			208	
05:00 AM			337			337			337	
06:00 AM			572			572			572	
07:00 AM			**818**			**818**			**818**	
08:00 AM			637			637			637	
09:00 AM			508			508			508	
10:00 AM			452			452			452	
11:00 AM			534			534			534	
12:00 PM			534			534			534	
01:00 PM			585			585			585	
02:00 PM			604			604			604	
03:00 PM			834			834			834	
04:00 PM			832			832			832	
05:00 PM			**872**			**872**			**872**	
06:00 PM			725			725			725	
07:00 PM			533			533			533	
08:00 PM			400			400			400	
09:00 PM			225			225			225	
10:00 PM			112			112			112	
11:00 PM			68			68			68	
Day Total			10566			10566			10566	
% Weekday Average			100%							
% Week Average			100%			100%				
AM Peak Volume			7:00 AM 818			7:00 AM 818			7:00 AM 818	
PM Peak Volume			5:00 PM 872			5:00 PM 872			5:00 PM 872	

Comments:

Report generated on 10/7/2020 10:18 AM

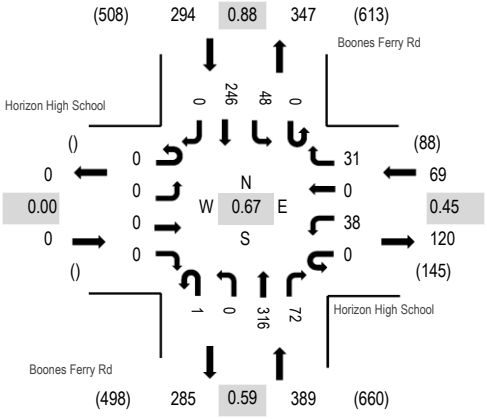
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

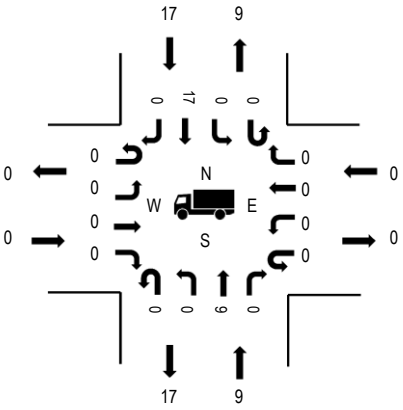
Location: 1 Boones Ferry Rd & Horizon High School AM
Date: Tuesday, September 14, 2021
Study Peak Hour: 07:30 AM - 08:30 AM
Peak 15-Minutes in Study Peak Hour: 07:45 AM - 08:00 AM

Study Peak Hour (for all study intersections)

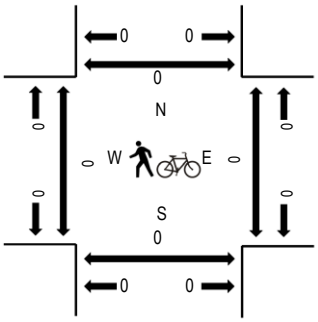
Motorized Vehicles



Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.00
WB	0.0%	0.45
NB	2.3%	0.59
SB	5.8%	0.88
All	3.5%	0.67

Traffic Counts - Motorized Vehicles

Interval Start Time	Horizon High School Eastbound				Horizon High School Westbound				Boones Ferry Rd Northbound				Boones Ferry Rd Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
7:00 AM	0	0	0	0	0	0	0	1	0	0	15	2	0	1	21	0	40	705
7:05 AM	0	0	0	0	0	1	0	0	0	0	18	2	0	2	14	0	37	722
7:10 AM	0	0	0	0	0	3	0	1	0	0	19	1	0	1	19	0	44	739
7:15 AM	0	0	0	0	0	0	0	0	0	0	14	1	0	0	16	0	31	744
7:20 AM	0	0	0	0	0	3	0	0	0	0	25	2	0	4	18	0	52	750
7:25 AM	0	0	0	0	0	2	0	1	0	0	30	3	0	2	11	0	49	750
7:30 AM	0	0	0	0	0	1	0	2	0	0	16	3	0	5	19	0	46	752
7:35 AM	0	0	0	0	0	1	0	3	0	0	20	5	0	0	26	0	55	752
7:40 AM	0	0	0	0	0	4	0	3	0	0	30	11	0	9	14	0	71	741
7:45 AM	0	0	0	0	0	8	0	4	0	0	38	16	0	7	19	0	92	702
7:50 AM	0	0	0	0	0	4	0	4	0	0	46	23	0	11	24	0	112	657
7:55 AM	0	0	0	0	0	12	0	6	0	0	30	7	0	5	16	0	76	585
8:00 AM	0	0	0	0	0	4	0	4	1	0	24	4	0	4	16	0	57	551
8:05 AM	0	0	0	0	0	3	0	1	0	0	21	0	0	2	27	0	54	
8:10 AM	0	0	0	0	0	0	0	0	0	0	21	1	0	1	26	0	49	
8:15 AM	0	0	0	0	0	1	0	2	0	0	16	1	0	1	16	0	37	
8:20 AM	0	0	0	0	0	0	0	0	0	0	27	0	0	2	23	0	52	
8:25 AM	0	0	0	0	0	0	0	2	0	0	27	1	0	1	20	0	51	
8:30 AM	0	0	0	0	0	2	0	2	0	0	24	0	0	1	17	0	46	
8:35 AM	0	0	0	0	0	1	0	0	0	0	26	0	0	1	16	0	44	
8:40 AM	0	0	0	0	0	0	0	0	0	0	19	0	0	0	13	0	32	
8:45 AM	0	0	0	0	0	0	0	1	0	0	31	1	0	0	14	0	47	
8:50 AM	0	0	0	0	0	0	0	1	0	0	16	0	0	0	23	0	40	
8:55 AM	0	0	0	0	0	0	0	0	0	0	22	0	0	1	19	0	42	
Count Total	0	0	0	0	0	50	0	38	1	0	575	84	0	61	447	0	1,256	
Peak Hour	0	0	0	0	0	38	0	31	1	0	316	72	0	48	246	0	752	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

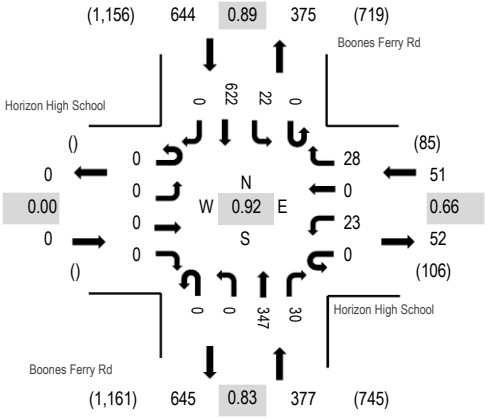
Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	0	0	0	1	1	7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0
7:05 AM	0	0	0	1	1	7:05 AM	0	1	0	0	1	7:05 AM	0	0	0	0	0
7:10 AM	0	0	0	0	0	7:10 AM	0	0	0	0	0	7:10 AM	0	0	0	0	0
7:15 AM	0	1	0	1	2	7:15 AM	0	1	0	0	1	7:15 AM	0	0	0	0	0
7:20 AM	0	1	0	0	1	7:20 AM	0	0	0	0	0	7:20 AM	0	0	0	0	0
7:25 AM	0	0	0	0	0	7:25 AM	0	0	1	0	1	7:25 AM	0	1	1	0	2
7:30 AM	0	0	0	1	1	7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	0	0
7:35 AM	0	0	0	0	0	7:35 AM	0	0	0	0	0	7:35 AM	0	0	0	0	0
7:40 AM	0	0	0	2	2	7:40 AM	0	0	0	0	0	7:40 AM	0	0	0	0	0
7:45 AM	0	2	0	1	3	7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	0	0
7:50 AM	0	1	0	4	5	7:50 AM	0	0	0	0	0	7:50 AM	0	0	0	0	0
7:55 AM	0	1	0	0	1	7:55 AM	0	0	0	0	0	7:55 AM	0	0	0	0	0
8:00 AM	0	0	0	1	1	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0
8:05 AM	0	1	0	3	4	8:05 AM	0	0	0	0	0	8:05 AM	0	0	0	0	0
8:10 AM	0	0	0	1	1	8:10 AM	0	0	0	0	0	8:10 AM	0	0	0	0	0
8:15 AM	0	1	0	1	2	8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	0	0
8:20 AM	0	2	0	2	4	8:20 AM	0	0	0	0	0	8:20 AM	0	0	0	0	0
8:25 AM	0	1	0	1	2	8:25 AM	0	0	0	2	2	8:25 AM	0	0	0	0	0
8:30 AM	0	2	0	0	2	8:30 AM	0	0	0	0	0	8:30 AM	0	0	1	0	1
8:35 AM	0	1	0	1	2	8:35 AM	0	0	0	0	0	8:35 AM	0	0	0	0	0
8:40 AM	0	1	0	0	1	8:40 AM	0	1	0	0	1	8:40 AM	0	0	0	0	0
8:45 AM	0	1	0	1	2	8:45 AM	0	0	0	2	2	8:45 AM	0	0	0	0	0
8:50 AM	0	0	0	0	0	8:50 AM	0	0	0	0	0	8:50 AM	0	0	0	0	0
8:55 AM	0	1	0	2	3	8:55 AM	0	0	0	0	0	8:55 AM	0	0	0	0	0
Count Total	0	17	0	24	41	Count Total	0	3	1	4	8	Count Total	0	1	2	0	3
Peak Hour	0	9	0	17	26	Peak Hour	0	0	0	2	2	Peak Hour	0	0	0	0	0

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

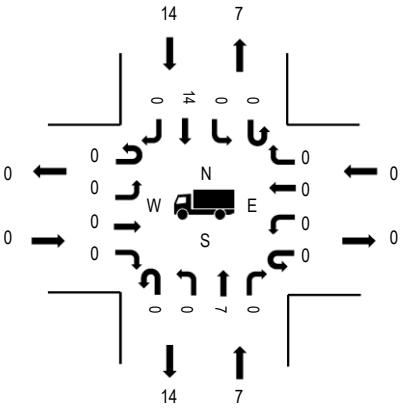
Location: 1 Boones Ferry Rd & Horizon High School PM
Date: Tuesday, September 14, 2021
Peak Hour: 04:20 PM - 05:20 PM
Peak 15-Minutes: 04:55 PM - 05:10 PM

Peak Hour

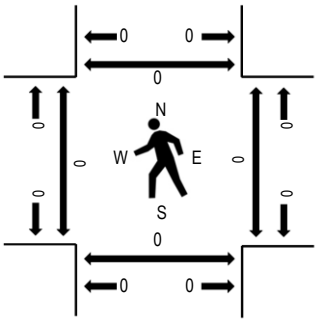
Motorized Vehicles



Heavy Vehicles



Pedestrians



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.00
WB	0.0%	0.66
NB	1.9%	0.83
SB	2.2%	0.89
All	2.0%	0.92

Traffic Counts - Motorized Vehicles

Interval Start Time	Horizon High School Eastbound				Horizon High School Westbound				Boones Ferry Rd Northbound				Boones Ferry Rd Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	0	0	0	0	0	0	0	0	0	30	0	0	0	44	0	74	1,030
4:05 PM	0	0	0	0	0	0	0	1	0	0	18	0	0	2	60	0	81	1,043
4:10 PM	0	0	0	0	0	1	0	1	0	0	27	3	0	3	46	0	81	1,063
4:15 PM	0	0	0	0	0	4	0	0	0	0	19	1	0	1	47	0	72	1,067
4:20 PM	0	0	0	0	0	3	0	2	0	0	26	1	0	6	50	0	88	1,072
4:25 PM	0	0	0	0	0	0	0	3	0	0	33	0	0	1	48	0	85	1,064
4:30 PM	0	0	0	0	0	0	0	1	0	0	31	2	0	0	42	0	76	1,061
4:35 PM	0	0	0	0	0	3	0	3	0	0	24	0	0	1	58	0	89	1,050
4:40 PM	0	0	0	0	0	4	0	1	0	0	28	2	0	2	73	0	110	1,045
4:45 PM	0	0	0	0	0	0	0	2	0	0	25	3	0	0	47	0	77	1,008
4:50 PM	0	0	0	0	0	2	0	1	0	0	30	4	0	3	55	0	95	1,005
4:55 PM	0	0	0	0	0	3	0	1	0	0	40	7	0	2	49	0	102	987
5:00 PM	0	0	0	0	0	2	0	3	0	0	29	6	0	1	46	0	87	956
5:05 PM	0	0	0	0	0	4	0	7	0	0	35	2	0	3	50	0	101	
5:10 PM	0	0	0	0	0	2	0	1	0	0	30	0	0	2	50	0	85	
5:15 PM	0	0	0	0	0	0	0	3	0	0	16	3	0	1	54	0	77	
5:20 PM	0	0	0	0	0	0	0	3	0	0	28	3	0	2	44	0	80	
5:25 PM	0	0	0	0	0	1	0	1	0	0	31	3	0	1	45	0	82	
5:30 PM	0	0	0	0	0	4	0	2	0	0	26	2	0	0	31	0	65	
5:35 PM	0	0	0	0	0	3	0	1	0	0	25	3	0	1	51	0	84	
5:40 PM	0	0	0	0	0	0	0	1	0	0	29	6	0	2	35	0	73	
5:45 PM	0	0	0	0	0	3	0	2	0	0	30	3	0	1	35	0	74	
5:50 PM	0	0	0	0	0	1	0	3	0	0	33	6	0	0	34	0	77	
5:55 PM	0	0	0	0	0	1	0	1	0	0	32	10	0	1	26	0	71	
Count Total	0	0	0	0	0	41	0	44	0	0	675	70	0	36	1,120	0	1,986	
Peak Hour	0	0	0	0	0	23	0	28	0	0	347	30	0	22	622	0	1,072	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

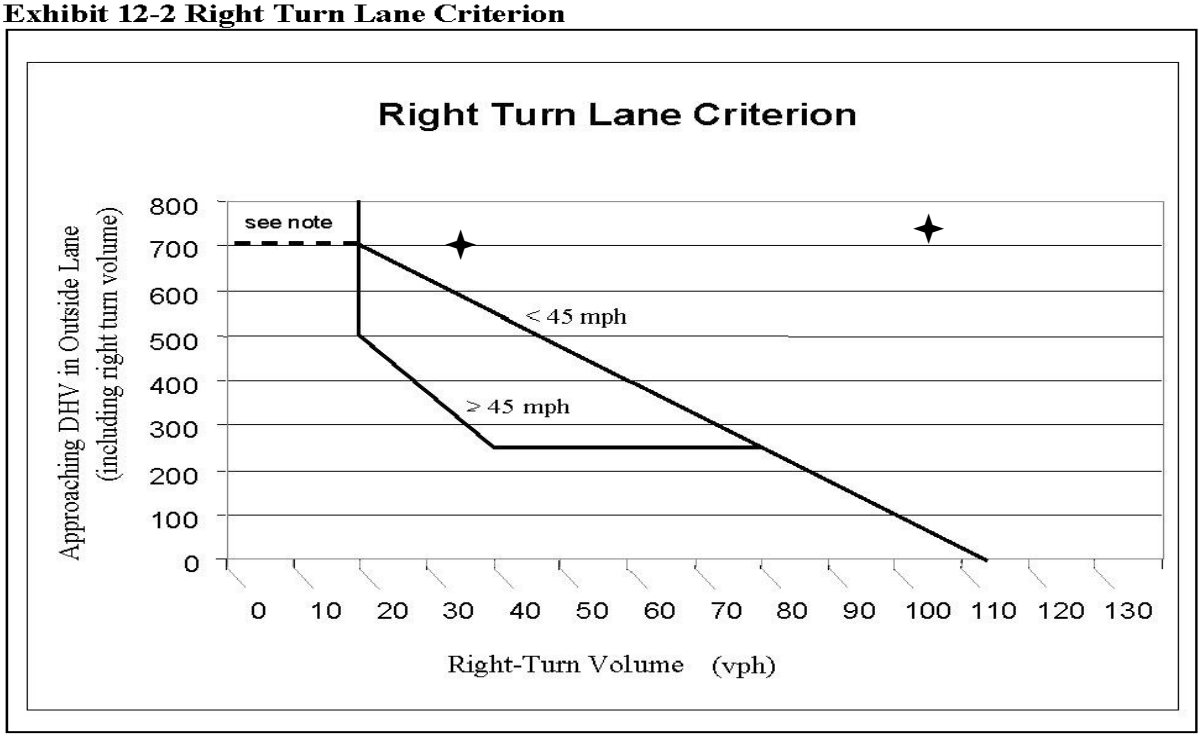
Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	2	2	4:00 PM	0	0	0	0	0
4:05 PM	0	1	0	1	2	4:05 PM	0	1	0	0	1	4:05 PM	0	0	0	0	0
4:10 PM	0	1	0	0	1	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	0	0	0	2	2	4:15 PM	0	1	0	0	1	4:15 PM	0	0	0	0	0
4:20 PM	0	1	0	4	5	4:20 PM	0	1	0	0	1	4:20 PM	0	0	0	0	0
4:25 PM	0	1	0	1	2	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	0	0	0	1	1	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	1	1	4:40 PM	0	0	0	2	2
4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	0	1	0	2	3	4:50 PM	0	1	0	0	1	4:50 PM	0	0	0	0	0
4:55 PM	0	1	0	1	2	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	0	1	0	2	3	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	0	2	0	1	3	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	0	0	0	2	2	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0	5:15 PM	0	1	0	0	1	5:15 PM	0	0	0	0	0
5:20 PM	0	0	0	2	2	5:20 PM	0	1	0	0	1	5:20 PM	0	0	0	0	0
5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	0	0	0	1	1	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	0	0	0	1	1	5:35 PM	0	3	0	0	3	5:35 PM	0	0	0	0	0
5:40 PM	0	2	0	1	3	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	0	1	0	2	3	5:45 PM	0	1	0	0	1	5:45 PM	0	0	2	0	2
5:50 PM	0	1	0	1	2	5:50 PM	0	1	0	1	2	5:50 PM	0	0	0	0	0
5:55 PM	0	2	0	0	2	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	0	15	0	25	40	Count Total	0	11	0	4	15	Count Total	0	0	2	2	4
Peak Hour	0	7	0	14	21	Peak Hour	0	3	0	1	4	Peak Hour	0	0	0	2	2

Oregon Department of Transportation - Right Turn Lane Criteria

I. Criterion 1: Vehicular Volume

The vehicular volume criterion is intended for application where the volume of the intersection traffic is the principal reason for considering installation of a right turn lane. The vehicular volume criteria is determined using the curve in Exhibit 12-2.

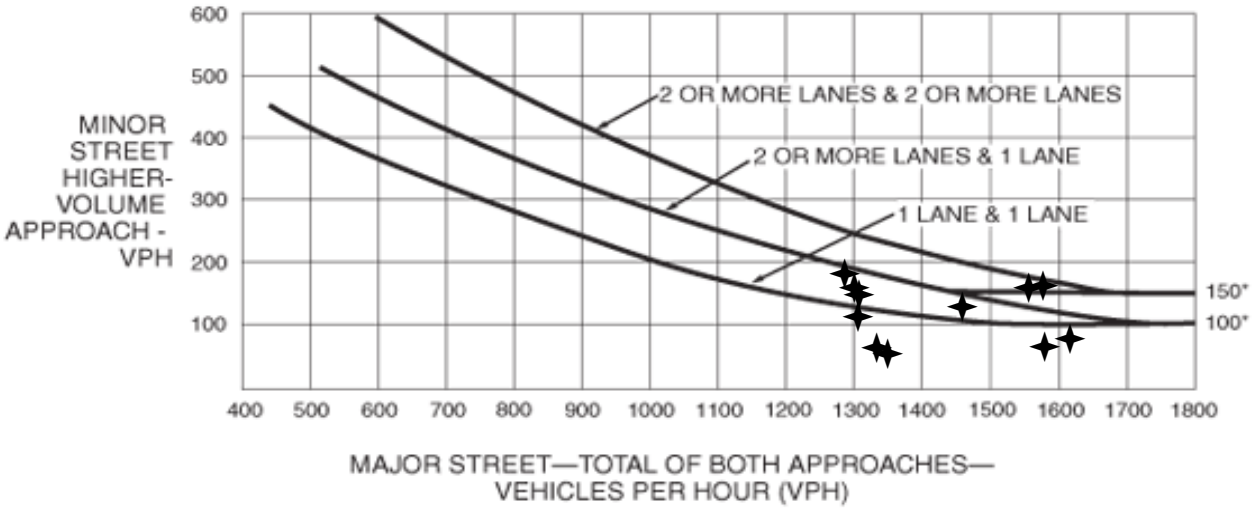
Exhibit 12-2 Right Turn Lane Criterion



Note: If there is no right turn lane, a shoulder needs to be provided. If this intersection is in a rural area and is a connection to a public street, a right turn lane is needed.

Intersection	Mov't	Analysis Period	Speed (mph)	Advancing Volume (vph)	Right Turns in Advancing Volume (vph)	Storage Req'd?
Street 'H' & Boones Fy Rd	NB RT	2026 Total Traffic, AM Peak	35	708	35	Yes
		2026 Total Traffic, PM Peak		739	115	Yes

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Table for Figure 4C-3

One lane and one lane		Two or more lanes and one lane		Two or more lanes and two or more lanes	
VPH on the major street (Total of both approaches)	VPH on the minor street (Higher volume approach)	VPH on the major street (Total of both approaches)	VPH on the minor street (Higher volume approach)	VPH on the major street (Total of both approaches)	VPH on the minor street (Higher volume approach)
1800	100	1800	100 or 150*	1800	150
1700	100	1700	100 or 150*	1700	150
1600	100	1600	120 or 150*	1600	170
1500	100	1500	145 or 150*	1500	180
1400	120	1400	155	1400	220
1300	130	1300	190	1300	250
1200	150	1200	220	1200	285
1100	175	1100	250	1100	340
1000	200	1000	285	1000	370
900	245	900	325	900	425
800	285	800	360	800	475
700	325	700	420	700	540
600	360	600	460	600	590
500	420	500	Not available	500	Not available

* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Peak hour volume warrant for signalization data.

Intersection	Analysis Period	Major Street Speed (mph)	Major Street		Minor Street High Volume Approach		Signal Warranted?
			Volume (vph)	Lanes (#)	Volume (vph)	Lanes (#)	
Iowa Drive & Boones Ferry Road	2026 Total Traffic - AM Peak	35	1,305	2	109	1	No
	2026 Total Traffic - PM Peak		1,622		76		No
Norwood Road & Boones Ferry Road	2026 Total Traffic - AM Peak	35	1,289	2	187	1	No
	2026 Total Traffic - PM Peak		1,581		159		Yes
	2026 Bkgd. Traffic - PM Peak		1,558		154		Yes
	Year 2021 Traffic - PM Peak		1,310		112		No
	Year 2021 + growth (5 yrs) + site		1,464		129		No
Horizon HS/Pvt Drwy & Boones Ferry Road	2026 Total Traffic - AM Peak	35	1,337	2	69	1	No
	2026 Total Traffic - PM Peak		1,354		51		No
Street 'H' & Boones Ferry Road	2026 Total Traffic - AM Peak	35	1,301	2	158	1	No
	2026 Total Traffic - PM Peak		1,582		73		No

Source: *Manual on Uniform Traffic Control Devices (MUTCD)*, 2003 Edition.

CITY OF TUALATIN, WASHINGTON COUNTY

Intersectional Crashes SW Boones Ferry Rd & SW Iowa Dr

January 1, 2014 through December 31, 2018

SER# / INVEST / UNLOC?	SPED	ALC	DRUG/MJ	SCHL	WORK	DATE / DAY/TIME / *LAT/LONG*	FC / DISTNC	CITY STREET / FIRST STREET / SECOND STREET / INTERSECTION SEQ #	RD CHAR / DIRECT / LOCTN	INT-TYP (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFF-RD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH TYP / COLL TYP / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACTN	EVENT	CAUSE
02341	N	N	N	N	N	04/23/2014	16	SW BOONES FERRY RD	INTER	CROSS	N	N	RAIN	PED	01	NONE 0	STRGHT										02
CITY			N			Wed 3P	0	SW IOWA DR	N		STOP SIGN	N	WET	PED		PRVTE	N S									006		00
No	*45 21 19.82*		*-122 46 29.16*				1		06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	33	M	OR-Y OR<25		029	000		02
																	STRGHT E W	01	PED	INJB	16	F		01	000	034		00
07714	N	N	N			12/19/2014	16	SW BOONES FERRY RD	INTER	CROSS	N	N	CLR	S-STRGHT	01	NONE 0	STRGHT										07
NONE			N			Fri 4P	0	SW IOWA DR	S		STOP SIGN	N	DRY	REAR		PRVTE	S N									000		00
No	*45 21 19.82*		*-122 46 29.16*				1		06	0		N	DUSK	INJ		PSNGR CAR		01	DRVR	NONE	22	M	OR-Y OR<25		042	000		07
															02	NONE 0	STRGHT										00
																PRVTE	S N									006		
																PSNGR CAR		01	DRVR	INJC	34	M	OR-Y OR<25		000	000		00
05219	N	N	N	N	N	10/03/2018	16	SW BOONES FERRY RD	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	TURN-L										02
CITY			N			Wed 5P	0	SW IOWA DR	CN		STOP SIGN	N	DRY	TURN		PRVTE	E S									000		00
No	*45 21 19.82*		*-122 46 29.16*				1		01	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	43	F	OR-Y OR<25		028	000		02
															02	NONE 0	TURN-L										00
																PRVTE	N E									000		
																PSNGR CAR		01	DRVR	INJA	39	F	OR-Y OR<25		000	000		00
05820	N	N	N	N	N	10/29/2018	16	SW BOONES FERRY RD	INTER	CROSS	N	N	CLD	ANGL-OTH	01	NONE 0	STRGHT										02,03
CITY			N			Mon 3P	0	SW IOWA DR	CN		STOP SIGN	N	WET	TURN		PRVTE	N S									000		00
No	*45 21 19.82*		*-122 46 29.16*				1		03	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	44	F	NONE OR>25		000	000		00
															02	NONE 0	TURN-L										00
																PRVTE	W N									000		
																PSNGR CAR		01	DRVR	NONE	16	M	OR-Y OR<25		028,004,021	000		02,03
07245	N	N	N	N	N	11/15/2017	16	SW BOONES FERRY RD	INTER	CROSS	N	N	RAIN	BIKE	01	NONE 0	TURN-R										02
CITY			N			Wed 5P	0	SW IOWA DR	CN		STOP SIGN	N	WET	TURN		PRVTE	S E									000		00
No	*45 21 19.82*		*-122 46 29.16*				1		04	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	37	F	OR-Y OR<25		027	000		02
																	STRGHT S N	01	BIKE	INJB	62	M		13	000	035		00
04797	N	N	N	N	N	09/12/2018	16	SW BOONES FERRY RD	INTER	CROSS	N	N	RAIN	BIKE	01	NONE 0	TURN-L										02
CITY			N			Wed 6P	0	SW IOWA DR	CN		TRF SIGNAL	N	WET	TURN		PRVTE	N E									000		00
No	*45 21 19.82*		*-122 46 29.14*				1		04	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	52	M	OR-Y OR<25		027	000		02
																		02	PSNG	NONE	02	F			000	000		00
																	STRGHT S N	01	BIKE	INJB	27	M		02	000	000		00

CITY OF TUALATIN, WASHINGTON COUNTY

Intersectional Crashes SW Boones Ferry Rd & SW Norwood Rd

January 1, 2014 through December 31, 2018

SER# / INVEST / UNLOC?	SPEED	ALC	DRUG/MJ	SCHL	WORK	DATE / DAY/TIME / *LAT/LONG*	FC / DISTNC	CITY STREET / FIRST STREET / SECOND STREET / INTERSECTION SEQ #	RD CHAR / DIRECT / LOCTN	INT-TYP (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFF-RD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH TYP / COLL TYP / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACTN	EVENT	CAUSE
08636	N	N	N			12/14/2016	16	SW BOONES FERRY RD	INTER	3-LEG	N	N	SNOW	O-OTHER	01	NONE 9	TURN-L										124	02
NONE			N			Wed 6P	0	SW NORWOOD RD	E		STOP SIGN	N	ICE	TURN		N/A	N E									000		00
No	*45 21 13.25*					*-122 46 29.07*	1		05	0		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	00	U	UNK UNK		000	000		00
															02	NONE 9	TURN-R											
																N/A	S E									000		00
																TRUCK		01	DRVR	NONE	00	U	UNK UNK		000	000		00
03180	Y	N	N	N	N	05/31/2017	16	SW BOONES FERRY RD	INTER	3-LEG	N	Y	CLD	FIX OBJ	01	NONE 9	TURN-L										053	01
CITY			N			Wed 3P	0	SW NORWOOD RD	E		STOP SIGN	N	DRY	FIX		N/A	N E									000		00
No	*45 21 13.25*					*-122 46 29.07*	1		05	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	U	UNK UNK		000	000		00
00979	N	N	N			02/17/2014	16	SW BOONES FERRY RD	INTER	3-LEG	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT											29
NONE			N			Mon 6P	0	SW NORWOOD RD	E		STOP SIGN	N	WET	REAR		PRVTE	E W									000		00
No	*45 21 13.25*					*-122 46 29.07*	1		06	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	38	F	OR-Y OR<25		026	000		29
															02	NONE 0	STOP											
																PRVTE	E W									011		00
																PSNGR CAR		01	DRVR	INJC	16	F	OR-Y OR<25		000	000		00
05132	Y	N	N	N	N	08/02/2016	16	SW BOONES FERRY RD	INTER	3-LEG	N	N	CLR	ANGL-OTH	01	NONE 9	TURN-R											08,30
CITY			N			Tue 12P	0	SW NORWOOD RD	E		STOP SIGN	N	DRY	TURN		N/A	S E									000		00
No	*45 21 13.25*					*-122 46 29.07*	1		06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	U	UNK UNK		000	000		00
															02	NONE 9	STRGHT											
																N/A	E W									006		00
																SEMI TOW		01	DRVR	NONE	00	U	UNK UNK		000	000		00
07146	N	N	N	N	N	11/25/2015	16	SW BOONES FERRY RD	INTER	3-LEG	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										083	02,40
CITY			N			Wed 2P	0	SW NORWOOD RD	CN		STOP SIGN	N	DRY	TURN		PRVTE	S N									000		00
No	*45 21 13.25*					*-122 46 29.07*	1		02	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	24	M	OR-Y OR<25		000	000		00
																		02	PSNG	INJC	21	F			000	000		00
															02	NONE 0	TURN-L											
																PRVTE	E S									015		00
																PSNGR CAR		01	DRVR	INJC	29	F	OR-Y OR<25		028	000	083	02,40

CITY OF TUALATIN, WASHINGTON COUNTY

Crashes on SW Boones Ferry Rd, within 1050 ft South of Intersection with SW Norwood Rd in Tualatin, OR.
January 1, 2015 through December 31, 2019

SER# / INVEST / UNLOC?	SPED	ALC	DRUG/MJ	SCHL	WORK	DATE / DAY/TIME / *LAT/LONG*	FC / DISTNC	CITY STREET / FIRST STREET / SECOND STREET / INTERSECTION SEQ #	RD CHAR / DIRECT / LOCTN	INT-TYP (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFF-RD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH TYP / COLL TYP / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACTN	EVENT	CAUSE
06351	N	N	N			10/11/2017	16	SW BOONES FERRY RD	STRGHT		N	N	RAIN	S-1STOP	01	NONE 0	STRGHT										29
NONE			N			Wed 7A	100	SW NORWOOD RD	S	(NONE)	UNKNOWN	N	WET	REAR		PRVTE	S N									000		00
No						*45 21 12.05*	*-122 46 29.05*	1	08	(02)		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	25	F	OR-Y OR<25		026	000		29
															02	NONE 0	STOP											
																PRVTE	S N									011		00
																PSNGR CAR		01	DRVR	INJC	47	F	OR-Y OR<25		000	000		00
																		02	PSNG	INJC	16	F			000	000		00

141 BEAVERTON-TUALATIN

Intersectional Crashes at SW Boones Ferry Rd & SW Day Rd
January 1, 2014 through December 31, 2018

SER# / INVEST / UNLOC?	SPEED	ALC	DRUGS	MH	SCHL	WORK	DATE / DAY/TIME / *LAT/LONG*	COUNTY / CITY / URBAN AREA	RD# CMPT/MILEPNT LRS	FC / MLG / PNT	CONN # FIRST STREET / SECOND STREET / INTERSECTION SEQ#	RD CHAR / DIRECT / LOCTN	INT-TYP (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CNTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH TYP / COLL TYP / SVRTY	V#	SPCL USE TRLR OWNER / VEH TYPE	QTY	MOVE FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACTN EVENT	CAUSE
06703	N	N	N	N	N		10/04/2016	WASHINGTON	1	16		INTER	3-LEG	N		N	RAIN	O-STRGHT	01	NONE	0	STRGHT										26
COUNTY		N					Tue 4P	WILSONVILLE	MN	0	SW BEAV-TUALATIN HY	S		TRF SIGNAL		N	WET	HEAD		PRVTE		S N								000		00
								PORTLAND UA	12.47		SW DAY RD	06	0			N	DAY	INJ		PSNGR CAR			01	DRVR	INJC	55	M	OR-Y		000	000	00
No							*45 20 24.73 -122 46 24.67*		014100100		S00 1																		OR<25				
																								02	PSNG	INJC	54	F			000	000	00
																			02	NONE	0	STRGHT										
																				PRVTE		N S									007	00
																				PSNGR CAR			01	DRVR	NONE	45	M	OR-Y		000	000	26
																													OR<25				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	46	2	51	27	0	29	13	612	9	18	422	16
Future Volume (vph)	46	2	51	27	0	29	13	612	9	18	422	16
Confl. Peds. (#/hr)	13		5	1		9	5		1	9		13
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	7%	7%	7%	6%	6%	6%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Control Type: Unsignalized	
Intersection Capacity Utilization 47.8%	ICU Level of Service A
Analysis Period (min) 15	

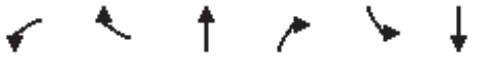
Intersection	
Int Delay, s/veh	6.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	46	2	51	27	0	29	13	612	9	18	422	16
Future Vol, veh/h	46	2	51	27	0	29	13	612	9	18	422	16
Conflicting Peds, #/hr	13	0	5	1	0	9	5	0	1	9	0	13
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	95	-	-	105	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	0	0	0	0	0	0	7	7	7	6	6	6
Mvmt Flow	55	2	61	32	0	35	15	729	11	21	502	19

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1362	1346	530	1364	1350	757	534	0	0	749	0	0
Stage 1	567	567	-	774	774	-	-	-	-	-	-	-
Stage 2	795	779	-	590	576	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.17	-	-	4.16	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.263	-	-	2.254	-	-
Pot Cap-1 Maneuver	126	153	553	126	152	411	1009	-	-	842	-	-
Stage 1	512	510	-	394	411	-	-	-	-	-	-	-
Stage 2	384	409	-	497	505	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	109	144	544	106	143	402	997	-	-	835	-	-
Mov Cap-2 Maneuver	109	144	-	106	143	-	-	-	-	-	-	-
Stage 1	498	491	-	385	401	-	-	-	-	-	-	-
Stage 2	341	399	-	426	486	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	52.3	38.9	0.2	0.4
HCM LOS	F	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	997	-	-	187	171	835	-	-
HCM Lane V/C Ratio	0.016	-	-	0.63	0.39	0.026	-	-
HCM Control Delay (s)	8.7	-	-	52.3	38.9	9.4	-	-
HCM Lane LOS	A	-	-	F	E	A	-	-
HCM 95th %tile Q(veh)	0	-	-	3.6	1.7	0.1	-	-



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	70	55	579	28	48	441
Future Volume (vph)	70	55	579	28	48	441
Confl. Peds. (#/hr)	4	4		4	4	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	2%	2%	6%	6%	5%	5%
Shared Lane Traffic (%)						
Sign Control	Stop		Free			Free

Intersection Summary			
Control Type: Unsignalized			
Intersection Capacity Utilization	52.0%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	4.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	70	55	579	28	48	441
Future Vol, veh/h	70	55	579	28	48	441
Conflicting Peds, #/hr	4	4	0	4	4	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	65	290	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	6	6	5	5
Mvmt Flow	80	63	666	32	55	507

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1291	674	0	0	702	0
Stage 1	670	-	-	-	-	-
Stage 2	621	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.15	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.245	-
Pot Cap-1 Maneuver	180	455	-	-	882	-
Stage 1	509	-	-	-	-	-
Stage 2	536	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	167	452	-	-	879	-
Mov Cap-2 Maneuver	167	-	-	-	-	-
Stage 1	507	-	-	-	-	-
Stage 2	500	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	43.2	0	0.9
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	231	879	-
HCM Lane V/C Ratio	-	-	0.622	0.063	-
HCM Control Delay (s)	-	-	43.2	9.4	-
HCM Lane LOS	-	-	E	A	-
HCM 95th %tile Q(veh)	-	-	3.7	0.2	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	38	0	31	0	577	72	48	449	0
Future Volume (vph)	0	0	0	38	0	31	0	577	72	48	449	0
Peak Hour Factor	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	2%	2%	2%	6%	6%	6%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Control Type: Unsignalized			
Intersection Capacity Utilization 49.9%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	5.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	38	0	31	0	577	72	48	449	0
Future Vol, veh/h	0	0	0	38	0	31	0	577	72	48	449	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	25	-	-	-	-	70	250	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	67	67	67	67	67	67	67	67	67	67	67	67
Heavy Vehicles, %	0	0	0	0	0	0	2	2	2	6	6	6
Mvmt Flow	0	0	0	57	0	46	0	861	107	72	670	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1752	1782	670	1675	1675	861	670	0	0	968	0	0
Stage 1	814	814	-	861	861	-	-	-	-	-	-	-
Stage 2	938	968	-	814	814	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.12	-	-	4.16	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.218	-	-	2.254	-	-
Pot Cap-1 Maneuver	68	83	460	77	96	358	920	-	-	696	-	-
Stage 1	375	394	-	353	375	-	-	-	-	-	-	-
Stage 2	320	335	-	375	394	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	55	74	460	71	86	358	920	-	-	696	-	-
Mov Cap-2 Maneuver	55	74	-	71	86	-	-	-	-	-	-	-
Stage 1	375	353	-	353	375	-	-	-	-	-	-	-
Stage 2	279	335	-	336	353	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	91.6	0	1
HCM LOS	A	F		

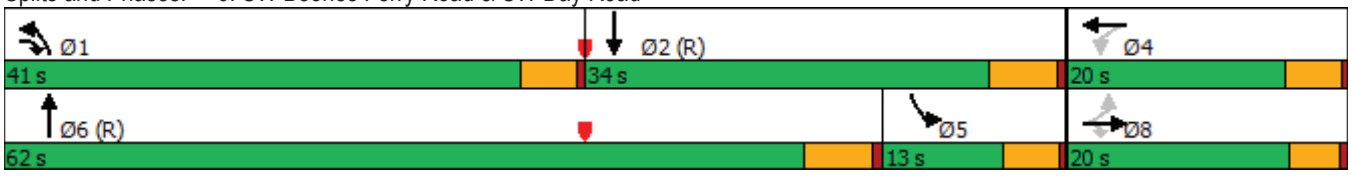
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	920	-	-	-	71	358	696	-	-
HCM Lane V/C Ratio	-	-	-	-	0.799	0.129	0.103	-	-
HCM Control Delay (s)	0	-	-	0	152.8	16.5	10.8	-	-
HCM Lane LOS	A	-	-	A	F	C	B	-	-
HCM 95th %tile Q(veh)	0	-	-	-	3.8	0.4	0.3	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	162	0	528	0	0	0	584	447	0	0	465	47
Future Volume (vph)	162	0	528	0	0	0	584	447	0	0	465	47
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	14%	14%	14%	0%	0%	0%	14%	14%	14%	7%	7%	7%
Shared Lane Traffic (%)												
Turn Type	Perm	NA	pm+ov				Prot	NA		Prot	NA	
Protected Phases		8	1		4		1	6		5	2	
Permitted Phases	8		8	4								
Detector Phase	8	8	1	4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0	4.0	6.0	6.0		4.0	10.0		4.0	10.0	
Minimum Split (s)	32.2	32.2	8.5	37.5	37.5		8.5	22.4		9.2	38.4	
Total Split (s)	20.0	20.0	41.0	20.0	20.0		41.0	62.0		13.0	34.0	
Total Split (%)	21.1%	21.1%	43.2%	21.1%	21.1%		43.2%	65.3%		13.7%	35.8%	
Yellow Time (s)	3.5	3.5	4.0	4.0	4.0		4.0	4.7		4.0	4.7	
All-Red Time (s)	0.7	0.7	0.5	0.5	0.5		0.5	0.7		0.5	0.7	
Lost Time Adjust (s)		-0.2	-0.5		-0.5		-0.5	-1.4		-0.5	-1.4	
Total Lost Time (s)		4.0	4.0		4.0		4.0	4.0		4.0	4.0	
Lead/Lag			Lead				Lead	Lead		Lag	Lag	
Lead-Lag Optimize?			Yes				Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	
Act Effct Green (s)		17.6	50.4				28.8	69.4			36.6	
Actuated g/C Ratio		0.19	0.53				0.30	0.73			0.39	
v/c Ratio		0.77	0.73				0.80	0.41			0.44	
Control Delay		59.9	18.0				37.8	6.3			24.1	
Queue Delay		0.0	0.0				0.0	0.0			0.0	
Total Delay		59.9	18.0				37.8	6.3			24.1	
LOS		E	B				D	A			C	
Approach Delay		27.8						24.1			24.1	
Approach LOS		C						C			C	

Intersection Summary

Cycle Length: 95
Actuated Cycle Length: 95
Offset: 3 (3%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle: 105
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.80
Intersection Signal Delay: 25.2 — Intersection LOS: C
Intersection Capacity Utilization 53.7% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 6: SW Boones Ferry Road & SW Day Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	162	0	528	0	0	0	584	447	0	0	465	47
Future Volume (veh/h)	162	0	528	0	0	0	584	447	0	0	465	47
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1693	1693	1693	1900	1900	1900	1693	1693	1693	1796	1796	1796
Adj Flow Rate, veh/h	180	0	404	0	0	0	649	497	0	0	517	50
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	14	14	14	0	0	0	14	14	14	7	7	7
Cap, veh/h	292	0	631	0	326	0	736	609	0	569	1364	132
Arrive On Green	0.17	0.00	0.17	0.00	0.00	0.00	0.27	0.36	0.00	0.00	0.43	0.42
Sat Flow, veh/h	1283	0	1434	0	1900	0	2740	1693	0	1711	3145	303
Grp Volume(v), veh/h	180	0	404	0	0	0	649	497	0	0	280	287
Grp Sat Flow(s),veh/h/ln	1283	0	1434	0	1900	0	1370	1693	0	1711	1706	1742
Q Serve(g_s), s	12.9	0.0	16.3	0.0	0.0	0.0	21.6	25.3	0.0	0.0	10.6	10.7
Cycle Q Clear(g_c), s	12.9	0.0	16.3	0.0	0.0	0.0	21.6	25.3	0.0	0.0	10.6	10.7
Prop In Lane	1.00		1.00	0.00		0.00	1.00		0.00	1.00		0.17
Lane Grp Cap(c), veh/h	289	0	631	0	326	0	736	609	0	569	740	755
V/C Ratio(X)	0.62	0.00	0.64	0.00	0.00	0.00	0.88	0.82	0.00	0.00	0.38	0.38
Avail Cap(c_a), veh/h	289	0	631	0	326	0	1067	1033	0	569	740	755
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	38.3	0.0	20.7	0.0	0.0	0.0	33.3	27.5	0.0	0.0	18.2	18.3
Incr Delay (d2), s/veh	3.7	0.0	2.0	0.0	0.0	0.0	5.3	11.5	0.0	0.0	1.5	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	0.0	6.8	0.0	0.0	0.0	7.4	11.6	0.0	0.0	4.1	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.0	0.0	22.7	0.0	0.0	0.0	38.6	39.0	0.0	0.0	19.7	19.8
LnGrp LOS	D	A	C	A	A	A	D	D	A	A	B	B
Approach Vol, veh/h		584			0			1146			567	
Approach Delay, s/veh		28.7			0.0			38.8			19.7	
Approach LOS		C						D			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	29.5	45.2		20.3	36.5	38.2		20.3				
Change Period (Y+Rc), s	4.5	* 5.4		4.5	* 5.4	* 5.4		* 4.5				
Max Green Setting (Gmax), s	36.5	* 29		15.5	* 8.5	* 57		* 16				
Max Q Clear Time (g_c+I1), s	23.6	12.7		0.0	0.0	27.3		18.3				
Green Ext Time (p_c), s	1.4	4.4		0.0	0.0	5.5		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		31.5	
HCM 6th LOS		C	

Notes

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

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	0	33	12	1	37	32	465	28	34	740	48
Future Volume (vph)	36	0	33	12	1	37	32	465	28	34	740	48
Confl. Peds. (#/hr)			4	4			4		4			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	2%	2%	2%	3%	3%	3%	1%	1%	1%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Control Type: Unsignalized	
Intersection Capacity Utilization 57.3%	ICU Level of Service B
Analysis Period (min) 15	

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↰	↱		↰	↱	
Traffic Vol, veh/h	36	0	33	12	1	37	32	465	28	34	740	48
Future Vol, veh/h	36	0	33	12	1	37	32	465	28	34	740	48
Conflicting Peds, #/hr	0	0	4	4	0	0	4	0	4	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	95	-	-	105	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	5	5	5	2	2	2	3	3	3	1	1	1
Mvmt Flow	38	0	35	13	1	39	34	495	30	36	787	51

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1487	1486	821	1488	1496	514	842	0	0	529	0	0
Stage 1	889	889	-	582	582	-	-	-	-	-	-	-
Stage 2	598	597	-	906	914	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.12	6.52	6.22	4.13	-	-	4.11	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.518	4.018	3.318	2.227	-	-	2.209	-	-
Pot Cap-1 Maneuver	101	123	370	102	123	560	789	-	-	1043	-	-
Stage 1	334	357	-	499	499	-	-	-	-	-	-	-
Stage 2	484	487	-	331	352	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	87	113	367	86	113	558	786	-	-	1039	-	-
Mov Cap-2 Maneuver	87	113	-	86	113	-	-	-	-	-	-	-
Stage 1	318	343	-	476	476	-	-	-	-	-	-	-
Stage 2	429	464	-	288	338	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	58.2	25	0.6	0.4
HCM LOS	F	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	786	-	-	137	233	1039	-	-
HCM Lane V/C Ratio	0.043	-	-	0.536	0.228	0.035	-	-
HCM Control Delay (s)	9.8	-	-	58.2	25	8.6	-	-
HCM Lane LOS	A	-	-	F	D	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	2.6	0.9	0.1	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	37	75	461	90	88	671
Future Volume (vph)	37	75	461	90	88	671
Confl. Peds. (#/hr)	2	2		2	2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Sign Control	Stop		Free			Free

Intersection Summary			
Control Type: Unsignalized			
Intersection Capacity Utilization	49.2%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	2.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	37	75	461	90	88	671
Future Vol, veh/h	37	75	461	90	88	671
Conflicting Peds, #/hr	2	2	0	2	2	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	65	290	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	3	3	2	2
Mvmt Flow	39	79	485	95	93	706

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1381	489	0	0	582	0
Stage 1	487	-	-	-	-	-
Stage 2	894	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	159	579	-	-	992	-
Stage 1	618	-	-	-	-	-
Stage 2	399	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	143	577	-	-	990	-
Mov Cap-2 Maneuver	143	-	-	-	-	-
Stage 1	617	-	-	-	-	-
Stage 2	361	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	25.9	0	1
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	288	990	-
HCM Lane V/C Ratio	-	-	0.409	0.094	-
HCM Control Delay (s)	-	-	25.9	9	-
HCM Lane LOS	-	-	D	A	-
HCM 95th %tile Q(veh)	-	-	1.9	0.3	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	23	0	28	0	386	30	22	692	0
Future Volume (vph)	0	0	0	23	0	28	0	386	30	22	692	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Control Type: Unsignalized	
Intersection Capacity Utilization 46.4%	ICU Level of Service A
Analysis Period (min) 15	

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	23	0	28	0	386	30	22	692	0
Future Vol, veh/h	0	0	0	23	0	28	0	386	30	22	692	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	25	-	-	-	-	70	250	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	25	0	30	0	420	33	24	752	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1252	1253	752	1220	1220	420	752	0	0	453	0	0
Stage 1	800	800	-	420	420	-	-	-	-	-	-	-
Stage 2	452	453	-	800	800	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	149	172	410	157	180	633	858	-	-	1108	-	-
Stage 1	379	397	-	611	589	-	-	-	-	-	-	-
Stage 2	587	570	-	379	397	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	139	168	410	154	176	633	858	-	-	1108	-	-
Mov Cap-2 Maneuver	139	168	-	154	176	-	-	-	-	-	-	-
Stage 1	379	388	-	611	589	-	-	-	-	-	-	-
Stage 2	559	570	-	371	388	-	-	-	-	-	-	-

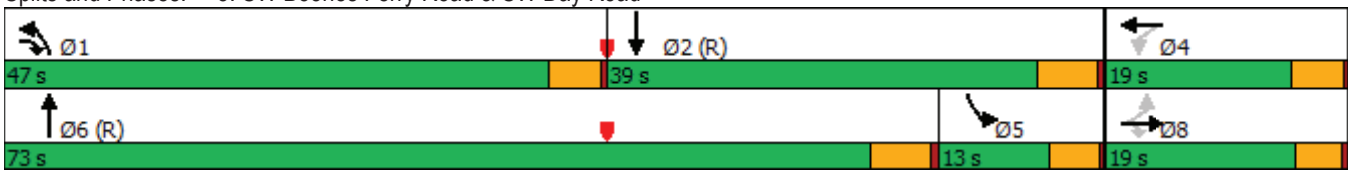
Approach	EB	WB	NB	SB
HCM Control Delay, s	0	20.9	0	0.3
HCM LOS	A	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	858	-	-	-	154	633	1108	-	-
HCM Lane V/C Ratio	-	-	-	-	0.162	0.048	0.022	-	-
HCM Control Delay (s)	0	-	-	0	32.9	11	8.3	-	-
HCM Lane LOS	A	-	-	A	D	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	0.6	0.2	0.1	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	0	704	0	0	0	577	549	0	0	664	64
Future Volume (vph)	3	0	704	0	0	0	577	549	0	0	664	64
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	3%	3%	3%	1%	1%	1%
Shared Lane Traffic (%)												
Turn Type	Perm	NA	pm+ov				Prot	NA		Prot	NA	
Protected Phases		8	1		4		1	6		5	2	
Permitted Phases	8		8	4								
Detector Phase	8	8	1	4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0	4.0	6.0	6.0		4.0	10.0		4.0	10.0	
Minimum Split (s)	32.2	32.2	8.5	37.5	37.5		8.5	22.4		9.2	38.4	
Total Split (s)	19.0	19.0	47.0	19.0	19.0		47.0	73.0		13.0	39.0	
Total Split (%)	18.1%	18.1%	44.8%	18.1%	18.1%		44.8%	69.5%		12.4%	37.1%	
Yellow Time (s)	3.5	3.5	4.0	4.0	4.0		4.0	4.7		4.0	4.7	
All-Red Time (s)	0.7	0.7	0.5	0.5	0.5		0.5	0.7		0.5	0.7	
Lost Time Adjust (s)		-0.2	-0.5		-0.5		-0.5	-1.4		0.5	-1.4	
Total Lost Time (s)		4.0	4.0		4.0		4.0	4.0		5.0	4.0	
Lead/Lag			Lead				Lead	Lead		Lag	Lag	
Lead-Lag Optimize?			Yes				Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	
Act Effct Green (s)		8.0	51.9				48.1	100.4			45.1	
Actuated g/C Ratio		0.08	0.49				0.46	0.96			0.43	
v/c Ratio		0.02	0.98				0.52	0.36			0.55	
Control Delay		42.3	50.7				22.0	1.7			25.6	
Queue Delay		0.0	0.0				0.0	0.0			0.0	
Total Delay		42.3	50.7				22.0	1.7			25.6	
LOS		D	D				C	A			C	
Approach Delay		50.7						12.1			25.6	
Approach LOS		D						B			C	

Intersection Summary	
Cycle Length: 105	
Actuated Cycle Length: 105	
Offset: 3 (3%), Referenced to phase 2:SBT and 6:NBT, Start of Green	
Natural Cycle: 105	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.98	
Intersection Signal Delay: 26.6	Intersection LOS: C
Intersection Capacity Utilization 70.7%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 5: SW Boones Ferry Road & SW Day Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	0	704	0	0	0	577	549	0	0	664	64
Future Volume (veh/h)	3	0	704	0	0	0	577	549	0	0	664	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1900	1900	1900	1856	1856	1856	1885	1885	1885
Adj Flow Rate, veh/h	3	0	602	0	0	0	663	631	0	0	763	71
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	0	0	0	3	3	3	1	1	1
Cap, veh/h	271	0	649	0	277	0	746	762	0	559	1577	147
Arrive On Green	0.14	0.00	0.15	0.00	0.00	0.00	0.26	0.41	0.00	0.00	0.48	0.46
Sat Flow, veh/h	1417	0	1585	0	1900	0	2827	1856	0	1795	3312	308
Grp Volume(v), veh/h	3	0	602	0	0	0	663	631	0	0	412	422
Grp Sat Flow(s),veh/h/ln	1418	0	1585	0	1900	0	1414	1856	0	1795	1791	1830
Q Serve(g_s), s	0.2	0.0	15.3	0.0	0.0	0.0	23.7	31.9	0.0	0.0	16.5	16.5
Cycle Q Clear(g_c), s	0.2	0.0	15.3	0.0	0.0	0.0	23.7	31.9	0.0	0.0	16.5	16.5
Prop In Lane	1.00		1.00	0.00		0.00	1.00		0.00	1.00		0.17
Lane Grp Cap(c), veh/h	268	0	649	0	277	0	746	762	0	559	853	871
V/C Ratio(X)	0.01	0.00	0.93	0.00	0.00	0.00	0.89	0.83	0.00	0.00	0.48	0.48
Avail Cap(c_a), veh/h	268	0	649	0	277	0	1158	1219	0	559	853	871
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	38.7	0.0	29.5	0.0	0.0	0.0	37.2	27.6	0.0	0.0	18.7	18.8
Incr Delay (d2), s/veh	0.0	0.0	19.4	0.0	0.0	0.0	4.5	10.0	0.0	0.0	2.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	17.0	0.0	0.0	0.0	8.4	15.6	0.0	0.0	6.7	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.8	0.0	48.9	0.0	0.0	0.0	41.7	37.7	0.0	0.0	20.7	20.7
LnGrp LOS	D	A	D	A	A	A	D	D	A	A	C	C
Approach Vol, veh/h		605			0			1294			834	
Approach Delay, s/veh		48.9			0.0			39.7			20.7	
Approach LOS		D						D			C	

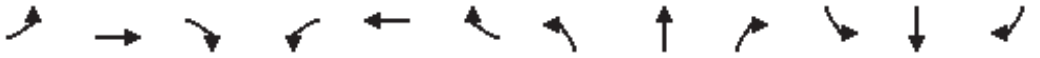
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	31.7	54.0		19.3	38.6	47.1		19.3				
Change Period (Y+Rc), s	4.5	* 5.4		4.5	* 5.4	* 5.4		* 4.5				
Max Green Setting (Gmax), s	42.5	* 34		14.5	* 8.5	* 68		* 15				
Max Q Clear Time (g_c+I1), s	25.7	18.5		0.0	0.0	33.9		17.3				
Green Ext Time (p_c), s	1.5	6.4		0.0	0.0	7.9		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		36.0
HCM 6th LOS		D

Notes

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

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



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	2	56	30	0	32	14	741	10	20	486	18
Future Volume (vph)	51	2	56	30	0	32	14	741	10	20	486	18
Confl. Peds. (#/hr)	13		5	1		9	5		1	9		13
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	7%	7%	7%	6%	6%	6%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Control Type: Unsignalized	
Intersection Capacity Utilization 55.2%	ICU Level of Service B
Analysis Period (min) 15	

Intersection	
Int Delay, s/veh	14.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	51	2	56	30	0	32	14	741	10	20	486	18
Future Vol, veh/h	51	2	56	30	0	32	14	741	10	20	486	18
Conflicting Peds, #/hr	13	0	5	1	0	9	5	0	1	9	0	13
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	95	-	-	105	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	0	0	0	0	0	0	7	7	7	6	6	6
Mvmt Flow	61	2	67	36	0	38	17	882	12	24	579	21

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1605	1588	608	1608	1592	910	613	0	0	903	0	0
Stage 1	651	651	-	931	931	-	-	-	-	-	-	-
Stage 2	954	937	-	677	661	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.17	-	-	4.16	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.263	-	-	2.254	-	-
Pot Cap-1 Maneuver	86	109	499	85	108	336	942	-	-	737	-	-
Stage 1	461	468	-	323	348	-	-	-	-	-	-	-
Stage 2	313	346	-	446	463	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	71	101	490	68	100	329	930	-	-	731	-	-
Mov Cap-2 Maneuver	71	101	-	68	100	-	-	-	-	-	-	-
Stage 1	447	447	-	314	339	-	-	-	-	-	-	-
Stage 2	268	337	-	369	442	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	149.5	80.4	0.2	0.4
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	930	-	-	128	115	731	-	-
HCM Lane V/C Ratio	0.018	-	-	1.014	0.642	0.033	-	-
HCM Control Delay (s)	8.9	-	-	149.5	80.4	10.1	-	-
HCM Lane LOS	A	-	-	F	F	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	7.1	3.3	0.1	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	91	93	672	36	64	496
Future Volume (vph)	91	93	672	36	64	496
Confl. Peds. (#/hr)	4	4		4	4	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	2%	2%	6%	6%	5%	5%
Shared Lane Traffic (%)						
Sign Control	Stop		Free			Free

Intersection Summary			
Control Type: Unsignalized			
Intersection Capacity Utilization	60.2%	ICU Level of Service	B
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	20.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	91	93	672	36	64	496
Future Vol, veh/h	91	93	672	36	64	496
Conflicting Peds, #/hr	4	4	0	4	4	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	65	290	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	6	6	5	5
Mvmt Flow	105	107	772	41	74	570

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1498	780	0	0	817	0
Stage 1	776	-	-	-	-	-
Stage 2	722	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.15	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.245	-
Pot Cap-1 Maneuver	135	395	-	-	798	-
Stage 1	454	-	-	-	-	-
Stage 2	481	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	122	392	-	-	795	-
Mov Cap-2 Maneuver	122	-	-	-	-	-
Stage 1	452	-	-	-	-	-
Stage 2	435	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	157	0	1.1
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	187	795	-
HCM Lane V/C Ratio	-	-	1.131	0.093	-
HCM Control Delay (s)	-	-	157	10	-
HCM Lane LOS	-	-	F	A	-
HCM 95th %tile Q(veh)	-	-	10.6	0.3	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	38	0	31	0	675	72	48	519	0
Future Volume (vph)	0	0	0	38	0	31	0	675	72	48	519	0
Peak Hour Factor	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	2%	2%	2%	6%	6%	6%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Control Type: Unsignalized			
Intersection Capacity Utilization 49.9%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	10.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	38	0	31	0	675	72	48	519	0
Future Vol, veh/h	0	0	0	38	0	31	0	675	72	48	519	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	25	-	-	-	-	70	250	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	67	67	67	67	67	67	67	67	67	67	67	67
Heavy Vehicles, %	0	0	0	0	0	0	2	2	2	6	6	6
Mvmt Flow	0	0	0	57	0	46	0	1007	107	72	775	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2003	2033	775	1926	1926	1007	775	0	0	1114	0	0
Stage 1	919	919	-	1007	1007	-	-	-	-	-	-	-
Stage 2	1084	1114	-	919	919	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.12	-	-	4.16	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.218	-	-	2.254	-	-
Pot Cap-1 Maneuver	45	58	401	~ 51	67	295	841	-	-	612	-	-
Stage 1	328	353	-	293	321	-	-	-	-	-	-	-
Stage 2	265	286	-	328	353	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	35	51	401	~ 46	59	295	841	-	-	612	-	-
Mov Cap-2 Maneuver	35	51	-	~ 46	59	-	-	-	-	-	-	-
Stage 1	328	311	-	293	321	-	-	-	-	-	-	-
Stage 2	223	286	-	289	311	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	201.8	0	1
HCM LOS	A	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	841	-	-	-	46	295	612	-	-
HCM Lane V/C Ratio	-	-	-	-	1.233	0.157	0.117	-	-
HCM Control Delay (s)	0	-	-	0	$ 350.5	19.5	11.7	-	-
HCM Lane LOS	A	-	-	A	F	C	B	-	-
HCM 95th %tile Q(veh)	0	-	-	-	5.3	0.5	0.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	92	35	673	30	11	576
Future Volume (vph)	92	35	673	30	11	576
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	6%	6%	5%	5%
Shared Lane Traffic (%)						
Sign Control	Stop		Free			Free

Intersection Summary			
Control Type: Unsignalized			
Intersection Capacity Utilization	51.1%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	92	35	673	30	11	576
Future Vol, veh/h	92	35	673	30	11	576
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	150	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	6	6	5	5
Mvmt Flow	102	39	748	33	12	640

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1429	765	0	0	781	0
Stage 1	765	-	-	-	-	-
Stage 2	664	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.15	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.245	-
Pot Cap-1 Maneuver	150	406	-	-	823	-
Stage 1	463	-	-	-	-	-
Stage 2	516	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	148	406	-	-	823	-
Mov Cap-2 Maneuver	353	-	-	-	-	-
Stage 1	463	-	-	-	-	-
Stage 2	508	-	-	-	-	-

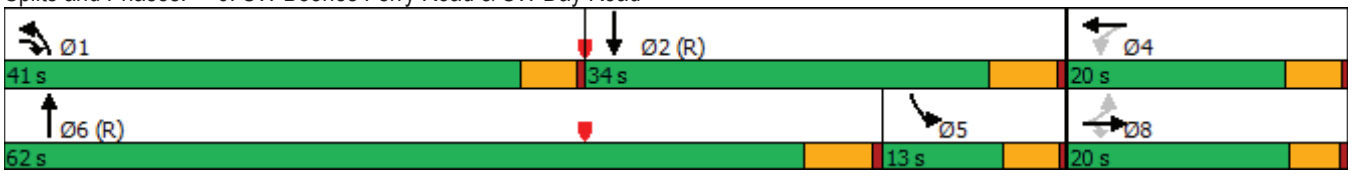
Approach	WB	NB	SB
HCM Control Delay, s	20.9	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	366	823	-
HCM Lane V/C Ratio	-	-	0.386	0.015	-
HCM Control Delay (s)	-	-	20.9	9.4	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	1.8	0	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	179	0	581	0	0	0	642	516	0	0	583	56
Future Volume (vph)	179	0	581	0	0	0	642	516	0	0	583	56
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	14%	14%	14%	0%	0%	0%	14%	14%	14%	7%	7%	7%
Shared Lane Traffic (%)												
Turn Type	Perm	NA	pm+ov				Prot	NA		Prot	NA	
Protected Phases		8	1		4		1	6		5	2	
Permitted Phases	8		8	4								
Detector Phase	8	8	1	4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0	4.0	6.0	6.0		4.0	10.0		4.0	10.0	
Minimum Split (s)	32.2	32.2	8.5	37.5	37.5		8.5	22.4		9.2	38.4	
Total Split (s)	20.0	20.0	41.0	20.0	20.0		41.0	62.0		13.0	34.0	
Total Split (%)	21.1%	21.1%	43.2%	21.1%	21.1%		43.2%	65.3%		13.7%	35.8%	
Yellow Time (s)	3.5	3.5	4.0	4.0	4.0		4.0	4.7		4.0	4.7	
All-Red Time (s)	0.7	0.7	0.5	0.5	0.5		0.5	0.7		0.5	0.7	
Lost Time Adjust (s)		-0.2	-0.5		-0.5		-0.5	-1.4		-0.5	-1.4	
Total Lost Time (s)		4.0	4.0		4.0		4.0	4.0		4.0	4.0	
Lead/Lag			Lead				Lead	Lead		Lag	Lag	
Lead-Lag Optimize?			Yes				Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	
Act Effct Green (s)		18.1	52.6				30.6	68.9			34.4	
Actuated g/C Ratio		0.19	0.55				0.32	0.73			0.36	
v/c Ratio		0.83	0.78				0.82	0.47			0.59	
Control Delay		66.7	21.4				38.0	6.9			27.6	
Queue Delay		0.0	0.0				0.0	0.0			0.0	
Total Delay		66.7	21.4				38.0	6.9			27.6	
LOS		E	C				D	A			C	
Approach Delay		32.1						24.2			27.6	
Approach LOS		C						C			C	

Intersection Summary	
Cycle Length: 95	
Actuated Cycle Length: 95	
Offset: 3 (3%), Referenced to phase 2:SBT and 6:NBT, Start of Green	
Natural Cycle: 105	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.83	
Intersection Signal Delay: 27.4	Intersection LOS: C
Intersection Capacity Utilization 60.5%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 6: SW Boones Ferry Road & SW Day Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	179	0	581	0	0	0	642	516	0	0	583	56
Future Volume (veh/h)	179	0	581	0	0	0	642	516	0	0	583	56
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1693	1693	1693	1900	1900	1900	1693	1693	1693	1796	1796	1796
Adj Flow Rate, veh/h	199	0	463	0	0	0	713	573	0	0	648	60
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	14	14	14	0	0	0	14	14	14	7	7	7
Cap, veh/h	292	0	664	0	326	0	799	688	0	489	1297	120
Arrive On Green	0.17	0.00	0.17	0.00	0.00	0.00	0.29	0.41	0.00	0.00	0.41	0.40
Sat Flow, veh/h	1283	0	1434	0	1900	0	2740	1693	0	1711	3158	292
Grp Volume(v), veh/h	199	0	463	0	0	0	713	573	0	0	350	358
Grp Sat Flow(s),veh/h/ln	1283	0	1434	0	1900	0	1370	1693	0	1711	1706	1744
Q Serve(g_s), s	14.5	0.0	16.3	0.0	0.0	0.0	23.7	28.8	0.0	0.0	14.4	14.5
Cycle Q Clear(g_c), s	14.5	0.0	16.3	0.0	0.0	0.0	23.7	28.8	0.0	0.0	14.4	14.5
Prop In Lane	1.00		1.00	0.00		0.00	1.00		0.00	1.00		0.17
Lane Grp Cap(c), veh/h	289	0	664	0	326	0	799	688	0	489	701	716
V/C Ratio(X)	0.69	0.00	0.70	0.00	0.00	0.00	0.89	0.83	0.00	0.00	0.50	0.50
Avail Cap(c_a), veh/h	289	0	664	0	326	0	1067	1033	0	489	701	716
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	39.0	0.0	20.2	0.0	0.0	0.0	32.2	25.3	0.0	0.0	20.8	20.9
Incr Delay (d2), s/veh	6.3	0.0	3.0	0.0	0.0	0.0	6.9	11.3	0.0	0.0	2.5	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	0.0	7.9	0.0	0.0	0.0	8.3	13.0	0.0	0.0	5.8	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.3	0.0	23.2	0.0	0.0	0.0	39.2	36.6	0.0	0.0	23.3	23.4
LnGrp LOS	D	A	C	A	A	A	D	D	A	A	C	C
Approach Vol, veh/h		662			0			1286			708	
Approach Delay, s/veh		29.8			0.0			38.0			23.3	
Approach LOS		C						D			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	31.7	43.0		20.3	32.1	42.6		20.3				
Change Period (Y+Rc), s	4.5	* 5.4		4.5	* 5.4	* 5.4		* 4.5				
Max Green Setting (Gmax), s	36.5	* 29		15.5	* 8.5	* 57		* 16				
Max Q Clear Time (g_c+I1), s	25.7	16.5		0.0	0.0	30.8		18.3				
Green Ext Time (p_c), s	1.5	4.7		0.0	0.0	6.4		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	32.1
HCM 6th LOS	C

Notes

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

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	0	36	13	1	41	35	556	31	37	890	53
Future Volume (vph)	40	0	36	13	1	41	35	556	31	37	890	53
Confl. Peds. (#/hr)			4	4			4		4			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	2%	2%	2%	3%	3%	3%	1%	1%	1%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Control Type: Unsignalized	
Intersection Capacity Utilization 66.3%	ICU Level of Service C
Analysis Period (min) 15	

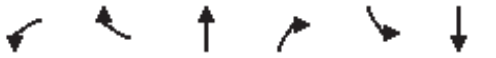
Intersection	
Int Delay, s/veh	8.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	40	0	36	13	1	41	35	556	31	37	890	53
Future Vol, veh/h	40	0	36	13	1	41	35	556	31	37	890	53
Conflicting Peds, #/hr	0	0	4	4	0	0	4	0	4	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	95	-	-	105	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	5	5	5	2	2	2	3	3	3	1	1	1
Mvmt Flow	43	0	38	14	1	44	37	591	33	39	947	56

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1761	1759	983	1762	1771	612	1007	0	0	628	0	0
Stage 1	1057	1057	-	686	686	-	-	-	-	-	-	-
Stage 2	704	702	-	1076	1085	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.12	6.52	6.22	4.13	-	-	4.11	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.518	4.018	3.318	2.227	-	-	2.209	-	-
Pot Cap-1 Maneuver	65	83	298	66	83	493	684	-	-	959	-	-
Stage 1	269	298	-	438	448	-	-	-	-	-	-	-
Stage 2	423	436	-	266	293	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	54	75	296	53	75	491	681	-	-	955	-	-
Mov Cap-2 Maneuver	54	75	-	53	75	-	-	-	-	-	-	-
Stage 1	253	285	-	413	422	-	-	-	-	-	-	-
Stage 2	364	411	-	221	280	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	159	39.6	0.6	0.3
HCM LOS	F	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	681	-	-	88	161	955	-	-
HCM Lane V/C Ratio	0.055	-	-	0.919	0.363	0.041	-	-
HCM Control Delay (s)	10.6	-	-	159	39.6	8.9	-	-
HCM Lane LOS	B	-	-	F	E	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	5.1	1.5	0.1	-	-



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	50	104	530	117	135	776
Future Volume (vph)	50	104	530	117	135	776
Confl. Peds. (#/hr)	2	2		2	2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Sign Control	Stop		Free			Free

Intersection Summary			
Control Type: Unsignalized			
Intersection Capacity Utilization	57.1%	ICU Level of Service	B
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	6.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	50	104	530	117	135	776
Future Vol, veh/h	50	104	530	117	135	776
Conflicting Peds, #/hr	2	2	0	2	2	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	65	290	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	3	3	2	2
Mvmt Flow	53	109	558	123	142	817

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1663	562	0	0	683	0
Stage 1	560	-	-	-	-	-
Stage 2	1103	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	107	526	-	-	910	-
Stage 1	572	-	-	-	-	-
Stage 2	318	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	90	524	-	-	908	-
Mov Cap-2 Maneuver	90	-	-	-	-	-
Stage 1	571	-	-	-	-	-
Stage 2	268	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	68.3	0	1.4
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	204	908	-
HCM Lane V/C Ratio	-	-	0.795	0.157	-
HCM Control Delay (s)	-	-	68.3	9.7	-
HCM Lane LOS	-	-	F	A	-
HCM 95th %tile Q(veh)	-	-	5.6	0.6	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	23	0	28	0	466	30	22	808	0
Future Volume (vph)	0	0	0	23	0	28	0	466	30	22	808	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Control Type: Unsignalized	
Intersection Capacity Utilization 52.5%	ICU Level of Service A
Analysis Period (min) 15	

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	23	0	28	0	466	30	22	808	0
Future Vol, veh/h	0	0	0	23	0	28	0	466	30	22	808	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	25	-	-	-	-	70	250	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	25	0	30	0	507	33	24	878	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1465	1466	878	1433	1433	507	878	0	0	540	0	0
Stage 1	926	926	-	507	507	-	-	-	-	-	-	-
Stage 2	539	540	-	926	926	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	106	128	347	112	134	566	769	-	-	1028	-	-
Stage 1	322	347	-	548	539	-	-	-	-	-	-	-
Stage 2	527	521	-	322	347	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	98	125	347	110	131	566	769	-	-	1028	-	-
Mov Cap-2 Maneuver	98	125	-	110	131	-	-	-	-	-	-	-
Stage 1	322	339	-	548	539	-	-	-	-	-	-	-
Stage 2	499	521	-	314	339	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	27.7	0	0.2
HCM LOS	A	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	769	-	-	-	110	566	1028	-	-
HCM Lane V/C Ratio	-	-	-	-	0.227	0.054	0.023	-	-
HCM Control Delay (s)	0	-	-	0	47.1	11.7	8.6	-	-
HCM Lane LOS	A	-	-	A	E	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	0.8	0.2	0.1	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	60	23	624	101	38	788
Future Volume (vph)	60	23	624	101	38	788
Confl. Peds. (#/hr)	2	2		2	2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Sign Control	Stop		Free			Free

Intersection Summary			
Control Type: Unsignalized			
Intersection Capacity Utilization 53.5%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	60	23	624	101	38	788
Future Vol, veh/h	60	23	624	101	38	788
Conflicting Peds, #/hr	2	2	0	2	2	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	150	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	3	3	2	2
Mvmt Flow	67	26	693	112	42	876

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1713	753	0	0	807	0
Stage 1	751	-	-	-	-	-
Stage 2	962	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.12	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.218	-
Pot Cap-1 Maneuver	101	413	-	-	818	-
Stage 1	470	-	-	-	-	-
Stage 2	374	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	95	411	-	-	816	-
Mov Cap-2 Maneuver	282	-	-	-	-	-
Stage 1	469	-	-	-	-	-
Stage 2	354	-	-	-	-	-

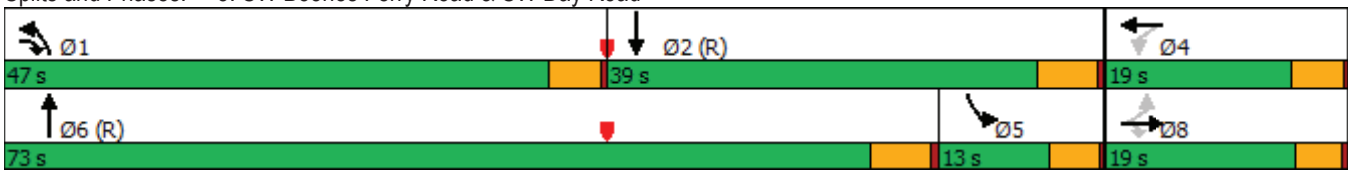
Approach	WB	NB	SB
HCM Control Delay, s	21.5	0	0.4
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	309	816	-
HCM Lane V/C Ratio	-	-	0.298	0.052	-
HCM Control Delay (s)	-	-	21.5	9.7	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	1.2	0.2	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	0	774	0	0	0	635	684	0	0	776	73
Future Volume (vph)	8	0	774	0	0	0	635	684	0	0	776	73
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	3%	3%	3%	1%	1%	1%
Shared Lane Traffic (%)												
Turn Type	Perm	NA	pm+ov				Prot	NA		Prot	NA	
Protected Phases		8	1		4		1	6		5	2	
Permitted Phases	8		8	4								
Detector Phase	8	8	1	4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0	4.0	6.0	6.0		4.0	10.0		4.0	10.0	
Minimum Split (s)	32.2	32.2	8.5	37.5	37.5		8.5	22.4		9.2	38.4	
Total Split (s)	19.0	19.0	47.0	19.0	19.0		47.0	73.0		13.0	39.0	
Total Split (%)	18.1%	18.1%	44.8%	18.1%	18.1%		44.8%	69.5%		12.4%	37.1%	
Yellow Time (s)	3.5	3.5	4.0	4.0	4.0		4.0	4.7		4.0	4.7	
All-Red Time (s)	0.7	0.7	0.5	0.5	0.5		0.5	0.7		0.5	0.7	
Lost Time Adjust (s)		-0.2	-0.5		-0.5		-0.5	-1.4		0.5	-1.4	
Total Lost Time (s)		4.0	4.0		4.0		4.0	4.0		5.0	4.0	
Lead/Lag			Lead				Lead	Lead		Lag	Lag	
Lead-Lag Optimize?			Yes				Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	
Act Effct Green (s)		8.0	57.4				51.5	97.5			39.6	
Actuated g/C Ratio		0.08	0.55				0.49	0.93			0.38	
v/c Ratio		0.07	0.99				0.53	0.46			0.73	
Control Delay		43.9	48.6				20.8	2.7			33.0	
Queue Delay		0.0	0.0				0.0	0.0			0.0	
Total Delay		43.9	48.6				20.8	2.7			33.0	
LOS		D	D				C	A			C	
Approach Delay		48.6						11.4			33.0	
Approach LOS		D						B			C	

Intersection Summary	
Cycle Length: 105	
Actuated Cycle Length: 105	
Offset: 3 (3%), Referenced to phase 2:SBT and 6:NBT, Start of Green	
Natural Cycle: 105	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.99	
Intersection Signal Delay: 27.5	Intersection LOS: C
Intersection Capacity Utilization 78.4%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 5: SW Boones Ferry Road & SW Day Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	0	774	0	0	0	635	684	0	0	776	73
Future Volume (veh/h)	8	0	774	0	0	0	635	684	0	0	776	73
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1900	1900	1900	1856	1856	1856	1885	1885	1885
Adj Flow Rate, veh/h	9	0	683	0	0	0	730	786	0	0	892	81
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	0	0	0	3	3	3	1	1	1
Cap, veh/h	271	0	687	0	277	0	813	922	0	404	1502	136
Arrive On Green	0.14	0.00	0.15	0.00	0.00	0.00	0.29	0.50	0.00	0.00	0.45	0.44
Sat Flow, veh/h	1418	0	1585	0	1900	0	2827	1856	0	1795	3320	302
Grp Volume(v), veh/h	9	0	683	0	0	0	730	786	0	0	481	492
Grp Sat Flow(s),veh/h/ln	1418	0	1585	0	1900	0	1414	1856	0	1795	1791	1831
Q Serve(g_s), s	0.6	0.0	15.3	0.0	0.0	0.0	26.0	38.8	0.0	0.0	21.1	21.2
Cycle Q Clear(g_c), s	0.6	0.0	15.3	0.0	0.0	0.0	26.0	38.8	0.0	0.0	21.1	21.2
Prop In Lane	1.00		1.00	0.00		0.00	1.00		0.00	1.00		0.16
Lane Grp Cap(c), veh/h	268	0	687	0	277	0	813	922	0	404	810	828
V/C Ratio(X)	0.03	0.00	0.99	0.00	0.00	0.00	0.90	0.85	0.00	0.00	0.59	0.59
Avail Cap(c_a), veh/h	268	0	687	0	277	0	1158	1219	0	404	810	828
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	38.9	0.0	29.6	0.0	0.0	0.0	35.9	23.1	0.0	0.0	21.5	21.6
Incr Delay (d2), s/veh	0.0	0.0	32.9	0.0	0.0	0.0	6.1	9.9	0.0	0.0	3.2	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	22.1	0.0	0.0	0.0	9.4	18.3	0.0	0.0	8.9	9.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.9	0.0	62.5	0.0	0.0	0.0	42.1	32.9	0.0	0.0	24.7	24.7
LnGrp LOS	D	A	E	A	A	A	D	C	A	A	C	C
Approach Vol, veh/h		692			0			1516			973	
Approach Delay, s/veh		62.2			0.0			37.3			24.7	
Approach LOS		E						D			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	34.2	51.5		19.3	29.5	56.2		19.3				
Change Period (Y+Rc), s	4.5	* 5.4		4.5	* 5.4	* 5.4		* 4.5				
Max Green Setting (Gmax), s	42.5	* 34		14.5	* 8.5	* 68		* 15				
Max Q Clear Time (g_c+I1), s	28.0	23.2		0.0	0.0	40.8		17.3				
Green Ext Time (p_c), s	1.7	5.8		0.0	0.0	9.9		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		38.9	
HCM 6th LOS		D	

Notes

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

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	2	56	30	0	32	14	753	10	20	490	18
Future Volume (vph)	51	2	56	30	0	32	14	753	10	20	490	18
Confl. Peds. (#/hr)	13		5	1		9	5		1	9		13
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	7%	7%	7%	6%	6%	6%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Control Type: Unsignalized	
Intersection Capacity Utilization 55.9%	ICU Level of Service B
Analysis Period (min) 15	

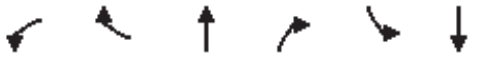
Intersection	
Int Delay, s/veh	15.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	51	2	56	30	0	32	14	753	10	20	490	18
Future Vol, veh/h	51	2	56	30	0	32	14	753	10	20	490	18
Conflicting Peds, #/hr	13	0	5	1	0	9	5	0	1	9	0	13
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	95	-	-	105	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	0	0	0	0	0	0	7	7	7	6	6	6
Mvmt Flow	61	2	67	36	0	38	17	896	12	24	583	21

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1623	1606	612	1626	1610	924	617	0	0	917	0	0
Stage 1	655	655	-	945	945	-	-	-	-	-	-	-
Stage 2	968	951	-	681	665	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.17	-	-	4.16	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.263	-	-	2.254	-	-
Pot Cap-1 Maneuver	83	106	497	83	106	329	939	-	-	728	-	-
Stage 1	458	466	-	317	343	-	-	-	-	-	-	-
Stage 2	308	341	-	444	461	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	69	99	489	67	99	322	927	-	-	722	-	-
Mov Cap-2 Maneuver	69	99	-	67	99	-	-	-	-	-	-	-
Stage 1	444	445	-	308	334	-	-	-	-	-	-	-
Stage 2	263	332	-	367	440	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	158.7	83.1	0.2	0.4
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	927	-	-	125	113	722	-	-
HCM Lane V/C Ratio	0.018	-	-	1.038	0.653	0.033	-	-
HCM Control Delay (s)	9	-	-	158.7	83.1	10.2	-	-
HCM Lane LOS	A	-	-	F	F	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	7.3	3.4	0.1	-	-



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	93	93	684	41	64	500
Future Volume (vph)	93	93	684	41	64	500
Confl. Peds. (#/hr)	4	4		4	4	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	2%	2%	6%	6%	5%	5%
Shared Lane Traffic (%)						
Sign Control	Stop		Free			Free

Intersection Summary			
Control Type: Unsignalized			
Intersection Capacity Utilization	60.9%	ICU Level of Service	B
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	22.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	93	93	684	41	64	500
Future Vol, veh/h	93	93	684	41	64	500
Conflicting Peds, #/hr	4	4	0	4	4	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	65	290	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	6	6	5	5
Mvmt Flow	107	107	786	47	74	575

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1517	794	0	0	837	0
Stage 1	790	-	-	-	-	-
Stage 2	727	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.15	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.245	-
Pot Cap-1 Maneuver	131	388	-	-	784	-
Stage 1	447	-	-	-	-	-
Stage 2	478	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	118	385	-	-	781	-
Mov Cap-2 Maneuver	118	-	-	-	-	-
Stage 1	445	-	-	-	-	-
Stage 2	431	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	176.3	0	1.1
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	181	781	-
HCM Lane V/C Ratio	-	-	1.181	0.094	-
HCM Control Delay (s)	-	-	176.3	10.1	-
HCM Lane LOS	-	-	F	B	-
HCM 95th %tile Q(veh)	-	-	11.2	0.3	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	38	0	31	0	692	72	48	525	0
Future Volume (vph)	0	0	0	38	0	31	0	692	72	48	525	0
Peak Hour Factor	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	2%	2%	2%	6%	6%	6%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Control Type: Unsignalized			
Intersection Capacity Utilization 49.9%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	11.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	38	0	31	0	692	72	48	525	0
Future Vol, veh/h	0	0	0	38	0	31	0	692	72	48	525	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	25	-	-	-	-	70	250	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	67	67	67	67	67	67	67	67	67	67	67	67
Heavy Vehicles, %	0	0	0	0	0	0	2	2	2	6	6	6
Mvmt Flow	0	0	0	57	0	46	0	1033	107	72	784	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2038	2068	784	1961	1961	1033	784	0	0	1140	0	0
Stage 1	928	928	-	1033	1033	-	-	-	-	-	-	-
Stage 2	1110	1140	-	928	928	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.12	-	-	4.16	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.218	-	-	2.254	-	-
Pot Cap-1 Maneuver	42	55	396	~ 48	64	285	834	-	-	598	-	-
Stage 1	324	349	-	283	312	-	-	-	-	-	-	-
Stage 2	256	278	-	324	349	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	32	48	396	~ 44	56	285	834	-	-	598	-	-
Mov Cap-2 Maneuver	32	48	-	~ 44	56	-	-	-	-	-	-	-
Stage 1	324	307	-	283	312	-	-	-	-	-	-	-
Stage 2	214	278	-	285	307	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	217.9	0	1
HCM LOS	A	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	834	-	-	-	44	285	598	-	-
HCM Lane V/C Ratio	-	-	-	-	1.289	0.162	0.12	-	-
HCM Control Delay (s)	0	-	-	0	$ 379.2	20.1	11.8	-	-
HCM Lane LOS	A	-	-	A	F	C	B	-	-
HCM 95th %tile Q(veh)	0	-	-	-	5.5	0.6	0.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	106	52	673	35	17	576
Future Volume (vph)	106	52	673	35	17	576
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	6%	6%	5%	5%
Shared Lane Traffic (%)						
Sign Control	Stop		Free			Free

Intersection Summary			
Control Type: Unsignalized			
Intersection Capacity Utilization	53.3%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	3.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	106	52	673	35	17	576
Future Vol, veh/h	106	52	673	35	17	576
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	6	6	5	5
Mvmt Flow	118	58	748	39	19	640

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1446	768	0	0	787	0
Stage 1	768	-	-	-	-	-
Stage 2	678	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.15	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.245	-
Pot Cap-1 Maneuver	147	405	-	-	819	-
Stage 1	461	-	-	-	-	-
Stage 2	508	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	144	405	-	-	819	-
Mov Cap-2 Maneuver	284	-	-	-	-	-
Stage 1	461	-	-	-	-	-
Stage 2	496	-	-	-	-	-

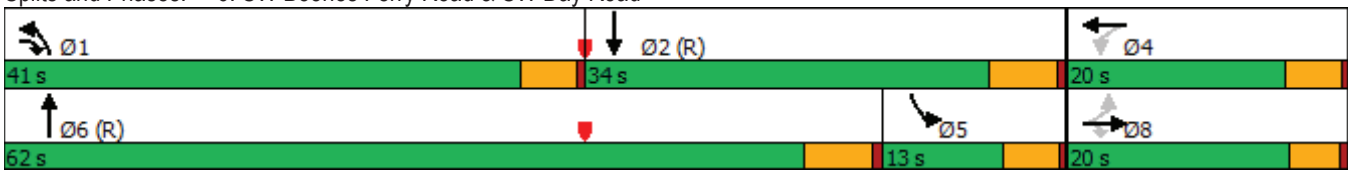
Approach	WB	NB	SB
HCM Control Delay, s	29.9	0	0.3
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	315	819	-
HCM Lane V/C Ratio	-	-	0.557	0.023	-
HCM Control Delay (s)	-	-	29.9	9.5	-
HCM Lane LOS	-	-	D	A	-
HCM 95th %tile Q(veh)	-	-	3.2	0.1	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	179	0	581	0	0	0	642	520	0	0	594	56
Future Volume (vph)	179	0	581	0	0	0	642	520	0	0	594	56
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	14%	14%	14%	0%	0%	0%	14%	14%	14%	7%	7%	7%
Shared Lane Traffic (%)												
Turn Type	Perm	NA	pm+ov				Prot	NA		Prot	NA	
Protected Phases		8	1		4		1	6		5	2	
Permitted Phases	8		8	4								
Detector Phase	8	8	1	4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0	4.0	6.0	6.0		4.0	10.0		4.0	10.0	
Minimum Split (s)	32.2	32.2	8.5	37.5	37.5		8.5	22.4		9.2	38.4	
Total Split (s)	20.0	20.0	41.0	20.0	20.0		41.0	62.0		13.0	34.0	
Total Split (%)	21.1%	21.1%	43.2%	21.1%	21.1%		43.2%	65.3%		13.7%	35.8%	
Yellow Time (s)	3.5	3.5	4.0	4.0	4.0		4.0	4.7		4.0	4.7	
All-Red Time (s)	0.7	0.7	0.5	0.5	0.5		0.5	0.7		0.5	0.7	
Lost Time Adjust (s)		-0.2	-0.5		-0.5		-0.5	-1.4		-0.5	-1.4	
Total Lost Time (s)		4.0	4.0		4.0		4.0	4.0		4.0	4.0	
Lead/Lag			Lead				Lead	Lead		Lag	Lag	
Lead-Lag Optimize?			Yes				Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	
Act Effct Green (s)		17.9	52.7				30.8	69.1			34.3	
Actuated g/C Ratio		0.19	0.55				0.32	0.73			0.36	
v/c Ratio		0.84	0.78				0.82	0.48			0.60	
Control Delay		67.8	21.3				37.5	6.9			27.8	
Queue Delay		0.0	0.0				0.0	0.0			0.0	
Total Delay		67.8	21.3				37.5	6.9			27.8	
LOS		E	C				D	A			C	
Approach Delay		32.3						23.8			27.8	
Approach LOS		C						C			C	

Intersection Summary	
Cycle Length: 95	
Actuated Cycle Length: 95	
Offset: 3 (3%), Referenced to phase 2:SBT and 6:NBT, Start of Green	
Natural Cycle: 105	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.84	
Intersection Signal Delay: 27.3	Intersection LOS: C
Intersection Capacity Utilization 60.8%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 6: SW Boones Ferry Road & SW Day Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	179	0	581	0	0	0	642	520	0	0	594	56
Future Volume (veh/h)	179	0	581	0	0	0	642	520	0	0	594	56
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1693	1693	1693	1900	1900	1900	1693	1693	1693	1796	1796	1796
Adj Flow Rate, veh/h	199	0	463	0	0	0	713	578	0	0	660	60
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	14	14	14	0	0	0	14	14	14	7	7	7
Cap, veh/h	292	0	664	0	326	0	799	693	0	484	1299	118
Arrive On Green	0.17	0.00	0.17	0.00	0.00	0.00	0.29	0.41	0.00	0.00	0.41	0.40
Sat Flow, veh/h	1283	0	1434	0	1900	0	2740	1693	0	1711	3164	287
Grp Volume(v), veh/h	199	0	463	0	0	0	713	578	0	0	356	364
Grp Sat Flow(s),veh/h/ln	1283	0	1434	0	1900	0	1370	1693	0	1711	1706	1745
Q Serve(g_s), s	14.5	0.0	16.3	0.0	0.0	0.0	23.7	29.1	0.0	0.0	14.7	14.8
Cycle Q Clear(g_c), s	14.5	0.0	16.3	0.0	0.0	0.0	23.7	29.1	0.0	0.0	14.7	14.8
Prop In Lane	1.00		1.00	0.00		0.00	1.00		0.00	1.00		0.16
Lane Grp Cap(c), veh/h	289	0	664	0	326	0	799	693	0	484	701	716
V/C Ratio(X)	0.69	0.00	0.70	0.00	0.00	0.00	0.89	0.83	0.00	0.00	0.51	0.51
Avail Cap(c_a), veh/h	289	0	664	0	326	0	1067	1033	0	484	701	716
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	39.0	0.0	20.2	0.0	0.0	0.0	32.2	25.1	0.0	0.0	20.8	21.0
Incr Delay (d2), s/veh	6.3	0.0	3.0	0.0	0.0	0.0	6.9	11.3	0.0	0.0	2.6	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	0.0	7.9	0.0	0.0	0.0	8.3	13.1	0.0	0.0	5.9	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.3	0.0	23.2	0.0	0.0	0.0	39.2	36.4	0.0	0.0	23.5	23.5
LnGrp LOS	D	A	C	A	A	A	D	D	A	A	C	C
Approach Vol, veh/h		662			0			1291			720	
Approach Delay, s/veh		29.8			0.0			37.9			23.5	
Approach LOS		C						D			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	31.7	43.0		20.3	31.8	42.9		20.3
Change Period (Y+Rc), s	4.5	* 5.4		4.5	* 5.4	* 5.4		* 4.5
Max Green Setting (Gmax), s	36.5	* 29		15.5	* 8.5	* 57		* 16
Max Q Clear Time (g_c+I1), s	25.7	16.8		0.0	0.0	31.1		18.3
Green Ext Time (p_c), s	1.5	4.7		0.0	0.0	6.4		0.0

Intersection Summary	
HCM 6th Ctrl Delay	32.0
HCM 6th LOS	C

Notes

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

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	0	36	13	1	41	35	564	31	37	902	53
Future Volume (vph)	40	0	36	13	1	41	35	564	31	37	902	53
Confl. Peds. (#/hr)			4	4			4		4			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	2%	2%	2%	3%	3%	3%	1%	1%	1%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Control Type: Unsignalized			
Intersection Capacity Utilization 67.0%		ICU Level of Service C	
Analysis Period (min) 15			

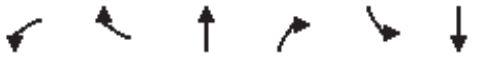
Intersection	
Int Delay, s/veh	9.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↰	↕		↰	↕	
Traffic Vol, veh/h	40	0	36	13	1	41	35	564	31	37	902	53
Future Vol, veh/h	40	0	36	13	1	41	35	564	31	37	902	53
Conflicting Peds, #/hr	0	0	4	4	0	0	4	0	4	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	95	-	-	105	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	5	5	5	2	2	2	3	3	3	1	1	1
Mvmt Flow	43	0	38	14	1	44	37	600	33	39	960	56

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1783	1781	996	1784	1793	621	1020	0	0	637	0	0
Stage 1	1070	1070	-	695	695	-	-	-	-	-	-	-
Stage 2	713	711	-	1089	1098	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.12	6.52	6.22	4.13	-	-	4.11	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.518	4.018	3.318	2.227	-	-	2.209	-	-
Pot Cap-1 Maneuver	62	81	293	63	81	487	676	-	-	951	-	-
Stage 1	264	294	-	433	444	-	-	-	-	-	-	-
Stage 2	418	432	-	261	289	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	52	73	291	50	73	485	673	-	-	947	-	-
Mov Cap-2 Maneuver	52	73	-	50	73	-	-	-	-	-	-	-
Stage 1	248	281	-	407	418	-	-	-	-	-	-	-
Stage 2	359	407	-	216	276	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	171.5	42	0.6	0.3
HCM LOS	F	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	673	-	-	85	154	947	-	-
HCM Lane V/C Ratio	0.055	-	-	0.951	0.38	0.042	-	-
HCM Control Delay (s)	10.7	-	-	171.5	42	9	-	-
HCM Lane LOS	B	-	-	F	E	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	5.3	1.6	0.1	-	-



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	55	104	538	120	135	788
Future Volume (vph)	55	104	538	120	135	788
Confl. Peds. (#/hr)	2	2		2	2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Sign Control	Stop		Free			Free

Intersection Summary			
Control Type: Unsignalized			
Intersection Capacity Utilization	58.0%	ICU Level of Service	B
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	8.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	55	104	538	120	135	788
Future Vol, veh/h	55	104	538	120	135	788
Conflicting Peds, #/hr	2	2	0	2	2	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	65	290	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	3	3	2	2
Mvmt Flow	58	109	566	126	142	829

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1683	570	0	0	694	0
Stage 1	568	-	-	-	-	-
Stage 2	1115	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	104	521	-	-	901	-
Stage 1	567	-	-	-	-	-
Stage 2	314	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	87	519	-	-	899	-
Mov Cap-2 Maneuver	87	-	-	-	-	-
Stage 1	566	-	-	-	-	-
Stage 2	264	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	86.6	0	1.4
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	191	899	-
HCM Lane V/C Ratio	-	-	0.876	0.158	-
HCM Control Delay (s)	-	-	86.6	9.8	-
HCM Lane LOS	-	-	F	A	-
HCM 95th %tile Q(veh)	-	-	6.6	0.6	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	23	0	28	0	477	30	22	825	0
Future Volume (vph)	0	0	0	23	0	28	0	477	30	22	825	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Control Type: Unsignalized			
Intersection Capacity Utilization 53.4%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	23	0	28	0	477	30	22	825	0
Future Vol, veh/h	0	0	0	23	0	28	0	477	30	22	825	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	25	-	-	-	-	70	250	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	25	0	30	0	518	33	24	897	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1495	1496	897	1463	1463	518	897	0	0	551	0	0
Stage 1	945	945	-	518	518	-	-	-	-	-	-	-
Stage 2	550	551	-	945	945	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	101	123	339	107	129	558	757	-	-	1019	-	-
Stage 1	314	340	-	541	533	-	-	-	-	-	-	-
Stage 2	519	515	-	314	340	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	94	120	339	105	126	558	757	-	-	1019	-	-
Mov Cap-2 Maneuver	94	120	-	105	126	-	-	-	-	-	-	-
Stage 1	314	332	-	541	533	-	-	-	-	-	-	-
Stage 2	491	515	-	307	332	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	28.9	0	0.2
HCM LOS	A	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	757	-	-	-	105	558	1019	-	-
HCM Lane V/C Ratio	-	-	-	-	0.238	0.055	0.023	-	-
HCM Control Delay (s)	0	-	-	0	49.7	11.8	8.6	-	-
HCM Lane LOS	A	-	-	A	E	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	0.9	0.2	0.1	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	69	34	624	115	55	788
Future Volume (vph)	69	34	624	115	55	788
Confl. Peds. (#/hr)	2	2		2	2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Sign Control	Stop		Free			Free

Intersection Summary			
Control Type: Unsignalized			
Intersection Capacity Utilization	58.8%	ICU Level of Service	B
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	1.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	69	34	624	115	55	788
Future Vol, veh/h	69	34	624	115	55	788
Conflicting Peds, #/hr	2	2	0	2	2	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	150	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	3	3	2	2
Mvmt Flow	77	38	693	128	61	876

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1759	761	0	0	823	0
Stage 1	759	-	-	-	-	-
Stage 2	1000	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.12	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.218	-
Pot Cap-1 Maneuver	94	409	-	-	807	-
Stage 1	466	-	-	-	-	-
Stage 2	359	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	86	407	-	-	805	-
Mov Cap-2 Maneuver	267	-	-	-	-	-
Stage 1	465	-	-	-	-	-
Stage 2	331	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	24.1	0	0.6
HCM LOS	C		

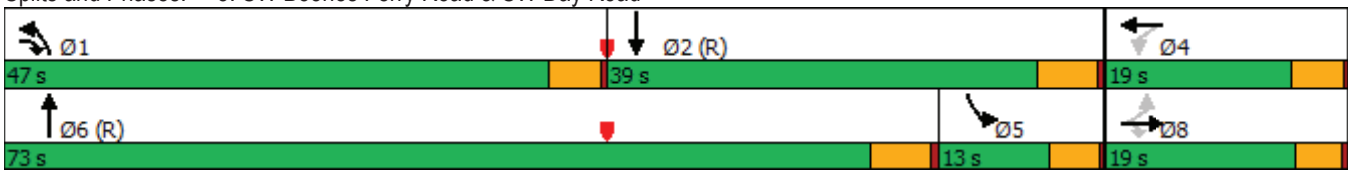
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	301	805	-
HCM Lane V/C Ratio	-	-	0.38	0.076	-
HCM Control Delay (s)	-	-	24.1	9.8	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	1.7	0.2	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	0	774	0	0	0	635	695	0	0	783	73
Future Volume (vph)	8	0	774	0	0	0	635	695	0	0	783	73
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	3%	3%	3%	1%	1%	1%
Shared Lane Traffic (%)												
Turn Type	Perm	NA	pm+ov				Prot	NA		Prot	NA	
Protected Phases		8	1		4		1	6		5	2	
Permitted Phases	8		8	4								
Detector Phase	8	8	1	4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0	4.0	6.0	6.0		4.0	10.0		4.0	10.0	
Minimum Split (s)	32.2	32.2	8.5	37.5	37.5		8.5	22.4		9.2	38.4	
Total Split (s)	19.0	19.0	47.0	19.0	19.0		47.0	73.0		13.0	39.0	
Total Split (%)	18.1%	18.1%	44.8%	18.1%	18.1%		44.8%	69.5%		12.4%	37.1%	
Yellow Time (s)	3.5	3.5	4.0	4.0	4.0		4.0	4.7		4.0	4.7	
All-Red Time (s)	0.7	0.7	0.5	0.5	0.5		0.5	0.7		0.5	0.7	
Lost Time Adjust (s)		-0.2	-0.5		-0.5		-0.5	-1.4		0.5	-1.4	
Total Lost Time (s)		4.0	4.0		4.0		4.0	4.0		5.0	4.0	
Lead/Lag			Lead				Lead	Lead		Lag	Lag	
Lead-Lag Optimize?			Yes				Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	
Act Effct Green (s)		8.0	57.4				51.5	97.5			39.6	
Actuated g/C Ratio		0.08	0.55				0.49	0.93			0.38	
v/c Ratio		0.07	0.99				0.53	0.47			0.74	
Control Delay		43.9	48.5				20.8	2.7			33.2	
Queue Delay		0.0	0.0				0.0	0.0			0.0	
Total Delay		43.9	48.5				20.8	2.7			33.2	
LOS		D	D				C	A			C	
Approach Delay		48.4						11.4			33.2	
Approach LOS		D						B			C	

Intersection Summary

Cycle Length: 105
Actuated Cycle Length: 105
Offset: 3 (3%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle: 105
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.99
Intersection Signal Delay: 27.4 — Intersection LOS: C
Intersection Capacity Utilization 78.6% — ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 5: SW Boones Ferry Road & SW Day Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	0	774	0	0	0	635	695	0	0	783	73
Future Volume (veh/h)	8	0	774	0	0	0	635	695	0	0	783	73
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1900	1900	1900	1856	1856	1856	1885	1885	1885
Adj Flow Rate, veh/h	9	0	683	0	0	0	730	799	0	0	900	81
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	0	0	0	3	3	3	1	1	1
Cap, veh/h	271	0	687	0	277	0	813	934	0	392	1503	135
Arrive On Green	0.14	0.00	0.15	0.00	0.00	0.00	0.29	0.50	0.00	0.00	0.45	0.44
Sat Flow, veh/h	1418	0	1585	0	1900	0	2827	1856	0	1795	3323	299
Grp Volume(v), veh/h	9	0	683	0	0	0	730	799	0	0	485	496
Grp Sat Flow(s),veh/h/ln	1418	0	1585	0	1900	0	1414	1856	0	1795	1791	1831
Q Serve(g_s), s	0.6	0.0	15.3	0.0	0.0	0.0	26.0	39.4	0.0	0.0	21.4	21.4
Cycle Q Clear(g_c), s	0.6	0.0	15.3	0.0	0.0	0.0	26.0	39.4	0.0	0.0	21.4	21.4
Prop In Lane	1.00		1.00	0.00		0.00	1.00		0.00	1.00		0.16
Lane Grp Cap(c), veh/h	268	0	687	0	277	0	813	934	0	392	810	828
V/C Ratio(X)	0.03	0.00	0.99	0.00	0.00	0.00	0.90	0.86	0.00	0.00	0.60	0.60
Avail Cap(c_a), veh/h	268	0	687	0	277	0	1158	1219	0	392	810	828
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	38.9	0.0	29.6	0.0	0.0	0.0	35.9	22.7	0.0	0.0	21.6	21.7
Incr Delay (d2), s/veh	0.0	0.0	32.9	0.0	0.0	0.0	6.1	9.9	0.0	0.0	3.3	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	22.1	0.0	0.0	0.0	9.4	18.5	0.0	0.0	9.0	9.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.9	0.0	62.5	0.0	0.0	0.0	42.1	32.6	0.0	0.0	24.8	24.9
LnGrp LOS	D	A	E	A	A	A	D	C	A	A	C	C
Approach Vol, veh/h		692			0			1529			981	
Approach Delay, s/veh		62.2			0.0			37.1			24.9	
Approach LOS		E						D			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	34.2	51.5		19.3	28.8	56.9		19.3				
Change Period (Y+Rc), s	4.5	* 5.4		4.5	* 5.4	* 5.4		* 4.5				
Max Green Setting (Gmax), s	42.5	* 34		14.5	* 8.5	* 68		* 15				
Max Q Clear Time (g_c+I1), s	28.0	23.4		0.0	0.0	41.4		17.3				
Green Ext Time (p_c), s	1.7	5.8		0.0	0.0	10.1		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		38.8	
HCM 6th LOS		D	

Notes

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

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

Lane Group	EBT	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	180	587	649	497	569
v/c Ratio	0.77	0.73	0.80	0.41	0.44
Control Delay	59.9	18.0	37.8	6.3	24.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	59.9	18.0	37.8	6.3	24.1
Queue Length 50th (ft)	100	188	211	110	134
Queue Length 95th (ft)	#225	284	248	134	197
Internal Link Dist (ft)	705			1336	2053
Turn Bay Length (ft)			200		
Base Capacity (vph)	242	921	1048	1218	1290
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.74	0.64	0.62	0.41	0.44

Intersection Summary

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

Lane Group	EBT	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	3	809	663	631	837
v/c Ratio	0.02	0.98	0.52	0.36	0.55
Control Delay	42.3	50.7	22.0	1.7	25.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	42.3	50.7	22.0	1.7	25.6
Queue Length 50th (ft)	2	~570	193	0	196
Queue Length 95th (ft)	10	539	268	153	310
Internal Link Dist (ft)	705			1336	2053
Turn Bay Length (ft)			200		
Base Capacity (vph)	266	826	1291	1764	1520
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.01	0.98	0.51	0.36	0.55

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

Lane Group	EBT	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	199	646	713	573	710
v/c Ratio	0.83	0.78	0.82	0.47	0.59
Control Delay	66.7	21.4	38.0	6.9	27.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	66.7	21.4	38.0	6.9	27.6
Queue Length 50th (ft)	113	234	230	136	185
Queue Length 95th (ft)	#255	368	280	164	255
Internal Link Dist (ft)	705			1336	2053
Turn Bay Length (ft)			200		
Base Capacity (vph)	239	915	1048	1209	1211
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.83	0.71	0.68	0.47	0.59

Intersection Summary

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

Lane Group	EBT	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	9	890	730	786	976
v/c Ratio	0.07	0.99	0.53	0.46	0.73
Control Delay	43.9	48.6	20.8	2.7	33.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	43.9	48.6	20.8	2.7	33.0
Queue Length 50th (ft)	6	468	158	0	312
Queue Length 95th (ft)	20	#735	301	217	375
Internal Link Dist (ft)	705			1336	2053
Turn Bay Length (ft)			200		
Base Capacity (vph)	231	901	1374	1713	1337
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.04	0.99	0.53	0.46	0.73

Intersection Summary

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

Lane Group	EBT	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	199	646	713	578	722
v/c Ratio	0.84	0.78	0.82	0.48	0.60
Control Delay	67.8	21.3	37.5	6.9	27.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	67.8	21.3	37.5	6.9	27.8
Queue Length 50th (ft)	113	235	230	136	188
Queue Length 95th (ft)	#255	368	280	167	260
Internal Link Dist (ft)	705			1336	2053
Turn Bay Length (ft)			200		
Base Capacity (vph)	238	913	1048	1211	1210
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.84	0.71	0.68	0.48	0.60

Intersection Summary

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

Lane Group	EBT	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	9	890	730	799	984
v/c Ratio	0.07	0.99	0.53	0.47	0.74
Control Delay	43.9	48.5	20.8	2.7	33.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	43.9	48.5	20.8	2.7	33.2
Queue Length 50th (ft)	6	468	158	0	315
Queue Length 95th (ft)	20	#735	301	222	380
Internal Link Dist (ft)	705			1336	2053
Turn Bay Length (ft)			200		
Base Capacity (vph)	231	902	1375	1713	1335
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.04	0.99	0.53	0.47	0.74

Intersection Summary

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	46	2	51	27	0	29	13	612	9	18	422	16
Future Volume (vph)	46	2	51	27	0	29	13	612	9	18	422	16
Confl. Peds. (#/hr)	13		5	1		9	5		1	9		13
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	7%	7%	7%	6%	6%	6%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Control Type: Unsignalized	
Intersection Capacity Utilization 50.6%	ICU Level of Service A
Analysis Period (min) 15	

Intersection	
Int Delay, s/veh	5.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	46	2	51	27	0	29	13	612	9	18	422	16
Future Vol, veh/h	46	2	51	27	0	29	13	612	9	18	422	16
Conflicting Peds, #/hr	13	0	5	1	0	9	5	0	1	9	0	13
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	-	-	-	95	-	-	105	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	0	0	0	0	0	0	7	7	7	6	6	6
Mvmt Flow	55	2	61	32	0	35	15	729	11	21	502	19

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1362	1346	530	1364	1350	757	534	0	0	749	0	0
Stage 1	567	567	-	774	774	-	-	-	-	-	-	-
Stage 2	795	779	-	590	576	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.17	-	-	4.16	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.263	-	-	2.254	-	-
Pot Cap-1 Maneuver	126	153	553	126	152	411	1009	-	-	842	-	-
Stage 1	512	510	-	394	411	-	-	-	-	-	-	-
Stage 2	384	409	-	497	505	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	109	144	544	106	143	402	997	-	-	835	-	-
Mov Cap-2 Maneuver	109	144	-	106	143	-	-	-	-	-	-	-
Stage 1	498	491	-	385	401	-	-	-	-	-	-	-
Stage 2	341	399	-	426	486	-	-	-	-	-	-	-

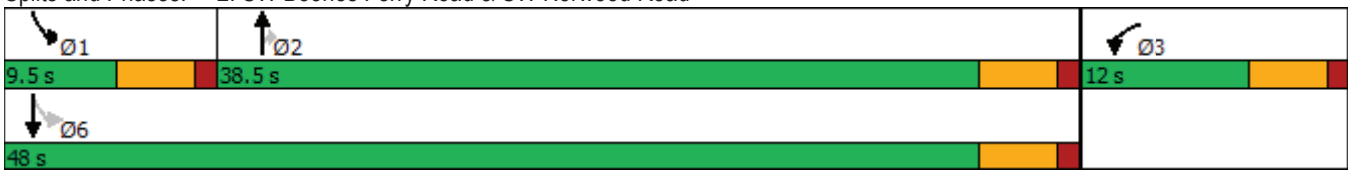
Approach	EB	WB	NB	SB
HCM Control Delay, s	38.5	38.9	0.2	0.4
HCM LOS	E	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	997	-	-	109	492	171	835	-	-
HCM Lane V/C Ratio	0.016	-	-	0.502	0.128	0.39	0.026	-	-
HCM Control Delay (s)	8.7	-	-	67.5	13.4	38.9	9.4	-	-
HCM Lane LOS	A	-	-	F	B	E	A	-	-
HCM 95th %tile Q(veh)	0	-	-	2.3	0.4	1.7	0.1	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	70	55	579	28	48	441
Future Volume (vph)	70	55	579	28	48	441
Confl. Peds. (#/hr)	4	4		4	4	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	2%	2%	6%	6%	5%	5%
Shared Lane Traffic (%)						
Turn Type	Prot		NA	Perm	pm+pt	NA
Protected Phases	3		2		1	6
Permitted Phases				2	6	
Detector Phase	3		2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	9.5		22.5	22.5	9.5	22.5
Total Split (s)	12.0		38.5	38.5	9.5	48.0
Total Split (%)	20.0%		64.2%	64.2%	15.8%	80.0%
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None		Min	Min	None	Min
Act Effct Green (s)	7.2		30.2	30.2	33.5	35.0
Actuated g/C Ratio	0.15		0.64	0.64	0.71	0.74
v/c Ratio	0.47		0.58	0.03	0.12	0.38
Control Delay	21.2		10.9	3.5	3.1	4.2
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	21.2		10.9	3.5	3.1	4.2
LOS	C		B	A	A	A
Approach Delay	21.2		10.5			4.1
Approach LOS	C		B			A

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 47	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.58	
Intersection Signal Delay: 9.0	Intersection LOS: A
Intersection Capacity Utilization 53.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 2: SW Boones Ferry Road & SW Norwood Road



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	70	55	579	28	48	441
Future Volume (veh/h)	70	55	579	28	48	441
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	0.98		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1811	1811	1826	1826
Adj Flow Rate, veh/h	80	63	666	32	55	507
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	6	6	5	5
Cap, veh/h	101	79	865	730	417	1195
Arrive On Green	0.11	0.11	0.48	0.48	0.06	0.65
Sat Flow, veh/h	932	734	1811	1528	1739	1826
Grp Volume(v), veh/h	144	0	666	32	55	507
Grp Sat Flow(s),veh/h/ln	1678	0	1811	1528	1739	1826
Q Serve(g_s), s	3.2	0.0	11.5	0.4	0.5	5.0
Cycle Q Clear(g_c), s	3.2	0.0	11.5	0.4	0.5	5.0
Prop In Lane	0.56	0.44		1.00	1.00	
Lane Grp Cap(c), veh/h	181	0	865	730	417	1195
V/C Ratio(X)	0.79	0.00	0.77	0.04	0.13	0.42
Avail Cap(c_a), veh/h	332	0	1626	1372	546	2098
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.5	0.0	8.2	5.3	5.9	3.1
Incr Delay (d2), s/veh	7.6	0.0	1.5	0.0	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	2.9	0.1	0.1	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	24.1	0.0	9.7	5.3	6.1	3.4
LnGrp LOS	C	A	A	A	A	A
Approach Vol, veh/h	144		698			562
Approach Delay, s/veh	24.1		9.5			3.6
Approach LOS	C		A			A

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	6.7	22.6				29.3	8.6
Change Period (Y+Rc), s	4.5	4.5				4.5	4.5
Max Green Setting (Gmax), s	5.0	34.0				43.5	7.5
Max Q Clear Time (g_c+I1), s	2.5	13.5				7.0	5.2
Green Ext Time (p_c), s	0.0	4.6				3.5	0.1

Intersection Summary	
HCM 6th Ctrl Delay	8.6
HCM 6th LOS	A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	0	33	12	1	37	32	465	28	34	740	48
Future Volume (vph)	36	0	33	12	1	37	32	465	28	34	740	48
Confl. Peds. (#/hr)			4	4			4		4			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	2%	2%	2%	3%	3%	3%	1%	1%	1%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Control Type: Unsignalized	
Intersection Capacity Utilization 58.2%	ICU Level of Service B
Analysis Period (min) 15	

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	36	0	33	12	1	37	32	465	28	34	740	48
Future Vol, veh/h	36	0	33	12	1	37	32	465	28	34	740	48
Conflicting Peds, #/hr	0	0	4	4	0	0	4	0	4	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	-	-	-	95	-	-	105	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	5	5	5	2	2	2	3	3	3	1	1	1
Mvmt Flow	38	0	35	13	1	39	34	495	30	36	787	51

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1487	1486	821	1488	1496	514	842	0	0	529	0	0
Stage 1	889	889	-	582	582	-	-	-	-	-	-	-
Stage 2	598	597	-	906	914	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.12	6.52	6.22	4.13	-	-	4.11	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.518	4.018	3.318	2.227	-	-	2.209	-	-
Pot Cap-1 Maneuver	101	123	370	102	123	560	789	-	-	1043	-	-
Stage 1	334	357	-	499	499	-	-	-	-	-	-	-
Stage 2	484	487	-	331	352	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	87	113	367	86	113	558	786	-	-	1039	-	-
Mov Cap-2 Maneuver	87	113	-	86	113	-	-	-	-	-	-	-
Stage 1	318	343	-	476	476	-	-	-	-	-	-	-
Stage 2	429	464	-	288	338	-	-	-	-	-	-	-

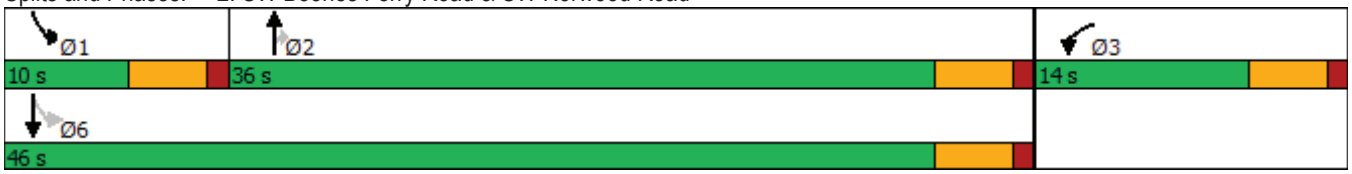
Approach	EB	WB	NB	SB
HCM Control Delay, s	46.9	25	0.6	0.4
HCM LOS	E	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	786	-	-	87	367	233	1039	-	-
HCM Lane V/C Ratio	0.043	-	-	0.44	0.096	0.228	0.035	-	-
HCM Control Delay (s)	9.8	-	-	75.5	15.8	25	8.6	-	-
HCM Lane LOS	A	-	-	F	C	D	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	1.8	0.3	0.9	0.1	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	37	75	461	90	88	671
Future Volume (vph)	37	75	461	90	88	671
Confl. Peds. (#/hr)	2	2		2	2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Turn Type	Prot		NA	Perm	pm+pt	NA
Protected Phases	3		2		1	6
Permitted Phases				2	6	
Detector Phase	3		2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	9.5		22.5	22.5	9.5	22.5
Total Split (s)	14.0		36.0	36.0	10.0	46.0
Total Split (%)	23.3%		60.0%	60.0%	16.7%	76.7%
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None		Min	Min	None	Min
Act Effct Green (s)	7.1		25.4	25.4	29.3	30.7
Actuated g/C Ratio	0.17		0.59	0.59	0.68	0.72
v/c Ratio	0.35		0.44	0.10	0.16	0.53
Control Delay	12.2		10.2	2.9	3.8	6.1
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	12.2		10.2	2.9	3.8	6.1
LOS	B		B	A	A	A
Approach Delay	12.2		9.0			5.9
Approach LOS	B		A			A

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 42.8	
Natural Cycle: 45	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.53	
Intersection Signal Delay: 7.6	Intersection LOS: A
Intersection Capacity Utilization 49.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 2: SW Boones Ferry Road & SW Norwood Road



Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations							
Traffic Volume (veh/h)	37	75	461	90	88	671	
Future Volume (veh/h)	37	75	461	90	88	671	
Initial Q (Qb), veh	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00	0.99		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach	No		No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1856	1856	1870	1870	
Adj Flow Rate, veh/h	39	79	485	95	93	706	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	
Percent Heavy Veh, %	2	2	3	3	2	2	
Cap, veh/h	55	111	718	607	524	1152	
Arrive On Green	0.10	0.10	0.39	0.39	0.09	0.62	
Sat Flow, veh/h	537	1088	1856	1568	1781	1870	
Grp Volume(v), veh/h	119	0	485	95	93	706	
Grp Sat Flow(s),veh/h/ln	1639	0	1856	1568	1781	1870	
Q Serve(g_s), s	2.2	0.0	6.9	1.3	0.8	7.4	
Cycle Q Clear(g_c), s	2.2	0.0	6.9	1.3	0.8	7.4	
Prop In Lane	0.33	0.66		1.00	1.00		
Lane Grp Cap(c), veh/h	167	0	718	607	524	1152	
V/C Ratio(X)	0.71	0.00	0.68	0.16	0.18	0.61	
Avail Cap(c_a), veh/h	488	0	1831	1547	674	2431	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	
Uniform Delay (d), s/veh	13.9	0.0	8.1	6.4	5.0	3.8	
Incr Delay (d2), s/veh	5.5	0.0	1.1	0.1	0.2	0.5	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	0.8	0.0	1.7	0.2	0.1	0.5	
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	19.4	0.0	9.2	6.5	5.2	4.3	
LnGrp LOS	B	A	A	A	A	A	
Approach Vol, veh/h	119		580			799	
Approach Delay, s/veh	19.4		8.8			4.4	
Approach LOS	B		A			A	

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	7.3	16.9			24.2	7.8
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5
Max Green Setting (Gmax), s	5.5	31.5			41.5	9.5
Max Q Clear Time (g_c+I1), s	2.8	8.9			9.4	4.2
Green Ext Time (p_c), s	0.0	3.3			5.4	0.1

Intersection Summary	
HCM 6th Ctrl Delay	7.3
HCM 6th LOS	A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	2	56	30	0	32	14	741	10	20	486	18
Future Volume (vph)	51	2	56	30	0	32	14	741	10	20	486	18
Confl. Peds. (#/hr)	13		5	1		9	5		1	9		13
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	7%	7%	7%	6%	6%	6%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Control Type: Unsignalized	
Intersection Capacity Utilization 57.7%	ICU Level of Service B
Analysis Period (min) 15	

Intersection	
Int Delay, s/veh	10.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	51	2	56	30	0	32	14	741	10	20	486	18
Future Vol, veh/h	51	2	56	30	0	32	14	741	10	20	486	18
Conflicting Peds, #/hr	13	0	5	1	0	9	5	0	1	9	0	13
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	-	-	-	95	-	-	105	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	0	0	0	0	0	0	7	7	7	6	6	6
Mvmt Flow	61	2	67	36	0	38	17	882	12	24	579	21

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1605	1588	608	1608	1592	910	613	0	0	903	0	0
Stage 1	651	651	-	931	931	-	-	-	-	-	-	-
Stage 2	954	937	-	677	661	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.17	-	-	4.16	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.263	-	-	2.254	-	-
Pot Cap-1 Maneuver	86	109	499	85	108	336	942	-	-	737	-	-
Stage 1	461	468	-	323	348	-	-	-	-	-	-	-
Stage 2	313	346	-	446	463	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	71	101	490	68	100	329	930	-	-	731	-	-
Mov Cap-2 Maneuver	71	101	-	68	100	-	-	-	-	-	-	-
Stage 1	447	447	-	314	339	-	-	-	-	-	-	-
Stage 2	268	337	-	369	442	-	-	-	-	-	-	-

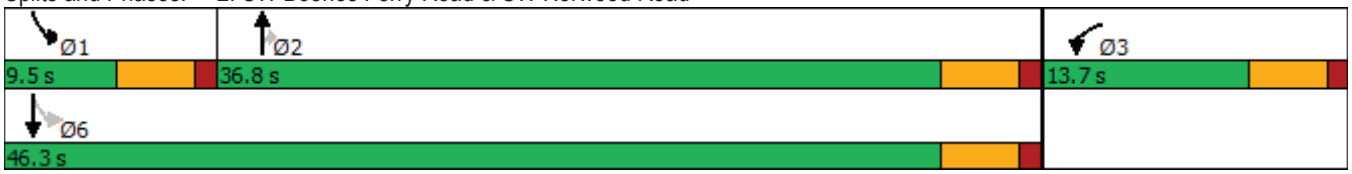
Approach	EB	WB	NB	SB
HCM Control Delay, s	85.8	80.4	0.2	0.4
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	930	-	-	71	433	115	731	-	-
HCM Lane V/C Ratio	0.018	-	-	0.855	0.159	0.642	0.033	-	-
HCM Control Delay (s)	8.9	-	-	166.5	14.9	80.4	10.1	-	-
HCM Lane LOS	A	-	-	F	B	F	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	4.2	0.6	3.3	0.1	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	91	93	672	36	64	496
Future Volume (vph)	91	93	672	36	64	496
Confl. Peds. (#/hr)	4	4		4	4	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	2%	2%	6%	6%	5%	5%
Shared Lane Traffic (%)						
Turn Type	Prot		NA	Perm	pm+pt	NA
Protected Phases	3		2		1	6
Permitted Phases				2	6	
Detector Phase	3		2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	9.5		22.5	22.5	9.5	22.5
Total Split (s)	13.7		36.8	36.8	9.5	46.3
Total Split (%)	22.8%		61.3%	61.3%	15.8%	77.2%
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None		Min	Min	None	Min
Act Effct Green (s)	8.4		29.8	29.8	34.8	34.8
Actuated g/C Ratio	0.16		0.57	0.57	0.66	0.66
v/c Ratio	0.65		0.76	0.05	0.21	0.47
Control Delay	27.1		16.8	4.2	4.5	5.8
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	27.1		16.8	4.2	4.5	5.8
LOS	C		B	A	A	A
Approach Delay	27.1		16.1			5.6
Approach LOS	C		B			A

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 52.5	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.76	
Intersection Signal Delay: 13.5	Intersection LOS: B
Intersection Capacity Utilization 61.7%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 2: SW Boones Ferry Road & SW Norwood Road



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	91	93	672	36	64	496
Future Volume (veh/h)	91	93	672	36	64	496
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	0.99		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1900	1792	1792	1810	1810
Adj Flow Rate, veh/h	105	107	772	41	74	570
Adj No. of Lanes	0	0	1	1	1	1
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	6	6	5	5
Cap, veh/h	129	131	903	765	341	1194
Arrive On Green	0.16	0.16	0.50	0.50	0.06	0.66
Sat Flow, veh/h	819	835	1792	1518	1723	1810
Grp Volume(v), veh/h	213	0	772	41	74	570
Grp Sat Flow(s),veh/h/ln	1662	0	1792	1518	1723	1810
Q Serve(g_s), s	6.1	0.0	18.5	0.7	0.9	7.7
Cycle Q Clear(g_c), s	6.1	0.0	18.5	0.7	0.9	7.7
Prop In Lane	0.49	0.50		1.00	1.00	
Lane Grp Cap(c), veh/h	261	0	903	765	341	1194
V/C Ratio(X)	0.82	0.00	0.85	0.05	0.22	0.48
Avail Cap(c_a), veh/h	311	0	1177	997	405	1538
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.0	0.0	10.6	6.2	8.7	4.1
Incr Delay (d2), s/veh	13.4	0.0	5.0	0.0	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	0.0	10.3	0.3	0.5	3.9
LnGrp Delay(d),s/veh	33.4	0.0	15.7	6.3	9.0	4.4
LnGrp LOS	C		B	A	A	A
Approach Vol, veh/h	213		813			644
Approach Delay, s/veh	33.4		15.2			5.0
Approach LOS	C		B			A

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	7.7	29.3				37.0		12.2
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	5.0	32.3				41.8		9.2
Max Q Clear Time (g_c+I1), s	2.9	20.5				9.7		8.1
Green Ext Time (p_c), s	0.0	4.3				4.0		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	13.6
HCM 2010 LOS	B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	0	36	13	1	41	35	556	31	37	890	53
Future Volume (vph)	40	0	36	13	1	41	35	556	31	37	890	53
Confl. Peds. (#/hr)			4	4			4		4			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	2%	2%	2%	3%	3%	3%	1%	1%	1%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Control Type: Unsignalized			
Intersection Capacity Utilization 66.7%		ICU Level of Service C	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	6.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	40	0	36	13	1	41	35	556	31	37	890	53
Future Vol, veh/h	40	0	36	13	1	41	35	556	31	37	890	53
Conflicting Peds, #/hr	0	0	4	4	0	0	4	0	4	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	-	-	-	95	-	-	105	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	5	5	5	2	2	2	3	3	3	1	1	1
Mvmt Flow	43	0	38	14	1	44	37	591	33	39	947	56

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1761	1759	983	1762	1771	612	1007	0	0	628	0	0
Stage 1	1057	1057	-	686	686	-	-	-	-	-	-	-
Stage 2	704	702	-	1076	1085	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.12	6.52	6.22	4.13	-	-	4.11	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.518	4.018	3.318	2.227	-	-	2.209	-	-
Pot Cap-1 Maneuver	65	83	298	66	83	493	684	-	-	959	-	-
Stage 1	269	298	-	438	448	-	-	-	-	-	-	-
Stage 2	423	436	-	266	293	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	54	75	296	53	75	491	681	-	-	955	-	-
Mov Cap-2 Maneuver	54	75	-	53	75	-	-	-	-	-	-	-
Stage 1	253	285	-	413	422	-	-	-	-	-	-	-
Stage 2	364	411	-	221	280	-	-	-	-	-	-	-

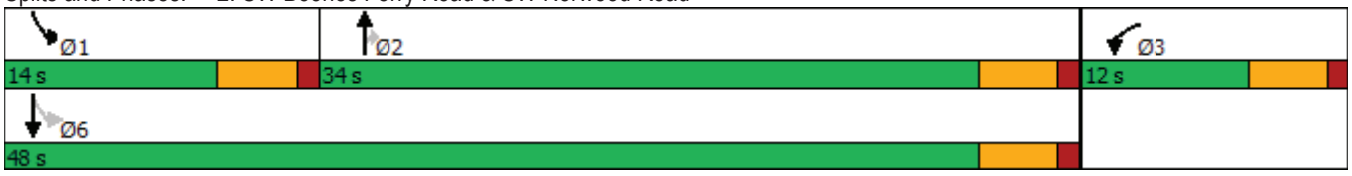
Approach	EB	WB	NB	SB
HCM Control Delay, s	106.4	39.6	0.6	0.3
HCM LOS	F	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	681	-	-	54	296	161	955	-	-
HCM Lane V/C Ratio	0.055	-	-	0.788	0.129	0.363	0.041	-	-
HCM Control Delay (s)	10.6	-	-	185	19	39.6	8.9	-	-
HCM Lane LOS	B	-	-	F	C	E	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	3.3	0.4	1.5	0.1	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	50	104	530	117	135	776
Future Volume (vph)	50	104	530	117	135	776
Confl. Peds. (#/hr)	2	2		2	2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Turn Type	Prot		NA	Perm	pm+pt	NA
Protected Phases	3		2		1	6
Permitted Phases				2	6	
Detector Phase	3		2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	9.5		22.5	22.5	9.5	22.5
Total Split (s)	12.0		34.0	34.0	14.0	48.0
Total Split (%)	20.0%		56.7%	56.7%	23.3%	80.0%
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None		Min	Min	None	Min
Act Effct Green (s)	6.8		25.3	25.3	32.6	34.0
Actuated g/C Ratio	0.15		0.55	0.55	0.71	0.74
v/c Ratio	0.48		0.55	0.14	0.25	0.59
Control Delay	15.0		12.7	3.6	3.9	6.3
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	15.0		12.7	3.6	3.9	6.3
LOS	B		B	A	A	A
Approach Delay	15.0		11.1			5.9
Approach LOS	B		B			A

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 45.8	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.59	
Intersection Signal Delay: 8.7	Intersection LOS: A
Intersection Capacity Utilization 57.7%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 2: SW Boones Ferry Road & SW Norwood Road



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	50	104	530	117	135	776
Future Volume (veh/h)	50	104	530	117	135	776
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	0.99		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1856	1856	1870	1870
Adj Flow Rate, veh/h	53	109	558	123	142	817
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	3	3	2	2
Cap, veh/h	66	136	761	643	496	1186
Arrive On Green	0.12	0.12	0.41	0.41	0.10	0.63
Sat Flow, veh/h	532	1095	1856	1569	1781	1870
Grp Volume(v), veh/h	163	0	558	123	142	817
Grp Sat Flow(s),veh/h/ln	1637	0	1856	1569	1781	1870
Q Serve(g_s), s	3.6	0.0	9.5	1.9	1.4	10.6
Cycle Q Clear(g_c), s	3.6	0.0	9.5	1.9	1.4	10.6
Prop In Lane	0.33	0.67		1.00	1.00	
Lane Grp Cap(c), veh/h	204	0	761	643	496	1186
V/C Ratio(X)	0.80	0.00	0.73	0.19	0.29	0.69
Avail Cap(c_a), veh/h	329	0	1469	1242	766	2183
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.9	0.0	9.3	7.0	6.0	4.4
Incr Delay (d2), s/veh	7.1	0.0	1.4	0.1	0.3	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	2.7	0.4	0.3	1.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	23.0	0.0	10.7	7.2	6.3	5.2
LnGrp LOS	C	A	B	A	A	A
Approach Vol, veh/h	163		681			959
Approach Delay, s/veh	23.0		10.0			5.3
Approach LOS	C		B			A

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	8.4	19.8				28.1	9.1
Change Period (Y+Rc), s	4.5	4.5				4.5	4.5
Max Green Setting (Gmax), s	9.5	29.5				43.5	7.5
Max Q Clear Time (g_c+I1), s	3.4	11.5				12.6	5.6
Green Ext Time (p_c), s	0.2	3.8				6.8	0.1

Intersection Summary	
HCM 6th Ctrl Delay	8.7
HCM 6th LOS	A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	2	56	30	0	32	14	753	10	20	490	18
Future Volume (vph)	51	2	56	30	0	32	14	753	10	20	490	18
Confl. Peds. (#/hr)	13		5	1		9	5		1	9		13
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	7%	7%	7%	6%	6%	6%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Control Type: Unsignalized	
Intersection Capacity Utilization 58.3%	ICU Level of Service B
Analysis Period (min) 15	

Intersection	
Int Delay, s/veh	10.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	51	2	56	30	0	32	14	753	10	20	490	18
Future Vol, veh/h	51	2	56	30	0	32	14	753	10	20	490	18
Conflicting Peds, #/hr	13	0	5	1	0	9	5	0	1	9	0	13
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	-	-	-	95	-	-	105	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	0	0	0	0	0	0	7	7	7	6	6	6
Mvmt Flow	61	2	67	36	0	38	17	896	12	24	583	21

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1623	1606	612	1626	1610	924	617	0	0	917	0	0
Stage 1	655	655	-	945	945	-	-	-	-	-	-	-
Stage 2	968	951	-	681	665	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.17	-	-	4.16	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.263	-	-	2.254	-	-
Pot Cap-1 Maneuver	83	106	497	83	106	329	939	-	-	728	-	-
Stage 1	458	466	-	317	343	-	-	-	-	-	-	-
Stage 2	308	341	-	444	461	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	69	99	489	67	99	322	927	-	-	722	-	-
Mov Cap-2 Maneuver	69	99	-	67	99	-	-	-	-	-	-	-
Stage 1	444	445	-	308	334	-	-	-	-	-	-	-
Stage 2	263	332	-	367	440	-	-	-	-	-	-	-

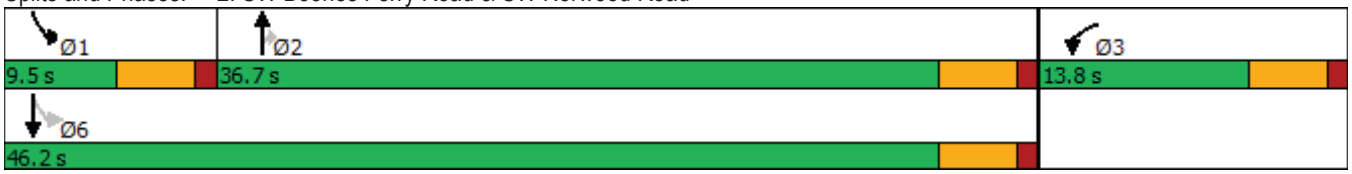
Approach	EB	WB	NB	SB
HCM Control Delay, s	90.5	83.1	0.2	0.4
HCM LOS	F	F		

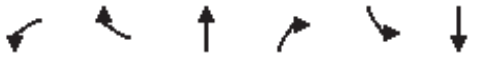
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	927	-	-	69	431	113	722	-	-
HCM Lane V/C Ratio	0.018	-	-	0.88	0.16	0.653	0.033	-	-
HCM Control Delay (s)	9	-	-	176.4	14.9	83.1	10.2	-	-
HCM Lane LOS	A	-	-	F	B	F	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	4.3	0.6	3.4	0.1	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	93	93	684	41	64	500
Future Volume (vph)	93	93	684	41	64	500
Confl. Peds. (#/hr)	4	4		4	4	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	2%	2%	6%	6%	5%	5%
Shared Lane Traffic (%)						
Turn Type	Prot		NA	Perm	pm+pt	NA
Protected Phases	3		2		1	6
Permitted Phases				2	6	
Detector Phase	3		2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	9.5		22.5	22.5	9.5	22.5
Total Split (s)	13.8		36.7	36.7	9.5	46.2
Total Split (%)	23.0%		61.2%	61.2%	15.8%	77.0%
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None		Min	Min	None	Min
Act Effct Green (s)	8.4		30.6	30.6	35.6	35.6
Actuated g/C Ratio	0.16		0.57	0.57	0.67	0.67
v/c Ratio	0.66		0.77	0.05	0.22	0.48
Control Delay	27.7		17.2	4.2	4.5	5.8
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	27.7		17.2	4.2	4.5	5.8
LOS	C		B	A	A	A
Approach Delay	27.7		16.4			5.6
Approach LOS	C		B			A

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 53.3	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.77	
Intersection Signal Delay: 13.7	Intersection LOS: B
Intersection Capacity Utilization 62.5%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 2: SW Boones Ferry Road & SW Norwood Road





Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	93	93	684	41	64	500
Future Volume (veh/h)	93	93	684	41	64	500
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	0.99		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1811	1811	1826	1826
Adj Flow Rate, veh/h	107	107	786	47	74	575
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	6	6	5	5
Cap, veh/h	131	131	917	774	339	1207
Arrive On Green	0.16	0.16	0.51	0.51	0.06	0.66
Sat Flow, veh/h	830	830	1811	1529	1739	1826
Grp Volume(v), veh/h	215	0	786	47	74	575
Grp Sat Flow(s),veh/h/ln	1667	0	1811	1529	1739	1826
Q Serve(g_s), s	6.2	0.0	18.8	0.8	0.9	7.7
Cycle Q Clear(g_c), s	6.2	0.0	18.8	0.8	0.9	7.7
Prop In Lane	0.50	0.50		1.00	1.00	
Lane Grp Cap(c), veh/h	263	0	917	774	339	1207
V/C Ratio(X)	0.82	0.00	0.86	0.06	0.22	0.48
Avail Cap(c_a), veh/h	312	0	1174	991	402	1532
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.2	0.0	10.7	6.3	8.9	4.2
Incr Delay (d2), s/veh	13.5	0.0	5.3	0.0	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	0.0	6.5	0.2	0.3	1.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	33.7	0.0	16.0	6.3	9.2	4.5
LnGrp LOS	C	A	B	A	A	A
Approach Vol, veh/h	215		833			649
Approach Delay, s/veh	33.7		15.4			5.0
Approach LOS	C		B			A

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	7.7	29.6			37.3	12.3
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5
Max Green Setting (Gmax), s	5.0	32.2			41.7	9.3
Max Q Clear Time (g_c+I1), s	2.9	20.8			9.7	8.2
Green Ext Time (p_c), s	0.0	4.3			4.1	0.1

Intersection Summary						
HCM 6th Ctrl Delay			13.8			
HCM 6th LOS			B			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	0	36	13	1	41	35	564	31	37	902	53
Future Volume (vph)	40	0	36	13	1	41	35	564	31	37	902	53
Confl. Peds. (#/hr)			4	4			4		4			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	2%	2%	2%	3%	3%	3%	1%	1%	1%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Control Type: Unsignalized			
Intersection Capacity Utilization 67.3%		ICU Level of Service C	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	6.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	40	0	36	13	1	41	35	564	31	37	902	53
Future Vol, veh/h	40	0	36	13	1	41	35	564	31	37	902	53
Conflicting Peds, #/hr	0	0	4	4	0	0	4	0	4	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	-	-	-	95	-	-	105	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	5	5	5	2	2	2	3	3	3	1	1	1
Mvmt Flow	43	0	38	14	1	44	37	600	33	39	960	56

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1783	1781	996	1784	1793	621	1020	0	0	637	0	0
Stage 1	1070	1070	-	695	695	-	-	-	-	-	-	-
Stage 2	713	711	-	1089	1098	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.12	6.52	6.22	4.13	-	-	4.11	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.518	4.018	3.318	2.227	-	-	2.209	-	-
Pot Cap-1 Maneuver	62	81	293	63	81	487	676	-	-	951	-	-
Stage 1	264	294	-	433	444	-	-	-	-	-	-	-
Stage 2	418	432	-	261	289	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	52	73	291	50	73	485	673	-	-	947	-	-
Mov Cap-2 Maneuver	52	73	-	50	73	-	-	-	-	-	-	-
Stage 1	248	281	-	407	418	-	-	-	-	-	-	-
Stage 2	359	407	-	216	276	-	-	-	-	-	-	-

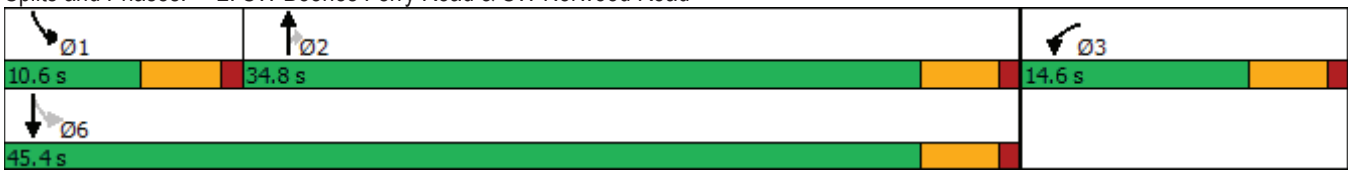
Approach	EB	WB	NB	SB
HCM Control Delay, s	113.4	42	0.6	0.3
HCM LOS	F	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	673	-	-	52	291	154	947	-	-
HCM Lane V/C Ratio	0.055	-	-	0.818	0.132	0.38	0.042	-	-
HCM Control Delay (s)	10.7	-	-	198.2	19.2	42	9	-	-
HCM Lane LOS	B	-	-	F	C	E	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	3.4	0.4	1.6	0.1	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	55	104	538	120	135	788
Future Volume (vph)	55	104	538	120	135	788
Confl. Peds. (#/hr)	2	2		2	2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Turn Type	Prot		NA	Perm	pm+pt	NA
Protected Phases	3		2		1	6
Permitted Phases				2	6	
Detector Phase	3		2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	9.5		22.5	22.5	9.5	22.5
Total Split (s)	14.6		34.8	34.8	10.6	45.4
Total Split (%)	24.3%		58.0%	58.0%	17.7%	75.7%
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None		Min	Min	None	Min
Act Effct Green (s)	7.6		25.9	25.9	32.3	33.8
Actuated g/C Ratio	0.16		0.56	0.56	0.70	0.73
v/c Ratio	0.47		0.55	0.14	0.27	0.61
Control Delay	13.9		12.7	3.6	4.5	7.3
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	13.9		12.7	3.6	4.5	7.3
LOS	B		B	A	A	A
Approach Delay	13.9		11.0			6.9
Approach LOS	B		B			A

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 46.3	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.61	
Intersection Signal Delay: 9.1	Intersection LOS: A
Intersection Capacity Utilization 58.6%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 2: SW Boones Ferry Road & SW Norwood Road



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	55	104	538	120	135	788
Future Volume (veh/h)	55	104	538	120	135	788
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	0.99		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1856	1856	1870	1870
Adj Flow Rate, veh/h	58	109	566	126	142	829
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	3	3	2	2
Cap, veh/h	74	138	767	648	488	1185
Arrive On Green	0.13	0.13	0.41	0.41	0.10	0.63
Sat Flow, veh/h	566	1065	1856	1569	1781	1870
Grp Volume(v), veh/h	168	0	566	126	142	829
Grp Sat Flow(s),veh/h/ln	1641	0	1856	1569	1781	1870
Q Serve(g_s), s	3.8	0.0	9.8	1.9	1.4	11.1
Cycle Q Clear(g_c), s	3.8	0.0	9.8	1.9	1.4	11.1
Prop In Lane	0.35	0.65		1.00	1.00	
Lane Grp Cap(c), veh/h	213	0	767	648	488	1185
V/C Ratio(X)	0.79	0.00	0.74	0.19	0.29	0.70
Avail Cap(c_a), veh/h	436	0	1478	1249	592	2011
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.0	0.0	9.4	7.1	6.1	4.6
Incr Delay (d2), s/veh	6.4	0.0	1.4	0.1	0.3	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	2.8	0.4	0.3	1.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	22.4	0.0	10.8	7.3	6.4	5.3
LnGrp LOS	C	A	B	A	A	A
Approach Vol, veh/h	168		692			971
Approach Delay, s/veh	22.4		10.2			5.5
Approach LOS	C		B			A

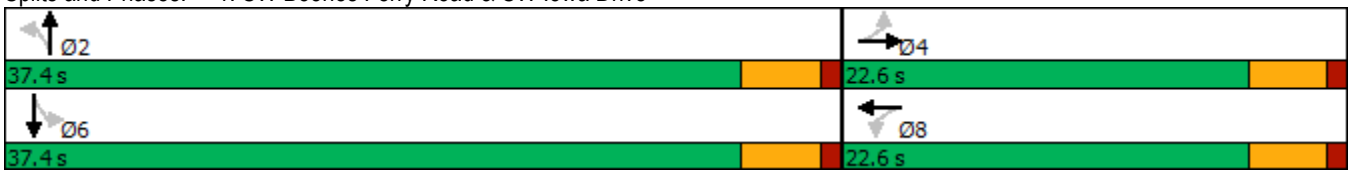
Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	8.4	20.2				28.6	9.4
Change Period (Y+Rc), s	4.5	4.5				4.5	4.5
Max Green Setting (Gmax), s	6.1	30.3				40.9	10.1
Max Q Clear Time (g_c+I1), s	3.4	11.8				13.1	5.8
Green Ext Time (p_c), s	0.1	3.9				6.7	0.2

Intersection Summary	
HCM 6th Ctrl Delay	8.8
HCM 6th LOS	A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	46	2	51	27	0	29	13	612	9	18	422	16
Future Volume (vph)	46	2	51	27	0	29	13	612	9	18	422	16
Confl. Peds. (#/hr)	13		5	1		9	5		1	9		13
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	7%	7%	7%	6%	6%	6%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	22.6	22.6		22.6	22.6		37.4	37.4		37.4	37.4	
Total Split (%)	37.7%	37.7%		37.7%	37.7%		62.3%	62.3%		62.3%	62.3%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Act Effct Green (s)		7.7			7.7		28.8	28.8		28.8	28.8	
Actuated g/C Ratio		0.18			0.18		0.69	0.69		0.69	0.69	
v/c Ratio		0.38			0.22		0.03	0.60		0.06	0.42	
Control Delay		13.5			11.9		4.0	8.2		4.4	5.9	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		13.5			11.9		4.0	8.2		4.4	5.9	
LOS		B			B		A	A		A	A	
Approach Delay		13.5			11.9			8.2			5.8	
Approach LOS		B			B			A			A	

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 41.7	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.60	
Intersection Signal Delay: 7.9	Intersection LOS: A
Intersection Capacity Utilization 48.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 1: SW Boones Ferry Road & SW Iowa Drive



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	2	51	27	0	29	13	612	9	18	422	16
Future Volume (veh/h)	46	2	51	27	0	29	13	612	9	18	422	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.96	0.97		0.97	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1796	1796	1796	1811	1811	1811
Adj Flow Rate, veh/h	55	2	61	32	0	35	15	729	11	21	502	19
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	0	0	0	0	0	0	7	7	7	6	6	6
Cap, veh/h	257	32	131	251	42	137	534	969	15	387	951	36
Arrive On Green	0.17	0.17	0.17	0.17	0.00	0.17	0.55	0.55	0.55	0.55	0.55	0.55
Sat Flow, veh/h	541	188	780	496	248	814	842	1765	27	695	1733	66
Grp Volume(v), veh/h	118	0	0	67	0	0	15	0	740	21	0	521
Grp Sat Flow(s),veh/h/ln	1509	0	0	1559	0	0	842	0	1791	695	0	1798
Q Serve(g_s), s	1.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	10.1	0.8	0.0	5.9
Cycle Q Clear(g_c), s	2.1	0.0	0.0	1.1	0.0	0.0	6.2	0.0	10.1	10.9	0.0	5.9
Prop In Lane	0.47		0.52	0.48		0.52	1.00		0.01	1.00		0.04
Lane Grp Cap(c), veh/h	420	0	0	429	0	0	534	0	983	387	0	987
V/C Ratio(X)	0.28	0.00	0.00	0.16	0.00	0.00	0.03	0.00	0.75	0.05	0.00	0.53
Avail Cap(c_a), veh/h	1005	0	0	1007	0	0	942	0	1853	725	0	1860
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.9	0.0	0.0	11.5	0.0	0.0	6.5	0.0	5.5	9.7	0.0	4.6
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.2	0.0	0.0	0.0	0.0	1.2	0.1	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.0	0.3	0.0	0.0	0.0	0.0	1.4	0.1	0.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.2	0.0	0.0	11.6	0.0	0.0	6.5	0.0	6.7	9.7	0.0	5.0
LnGrp LOS	B	A	A	B	A	A	A	A	A	A	A	A
Approach Vol, veh/h		118			67			755			542	
Approach Delay, s/veh		12.2			11.6			6.7			5.2	
Approach LOS		B			B			A			A	

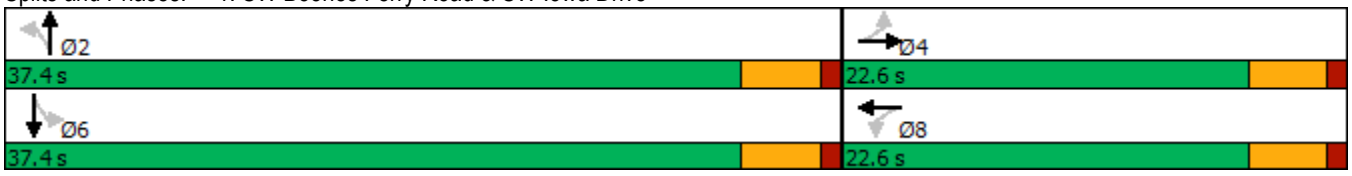
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		22.0		9.8		22.0		9.8				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		32.9		18.1		32.9		18.1				
Max Q Clear Time (g_c+I1), s		12.1		4.1		12.9		3.1				
Green Ext Time (p_c), s		5.3		0.5		3.4		0.2				

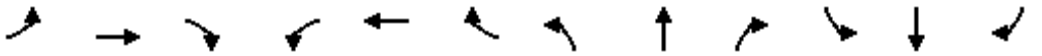
Intersection Summary												
HCM 6th Ctrl Delay			6.8									
HCM 6th LOS			A									

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	0	33	12	1	37	32	465	28	34	740	48
Future Volume (vph)	36	0	33	12	1	37	32	465	28	34	740	48
Confl. Peds. (#/hr)			4	4			4		4			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	2%	2%	2%	3%	3%	3%	1%	1%	1%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	22.6	22.6		22.6	22.6		37.4	37.4		37.4	37.4	
Total Split (%)	37.7%	37.7%		37.7%	37.7%		62.3%	62.3%		62.3%	62.3%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Act Effct Green (s)		7.1			7.1		33.6	33.6		33.6	33.6	
Actuated g/C Ratio		0.17			0.17		0.79	0.79		0.79	0.79	
v/c Ratio		0.29			0.19		0.09	0.36		0.05	0.57	
Control Delay		14.7			11.1		4.0	4.2		3.5	6.3	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		14.7			11.1		4.0	4.2		3.5	6.3	
LOS		B			B		A	A		A	A	
Approach Delay		14.7			11.1			4.2			6.2	
Approach LOS		B			B			A			A	

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 42.4	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.57	
Intersection Signal Delay: 6.1	Intersection LOS: A
Intersection Capacity Utilization 58.4%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 1: SW Boones Ferry Road & SW Iowa Drive



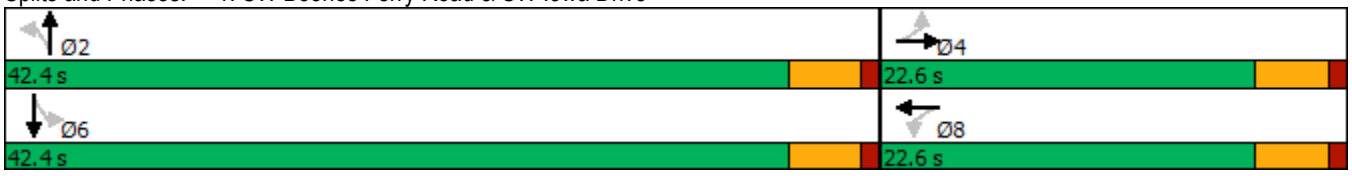


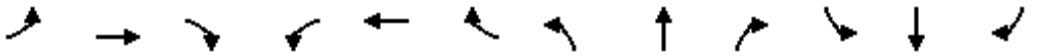
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	0	33	12	1	37	32	465	28	34	740	48
Future Volume (veh/h)	36	0	33	12	1	37	32	465	28	34	740	48
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1870	1870	1870	1856	1856	1856	1885	1885	1885
Adj Flow Rate, veh/h	38	0	35	13	1	39	34	495	30	36	787	51
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	5	5	5	2	2	2	3	3	3	1	1	1
Cap, veh/h	252	14	87	174	18	140	399	1030	62	609	1042	68
Arrive On Green	0.12	0.00	0.12	0.12	0.12	0.12	0.60	0.60	0.60	0.60	0.60	0.60
Sat Flow, veh/h	657	115	711	269	144	1151	651	1731	105	883	1751	113
Grp Volume(v), veh/h	73	0	0	53	0	0	34	0	525	36	0	838
Grp Sat Flow(s),veh/h/ln	1483	0	0	1565	0	0	651	0	1836	883	0	1865
Q Serve(g_s), s	0.4	0.0	0.0	0.0	0.0	0.0	1.3	0.0	5.2	0.8	0.0	10.5
Cycle Q Clear(g_c), s	1.3	0.0	0.0	0.9	0.0	0.0	11.8	0.0	5.2	5.9	0.0	10.5
Prop In Lane	0.52		0.48	0.25		0.74	1.00		0.06	1.00		0.06
Lane Grp Cap(c), veh/h	353	0	0	332	0	0	399	0	1093	609	0	1110
V/C Ratio(X)	0.21	0.00	0.00	0.16	0.00	0.00	0.09	0.00	0.48	0.06	0.00	0.76
Avail Cap(c_a), veh/h	983	0	0	1008	0	0	684	0	1899	997	0	1929
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.8	0.0	0.0	12.7	0.0	0.0	9.1	0.0	3.6	5.3	0.0	4.7
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.3	0.0	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	0.3	0.0	0.0	0.1	0.0	0.4	0.1	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.1	0.0	0.0	12.9	0.0	0.0	9.2	0.0	4.0	5.4	0.0	5.8
LnGrp LOS	B	A	A	B	A	A	A	A	A	A	A	A
Approach Vol, veh/h		73			53			559			874	
Approach Delay, s/veh		13.1			12.9			4.3			5.8	
Approach LOS		B			B			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		23.4		8.4		23.4		8.4				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		32.9		18.1		32.9		18.1				
Max Q Clear Time (g_c+I1), s		13.8		3.3		12.5		2.9				
Green Ext Time (p_c), s		3.5		0.3		6.4		0.2				
Intersection Summary												
HCM 6th Ctrl Delay			5.8									
HCM 6th LOS			A									

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	2	56	30	0	32	14	741	10	20	486	18
Future Volume (vph)	51	2	56	30	0	32	14	741	10	20	486	18
Confl. Peds. (#/hr)	13		5	1		9	5		1	9		13
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	7%	7%	7%	6%	6%	6%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	22.6	22.6		22.6	22.6		42.4	42.4		42.4	42.4	
Total Split (%)	34.8%	34.8%		34.8%	34.8%		65.2%	65.2%		65.2%	65.2%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Act Effct Green (s)		8.2			8.2		35.2	35.2		35.2	35.2	
Actuated g/C Ratio		0.17			0.17		0.73	0.73		0.73	0.73	
v/c Ratio		0.45			0.27		0.03	0.69		0.08	0.46	
Control Delay		16.6			14.4		3.9	10.3		4.5	5.9	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		16.6			14.4		3.9	10.3		4.5	5.9	
LOS		B			B		A	B		A	A	
Approach Delay		16.6			14.4			10.2			5.9	
Approach LOS		B			B			B			A	

Intersection Summary		
Cycle Length: 65		
Actuated Cycle Length: 48.5		
Natural Cycle: 65		
Control Type: Actuated-Uncoordinated		
Maximum v/c Ratio: 0.69		
Intersection Signal Delay: 9.3	Intersection LOS: A	
Intersection Capacity Utilization 56.3%	ICU Level of Service B	
Analysis Period (min) 15		

Splits and Phases: 1: SW Boones Ferry Road & SW Iowa Drive



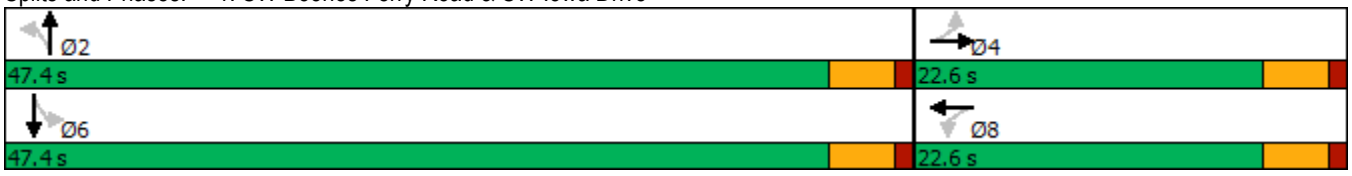


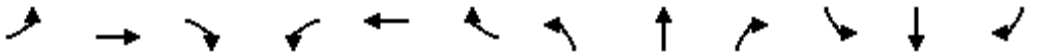
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	2	56	30	0	32	14	741	10	20	486	18
Future Volume (veh/h)	51	2	56	30	0	32	14	741	10	20	486	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.96	0.97		0.97	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1796	1796	1796	1811	1811	1811
Adj Flow Rate, veh/h	61	2	67	36	0	38	17	882	12	24	579	21
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	0	0	0	0	0	0	7	7	7	6	6	6
Cap, veh/h	222	30	127	220	39	132	508	1082	15	316	1062	39
Arrive On Green	0.16	0.16	0.16	0.16	0.00	0.16	0.61	0.61	0.61	0.61	0.61	0.61
Sat Flow, veh/h	551	184	782	529	240	812	784	1768	24	603	1736	63
Grp Volume(v), veh/h	130	0	0	74	0	0	17	0	894	24	0	600
Grp Sat Flow(s),veh/h/ln	1517	0	0	1581	0	0	784	0	1792	603	0	1799
Q Serve(g_s), s	1.5	0.0	0.0	0.0	0.0	0.0	0.5	0.0	15.4	1.3	0.0	7.7
Cycle Q Clear(g_c), s	3.0	0.0	0.0	1.5	0.0	0.0	8.3	0.0	15.4	16.7	0.0	7.7
Prop In Lane	0.47		0.52	0.49		0.51	1.00		0.01	1.00		0.04
Lane Grp Cap(c), veh/h	379	0	0	391	0	0	508	0	1097	316	0	1101
V/C Ratio(X)	0.34	0.00	0.00	0.19	0.00	0.00	0.03	0.00	0.82	0.08	0.00	0.55
Avail Cap(c_a), veh/h	803	0	0	809	0	0	773	0	1703	520	0	1710
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.2	0.0	0.0	14.6	0.0	0.0	6.9	0.0	6.0	12.5	0.0	4.5
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.2	0.0	0.0	0.0	0.0	1.8	0.1	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.0	0.5	0.0	0.0	0.1	0.0	2.7	0.1	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.7	0.0	0.0	14.9	0.0	0.0	6.9	0.0	7.8	12.6	0.0	4.9
LnGrp LOS	B	A	A	B	A	A	A	A	A	B	A	A
Approach Vol, veh/h		130			74			911			624	
Approach Delay, s/veh		15.7			14.9			7.8			5.2	
Approach LOS		B			B			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		28.9		11.0		28.9		11.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		37.9		18.1		37.9		18.1				
Max Q Clear Time (g_c+I1), s		17.4		5.0		18.7		3.5				
Green Ext Time (p_c), s		7.0		0.5		4.0		0.3				
Intersection Summary												
HCM 6th Ctrl Delay			7.8									
HCM 6th LOS			A									

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	0	36	13	1	41	35	556	31	37	890	53
Future Volume (vph)	40	0	36	13	1	41	35	556	31	37	890	53
Confl. Peds. (#/hr)			4	4			4		4			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	2%	2%	2%	3%	3%	3%	1%	1%	1%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	22.6	22.6		22.6	22.6		47.4	47.4		47.4	47.4	
Total Split (%)	32.3%	32.3%		32.3%	32.3%		67.7%	67.7%		67.7%	67.7%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Act Effct Green (s)		7.7			7.7		41.5	41.5		41.5	41.5	
Actuated g/C Ratio		0.14			0.14		0.77	0.77		0.77	0.77	
v/c Ratio		0.36			0.23		0.14	0.44		0.07	0.70	
Control Delay		19.2			13.1		4.6	4.9		3.3	9.0	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		19.2			13.1		4.6	4.9		3.3	9.0	
LOS		B			B		A	A		A	A	
Approach Delay		19.2			13.1			4.9			8.8	
Approach LOS		B			B			A			A	

Intersection Summary	
Cycle Length: 70	
Actuated Cycle Length: 54.1	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.70	
Intersection Signal Delay: 8.0	Intersection LOS: A
Intersection Capacity Utilization 67.4%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 1: SW Boones Ferry Road & SW Iowa Drive





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	0	36	13	1	41	35	556	31	37	890	53
Future Volume (veh/h)	40	0	36	13	1	41	35	556	31	37	890	53
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1870	1870	1870	1856	1856	1856	1885	1885	1885
Adj Flow Rate, veh/h	43	0	38	14	1	44	37	591	33	39	947	56
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	5	5	5	2	2	2	3	3	3	1	1	1
Cap, veh/h	211	15	79	137	17	133	332	1159	65	575	1174	69
Arrive On Green	0.11	0.00	0.11	0.11	0.11	0.11	0.67	0.67	0.67	0.67	0.67	0.67
Sat Flow, veh/h	665	128	701	246	154	1174	557	1741	97	806	1762	104
Grp Volume(v), veh/h	81	0	0	59	0	0	37	0	624	39	0	1003
Grp Sat Flow(s),veh/h/ln	1495	0	0	1575	0	0	557	0	1838	806	0	1866
Q Serve(g_s), s	0.5	0.0	0.0	0.0	0.0	0.0	2.1	0.0	7.0	1.0	0.0	15.8
Cycle Q Clear(g_c), s	1.9	0.0	0.0	1.4	0.0	0.0	17.9	0.0	7.0	8.0	0.0	15.8
Prop In Lane	0.53		0.47	0.24		0.75	1.00		0.05	1.00		0.06
Lane Grp Cap(c), veh/h	304	0	0	287	0	0	332	0	1224	575	0	1243
V/C Ratio(X)	0.27	0.00	0.00	0.21	0.00	0.00	0.11	0.00	0.51	0.07	0.00	0.81
Avail Cap(c_a), veh/h	769	0	0	787	0	0	547	0	1935	887	0	1966
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.8	0.0	0.0	16.6	0.0	0.0	11.4	0.0	3.4	5.5	0.0	4.9
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.3	0.0	0.0	0.1	0.0	0.3	0.0	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.0	0.5	0.0	0.0	0.2	0.0	0.8	0.1	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.3	0.0	0.0	17.0	0.0	0.0	11.5	0.0	3.8	5.5	0.0	6.3
LnGrp LOS	B	A	A	B	A	A	B	A	A	A	A	A
Approach Vol, veh/h		81			59			661			1042	
Approach Delay, s/veh		17.3			17.0			4.2			6.3	
Approach LOS		B			B			A			A	

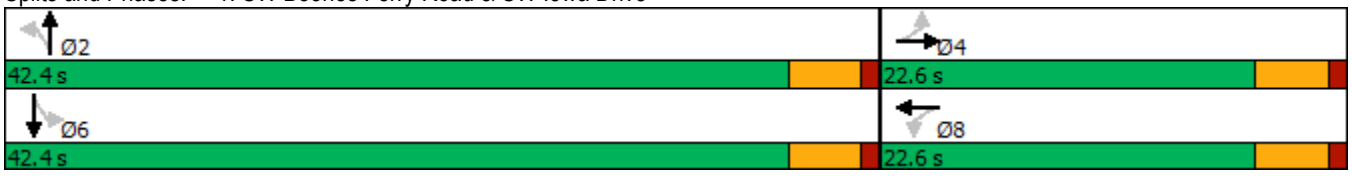
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		31.6		9.1		31.6		9.1				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		42.9		18.1		42.9		18.1				
Max Q Clear Time (g_c+I1), s		19.9		3.9		17.8		3.4				
Green Ext Time (p_c), s		4.7		0.3		9.3		0.2				

Intersection Summary												
HCM 6th Ctrl Delay			6.4									
HCM 6th LOS			A									

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	2	56	30	0	32	14	753	10	20	490	18
Future Volume (vph)	51	2	56	30	0	32	14	753	10	20	490	18
Confl. Peds. (#/hr)	13		5	1		9	5		1	9		13
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	7%	7%	7%	6%	6%	6%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	22.6	22.6		22.6	22.6		42.4	42.4		42.4	42.4	
Total Split (%)	34.8%	34.8%		34.8%	34.8%		65.2%	65.2%		65.2%	65.2%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Act Effct Green (s)		8.2			8.2		35.9	35.9		35.9	35.9	
Actuated g/C Ratio		0.17			0.17		0.73	0.73		0.73	0.73	
v/c Ratio		0.45			0.27		0.03	0.70		0.08	0.46	
Control Delay		16.8			14.5		3.9	10.6		4.6	5.9	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		16.8			14.5		3.9	10.6		4.6	5.9	
LOS		B			B		A	B		A	A	
Approach Delay		16.8			14.5			10.5			5.9	
Approach LOS		B			B			B			A	

Intersection Summary	
Cycle Length: 65	
Actuated Cycle Length: 49.2	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.70	
Intersection Signal Delay: 9.5	Intersection LOS: A
Intersection Capacity Utilization 57.0%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 1: SW Boones Ferry Road & SW Iowa Drive



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	2	56	30	0	32	14	753	10	20	490	18
Future Volume (veh/h)	51	2	56	30	0	32	14	753	10	20	490	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.96	0.97		0.97	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1796	1796	1796	1811	1811	1811
Adj Flow Rate, veh/h	61	2	67	36	0	38	17	896	12	24	583	21
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	0	0	0	0	0	0	7	7	7	6	6	6
Cap, veh/h	219	30	126	218	38	131	508	1091	15	310	1071	39
Arrive On Green	0.16	0.16	0.16	0.16	0.00	0.16	0.62	0.62	0.62	0.62	0.62	0.62
Sat Flow, veh/h	551	184	782	532	238	813	781	1768	24	595	1736	63
Grp Volume(v), veh/h	130	0	0	74	0	0	17	0	908	24	0	604
Grp Sat Flow(s),veh/h/ln	1517	0	0	1582	0	0	781	0	1792	595	0	1799
Q Serve(g_s), s	1.5	0.0	0.0	0.0	0.0	0.0	0.5	0.0	16.0	1.3	0.0	7.9
Cycle Q Clear(g_c), s	3.0	0.0	0.0	1.5	0.0	0.0	8.4	0.0	16.0	17.3	0.0	7.9
Prop In Lane	0.47		0.52	0.49		0.51	1.00		0.01	1.00		0.03
Lane Grp Cap(c), veh/h	375	0	0	387	0	0	508	0	1105	310	0	1110
V/C Ratio(X)	0.35	0.00	0.00	0.19	0.00	0.00	0.03	0.00	0.82	0.08	0.00	0.54
Avail Cap(c_a), veh/h	789	0	0	794	0	0	755	0	1671	498	0	1678
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.5	0.0	0.0	14.9	0.0	0.0	6.9	0.0	6.0	12.8	0.0	4.5
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.2	0.0	0.0	0.0	0.0	2.1	0.1	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.0	0.6	0.0	0.0	0.1	0.0	2.9	0.2	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.0	0.0	0.0	15.2	0.0	0.0	6.9	0.0	8.1	12.9	0.0	4.9
LnGrp LOS	B	A	A	B	A	A	A	A	A	B	A	A
Approach Vol, veh/h		130			74			925			628	
Approach Delay, s/veh		16.0			15.2			8.1			5.2	
Approach LOS		B			B			A			A	

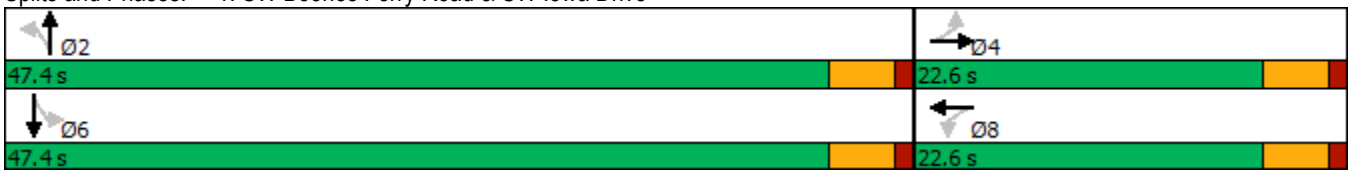
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		29.6		11.1		29.6		11.1				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		37.9		18.1		37.9		18.1				
Max Q Clear Time (g_c+I1), s		18.0		5.0		19.3		3.5				
Green Ext Time (p_c), s		7.1		0.5		4.0		0.3				

Intersection Summary												
HCM 6th Ctrl Delay			8.0									
HCM 6th LOS			A									

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	0	36	13	1	41	35	564	31	37	902	53
Future Volume (vph)	40	0	36	13	1	41	35	564	31	37	902	53
Confl. Peds. (#/hr)			4	4			4		4			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	2%	2%	2%	3%	3%	3%	1%	1%	1%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	22.6	22.6		22.6	22.6		47.4	47.4		47.4	47.4	
Total Split (%)	32.3%	32.3%		32.3%	32.3%		67.7%	67.7%		67.7%	67.7%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Act Effct Green (s)		7.7			7.7		42.2	42.2		42.2	42.2	
Actuated g/C Ratio		0.14			0.14		0.77	0.77		0.77	0.77	
v/c Ratio		0.37			0.23		0.14	0.45		0.07	0.71	
Control Delay		19.4			13.2		4.6	4.9		3.3	9.2	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		19.4			13.2		4.6	4.9		3.3	9.2	
LOS		B			B		A	A		A	A	
Approach Delay		19.4			13.2			4.9			9.0	
Approach LOS		B			B			A			A	

Intersection Summary	
Cycle Length: 70	
Actuated Cycle Length: 54.8	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.71	
Intersection Signal Delay: 8.1	Intersection LOS: A
Intersection Capacity Utilization 68.0%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 1: SW Boones Ferry Road & SW Iowa Drive



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	0	36	13	1	41	35	564	31	37	902	53
Future Volume (veh/h)	40	0	36	13	1	41	35	564	31	37	902	53
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1870	1870	1870	1856	1856	1856	1885	1885	1885
Adj Flow Rate, veh/h	43	0	38	14	1	44	37	600	33	39	960	56
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	5	5	5	2	2	2	3	3	3	1	1	1
Cap, veh/h	208	14	79	135	17	132	326	1168	64	572	1182	69
Arrive On Green	0.11	0.00	0.11	0.11	0.11	0.11	0.67	0.67	0.67	0.67	0.67	0.67
Sat Flow, veh/h	666	128	702	246	154	1175	551	1742	96	800	1764	103
Grp Volume(v), veh/h	81	0	0	59	0	0	37	0	633	39	0	1016
Grp Sat Flow(s),veh/h/ln	1496	0	0	1576	0	0	551	0	1838	800	0	1867
Q Serve(g_s), s	0.5	0.0	0.0	0.0	0.0	0.0	2.2	0.0	7.2	1.1	0.0	16.3
Cycle Q Clear(g_c), s	1.9	0.0	0.0	1.4	0.0	0.0	18.4	0.0	7.2	8.2	0.0	16.3
Prop In Lane	0.53		0.47	0.24		0.75	1.00		0.05	1.00		0.06
Lane Grp Cap(c), veh/h	301	0	0	284	0	0	326	0	1232	572	0	1251
V/C Ratio(X)	0.27	0.00	0.00	0.21	0.00	0.00	0.11	0.00	0.51	0.07	0.00	0.81
Avail Cap(c_a), veh/h	757	0	0	775	0	0	528	0	1905	865	0	1935
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.1	0.0	0.0	16.9	0.0	0.0	11.6	0.0	3.4	5.5	0.0	4.9
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.4	0.0	0.0	0.2	0.0	0.3	0.0	0.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.0	0.5	0.0	0.0	0.2	0.0	0.8	0.1	0.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.6	0.0	0.0	17.3	0.0	0.0	11.8	0.0	3.8	5.5	0.0	6.5
LnGrp LOS	B	A	A	B	A	A	B	A	A	A	A	A
Approach Vol, veh/h		81			59			670			1055	
Approach Delay, s/veh		17.6			17.3			4.2			6.5	
Approach LOS		B			B			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		32.2		9.1		32.2		9.1				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		42.9		18.1		42.9		18.1				
Max Q Clear Time (g_c+I1), s		20.4		3.9		18.3		3.4				
Green Ext Time (p_c), s		4.7		0.3		9.4		0.2				
Intersection Summary												
HCM 6th Ctrl Delay			6.5									
HCM 6th LOS			A									