

TG: 17205.00

July 14, 2017

Mr. Harry Schneider
Schneider Homes, Inc.
6510 Southcenter Boulevard
Tukwila, WA 98188

SUBJECT: WAYNE'S PLACE APARTMENTS TRAFFIC IMPACT ANALYSIS

Dear Harry:

This letter report and supporting attachments summarize the traffic impact analysis (TIA) for the proposed Wayne's Place Apartments. It provides a description of the proposed project, study scope and area, roadway network, existing and future traffic volumes, traffic safety, vehicle trip generation and distribution, traffic operations, site access and sight distance analysis, traffic safety impacts, and school walkways. It was determined that the proposed development would not generate any significant traffic-related impacts and therefore, no off-site mitigation measures would be necessary.

Project Description. The project site is currently undeveloped and located immediately north of SE 180th Street and west of 140th Avenue SE in unincorporated King County. The proposed project would include the construction of up to 79 mid-rise apartment units. Vehicular access is proposed via one driveway on SE 180th Street, approximately 140 feet west of 140th Avenue SE. Figure 1 illustrates the site vicinity and a preliminary site plan is shown in Figure 2.



Figure 1. Site Vicinity & Study Intersections



Figure 2. Preliminary Site Plan

Study Scope and Area. The TIA scope follows requirements set forth in the King County Integrated Transportation Program (ITP) and has been coordinated with development review staff from KCDOT. Based on ITP requirements, one off-site intersection (140th Avenue SE / SE 180th Street) would be impacted by 30 or more peak hour project trips and at least 20 percent of total peak hour project traffic and is studied accordingly.

Traffic operations are evaluated during average weekday AM and PM peak hour traffic conditions. This reflects the highest hourly traffic volumes throughout an average day and typically occurs between 7:00 and 9:00 a.m. and between 4:00 and 6:00 p.m., respectively.

Roadway Network. The following section summarizes the roadways and intersections within the study area as well as existing non-motorized and transit facilities. The two roadways within the study area include:

- **140th Avenue SE** is a five-lane principal arterial with a posted speed limit of 40 miles per hour (mph). Two northbound through lanes, two southbound through lanes, and a two-way center left-turn lane exist on 140th Avenue SE east of the project site. On-street bicycle lanes and sidewalks exist on both sides of the roadway.
- **SE 180th Street** is a two-lane neighborhood collector roadway with a posted speed limit of 25 mph, providing one eastbound through lane and one westbound through lane. There are no bicycle facilities or sidewalks provided on this roadway.

- **140th Avenue SE / SE 180th Street Intersection** includes a single eastbound approach lane, two northbound through lanes, two southbound through lanes and a two-way left-turn lane that is currently used by northbound-to-westbound left-turning traffic and eastbound-to-northbound left-turning traffic.

Transit facilities are provided north of the site on 140th Avenue SE and SE Petrovitsky Road. The nearest transit stop is approximately 1,700 feet walking distance from the site on SE Petrovitsky Road west of 140th Avenue SE. In total, there are three transit routes available (operated by King County Metro) within the study area and are summarized below:

- **Route 102** operates between Fairwood and Downtown Seattle on weekdays from approximately 4:45 a.m. to 7:15 a.m. in the mornings to Downtown Seattle and from approximately 3:30 p.m. to 6:00 p.m. in the afternoons to Fairwood.
- **Route 148** operates between Fairwood and the Renton Transit Center seven days a week. On weekdays, the route runs from approximately 5:45 a.m. to 10:00 p.m. every 30 minutes. On weekends, the route runs from approximately 8:00 a.m. to 8:00 p.m. every hour.
- **DART Route 906** operates between Fairwood and Southcenter from Monday to Saturday. On weekdays, the route runs from approximately 6:00 a.m. to 6:00 p.m. every hour. On Saturdays, the route runs from approximately 8:00 a.m. to 6:00 p.m. every hour.

Traffic Volumes. Existing weekday AM and PM peak hour traffic volumes at the intersection of 140th Avenue SE and SE 180th Street were collected on a typical weekday in May 2017 and are provided in Attachment 1.

Future without-project weekday traffic volumes at 140th Avenue SE / SE 180th Street were estimated by increasing existing volumes annually by 6 percent and 1 percent during the AM and PM peak hour, respectively. In addition, project trips from three nearby pipeline projects (28-lot Fairwood Assemblage development, 88-lot Addison Park development, and 117-bed Fairwood Memory Care Assisted Living development) were also assigned to the study intersection. This is a reasonable approach in forecasting future volumes in that AM and PM peak hour traffic volumes at the nearby intersection of SE Petrovitsky Road / 140th Avenue SE increased by about 6 percent per year and 0.2 percent per year, respectively, between 2015 and 2017.

Traffic Safety Analysis. Collision data from January 1, 2014 to December 31, 2016 at the 140th Avenue SE / SE 180th Street intersection and SE 180th Street west of 140th Avenue SE was obtained from the Washington State Department of Transportation (WSDOT). These records represent the most recent complete 3-year period for which complete collision data are available. No collisions were reported during the three-year period, which suggests that there are no traffic safety issues within the study area.

Existing Traffic Operations. Existing AM and PM peak hour traffic operations were evaluated at the intersection of 140th Avenue SE and SE 180th Street. Traffic operations were evaluated based on the procedures identified in the *2010 Highway Capacity Manual*. Table 1 summarizes future AM and PM peak hour levels of service (LOS); detailed LOS worksheets are provided in Attachment 2.

Table 1. Existing Weekday Peak Hour Levels of Service

Intersection	AM Peak Hour			PM Peak Hour		
	LOS ¹	Delay ²	WM ³	LOS	Delay	WM
140th Ave SE / SE 180th St	B	14	EB	D	26	EB

1. Level of Service (A – F) as defined by the *Highway Capacity Manual* (TRB, 2010)
2. Average delay per vehicle in seconds.
3. Worst movement where EB = eastbound approach

As shown in Table 1, the study intersection currently meets the King County operational standard of LOS E or better during the weekday AM and PM peak hours.

Trip Generation. Table 2 illustrates the anticipated number of new daily, AM peak hour, and PM peak hour vehicle trips the proposed development would likely generate. These estimates were derived by multiplying the proposed number of units (79) by the average daily and peak hour trip generation rates for Land Use Code No. 223 (“Mid-Rise Apartment”) published by the Institute of Transportation Engineers (ITE) in the *Trip Generation Manual* (9th Edition, 2012).

Table 2. Trip Generation Estimates

Land Use (Code)	Size	Rate ¹	Project Trips		
			Total	In	Out
Mid-Rise Apartments (LU 223)	79 units				
Weekday Daily ²		6.65	526	263	263
Weekday AM Peak Hour		0.30	24	7	17
Weekday PM Peak Hour		0.39	31	18	13

1. Average vehicle trip rates from the *Trip Generation Manual* (ITE, 9th Edition, 2012).
2. No daily trip rate available for LU 223, daily rate for LU 220 (Apartment) was used instead.

As illustrated above, the proposed development is anticipated to generate approximately 526 daily vehicle trips, including 24 and 31 vehicle trips during the AM and PM peak hours, respectively.

Trip Distribution & Assignment. It was assumed that approximately one-half of project trips would be oriented to/from the north and one-half to/from the south during the AM and PM peak hours based on analysis of travel patterns at the study intersection. Weekday AM and PM peak hour project trip assignment at the study intersection is illustrated in Figure 3. Project-generated peak hour traffic volumes were added to future without-project traffic volumes at the site access and study intersections; the resulting future with-project peak hour traffic volumes (along with existing and future without-project volumes) are all illustrated in Figure 4.



Figure 3. Project Trip Distribution and Assignment

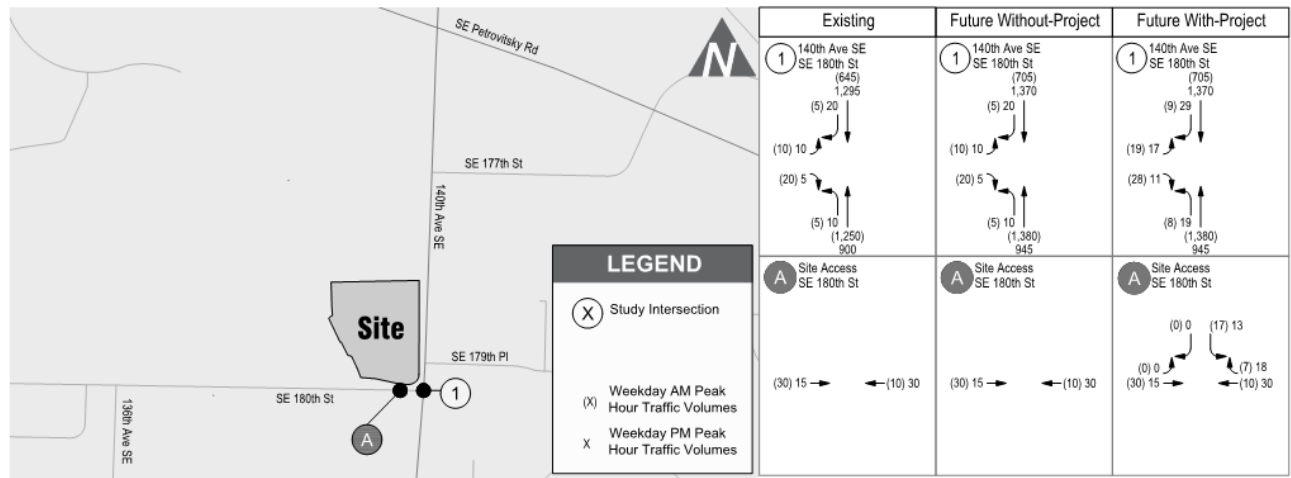


Figure 4. Existing and Future Weekday Peak Hour Traffic Volumes

Traffic Volume Impact. After project trips were added to future without-project traffic volumes, the project share at the study intersection is expected to represent approximately 1 percent of the total entering volumes during the future AM and PM peak hours.

Future Traffic Operations. Future without-project and with-project AM and PM peak hour traffic operations were evaluated at the intersection of 140th Avenue SE and SE 180th Street; no changes to the existing channelization were made at the 140th Avenue SE / SE 180th Street intersection. Traffic operations were evaluated based on the procedures identified in the *2010 Highway Capacity Manual*. Table 4 summarizes future AM and PM peak hour LOS.

Table 3. Weekday Peak Hour Levels of Service

Intersection	Future Without-Project			Future With-Project		
	LOS ¹	Delay ²	WM ³	LOS	Delay	WM
AM Peak Hour						
140th Ave SE / SE 180th St	C	15	EB	C	17	EB
PM Peak Hour						
140th Ave SE / SE 180th St	D	28	EB	D	30	EB

1. Level of Service (A – F) as defined by the *Highway Capacity Manual* (TRB, 2010)
2. Average delay per vehicle in seconds.
3. Worst movement where EB = eastbound approach

As shown in the table above, the study intersection would operate at the same LOS with or without project traffic. With the addition of project trips, the eastbound approach at the study intersection would experience approximately two seconds of additional delay during both peak hours. Thus, the intersection would continue to meet the King County LOS standard of LOS E or better.

Site Access Analysis. Future with-project AM and PM peak hour traffic operations were evaluated at the site access driveway on SE 180th Street. Traffic operations were evaluated based on the procedures identified in the *2010 Highway Capacity Manual*. Table 4 summarizes future AM and PM peak hour LOS.

Table 4. Site Access Weekday Peak Hour Levels of Service

Intersection	AM Peak Hour			PM Peak Hour		
	LOS ¹	Delay ²	WM ³	LOS	Delay	WM
Site Access / SE 180th St	A	9	SB	A	9	SB

1. Level of Service (A – F) as defined by the *Highway Capacity Manual* (TRB, 2010)
2. Average delay per vehicle in seconds.
3. Worst movement where SB = southbound approach

As seen in Table 4, the site access driveway would operate at LOS A during both future peak hours, meeting the King County LOS standard of LOS E or better.

Left- and right-turn lane warrants were analyzed at the site access driveway. Based on the *WSDOT Design Manual*¹, it was determined that no dedicated left-turn or right-turn lanes are required or recommended based on the projected future turning movement volumes.

¹ Exhibit 1310-7a Left-Turn Storage Guidelines and Exhibit 1310-11 Right-Turn Lane Guidelines from *WSDOT Design Manual* M 22-01.12. November 2015

Sight Distance. Stopping and entering sight distance was evaluated at the proposed site access intersection as well as the 140th Avenue SE / SE 180th Street intersection. Stopping sight distance is the distance necessary to enable a motorist to stop before reaching a stationary object in its path. In contrast, entering sight distance is the distance necessary for a motorist to enter the traffic stream without causing traffic on the major street to reduce its travel speed. The methods and standards used to measure available sight distance are defined in the *King County Road Design and Construction Standards (2016)* and are summarized below:

- For the 140th Avenue SE / SE 180th Street intersection with an estimated 50-mph design speed along 140th Avenue SE (equal to 10 mph above the posted speed limit as defined on page 1-13 of these *Standards*), the recommended minimum stopping sight distance is 425 feet and the recommended minimum entering sight distance is 555 feet.
- For the site access driveway on SE 180th Street with an estimated 35-mph design speed, the recommended minimum stopping sight distance is 250 feet and the recommended minimum entering sight distance is 390 feet.

Field measurements demonstrate that existing stopping sight distance is more than 425 feet north and south of the 140th Avenue SE / SE 180th Street intersection. Similarly, field measurements demonstrate that existing entering sight distance is more than 555 feet looking south. Existing shrubbery and overgrown weeds at the eastern edge of the lot currently obstructs entering sight distance looking north. However, it is expected that the entering sight distance requirement looking north will be met following development of the property.

At the site access intersection, field measurements demonstrate that both the entering sight distance (390 feet) and stopping sight distance (250 feet) requirements would be met west of the driveway. East of the proposed driveway, entering and stopping sight distance is available to/from the adjacent 140th Avenue SE / SE 180th Street intersection, approximately 140 feet east of the driveway. Therefore, King County's minimum sight distance standards would be met at both the 140th Avenue SE / SE 180th Street intersection and site access intersection.

Traffic Safety Impact. Traffic generated by the proposed project would likely result in a proportionate increase in the probability of vehicular collisions. It is unlikely, however, that this traffic would create a safety hazard or significantly increase the number of reported collisions at 140th Avenue SE / SE 180th Street or along SE 180th Street west of 140th Avenue SE because no collisions were reported during the last three complete years.

School Walkways. Public school for children living in the proposed multi-family development would be provided by the Kent School District (KSD). Depending on age, future students would be assigned to Carriage Crest Elementary School (CCES), Northwood Middle School, or Kentridge High School and busing would not be provided for students attending CCES but would be provided for students attending Northwood Middle School and Kentridge High School. The nearest bus stop for middle school and high school students is located at CCES.

Safe walking conditions will exist between the project site and CCES as frontage improvements will include new sidewalk on the north side of SE 180th Street west of 140th Avenue SE. Students will cross SE 180th Street on the west side of 140th Avenue SE. Sidewalk exists on the west side of 140th Avenue SE between SE 180th Street and the access driveway to CCES.

Mr. Harry Schneider
July 14, 2017
Page 8 of 8

Mitigation Measures. No mitigation measures are proposed or required.

Please let me know if you have any questions or would like to discuss the findings of this TIA.

Sincerely,
Transpo Group

A handwritten signature in black ink, appearing to read "Kevin Jones". The signature is fluid and cursive, with the first name "Kevin" being more prominent than the last name "Jones".

Kevin L. Jones, P.E., PTOE
Principal

Attachments

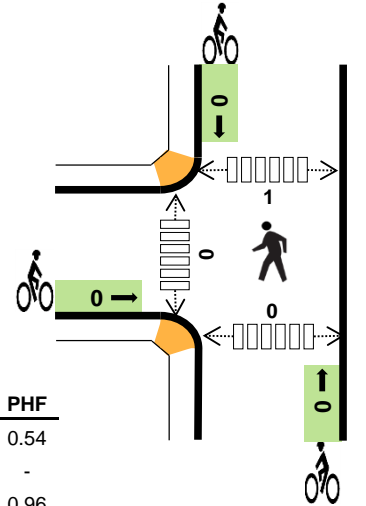
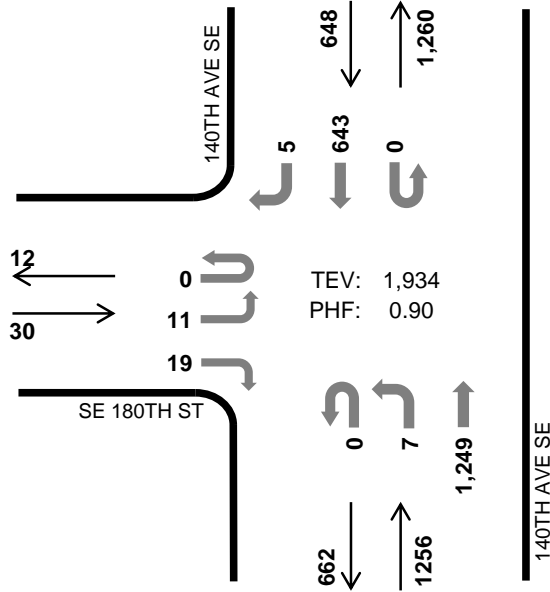
Attachment 1: Traffic Counts

140TH AVE SE SE 180TH ST



Peak Hour

Date: Tue, May 23, 2017
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:30 AM to 8:30 AM



	HV %:	PHF
EB	3.3%	0.54
WB	-	-
NB	0.7%	0.96
SB	1.9%	0.82
TOTAL	1.1%	0.90

Two-Hour Count Summaries

Interval Start	SE 180TH ST				0				140TH AVE SE				140TH AVE SE				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	2	0	2	0	0	0	0	0	0	283	0	0	0	205	1	493	0
7:15 AM	0	5	0	3	0	0	0	0	0	1	273	0	0	0	247	1	530	0
7:30 AM	0	2	0	3	0	0	0	0	0	0	307	0	0	0	146	1	459	0
7:45 AM	0	4	0	3	0	0	0	0	0	2	294	0	0	0	130	1	434	1,916
8:00 AM	0	1	0	3	0	0	0	0	0	1	327	0	0	0	171	1	504	1,927
8:15 AM	0	4	0	10	0	0	0	0	0	4	321	0	0	0	196	2	537	1,934
8:30 AM	0	2	0	2	0	0	0	0	0	1	238	0	0	0	186	1	430	1,905
8:45 AM	0	5	0	1	0	0	0	0	0	1	218	0	0	0	168	2	395	1,866
Count Total	0	25	0	27	0	0	0	0	0	10	2,261	0	0	0	1,449	10	3,782	0
Peak Hour	0	11	0	19	0	0	0	0	0	7	1,249	0	0	0	643	5	1,934	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

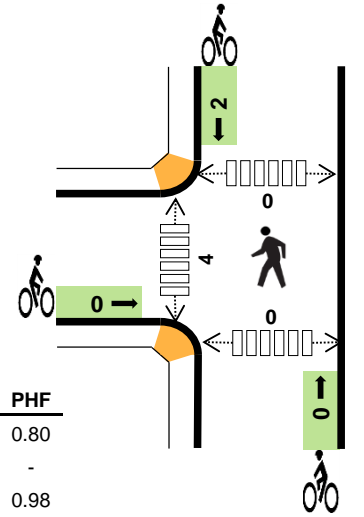
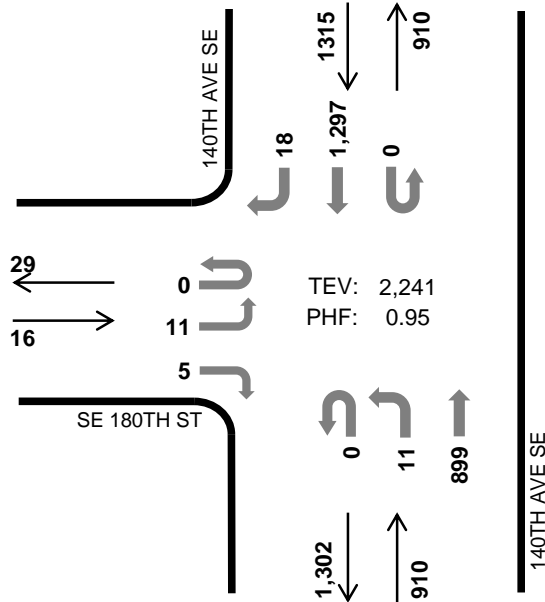
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	1	9	10	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	1	2	3	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	2	4	6	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	4	5	9	0	0	0	0	0	0	0	1	0	1
8:15 AM	1	0	2	1	4	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	5	5	0	0	0	0	0	0	1	0	0	1
8:45 AM	0	0	1	8	9	0	0	0	1	1	0	0	0	0	0
Count Total	1	0	11	35	47	0	0	0	1	1	0	1	1	0	2
Peak Hr	1	0	9	12	22	0	0	0	0	0	0	0	1	0	1

140TH AVE SE SE 180TH ST



Peak Hour

Date: Tue, May 23, 2017
 Count Period: 4:00 PM to 6:00 PM
 Peak Hour: 4:15 PM to 5:15 PM



	HV %:	PHF
EB	6.3%	0.80
WB	-	-
NB	0.4%	0.98
SB	0.8%	0.91
TOTAL	0.7%	0.95

Two-Hour Count Summaries

Interval Start	SE 180TH ST				0				140TH AVE SE				140TH AVE SE				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	6	0	2	0	0	0	0	0	4	212	0	0	0	308	4	536	0
4:15 PM	0	4	0	1	0	0	0	0	0	3	221	0	0	0	358	4	591	0
4:30 PM	0	1	0	2	0	0	0	0	0	4	221	0	0	0	307	6	541	0
4:45 PM	0	4	0	0	0	0	0	0	0	2	229	0	0	0	314	3	552	2,220
5:00 PM	0	2	0	2	0	0	0	0	0	2	228	0	0	0	318	5	557	2,241
5:15 PM	0	4	0	0	0	0	0	0	0	0	236	0	0	0	302	4	546	2,196
5:30 PM	0	3	0	1	0	0	0	0	1	3	228	0	0	0	338	6	580	2,235
5:45 PM	0	0	0	3	0	0	0	0	0	0	231	0	0	0	288	4	526	2,209
Count Total	0	24	0	11	0	0	0	0	1	18	1,806	0	0	0	2,533	36	4,429	0
Peak Hour	0	11	0	5	0	0	0	0	0	11	899	0	0	0	1,297	18	2,241	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	2	4	6	0	0	0	0	0	0	0	0	0	0
4:15 PM	1	0	0	5	6	0	0	0	0	0	0	2	0	0	2
4:30 PM	0	0	1	2	3	0	0	0	0	0	0	1	0	0	1
4:45 PM	0	0	1	2	3	0	0	0	0	0	0	1	0	0	1
5:00 PM	0	0	2	2	4	0	0	0	2	2	0	0	0	0	0
5:15 PM	0	0	0	1	1	0	0	0	0	0	0	1	0	0	1
5:30 PM	0	0	0	0	0	0	0	1	0	1	0	3	0	0	3
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3
Count Total	1	0	6	16	23	0	0	1	2	3	0	11	0	0	11
Peak Hr	1	0	4	11	16	0	0	0	2	2	0	4	0	0	4

Attachment 2: LOS Worksheets

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	Y	Y	
Traffic Vol, veh/h	10	20	5	1250	645	5
Future Vol, veh/h	10	20	5	1250	645	5
Conflicting Peds, #/hr	1	0	0	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	1	1	2	2
Mvmt Flow	11	22	6	1389	717	6

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	1427	362	723 0
Stage 1	720	-	- -
Stage 2	707	-	- -
Critical Hdwy	6.86	6.96	4.12 -
Critical Hdwy Stg 1	5.86	-	- -
Critical Hdwy Stg 2	5.86	-	- -
Follow-up Hdwy	3.53	3.33	2.21 -
Pot Cap-1 Maneuver	125	632	882 -
Stage 1	440	-	- -
Stage 2	447	-	- -
Platoon blocked, %			- -
Mov Cap-1 Maneuver	124	631	882 -
Mov Cap-2 Maneuver	258	-	- -
Stage 1	440	-	- -
Stage 2	444	-	- -

Approach	EB	NB	SB
HCM Control Delay, s	14.2	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	882	-	426	-	-
HCM Lane V/C Ratio	0.006	-	0.078	-	-
HCM Control Delay (s)	9.1	-	14.2	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	5	10	900	1295	20
Future Vol, veh/h	10	5	10	900	1295	20
Conflicting Peds, #/hr	4	4	4	0	0	4
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	6	6	0	0	1	1
Mvmt Flow	11	5	11	947	1363	21

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1877	700	1388	0	-	0
Stage 1	1378	-	-	-	-	-
Stage 2	499	-	-	-	-	-
Critical Hdwy	6.92	7.02	4.1	-	-	-
Critical Hdwy Stg 1	5.92	-	-	-	-	-
Critical Hdwy Stg 2	5.92	-	-	-	-	-
Follow-up Hdwy	3.56	3.36	2.2	-	-	-
Pot Cap-1 Maneuver	60	373	500	-	-	-
Stage 1	192	-	-	-	-	-
Stage 2	564	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	58	370	498	-	-	-
Mov Cap-2 Maneuver	148	-	-	-	-	-
Stage 1	191	-	-	-	-	-
Stage 2	549	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	26.3	0.1	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	498	-	185	-	-
HCM Lane V/C Ratio	0.021	-	0.085	-	-
HCM Control Delay (s)	12.4	-	26.3	-	-
HCM Lane LOS	B	-	D	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	20	5	1380	705	5
Future Vol, veh/h	10	20	5	1380	705	5
Conflicting Peds, #/hr	1	0	0	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	1	1	2	2
Mvmt Flow	11	22	6	1533	783	6

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1566	395	790	0	-	0
Stage 1	787	-	-	-	-	-
Stage 2	779	-	-	-	-	-
Critical Hdwy	6.86	6.96	4.12	-	-	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	2.21	-	-	-
Pot Cap-1 Maneuver	101	601	832	-	-	-
Stage 1	406	-	-	-	-	-
Stage 2	410	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	100	600	832	-	-	-
Mov Cap-2 Maneuver	231	-	-	-	-	-
Stage 1	406	-	-	-	-	-
Stage 2	407	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	832	-	392	-	-
HCM Lane V/C Ratio	0.007	-	0.085	-	-
HCM Control Delay (s)	9.4	-	15	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	5	10	945	1370	20
Future Vol, veh/h	10	5	10	945	1370	20
Conflicting Peds, #/hr	4	4	4	0	0	4
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	6	6	0	0	1	1
Mvmt Flow	11	5	11	995	1442	21

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1979	740	1467	0	-	0
Stage 1	1457	-	-	-	-	-
Stage 2	522	-	-	-	-	-
Critical Hdwy	6.92	7.02	4.1	-	-	-
Critical Hdwy Stg 1	5.92	-	-	-	-	-
Critical Hdwy Stg 2	5.92	-	-	-	-	-
Follow-up Hdwy	3.56	3.36	2.2	-	-	-
Pot Cap-1 Maneuver	51	350	466	-	-	-
Stage 1	174	-	-	-	-	-
Stage 2	549	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	49	347	464	-	-	-
Mov Cap-2 Maneuver	135	-	-	-	-	-
Stage 1	173	-	-	-	-	-
Stage 2	534	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	28.3	0.1	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	464	-	170	-	-
HCM Lane V/C Ratio	0.023	-	0.093	-	-
HCM Control Delay (s)	12.9	-	28.3	-	-
HCM Lane LOS	B	-	D	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	19	28	8	1380	705	9
Future Vol, veh/h	19	28	8	1380	705	9
Conflicting Peds, #/hr	1	0	0	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	1	1	2	2
Mvmt Flow	21	31	9	1533	783	10

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1574	398	794	0	-	0
Stage 1	789	-	-	-	-	-
Stage 2	785	-	-	-	-	-
Critical Hdwy	6.86	6.96	4.12	-	-	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	2.21	-	-	-
Pot Cap-1 Maneuver	100	599	830	-	-	-
Stage 1	405	-	-	-	-	-
Stage 2	407	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	99	598	830	-	-	-
Mov Cap-2 Maneuver	229	-	-	-	-	-
Stage 1	405	-	-	-	-	-
Stage 2	402	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.6	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	830	-	362	-	-
HCM Lane V/C Ratio	0.011	-	0.144	-	-
HCM Control Delay (s)	9.4	-	16.6	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.5	-	-

Intersection

Int Delay, s/veh 0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	17	11	19	945	1370	29
Future Vol, veh/h	17	11	19	945	1370	29
Conflicting Peds, #/hr	4	4	4	0	0	4
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	6	6	0	0	1	1
Mvmt Flow	18	12	20	995	1442	31

Major/Minor	Minor2	Major1		Major2
Conflicting Flow All	2002	744	1477	0
Stage 1	1461	-	-	-
Stage 2	541	-	-	-
Critical Hdwy	6.92	7.02	4.1	-
Critical Hdwy Stg 1	5.92	-	-	-
Critical Hdwy Stg 2	5.92	-	-	-
Follow-up Hdwy	3.56	3.36	2.2	-
Pot Cap-1 Maneuver	50	348	462	-
Stage 1	173	-	-	-
Stage 2	536	-	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	47	345	460	-
Mov Cap-2 Maneuver	133	-	-	-
Stage 1	172	-	-	-
Stage 2	511	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	29.7	0.3	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	460	-	175	-	-
HCM Lane V/C Ratio	0.043	-	0.168	-	-
HCM Control Delay (s)	13.2	-	29.7	-	-
HCM Lane LOS	B	-	D	-	-
HCM 95th %tile Q(veh)	0.1	-	0.6	-	-

Intersection

Int Delay, s/veh 2.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↖	↗		↘	
Traffic Vol, veh/h	0	30	10	7	17	0
Future Vol, veh/h	0	30	10	7	17	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	0	0	0	0
Mvmt Flow	0	33	11	8	19	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	19	0	48
Stage 1	-	-	15
Stage 2	-	-	33
Critical Hdwy	4.13	-	6.4
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.227	-	3.5
Pot Cap-1 Maneuver	1591	-	967
Stage 1	-	-	1013
Stage 2	-	-	995
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1591	-	967
Mov Cap-2 Maneuver	-	-	967
Stage 1	-	-	1013
Stage 2	-	-	995

Approach	EB	WB	SB
HCM Control Delay, s	0	0	8.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1591	-	-	-	967
HCM Lane V/C Ratio	-	-	-	-	0.02
HCM Control Delay (s)	0	-	-	-	8.8
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection

Int Delay, s/veh 1.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↖	↗		↘	
Traffic Vol, veh/h	0	15	30	18	13	0
Future Vol, veh/h	0	15	30	18	13	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	6	6	0	0	0	0
Mvmt Flow	0	16	32	19	14	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	51	0	41
Stage 1	-	-	41
Stage 2	-	-	16
Critical Hdwy	4.16	-	6.2
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.254	-	3.3
Pot Cap-1 Maneuver	1530	-	1036
Stage 1	-	-	987
Stage 2	-	-	1012
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1530	-	1036
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	987
Stage 2	-	-	1012

Approach	EB	WB	SB
HCM Control Delay, s	0	0	8.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1530	-	-	-	955
HCM Lane V/C Ratio	-	-	-	-	0.014
HCM Control Delay (s)	0	-	-	-	8.8
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0