TECHNICAL APPENDIX

METHODS AND CRITERIA

Unsignalized Intersection
Level of Service Criteria

Level of Service	Delay Range (sec)	Expected Delay to Minor Street Traffic
A	≤ 10	Little to No Delay
B	> 10 and ≤ 15	Short Traffic Delays
C	>15 and ≤ 25	Average Traffic Delays
D	>25 and ≤ 35	Long Traffic Delays
E	> 35 and ≤ 50	Very Long Traffic Delays
F	> 50	Stop-and-Go Condition Delays Generally Longer than Acceptable

Unsignalized Intersections
Level of Service Descriptions

LOS	General Description
A	• Nearly all drivers find freedom of operation. • Very seldom is there more than one vehicle in the queue.
B	• Some drivers begin to consider the delay an inconvenience • Occasionally there is more than one vehicle in the queue.
C	• Many times there is more than one vehicle in the queue. • Most drivers feel restricted, but not objectionably so.
D	• Often there is more than one vehicle in the queue. • Drivers feel quite restricted.
E	• Represents conditions in which the demand is near or equal to the probable maximum number of vehicles that can be accommodated by the movement. • There is almost always more than one vehicle in the queue. • Drivers find the delays approaching intolerable levels.
F	• Forced flow. • Represents an intersection failure condition that is caused by geometric and/or operational constraints external to the intersection

Signalized Intersection
Level of Service Criteria

Level of Service	Delay Range (sec)
A	≤ 10
B	> 10 and ≤ 20
C	>20 and ≤ 35
D	>35 and ≤ 55
E	> 55 and ≤ 80
F	> 80

Signalized Intersections
Level of Service Descriptions

LOS	General Description
A	• Very low delay at intersection. • All signal cycles clear. • No vehicles wait through more than one signal cycle.
B	• Operating speeds beginning to be affected by other traffic. • Short traffic delays at intersections. • Higher average intersections delays resulting from more vehicles stopping.
C	• Operating speeds and maneuverability closely controlled by other traffic. • Higher delays at intersections than for LOS B due to a significant number of vehicles stopping. • Not all signal cycles clear the waiting vehicles.
D	• Tolerable operating speeds, but long traffic delays occur at intersections • The influence of congestion is noticeable. • Many vehicles stop and the proportion of vehicles not stopping declines. • The number of signal cycle failures, for which vehicles must wait through more than one signal cycle are noticeable.
E	• Speeds are restricted, very long traffic delays are experienced and traffic volumes are near capacity. • Traffic flow is unstable so that any interruption, no matter how minor, will cause queues to form and service to deteriorate. • Traffic signal cycle failures are frequent occurrences.
F	• Extreme delays resulting in long queues which may interfere with other traffic movements • Stoppages of long duration and speeds may drop to zero. • There may be frequent signal failures. • Vehicle arrival rates are greater than capacity. • Considered unacceptable by most drivers.

ACCIDENT DATA

OFFICER REPORTED CRASHES THAT OCCURRED *at* OR *in the vicinity of* MULTIPLE INTERSECTIONS IN THE CITY OF SPOKANE
01/01/2015 - 12/31/2019 See 2nd tab below for road information & interchange drawing for reference

Under 23 U.S. Code § 148 and 23 U.S. Code § 409, safety data, reports, surveys, schedules, lists compiled or collected for the purpose of identifying, evaluating, or planning the safety enhancement of potential crash sites, hazardous roadway conditions, or railway-highway crossings are not subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such reports, surveys, schedules, lists, or data.

Intersection	JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	MILEPOST	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# INJ	# FAT	# VEHS	# PEDS	# BIKES	VEHICLE 1 TYPE	VEHICLE 2 TYPE	WEATHER	ROADWAY SURFACE CONDITION	LIGHTING CONDITION	Number of Accidents
SR 195 & Hatch Rd	State Route	Spokane	Spokane	195	91.17	E648027	02/25/2017	16:12	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	Clear or Partly Cloudy	Dry	Daylight	9
	State Route	Spokane	Spokane	195	91.17	E672913	05/19/2017	16:45	Suspected Minor Injury	4	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	Clear or Partly Cloudy	Dry	Daylight	
	State Route	Spokane	Spokane	195	91.17	E718548	09/29/2017	07:12	Possible Injury	2	0	3	0	0	Passenger Car	Passenger Car	Clear or Partly Cloudy	Dry	Daylight	
	State Route	Spokane	Spokane	195	91.17	E725396	10/19/2017	15:17	Possible Injury	1	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	Overcast	Dry	Daylight	
	State Route	Spokane	Spokane	195	91.17	E812465	06/27/2018	13:32	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Motorcycle	Clear or Partly Cloudy	Dry	Daylight	
	State Route	Spokane	Spokane	195	91.17	E823891	07/30/2018	17:51	Suspected Minor Injury	3	0	5	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	Clear or Partly Cloudy	Dry	Daylight	
	State Route	Spokane	Spokane	195	91.17	E840198	09/20/2018	14:45	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	Clear or Partly Cloudy	Dry	Daylight	
	State Route	Spokane	Spokane	195	91.17	E955333	08/30/2019	17:15	Suspected Minor Injury	2	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	Clear or Partly Cloudy	Dry	Daylight	
	State Route	Spokane	Spokane	195	91.17	E979570	10/16/2019	17:36	No Apparent Injury	0	0	3	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	Clear or Partly Cloudy	Dry	Daylight	
SR 195 & Meadowlane Dr	State Route	Spokane	Spokane	195	92.28	E631701	01/05/2017	20:47	Suspected Minor Injury	3	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	Clear or Partly Cloudy	Ice	Dark-Street Lights On	11
	State Route	Spokane	Spokane	195	92.28	E692060	07/11/2017	14:43	Suspected Serious Injury	2	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	Clear or Partly Cloudy	Dry	Daylight	
	State Route	Spokane	Spokane	195	92.28	E697430	08/01/2017	10:37	Possible Injury	1	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	Clear or Partly Cloudy	Dry	Daylight	
	State Route	Spokane	Spokane	195	92.28	E725216	10/18/2017	12:50	Possible Injury	1	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	Raining	Dry	Daylight	
	State Route	Spokane	Spokane	195	92.28	E780063	03/17/2018	14:58	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	Overcast	Dry	Daylight	
	State Route	Spokane	Spokane	195	92.28	E844772	10/03/2018	13:15	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	Clear or Partly Cloudy	Dry	Daylight	
	State Route	Spokane	Spokane	195	92.28	E849944	10/16/2018	09:30	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	Clear or Partly Cloudy	Dry	Daylight	
	State Route	Spokane	Spokane	195	92.28	E911809	04/15/2019	23:35	No Apparent Injury	0	0	1	0	0	Pickup,Panel Truck or Vanette under 10,000 lb		Clear or Partly Cloudy	Dry	Dark-Street Lights On	
	State Route	Spokane	Spokane	195	92.28	E971806	10/08/2019	16:37	Possible Injury	1	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	Clear or Partly Cloudy	Dry	Daylight	
	State Route	Spokane	Spokane	195	92.28	E974717	10/22/2019	17:41	Suspected Serious Injury	1	0	2	0	0	Passenger Car	Passenger Car	Overcast	Dry	Dusk	
	State Route	Spokane	Spokane	195	92.28	E994081	12/10/2019	21:22	Possible Injury	1	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	Overcast	Dry	Dark-Street Lights On	
SR 195 & Inland Empire Way	State Route	Spokane	Spokane	195	94.31	E751907	12/22/2017	17:20	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	Snowing	Ice	Dark-Street Lights On	3
	State Route	Spokane	Spokane	195	94.32	E640490	02/08/2017	15:54	Possible Injury	1	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	Snowing	Snow/Slush	Daylight	
	State Route	Spokane	Spokane	195	94.32	E889961	02/05/2019	12:32	Suspected Minor Injury	1	0	1	0	0	Pickup,Panel Truck or Vanette under 10,000 lb		Overcast	Ice	Daylight	
SR 195 & Thorpe Ave	State Route	Spokane	Spokane	195	94.90	E667717	04/28/2017	20:35	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	Overcast	Dry	Dark-Street Lights On	20
	State Route	Spokane	Spokane	195	94.94	E635511	01/24/2017	17:57	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	Snowing	Wet	Dark-Street Lights On	
	State Route	Spokane	Spokane	195	94.94	E644072	02/17/2017	07:02	No Apparent Injury	0	0	1	0	0	Passenger Car		Overcast	Wet	Dawn	
	State Route	Spokane	Spokane	195	94.94	E648023	03/02/2017	15:21	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	Clear or Partly Cloudy	Dry	Daylight	
	State Route	Spokane	Spokane	195	94.94	E676257	05/30/2017	16:00	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Truck Tractor & Semi-Trailer	Clear or Partly Cloudy	Dry	Daylight	
	State Route	Spokane	Spokane	195	94.94	E676966	05/23/2017	17:22	Possible Injury	1	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	Clear or Partly Cloudy	Dry	Daylight	
	State Route	Spokane	Spokane	195	94.94	E679258	06/07/2017	19:17	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	Clear or Partly Cloudy	Dry	Daylight	
	State Route	Spokane	Spokane	195	94.94	E715006	09/23/2017	08:49	Possible Injury	2	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	Clear or Partly Cloudy	Dry	Daylight	
	State Route	Spokane	Spokane	195	94.94	E724463	10/18/2017	18:52	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	Raining	Wet	Dark-Street Lights On	
	State Route	Spokane	Spokane	195	94.94	E772528	02/23/2018	07:41	Possible Injury	1	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	Clear or Partly Cloudy	Dry	Daylight	
	State Route	Spokane	Spokane	195	94.94	E783182	03/20/2018	11:45	Possible Injury	2	0	3	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	Clear or Partly Cloudy	Dry	Daylight	
	State Route	Spokane	Spokane	195	94.94	E788069	04/13/2018	06:20	Possible Injury	2	0	2	0	0	Passenger Car	Passenger Car	Overcast	Dry	Daylight	
	State Route	Spokane	Spokane	195	94.94	E795597	05/01/2018	11:45	No Apparent Injury	0	0	3	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	Clear or Partly Cloudy	Dry	Daylight	
	State Route	Spokane	Spokane	195	94.94	E803124	05/17/2018	20:42	Possible Injury	2	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	Overcast	Wet	Dark-No Street Lights	
	State Route	Spokane	Spokane	195	94.94	E868458	11/27/2018	11:30	Possible Injury	2	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	Raining	Wet	Daylight	
	State Route	Spokane	Spokane	195	94.94	E874480	12/16/2018	15:12	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	Raining	Wet	Daylight	
	State Route	Spokane	Spokane	195	94.94	E875025	12/14/2018	16:22	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Not Stated	Overcast	Dry	Dark-Street Lights On	
	State Route	Spokane	Spokane	195	94.94	E936964	06/30/2019	13:53	Suspected Minor Injury	1	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	Clear or Partly Cloudy	Dry	Daylight	
	State Route	Spokane	Spokane	195	94.94	E938950	07/08/2019	09:02	Suspected Minor Injury	1	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	Clear or Partly Cloudy	Dry	Daylight	
	State Route	Spokane	Spokane	195	94.94	E977454	11/01/2019	03:17	No Apparent Injury	0	0	1	0	0	Pickup,Panel Truck or Vanette under 10,000 lb		Clear or Partly Cloudy	Dry	Dark-Street Lights On	
SR 195 & 16th Ave	State Route	Spokane	Spokane	195	95.55	E633803	01/12/2017	17:00	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	Overcast	Dry	Dark-Street Lights On	13
	State Route	Spokane	Spokane	195	95.55	E663900	04/21/2017	13:54	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	Clear or Partly Cloudy	Dry	Daylight	
	State Route	Spokane	Spokane	195	95.55	E675427	05/28/2017	15:58	Possible Injury	1	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	Clear or Partly Cloudy	Dry	Daylight	
	State Route	Spokane	Spokane	195	95.55	E679721	06/02/2017	07:55	No Apparent Injury	0	0	2	0	0	Truck (Flatbad,Van,etc)	Truck (Flatbad,Van,etc)	Clear or Partly Cloudy	Dry	Daylight	
	State Route	Spokane	Spokane	195	95.55	E699918	07/27/2017	09:36	No Apparent Injury	0	0	1	0	0	Pickup,Panel Truck or Vanette under 10,000 lb		Clear or Partly Cloudy	Dry	Daylight	
	State Route	Spokane	Spokane	195	95.55	E720893	10/03/2017	16:39	Suspected Minor Injury	2	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	Clear or Partly Cloudy	Dry	Daylight	
	State Route	Spokane	Spokane	195	95.55	E784568	03/28/2018	13:00	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	Clear or Partly Cloudy	Dry	Daylight	
	State Route	Spokane	Spokane	195	95.55	E943009	07/03/2019	16:40	No Apparent Injury	0	0	2	0	0	Passenger Car	Motorcycle	Clear or Partly Cloudy	Dry	Daylight	
	State Route	Spokane	Spokane	195	95.55	E962177	09/20/2019	16:50	Possible Injury	2	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	Clear or Partly Cloudy	Dry	Daylight	
	State Route	Spokane	Spokane	195	95.55	E965303	09/28/2019	15:05	No Apparent Injury	0	0	1	0	0	Pickup,Panel Truck or Vanette under 10,000 lb		Raining	Wet	Daylight	
	State Route	Spokane	Spokane	195	95.55	E971638	10/16/2019	11:33	Suspected Minor Injury	1	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	Clear or Partly Cloudy	Dry	Daylight	
	State Route	Spokane	Spokane	195	95.57	E679722	06/02/2017	08:08	Possible Injury	1	0	5	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	Clear or Partly Cloudy	Dry	Daylight	
	State Route	Spokane	Spokane	195	95.59	E790829	04/18/2018	07:44	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	Clear or Partly Cloudy	Dry	Daylight	
@ Ch-Sp SB	State Route	Spokane	Spokane	195LX09388	0.00	E698933	08/06/2017	11:22	Possible Injury	2	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	Clear or Partly Cloudy	Dry	Daylight	1

OFFICER REPORTED CRASHES THAT OCCURRED ON STATE ROUTE 195 (MP 94.90 - 94.98) @ THORPE AVE IN THE CITY OF SPOKANE

01/01/2016 - 12/31/2020

Under 23 U.S. Code § 148 and 23 U.S. Code § 409, safety data, reports, surveys, schedules, lists compiled or collected for the purpose of identifying, evaluating, or planning the safety enhancement of potential crash sites, hazardous roadway conditions, or railway-highway crossings are not subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such reports, surveys, schedules, lists, or data.

JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	MILEPOST	DATE	TIME	MOST SEVERE INJURY TYPE	# INJ	# FAT	# VEH	# PEDS	# BIKES	VEHICLE 1 TYPE	VEHICLE 2 TYPE	WEATHER	ROADWAY SURFACE CONDITION	LIGHTING CONDITION
State Route	Spokane	Spokane	195	94.94	01/24/2017	17:57	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	Snowing	Wet	Dark-Street Lights On
State Route	Spokane	Spokane	195	94.94	02/17/2017	07:02	No Apparent Injury	0	0	1	0	0	Passenger Car		Overcast	Wet	Dawn
State Route	Spokane	Spokane	195	94.94	03/02/2017	15:21	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	Clear or Partly Cloudy	Dry	Daylight
State Route	Spokane	Spokane	195	94.90	04/28/2017	20:35	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	Overcast	Dry	Dark-Street Lights On
State Route	Spokane	Spokane	195	94.94	05/23/2017	17:22	Possible Injury	1	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	Clear or Partly Cloudy	Dry	Daylight
State Route	Spokane	Spokane	195	94.94	05/30/2017	16:00	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Truck Tractor & Semi-Trailer	Clear or Partly Cloudy	Dry	Daylight
State Route	Spokane	Spokane	195	94.94	06/07/2017	19:17	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	Clear or Partly Cloudy	Dry	Daylight
State Route	Spokane	Spokane	195	94.94	09/23/2017	08:49	Possible Injury	2	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	Clear or Partly Cloudy	Dry	Daylight
State Route	Spokane	Spokane	195	94.94	10/18/2017	18:52	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	Raining	Wet	Dark-Street Lights On
State Route	Spokane	Spokane	195	94.94	02/23/2018	07:41	Possible Injury	1	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	Clear or Partly Cloudy	Dry	Daylight
State Route	Spokane	Spokane	195	94.94	03/20/2018	11:45	Possible Injury	2	0	3	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	Clear or Partly Cloudy	Dry	Daylight
State Route	Spokane	Spokane	195	94.94	04/13/2018	06:20	Possible Injury	2	0	2	0	0	Passenger Car	Passenger Car	Overcast	Dry	Daylight
State Route	Spokane	Spokane	195	94.94	05/01/2018	11:45	No Apparent Injury	0	0	3	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	Clear or Partly Cloudy	Dry	Daylight
State Route	Spokane	Spokane	195	94.94	05/17/2018	20:42	Possible Injury	2	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	Overcast	Wet	Dark-No Street Lights
State Route	Spokane	Spokane	195	94.94	11/27/2018	11:30	Possible Injury	2	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	Raining	Wet	Daylight
State Route	Spokane	Spokane	195	94.94	12/14/2018	16:22	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Not Stated	Overcast	Dry	Dark-Street Lights On
State Route	Spokane	Spokane	195	94.94	12/16/2018	15:12	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	Raining	Wet	Daylight
State Route	Spokane	Spokane	195	94.94	06/30/2019	13:53	Suspected Minor Injury	1	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	Clear or Partly Cloudy	Dry	Daylight
State Route	Spokane	Spokane	195	94.94	07/08/2019	09:02	Suspected Minor Injury	1	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	Clear or Partly Cloudy	Dry	Daylight
State Route	Spokane	Spokane	195	94.94	11/01/2019	03:17	No Apparent Injury	0	0	1	0	0	Pickup,Panel Truck or Vanette under 10,000 lb		Clear or Partly Cloudy	Dry	Dark-Street Lights On
State Route	Spokane	Spokane	195	94.98	01/16/2020	23:28	No Apparent Injury	0	0	1	0	0	Passenger Car		Overcast	Snow/Slush	Dark-No Street Lights
State Route	Spokane	Spokane	195	94.94	09/08/2020	12:39	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	Clear or Partly Cloudy	Dry	Daylight

HSM ANALYSIS

PROJECT SAFETY PERFORMANCE SUMMARY REPORT

General Information	
Project Name	20-2564 Latah Glen Residential
Project Description	Residential Development
Reference Number	SR 195 & 16th Avenue
Analyst	Whipple Consuting Engineer
Agency/Company	WSDOT
Contact Email	kkim@WhippleCE.com
Contact Phone	(509) 893-2617
Date Completed	05/12/11

Years of crash data incorporated into the analysis: 3

PROJECT SUMMARY



Project Element	Total Crashes/yr (KABCO)			Fatal and Injury Crashes/yr (KABC)			Property Damage Only Crashes/yr (PDO)		
	Predicted average crash frequency $N_{predicted\ (KABCO)}$	Expected average crash frequency $N_{expected\ (KABCO)}$	Potential for Improvement	Predicted average crash frequency $N_{predicted\ (KABC)}$	Expected average crash frequency $N_{expected\ (KABC)}$	Potential for Improvement	Predicted average crash frequency $N_{predicted\ (O)}$	Expected average crash frequency $N_{expected\ (O)}$	Potential for Improvement
INDIVIDUAL INTERSECTIONS									
Intersection 1	1.8	3.3	1.5	0.7	1.3	0.6	1.0	1.9	0.9
COMBINED (sum of column)	1.8	3.3	1.5	0.7	1.3	0.6	1.0	1.9	0.9

PROJECT SUMMARY -- Site-Specific EB Method Summary Results for Urban and Suburban Arterial Project

Crash severity level	$N_{predicted(PROJECT)}$ Predicted average crash frequency - Average safety performance of projects consisting of similar elements (anticipated average crashes/yr)	$N_{expected\ (PROJECT)}$ Expected average crash frequency - Actual long-term safety performance of the project (anticipated average crashes/yr)	$N_{potential\ for\ improvement\ (PROJECT)}$ Potential for Safety Improvement (anticipated average crashes/yr)
Fatal and injury (KABC)	0.7	1.3	0.6
Property damage only (PDO)	1.0	1.9	0.9
Total (KABCO)	1.8	3.3	1.5

HSM1 Extended Spreadsheet for Part C Chapter 12 v.9

Discussion of Results

Given the potential effects of project characteristics on safety performance, results indicate that:

1. It is anticipated that the project will, on average, experience 3.3 crashes per year (1.3 fatal and injury crashes per year; and 1.9 property damage only crashes per year).

2. A similar project is anticipated, on average, to experience 1.8 crashes per year (0.7 fatal and injury crashes per year; and 1 property damage only crashes per year).

3. It is anticipated the project has, on average, a potential for safety improvement of 1.5 crashes per year (0.6 fatal and injury crashes per year; and 0.9 property damage only crashes per year).

Federal law 23 USC § 409 prohibits the discovery or admission into evidence of "reports, surveys, schedules, lists, or data" compiled or collected for the purpose of highway safety improvement projects that might qualify for federal safety improvement funding.

WORKSHEET 2A -- GENERAL INFORMATION AND INPUT DATA FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

General Information		Location Information	
Analyst	Whipple Consuting Engineer	Roadway	SR 195
Agency or Company	WSDOT	Location Information	16th Avenue
Date Performed	1/29/2021	Jurisdiction	WSDOT
Intersection	Intersection 1	Analysis Year	2021
Signalized/Unsignalized	Unsignalized		

Input Data				Site Conditions	Base Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)				4ST	--
AADT $_{major}$ (veh/day) (total entering on major approaches)*	$AADT_{MAX}$ =	46,800	(veh/day)	21,220	--
AADT $_{minor}$ (veh/day) (total entering on minor approaches)*	$AADT_{MAX}$ =	5,900	(veh/day)	1,860	--
Intersection lighting (present/not present)				Present	Not Present
Calibration factor, C_i				1.00	1.00
Data for unsignalized intersections only:					
Number of major-road approaches with left-turn lanes (0,1,2)				2	0
Number of major-road approaches with right-turn lanes (0,1,2)				0	0
Data for signalized intersections only:					
~~Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]~~				~~0~~	~~0~~
~~Number of approaches with right-turn lanes: for 4SG, use maximum value of 4, all other, max 2)~~				~~0~~	~~0~~
~~Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]~~				~~0~~	~~--~~
~~Type of left-turn signal phasing for Leg #1~~					~~Permissive~~
~~Type of left-turn signal phasing for Leg #2~~					~~--~~
~~Type of left-turn signal phasing for Leg #3~~					~~--~~
~~Type of left-turn signal phasing for Leg #4 (if applicable)~~					~~--~~
~~Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]~~				~~0~~	~~0~~
~~Intersection red light cameras (present/not present)~~				~~Not Present~~	~~Not Present~~
~~Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only~~					~~--~~
~~Maximum number of lanes crossed by a pedestrian (n_{lanesx})~~					~~--~~
~~Number of bus stops within 300 m (1,000 ft) of the intersection~~				~~0~~	~~0~~
~~Schools within 300 m (1,000 ft) of the intersection (present/not present)~~				~~Not Present~~	~~Not Present~~
~~Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection~~				~~0~~	~~0~~

Average Annual Crash History (3 or 5-yr average)			
Multiple vehicle crashes	KABC	Fatal and Injury Only	1.7
	PDO	Property Damage Only	2.0
Single-vehicle crashes	KABC	Fatal and Injury Only	0.0
	PDO	Property Damage Only	0.7

NOTES: * AADT: It is important to remember that the AADT(major) = AADT(major approach1) + AADT(minor approach2) (refer to p.12-8 in Part C of the HSM)

WORKSHEET 2B -- CRASH MODIFICATION FACTORS FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
CMF 1i	*CMF 2i*	*CMF 3i*	*CMF 4i*	*CMF 5i*	*CMF 6i*	*CMF $_{COMB}$*
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.5300	1.0000	1.0000	1.0000	0.9130	1.0000	0.4839

Federal law 23 USC § 409 prohibits the discovery or admission into evidence of "reports, surveys, schedules, lists, or data" compiled or collected for the purpose of highway safety improvement projects that might qualify for federal safety improvement funding.

WORKSHEET 2C -- MULTIPLE-VEHICLE COLLISIONS BY SEVERITY LEVEL FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(6)*(7)*(8)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bimv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bimv}**
	from Table 12-10			from Table 12-10	from Equation 12-21		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		
	a	b	c							
Total	-8.90	0.82	0.25	0.40	3.163	1.000	3.163	0.48	1.00	1.530
Fatal and Injury (FI)	-11.13	0.93	0.28	0.48	1.275	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.397	1.254	0.48	1.00	0.607
Property Damage Only (PDO)	-8.74	0.77	0.23	0.40	1.940	$(5)_{TOTAL}-(5)_{FI}$ = 0.603	1.908	0.48	1.00	0.923

WORKSHEET 2D -- MULTIPLE-VEHICLE COLLISIONS BY COLLISION TYPE FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type(FI)**	**Predicted N *bimv* (FI) (crashes/year)**	**Proportion of Collision Type (PDO)**	**Predicted N *bimv* (PDO) (crashes/year)**	**Predicted N *bimv* (TOTAL) (crashes/year)**
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	0.607	1.000	0.923	1.530
		(2)*$(3)_{FI}$		(4)*$(5)_{PDO}$	(3)+(5)
Rear-end collision	0.338	0.205	0.374	0.345	0.551
Head-on collision	0.041	0.025	0.030	0.028	0.053
Angle collision	0.440	0.267	0.335	0.309	0.576
Sideswipe	0.121	0.073	0.044	0.041	0.114
Other multiple-vehicle collision	0.060	0.036	0.217	0.200	0.237

WORKSHEET 2E -- SINGLE-VEHICLE COLLISIONS BY SEVERITY LEVEL FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bisv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bisv}**
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-5.33	0.33	0.12	0.65	0.320	1.000	0.320	0.48	1.00	0.155
Fatal and Injury (FI)	--	--	--	--	0.090	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.301	0.097	0.48	1.00	0.047
Property Damage Only (PDO)	-7.04	0.36	0.25	0.54	0.208	$(5)_{TOTAL}-(5)_{FI}$ = 0.699	0.224	0.48	1.00	0.108

Federal law 23 USC § 409 prohibits the discovery or admission into evidence of "reports, surveys, schedules, lists, or data" compiled or collected for the purpose of highway safety improvement projects that might qualify for federal safety improvement funding.

WORKSHEET 2F -- SINGLE-VEHICLE COLLISIONS BY COLLISION TYPE FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bisv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bisv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bisv\ (TOTAL)}$ (crashes/year)**
	from Table 12-13	(9)$_{FI}$ from Worksheet 2E	from Table 12-13	(9)$_{PDO}$ from Worksheet 2E	(9)$_{PDO}$ from Worksheet 2E
Total	1.000	0.047	1.000	0.108	0.155
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.001	0.000	0.000
Collision with animal	0.001	0.000	0.026	0.003	0.003
Collision with fixed object	0.679	0.032	0.847	0.092	0.123
Collision with other object	0.089	0.004	0.070	0.008	0.012
Other single-vehicle collision	0.051	0.002	0.007	0.001	0.003
Single-vehicle noncollision	0.179	0.008	0.049	0.005	0.014

WORKSHEET 2G -- VEHICLE-PEDESTRIAN COLLISIONS FOR URBAN AND SUBURBAN ARTERIAL STOP-CONTROLLED INTERSECTIONS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{pedi}**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4)*(5)*(6)
Total	1.530	0.155	1.685	0.022	1.00	0.037
Fatal and injury (FI)	--	--	--	--	1.00	0.037

WORKSHEET 2H -- CRASH MODIFICATION FACTORS FOR VEHICLE-PEDESTRIAN COLLISIONS FOR URBAN AND SUBURBAN ARTERIAL SIGNALIZED INTERSECTIONS

(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF_{1p}	CMF_{2p}	CMF_{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1)*(2)*(3)
--	--	--	--

WORKSHEET 2I -- VEHICLE-PEDESTRIAN COLLISIONS FOR URBAN AND SUBURBAN ARTERIAL SIGNALIZED INTERSECTIONS

(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients**					**Overdispersion Parameter, k**	**$N_{pedbase}$**	**Combined CMF**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	from Table 12-14						from Equation 12-29	(4) from Worksheet 2H		(4)*(5)*(6)
	a	b	c	d	e					
Total	--	--	--	--	--	--	--	--	1.00	--
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.00	--

WORKSHEET 2J -- VEHICLE-BICYCLE COLLISIONS FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{bikei}**	**Calibration factor, C_i**	**Predicted N_{bikei}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	1.530	0.155	1.685	0.018	1.00	0.030
Fatal and injury (FI)	--	--	--	--	1.00	0.030

Federal law 23 USC § 409 prohibits the discovery or admission into evidence of "reports, surveys, schedules, lists, or data" compiled or collected for the purpose of highway safety improvement projects that might qualify for federal safety improvement funding.

WORKSHEET 2K -- CRASH SEVERITY DISTRIBUTION FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	0.205	0.345	0.551
Head-on collisions (from Worksheet 2D)	0.025	0.028	0.053
Angle collisions (from Worksheet 2D)	0.267	0.309	0.576
Sideswipe (from Worksheet 2D)	0.073	0.041	0.114
Other multiple-vehicle collision (from Worksheet 2D)	0.036	0.200	0.237
Subtotal	0.607	0.923	1.530
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.003	0.003
Collision with fixed object (from Worksheet 2F)	0.032	0.092	0.123
Collision with other object (from Worksheet 2F)	0.004	0.008	0.012
Other single-vehicle collision (from Worksheet 2F)	0.002	0.001	0.003
Single-vehicle noncollision (from Worksheet 2F)	0.008	0.005	0.014
Collision with pedestrian (from Worksheet 2G or 2I)	0.037	0.000	0.037
Collision with bicycle (from Worksheet 2J)	0.030	0.000	0.030
Subtotal	0.114	0.108	0.222
Total	0.721	1.032	1.753

WORKSHEET 2L -- SUMMARY RESULTS FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)
Crash severity level	**Predicted average crash frequency, $N_{predicted\ int}$ (crashes/year)**
	(Total) from Worksheet 2K
Total	1.753
Fatal and injury (FI)	0.721
Property damage only (PDO)	1.032

PROJECT ELEMENT RESULTS SUMMARY[1]

Summary for the project element	Total Crashes/yr (KABCO)			Fatal and Injury Crashes/yr (KABC)			Property Damage Only Crashes/yr (PDO)		
	Predicted average crash frequency $N_{predicted\ (KABCO)}$	Expected average crash frequency $N_{expected\ (KABCO)}$	Potential for Improvement	Predicted average crash frequency $N_{predicted\ (KABC)}$	Expected average crash frequency $N_{expected\ (KABC)}$	Potential for Improvement	Predicted average crash frequency $N_{predicted\ (O)}$	Expected average crash frequency $N_{expected\ (O)}$	Potential for Improvement
	1.753	3.255	1.502	0.721	1.339	0.618	1.032	1.916	0.884

Special Note: When the project element is not included in the analysis the results will all be zeros. In addition if only the analysis only includes determining the predicted average crash frequency (i.e. EB analysis is not carried out), the results will show zero values where EB results are usually displayed.

Federal law 23 USC § 409 prohibits the discovery or admission into evidence of "reports, surveys, schedules, lists, or data" compiled or collected for the purpose of highway safety improvement projects that might qualify for federal safety improvement funding.

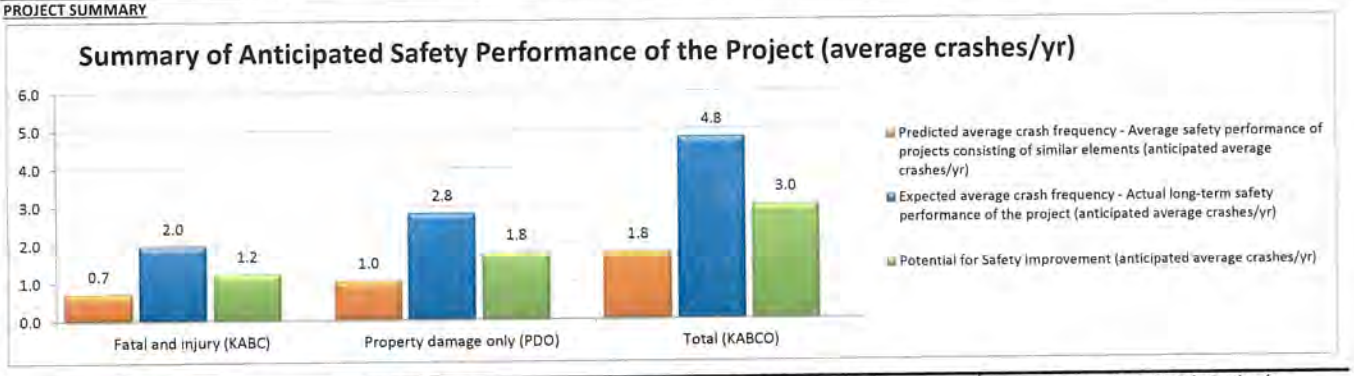
PROJECT SAFETY PERFORMANCE SUMMARY REPORT

General Information

Project Name	20-2564 Latah Glen Residential
Project Description	Residential Development
Reference Number	SR 195 & Thorpe Avenue
Analyst	Whipple Consuting Engineer
Agency/Company	WSDOT
Contact Email	kkim@WhippleCE.com
Contact Phone	(509) 893-2617
Date Completed	05/12/11

Years of crash data incorporated into the analysis: 3

PROJECT SUMMARY



Project Element	Total Crashes/yr (KABCO)			Fatal and Injury Crashes/yr (KABC)			Property Damage Only Crashes/yr (PDO)		
	Predicted average crash frequency $N_{predicted\ (KABCO)}$	Expected average crash frequency $N_{expected\ (KABCO)}$	Potential for Improvement	Predicted average crash frequency $N_{predicted\ (KABC)}$	Expected average crash frequency $N_{expected\ (KABC)}$	Potential for Improvement	Predicted average crash frequency $N_{predicted\ (O)}$	Expected average crash frequency $N_{expected\ (O)}$	Potential for Improvement
INDIVIDUAL INTERSECTIONS									
Intersection 1	1.8	4.8	3.0	0.7	2.0	1.2	1.0	2.8	1.8
COMBINED (sum of column)	1.8	4.8	3.0	0.7	2.0	1.2	1.0	2.8	1.8

PROJECT SUMMARY -- Site-Specific EB Method Summary Results for Urban and Suburban Arterial Project

Crash severity level	$N_{predicted(PROJECT)}$ Predicted average crash frequency - Average safety performance of projects consisting of similar elements (anticipated average crashes/yr)	$N_{expected\ (PROJECT)}$ Expected average crash frequency - Actual long-term safety performance of the project (anticipated average crashes/yr)	$N_{potential\ for\ improvement\ (PROJECT)}$ Potential for Safety Improvement (anticipated average crashes/yr)
Fatal and injury (KABC)	0.7	2.0	1.2
Property damage only (PDO)	1.0	2.8	1.8
Total (KABCO)	1.8	4.8	3.0

HSM1 Extended Spreadsheet for Part C Chapter 12 v.9

Discussion of Results

Given the potential effects of project characteristics on safety performance, results indicate that:

1. It is anticipated that the project will, on average, experience 4.8 crashes per year (2 fatal and injury crashes per year; and 2.8 property damage only crashes per year).

2. A similar project is anticipated, on average, to experience 1.8 crashes per year (0.7 fatal and injury crashes per year; and 1 property damage only crashes per year).

3. It is anticipated the project has, on average, a potential for safety improvement of 3 crashes per year (1.2 fatal and injury crashes per year; and 1.8 property damage only crashes per year).

Federal law 23 USC § 409 prohibits the discovery or admission into evidence of "reports, surveys, schedules, lists, or data" compiled or collected for the purpose of highway safety improvement projects that might qualify for federal safety improvement funding.

WORKSHEET 2A -- GENERAL INFORMATION AND INPUT DATA FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

General Information		**Location Information**	
Analyst	Whipple Consuting Engineer	Roadway	SR 195
Agency or Company	WSDOT	Location Information	Thorpe Avenue
Date Performed	1/29/2021	Jurisdiction	WSDOT
Intersection	Intersection 1	Analysis Year	2021
Signalized/Unsignalized	Unsignalized		

Input Data				**Site Conditions**	**Base Conditions**
Intersection type (3ST, 3SG, 4ST, 4SG)				4ST	--
AADT $_{major}$ (veh/day) (total entering on major approaches)*	$AADT_{MAX}$ =	46,800	(veh/day)	22,500	--
AADT $_{minor}$ (veh/day) (total entering on minor approaches)*	$AADT_{MAX}$ =	5,900	(veh/day)	1,650	--
Intersection lighting (present/not present)				Present	Not Present
Calibration factor, C_i				1.00	1.00
Data for unsignalized intersections only:					
Number of major-road approaches with left-turn lanes (0,1,2)				2	0
Number of major-road approaches with right-turn lanes (0,1,2)				0	0
Data for signalized intersections only:					
~~Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]~~				~~0~~	~~0~~
~~Number of approaches with right-turn lanes: for 4SG, use maximum value of 4, all other, max 2)~~				~~0~~	~~0~~
~~Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]~~				~~0~~	~~--~~
~~Type of left-turn signal phasing for Leg #1~~					~~Permissive~~
~~Type of left-turn signal phasing for Leg #2~~					~~--~~
~~Type of left-turn signal phasing for Leg #3~~					~~--~~
~~Type of left-turn signal phasing for Leg #4 (if applicable)~~					~~--~~
~~Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]~~				~~0~~	~~0~~
~~Intersection red light cameras (present/not present)~~				~~Not Present~~	~~Not Present~~
~~Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only~~					~~--~~
~~Maximum number of lanes crossed by a pedestrian (n_{lanesx})~~					~~--~~
~~Number of bus stops within 300 m (1,000 ft) of the intersection~~				~~0~~	~~0~~
~~Schools within 300 m (1,000 ft) of the intersection (present/not present)~~				~~Not Present~~	~~Not Present~~
~~Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection~~				~~0~~	~~0~~

Average Annual Crash History (3 or 5-yr average)			
Multiple vehicle crashes	KABC	Fatal and Injury Only	3.0
	PDO	Property Damage Only	3.0
Single-vehicle crashes	KABC	Fatal and Injury Only	0.0
	PDO	Property Damage Only	0.7

NOTES: * AADT: It is important to remember that the AADT(major) = AADT(major approach1) + AADT(minor approach2) (refer to p.12-8 in Part C of the HSM)

WORKSHEET 2B -- CRASH MODIFICATION FACTORS FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
CMF 1i	*CMF 2i*	*CMF 3i*	*CMF 4i*	*CMF 5i*	*CMF 6i*	*CMF $_{COMB}$*
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.5300	1.0000	1.0000	1.0000	0.9130	1.0000	0.4839

Federal law 23 USC § 409 prohibits the discovery or admission into evidence of "reports, surveys, schedules, lists, or data" compiled or collected for the purpose of highway safety improvement projects that might qualify for federal safety improvement funding.

WORKSHEET 2C -- MULTIPLE-VEHICLE COLLISIONS BY SEVERITY LEVEL FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(6)*(7)*(8)
Crash Severity Level	**SPF Coefficients** from Table 12-10			**Overdispersion Parameter, k** from Table 12-10	**Initial N_{bimv}** from Equation 12-21	**Proportion of Total Crashes**	**Adjusted N_{bimv}** $(4)_{TOTAL}$*(5)	**Combined CMFs** (7) from Worksheet 2B	**Calibration Factor, C_i**	**Predicted N_{bimv}**
	a	b	c							
Total	-8.90	0.82	0.25	0.40	3.221	1.000	3.221	0.48	1.00	1.558
Fatal and Injury (FI)	-11.13	0.93	0.28	0.48	1.302	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.397	1.280	0.48	1.00	0.619
Property Damage Only (PDO)	-8.74	0.77	0.23	0.40	1.975	$(5)_{TOTAL}-(5)_{FI}$ = 0.603	1.941	0.48	1.00	0.939

WORKSHEET 2D -- MULTIPLE-VEHICLE COLLISIONS BY COLLISION TYPE FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bimv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bimv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bimv\ (TOTAL)}$ (crashes/year)**
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	0.619	1.000	0.939	1.558
		(2)*$(3)_{FI}$		(4)*$(5)_{PDO}$	(3)+(5)
Rear-end collision	0.338	0.209	0.374	0.351	0.561
Head-on collision	0.041	0.025	0.030	0.028	0.054
Angle collision	0.440	0.273	0.335	0.315	0.587
Sideswipe	0.121	0.075	0.044	0.041	0.116
Other multiple-vehicle collision	0.060	0.037	0.217	0.204	0.241

WORKSHEET 2E -- SINGLE-VEHICLE COLLISIONS BY SEVERITY LEVEL FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients** from Table 12-12			**Overdispersion Parameter, k** from Table 12-12	**Initial N_{bisv}** from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27	**Proportion of Total Crashes**	**Adjusted N_{bimv}** $(4)_{TOTAL}$*(5)	**Combined CMFs** (7) from Worksheet 2B	**Calibration Factor, C_i**	**Predicted N_{bisv}** (6)*(7)*(8)
	a	b	c							
Total	-5.33	0.33	0.12	0.65	0.322	1.000	0.322	0.48	1.00	0.156
Fatal and Injury (FI)	--	--	--	--	0.090	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.304	0.098	0.48	1.00	0.047
Property Damage Only (PDO)	-7.04	0.36	0.25	0.54	0.206	$(5)_{TOTAL}-(5)_{FI}$ = 0.696	0.224	0.48	1.00	0.108

Federal law 23 USC § 409 prohibits the discovery or admission into evidence of "reports, surveys, schedules, lists, or data" compiled or collected for the purpose of highway safety improvement projects that might qualify for federal safety improvement funding.

WORKSHEET 2F -- SINGLE-VEHICLE COLLISIONS BY COLLISION TYPE FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	Proportion of Collision Type$_{(FI)}$	Predicted N $_{bisv\ (FI)}$ (crashes/year)	Proportion of Collision Type $_{(PDO)}$	Predicted N $_{bisv\ (PDO)}$ (crashes/year)	Predicted N $_{bisv\ (TOTAL)}$ (crashes/year)
	from Table 12-13	$(9)_{FI}$ from Worksheet 2E	from Table 12-13	$(9)_{PDO}$ from Worksheet 2E	$(9)_{PDO}$ from Worksheet 2E
Total	1.000	0.047	1.000	0.108	0.156
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.001	0.000	0.000
Collision with animal	0.001	0.000	0.026	0.003	0.003
Collision with fixed object	0.679	0.032	0.847	0.092	0.124
Collision with other object	0.089	0.004	0.070	0.008	0.012
Other single-vehicle collision	0.051	0.002	0.007	0.001	0.003
Single-vehicle noncollision	0.179	0.008	0.049	0.005	0.014

WORKSHEET 2G -- VEHICLE-PEDESTRIAN COLLISIONS FOR URBAN AND SUBURBAN ARTERIAL STOP-CONTROLLED INTERSECTIONS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N_{bimv}	Predicted N_{bisv}	Predicted N_{bi}	f_{pedi}	Calibration factor, C_i	Predicted N_{pedi}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4)*(5)*(6)
Total	1.558	0.156	1.714	0.022	1.00	0.038
Fatal and injury (FI)	--	--	--	--	1.00	0.038

WORKSHEET 2H -- CRASH MODIFICATION FACTORS FOR VEHICLE-PEDESTRIAN COLLISIONS FOR URBAN AND SUBURBAN ARTERIAL SIGNALIZED INTERSECTIONS

(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF_{1p}	CMF_{2p}	CMF_{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1)*(2)*(3)
--	--	--	--

WORKSHEET 2I -- VEHICLE-PEDESTRIAN COLLISIONS FOR URBAN AND SUBURBAN ARTERIAL SIGNALIZED INTERSECTIONS

(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	SPF Coefficients from Table 12-14					Overdispersion Parameter, k	$N_{pedbase}$ from Equation 12-29	Combined CMF (4) from Worksheet 2H	Calibration factor, C_i	Predicted N_{pedi} (4)*(5)*(6)
	a	b	c	d	e					
Total	--	--	--	--	--	--	--	--	1.00	--
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.00	--

WORKSHEET 2J -- VEHICLE-BICYCLE COLLISIONS FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N_{bimv}	Predicted N_{bisv}	Predicted N_{bi}	f_{bikei}	Calibration factor, C_i	Predicted N_{bikei}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	1.558	0.156	1.714	0.018	1.00	0.031
Fatal and injury (FI)	--	--	--	--	1.00	0.031

Federal law 23 USC § 409 prohibits the discovery or admission into evidence of "reports, surveys, schedules, lists, or data" compiled or collected for the purpose of highway safety improvement projects that might qualify for federal safety improvement funding.

WORKSHEET 2K -- CRASH SEVERITY DISTRIBUTION FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	0.209	0.351	0.561
Head-on collisions (from Worksheet 2D)	0.025	0.028	0.054
Angle collisions (from Worksheet 2D)	0.273	0.315	0.587
Sideswipe (from Worksheet 2D)	0.075	0.041	0.116
Other multiple-vehicle collision (from Worksheet 2D)	0.037	0.204	0.241
Subtotal	0.619	0.939	1.558
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.003	0.003
Collision with fixed object (from Worksheet 2F)	0.032	0.092	0.124
Collision with other object (from Worksheet 2F)	0.004	0.008	0.012
Other single-vehicle collision (from Worksheet 2F)	0.002	0.001	0.003
Single-vehicle noncollision (from Worksheet 2F)	0.008	0.005	0.014
Collision with pedestrian (from Worksheet 2G or 2I)	0.038	0.000	0.038
Collision with bicycle (from Worksheet 2J)	0.031	0.000	0.031
Subtotal	0.116	0.108	0.224
Total	0.735	1.047	1.783

WORKSHEET 2L -- SUMMARY RESULTS FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)
Crash severity level	**Predicted average crash frequency, $N_{predicted\ int}$ (crashes/year)**
	(Total) from Worksheet 2K
Total	1.783
Fatal and injury (FI)	0.735
Property damage only (PDO)	1.047

PROJECT ELEMENT RESULTS SUMMARY[1]

Summary for the project element	Total Crashes/yr (KABCO)			Fatal and Injury Crashes/yr (KABC)			Property Damage Only Crashes/yr (PDO)		
	Predicted average crash frequency $N_{predicted\ (KABCO)}$	Expected average crash frequency $N_{expected\ (KABCO)}$	Potential for Improvement	Predicted average crash frequency $N_{predicted\ (KABC)}$	Expected average crash frequency $N_{expected\ (KABC)}$	Potential for Improvement	Predicted average crash frequency $N_{predicted\ (O)}$	Expected average crash frequency $N_{expected\ (O)}$	Potential for Improvement
	1.783	4.796	3.013	0.735	1.978	1.243	1.047	2.818	1.770

Special Note: When the project element is not included in the analysis the results will all be zeros. In addition if only the analysis only includes determining the predicted average crash frequency (i.e. EB analysis is not carried out), the results will show zero values where EB results are usually displayed.

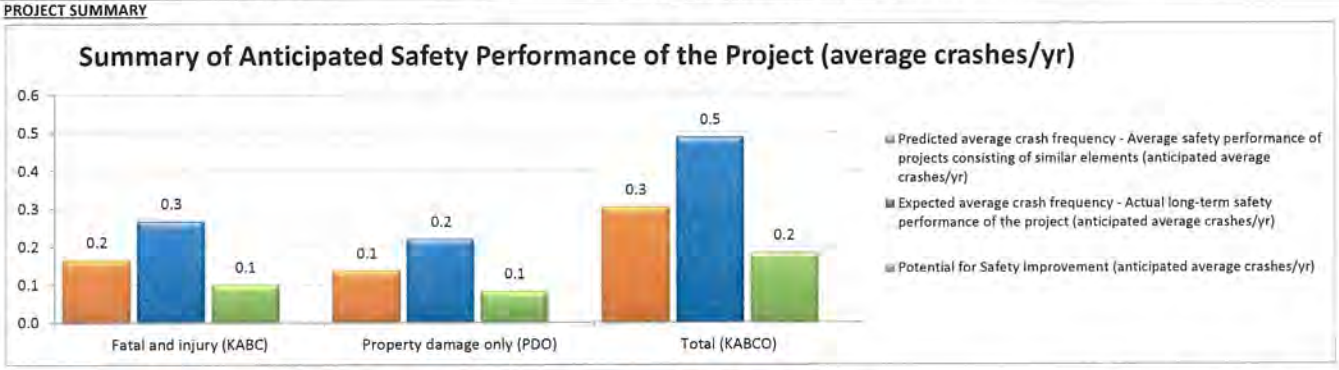
Federal law 23 USC § 409 prohibits the discovery or admission into evidence of "reports, surveys, schedules, lists, or data" compiled or collected for the purpose of highway safety improvement projects that might qualify for federal safety improvement funding.

PROJECT SAFETY PERFORMANCE SUMMARY REPORT

General Information	
Project Name	20-2564 Latah Glen Residential
Project Description	Residential Development
Reference Number	SR 195 & Inland Empire Way
Analyst	Whipple Consuting Engineer
Agency/Company	WSDOT
Contact Email	kkim@WhippleCE.com
Contact Phone	(509) 893-2617
Date Completed	05/12/11

Years of crash data incorporated into the analysis: 3

PROJECT SUMMARY



Project Element	Total Crashes/yr (KABCO)			Fatal and Injury Crashes/yr (KABC)			Property Damage Only Crashes/yr (PDO)		
	Predicted average crash frequency $N_{predicted\ (KABCO)}$	Expected average crash frequency $N_{expected\ (KABCO)}$	Potential for Improvement	Predicted average crash frequency $N_{predicted\ (KABC)}$	Expected average crash frequency $N_{expected\ (KABC)}$	Potential for Improvement	Predicted average crash frequency $N_{predicted\ (O)}$	Expected average crash frequency $N_{expected\ (O)}$	Potential for Improvement
INDIVIDUAL INTERSECTIONS									
Intersection 1	0.3	0.5	0.2	0.2	0.3	0.1	0.1	0.2	0.1
COMBINED (sum of column)	0.3	0.5	0.2	0.2	0.3	0.1	0.1	0.2	0.1

PROJECT SUMMARY -- Site-Specific EB Method Summary Results for Urban and Suburban Arterial Project

Crash severity level	$N_{predicted(PROJECT)}$ Predicted average crash frequency - Average safety performance of projects consisting of similar elements (anticipated average crashes/yr)	$N_{expected\ (PROJECT)}$ Expected average crash frequency - Actual long-term safety performance of the project (anticipated average crashes/yr)	$N_{potential\ for\ improvement\ (PROJECT)}$ Potential for Safety Improvement (anticipated average crashes/yr)
Fatal and injury (KABC)	0.2	0.3	0.1
Property damage only (PDO)	0.1	0.2	0.1
Total (KABCO)	0.3	0.5	0.2

HSM1 Extended Spreadsheet for Part C Chapter 12 v.9

Discussion of Results

Given the potential effects of project characteristics on safety performance, results indicate that:

1. It is anticipated that the project will, on average, experience 0.5 crashes per year (0.3 fatal and injury crashes per year; and 0.2 property damage only crashes per year).

2. A similar project is anticipated, on average, to experience 0.3 crashes per year (0.2 fatal and injury crashes per year; and 0.1 property damage only crashes per year).

3. It is anticipated the project has, on average, a potential for safety improvement of 0.2 crashes per year (0.1 fatal and injury crashes per year; and 0.1 property damage only crashes per year).

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WORKSHEET 2A -- GENERAL INFORMATION AND INPUT DATA FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

General Information		Location Information	
Analyst	Whipple Consuting Engineer	Roadway	SR 195
Agency or Company	WSDOT	Location Information	Inland Empire Way
Date Performed	1/29/2021	Jurisdiction	WSDOT
Intersection	Intersection 1	Analysis Year	2021
Signalized/Unsignalized	Unsignalized		

Input Data				Site Conditions	Base Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)				3ST	--
AADT $_{major}$ (veh/day) (total entering on major approaches)*	$AADT_{MAX}$ =	45,700	(veh/day)	14,140	--
AADT $_{minor}$ (veh/day) (total entering on minor approaches)*	$AADT_{MAX}$ =	9,300	(veh/day)	40	--
Intersection lighting (present/not present)				Present	Not Present
Calibration factor, C_i				1.00	1.00
Data for unsignalized intersections only:					
Number of major-road approaches with left-turn lanes (0,1,2)				0	0
Number of major-road approaches with right-turn lanes (0,1,2)				0	0
Data for signalized intersections only:					
~~Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]~~				~~0~~	~~0~~
~~Number of approaches with right-turn lanes: for 4SG, use maximum value of 4, all other, max 2)~~				~~0~~	~~0~~
~~Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]~~				~~0~~	~~--~~
~~Type of left-turn signal phasing for Leg #1~~					~~Permissive~~
~~Type of left-turn signal phasing for Leg #2~~					~~--~~
~~Type of left-turn signal phasing for Leg #3~~					~~--~~
~~Type of left-turn signal phasing for Leg #4 (if applicable)~~					~~--~~
~~Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]~~				~~0~~	~~0~~
~~Intersection red light cameras (present/not present)~~				~~Not Present~~	~~Not Present~~
~~Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only~~					~~--~~
~~Maximum number of lanes crossed by a pedestrian (n_{lanesx})~~					~~--~~
~~Number of bus stops within 300 m (1,000 ft) of the intersection~~				~~0~~	~~0~~
~~Schools within 300 m (1,000 ft) of the intersection (present/not present)~~				~~Not Present~~	~~Not Present~~
~~Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection~~				~~0~~	~~0~~

Average Annual Crash History (3 or 5-yr average)			
Multiple vehicle crashes	KABC	Fatal and Injury Only	0.3
	PDO	Property Damage Only	0.3
Single-vehicle crashes	KABC	Fatal and Injury Only	0.3
	PDO	Property Damage Only	0.0

NOTES: * AADT: It is important to remember that the AADT(major) = AADT(major approach1) + AADT(minor approach2) (refer to p.12-8 in Part C of the HSM)

WORKSHEET 2B -- CRASH MODIFICATION FACTORS FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
CMF 1i	*CMF 2i*	*CMF 3i*	*CMF 4i*	*CMF 5i*	*CMF 6i*	*CMF $_{COMB}$*
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
1.0000	1.0000	1.0000	1.0000	0.9096	1.0000	0.9096

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WORKSHEET 2C -- MULTIPLE-VEHICLE COLLISIONS BY SEVERITY LEVEL FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(6)*(7)*(8)
Crash Severity Level	SPF Coefficients			Overdispersion Parameter, k	Initial N_{bimv}	Proportion of Total Crashes	Adjusted N_{bimv}	Combined CMFs	Calibration Factor, C_i	Predicted N_{bimv}
	from Table 12-10			from Table 12-10	from Equation 12-21		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		
	a	b	c							
Total	-13.36	1.11	0.41	0.80	0.290	1.000	0.290	0.91	1.00	0.263
Fatal and Injury (FI)	-14.01	1.16	0.30	0.69	0.162	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.553	0.160	0.91	1.00	0.146
Property Damage Only (PDO)	-15.38	1.20	0.51	0.77	0.131	$(5)_{TOTAL}-(5)_{FI}$ = 0.447	0.129	0.91	1.00	0.118

WORKSHEET 2D -- MULTIPLE-VEHICLE COLLISIONS BY COLLISION TYPE FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	Proportion of Collision Type(FI)	Predicted $N_{bimv\ (FI)}$ (crashes/year)	Proportion of Collision Type $_{(PDO)}$	Predicted $N_{bimv\ (PDO)}$ (crashes/year)	Predicted $N_{bimv\ (TOTAL)}$ (crashes/year)
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	0.146	1.000	0.118	0.263
		(2)*$(3)_{FI}$		(4)*$(5)_{PDO}$	(3)+(5)
Rear-end collision	0.421	0.061	0.440	0.052	0.113
Head-on collision	0.045	0.007	0.023	0.003	0.009
Angle collision	0.343	0.050	0.262	0.031	0.081
Sideswipe	0.126	0.018	0.040	0.005	0.023
Other multiple-vehicle collision	0.065	0.009	0.235	0.028	0.037

WORKSHEET 2E -- SINGLE-VEHICLE COLLISIONS BY SEVERITY LEVEL FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	SPF Coefficients			Overdispersion Parameter, k	Initial N_{bisv}	Proportion of Total Crashes	Adjusted N_{bimv}	Combined CMFs	Calibration Factor, C_i	Predicted N_{bisv}
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-6.81	0.16	0.51	1.14	0.033	1.000	0.033	0.91	1.00	0.030
Fatal and Injury (FI)	--	--	--	--	0.010	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.348	0.012	0.91	1.00	0.011
Property Damage Only (PDO)	-8.36	0.25	0.55	1.29	0.019	$(5)_{TOTAL}-(5)_{FI}$ = 0.652	0.022	0.91	1.00	0.020

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WORKSHEET 2F -- SINGLE-VEHICLE COLLISIONS BY COLLISION TYPE FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bisv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bisv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bisv\ (TOTAL)}$ (crashes/year)**
	from Table 12-13	(9)$_{FI}$ from Worksheet 2E	from Table 12-13	(9)$_{PDO}$ from Worksheet 2E	(9)$_{PDO}$ from Worksheet 2E
Total	1.000	0.011	1.000	0.020	0.030
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.003	0.000	0.000
Collision with animal	0.003	0.000	0.018	0.000	0.000
Collision with fixed object	0.762	0.008	0.834	0.017	0.025
Collision with other object	0.090	0.001	0.092	0.002	0.003
Other single-vehicle collision	0.039	0.000	0.023	0.000	0.001
Single-vehicle noncollision	0.105	0.001	0.030	0.001	0.002

WORKSHEET 2G -- VEHICLE-PEDESTRIAN COLLISIONS FOR URBAN AND SUBURBAN ARTERIAL STOP-CONTROLLED INTERSECTIONS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{pedi}**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4)*(5)*(6)
Total	0.263	0.030	0.294	0.021	1.00	0.006
Fatal and injury (FI)	--	--	--	--	1.00	0.006

WORKSHEET 2H -- CRASH MODIFICATION FACTORS FOR VEHICLE-PEDESTRIAN COLLISIONS FOR URBAN AND SUBURBAN ARTERIAL SIGNALIZED INTERSECTIONS

(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF_{1p}	CMF_{2p}	CMF_{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1)*(2)*(3)
--	--	--	--

WORKSHEET 2I -- VEHICLE-PEDESTRIAN COLLISIONS FOR URBAN AND SUBURBAN ARTERIAL SIGNALIZED INTERSECTIONS

(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients**					**Overdispersion Parameter, k**	**$N_{pedbase}$**	**Combined CMF**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	from Table 12-14						from Equation 12-29	(4) from Worksheet 2H		(4)*(5)*(6)
	a	b	c	d	e					
Total	--	--	--	--	--	--	--	--	1.00	--
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.00	--

WORKSHEET 2J -- VEHICLE-BICYCLE COLLISIONS FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{bikei}**	**Calibration factor, C_i**	**Predicted N_{bikei}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	0.263	0.030	0.294	0.016	1.00	0.005
Fatal and injury (FI)	--	--	--	--	1.00	0.005

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WORKSHEET 2K -- CRASH SEVERITY DISTRIBUTION FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	0.061	0.052	0.113
Head-on collisions (from Worksheet 2D)	0.007	0.003	0.009
Angle collisions (from Worksheet 2D)	0.050	0.031	0.081
Sideswipe (from Worksheet 2D)	0.018	0.005	0.023
Other multiple-vehicle collision (from Worksheet 2D)	0.009	0.028	0.037
Subtotal	0.146	0.118	0.263
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.000	0.000
Collision with fixed object (from Worksheet 2F)	0.008	0.017	0.025
Collision with other object (from Worksheet 2F)	0.001	0.002	0.003
Other single-vehicle collision (from Worksheet 2F)	0.000	0.000	0.001
Single-vehicle noncollision (from Worksheet 2F)	0.001	0.001	0.002
Collision with pedestrian (from Worksheet 2G or 2I)	0.006	0.000	0.006
Collision with bicycle (from Worksheet 2J)	0.005	0.000	0.005
Subtotal	0.021	0.020	0.041
Total	0.167	0.137	0.305

WORKSHEET 2L -- SUMMARY RESULTS FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)
Crash severity level	**Predicted average crash frequency, $N_{predicted\ int}$ (crashes/year)**
	(Total) from Worksheet 2K
Total	0.305
Fatal and injury (FI)	0.167
Property damage only (PDO)	0.137

PROJECT ELEMENT RESULTS SUMMARY[1]

Summary for the project element	Total Crashes/yr (KABCO)			Fatal and Injury Crashes/yr (KABC)			Property Damage Only Crashes/yr (PDO)		
	Predicted average crash frequency $N_{predicted\ (KABCO)}$	Expected average crash frequency $N_{expected\ (KABCO)}$	Potential for Improvement	Predicted average crash frequency $N_{predicted\ (KABC)}$	Expected average crash frequency $N_{expected\ (KABC)}$	Potential for Improvement	Predicted average crash frequency $N_{predicted\ (O)}$	Expected average crash frequency $N_{expected\ (O)}$	Potential for Improvement
	0.305	0.489	0.185	0.167	0.268	0.101	0.137	0.221	0.083

Special Note: When the project element is not included in the analysis the results will all be zeros. In addition if only the analysis only includes determining the predicted average crash frequency (i.e. EB analysis is not carried out), the results will show zero values where EB results are usually displayed.

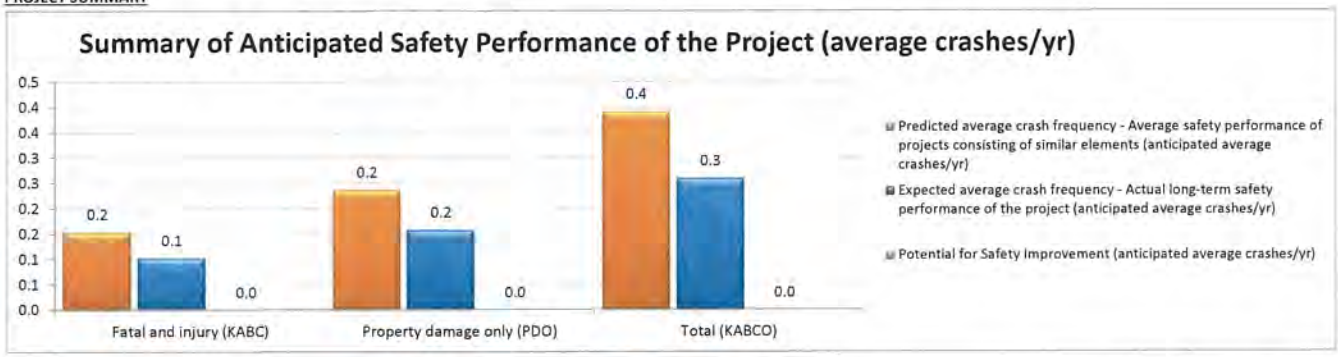
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PROJECT SAFETY PERFORMANCE SUMMARY REPORT

General Information	
Project Name	20-2564 Latah Glen Residential
Project Description	Residential Development
Reference Number	SR 195 NB & Cheney-Spokane Road
Analyst	Whipple Consuting Engineer
Agency/Company	WSDOT
Contact Email	kkim@WhippleCE.com
Contact Phone	(509) 893-2617
Date Completed	05/12/11

Years of crash data incorporated into the analysis: 3

PROJECT SUMMARY



Project Element	Total Crashes/yr (KABCO)			Fatal and Injury Crashes/yr (KABC)			Property Damage Only Crashes/yr (PDO)		
	Predicted average crash frequency $N_{predicted\ (KABCO)}$	Expected average crash frequency $N_{expected\ (KABCO)}$	Potential for Improvement	Predicted average crash frequency $N_{predicted\ (KABC)}$	Expected average crash frequency $N_{expected\ (KABC)}$	Potential for Improvement	Predicted average crash frequency $N_{predicted\ (O)}$	Expected average crash frequency $N_{expected\ (O)}$	Potential for Improvement
INDIVIDUAL INTERSECTIONS									
Intersection 1	0.4	0.3	0.0	0.2	0.1	0.0	0.2	0.2	0.0
COMBINED (sum of column)	0.4	0.3	0.0	0.2	0.1	0.0	0.2	0.2	0.0

PROJECT SUMMARY – Site-Specific EB Method Summary Results for Urban and Suburban Arterial Project

Crash severity level	$N_{predicted(PROJECT)}$ Predicted average crash frequency - Average safety performance of projects consisting of similar elements (anticipated average crashes/yr)	$N_{expected\ (PROJECT)}$ Expected average crash frequency - Actual long-term safety performance of the project (anticipated average crashes/yr)	$N_{potential\ for\ improvement\ (PROJECT)}$ Potential for Safety Improvement (anticipated average crashes/yr)
Fatal and injury (KABC)	0.2	0.1	N/A
Property damage only (PDO)	0.2	0.2	N/A
Total (KABCO)	0.4	0.3	N/A

HSM1 Extended Spreadsheet for Part C Chapter 12 v.9

Discussion of Results

Given the potential effects of project characteristics on safety performance, results indicate that:

1. It is anticipated that the project will, on average, experience 0.3 crashes per year (0.1 fatal and injury crashes per year; and 0.2 property damage only crashes per year).

2. A similar project is anticipated, on average, to experience 0.4 crashes per year (0.2 fatal and injury crashes per year; and 0.2 property damage only crashes per year).

#VALUE!

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WORKSHEET 2A -- GENERAL INFORMATION AND INPUT DATA FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

General Information		**Location Information**	
Analyst	Whipple Consuting Engineer	Roadway	SR 195
Agency or Company	WSDOT	Location Information	Cheney-Spokane Road & SR 195 NB Ramp
Date Performed	1/29/2021	Jurisdiction	WSDOT
Intersection	Intersection 1	Analysis Year	2021
Signalized/Unsignalized	Unsignalized		

Input Data				**Site Conditions**	**Base Conditions**
Intersection type (3ST, 3SG, 4ST, 4SG)				3ST	--
AADT $_{major}$ (veh/day) (total entering on major approaches)*	$AADT_{MAX}$ =	45,700	(veh/day)	3,600	--
AADT $_{minor}$ (veh/day) (total entering on minor approaches)*	$AADT_{MAX}$ =	9,300	(veh/day)	1,250	--
Intersection lighting (present/not present)				Present	Not Present
Calibration factor, C_i				1.00	1.00
Data for unsignalized intersections only:					
Number of major-road approaches with left-turn lanes (0,1,2)				0	0
Number of major-road approaches with right-turn lanes (0,1,2)				0	0
Data for signalized intersections only:					
~~Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]~~				~~0~~	~~0~~
~~Number of approaches with right-turn lanes: for 4SG, use maximum value of 4, all other, max 2)~~				~~0~~	~~0~~
~~Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]~~				~~0~~	~~--~~
~~Type of left-turn signal phasing for Leg #1~~					~~Permissive~~
~~Type of left-turn signal phasing for Leg #2~~					~~--~~
~~Type of left-turn signal phasing for Leg #3~~					~~--~~
~~Type of left-turn signal phasing for Leg #4 (if applicable)~~					~~--~~
~~Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]~~				~~0~~	~~0~~
~~Intersection red light cameras (present/not present)~~				~~Not Present~~	~~Not Present~~
~~Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only~~					~~--~~
~~Maximum number of lanes crossed by a pedestrian (n_{lanesx})~~					~~--~~
~~Number of bus stops within 300 m (1,000 ft) of the intersection~~				~~0~~	~~0~~
~~Schools within 300 m (1,000 ft) of the intersection (present/not present)~~				~~Not Present~~	~~Not Present~~
~~Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection~~				~~0~~	~~0~~

Average Annual Crash History (3 or 5-yr average)			
Multiple vehicle crashes	KABC	Fatal and Injury Only	0.0
	PDO	Property Damage Only	0.0
Single-vehicle crashes	KABC	Fatal and Injury Only	0.0
	PDO	Property Damage Only	0.0

NOTES: * AADT: It is important to remember that the AADT(major) = AADT(major approach1) + AADT(minor approach2) (refer to p.12-8 in Part C of the HSM)

WORKSHEET 2B -- CRASH MODIFICATION FACTORS FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
CMF 1i	*CMF 2i*	*CMF 3i*	*CMF 4i*	*CMF 5i*	*CMF 6i*	*CMF $_{COMB}$*
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
1.0000	1.0000	1.0000	1.0000	0.9096	1.0000	0.9096

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WORKSHEET 2C -- MULTIPLE-VEHICLE COLLISIONS BY SEVERITY LEVEL FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(6)*(7)*(8)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bimv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bimv}**
	from Table 12-10			from Table 12-10	from Equation 12-21		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		
	a	b	c							
Total	-13.36	1.11	0.41	0.80	0.260	1.000	0.260	0.91	1.00	0.237
Fatal and Injury (FI)	-14.01	1.16	0.30	0.69	0.093	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.388	0.101	0.91	1.00	0.092
Property Damage Only (PDO)	-15.38	1.20	0.51	0.77	0.147	$(5)_{TOTAL}-(5)_{FI}$ = 0.612	0.159	0.91	1.00	0.145

WORKSHEET 2D -- MULTIPLE-VEHICLE COLLISIONS BY COLLISION TYPE FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bimv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bimv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bimv\ (TOTAL)}$ (crashes/year)**
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	0.092	1.000	0.145	0.237
		(2)*$(3)_{FI}$		(4)*$(5)_{PDO}$	(3)+(5)
Rear-end collision	0.421	0.039	0.440	0.064	0.102
Head-on collision	0.045	0.004	0.023	0.003	0.007
Angle collision	0.343	0.031	0.262	0.038	0.069
Sideswipe	0.126	0.012	0.040	0.006	0.017
Other multiple-vehicle collision	0.065	0.006	0.235	0.034	0.040

WORKSHEET 2E -- SINGLE-VEHICLE COLLISIONS BY SEVERITY LEVEL FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bisv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bisv}**
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-6.81	0.16	0.51	1.14	0.155	1.000	0.155	0.91	1.00	0.141
Fatal and Injury (FI)	--	--	--	--	0.048	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.344	0.053	0.91	1.00	0.049
Property Damage Only (PDO)	-8.36	0.25	0.55	1.29	0.092	$(5)_{TOTAL}-(5)_{FI}$ = 0.656	0.102	0.91	1.00	0.093

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WORKSHEET 2F -- SINGLE-VEHICLE COLLISIONS BY COLLISION TYPE FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bisv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bisv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bisv\ (TOTAL)}$ (crashes/year)**
	from Table 12-13	$(9)_{FI}$ from Worksheet 2E	from Table 12-13	$(9)_{PDO}$ from Worksheet 2E	$(9)_{PDO}$ from Worksheet 2E
Total	1.000	0.049	1.000	0.093	0.141
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.003	0.000	0.000
Collision with animal	0.003	0.000	0.018	0.002	0.002
Collision with fixed object	0.762	0.037	0.834	0.077	0.114
Collision with other object	0.090	0.004	0.092	0.009	0.013
Other single-vehicle collision	0.039	0.002	0.023	0.002	0.004
Single-vehicle noncollision	0.105	0.005	0.030	0.003	0.008

WORKSHEET 2G -- VEHICLE-PEDESTRIAN COLLISIONS FOR URBAN AND SUBURBAN ARTERIAL STOP-CONTROLLED INTERSECTIONS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{pedi}**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4)*(5)*(6)
Total	0.237	0.141	0.378	0.021	1.00	0.008
Fatal and injury (FI)	--	--	--	--	1.00	0.008

WORKSHEET 2H -- CRASH MODIFICATION FACTORS FOR VEHICLE-PEDESTRIAN COLLISIONS FOR URBAN AND SUBURBAN ARTERIAL SIGNALIZED INTERSECTIONS

(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF_{1p}	CMF_{2p}	CMF_{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1)*(2)*(3)
--	--	--	--

WORKSHEET 2I -- VEHICLE-PEDESTRIAN COLLISIONS FOR URBAN AND SUBURBAN ARTERIAL SIGNALIZED INTERSECTIONS

(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients**					**Overdispersion Parameter, k**	**$N_{pedbase}$**	**Combined CMF**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	from Table 12-14						from Equation 12-29	(4) from Worksheet 2H		(4)*(5)*(6)
	a	b	c	d	e					
Total	--	--	--	--	--	--	--	--	1.00	--
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.00	--

WORKSHEET 2J -- VEHICLE-BICYCLE COLLISIONS FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{bikei}**	**Calibration factor, C_i**	**Predicted N_{bikei}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	0.237	0.141	0.378	0.016	1.00	0.006
Fatal and injury (FI)	--	--	--	--	1.00	0.006

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WORKSHEET 2K -- CRASH SEVERITY DISTRIBUTION FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)** (3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	**Property damage only (PDO)** (5) from Worksheet 2D and 2F	**Total** (6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	0.039	0.064	0.102
Head-on collisions (from Worksheet 2D)	0.004	0.003	0.007
Angle collisions (from Worksheet 2D)	0.031	0.038	0.069
Sideswipe (from Worksheet 2D)	0.012	0.006	0.017
Other multiple-vehicle collision (from Worksheet 2D)	0.006	0.034	0.040
Subtotal	0.092	0.145	0.237
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.002	0.002
Collision with fixed object (from Worksheet 2F)	0.037	0.077	0.114
Collision with other object (from Worksheet 2F)	0.004	0.009	0.013
Other single-vehicle collision (from Worksheet 2F)	0.002	0.002	0.004
Single-vehicle noncollision (from Worksheet 2F)	0.005	0.003	0.008
Collision with pedestrian (from Worksheet 2G or 2I)	0.008	0.000	0.008
Collision with bicycle (from Worksheet 2J)	0.006	0.000	0.006
Subtotal	0.063	0.093	0.155
Total	0.154	0.237	0.392

WORKSHEET 2L -- SUMMARY RESULTS FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)
Crash severity level	**Predicted average crash frequency, $N_{predicted\ int}$ (crashes/year)**
	(Total) from Worksheet 2K
Total	0.392
Fatal and injury (FI)	0.154
Property damage only (PDO)	0.237

PROJECT ELEMENT RESULTS SUMMARY[1]

Summary for the project element	Total Crashes/yr (KABCO)			Fatal and Injury Crashes/yr (KABC)			Property Damage Only Crashes/yr (PDO)		
	Predicted average crash frequency $N_{predicted\ (KABCO)}$	Expected average crash frequency $N_{expected\ (KABCO)}$	Potential for Improvement	Predicted average crash frequency $N_{predicted\ (KABC)}$	Expected average crash frequency $N_{expected\ (KABC)}$	Potential for Improvement	Predicted average crash frequency $N_{predicted\ (O)}$	Expected average crash frequency $N_{expected\ (O)}$	Potential for Improvement
	0.392	0.260	0.000	0.154	0.103	0.000	0.237	0.158	0.000

Special Note: When the project element is not included in the analysis the results will all be zeros. In addition if only the analysis only includes determining the predicted average crash frequency (i.e. EB analysis is not carried out), the results will show zero values where EB results are usually displayed.

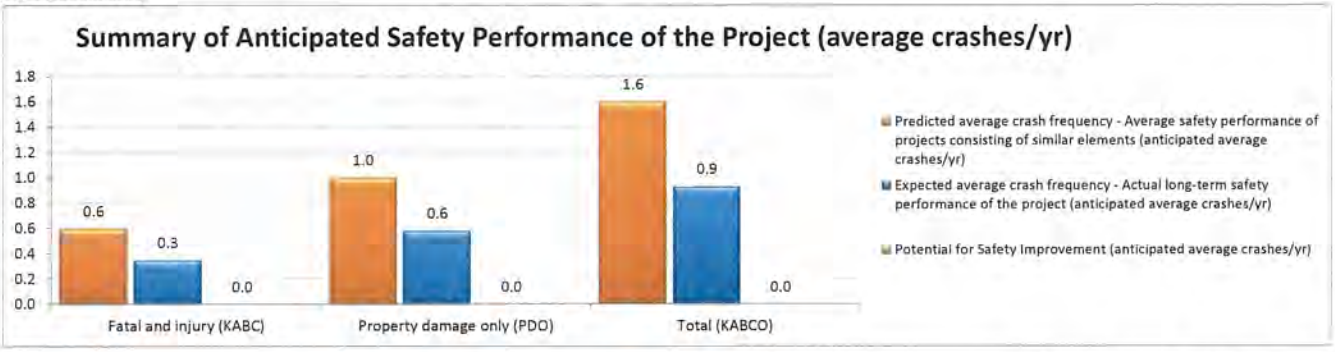
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PROJECT SAFETY PERFORMANCE SUMMARY REPORT

General Information	
Project Name	20-2564 Latah Glen Residential
Project Description	Residential Development
Reference Number	SR 195 SB & Cheney-Spokane Road
Analyst	Whipple Consuting Engineer
Agency/Company	WSDOT
Contact Email	kkim@WhippleCE.com
Contact Phone	(509) 893-2617
Date Completed	05/12/11

Years of crash data incorporated into the analysis: 3

PROJECT SUMMARY



Project Element	Total Crashes/yr (KABCO)			Fatal and Injury Crashes/yr (KABC)			Property Damage Only Crashes/yr (PDO)		
	Predicted average crash frequency $N_{predicted\ (KABCO)}$	Expected average crash frequency $N_{expected\ (KABCO)}$	Potential for Improvement	Predicted average crash frequency $N_{predicted\ (KABC)}$	Expected average crash frequency $N_{expected\ (KABC)}$	Potential for Improvement	Predicted average crash frequency $N_{predicted\ (O)}$	Expected average crash frequency $N_{expected\ (O)}$	Potential for Improvement
INDIVIDUAL INTERSECTIONS									
Intersection 1	1.6	0.9	0.0	0.6	0.3	0.0	1.0	0.6	0.0
COMBINED (sum of column)	1.6	0.9	0.0	0.6	0.3	0.0	1.0	0.6	0.0

PROJECT SUMMARY – Site-Specific EB Method Summary Results for Urban and Suburban Arterial Project

Crash severity level	$N_{predicted(PROJECT)}$ Predicted average crash frequency - Average safety performance of projects consisting of similar elements (anticipated average crashes/yr)	$N_{expected\ (PROJECT)}$ Expected average crash frequency - Actual long-term safety performance of the project (anticipated average crashes/yr)	$N_{potential\ for\ improvement\ (PROJECT)}$ Potential for Safety Improvement (anticipated average crashes/yr)
Fatal and injury (KABC)	0.6	0.3	N/A
Property damage only (PDO)	1.0	0.6	N/A
Total (KABCO)	1.6	0.9	N/A

HSM1 Extended Spreadsheet for Part C Chapter 12 v.9

Discussion of Results

Given the potential effects of project characteristics on safety performance, results indicate that:

1. It is anticipated that the project will, on average, experience 0.9 crashes per year (0.3 fatal and injury crashes per year; and 0.6 property damage only crashes per year).

2. A similar project is anticipated, on average, to experience 1.6 crashes per year (0.6 fatal and injury crashes per year; and 1 property damage only crashes per year).

#VALUE!

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WORKSHEET 2A -- GENERAL INFORMATION AND INPUT DATA FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

General Information		**Location Information**	
Analyst	Whipple Consuting Engineer	Roadway	SR 195
Agency or Company	WSDOT	Location Information	Cheney-Spokane Road & SR 195 SB Ramps
Date Performed	1/29/2021	Jurisdiction	WSDOT
Intersection	Intersection 1	Analysis Year	2021
Signalized/Unsignalized	Unsignalized		

Input Data				**Site Conditions**	**Base Conditions**
Intersection type (3ST, 3SG, 4ST, 4SG)				4ST	--
$AADT_{major}$ (veh/day) (total entering on major approaches)*	$AADT_{MAX}$ =	46,800	(veh/day)	5,840	--
$AADT_{minor}$ (veh/day) (total entering on minor approaches)*	$AADT_{MAX}$ =	5,900	(veh/day)	5,590	--
Intersection lighting (present/not present)				Present	Not Present
Calibration factor, C_i				1.00	1.00
Data for unsignalized intersections only:					
Number of major-road approaches with left-turn lanes (0,1,2)				0	0
Number of major-road approaches with right-turn lanes (0,1,2)				0	0
Data for signalized intersections only:					
~~Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]~~				~~0~~	~~0~~
~~Number of approaches with right-turn lanes: for 4SG, use maximum value of 4, all other, max 2)~~				~~0~~	~~0~~
~~Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]~~				~~0~~	~~--~~
~~Type of left-turn signal phasing for Leg #1~~					~~Permissive~~
~~Type of left-turn signal phasing for Leg #2~~					~~--~~
~~Type of left-turn signal phasing for Leg #3~~					~~--~~
~~Type of left-turn signal phasing for Leg #4 (if applicable)~~					~~--~~
~~Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]~~				~~0~~	~~0~~
~~Intersection red-light cameras (present/not present)~~				~~Not Present~~	~~Not Present~~
~~Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only~~					~~--~~
~~Maximum number of lanes crossed by a pedestrian (n_{lanesx})~~					~~--~~
~~Number of bus stops within 300 m (1,000 ft) of the intersection~~				~~0~~	~~0~~
~~Schools within 300 m (1,000 ft) of the intersection (present/not present)~~				~~Not Present~~	~~Not Present~~
~~Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection~~				~~0~~	~~0~~

Average Annual Crash History (3 or 5-yr average)			
Multiple vehicle crashes	KABC	Fatal and Injury Only	0.3
	PDO	Property Damage Only	0.0
Single-vehicle crashes	KABC	Fatal and Injury Only	0.0
	PDO	Property Damage Only	0.0

NOTES: * AADT: It is important to remember that the AADT(major) = AADT(major approach1) + AADT(minor approach2) (refer to p.12-8 in Part C of the HSM)

WORKSHEET 2B -- CRASH MODIFICATION FACTORS FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
CMF 1i	*CMF 2i*	*CMF 3i*	*CMF 4i*	*CMF 5i*	*CMF 6i*	CMF_{COMB}
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
1.0000	1.0000	1.0000	1.0000	0.9130	1.0000	0.9130

Federal law 23 USC § 409 prohibits the discovery or admission into evidence of "reports, surveys, schedules, lists, or data" compiled or collected for the purpose of highway safety improvement projects that might qualify for federal safety improvement funding.

WORKSHEET 2C -- MULTIPLE-VEHICLE COLLISIONS BY SEVERITY LEVEL FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(6)*(7)*(8)
Crash Severity Level	SPF Coefficients from Table 12-10			Overdispersion Parameter, k from Table 12-10	Initial N_{bimv} from Equation 12-21	Proportion of Total Crashes	Adjusted N_{bimv} $(4)_{TOTAL}$*(5)	Combined CMFs (7) from Worksheet 2B	Calibration Factor, C_i	Predicted N_{bimv}
	a	b	c							
Total	-8.90	0.82	0.25	0.40	1.446	1.000	1.446	0.91	1.00	1.320
Fatal and Injury (FI)	-11.13	0.93	0.28	0.48	0.523	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.361	0.522	0.91	1.00	0.477
Property Damage Only (PDO)	-8.74	0.77	0.23	0.40	0.925	$(5)_{TOTAL}-(5)_{FI}$ 0.639	0.924	0.91	1.00	0.843

WORKSHEET 2D -- MULTIPLE-VEHICLE COLLISIONS BY COLLISION TYPE FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	Proportion of Collision Type(FI)	Predicted N $_{bimv\ (FI)}$ (crashes/year)	Proportion of Collision Type $_{(PDO)}$	Predicted N $_{bimv\ (PDO)}$ (crashes/year)	Predicted N $_{bimv\ (TOTAL)}$ (crashes/year)
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	0.477	1.000	0.843	1.320
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.338	0.161	0.374	0.315	0.477
Head-on collision	0.041	0.020	0.030	0.025	0.045
Angle collision	0.440	0.210	0.335	0.283	0.492
Sideswipe	0.121	0.058	0.044	0.037	0.095
Other multiple-vehicle collision	0.060	0.029	0.217	0.183	0.212

WORKSHEET 2E -- SINGLE-VEHICLE COLLISIONS BY SEVERITY LEVEL FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	SPF Coefficients from Table 12-12			Overdispersion Parameter, k from Table 12-12	Initial N_{bisv} from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27	Proportion of Total Crashes	Adjusted N_{bimv} $(4)_{TOTAL}$*(5)	Combined CMFs (7) from Worksheet 2B	Calibration Factor, C_i	Predicted N_{bisv} (6)*(7)*(8)
	a	b	c							
Total	-5.33	0.33	0.12	0.65	0.239	1.000	0.239	0.91	1.00	0.218
Fatal and Injury (FI)	--	--	--	--	0.067	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.280	0.067	0.91	1.00	0.061
Property Damage Only (PDO)	-7.04	0.36	0.25	0.54	0.172	$(5)_{TOTAL}-(5)_{FI}$ 0.720	0.172	0.91	1.00	0.157

Federal law 23 USC § 409 prohibits the discovery or admission into evidence of "reports, surveys, schedules, lists, or data" compiled or collected for the purpose of highway safety improvement projects that might qualify for federal safety improvement funding.

WORKSHEET 2F -- SINGLE-VEHICLE COLLISIONS BY COLLISION TYPE FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bisv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bisv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bisv\ (TOTAL)}$ (crashes/year)**
	from Table 12-13	$(9)_{FI}$ from Worksheet 2E	from Table 12-13	$(9)_{PDO}$ from Worksheet 2E	$(9)_{PDO}$ from Worksheet 2E
Total	1.000	0.061	1.000	0.157	0.218
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.001	0.000	0.000
Collision with animal	0.001	0.000	0.026	0.004	0.004
Collision with fixed object	0.679	0.041	0.847	0.133	0.174
Collision with other object	0.089	0.005	0.070	0.011	0.016
Other single-vehicle collision	0.051	0.003	0.007	0.001	0.004
Single-vehicle noncollision	0.179	0.011	0.049	0.008	0.019

WORKSHEET 2G -- VEHICLE-PEDESTRIAN COLLISIONS FOR URBAN AND SUBURBAN ARTERIAL STOP-CONTROLLED INTERSECTIONS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{pedi}**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4)*(5)*(6)
Total	1.320	0.218	1.538	0.022	1.00	0.034
Fatal and injury (FI)	--	--	--	--	1.00	0.034

WORKSHEET 2H -- CRASH MODIFICATION FACTORS FOR VEHICLE-PEDESTRIAN COLLISIONS FOR URBAN AND SUBURBAN ARTERIAL SIGNALIZED INTERSECTIONS

(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF_{1p}	CMF_{2p}	CMF_{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1)*(2)*(3)
--	--	--	--

WORKSHEET 2I -- VEHICLE-PEDESTRIAN COLLISIONS FOR URBAN AND SUBURBAN ARTERIAL SIGNALIZED INTERSECTIONS

(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients**					**Overdispersion Parameter, k**	**$N_{pedbase}$**	**Combined CMF**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	from Table 12-14						from Equation 12-29	(4) from Worksheet 2H		(4)*(5)*(6)
	a	b	c	d	e					
Total	--	--	--	--	--	--	--	--	1.00	--
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.00	--

WORKSHEET 2J -- VEHICLE-BICYCLE COLLISIONS FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{bikel}**	**Calibration factor, C_i**	**Predicted N_{bikel}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	1.320	0.218	1.538	0.018	1.00	0.028
Fatal and injury (FI)	--	--	--	--	1.00	0.028

Federal law 23 USC § 409 prohibits the discovery or admission into evidence of "reports, surveys, schedules, lists, or data" compiled or collected for the purpose of highway safety improvement projects that might qualify for federal safety improvement funding.

WORKSHEET 2K -- CRASH SEVERITY DISTRIBUTION FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)** (3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	**Property damage only (PDO)** (5) from Worksheet 2D and 2F	**Total** (6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	0.161	0.315	0.477
Head-on collisions (from Worksheet 2D)	0.020	0.025	0.045
Angle collisions (from Worksheet 2D)	0.210	0.283	0.492
Sideswipe (from Worksheet 2D)	0.058	0.037	0.095
Other multiple-vehicle collision (from Worksheet 2D)	0.029	0.183	0.212
Subtotal	0.477	0.843	1.320
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.004	0.004
Collision with fixed object (from Worksheet 2F)	0.041	0.133	0.174
Collision with other object (from Worksheet 2F)	0.005	0.011	0.016
Other single-vehicle collision (from Worksheet 2F)	0.003	0.001	0.004
Single-vehicle noncollision (from Worksheet 2F)	0.011	0.008	0.019
Collision with pedestrian (from Worksheet 2G or 2I)	0.034	0.000	0.034
Collision with bicycle (from Worksheet 2J)	0.028	0.000	0.028
Subtotal	0.123	0.157	0.279
Total	0.599	1.000	1.599

WORKSHEET 2L -- SUMMARY RESULTS FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)
Crash severity level	**Predicted average crash frequency, $N_{predicted\ int}$ (crashes/year)**
	(Total) from Worksheet 2K
Total	1.599
Fatal and injury (FI)	0.599
Property damage only (PDO)	1.000

PROJECT ELEMENT RESULTS SUMMARY[1]

Summary for the project element	Total Crashes/yr (KABCO)			Fatal and Injury Crashes/yr (KABC)			Property Damage Only Crashes/yr (PDO)		
	Predicted average crash frequency $N_{predicted\ (KABCO)}$	**Expected average crash frequency** $N_{expected\ (KABCO)}$	**Potential for Improvement**	**Predicted average crash frequency** $N_{predicted\ (KABC)}$	**Expected average crash frequency** $N_{expected\ (KABC)}$	**Potential for Improvement**	**Predicted average crash frequency** $N_{predicted\ (O)}$	**Expected average crash frequency** $N_{expected\ (O)}$	**Potential for Improvement**
	1.599	0.930	0.000	0.599	0.348	0.000	1.000	0.581	0.000

Special Note: When the project element is not included in the analysis the results will all be zeros. In addition if only the analysis only includes determining the predicted average crash frequency (i.e. EB analysis is not carried out), the results will show zero values where EB results are usually displayed.

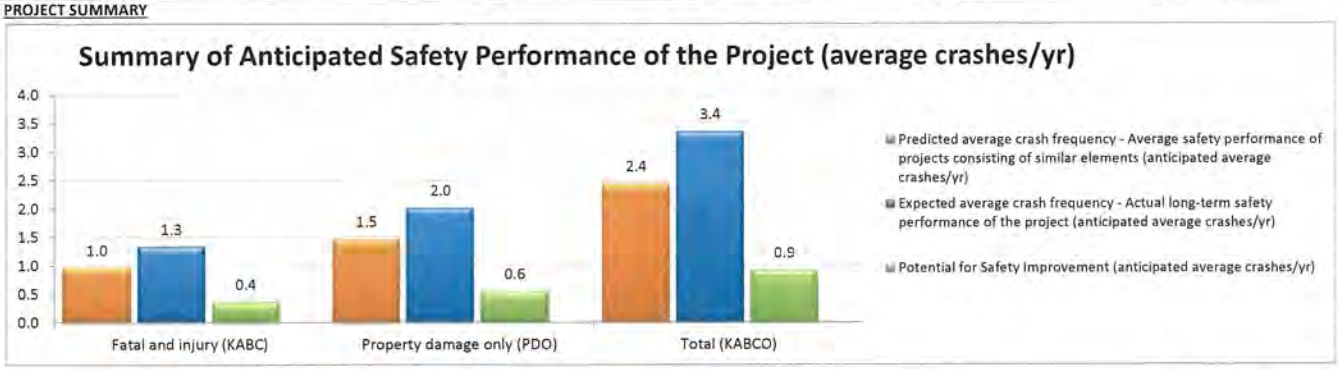
Federal law 23 USC § 409 prohibits the discovery or admission into evidence of "reports, surveys, schedules, lists, or data" compiled or collected for the purpose of highway safety improvement projects that might qualify for federal safety improvement funding.

PROJECT SAFETY PERFORMANCE SUMMARY REPORT

General Information	
Project Name	20-2564 Latah Glen Residential
Project Description	Residential Development
Reference Number	SR 195 & Meadowlane Road
Analyst	Whipple Consuting Engineer
Agency/Company	WSDOT
Contact Email	kkim@WhippleCE.com
Contact Phone	(509) 893-2617
Date Completed	05/12/11

Years of crash data incorporated into the analysis: 3

PROJECT SUMMARY



Project Element	Total Crashes/yr (KABCO)			Fatal and Injury Crashes/yr (KABC)			Property Damage Only Crashes/yr (PDO)		
	Predicted average crash frequency $N_{predicted\ (KABCO)}$	Expected average crash frequency $N_{expected\ (KABCO)}$	Potential for Improvement	Predicted average crash frequency $N_{predicted\ (KABC)}$	Expected average crash frequency $N_{expected\ (KABC)}$	Potential for Improvement	Predicted average crash frequency $N_{predicted\ (O)}$	Expected average crash frequency $N_{expected\ (O)}$	Potential for Improvement
INDIVIDUAL INTERSECTIONS									
Intersection 1	2.4	3.4	0.9	1.0	1.3	0.4	1.5	2.0	0.6
COMBINED (sum of column)	2.4	3.4	0.9	1.0	1.3	0.4	1.5	2.0	0.6

PROJECT SUMMARY -- Site-Specific EB Method Summary Results for Urban and Suburban Arterial Project

Crash severity level	$N_{predicted(PROJECT)}$ Predicted average crash frequency - Average safety performance of projects consisting of similar elements (anticipated average crashes/yr)	$N_{expected\ (PROJECT)}$ Expected average crash frequency - Actual long-term safety performance of the project (anticipated average crashes/yr)	$N_{potential\ for\ improvement\ (PROJECT)}$ Potential for Safety Improvement (anticipated average crashes/yr)
Fatal and injury (KABC)	1.0	1.3	0.4
Property damage only (PDO)	1.5	2.0	0.6
Total (KABCO)	2.4	3.4	0.9

HSM1 Extended Spreadsheet for Part C Chapter 12 v.9

Discussion of Results

Given the potential effects of project characteristics on safety performance, results indicate that:

1. It is anticipated that the project will, on average, experience 3.4 crashes per year (1.3 fatal and injury crashes per year; and 2 property damage only crashes per year).

2. A similar project is anticipated, on average, to experience 2.4 crashes per year (1 fatal and injury crashes per year; and 1.5 property damage only crashes per year).

3. It is anticipated the project has, on average, a potential for safety improvement of 0.9 crashes per year (0.4 fatal and injury crashes per year; and 0.6 property damage only crashes per year).

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WORKSHEET 2A -- GENERAL INFORMATION AND INPUT DATA FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

General Information		**Location Information**	
Analyst	Whipple Consuting Engineer	Roadway	SR 195
Agency or Company	WSDOT	Location Information	Meadowlane Road
Date Performed	1/29/2021	Jurisdiction	WSDOT
Intersection	Intersection 1	Analysis Year	2021
Signalized/Unsignalized	Unsignalized		

Input Data				**Site Conditions**	**Base Conditions**
Intersection type (3ST, 3SG, 4ST, 4SG)				4ST	--
AADT $_{major}$ (veh/day) (total entering on major approaches)*	$AADT_{MAX}$ =	46,800	(veh/day)	15,690	--
AADT $_{minor}$ (veh/day) (total entering on minor approaches)*	$AADT_{MAX}$ =	5,900	(veh/day)	1,370	--
Intersection lighting (present/not present)				Present	Not Present
Calibration factor, C_i				1.00	1.00
Data for unsignalized intersections only:					
Number of major-road approaches with left-turn lanes (0,1,2)				0	0
Number of major-road approaches with right-turn lanes (0,1,2)				0	0
Data for signalized intersections only:					
~~Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]~~				~~0~~	~~0~~
~~Number of approaches with right-turn lanes: for 4SG, use maximum value of 4, all other, max 2)~~				~~0~~	~~0~~
~~Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]~~				~~0~~	~~--~~
~~Type of left-turn signal phasing for Leg #1~~					~~Permissive~~
~~Type of left-turn signal phasing for Leg #2~~					~~--~~
~~Type of left-turn signal phasing for Leg #3~~					~~--~~
~~Type of left-turn signal phasing for Leg #4 (if applicable)~~					~~--~~
~~Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]~~				~~0~~	~~0~~
~~Intersection red light cameras (present/not present)~~				~~Not Present~~	~~Not Present~~
~~Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only~~					~~--~~
~~Maximum number of lanes crossed by a pedestrian (n_{lanesx})~~					~~--~~
~~Number of bus stops within 300 m (1,000 ft) of the intersection~~				~~0~~	~~0~~
~~Schools within 300 m (1,000 ft) of the intersection (present/not present)~~				~~Not Present~~	~~Not Present~~
~~Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection~~				~~0~~	~~0~~

Average Annual Crash History (3 or 5-yr average)			
Multiple vehicle crashes	KABC	Fatal and Injury Only	2.3
	PDO	Property Damage Only	1.0
Single-vehicle crashes	KABC	Fatal and Injury Only	0.0
	PDO	Property Damage Only	0.3

NOTES: * AADT: It is important to remember that the AADT(major) = AADT(major approach1) + AADT(minor approach2) (refer to p.12-8 in Part C of the HSM)

WORKSHEET 2B -- CRASH MODIFICATION FACTORS FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
CMF 1i	*CMF 2i*	*CMF 3i*	*CMF 4i*	*CMF 5i*	*CMF 6i*	*CMF $_{COMB}$*
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
1.0000	1.0000	1.0000	1.0000	0.9130	1.0000	0.9130

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WORKSHEET 2C -- MULTIPLE-VEHICLE COLLISIONS BY SEVERITY LEVEL FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(6)*(7)*(8)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bimv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bimv}**
	from Table 12-10			from Table 12-10	from Equation 12-21		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		
	a	b	c							
Total	-8.90	0.82	0.25	0.40	2.288	1.000	2.288	0.91	1.00	2.088
Fatal and Injury (FI)	-11.13	0.93	0.28	0.48	0.884	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.382	0.873	0.91	1.00	0.797
Property Damage Only (PDO)	-8.74	0.77	0.23	0.40	1.433	$(5)_{TOTAL}-(5)_{FI}$ = 0.618	1.415	0.91	1.00	1.292

WORKSHEET 2D -- MULTIPLE-VEHICLE COLLISIONS BY COLLISION TYPE FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bimv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bimv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bimv\ (TOTAL)}$ (crashes/year)**
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	0.797	1.000	1.292	2.088
		(2)*$(3)_{FI}$		(4)*$(5)_{PDO}$	(3)+(5)
Rear-end collision	0.338	0.269	0.374	0.483	0.752
Head-on collision	0.041	0.033	0.030	0.039	0.071
Angle collision	0.440	0.351	0.335	0.433	0.783
Sideswipe	0.121	0.096	0.044	0.057	0.153
Other multiple-vehicle collision	0.060	0.048	0.217	0.280	0.328

WORKSHEET 2E -- SINGLE-VEHICLE COLLISIONS BY SEVERITY LEVEL FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bisv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bisv}**
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-5.33	0.33	0.12	0.65	0.279	1.000	0.279	0.91	1.00	0.255
Fatal and Injury (FI)	--	--	--	--	0.078	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.312	0.087	0.91	1.00	0.080
Property Damage Only (PDO)	-7.04	0.36	0.25	0.54	0.173	$(5)_{TOTAL}-(5)_{FI}$ = 0.688	0.192	0.91	1.00	0.176

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WORKSHEET 2F -- SINGLE-VEHICLE COLLISIONS BY COLLISION TYPE FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bisv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bisv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bisv\ (TOTAL)}$ (crashes/year)**
	from Table 12-13	(9)$_{FI}$ from Worksheet 2E	from Table 12-13	(9)$_{PDO}$ from Worksheet 2E	(9)$_{PDO}$ from Worksheet 2E
Total	1.000	0.080	1.000	0.176	0.255
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.001	0.000	0.000
Collision with animal	0.001	0.000	0.026	0.005	0.005
Collision with fixed object	0.679	0.054	0.847	0.149	0.203
Collision with other object	0.089	0.007	0.070	0.012	0.019
Other single-vehicle collision	0.051	0.004	0.007	0.001	0.005
Single-vehicle noncollision	0.179	0.014	0.049	0.009	0.023

WORKSHEET 2G -- VEHICLE-PEDESTRIAN COLLISIONS FOR URBAN AND SUBURBAN ARTERIAL STOP-CONTROLLED INTERSECTIONS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{pedi}**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4)*(5)*(6)
Total	2.088	0.255	2.344	0.022	1.00	0.052
Fatal and injury (FI)	--	--	--	--	1.00	0.052

WORKSHEET 2H -- CRASH MODIFICATION FACTORS FOR VEHICLE-PEDESTRIAN COLLISIONS FOR URBAN AND SUBURBAN ARTERIAL SIGNALIZED INTERSECTIONS

(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF_{1p}	CMF_{2p}	CMF_{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1)*(2)*(3)
--	--	--	--

WORKSHEET 2I -- VEHICLE-PEDESTRIAN COLLISIONS FOR URBAN AND SUBURBAN ARTERIAL SIGNALIZED INTERSECTIONS

(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients**					**Overdispersion Parameter, k**	**$N_{pedbase}$**	**Combined CMF**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	from Table 12-14						from Equation 12-29	(4) from Worksheet 2H		(4)*(5)*(6)
	a	b	c	d	e					
Total	--	--	--	--	--	--	--	--	1.00	--
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.00	--

WORKSHEET 2J -- VEHICLE-BICYCLE COLLISIONS FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{bikei}**	**Calibration factor, C_i**	**Predicted N_{bikei}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	2.088	0.255	2.344	0.018	1.00	0.042
Fatal and injury (FI)	--	--	--	--	1.00	0.042

Federal law 23 USC § 409 prohibits the discovery or admission into evidence of "reports, surveys, schedules, lists, or data" compiled or collected for the purpose of highway safety improvement projects that might qualify for federal safety improvement funding.

WORKSHEET 2K -- CRASH SEVERITY DISTRIBUTION FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	0.269	0.483	0.752
Head-on collisions (from Worksheet 2D)	0.033	0.039	0.071
Angle collisions (from Worksheet 2D)	0.351	0.433	0.783
Sideswipe (from Worksheet 2D)	0.096	0.057	0.153
Other multiple-vehicle collision (from Worksheet 2D)	0.048	0.280	0.328
Subtotal	0.797	1.292	2.088
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.005	0.005
Collision with fixed object (from Worksheet 2F)	0.054	0.149	0.203
Collision with other object (from Worksheet 2F)	0.007	0.012	0.019
Other single-vehicle collision (from Worksheet 2F)	0.004	0.001	0.005
Single-vehicle noncollision (from Worksheet 2F)	0.014	0.009	0.023
Collision with pedestrian (from Worksheet 2G or 2I)	0.052	0.000	0.052
Collision with bicycle (from Worksheet 2J)	0.042	0.000	0.042
Subtotal	0.173	0.176	0.349
Total	0.970	1.467	2.437

WORKSHEET 2L -- SUMMARY RESULTS FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)
Crash severity level	**Predicted average crash frequency, $N_{predicted\ int}$ (crashes/year)**
	(Total) from Worksheet 2K
Total	2.437
Fatal and injury (FI)	0.970
Property damage only (PDO)	1.467

PROJECT ELEMENT RESULTS SUMMARY[1]

Summary for the project element	Total Crashes/yr (KABCO)			Fatal and Injury Crashes/yr (KABC)			Property Damage Only Crashes/yr (PDO)		
	Predicted average crash frequency $N_{predicted\ (KABCO)}$	Expected average crash frequency $N_{expected\ (KABCO)}$	Potential for Improvement	Predicted average crash frequency $N_{predicted\ (KABC)}$	Expected average crash frequency $N_{expected\ (KABC)}$	Potential for Improvement	Predicted average crash frequency $N_{predicted\ (O)}$	Expected average crash frequency $N_{expected\ (O)}$	Potential for Improvement
	2.437	3.353	0.916	0.970	1.335	0.364	1.467	2.019	0.551

Special Note: When the project element is not included in the analysis the results will all be zeros. In addition if only the analysis only includes determining the predicted average crash frequency (i.e. EB analysis is not carried out), the results will show zero values where EB results are usually displayed.

Federal law 23 USC § 409 prohibits the discovery or admission into evidence of "reports, surveys, schedules, lists, or data" compiled or collected for the purpose of highway safety improvement projects that might qualify for federal safety improvement funding.

PROJECT SAFETY PERFORMANCE SUMMARY REPORT

General Information

Project Name	20-2564 Latah Glen Residential
Project Description	Residential Development
Reference Number	SR 195 & Hatch Road
Analyst	Whipple Consuting Engineer
Agency/Company	WSDOT
Contact Email	kkim@WhippleCE.com
Contact Phone	(509) 893-2617
Date Completed	05/12/11

Years of crash data incorporated into the analysis: 3

PROJECT SUMMARY



Project Element	Total Crashes/yr (KABCO)			Fatal and Injury Crashes/yr (KABC)			Property Damage Only Crashes/yr (PDO)		
	Predicted average crash frequency $N_{predicted\ (KABCO)}$	Expected average crash frequency $N_{expected\ (KABCO)}$	Potential for Improvement	Predicted average crash frequency $N_{predicted\ (KABC)}$	Expected average crash frequency $N_{expected\ (KABC)}$	Potential for Improvement	Predicted average crash frequency $N_{predicted\ (O)}$	Expected average crash frequency $N_{expected\ (O)}$	Potential for Improvement
INDIVIDUAL INTERSECTIONS									
Intersection 1	1.6	2.8	1.2	0.6	1.0	0.4	1.1	1.8	0.8
COMBINED (sum of column)	1.6	2.8	1.2	0.6	1.0	0.4	1.1	1.8	0.8

PROJECT SUMMARY -- Site-Specific EB Method Summary Results for Urban and Suburban Arterial Project

Crash severity level	$N_{predicted(PROJECT)}$ Predicted average crash frequency - Average safety performance of projects consisting of similar elements (anticipated average crashes/yr)	$N_{expected\ (PROJECT)}$ Expected average crash frequency - Actual long-term safety performance of the project (anticipated average crashes/yr)	$N_{potential\ for\ improvement\ (PROJECT)}$ Potential for Safety Improvement (anticipated average crashes/yr)
Fatal and injury (KABC)	0.6	1.0	0.4
Property damage only (PDO)	1.1	1.8	0.8
Total (KABCO)	1.6	2.8	1.2

HSM1 Extended Spreadsheet for Part C Chapter 12 v.9

Discussion of Results

Given the potential effects of project characteristics on safety performance, results indicate that:

1. It is anticipated that the project will, on average, experience 2.8 crashes per year (1 fatal and injury crashes per year; and 1.8 property damage only crashes per year).

2. A similar project is anticipated, on average, to experience 1.6 crashes per year (0.6 fatal and injury crashes per year; and 1.1 property damage only crashes per year).

3. It is anticipated the project has, on average, a potential for safety improvement of 1.2 crashes per year (0.4 fatal and injury crashes per year; and 0.8 property damage only crashes per year).

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WORKSHEET 2A -- GENERAL INFORMATION AND INPUT DATA FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

General Information		Location Information	
Analyst	Whipple Consuting Engineer	Roadway	SR 195
Agency or Company	WSDOT	Location Information	Hatch Road
Date Performed	1/29/2021	Jurisdiction	WSDOT
Intersection	Intersection 1	Analysis Year	2021
Signalized/Unsignalized	Unsignalized		

Input Data				Site Conditions	Base Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)				3ST	--
AADT $_{major}$ (veh/day) (total entering on major approaches)*	$AADT_{MAX}$ =	45,700	(veh/day)	11,020	--
AADT $_{minor}$ (veh/day) (total entering on minor approaches)*	$AADT_{MAX}$ =	9,300	(veh/day)	3,710	--
Intersection lighting (present/not present)				Present	Not Present
Calibration factor, C_i				1.00	1.00
Data for unsignalized intersections only:					
Number of major-road approaches with left-turn lanes (0,1,2)				0	0
Number of major-road approaches with right-turn lanes (0,1,2)				0	0
Data for signalized intersections only:					
~~Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]~~				~~0~~	~~0~~
~~Number of approaches with right-turn lanes: for 4SG, use maximum value of 4, all other, max 2)~~				~~0~~	~~0~~
~~Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]~~				~~0~~	~~--~~
~~Type of left-turn signal phasing for Leg #1~~					~~Permissive~~
~~Type of left-turn signal phasing for Leg #2~~					~~--~~
~~Type of left-turn signal phasing for Leg #3~~					~~--~~
~~Type of left-turn signal phasing for Leg #4 (if applicable)~~					~~--~~
~~Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]~~				~~0~~	~~0~~
~~Intersection red light cameras (present/not present)~~				~~Not Present~~	~~Not Present~~
~~Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only~~					~~--~~
~~Maximum number of lanes crossed by a pedestrian (n_{lanesx})~~					~~--~~
~~Number of bus stops within 300 m (1,000 ft) of the intersection~~				~~0~~	~~0~~
~~Schools within 300 m (1,000 ft) of the intersection (present/not present)~~				~~Not Present~~	~~Not Present~~
~~Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection~~				~~0~~	~~0~~

Average Annual Crash History (3 or 5-yr average)			
Multiple vehicle crashes	KABC	Fatal and Injury Only	1.7
	PDO	Property Damage Only	1.3
Single-vehicle crashes	KABC	Fatal and Injury Only	0.0
	PDO	Property Damage Only	0.0

NOTES: * AADT: It is important to remember that the AADT(major) = AADT(major approach1) + AADT(minor approach2) (refer to p.12-8 in Part C of the HSM)

WORKSHEET 2B -- CRASH MODIFICATION FACTORS FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
CMF 1i	*CMF 2i*	*CMF 3i*	*CMF 4i*	*CMF 5i*	*CMF 6i*	*CMF $_{COMB}$*
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
1.0000	1.0000	1.0000	1.0000	0.9096	1.0000	0.9096

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WORKSHEET 2C -- MULTIPLE-VEHICLE COLLISIONS BY SEVERITY LEVEL FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(6)*(7)*(8)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bimv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bimv}**
	from Table 12-10			from Table 12-10	from Equation 12-21		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		
	a	b	c							
Total	-13.36	1.11	0.41	0.80	1.406	1.000	1.406	0.91	1.00	1.279
Fatal and Injury (FI)	-14.01	1.16	0.30	0.69	0.473	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.326	0.458	0.91	1.00	0.416
Property Damage Only (PDO)	-15.38	1.20	0.51	0.77	0.981	$(5)_{TOTAL}-(5)_{FI}$ 0.674	0.948	0.91	1.00	0.863

WORKSHEET 2D -- MULTIPLE-VEHICLE COLLISIONS BY COLLISION TYPE FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bimv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bimv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bimv\ (TOTAL)}$ (crashes/year)**
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	0.416	1.000	0.863	1.279
		(2)*$(3)_{FI}$		(4)*$(5)_{PDO}$	(3)+(5)
Rear-end collision	0.421	0.175	0.440	0.380	0.555
Head-on collision	0.045	0.019	0.023	0.020	0.039
Angle collision	0.343	0.143	0.262	0.226	0.369
Sideswipe	0.126	0.052	0.040	0.035	0.087
Other multiple-vehicle collision	0.065	0.027	0.235	0.203	0.230

WORKSHEET 2E -- SINGLE-VEHICLE COLLISIONS BY SEVERITY LEVEL FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bisv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bisv}**
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-6.81	0.16	0.51	1.14	0.323	1.000	0.323	0.91	1.00	0.294
Fatal and Injury (FI)	--	--	--	--	0.100	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.313	0.101	0.91	1.00	0.092
Property Damage Only (PDO)	-8.36	0.25	0.55	1.29	0.220	$(5)_{TOTAL}-(5)_{FI}$ 0.687	0.222	0.91	1.00	0.202

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WORKSHEET 2F -- SINGLE-VEHICLE COLLISIONS BY COLLISION TYPE FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bisv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bisv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bisv\ (TOTAL)}$ (crashes/year)**
	from Table 12-13	(9)$_{FI}$ from Worksheet 2E	from Table 12-13	(9)$_{PDO}$ from Worksheet 2E	(9)$_{PDO}$ from Worksheet 2E
Total	1.000	0.092	1.000	0.202	0.294
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.003	0.001	0.001
Collision with animal	0.003	0.000	0.018	0.004	0.004
Collision with fixed object	0.762	0.070	0.834	0.169	0.239
Collision with other object	0.090	0.008	0.092	0.019	0.027
Other single-vehicle collision	0.039	0.004	0.023	0.005	0.008
Single-vehicle noncollision	0.105	0.010	0.030	0.006	0.016

WORKSHEET 2G -- VEHICLE-PEDESTRIAN COLLISIONS FOR URBAN AND SUBURBAN ARTERIAL STOP-CONTROLLED INTERSECTIONS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{pedi}**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4)*(5)*(6)
Total	1.279	0.294	1.573	0.021	1.00	0.033
Fatal and injury (FI)	--	--	--	--	1.00	0.033

WORKSHEET 2H -- CRASH MODIFICATION FACTORS FOR VEHICLE-PEDESTRIAN COLLISIONS FOR URBAN AND SUBURBAN ARTERIAL SIGNALIZED INTERSECTIONS

(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF_{1p}	CMF_{2p}	CMF_{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1)*(2)*(3)
--	--	--	--

WORKSHEET 2I -- VEHICLE-PEDESTRIAN COLLISIONS FOR URBAN AND SUBURBAN ARTERIAL SIGNALIZED INTERSECTIONS

(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients**					**Overdispersion Parameter, k**	**$N_{pedbase}$**	**Combined CMF**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	from Table 12-14						from Equation 12-29	(4) from Worksheet 2H		(4)*(5)*(6)
	a	b	c	d	e					
Total	--	--	--	--	--	--	--	--	1.00	--
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.00	--

WORKSHEET 2J -- VEHICLE-BICYCLE COLLISIONS FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{bikei}**	**Calibration factor, C_i**	**Predicted N_{bikei}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	1.279	0.294	1.573	0.016	1.00	0.025
Fatal and injury (FI)	--	--	--	--	1.00	0.025

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WORKSHEET 2K -- CRASH SEVERITY DISTRIBUTION FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)** (3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	**Property damage only (PDO)** (5) from Worksheet 2D and 2F	**Total** (6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	0.175	0.380	0.555
Head-on collisions (from Worksheet 2D)	0.019	0.020	0.039
Angle collisions (from Worksheet 2D)	0.143	0.226	0.369
Sideswipe (from Worksheet 2D)	0.052	0.035	0.087
Other multiple-vehicle collision (from Worksheet 2D)	0.027	0.203	0.230
Subtotal	0.416	0.863	1.279
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.001	0.001
Collision with animal (from Worksheet 2F)	0.000	0.004	0.004
Collision with fixed object (from Worksheet 2F)	0.070	0.169	0.239
Collision with other object (from Worksheet 2F)	0.008	0.019	0.027
Other single-vehicle collision (from Worksheet 2F)	0.004	0.005	0.008
Single-vehicle noncollision (from Worksheet 2F)	0.010	0.006	0.016
Collision with pedestrian (from Worksheet 2G or 2I)	0.033	0.000	0.033
Collision with bicycle (from Worksheet 2J)	0.025	0.000	0.025
Subtotal	0.150	0.202	0.352
Total	0.567	1.065	1.631

WORKSHEET 2L -- SUMMARY RESULTS FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)
Crash severity level	**Predicted average crash frequency, $N_{predicted\ int}$ (crashes/year)**
	(Total) from Worksheet 2K
Total	1.631
Fatal and injury (FI)	0.567
Property damage only (PDO)	1.065

PROJECT ELEMENT RESULTS SUMMARY[1]

Summary for the project element	Total Crashes/yr (KABCO)			Fatal and Injury Crashes/yr (KABC)			Property Damage Only Crashes/yr (PDO)		
	Predicted average crash frequency $N_{predicted\ (KABCO)}$	Expected average crash frequency $N_{expected\ (KABCO)}$	Potential for Improvement	Predicted average crash frequency $N_{predicted\ (KABC)}$	Expected average crash frequency $N_{expected\ (KABC)}$	Potential for Improvement	Predicted average crash frequency $N_{predicted\ (O)}$	Expected average crash frequency $N_{expected\ (O)}$	Potential for Improvement
	1.631	2.782	1.151	0.567	0.966	0.400	1.065	1.816	0.751

Special Note: When the project element is not included in the analysis the results will all be zeros. In addition if only the analysis only includes determining the predicted average crash frequency (i.e. EB analysis is not carried out), the results will show zero values where EB results are usually displayed.

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RAW TRAFFIC COUNTS

PROJECT: WCE Wheatland
JOB NO. 19-19
INTERSECTION: 16th Avenue & US 195

TRAFFIC COUNT REDUCTION WORKSHEET

DATE OF COUNT: 8/13/2019
Counter: Miovision
Analyst: BNG

AM PEAK HOURS

Phone: (509) 951-1851
email: beng@trfcnts.com

Traffic Counts & Surveys Inc.

APPROACH	MOVEMENT	15 Minute Period Beginning @ 6:30 AM		6:45 AM		7:00 AM		7:15 AM		7:30 AM		7:45 AM		8:00 AM		8:15 AM		8:30 AM		8:45 AM		9:00 AM		9:15 AM	
		pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk
Eastbound	Left	14	0	34	0	14	0	18	0	16	0	15	0	10	0	17	0	15	0	15	0	12	0	9	0
	Through	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2	0	1	0	0	0	1	0	0	0
	Right	12	0	6	0	7	0	8	0	10	0	14	0	18	0	17	0	14	0	22	0	14	0	14	2
	App. Total	26	0	40	0	21	0	26	0	26	0	30	0	28	1	36	0	30	0	37	0	27	0	23	2
	Pct Trucks		0		0		0		0		0		0		0.034		0		0		0		0		0.08
Westbound	Left	1	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0	1	0	1	0	0	0	1	0
	Through	0	0	0	0	2	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	Right	4	0	2	0	4	0	0	0	6	0	2	0	6	0	4	0	5	0	1	0	9	0	2	0
	App. Total	5	0	2	0	6	0	2	0	7	0	2	0	7	0	5	0	6	0	2	0	9	0	3	0
	Pct Trucks		0		0		0		0		0		0		0		0		0		0		0		0
Northbound	Left	19	0	9	0	16	0	16	0	16	0	23	0	22	0	12	0	9	0	21	0	13	0	14	0
	Through	227	5	224	1	263	2	286	1	296	8	244	5	214	3	194	9	235	7	220	14	193	9	166	8
	Right	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0
	App. Total	246	5	233	1	279	2	302	1	314	8	267	5	237	3	206	9	244	7	241	14	207	9	181	8
	Pct Trucks		0.02		0.004		0.007		0.003		0.025		0.018		0.013		0.042		0.028		0.055		0.042		0.042
Southbound	Left	2	0	1	0	1	0	0	0	1	0	2	0	2	0	5	0	2	0	5	0	4	0	7	0
	Through	75	8	92	14	83	10	118	15	124	12	95	11	116	17	125	15	132	15	114	9	117	10	111	14
	Right	6	0	5	0	3	0	3	0	9	0	4	0	4	0	7	0	8	0	11	0	14	0	6	0
	App. Total	83	8	98	14	87	10	121	15	134	12	101	11	122	17	137	15	142	15	130	9	135	10	124	14
	Pct Trucks		0.088		0.125		0.103		0.11		0.082		0.098		0.122		0.099		0.096		0.065		0.069		0.101
Total Intersection Volume		360	13	373	15	393	12	451	16	481	20	400	16	394	21	384	24	422	22	410	23	378	19	331	24
Intersection Pct Trucks		3.5%		3.9%		3.0%		3.4%		4.0%		3.8%		5.1%		5.9%		5.0%		5.3%		4.8%		6.8%	

Pedestrian Volumes

APPROACH	MOVEMENT	15 Minute Period Beginning @ 6:30	6:45	7:00	7:15	7:30	7:45	8:00	8:15	8:30	8:45	9:00	9:15
		Ped	Ped	Ped	Ped	Ped	Ped	Ped	Ped	Ped	Ped	Ped	Ped
Eastbound	Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0
Westbound	Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0
Northbound	Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0
Southbound	Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0

Bicycle Volumes

APPROACH	MOVEMENT	15 Minute Period Beginning @ 6:30	6:45	7:00	7:15	7:30	7:45	8:00	8:15	8:30	8:45	9:00	9:15
		bike	bike	bike	bike	bike	bike	bike	bike	bike	bike	bike	bike
Eastbound	Through												
Westbound	Through												
Northbound	Through												
Southbound	Through												
	Total	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Total One Hour Volumes		Pct Trucks
6:30 AM	1633	3.4%
6:45 AM	1761	3.6%
7:00 AM	1789	3.6%
7:15 AM	**1799**	**4.1%**
7:30 AM	1740	4.7%
7:45 AM	1683	4.9%
8:00 AM	1700	5.3%
8:15 AM	1682	5.2%
8:30 AM	1629	5.4%

PROJECT: WCE Wheatland
JOB NO. 19-19
INTERSECTION: 16th Avenue & US 195

Data Transfer
Intersection No. 1

DATE OF COUNT: 8/13/2019
Counter Analyst
Miovision BNG

TRAFFIC COUNT REDUCTION WORKSHEET
AM PEAK HOUR BREAKDOWN

Phone: (509) 951-1851
email: beng@trfcnts.com

Traffic Counts & Surveys Inc

APPROACH	MOVEMENT	7:15 AM		7:30 AM		7:45 AM		8:00 AM		TOTAL	P.H.F.	Pct Trucks		App Dist
		pass	trk	pass	trk	pass	trk	pass	trk					
Eastbound	Left	18	0	16	0	15	0	10	0	59	0.82	0%		53.15%
	Through	0	0	0	0	1	0	0	1	2	0.50	50%		1.80%
	Right	8	0	10	0	14	0	18	0	50	0.69	0%		45.05%
	App. Total	26	0	26	0	30	0	28	1	111	0.93			
	Pct Trucks		0		0		0		0.034483					
Westbound	Left	2	0	0	0	0	0	0	0	2	0.25	0%		11.11%
	Through	0	0	1	0	0	0	1	0	2	0.50	0%		11.11%
	Right	0	0	6	0	2	0	6	0	14	0.58	0%		77.78%
	App. Total	2	0	7	0	2	0	7	0	18	0.64			
	Pct Trucks		0		0		0		0					
Northbound	Left	16	0	16	0	23	0	22	0	77	0.84	0%		6.77%
	Through	286	1	296	8	244	5	214	3	1057	0.87	2%		92.96%
	Right	0	0	2	0	0	0	1	0	3	0.38	0%		0.26%
	App. Total	302	1	314	8	267	5	237	3	1137	0.88			
	Pct Trucks		0.0033		0.024845		0.018382		0.0125					
Southbound	Left	0	0	1	0	2	0	2	0	5	0.63	0%		0.94%
	Through	118	15	124	12	95	11	116	17	508	0.93	11%		95.31%
	Right	3	0	9	0	4	0	4	0	20	0.56	0%		3.75%
	App. Total	121	15	134	12	101	11	122	17	533	0.91			
	Pct Trucks		0.110294		0.082192		0.098214		0.122302					
Total Intersection Volume		451	16	481	20	400	16	394	21	**1799**	**0.90**	**4%**		
Intersection Pct Trucks			3.4%		4.0%		3.8%		5.1%					

Pedestrian Volumes

APPROACH	MOVEMENT	7:15 Ped	7:30 Ped	7:45 Ped	8:00 Ped	Confli. Ped TOTAL
Eastbound	Crosswalk	0	0	0	0	**0**
Westbound	Crosswalk	0	0	0	0	**0**
Northbound	Crosswalk	0	0	0	0	**0**
Southbound	Crosswalk	0	0	0	0	**0**
	Total	0	0	0	0	

Bicycles Volumes

APPROACH	MOVEMENT	7:15 bike	7:30 bike	7:45 bike	8:00 bike	Confli. Bike TOTAL
Eastbound	Through					**0**
Westbound	Through					**0**
Northbound	Through					**0**
Southbound	Through					**0**
	Total	0	0	0	0	

Notes

Miovision Vehicle classification	
Passenger Vehicle	Truck Vehicle



PROJECT: WCE Wheatland
JOB NO. 19-19
INTERSECTION: 16th Avenue & US 195

TRAFFIC COUNT REDUCTION WORKSHEET

Traffic Counts & Surveys Inc.
Phone: (509) 951-1851
email: beng@trfcnts.com

DATE OF COUNT: 8/13/2019
Counter Analyst
Miovision BNG

PM PEAK HOURS

		15 Minute Period Beginning @																							
APPROACH	MOVEMENT	3:30 PM		3:45 PM		4:00 PM		4:15 PM		4:30 PM		4:45 PM		5:00 PM		5:15 PM		5:30 PM		5:45 PM		6:00 PM		6:15 PM	
		pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk
Eastbound	Left	12	1	16	0	3	0	10	0	4	0	4	0	4	0	4	0	5	0	10	0	5	0	3	0
	Through	0	0	0	0	1	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0
	Right	27	0	23	0	24	0	32	0	33	0	41	0	32	0	23	0	24	0	22	0	26	0	19	0
	App. Total	39	1	39	0	28	0	43	0	37	0	45	0	37	0	27	1	29	0	32	0	31	0	22	0
	Pct Trucks		0.025		0		0		0		0		0		0		0.036		0		0		0		0
Westbound	Left	1	0	0	0	1	0	0	0	1	0	1	0	2	0	1	0	1	0	4	0	0	0	0	0
	Through	0	0	0	0	1	0	0	0	0	0	1	0	1	0	1	0	3	0	1	0	0	0	0	0
	Right	3	0	5	0	3	0	1	0	5	1	3	0	5	0	2	0	1	0	2	0	4	0	5	0
	App. Total	4	0	5	0	5	0	1	0	6	1	5	0	8	0	4	0	5	0	7	0	4	0	5	0
	Pct Trucks		0		0		0		0		0.143		0		0		0		0		0		0		0
Northbound	Left	17	0	17	0	26	0	13	0	20	0	31	0	20	0	24	0	28	0	25	0	22	0	17	0
	Through	162	6	145	9	136	8	143	11	146	16	137	9	117	5	150	5	141	12	127	12	142	6	147	5
	Right	1	0	0	0	0	0	2	0	3	0	3	0	2	0	2	0	2	0	1	0	1	0	1	0
	App. Total	180	6	162	9	162	8	158	11	169	16	171	9	139	5	176	5	171	12	153	12	165	6	165	5
	Pct Trucks		0.032		0.053		0.047		0.065		0.086		0.05		0.035		0.028		0.066		0.073		0.035		0.029
Southbound	Left	9	0	6	0	6	0	8	0	3	1	5	0	5	0	8	0	13	0	6	0	7	0	7	1
	Through	236	5	268	7	248	5	316	0	333	8	341	2	314	1	290	4	292	2	234	5	203	4	211	3
	Right	17	0	12	0	19	0	14	0	19	0	13	0	20	0	19	0	17	0	17	0	8	0	20	0
	App. Total	262	5	286	7	273	5	338	0	355	9	359	2	339	1	317	4	322	2	257	5	218	4	238	4
	Pct Trucks		0.019		0.024		0.018		0		0.025		0.006		0.003		0.012		0.006		0.019		0.018		0.017
Total Intersection Volume		485	12	492	16	468	13	540	11	567	26	580	11	523	6	524	10	527	14	449	17	418	10	430	9
Intersection Pct Trucks		2.4%		3.1%		2.7%		2.0%		4.4%		1.9%		1.1%		1.9%		2.6%		3.6%		2.3%		2.1%	

Pedestrian Volumes

		15 Minute Period Beginning @											
APPROACH	MOVEMENT	3:30	3:45	4:00	4:15	4:30	4:45	5:00	5:15	5:30	5:45	6:00	6:15
		Ped	Ped	Ped	Ped	Ped	Ped	Ped	Ped	Ped	Ped	Ped	Ped
Eastbound	Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0
Westbound	Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0
Northbound	Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0
Southbound	Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0

Bicycle Volumes

		15 Minute Period Beginning @											
APPROACH	MOVEMENT	3:30	3:45	4:00	4:15	4:30	4:45	5:00	5:15	5:30	5:45	6:00	6:15
		bike	bike	bike	bike	bike	bike	bike	bike	bike	bike	bike	bike
Eastbound	Through												
Westbound	Through												
Northbound	Through												
Southbound	Through												
	Total	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Total		Pct
One Hour Volumes		Trucks
3:30 PM	2037	2.6%
3:45 PM	2133	3.1%
4:00 PM	2216	2.8%
4:15 PM	**2264**	**2.4%**
4:30 PM	2247	2.4%
4:45 PM	2195	1.9%
5:00 PM	2070	2.3%
5:15 PM	1969	2.6%
5:30 PM	1874	2.7%

PROJECT: WCE Wheatland
JOB NO. 19-19
INTERSECTION: 16th Avenue & US 195

Data Transfer
Intersection No. 1

DATE OF COUNT: 8/13/2019
Counter Analyst
Miovision BNG

TRAFFIC COUNT REDUCTION WORKSHEET
PM PEAK HOUR BREAKDOWN

Phone: (509) 951-1851
email: beng@trfcnts.com

Traffic Counts & Surveys Inc.

APPROACH	MOVEMENT	4:15 PM		4:30 PM		4:45 PM		5:00 PM		TOTAL	P.H.F.	Pct Trucks		App Dist
		pass	trk	pass	trk	pass	trk	pass	trk					
Eastbound	Left	10	0	4	0	4	0	4	0	22	0.55	0%		13.58%
	Through	1	0	0	0	0	0	1	0	2	0.50	0%		1.23%
	Right	32	0	33	0	41	0	32	0	138	0.84	0%		85.19%
	App. Total	43	0	37	0	45	0	37	0	162	0.90			
	Pct Trucks		0		0		0		0					
Westbound	Left	0	0	1	0	1	0	2	0	4	0.50	0%		19.05%
	Through	0	0	0	0	1	0	1	0	2	0.50	0%		9.52%
	Right	1	0	5	1	3	0	5	0	15	0.63	7%		71.43%
	App. Total	1	0	6	1	5	0	8	0	21	0.66			
	Pct Trucks		0		0.142857		0		0					
Northbound	Left	13	0	20	0	31	0	20	0	84	0.68	0%		12.39%
	Through	143	11	146	16	137	9	117	5	584	0.90	7%		86.14%
	Right	2	0	3	0	3	0	2	0	10	0.83	0%		1.47%
	App. Total	158	11	169	16	171	9	139	5	678	0.92			
	Pct Trucks		0.065089		0.086486		0.05		0.034722					
Southbound	Left	8	0	3	1	5	0	5	0	22	0.69	5%		1.57%
	Through	316	0	333	8	341	2	314	1	1315	0.96	1%		93.73%
	Right	14	0	19	0	13	0	20	0	66	0.83	0%		4.70%
	App. Total	338	0	355	9	359	2	339	1	1403	0.96			
	Pct Trucks		0		0.024725		0.00554		0.002941					
Total Intersection Volume		540	11	567	26	580	11	523	6	**2264**	**0.95**	**2%**		
Intersection Pct Trucks			2.0%		4.4%		1.9%		1.1%					

Pedestrian Volumes

APPROACH	MOVEMENT	4:15 Ped	4:30 Ped	4:45 Ped	5:00 Ped	Confli. Ped TOTAL
Eastbound	Crosswalk	0	0	0	0	0
Westbound	Crosswalk	0	0	0	0	0
Northbound	Crosswalk	0	0	0	0	0
Southbound	Crosswalk	0	0	0	0	0
	Total	0	0	0	0	

Bicycles Volumes

APPROACH	MOVEMENT	5:00 bike	5:15 bike	5:30 bike	5:45 bike	Confli. Bike TOTAL
Eastbound	Through					0
Westbound	Through					0
Northbound	Through					0
Southbound	Through					0
	Total	0	0	0	0	

Notes

Miovision Vehicle classification

Passenger Vehicle	Truck Vehicle



PROJECT: WCE The Summit
JOB NO. 18-02
INTERSECTION: Thope Road & SR 195

TRAFFIC COUNT REDUCTION WORKSHEET

Traffic Counts & Surveys Inc.
Phone: (509) 951-1851
email: beng@trfcnts.com

DATE OF COUNT: 11/6/2018
Counter: Miovision
Analyst: BNG

AM PEAK HOURS

APPROACH	MOVEMENT	15 Minute Period Beginning @																							
		6:30 AM		6:45 AM		7:00 AM		7:15 AM		7:30 AM		7:45 AM		8:00 AM		8:15 AM		8:30 AM		8:45 AM		9:00 AM		9:15 AM	
		pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk
Eastbound	Left	25	0	38	0	22	0	21	0	29	0	21	1	0	0	0	0	0	0	0	0	0	0	0	0
	Through	3	0	4	0	0	0	2	0	5	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
	Right	5	0	7	0	19	2	9	1	13	1	10	0	1	0	0	0	0	0	0	0	0	0	0	0
	App. Total	33	0	49	0	41	2	32	1	47	1	35	1	1	0	0	0	0	0	0	0	0	0	0	0
	Pct Trucks		0		0		0.047		0.03		0.021		0.028		0										
Westbound	Left	0	0	4	0	2	0	5	1	3	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0
	Through	3	0	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
	Right	8	0	4	0	8	0	1	0	5	0	5	1	0	0	0	0	0	0	0	0	0	0	0	0
	App. Total	11	0	8	0	11	0	7	1	8	0	12	1	0	0	0	0	0	0	0	0	0	0	0	0
	Pct Trucks		0		0		0		0.125		0		0.077												
Northbound	Left	4	1	13	0	7	1	11	1	5	0	12	1	0	0	0	0	0	0	0	0	0	0	0	0
	Through	244	1	263	4	278	3	355	6	434	2	295	6	1	0	0	0	0	0	0	0	0	0	0	0
	Right	11	0	14	0	14	0	24	1	42	0	34	2	1	0	0	0	0	0	0	0	0	0	0	0
	App. Total	259	2	290	4	299	4	390	8	481	2	341	9	2	0	0	0	0	0	0	0	0	0	0	0
	Pct Trucks		0.008		0.014		0.013		0.02		0.004		0.026		0										
Southbound	Left	1	0	3	1	1	0	2	1	4	1	6	0	0	0	0	0	0	0	0	0	0	0	0	0
	Through	67	16	90	16	83	16	111	14	105	15	141	13	0	0	0	0	0	0	0	0	0	0	0	0
	Right	3	0	5	0	3	0	5	1	7	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0
	App. Total	71	16	98	17	87	16	118	16	116	16	152	13	0	0	0	0	0	0	0	0	0	0	0	0
	Pct Trucks		0.184		0.148		0.155		0.119		0.121		0.079												
Total Intersection Volume		374	18	445	21	438	22	547	26	652	19	540	24	3	0	0	0	0	0	0	0	0	0	0	0
Intersection Pct Trucks		4.6%		4.5%		4.8%		4.5%		2.8%		4.3%		0.0%											

Pedestrian Volumes

APPROACH	MOVEMENT	15 Minute Period Beginning @											
		6:30	6:45	7:00	7:15	7:30	7:45	8:00	8:15	8:30	8:45	9:00	9:15
		Ped	Ped	Ped	Ped	Ped	Ped	Ped	Ped	Ped	Ped	Ped	Ped
Eastbound	Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0
Westbound	Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0
Northbound	Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0
Southbound	Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0

Bicycle Volumes

APPROACH	MOVEMENT	15 Minute Period Beginning @											
		6:30	6:45	7:00	7:15	7:30	7:45	8:00	8:15	8:30	8:45	9:00	9:15
		bike	bike	bike	bike	bike	bike	bike	bike	bike	bike	bike	bike
Eastbound	Through												
Westbound	Through												
Northbound	Through												
Southbound	Through												
	Total	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Total One Hour Volumes		Pct Trucks
6:30 AM	1891	4.6%
6:45 AM	2170	4.1%
7:00 AM	2268	4.0%
7:15 AM	1811	3.8%
7:30 AM	1238	3.5%
7:45 AM	567	4.2%
8:00 AM	3	0.0%
8:15 AM	0	
8:30 AM	0	

PROJECT: WCE The Summit
JOB NO. 18-02
INTERSECTION: Thope Road & SR 195

Data Transfer
Intersection No. 1

DATE OF COUNT: 11/6/2018
Counter Analyst
Miovision BNG

TRAFFIC COUNT REDUCTION WORKSHEET
AM PEAK HOUR BREAKDOWN

Phone: (509) 951-1851
email: beng@trfcnts.com

Traffic Counts & Surveys Inc.

APPROACH	MOVEMENT	7:00 AM		7:15 AM		7:30 AM		7:45 AM				Pct		App
		pass	trk	pass	trk	pass	trk	pass	trk	TOTAL	P.H.F.	Trucks		Dist
Eastbound	Left	22	0	21	0	29	0	21	1	94	0.81	1%		58.75%
	Through	0	0	2	0	5	0	4	0	11	0.55	0%		6.88%
	Right	19	2	9	1	13	1	10	0	55	0.65	7%		34.38%
	App. Total	41	2	32	1	47	1	35	1	160	0.83			
	Pct Trucks		0.046512		0.030303		0.020833		0.027778					
Westbound	Left	2	0	5	1	3	0	6	0	17	0.71	6%		42.50%
	Through	1	0	1	0	0	0	1	0	3	0.75	0%		7.50%
	Right	8	0	1	0	5	0	5	1	20	0.63	5%		50.00%
	App. Total	11	0	7	1	8	0	12	1	40	0.77			
	Pct Trucks		0		0.125		0		0.076923					
Northbound	Left	7	1	11	1	5	0	12	1	38	0.73	8%		2.48%
	Through	278	3	355	6	434	2	295	6	1379	0.79	1%		89.90%
	Right	14	0	24	1	42	0	34	2	117	0.70	3%		7.63%
	App. Total	299	4	390	8	481	2	341	9	1534	0.79			
	Pct Trucks		0.013201		0.020101		0.004141		0.025714					
Southbound	Left	1	0	2	1	4	1	6	0	15	0.63	13%		2.81%
	Through	83	16	111	14	105	15	141	13	498	0.81	12%		93.26%
	Right	3	0	5	1	7	0	5	0	21	0.75	5%		3.93%
	App. Total	87	16	118	16	116	16	152	13	534	0.81			
	Pct Trucks		0.15534		0.119403		0.121212		0.078788					
Total Intersection Volume		438	22	547	26	652	19	540	24	**2268**	**0.85**	**4%**		
Intersection Pct Trucks			4.8%		4.5%		2.8%		4.3%					

Pedestrian Volumes

APPROACH	MOVEMENT	7:00 Ped	7:15 Ped	7:30 Ped	7:45 Ped	Confli. Ped TOTAL
Eastbound	Crosswalk	1	1	1	1	4
Westbound	Crosswalk	1	1	1	1	4
Northbound	Crosswalk	1	1	1	1	4
Southbound	Crosswalk	1	1	1	1	4
	Total	4	4	4	4	

Bicycles Volumes

APPROACH	MOVEMENT	7:00 bike	7:15 bike	7:30 bike	7:45 bike	Confli. Bike TOTAL
Eastbound	Through					0
Westbound	Through					0
Northbound	Through					0
Southbound	Through					0
	Total	0	0	0	0	

Notes

Miovision Vehicle classification	
Passenger Vehicle	Truck Vehicle



PROJECT: WCE The Summit
JOB NO. 18-02
INTERSECTION: Thope Road & SR 195

TRAFFIC COUNT REDUCTION WORKSHEET

Traffic Counts & Surveys Inc.
Phone: (509) 951-1851
email: beng@trfcnts.com

DATE OF COUNT: 11/13/2018
Counter: Miovision
Analyst: BNG

PM PEAK HOURS

APPROACH	MOVEMENT	15 Minute Period Beginning @ 3:30 PM		3:45 PM		4:00 PM		4:15 PM		4:30 PM		4:45 PM		5:00 PM		5:15 PM		5:30 PM		5:45 PM		6:00 PM		6:15 PM	
		pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk
Eastbound	Left	9	0	32	0	9	1	11	0	11	0	12	0	13	0	5	0	12	0	14	0	9	0	9	0
	Through	3	0	5	0	1	0	1	0	0	0	2	0	3	0	3	0	1	0	3	0	1	0	2	0
	Right	16	2	11	0	8	0	11	0	10	0	13	0	9	0	12	0	14	0	9	0	11	0	5	0
	App. Total	28	2	48	0	18	1	23	0	21	0	27	0	25	0	20	0	27	0	26	0	21	0	16	0
	Pct Trucks		0.067		0		0.053		0		0		0		0		0		0		0		0		0
Westbound	Left	6	0	8	0	6	0	9	0	11	0	7	0	7	0	5	0	5	0	7	0	6	0	3	0
	Through	1	0	0	0	5	0	2	0	6	0	3	0	1	0	4	0	1	0	3	0	1	0	1	0
	Right	4	0	6	2	8	1	3	0	10	0	3	0	6	1	3	0	5	0	6	0	7	0	4	0
	App. Total	11	0	14	2	19	1	14	0	27	0	13	0	14	1	12	0	11	0	16	0	14	0	8	0
	Pct Trucks		0		0.125		0.05		0		0		0		0.067		0		0		0		0		0
Northbound	Left	9	0	18	1	12	0	13	0	11	0	20	0	16	0	12	0	9	0	11	0	13	1	13	1
	Through	174	13	153	14	134	11	128	7	122	10	143	8	152	9	132	2	140	8	118	5	126	4	96	4
	Right	7	1	13	0	12	0	20	0	14	0	16	0	19	0	17	0	7	0	11	0	3	0	9	0
	App. Total	190	14	184	15	158	11	161	7	147	10	179	8	187	9	161	2	156	8	140	5	142	5	118	5
	Pct Trucks		0.069		0.075		0.065		0.042		0.064		0.043		0.046		0.012		0.049		0.034		0.034		0.041
Southbound	Left	5	0	14	0	6	0	7	0	7	0	8	0	8	0	7	0	3	0	5	0	6	0	4	1
	Through	258	6	279	5	289	3	290	3	298	5	317	2	350	1	325	1	266	4	224	7	201	2	184	2
	Right	20	1	21	0	30	0	20	0	13	0	12	0	11	0	22	1	19	0	16	2	18	0	16	0
	App. Total	283	7	314	5	325	3	317	3	318	5	337	2	369	1	354	2	288	4	245	9	225	2	204	3
	Pct Trucks		0.024		0.016		0.009		0.009		0.015		0.006		0.003		0.006		0.014		0.035		0.009		0.014
Total Intersection Volume		512	23	560	22	520	16	515	10	513	15	556	10	595	11	547	4	482	12	427	14	402	7	346	8
Intersection Pct Trucks		4.3%		3.8%		3.0%		1.9%		2.8%		1.8%		1.8%		0.7%		2.4%		3.2%		1.7%		2.3%	

Pedestrian Volumes

APPROACH	MOVEMENT	15 Minute Period Beginning @ 3:30	3:45	4:00	4:15	4:30	4:45	5:00	5:15	5:30	5:45	6:00	6:15
		Ped	Ped	Ped	Ped	Ped	Ped	Ped	Ped	Ped	Ped	Ped	Ped
Eastbound	Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0
Westbound	Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0
Northbound	Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0
Southbound	Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0

Bicycle Volumes

APPROACH	MOVEMENT	15 Minute Period Beginning @ 3:30	3:45	4:00	4:15	4:30	4:45	5:00	5:15	5:30	5:45	6:00	6:15
		bike	bike	bike	bike	bike	bike	bike	bike	bike	bike	bike	bike
Eastbound	Through												
Westbound	Through												
Northbound	Through												
Southbound	Through												
	Total	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Total One Hour Volumes		Pct Trucks
3:30 PM	2178	3.3%
3:45 PM	2171	2.9%
4:00 PM	2155	2.4%
4:15 PM	2225	2.1%
4:30 PM	2251	1.8%
4:45 PM	2217	1.7%
5:00 PM	2092	2.0%
5:15 PM	1895	2.0%
5:30 PM	1698	2.4%

PROJECT: WCE The Summit
JOB NO. 18-02
INTERSECTION: Thope Road & SR 195

Data Transfer
Intersection No. 1

DATE OF COUNT: 11/13/2018
Counter Analyst
Miovision BNG

TRAFFIC COUNT REDUCTION WORKSHEET
PM PEAK HOUR BREAKDOWN

Phone: (509) 951-1851
email: beng@trfcnts.com

Traffic Counts & Surveys Inc.

APPROACH	MOVEMENT	4:30 PM		4:45 PM		5:00 PM		5:15 PM				Pct		App
		pass	trk	pass	trk	pass	trk	pass	trk	TOTAL	P.H.F.	Trucks		Dist
Eastbound	Left	11	0	12	0	13	0	5	0	41	0.79	0%		44.09%
	Through	0	0	2	0	3	0	3	0	8	0.67	0%		8.60%
	Right	10	0	13	0	9	0	12	0	44	0.85	0%		47.31%
	App. Total	21	0	27	0	25	0	20	0	93	0.86			
	Pct Trucks		0		0		0		0					
Westbound	Left	11	0	7	0	7	0	5	0	30	0.68	0%		44.78%
	Through	6	0	3	0	1	0	4	0	14	0.58	0%		20.90%
	Right	10	0	3	0	6	1	3	0	23	0.58	4%		34.33%
	App. Total	27	0	13	0	14	1	12	0	67	0.62			
	Pct Trucks		0		0		0.066667		0					
Northbound	Left	11	0	20	0	16	0	12	0	59	0.74	0%		8.39%
	Through	122	10	143	8	152	9	132	2	578	0.90	5%		82.22%
	Right	14	0	16	0	19	0	17	0	66	0.87	0%		9.39%
	App. Total	147	10	179	8	187	9	161	2	703	0.90			
	Pct Trucks		0.063694		0.042781		0.045918		0.01227					
Southbound	Left	7	0	8	0	8	0	7	0	30	0.94	0%		2.16%
	Through	298	5	317	2	350	1	325	1	1299	0.93	1%		93.59%
	Right	13	0	12	0	11	0	22	1	59	0.64	2%		4.25%
	App. Total	318	5	337	2	369	1	354	2	1388	0.94			
	Pct Trucks		0.01548		0.0059		0.002703		0.005618					
Total Intersection Volume		513	15	556	10	595	11	547	4	**2251**	**0.93**	**2%**		
Intersection Pct Trucks			2.8%		1.8%		1.8%		0.7%					

Pedestrian Volumes

APPROACH	MOVEMENT	4:30 Ped	4:45 Ped	5:00 Ped	5:15 Ped	Confli. Ped TOTAL
Eastbound	Crosswalk	0	0	0	0	**0**
Westbound	Crosswalk	0	0	0	0	**0**
Northbound	Crosswalk	0	0	0	0	**0**
Southbound	Crosswalk	0	0	0	0	**0**
	Total	0	0	0	0	

Bicycles Volumes

APPROACH	MOVEMENT	5:00 bike	5:15 bike	5:30 bike	5:45 bike	Confli. Bike TOTAL
Eastbound	Through					**0**
Westbound	Through					**0**
Northbound	Through					**0**
Southbound	Through					**0**
	Total	0	0	0	0	

Notes

Miovision Vehicle classification	
Passenger Vehicle	Truck Vehicle



INTERSECTION

Phone: (509) 951-1851
email: beng@trfcnts.com

PROJECT: WCE Latah Glenn — Inland Empire Way
JOB NO. 21-45 — &
DATE OF COUNT: 1/6/2021 — SR 195 SB
Counter: Miovision — Analyst: BNG
AM PEAK HOURS
15 Minute Period Beginning @

Traffic Counts & Surveys Inc.

APPROACH	Movement	6:30 AM			6:45 AM			7:00 AM			7:15 AM			7:30 AM			7:45 AM			8:00 AM			8:15 AM			8:30 AM			8:45 AM			9:00 AM			9:15 AM		
Type		BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV
Eastbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Right	0	5	0	0	4	0	0	1	0	0	2	0	0	2	0	0	3	1	0	4	0	0	1	0	0	1	0	0	0	0	0	3	0	0	3	0
	App. Total	0	5	0	0	4	0	0	1	0	0	2	0	0	2	0	0	3	1	0	4	0	0	1	0	0	1	0	0	0	0	0	3	0	0	3	0
	Pct HV	0%			0%			0%			0%			0%			25%			0%			0%			0%						0%			0%		
Northbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Pct HV																																				
Southbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Through	0	61	6	0	84	16	0	62	10	0	73	7	0	98	11	0	113	10	0	121	14	0	113	12	0	115	10	0	118	7	0	105	15	0	109	14
	Right	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	0	4	0	0	1	0	0	2	0
	App. Total	0	61	6	0	85	16	0	62	10	0	73	7	0	98	11	0	113	11	0	122	14	0	113	12	0	116	10	0	122	7	0	106	15	0	111	14
	Pct HV	9%			16%			14%			9%			10%			9%			10%			10%			8%			5%			12%			11%		
Total Class Volume		0	66	6	0	89	16	0	63	10	0	75	7	0	100	11	0	116	12	0	126	14	0	114	12	0	1	10	0	122	7	0	109	15	0	114	14
Total Interval Volume		72			105			73			82			111			128			140			126			11			129			124			128		
Intersection Pct HV		8%			15%			14%			9%			10%			9%			10%			10%			91%			5%			12%			11%		

Pedestrian Volumes

APPROACH	Movement	15 Minute Period Beginning @ 6:30	6:45	7:00	7:15	7:30	7:45	8:00	8:15	8:30	8:45	9:00	9:15
Eastbound	Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0
Westbound	Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0
Northbound	Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0
Southbound	Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0	0	0	0	0

Miovision Vehicle Classification

Bike (BK)	Passenger Car (PC)	Heavy Vehicle (HV)



Intersection Total One Hour Volumes		Pct HV
6:30 AM	332	11.7%
6:45 AM	371	11.9%
7:00 AM	**394**	**10.2%**
7:15 AM	461	9.5%
7:30 AM	505	9.7%
7:45 AM	405	11.9%
8:00 AM	406	10.6%
8:15 AM	390	11.3%
8:30 AM	392	11.7%

App.= Approach
Pct= Percent

INTERSECTION

Phone: (509) 951-1851
email: beng@trfcnts.com

PROJECT: WCE Latah Glenn Inland Empire Way & SR 195 SB
JOB NO. 21-45
DATE OF COUNT: 1/6/2021
Counter Analyst
Miovision BNG

APPROACH	MOVEMENT	AM PEAK HOURS 7:30 AM BK	PC	HV	7:45 AM BK	PC	HV	8:00 AM BK	PC	HV	8:15 AM BK	PC	HV
Eastbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0
	Left	0	0	0	0	0	0	0	0	0	0	0	0
	Right	0	2	0	0	3	1	0	4	0	0	1	0
	App. Total	0	2	0	0	3	1	0	4	0	0	1	0
	Pct HV		0%			25%			0%			0%	
Northbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0
	Left	0	0	0	0	0	0	0	0	0	0	0	0
	Through	0	0	0	0	0	0	0	0	0	0	0	0
	App. Total	0	0	0	0	0	0	0	0	0	0	0	0
	Pct HV												
Southbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0
	Through	0	98	11	0	113	10	0	121	14	0	113	12
	Right	0	0	0	0	0	1	0	1	0	0	0	0
	App. Total	0	98	11	0	113	11	0	122	14	0	113	12
	Pct HV		10%			9%			10%			10%	
Total Class Volume		0	100	11	0	116	12	0	126	14	0	114	12
Total Interval Volume			111			128			140			126	
Intersection Pct Trucks			10%			9%			10%			10%	

Approach — Receiving

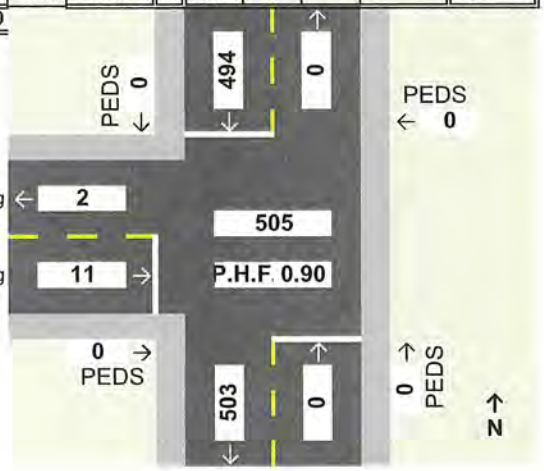
Mvmt	TOTAL HV	TOTAL Veh	PHF	Percentage of: HV	Percentage of: Approach
EBU	0	0			0.00%
EBL	0	0			0.00%
EBR	1	11		9%	100.00%
Total	1	11	0.69	9%	100.00%
NBU	0	0			
NBL	0	0			
NBT	0	0			
Total	0	0			
SBU	0	0			0.00%
SBT	47	492		10%	99.60%
SBR	1	2		50%	0.40%
Total	48	494	0.91	10%	100.00%
Total	**49**	**505**	**0.90**		

Departing

Mvmt	Total	Percentage of: HV	Percentage of: Approach	App.
EBU	0	0%	0.00%	Eastbound
NBL	0	0%	0.00%	
SBR	2	100%	100.00%	
Total	2	50%	100.00%	
NBU	0	0%	0.00%	Northbound
EBR	11	100%	2.19%	
SBT	492	####	97.81%	
Total	503	10%	100.00%	
SBU	0	0%		Southbound
NBT	0	0%		
EBL	0	0%		
Total	0			

Pedestrian Volumes

APPROACH	MOVEMENT	7:30	7:45	8:00	8:15	Confli. Ped TOTAL
Eastbound	Crosswalk	0	0	0	0	0
Westbound	Crosswalk	0	0	0	0	0
Northbound	Crosswalk	0	0	0	0	0
Southbound	Crosswalk	0	0	0	0	0
	Total	0	0	0	0	



Traffic Counts & Surveys Inc.

Movement = Mvmt
Pedestrian = Ped
P.H.F.= Peak Hour Factor
App.= Approach
Pct= Percent

INTERSECTION

Phone: (509) 951-1851
email: beng@trfcnts.com

PROJECT: WCE Latah Glenn — Inland Empire Way
JOB NO. 21-45 — &
DATE OF COUNT: 1/7/2020 — SR 195 SB
Counter: Miovision — Analyst: BNG
PM PEAK HOURS
15 Minute Period Beginning @

Traffic Counts & Surveys Inc

APPROACH	Movement	3:30 PM			3:45 PM			4:00 PM			4:15 PM			4:30 PM			4:45 PM			5:00 PM			5:15 PM			5:30 PM			5:45 PM			6:00 PM			6:15 PM		
Type		BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV
Eastbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Right	0	5	0	0	0	0	0	1	0	0	1	0	0	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	1	0	0	2	0	0	1	0
	App. Total	0	5	0	0	0	0	0	1	0	0	1	0	0	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	1	0	0	2	0	0	1	0
	Pct HV		0%						0%			0%			0%						0%									0%			0%			0%	
Northbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Pct HV																																				
Southbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Through	0	226	5	0	251	6	0	251	3	0	264	0	0	273	5	0	240	2	0	230	2	0	279	1	0	210	6	0	190	5	0	143	3	0	136	2
	Right	0	3	0	0	3	0	0	4	0	0	1	0	0	1	0	0	6	0	0	1	0	0	3	0	0	1	0	0	2	0	0	0	0	0	2	0
	App. Total	0	229	5	0	254	6	0	255	3	0	265	0	0	274	5	0	246	2	0	231	2	0	282	1	0	211	6	0	192	5	0	143	3	0	138	2
	Pct HV		2%			2%			1%			0%			2%			1%			1%			0%			3%			3%			2%			1%	
Total Class Volume		0	234	5	0	254	6	0	256	3	0	266	0	0	275	5	0	246	2	0	233	2	0	282	1	0	0	6	0	193	5	0	145	3	0	139	2
Total Interval Volume			239			260			259			266			280			248			235			283			6			198			148			141	
Intersection Pct HV			2%			2%			1%			0%			2%			1%			1%			0%			100%			3%			2%			1%	

Pedestrian Volumes

APPROACH	Movement	15 Minute Period Beginning @ 3:30	3:45	4:00	4:15	4:30	4:45	5:00	5:15	5:30	5:45	6:00	6:15
Eastbound	Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0
Westbound	Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0
Northbound	Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0
Southbound	Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0	0	0	0	0

Miovision Vehicle Classification

Bike (BK)	Passenger Car (PC)	Heavy Vehicle (HV)



Intersection Total One Hour Volumes		Pct HV
3:30 AM	1,024	1.4%
3:45 AM	1,065	1.3%
4:00 AM	**1,053**	**0.9%**
4:15 AM	1,029	0.9%
4:30 AM	1,046	1.0%
4:45 AM	772	1.4%
5:00 AM	722	1.9%
5:15 AM	635	2.4%
5:30 AM	493	3.2%

App.= Approach
Pct= Percent

INTERSECTION

Phone: (509) 951-1851
email: beng@trfcnts.com

PROJECT: WCE Latah Glenn Inland Empire Way & SR 195 SB
JOB NO. 21-45
DATE OF COUNT: 1/7/2020

Counter Miovision | Analyst BNG

PM PEAK HOURS

APPROACH	MOVEMENT	4:00 PM BK	4:00 PM PC	4:00 PM HV	4:15 PM BK	4:15 PM PC	4:15 PM HV	4:30 PM BK	4:30 PM PC	4:30 PM HV	4:45 PM BK	4:45 PM PC	4:45 PM HV
Eastbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0
	Left	0	0	0	0	0	0	0	0	0	0	0	0
	Right	0	1	0	0	1	0	0	1	0	0	0	0
	App. Total	0	1	0	0	1	0	0	1	0	0	0	0
	Pct HV		0%			0%			0%				
Northbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0
	Left	0	0	0	0	0	0	0	0	0	0	0	0
	Through	0	0	0	0	0	0	0	0	0	0	0	0
	App. Total	0	0	0	0	0	0	0	0	0	0	0	0
	Pct HV												
Southbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0
	Through	0	251	3	0	264	0	0	273	5	0	240	2
	Right	0	4	0	0	1	0	0	1	0	0	6	0
	App. Total	0	255	3	0	265	0	0	274	5	0	246	2
	Pct HV		1%			0%			2%			1%	
Total Class Volume		0	234	5	0	234	5	0	234	5	0	234	5
Total Interval Volume			259			266			280			248	
Intersection Pct Trucks			1%			0%			2%			1%	

Approach — Receiving

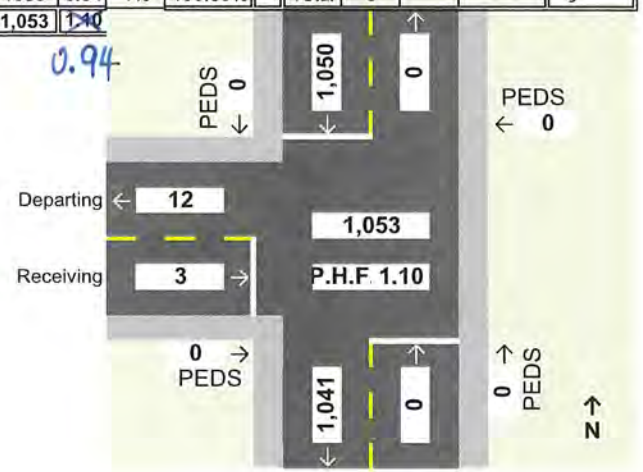
Mvmt	TOTAL HV	TOTAL Veh	PHF	Percentage of: HV	Percentage of: Approach
EBU	0	0			0.00%
EBL	0	0			0.00%
EBR	0	3		0%	100.00%
Total	0	3	0.75	0%	100.00%
NBU	0	0			
NBL	0	0			
NBT	0	0			
Total	0	0			
SBU	0	0			0.00%
SBT	10	1038		1%	98.86%
SBR	0	12		0%	1.14%
Total	10	1050	0.94	1%	100.00%
Total	**10**	**1,053**	~~1.40~~ 0.94		

Approach — Departing

Mvmt	Total	Percentage of: HV	Percentage of: Approach	App.
EBU	0	0%	0.00%	Eastbound
NBL	0	0%	0.00%	
SBR	12	0%	100.00%	
Total	12	0%	100.00%	
NBU	0	0%	0.00%	Northbound
EBR	3	0%	0.29%	
SBT	1038	####	99.71%	
Total	1041	1%	100.00%	
SBU	0	0%		Southbound
NBT	0	0%		
EBL	0	0%		
Total	0			

Pedestrian Volumes

APPROACH	MOVEMENT	7:00	7:15	7:30	7:45	Confli. Ped TOTAL
Eastbound	Crosswalk	0	0	0	0	0
Westbound	Crosswalk	0	0	0	0	0
Northbound	Crosswalk	0	0	0	0	0
Southbound	Crosswalk	0	0	0	0	0
	Total	0	0	0	0	



Traffic Counts & Surveys Inc.

Movement = Mvmt
Pedestrian = Ped
P.H.F.= Peak Hour Factor
App.= Approach
Pct= Percent

INTERSECTION

Phone: (509) 951-1851
email: beng@trfcnts.com

PROJECT: WCE Marshal Creek
JOB NO. 21-46
DATE OF COUNT: 5/8/2019
Counter Miovision
Analyst BNG

Cheney-Spokane Road
&
SR 195 NB Ramps

AM PEAK HOURS
15 Minute Period Beginning @

Traffic Counts & Surveys Inc.

APPROACH	Movement	6:30 AM			6:45 AM			7:00 AM			7:15 AM			7:30 AM			7:45 AM			8:00 AM			8:15 AM			8:30 AM			8:45 AM			9:00 AM			9:15 AM		
Type		BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV
Eastbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Left	0	109	0	0	106	1	0	138	2	0	172	4	0	234	2	0	150	3	0	121	0	0	106	1	0	105	1	0	89	5	0	74	1	0	74	4
	Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	App. Total	0	109	0	0	106	1	0	138	2	0	172	4	0	234	2	0	150	3	0	122	0	0	106	1	0	105	1	0	89	5	0	74	1	0	74	4
	Pct HV		0%			1%			1%			2%			1%			2%			0%			1%			1%			5%			1%			5%	
Northbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Left	0	8	0	0	22	2	0	19	0	0	39	0	0	25	0	0	22	0	0	30	0	0	31	1	0	32	1	0	32	0	0	26	4	0	29	1
	Through	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	App. Total	0	8	0	0	23	2	0	19	0	0	39	0	0	25	0	0	22	0	0	30	0	0	31	1	0	32	1	0	32	0	0	26	4	0	29	1
	Pct HV		0%			8%			0%			0%			0%			0%			0%			3%			3%			0%			13%			3%	
Southbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	Pct HV																										0%										
Total Class Volume		0	117	0	0	129	3	0	157	2	0	211	4	0	259	2	0	172	3	0	152	0	0	137	2	0	105	2	0	121	5	0	100	5	0	103	5
Total Interval Volume			117			132			159			215			261			175			152			139			107			126			105			108	
Intersection Pct HV			0%			2%			1%			2%			1%			2%			0%			1%			2%			4%			5%			5%	

Pedestrian Volumes

APPROACH	Movement	15 Minute Period Beginning @ 6:30	6:45	7:00	7:15	7:30	7:45	8:00	8:15	8:30	8:45	9:00	9:15
Eastbound	Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0
Westbound	Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0
Northbound	Crosswalk	0	0	0	1	0	0	0	0	0	0	0	0
Southbound	Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0
Total		0	0	0	1	0	0	0	0	0	0	0	0

Miovision Vehicle Classification

Bike (BK) | Passenger Car (PC) | Heavy Vehicle (HV)



Intersection Total One Hour Volumes		Pct HV
6:30 AM	623	1.4%
6:45 AM	767	1.4%
7:00 AM	**810**	**1.4%**
7:15 AM	803	1.1%
7:30 AM	727	1.0%
7:45 AM	573	1.2%
8:00 AM	524	1.7%
8:15 AM	477	2.9%
8:30 AM	446	3.8%

App.= Approach
Pct= Percent

INTERSECTION

Phone: (509) 951-1851
email: beng@trfcnts.com

PROJECT: WCE Marshal Creek Cheney-Spokane Road & SR 195 NB Ramps
JOB NO. 21-46
DATE OF COUNT: 5/8/2019
Counter Analyst
Miovision BNG

APPROACH	MOVEMENT	AM PEAK HOURS 7:00 AM BK	PC	HV	7:15 AM BK	PC	HV	7:30 AM BK	PC	HV	7:45 AM BK	PC	HV
Eastbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0
	Left	0	138	2	0	172	4	0	234	2	0	150	3
	Right	0	0	0	0	0	0	0	0	0	0	0	0
	App. Total	0	138	2	0	172	4	0	234	2	0	150	3
	Pct HV		1%			2%			1%			2%	
Northbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0
	Left	0	19	0	0	39	0	0	25	0	0	22	0
	Through	0	0	0	0	0	0	0	0	0	0	0	0
	App. Total	0	19	0	0	39	0	0	25	0	0	22	0
	Pct HV		0%			0%			0%			0%	
Southbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0
	Through	0	0	0	0	0	0	0	0	0	0	0	0
	Right	0	0	0	0	0	0	0	0	0	0	0	0
	App. Total	0	0	0	0	0	0	0	0	0	0	0	0
	Pct HV												
Total Class Volume		0	157	2	0	211	4	0	259	2	0	172	3
Total Interval Volume			159			215			261			175	
Intersection Pct Trucks			1%			2%			1%			2%	

Approach

Receiving

Mvmt	TOTAL HV	TOTAL Veh	PHF	Percentage of: HV	Percentage of: Approach
EBU	0	0			0.00%
EBL	11	705		2%	100.00%
EBR	0	0			0.00%
Total	11	705	0.75	2%	100.00%
NBU	0	0			0.00%
NBL	0	105		0%	100.00%
NBT	0	0			0.00%
Total	0	105	0.67	0%	100.00%
SBU	0	0			
SBT	0	0			
SBR	0	0			
Total	0	0			
Total	**11**	**810**	**0.78**		

Departing

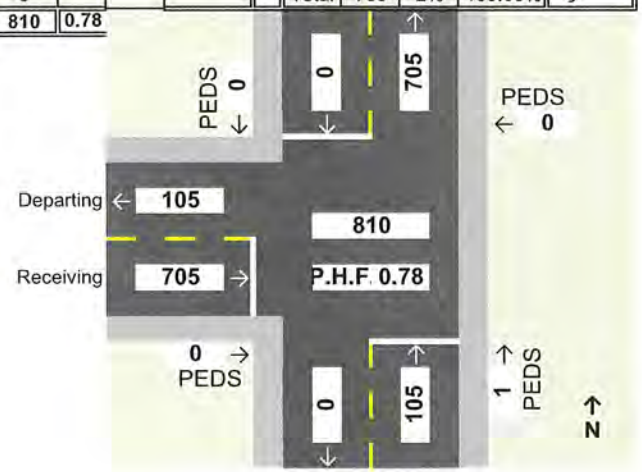
Mvmt	Total	Percentage of: HV	Percentage of: Approach	App.
EBU	0	0%	0.00%	Eastbound
NBL	105	0%	100.00%	
SBR	0	0%	0.00%	
Total	105	0%	100.00%	
NBU	0	0%		Northbound
EBR	0	0%		
SBT	0	0%		
Total	0			
SBU	0	0%	0.00%	Southbound
NBT	0	0%	0.00%	
EBL	705	####	100.00%	
Total	705	2%	100.00%	

Pedestrian Volumes

APPROACH	MOVEMENT	7:00	7:15	7:30	7:45	Confli. Ped TOTAL
Eastbound	Crosswalk	0	0	0	0	0
Westbound	Crosswalk	0	0	0	0	0
Northbound	Crosswalk	0	1	0	0	1
Southbound	Crosswalk	0	0	0	0	0
	Total	0	1	0	0	

Movement = Mvmt
Pedestrian = Ped
P.H.F.= Peak Hour Factor
App.= Approach
Pct= Percent

Traffic Counts & Surveys Inc.



INTERSECTION

Phone: (509) 951-1851
email: beng@trfcnts.com

PROJECT: WCE Marshal Creek
JOB NO. 21-46
DATE OF COUNT: 5/8/2019
Counter Analyst
Miovision BNG

Cheney-Spokane Road
&
SR 195 NB Ramps

PM PEAK HOURS
15 Minute Period Beginning @

Traffic Counts & Surveys Inc.

APPROACH	Movement	3:30 PM			3:45 PM			4:00 PM			4:15 PM			4:30 PM			4:45 PM			5:00 PM			5:15 PM			5:30 PM			5:45 PM			6:00 PM			6:15 PM		
Type		BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV
Eastbound	U-Turn	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Left	0	73	3	0	76	1	0	76	1	0	78	2	0	81	0	0	84	1	0	91	2	0	93	1	0	81	1	0	69	1	0	72	0	0	68	0
	Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	App. Total	0	73	3	0	77	1	0	76	1	0	78	2	0	81	0	0	84	1	0	91	2	0	93	1	0	81	1	0	69	1	0	72	0	0	68	0
	Pct HV		4%			1%			1%			3%			0%			1%			2%			1%			1%			1%			0%			0%	
Northbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Left	0	30	0	0	29	1	0	23	1	0	16	0	0	34	0	0	28	0	0	34	0	0	26	0	0	30	0	0	25	1	0	24	0	0	20	0
	Through	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
	App. Total	0	31	0	0	30	1	0	23	1	0	16	0	0	34	0	0	28	0	0	34	0	0	27	0	0	30	0	0	25	1	0	24	0	0	20	0
	Pct HV		0%			3%			4%			0%			0%			0%			0%			0%			0%			4%			0%			0%	
Southbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Right	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	App. Total	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Pct HV		0%									0%																									
Total Class Volume		0	105	3	0	107	2	0	99	2	0	95	2	0	115	0	0	112	1	0	125	2	0	120	1	0	81	1	0	94	2	0	96	0	0	88	0
Total Interval Volume			108			109			101			97			115			113			127			121			82			96			96			88	
Intersection Pct HV			3%			2%			2%			2%			0%			1%			2%			1%			1%			2%			0%			0%	

Pedestrian Volumes

APPROACH	Movement	15 Minute Period Beginning @											
		3:30	3:45	4:00	4:15	4:30	4:45	5:00	5:15	5:30	5:45	6:00	6:15
Eastbound	Crosswalk	0	1	0	1	0	0	1	0	0	0	3	2
Westbound	Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0
Northbound	Crosswalk	0	0	0	0	0	0	0	0	2	1	0	0
Southbound	Crosswalk	0	0	0	0	1	0	0	0	0	0	0	0
Total		0	1	0	1	1	0	1	0	2	1	3	2

Miovision Vehicle Classification

Bike (BK) | Passenger Car (PC) | Heavy Vehicle (HV)



Intersection Total One Hour Volumes		Pct HV
3:30 AM	415	2.2%
3:45 AM	422	1.4%
4:00 AM	426	1.2%
4:15 AM	452	1.1%
4:30 AM	**476**	**0.8%**
4:45 AM	443	1.1%
5:00 AM	426	1.4%
5:15 AM	395	1.0%
5:30 AM	362	0.8%

App.= Approach
Pct= Percent

INTERSECTION

Phone: (509) 951-1851
email: beng@trfcnts.com

PROJECT: WCE Marshal Creek Cheney-Spokane Road & SR 195 NB Ramps
JOB NO. 21-46
DATE OF COUNT: 5/8/2019
Counter Analyst
Miovision BNG

APPROACH	MOVEMENT	PM PEAK HOURS 4:30 PM BK	PC	HV	4:45 PM BK	PC	HV	5:00 PM BK	PC	HV	5:15 PM BK	PC	HV
Eastbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0
	Left	0	81	0	0	84	1	0	91	2	0	93	1
	Right	0	0	0	0	0	0	0	0	0	0	0	0
	App. Total	0	81	0	0	84	1	0	91	2	0	93	1
	Pct HV		0%			1%			2%			1%	
Northbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0
	Left	0	34	0	0	28	0	0	34	0	0	26	0
	Through	0	0	0	0	0	0	0	0	0	0	1	0
	App. Total	0	34	0	0	28	0	0	34	0	0	27	0
	Pct HV		0%			0%			0%			0%	
Southbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0
	Through	0	0	0	0	0	0	0	0	0	0	0	0
	Right	0	0	0	0	0	0	0	0	0	0	0	0
	App. Total	0	0	0	0	0	0	0	0	0	0	0	0
	Pct HV												
Total Class Volume		0	115	0	0	112	1	0	125	2	0	120	1
Total Interval Volume			115			113			127			121	
Intersection Pct Trucks			0%			1%			2%			1%	

Approach

Receiving

Mvmt	TOTAL HV	TOTAL Veh	PHF	Percentage of: HV	Percentage of: Approach
EBU	0	0			0.00%
EBL	4	353		1%	100.00%
EBR	0	0			0.00%
Total	4	353	0.94	1%	100.00%
NBU	0	0			0.00%
NBL	0	122		0%	99.19%
NBT	0	1		0%	0.81%
Total	0	123	0.90	0%	100.00%
SBU	0	0			
SBT	0	0			
SBR	0	0			
Total	0	0			
Total	**4**	**476**	**0.94**		

Departing

Mvmt	Total	Percentage of: HV	Percentage of: Approach	App.
EBU	0	0%	0.00%	Eastbound
NBL	122	0%	100.00%	
SBR	0	0%	0.00%	
Total	122	0%	100.00%	
NBU	0	0%		Northbound
EBR	0	0%		
SBT	0	0%		
Total	0			
SBU	0	0%	0.00%	Southbound
NBT	1	0%	0.28%	
EBL	353	400%	99.72%	
Total	354	1%	100.00%	

Pedestrian Volumes APPROACH	MOVEMENT	4:30	4:45	5:00	5:15	Confli. Ped TOTAL
Eastbound	Crosswalk	0	0	1	0	1
Westbound	Crosswalk	0	0	0	0	0
Northbound	Crosswalk	0	0	0	0	0
Southbound	Crosswalk	1	0	0	0	1
	Total	1	0	1	0	



Movement = Mvmt
Pedestrian = Ped
P.H.F.= Peak Hour Factor
App.= Approach
Pct= Percent

Traffic Counts & Surveys Inc.

INTERSECTION

Phone: (509) 951-1851
email: beng@trfcnts.com

PROJECT: WCE Marshal Creek
JOB NO. 21-46
DATE OF COUNT: 5/7/2019
Counter Analyst
Miovision BNG

Cheney-Spokane Rd
&
SR 195 SB Ramps

AM PEAK HOURS
15 Minute Period Beginning @

Traffic Counts & Surveys Inc.

APPROACH	Movement	6:30 AM			6:45 AM			7:00 AM			7:15 AM			7:30 AM			7:45 AM			8:00 AM			8:15 AM			8:30 AM			8:45 AM			9:00 AM			9:15 AM		
Type		BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV
Eastbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Through	0	101	0	0	116	1	0	125	4	0	151	4	0	206	1	0	125	2	0	98	3	0	111	2	0	103	3	0	99	3	0	80	5	0	75	4
	Right	0	9	0	0	5	0	0	11	2	0	8	1	0	11	0	0	15	0	0	11	0	0	13	0	0	15	1	0	15	1	0	15	0	0	8	0
	App. Total	0	110	0	0	121	1	0	136	6	0	159	5	0	217	1	0	140	2	0	109	3	0	124	2	0	118	4	0	114	4	0	95	5	0	83	4
	Pct HV		0%			1%			4%			3%			0%			1%			3%			2%			3%			3%			5%			5%	
Westbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Left	0	0	0	0	2	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	1	0	0	1	0	0	0	0	0	1	0	0	1	0
	Through	0	10	1	0	21	2	0	25	1	0	26	1	0	38	0	0	27	0	0	30	1	0	22	1	0	32	1	0	24	0	0	21	0	0	22	1
	Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	App. Total	0	10	1	0	23	2	0	26	1	0	26	1	0	39	0	0	27	0	0	31	1	0	23	1	0	33	1	0	24	0	0	22	0	0	23	1
	Pct HV		9%			8%			4%			4%			0%			0%			3%			4%			3%			0%			0%			4%	
Northbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Pct HV																																				
Southbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Left	0	3	0	0	2	0	0	5	0	0	4	2	0	4	0	0	1	1	0	3	0	0	5	0	0	1	1	0	4	1	0	4	0	0	3	0
	Through	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	App. Total	0	3	0	0	2	1	0	5	0	0	4	2	0	4	1	0	1	1	0	3	0	0	5	0	0	1	1	0	4	1	0	4	0	0	3	0
	Pct HV		0%			33%			0%			33%			20%			50%			0%			0%			50%			20%			0%			0%	
Total Class Volume		0	123	1	0	146	4	0	167	7	0	189	8	0	260	2	0	168	3	0	143	4	0	152	3	0	152	6	0	142	5	0	121	5	0	109	5
Total Interval Volume			124			150			174			197			262			171			147			155			158			147			126			114	
Intersection Pct HV			1%			3%			4%			4%			1%			2%			3%			2%			4%			3%			4%			4%	

Pedestrian Volumes

APPROACH	Movement	15 Minute Period Beginning @ 6:30	6:45	7:00	7:15	7:30	7:45	8:00	8:15	8:30	8:45	9:00	9:15
Eastbound	Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0
Westbound	Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0
Northbound	Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0
Southbound	Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0	0	0	0	0

Miovision Vehicle Classification

Bike (BK)	Passenger Car (PC)	Heavy Vehicle (HV)



Intersection Total One Hour Volumes		Pct HV
6:30 AM	645	3.1%
6:45 AM	783	2.7%
7:00 AM	**804**	**2.5%**
7:15 AM	777	2.2%
7:30 AM	735	1.6%
7:45 AM	631	2.5%
8:00 AM	607	3.0%
8:15 AM	586	3.2%
8:30 AM	545	3.9%

App.= Approach
Pct= Percent

TRAFFIC COUNT REDUCTION WORKSHEET

INTERSECTION

Phone: (509) 951-1851
email: beng@trfcnts.com

PROJECT: WCE Marshal Creek Cheney-Spokane Rd & SR 195 SB Ramps
JOB NO. 21-46
DATE OF COUNT: 5/7/2019
Counter Analyst
Miovision BNG

APPROACH	MOVEMENT	AM PEAK HOURS 7:00 AM BK	PC	HV	7:15 AM BK	PC	HV	7:30 AM BK	PC	HV	7:45 AM BK	PC	HV
Eastbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0
	Left	0	0	0	0	0	0	0	0	0	0	0	0
	Through	0	125	4	0	151	4	0	206	1	0	125	2
	Right	0	11	2	0	8	1	0	11	0	0	15	0
	App. Total	0	136	6	0	159	5	0	217	1	0	140	2
	Pct HV		4%			3%			0%			1%	
Westbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0
	Left	0	1	0	0	0	0	0	1	0	0	0	0
	Through	0	25	1	0	26	1	0	38	0	0	27	0
	Right	0	0	0	0	0	0	0	0	0	0	0	0
	App. Total	0	26	1	0	26	1	0	39	0	0	27	0
	Pct HV		4%			4%			0%			0%	
Northbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0
	Left	0	0	0	0	0	0	0	0	0	0	0	0
	Through	0	0	0	0	0	0	0	0	0	0	0	0
	Right	0	0	0	0	0	0	0	0	0	0	0	0
	App. Total	0	0	0	0	0	0	0	0	0	0	0	0
	Pct HV												
Southbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0
	Left	0	5	0	0	4	2	0	4	0	0	1	1
	Through	0	0	0	0	0	0	0	0	1	0	0	0
	Right	0	0	0	0	0	0	0	0	0	0	0	0
	App. Total	0	5	0	0	4	2	0	4	1	0	1	1
	Pct HV		0%			33%			20%			50%	
Total Class Volume		0	167	7	0	189	8	0	260	2	0	168	3
Total Interval Volume			174			197			262			171	
Intersection Pct Trucks			4%			4%			1%			2%	

Approach

Receiving

Mvmt	TOTAL HV	TOTAL Veh	PHF	Percentage of: HV	Percentage of: Approach
EBU	0	0			0.00%
EBL	0	0			0.00%
EBT	11	618		2%	92.79%
EBR	3	48		6%	7.21%
Total	14	666	0.76	2%	100.00%
WBU	0	0			0.00%
WBL	0	2		0%	1.67%
WBT	2	118		2%	98.33%
WBR	0	0			0.00%
Total	2	120	0.77	2%	100.00%
NBU	0	0			
NBL	0	0			
NBT	0	0			
NBR	0	0			
Total	0	0			
SBU	0	0			0.00%
SBL	3	17		18%	94.44%
SBT	1	1		100%	5.56%
SBR	0	0			0.00%
Total	4	18	0.75	22%	100.00%
Total	20	804	0.77		

Departing

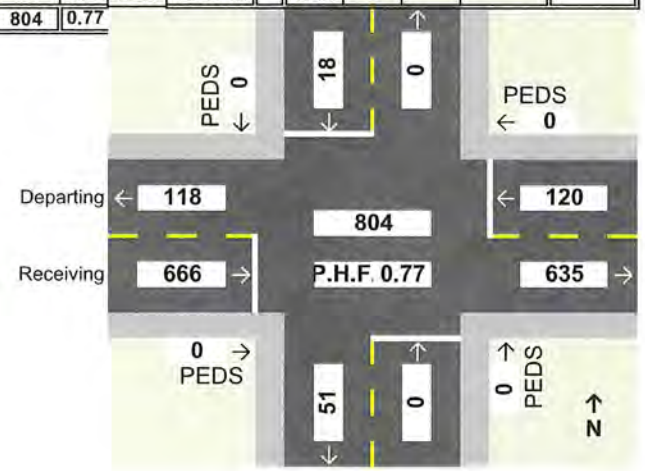
Mvmt	Total	Percentage of: HV	Percentage of: Approach	App.
EBU	0		0.00%	Eastbound
NBL	0		0.00%	
WBT	118	2%	100.00%	
SBR	0		0.00%	
Total	118	2%	100.00%	
WBU	0		0.00%	Westbound
SBL	17	18%	2.68%	
EBT	618	2%	97.32%	
NBR	0		0.00%	
Total	635	2%	100.00%	
NBU	0		0.00%	Northbound
WBL	2	0%	3.92%	
SBT	1	100%	1.96%	
EBR	48	6%	94.12%	
Total	51	8%	100.00%	
SBU	0			Southbound
EBL	0			
NBT	0			
WBR	0			
Total	0			

Total 804

2%

Pedestrian Volumes APPROACH	MOVEMENT	7:00	7:15	7:30	7:45	Confli. Ped TOTAL
Eastbound	Crosswalk	0	0	0	0	0
Westbound	Crosswalk	0	0	0	0	0
Northbound	Crosswalk	0	0	0	0	0
Southbound	Crosswalk	0	0	0	0	0
	Total	0	0	0	0	

Traffic Counts & Surveys Inc.



Movement = Mvmt
Pedestrian = Ped
P.H.F.= Peak Hour Factor
App.= Approach
Pct= Percent

Phone: (509) 951-1851
email: beng@trfcnts.com

INTERSECTION

PROJECT: WCE Marshal Creek
JOB NO. 21-46
DATE OF COUNT: ~~1/1/2020~~ 5/9/2019
Counter Miovision Analyst BNG

Cheney-Spokane Rd
&
SR 195 SB Ramps

PM PEAK HOURS
15 Minute Period Beginning @

Traffic Counts & Surveys Inc.

APPROACH	Movement	3:30 PM			3:45 PM			4:00 PM			4:15 PM			4:30 PM			4:45 PM			5:00 PM			5:15 PM			5:30 PM			5:45 PM			6:00 PM			6:15 PM		
Type		BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV
Eastbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Through	0	64	1	0	66	0	0	84	0	0	74	2	0	69	5	0	76	1	0	77	2	0	92	0	0	63	0	0	78	1	0	72	3	0	57	0
	Right	0	29	0	0	26	1	0	23	1	0	29	0	0	26	0	0	36	0	0	25	0	0	44	1	0	37	0	0	38	0	0	24	0	0	26	1
	App. Total	0	93	1	0	92	1	0	107	1	0	103	2	0	95	5	0	112	1	0	102	2	0	136	1	0	100	0	0	116	1	0	96	3	0	83	1
	Pct HV		1%			1%			1%			2%			5%			1%			2%			1%			0%			1%			3%			1%	
Westbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Left	0	1	0	0	5	0	0	4	0	0	2	0	0	1	0	0	1	0	0	1	0	0	5	0	0	2	0	0	5	0	0	1	0	0	1	0
	Through	0	28	0	0	25	1	0	23	0	0	30	0	0	31	2	0	26	0	0	14	0	0	37	1	0	19	0	0	20	0	0	23	0	0	20	0
	Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	App. Total	0	29	0	0	30	1	0	27	0	0	32	0	0	32	2	0	27	0	0	15	0	0	42	1	0	21	0	0	25	0	0	24	0	0	21	0
	Pct HV		0%			3%			0%			0%			6%			0%			0%			2%			0%			0%			0%			0%	
Northbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Pct HV																																				
Southbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Left	0	1	2	0	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	6	0	0	3	0	0	2	0	0	0	0	0	0	0	0	2	0
	Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	App. Total	0	1	2	0	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	7	0	0	3	0	0	2	0	0	0	0	0	0	0	0	2	0
	Pct HV		67%			100%			100%			0%			0%						0%			0%			0%									0%	
Total Class Volume		0	123	3	0	122	3	0	134	2	0	136	2	0	128	7	0	139	1	0	124	2	0	181	2	0	123	0	0	141	1	0	120	3	0	106	1
Total Interval Volume			126			125			136			138			135			140			126			183			123			142			123			107	
Intersection Pct HV			2%			2%			1%			1%			5%			1%			2%			1%			0%			1%			2%			1%	

Pedestrian Volumes

APPROACH	Movement	15 Minute Period Beginning @ 3:30	3:45	4:00	4:15	4:30	4:45	5:00	5:15	5:30	5:45	6:00	6:15
Eastbound	Crosswalk	0	0	0	0	0	0	1	1	0	0	0	1
Westbound	Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0
Northbound	Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0
Southbound	Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	1	1	0	0	0	1

Miovision Vehicle Classification

Bike (BK) | Passenger Car (PC) | Heavy Vehicle (HV)



Intersection Total One Hour Volumes		Pct HV
3:30 AM	525	1.9%
3:45 AM	534	2.6%
4:00 AM	549	2.2%
4:15 AM	539	2.2%
4:30 AM	**584**	**2.1%**
4:45 AM	572	0.9%
5:00 AM	574	0.9%
5:15 AM	571	1.1%
5:30 AM	495	1.0%

App.= Approach
Pct= Percent

Phone: (509) 951-1851
email: beng@trfcnts.com

INTERSECTION

PROJECT: WCE Marshal Creek Cheney-Spokane Rd & SR 195 SB Ramps
JOB NO. 21-46
DATE OF COUNT: ~~1/1/2020~~ 5/1/2019
Counter Analyst
Miovision BNG

PM PEAK HOURS

APPROACH	MOVEMENT	4:30 PM			4:45 PM			5:00 PM			5:15 PM		
		BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV
Eastbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0
	Left	0	0	0	0	0	0	0	0	0	0	0	0
	Through	0	69	5	0	76	1	0	77	2	0	92	0
	Right	0	26	0	0	36	0	0	25	0	0	44	1
	App. Total	0	95	5	0	112	1	0	102	2	0	136	1
	Pct HV		5%			1%			2%			1%	
Westbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0
	Left	0	1	0	0	1	0	0	1	0	0	5	0
	Through	0	31	2	0	26	0	0	14	0	0	37	1
	Right	0	0	0	0	0	0	0	0	0	0	0	0
	App. Total	0	32	2	0	27	0	0	15	0	0	42	1
	Pct HV		6%			0%			0%			2%	
Northbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0
	Left	0	0	0	0	0	0	0	0	0	0	0	0
	Through	0	0	0	0	0	0	0	0	0	0	0	0
	Right	0	0	0	0	0	0	0	0	0	0	0	0
	App. Total	0	0	0	0	0	0	0	0	0	0	0	0
	Pct HV												
Southbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0
	Left	0	1	0	0	0	0	0	6	0	0	3	0
	Through	0	0	0	0	0	0	0	1	0	0	0	0
	Right	0	0	0	0	0	0	0	0	0	0	0	0
	App. Total	0	1	0	0	0	0	0	7	0	0	3	0
	Pct HV		0%						0%			0%	
Total Class Volume		0	128	7	0	139	1	0	124	2	0	181	2
Total Interval Volume			135			140			126			183	
Intersection Pct Trucks			5%			1%			2%			1%	

Approach

Receiving

Mvmt	TOTAL HV	TOTAL Veh	PHF	Percentage of: HV	Percentage of: Approach
EBU	0	0			0.00%
EBL	0	0			0.00%
EBT	8	322		2%	70.93%
EBR	1	132		1%	29.07%
Total	9	454	0.83	2%	100.00%
WBU	0	0			0.00%
WBL	0	8		0%	6.72%
WBT	3	111		3%	93.28%
WBR	0	0			0.00%
Total	3	119	0.69	3%	100.00%
NBU	0	0			
NBL	0	0			
NBT	0	0			
NBR	0	0			
Total	0	0			
SBU	0	0			0.00%
SBL	0	10		0%	90.91%
SBT	0	1		0%	9.09%
SBR	0	0			0.00%
Total	0	11	0.39	0%	100.00%
Total	**12**	**584**	**0.80**		

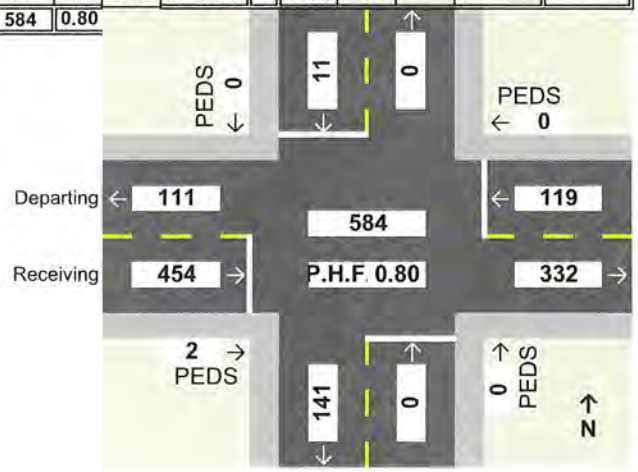
Departing

Mvmt	Total	Percentage of: HV	Percentage of: Approach	App.
EBU	0		0.00%	Eastbound
NBL	0		0.00%	
WBT	111	3%	100.00%	
SBR	0		0.00%	
Total	111	3%	100.00%	
WBU	0		0.00%	Westbound
SBL	10	0%	3.01%	
EBT	322	2%	96.99%	
NBR	0		0.00%	
Total	332	2%	100.00%	
NBU	0		0.00%	Northbound
WBL	8	0%	5.67%	
SBT	1	0%	0.71%	
EBR	132	1%	93.62%	
Total	141	1%	100.00%	
SBU	0			Southbound
EBL	0			
NBT	0			
WBR	0			
Total	0			

Pedestrian Volumes		4:30	4:45	5:00	5:15	Confli. Ped TOTAL
APPROACH	MOVEMENT					
Eastbound	Crosswalk	0	0	1	1	**2**
Westbound	Crosswalk	0	0	0	0	**0**
Northbound	Crosswalk	0	0	0	0	**0**
Southbound	Crosswalk	0	0	0	0	**0**
	Total	0	0	1	1	

Movement = Mvmt
Pedestrian = Ped
P.H.F.= Peak Hour Factor
App.= Approach
Pct= Percent

Traffic Counts & Surveys Inc.



TRAFFIC COUNT REDUCTION WORKSHEET

INTERSECTION

Phone: (509) 951-1851
email: beng@trfcnts.com

PROJECT: WCE Marshal Creek
JOB NO. 21-46
DATE OF COUNT: 5/7/2019
Counter Miovision
Analyst BNG

Cheney Spokane Rd
&
SR 195 SB Slip Ramp
AM PEAK HOURS
15 Minute Period Beginning @

Traffic Counts & Surveys Inc.

APPROACH	Movement	6:30 AM			6:45 AM			7:00 AM			7:15 AM			7:30 AM			7:45 AM			8:00 AM			8:15 AM			8:30 AM			8:45 AM			9:00 AM			9:15 AM		
Type		BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV
Westbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Left	0	11	1	0	21	2	0	25	1	0	26	1	0	38	0	0	26	1	0	29	2	0	22	1	0	32	1	0	24	0	0	21	0	0	22	1
	Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	App. Total	0	11	1	0	21	2	0	25	1	0	26	1	0	38	0	0	26	1	0	29	2	0	22	1	0	32	1	0	24	0	0	21	0	0	22	9
	Pct HV	8%			9%			4%			4%			0%			4%			6%			4%			3%			0%			0%			29%		
Northbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Pct HV																																				
Southbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Through	0	30	1	0	37	3	0	37	5	0	47	2	0	47	3	0	43	5	0	50	5	0	64	3	0	51	3	0	55	6	0	32	4	0	54	3
	App. Total	0	30	1	0	37	3	0	37	5	0	47	2	0	47	3	0	43	5	0	50	5	0	64	3	0	51	3	0	55	6	0	32	4	0	54	3
	Pct HV	3%			8%			12%			4%			6%			10%			9%			4%			6%			10%			11%			5%		
Total Class Volume		0	41	2	0	58	5	0	62	6	0	73	3	0	85	3	0	69	6	0	79	7	0	86	4	0	83	4	0	79	6	0	53	4	0	76	12
Total Interval Volume		43			63			68			76			88			75			86			90			87			85			57			88		
Intersection Pct HV		5%			8%			9%			4%			3%			8%			8%			4%			5%			7%			7%			14%		

Pedestrian Volumes

APPROACH	Movement	15 Minute Period Beginning @ 6:30	6:45	7:00	7:15	7:30	7:45	8:00	8:15	8:30	8:45	9:00	9:15
Eastbound	Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0
Westbound	Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0
Northbound	Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0
Southbound	Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0	0	0	0	0

Miovision Vehicle Classification

Bike (BK)	Passenger Car (PC)	Heavy Vehicle (HV)



Intersection Total One Hour Volumes		Pct HV
6:30 AM	250	0.0%
6:45 AM	295	0.0%
7:00 AM	**307**	**0.0%**
7:15 AM	325	0.0%
7:30 AM	339	0.0%
7:45 AM	338	0.0%
8:00 AM	348	0.0%
8:15 AM	319	0.0%
8:30 AM	317	0.0%

App.= Approach
Pct= Percent

INTERSECTION

Phone: (509) 951-1851
email: beng@trfcnts.com

PROJECT: WCE Marshal Creek Cheney Spokane Rd & SR 195 SB Slip Ramp
JOB NO. 21-46
DATE OF COUNT: 5/7/2019
Counter Analyst
Miovision BNG

APPROACH	MOVEMENT	AM PEAK HOURS 7:00 AM BK	PC	HV	7:15 AM BK	PC	HV	7:30 AM BK	PC	HV	7:45 AM BK	PC	HV
Westbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0
	Left	0	25	1	0	26	1	0	38	0	0	26	1
	Right	0	0	0	0	0	0	0	0	0	0	0	0
	App. Total	0	25	1	0	26	1	0	38	0	0	26	1
	Pct HV		4%			4%			0%			4%	
Northbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0
	Through	0	0	0	0	0	0	0	0	0	0	0	0
	Right	0	0	0	0	0	0	0	0	0	0	0	0
	App. Total	0	0	0	0	0	0	0	0	0	0	0	0
	Pct HV												
Southbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0
	Left	0	0	0	0	0	0	0	0	0	0	0	0
	Through	0	37	5	0	47	2	0	47	3	0	43	5
	App. Total	0	37	5	0	47	2	0	47	3	0	43	5
	Pct HV		12%			4%			6%			10%	
Total Class Volume		0	62	6	0	73	3	0	85	3	0	69	6
Total Interval Volume			68			76			88			75	
Intersection Pct Trucks			9%			4%			3%			8%	

Approach

Departing

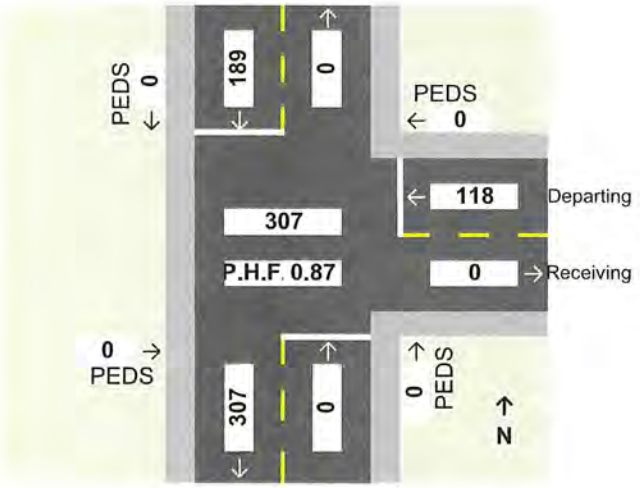
Mvmt	TOTAL HV	TOTAL Veh	PHF	Percentage of: HV	Percentage of: Approach
WBU	0	0			0.00%
WBL	3	118		3%	100.00%
WBR	0	0			0.00%
Total	3	118	0.78	3%	100.00%
NBU	0	0			
NBT	0	0			
NBR	0	0			
Total	0	0			
SBU	0	0			0.00%
SBL	0	0			0.00%
SBT	15	189		8%	100.00%
Total	15	189	0.95	8%	100.00%
Total	18	307	0.87		

Receiving

Mvmt	Total	Percentage of: HV	Percentage of: Approach	App.
WBU	0			Westbound
SBL	0			
NBR	0			
Total	0			
NBU	0		0.00%	Northbound
SBT	189	8%	61.56%	
WBL	118	3%	38.44%	
Total	307	6%	100.00%	
SBU	0			Southbound
WBR	0			
NBT	0			
Total	0			

Pedestrian Volumes APPROACH	MOVEMENT	7:00	7:15	7:30	7:45	Confli. Ped TOTAL
Eastbound	Crosswalk	0	0	0	0	0
Westbound	Crosswalk	0	0	0	0	0
Northbound	Crosswalk	0	0	0	0	0
Southbound	Crosswalk	0	0	0	0	0
	Total	0	0	0	0	

Movement = Mvmt
Pedestrian = Ped
P.H.F.= Peak Hour Factor
App.= Approach
Pct= Percent



TRAFFIC COUNT REDUCTION WORKSHEET

INTERSECTION

Phone: (509) 951-1851
email: beng@trfcnts.com

PROJECT: WCE Marshal Creek
JOB NO. 21-46
DATE OF COUNT: 5/7/2019
Counter Miovision Analyst BNG

Cheney Spokane Rd
&
SR 195 SB Slip Ramp
PM PEAK HOURS
15 Minute Period Beginning @

Traffic Counts & Surveys Inc.

APPROACH	Movement	3:30 PM			3:45 PM			4:00 PM			4:15 PM			4:30 PM			4:45 PM			5:00 PM			5:15 PM			5:30 PM			5:45 PM			6:00 PM			6:15 PM		
Type		BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV
Westbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Left	0	28	0	0	27	1	0	19	1	0	14	0	0	28	1	0	29	0	0	28	0	0	25	0	0	26	0	0	22	0	0	21	0	0	19	0
	Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	App. Total	0	28	0	0	27	1	0	19	1	0	14	0	0	28	1	0	29	0	0	28	0	0	25	0	0	26	0	0	22	0	0	21	0	0	19	0
	Pct HV		0%			4%			5%			0%			3%			0%			0%			0%			0%			0%			0%			0%	
Northbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Pct HV																																				
Southbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Through	0	106	3	0	122	1	0	126	1	0	141	0	0	150	2	0	136	3	0	115	0	0	128	3	0	115	0	0	112	4	0	85	1	0	73	0
	App. Total	0	106	3	0	122	1	0	126	1	0	141	0	0	150	2	0	136	3	0	115	0	0	128	3	0	115	0	0	112	4	0	85	1	0	73	0
	Pct HV		3%			1%			1%			0%			1%			2%			0%			2%			0%			3%			1%			0%	
Total Class Volume		0	134	3	0	149	2	0	145	2	0	155	0	0	178	3	0	165	3	0	143	0	0	153	3	0	141	0	0	134	4	0	106	1	0	92	0
Total Interval Volume			137			151			147			155			181			168			143			156			141			138			107			92	
Intersection Pct HV			2%			1%			1%			0%			2%			2%			0%			2%			0%			3%			1%			0%	

Pedestrian Volumes

APPROACH	Movement	15 Minute Period Beginning @ 3:30	3:45	4:00	4:15	4:30	4:45	5:00	5:15	5:30	5:45	6:00	6:15
Eastbound	Crosswalk	0	0	0	0	0	0	0	0	0	1	1	0
Westbound	Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0
Northbound	Crosswalk	0	0	0	0	1	0	0	0	0	0	0	0
Southbound	Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0
Total		0	0	0	0	1	0	0	0	0	1	1	0

Miovision Vehicle Classification

Bike (BK) | Passenger Car (PC) | Heavy Vehicle (HV)



Intersection Total One Hour Volumes		Pct HV
3:30 AM	590	1.2%
3:45 AM	634	1.1%
4:00 AM	651	1.2%
4:15 AM	647	0.9%
4:30 AM	**648**	**1.4%**
4:45 AM	608	1.0%
5:00 AM	578	1.2%
5:15 AM	542	1.5%
5:30 AM	478	1.0%

App.= Approach
Pct= Percent

INTERSECTION

Phone: (509) 951-1851
email: beng@trfcnts.com

PROJECT: WCE Marshal Creek Cheney Spokane Rd & SR 195 SB Slip Ramp
JOB NO. 21-46
DATE OF COUNT: 5/7/2019
Counter Analyst
Miovision BNG

APPROACH	MOVEMENT	PM PEAK HOURS 4:30 PM BK	PC	HV	4:45 PM BK	PC	HV	5:00 PM BK	PC	HV	5:15 PM BK	PC	HV
Westbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0
	Left	0	28	1	0	29	0	0	28	0	0	25	0
	Right	0	0	0	0	0	0	0	0	0	0	0	0
	App. Total	0	28	1	0	29	0	0	28	0	0	25	0
	Pct HV		3%			0%			0%			0%	
Northbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0
	Through	0	0	0	0	0	0	0	0	0	0	0	0
	Right	0	0	0	0	0	0	0	0	0	0	0	0
	App. Total	0	0	0	0	0	0	0	0	0	0	0	0
	Pct HV												
Southbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0
	Left	0	0	0	0	0	0	0	0	0	0	0	0
	Through	0	150	2	0	136	3	0	115	0	0	128	3
	App. Total	0	150	2	0	136	3	0	115	0	0	128	3
	Pct HV		1%			2%			0%			2%	
Total Class Volume		0	178	3	0	165	3	0	143	0	0	153	3
Total Interval Volume			181			168			143			156	
Intersection Pct Trucks			2%			2%			0%			2%	

Approach

Departing

Mvmt	TOTAL HV	TOTAL Veh	PHF	Percentage of: HV	Percentage of: Approach
WBU	0	0			0.00%
WBL	1	111		1%	100.00%
WBR	0	0			0.00%
Total	1	111	0.96	1%	100.00%
NBU	0	0			
NBT	0	0			
NBR	0	0			
Total	0	0			
SBU	0	0			0.00%
SBL	0	0			0.00%
SBT	8	537		1%	100.00%
Total	8	537	0.88	1%	100.00%
Total	9	648	0.90		

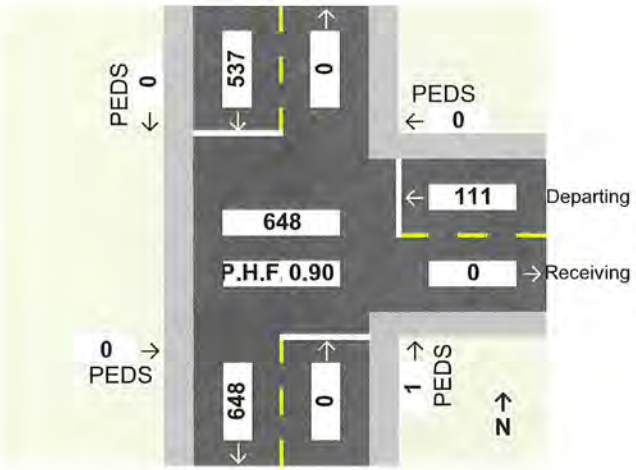
Receiving

Mvmt	Total	Percentage of: HV	Percentage of: Approach	App.
WBU	0			Westbound
SBL	0			
NBR	0			
Total	0			
NBU	0		0.00%	Northbound
SBT	537	1%	82.87%	
WBL	111	1%	17.13%	
Total	648	1%	100.00%	
SBU	0			Southbound
WBR	0			
NBT	0			
Total	0			

Pedestrian Volumes

APPROACH	MOVEMENT	4:00	4:15	4:30	4:45	Confli. Ped TOTAL
Eastbound	Crosswalk	0	0	0	0	0
Westbound	Crosswalk	0	0	0	0	0
Northbound	Crosswalk	0	0	1	0	1
Southbound	Crosswalk	0	0	0	0	0
	Total	0	0	1	0	

Movement = Mvmt
Pedestrian = Ped
P.H.F.= Peak Hour Factor
App.= Approach
Pct= Percent



PROJECT: WCE The Summit
JOB NO. 18-02
INTERSECTION: Meadowlane & SR 195

TRAFFIC COUNT REDUCTION WORKSHEET

Traffic Counts & Surveys Inc.
Phone: (509) 951-1851
email: beng@trfcnts.com

DATE OF COUNT: 11/7/2018
Counter: Miovision
Analyst: BNG

AM PEAK HOURS

		15 Minute Period Beginning @																					
APPROACH	MOVEMENT	6:30 AM		6:45 AM		7:00 AM		7:15 AM		7:30 AM		7:45 AM		8:00 AM		8:15 AM		8:30 AM		8:45 AM		9:00 AM		9:15 AM	
		pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk
Eastbound	Left	37	0	66	0	33	0	56	1	53	0	38	0	33	0	25	0	27	0	27	1	0	0	0	0
	Through	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	0	0	0	0
	Right	12	0	8	1	17	1	18	1	19	1	17	3	32	1	24	1	26	0	19	1	0	0	0	0
	App. Total	49	0	74	1	50	1	74	2	72	1	55	3	66	1	49	1	53	0	47	3	0	0	0	0
	Pct Trucks		0		0.013		0.02		0.026		0.014		0.052		0.015		0.02		0		0.06				
Westbound	Left	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0
	Through	1	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	1	0	0
	Right	7	0	6	0	2	0	6	0	4	1	2	0	3	0	7	0	3	0	0	0	0	0	0	0
	App. Total	8	0	7	0	3	0	6	0	4	2	2	1	3	0	9	0	3	0	1	0	0	1	0	0
	Pct Trucks		0		0		0		0		0.333		0.333		0		0		0		0		1		
Northbound	Left	3	0	3	0	2	1	5	0	6	1	6	0	9	0	16	1	15	2	16	1	0	0	0	0
	Through	145	5	160	0	167	0	209	3	204	5	175	5	186	5	175	4	157	9	142	5	0	1	0	0
	Right	1	0	3	0	2	0	0	0	1	1	0	0	1	0	0	0	1	0	2	0	0	0	0	0
	App. Total	149	5	166	0	171	1	214	3	211	7	181	5	196	5	191	5	173	11	160	6	0	1	0	0
	Pct Trucks		0.032		0		0.006		0.014		0.032		0.027		0.025		0.026		0.06		0.036		1		
Southbound	Left	0	0	4	0	1	1	4	0	0	0	3	1	3	0	5	0	1	0	3	0	0	0	0	0
	Through	55	11	61	8	74	9	87	11	94	7	93	4	91	13	91	12	87	16	102	11	0	1	0	0
	Right	3	1	9	3	5	2	10	1	16	1	11	1	24	1	22	0	22	2	11	0	0	0	0	0
	App. Total	58	12	74	11	80	12	101	12	110	8	107	6	118	14	118	12	110	18	116	11	0	1	0	0
	Pct Trucks		0.171		0.129		0.13		0.106		0.068		0.053		0.106		0.092		0.141		0.087		1		
Total Intersection Volume		264	17	321	12	304	14	395	17	397	18	345	15	383	20	367	18	339	29	324	20	0	3	0	0
Intersection Pct Trucks		6.0%		3.6%		4.4%		4.1%		4.3%		4.2%		5.0%		4.7%		7.9%		5.8%		100.0%			

Pedestrian Volumes

		15 Minute Period Beginning @											
APPROACH	MOVEMENT	6:30	6:45	7:00	7:15	7:30	7:45	8:00	8:15	8:30	8:45	9:00	9:15
		Ped	Ped	Ped	Ped	Ped	Ped	Ped	Ped	Ped	Ped	Ped	Ped
Eastbound	Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0
Westbound	Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0
Northbound	Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0
Southbound	Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0

Bicycle Volumes

		15 Minute Period Beginning @											
APPROACH	MOVEMENT	6:30	6:45	7:00	7:15	7:30	7:45	8:00	8:15	8:30	8:45	9:00	9:15
		bike	bike	bike	bike	bike	bike	bike	bike	bike	bike	bike	bike
Eastbound	Through												
Westbound	Through												
Northbound	Through												
Southbound	Through												
	Total	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Total		Pct
One Hour Volumes		Trucks
6:30 AM	1344	4.5%
6:45 AM	1478	4.1%
7:00 AM	1505	4.3%
7:15 AM	1590	4.4%
7:30 AM	1563	4.5%
7:45 AM	1516	5.4%
8:00 AM	1500	5.8%
8:15 AM	1100	6.4%
8:30 AM	715	7.3%

PROJECT: WCE The Summit
JOB NO. 18-02
INTERSECTION: Meadowlane & SR 195

Data Transfer
Intersection No. 1

DATE OF COUNT: 11/7/2018
Counter Analyst
Miovision BNG

TRAFFIC COUNT REDUCTION WORKSHEET
AM PEAK HOUR BREAKDOWN

Phone: (509) 951-1851
email: beng@trfcnts.com

Traffic Counts & Surveys INC.

APPROACH	MOVEMENT	7:15 AM		7:30 AM		7:45 AM		8:00 AM		TOTAL	P.H.F.	Pct Trucks		App Dist
		pass	trk	pass	trk	pass	trk	pass	trk					
Eastbound	Left	56	1	53	0	38	0	33	0	181	0.79	1%		66.06%
	Through	0	0	0	0	0	0	1	0	1	0.25	0%		0.36%
	Right	18	1	19	1	17	3	32	1	92	0.70	7%		33.58%
	App. Total	74	2	72	1	55	3	66	1	274	0.90			
	Pct Trucks		0.026316		0.013699		0.051724		0.014925					
Westbound	Left	0	0	0	0	0	0	0	0	0				0.00%
	Through	0	0	0	1	0	1	0	0	2	0.50	100%		11.11%
	Right	6	0	4	1	2	0	3	0	16	0.67	6%		88.89%
	App. Total	6	0	4	2	2	1	3	0	18	0.75			
	Pct Trucks		0		0.333333		0.333333		0					
Northbound	Left	5	0	6	1	6	0	9	0	27	0.75	4%		3.28%
	Through	209	3	204	5	175	5	186	5	792	0.93	2%		96.35%
	Right	0	0	1	1	0	0	1	0	3	0.38	33%		0.36%
	App. Total	214	3	211	7	181	5	196	5	822	0.94			
	Pct Trucks		0.013825		0.03211		0.026882		0.024876					
Southbound	Left	4	0	0	0	3	1	3	0	11	0.69	9%		2.31%
	Through	87	11	94	7	93	4	91	13	400	0.96	9%		84.03%
	Right	10	1	16	1	11	1	24	1	65	0.65	6%		13.66%
	App. Total	101	12	110	8	107	6	118	14	476	0.90			
	Pct Trucks		0.106195		0.067797		0.053097		0.106061					
Total Intersection Volume		395	17	397	18	345	15	383	20	**1590**	**0.96**	**4%**		
Intersection Pct Trucks			4.1%		4.3%		4.2%		5.0%					

Pedestrian Volumes

APPROACH	MOVEMENT	7:15 Ped	7:30 Ped	7:45 Ped	8:00 Ped	Confli. Ped TOTAL
Eastbound	Crosswalk	0	0	0	0	0
Westbound	Crosswalk	0	0	0	0	0
Northbound	Crosswalk	0	0	0	0	0
Southbound	Crosswalk	0	0	0	0	0
	Total	0	0	0	0	

Bicycles Volumes

APPROACH	MOVEMENT	7:15 bike	7:30 bike	7:45 bike	8:00 bike	Confli. Bike TOTAL
Eastbound	Through					0
Westbound	Through					0
Northbound	Through					0
Southbound	Through					0
	Total	0	0	0	0	

Notes

Miovision Vehicle classification	
Passenger Vehicle	Truck Vehicle



PROJECT: WCE The Summit
JOB NO. 18-02
INTERSECTION: Meadowlane & SR 195

TRAFFIC COUNT REDUCTION WORKSHEET

DATE OF COUNT: 11/7/2018
Counter: Miovision
Analyst: BNG

PM PEAK HOURS

Phone: (509) 951-1851
email: beng@trfcnts.com

Traffic Counts & Surveys Inc.

APPROACH	MOVEMENT	15 Minute Period Beginning @																							
		3:30 PM		3:45 PM		4:00 PM		4:15 PM		4:30 PM		4:45 PM		5:00 PM		5:15 PM		5:30 PM		5:45 PM		6:00 PM		6:15 PM	
		pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk
Eastbound	Left	14	1	34	0	16	3	10	0	12	1	16	0	13	0	9	1	6	1	13	0	10	2	13	0
	Through	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Right	16	1	18	1	17	0	11	0	12	0	18	0	13	0	10	0	0	0	0	0	0	0	0	0
	App. Total	31	2	52	2	33	3	21	0	24	1	34	0	26	0	19	1	6	1	13	0	10	2	13	0
	Pct Trucks		0.061		0.037		0.083		0		0.04		0		0		0.05		0.143		0		0.167		0
Westbound	Left	3	0	3	0	5	0	2	0	2	1	2	0	0	0	2	0	1	0	1	0	1	0	2	0
	Through	2	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Right	5	0	1	0	4	0	5	0	11	0	6	0	2	0	1	0	1	0	1	0	3	0	1	0
	App. Total	10	0	5	1	9	0	7	0	13	1	8	0	2	0	3	0	2	0	2	0	4	0	3	0
	Pct Trucks		0		0.167		0		0		0.071		0		0		0		0		0		0		0
Northbound	Left	25	2	26	0	28	0	16	2	13	0	31	0	27	0	24	0	35	0	18	0	22	0	22	0
	Through	117	12	104	16	125	11	104	10	105	7	117	4	111	6	112	5	94	5	83	5	78	6	91	6
	Right	1	0	1	1	1	0	1	0	0	0	0	0	1	0	3	0	0	0	0	0	0	0	0	0
	App. Total	143	14	131	17	154	11	121	12	118	7	148	4	139	6	139	5	129	5	101	5	100	6	113	6
	Pct Trucks		0.089		0.115		0.067		0.09		0.056		0.026		0.041		0.035		0.037		0.047		0.057		0.05
Southbound	Left	1	0	8	0	1	0	4	0	1	0	4	0	7	0	7	0	6	0	9	0	7	0	3	0
	Through	169	0	191	3	161	4	185	3	192	5	194	2	183	3	207	1	186	1	172	1	133	4	105	0
	Right	15	1	20	1	32	0	32	0	40	0	28	0	36	0	45	1	34	0	33	0	23	0	26	0
	App. Total	185	1	219	4	194	4	221	3	233	5	226	2	226	3	259	2	226	1	214	1	163	4	134	0
	Pct Trucks		0.005		0.018		0.02		0.013		0.021		0.009		0.013		0.008		0.004		0.005		0.024		0
Total Intersection Volume		369	17	407	24	390	18	370	15	388	14	416	6	393	9	420	8	363	7	330	6	277	12	263	6
Intersection Pct Trucks		4.4%		5.6%		4.4%		3.9%		3.5%		1.4%		2.2%		1.9%		1.9%		1.8%		4.2%		2.2%	

Pedestrian Volumes

APPROACH	MOVEMENT	15 Minute Period Beginning @											
		3:30	3:45	4:00	4:15	4:30	4:45	5:00	5:15	5:30	5:45	6:00	6:15
		Ped	Ped	Ped	Ped	Ped	Ped	Ped	Ped	Ped	Ped	Ped	Ped
Eastbound	Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0
Westbound	Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0
Northbound	Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0
Southbound	Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0

Bicycle Volumes

APPROACH	MOVEMENT	15 Minute Period Beginning @											
		3:30	3:45	4:00	4:15	4:30	4:45	5:00	5:15	5:30	5:45	6:00	6:15
		bike	bike	bike	bike	bike	bike	bike	bike	bike	bike	bike	bike
Eastbound	Through												
Westbound	Through												
Northbound	Through												
Southbound	Through												
	Total	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Total		Pct
One Hour Volumes		Trucks
3:30 PM	1610	4.6%
3:45 PM	1626	4.4%
4:00 PM	1617	3.3%
4:15 PM	1611	2.7%
4:30 PM	1654	2.2%
4:45 PM	1622	1.8%
5:00 PM	1536	2.0%
5:15 PM	1423	2.3%
5:30 PM	1264	2.5%

PROJECT: WCE The Summit
JOB NO. 18-02
INTERSECTION: Meadowlane & SR 195

Data Transfer
Intersection No. 1

DATE OF COUNT: 11/7/2018
Counter Analyst
Miovision BNG

TRAFFIC COUNT REDUCTION WORKSHEET
PM PEAK HOUR BREAKDOWN

Phone: (509) 951-1851
email: beng@trfcnts.com

Traffic Counts & Surveys Inc.

APPROACH	MOVEMENT	4:30 PM		4:45 PM		5:00 PM		5:15 PM		TOTAL	P.H.F.	Pct Trucks		App Dist
		pass	trk	pass	trk	pass	trk	pass	trk					
Eastbound	Left	12	1	16	0	13	0	9	1	52	0.81	4%		49.52%
	Through	0	0	0	0	0	0	0	0	0				0.00%
	Right	12	0	18	0	13	0	10	0	53	0.74	0%		50.48%
	App. Total	24	1	34	0	26	0	19	1	105	0.77			
	Pct Trucks		0.04		0		0		0.05					
Westbound	Left	2	1	2	0	0	0	2	0	7	0.58	14%		25.93%
	Through	0	0	0	0	0	0	0	0	0				0.00%
	Right	11	0	6	0	2	0	1	0	20	0.45	0%		74.07%
	App. Total	13	1	8	0	2	0	3	0	27	0.48			
	Pct Trucks		0.071429		0		0		0					
Northbound	Left	13	0	31	0	27	0	24	0	95	0.77	0%		16.78%
	Through	105	7	117	4	111	6	112	5	467	0.96	5%		82.51%
	Right	0	0	0	0	1	0	3	0	4	0.33	0%		0.71%
	App. Total	118	7	148	4	139	6	139	5	566	0.93			
	Pct Trucks		0.056		0.026316		0.041379		0.034722					
Southbound	Left	1	0	4	0	7	0	7	0	19	0.68	0%		1.99%
	Through	192	5	194	2	183	3	207	1	787	0.95	1%		82.32%
	Right	40	0	28	0	36	0	45	1	150	0.82	1%		15.69%
	App. Total	233	5	226	2	226	3	259	2	956	0.92			
	Pct Trucks		0.021008		0.008772		0.0131		0.007663					
Total Intersection Volume		388	14	416	6	393	9	420	8	**1654**	**0.97**	**2%**		
Intersection Pct Trucks			3.5%		1.4%		2.2%		1.9%					

Pedestrian Volumes

APPROACH	MOVEMENT	4:30 Ped	4:45 Ped	5:00 Ped	5:15 Ped	Confli. Ped TOTAL
Eastbound	Crosswalk	0	0	0	0	0
Westbound	Crosswalk	0	0	0	0	0
Northbound	Crosswalk	0	0	0	0	0
Southbound	Crosswalk	0	0	0	0	0
	Total	0	0	0	0	

Bicycles Volumes

APPROACH	MOVEMENT	5:00 bike	5:15 bike	5:30 bike	5:45 bike	Confli. Bike TOTAL
Eastbound	Through					0
Westbound	Through					0
Northbound	Through					0
Southbound	Through					0
	Total	0	0	0	0	

Notes

Miovision Vehicle classification

Passenger Vehicle	Truck Vehicle



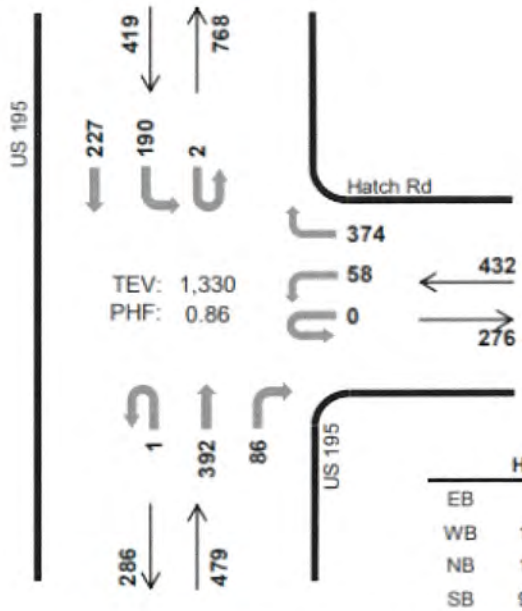
US 195
Hatch Rd

idax

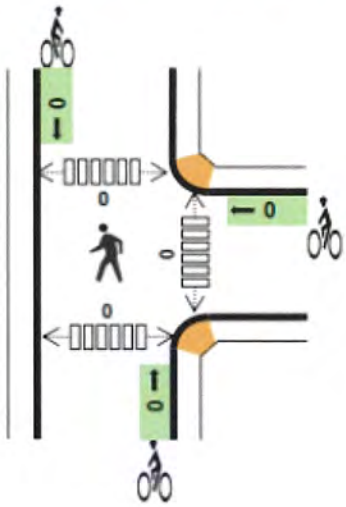
Date: Tue, Feb 11, 2020
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:00 AM to 8:00 AM

N

Peak Hour



	HV %:	PHF
EB	-	-
WB	1.2%	0.89
NB	1.9%	0.78
SB	9.3%	0.90
TOTAL	4.0%	0.86



Two-Hour Count Summaries

Interval Start	0				Hatch Rd				US 195				US 195				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**	**0**	**0**	**0**	**0**	**16**	**0**	**75**	**0**	**0**	**91**	**13**	**1**	**35**	**54**	**0**	**285**	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**17**	**0**	**99**	**1**	**0**	**102**	**26**	**0**	**59**	**58**	**0**	**362**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**13**	**0**	**109**	**0**	**0**	**130**	**23**	**0**	**49**	**61**	**0**	**385**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**12**	**0**	**91**	**0**	**0**	**69**	**24**	**1**	**47**	**54**	**0**	**298**	**1,330**
8:00 AM	0	0	0	0	0	7	0	79	0	0	64	16	0	63	48	0	277	1,322
8:15 AM	0	0	0	0	0	6	0	57	0	0	72	25	0	64	57	0	281	1,241
8:30 AM	0	0	0	0	0	12	0	85	2	0	78	17	0	70	56	0	320	1,176
8:45 AM	0	0	0	0	0	7	0	64	0	0	73	10	0	54	60	0	268	1,146
Count Total	0	0	0	0	0	90	0	659	3	0	679	154	2	441	448	0	2,476	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**58**	**0**	**374**	**1**	**0**	**392**	**86**	**2**	**190**	**227**	**0**	**1,330**	**0**

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

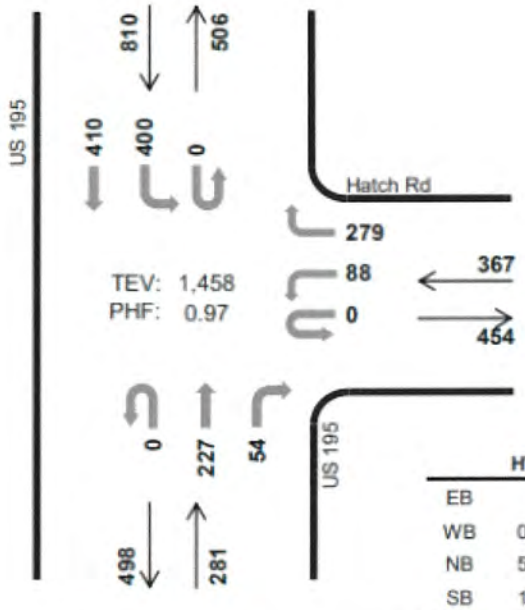
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	**0**	**2**	**1**	**12**	***15***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
7:15 AM	**0**	**1**	**1**	**8**	***10***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
7:30 AM	**0**	**2**	**5**	**8**	***15***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
7:45 AM	**0**	**0**	**2**	**11**	***13***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:00 AM	0	0	0	7	*7*	0	0	0	0	*0*	0	0	0	0	*0*
8:15 AM	0	2	3	12	*17*	0	0	0	0	*0*	0	0	0	0	*0*
8:30 AM	0	0	2	8	*10*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	0	0	3	7	*10*	0	0	0	0	*0*	0	0	0	0	*0*

US 195
Hatch Rd

idax

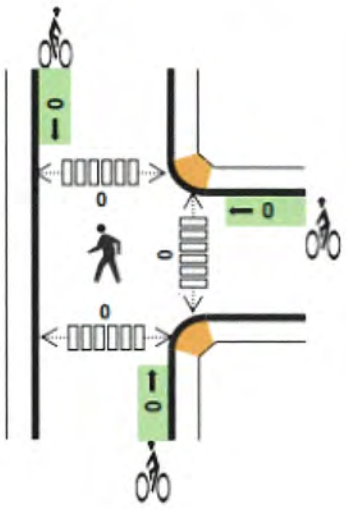
N

Peak Hour



	HV %:	PHF
EB	-	-
WB	0.8%	0.87
NB	5.0%	0.86
SB	1.9%	0.94
TOTAL	2.2%	0.97

Date: Tue, Feb 11, 2020
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM



Two-Hour Count Summaries

Interval Start	0 Eastbound				Hatch Rd Westbound				US 195 Northbound				US 195 Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	26	0	60	0	0	57	29	1	78	99	0	350	0
4:15 PM	0	0	0	0	0	16	0	65	0	0	48	25	0	99	98	0	351	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**25**	**0**	**81**	**0**	**0**	**54**	**16**	**0**	**89**	**87**	**0**	**352**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**18**	**0**	**57**	**0**	**0**	**66**	**16**	**0**	**112**	**104**	**0**	**373**	1,426
5:00 PM	**0**	**0**	**0**	**0**	**0**	**27**	**0**	**66**	**0**	**0**	**47**	**10**	**0**	**104**	**103**	**0**	**357**	1,433
5:15 PM	**0**	**0**	**0**	**0**	**0**	**18**	**0**	**75**	**0**	**0**	**60**	**12**	**0**	**95**	**116**	**0**	**376**	**1,458**
5:30 PM	0	0	0	0	0	20	0	64	0	0	57	19	0	101	85	0	346	1,452
5:45 PM	0	0	0	0	0	23	0	65	0	0	47	18	0	85	95	0	333	1,412
Count Total	0	0	0	0	0	173	0	533	0	0	436	145	1	763	787	0	2,838	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**88**	**0**	**279**	**0**	**0**	**227**	**54**	**0**	**400**	**410**	**0**	**1,458**	**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	7	4	*11*	0	0	0	0	*0*	0	0	0	0	*0*
4:15 PM	0	1	4	2	*7*	0	0	0	0	*0*	0	0	0	0	*0*
4:30 PM	**0**	**2**	**5**	**3**	***10***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:45 PM	**0**	**0**	**4**	**6**	***10***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:00 PM	**0**	**0**	**5**	**4**	***9***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:15 PM	**0**	**1**	**0**	**2**	***3***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
5:30 PM	0	0	2	5	*7*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	0	0	2	5	*7*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	0	4	29	31	*64*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hr	**0**	**3**	**14**	**15**	***32***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

INTERSECTION

Phone: (509) 951-1851
email: beng@trfcnts.com

PROJECT: WCE The Summit
JOB NO. 21-52
DATE OF COUNT: 3/23/2021
Counter: Miovision
Analyst: BNG

23rd Avenue
&
Inland Empire Way

AM PEAK HOURS
15 Minute Period Beginning @

Traffic Counts & Surveys Inc.

APPROACH	Movement	6:30 AM			6:45 AM			7:00 AM			7:15 AM			7:30 AM			7:45 AM			8:00 AM			8:15 AM			8:30 AM			8:45 AM			9:00 AM			9:15 AM		
Type		BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV
Eastbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Left	0	12	0	0	11	0	0	11	0	0	19	0	0	38	0	0	28	0	0	18	1	0	24	0	0	12	0	0	10	0	0	16	0	0	14	0
	Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	1	1	0	1	0	0	1	1
	App. Total	0	12	0	0	11	0	0	11	0	0	19	0	0	38	0	0	28	0	0	18	2	0	24	0	0	13	0	0	11	1	0	17	0	0	15	1
	Pct HV	0%			0%			0%			0%			0%			0%			10%			0%			0%			8%			0%			6%		
Northbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Left	0	3	0	0	0	1	0	3	0	0	2	1	0	1	0	0	3	1	0	5	0	0	0	1	0	1	0	0	1	0	0	3	1	0	3	0
	Through	0	0	0	0	3	0	0	6	1	0	4	1	0	3	0	0	5	1	0	6	1	0	4	0	0	2	0	0	2	1	0	4	0	0	2	0
	App. Total	0	3	0	0	3	1	0	9	1	0	6	2	0	4	0	0	8	2	0	11	1	0	4	1	0	3	0	0	3	1	0	7	1	0	5	0
	Pct HV	0%			25%			10%			25%			0%			20%			8%			20%			0%			25%			13%			0%		
Southbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Through	0	1	0	0	0	0	0	1	0	0	2	1	0	0	0	0	3	1	0	0	0	0	1	0	0	2	0	0	2	1	0	2	0	0	1	0
	Right	0	1	0	0	1	0	0	2	0	0	0	0	0	2	0	0	1	2	0	3	0	0	4	1	0	2	2	0	3	0	0	3	0	0	7	0
	App. Total	0	2	0	0	1	0	0	3	0	0	2	1	0	2	0	0	4	3	0	3	0	0	5	1	0	4	2	0	5	1	0	5	0	0	8	0
	Pct HV	0%			0%			0%			33%			0%			43%			0%			17%			33%			17%			0%			0%		
Total Class Volume		0	17	0	0	15	1	0	23	1	0	27	3	0	44	0	0	40	5	0	32	3	0	33	2	0	20	2	0	19	3	0	29	1	0	28	1
Total Interval Volume		17			16			24			30			44			45			35			35			22			22			30			29		
Intersection Pct HV		0%			6%			4%			10%			0%			11%			9%			6%			9%			14%			3%			3%		

Pedestrian Volumes

APPROACH	Movement	15 Minute Period Beginning @ 6:30	6:45	7:00	7:15	7:30	7:45	8:00	8:15	8:30	8:45	9:00	9:15
Eastbound	Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0
Westbound	Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0
Northbound	Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0
Southbound	Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0	0	0	0	0

Miovision Vehicle Classification

Bike (BK) | Passenger Car (PC) | Heavy Vehicle (HV)



Intersection Total One Hour Volumes		Pct HV
6:30 AM	87	5.7%
6:45 AM	114	4.4%
7:00 AM	143	6.3%
7:15 AM	154	7.1%
7:30 AM	**159**	**6.3%**
7:45 AM	137	8.8%
8:00 AM	114	8.8%
8:15 AM	109	7.3%
8:30 AM	103	6.8%

App.= Approach
Pct= Percent

Phone: (509) 951-1851
email: beng@trfcnts.com

INTERSECTION

PROJECT: WCE The Summit — 23rd Avenue & Inland Empire Way
JOB NO. 21-52
DATE OF COUNT: 3/23/2021
Counter Analyst
Miovision BNG

APPROACH	MOVEMENT	AM PEAK HOURS 7:30 AM BK	PC	HV	7:45 AM BK	PC	HV	8:00 AM BK	PC	HV	8:15 AM BK	PC	HV
Eastbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0
	Left	0	38	0	0	28	0	0	18	1	0	24	0
	Right	0	0	0	0	0	0	0	0	1	0	0	0
	App. Total	0	38	0	0	28	0	0	18	2	0	24	0
	Pct HV		0%			0%			10%			0%	
Northbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0
	Left	0	1	0	0	3	1	0	5	0	0	0	1
	Through	0	3	0	0	5	1	0	6	1	0	4	0
	App. Total	0	4	0	0	8	2	0	11	1	0	4	1
	Pct HV		0%			20%			8%			20%	
Southbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0
	Through	0	0	0	0	3	1	0	0	0	0	1	0
	Right	0	2	0	0	1	2	0	3	0	0	4	1
	App. Total	0	2	0	0	4	3	0	3	0	0	5	1
	Pct HV		0%			43%			0%			17%	
Total Class Volume		0	44	0	0	40	5	0	32	3	0	33	2
Total Interval Volume			44			45			35			35	
Intersection Pct Trucks			0%			11%			9%			6%	

Approach — Receiving

Mvmt	TOTAL HV	TOTAL Veh	PHF	Percentage of: HV	Percentage of: Approach
EBU	0	0			0.00%
EBL	1	109		1%	99.09%
EBR	1	1		100%	0.91%
Total	2	110	0.72	2%	100.00%
NBU	0	0			0.00%
NBL	2	11		18%	35.48%
NBT	2	20		10%	64.52%
Total	4	31	0.65	13%	100.00%
SBU	0	0			0.00%
SBT	1	5		20%	27.78%
SBR	3	13		23%	72.22%
Total	4	18	0.64	22%	100.00%
Total	**10**	**159**	**0.88**		

Approach — Departing

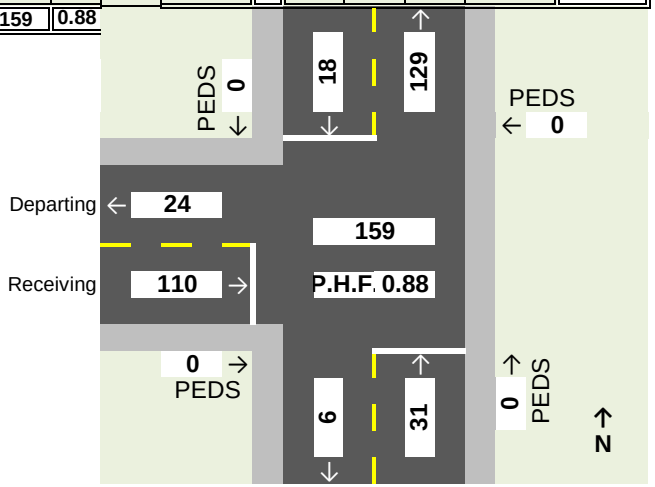
Mvmt	Total	Percentage of: HV	Percentage of: Approach	App.
EBU	0	0%	0.00%	Eastbound
NBL	11	200%	45.83%	
SBR	13	300%	54.17%	
Total	24	21%	100.00%	
NBU	0	0%	0.00%	Northbound
EBR	1	100%	16.67%	
SBT	5	100%	83.33%	
Total	6	33%	100.00%	
SBU	0	0%	0.00%	Southbound
NBT	20	200%	15.50%	
EBL	109	100%	84.50%	
Total	129	2%	100.00%	

Pedestrian Volumes

APPROACH	MOVEMENT	7:30	7:45	8:00	8:15	Confli. Ped TOTAL
Eastbound	Crosswalk	0	0	0	0	0
Westbound	Crosswalk	0	0	0	0	0
Northbound	Crosswalk	0	0	0	0	0
Southbound	Crosswalk	0	0	0	0	0
	Total	0	0	0	0	

Movement = Mvmt
Pedestrian = Ped
P.H.F.= Peak Hour Factor
App.= Approach
Pct= Percent





INTERSECTION

Phone: (509) 951-1851
email: beng@trfcnts.com

PROJECT: WCE The Summit — 23rd Avenue
JOB NO. 21-52 — &
DATE OF COUNT: 3/23/2021 — Inland Empire Way
Counter: Miovision — Analyst: BNG
PM PEAK HOURS
15 Minute Period Beginning @

APPROACH	Movement	3:30 PM			3:45 PM			4:00 PM			4:15 PM			4:30 PM			4:45 PM			5:00 PM			5:15 PM			5:30 PM			5:45 PM			6:00 PM			6:15 PM		
Type		BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV	BK	PC	HV
Eastbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Left	0	11	0	0	16	0	0	14	0	0	5	0	0	10	0	0	6	0	0	15	0	0	11	0	0	13	0	0	7	0	0	5	0	0	5	0
	Right	0	2	0	0	3	0	0	1	0	0	5	0	0	2	0	0	5	0	0	0	0	0	3	0	0	1	0	0	2	0	0	1	0	0	0	0
	App. Total	0	13	0	0	19	0	0	15	0	0	10	0	0	12	0	0	11	0	0	15	0	0	14	0	0	14	0	0	9	0	0	6	0	0	5	0
	Pct HV		0%			0%			0%			0%			0%			0%			0%			0%			0%			0%			0%			0%	
Northbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Left	0	4	0	0	2	0	0	2	0	0	3	0	0	1	0	0	0	0	0	0	0	0	4	0	0	2	0	0	1	0	0	2	0	0	2	0
	Through	0	2	1	0	3	0	0	5	0	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	0	0	3	0	0	1	0	0	5	0
	App. Total	0	6	1	0	5	0	0	7	0	0	5	0	0	1	0	0	2	0	0	0	0	0	4	0	0	4	0	0	4	0	0	3	0	0	7	0
	Pct HV		14%			0%			0%			0%			0%			0%						0%			0%			0%			0%			0%	
Southbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Through	0	7	0	0	8	0	0	5	0	0	4	0	0	6	0	0	2	0	0	1	0	0	2	0	0	5	0	0	2	0	0	2	0	0	5	0
	Right	0	7	0	0	6	0	0	12	0	0	5	0	0	13	0	0	10	0	0	4	0	0	4	0	0	9	0	0	5	0	0	2	0	0	7	0
	App. Total	0	14	0	0	14	0	0	17	0	0	9	0	0	19	0	0	12	0	0	5	0	0	6	0	0	14	0	0	7	0	0	4	0	0	12	0
	Pct HV		0%			0%			0%			0%			0%			0%			0%			0%			0%			0%			0%			0%	
Total Class Volume		0	33	1	0	38	0	0	39	0	0	24	0	0	32	0	0	25	0	0	20	0	0	24	0	0	32	0	0	20	0	0	13	0	0	24	0
Total Interval Volume			34			38			39			24			32			25			20			24			32			20			13			24	
Intersection Pct HV			3%			0%			0%			0%			0%			0%			0%			0%			0%			0%			0%			0%	

Pedestrian Volumes — 15 Minute Period Beginning @

APPROACH	Movement	3:30	3:45	4:00	4:15	4:30	4:45	5:00	5:15	5:30	5:45	6:00	6:15
Eastbound	Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0
Westbound	Crosswalk	2	0	0	0	0	0	0	1	0	0	0	0
Northbound	Crosswalk	0	0	0	0	0	0	0	2	0	0	0	0
Southbound	Crosswalk	0	2	2	0	0	0	0	0	1	0	0	0
Total		2	2	2	0	0	0	0	3	1	0	0	0

Miovision Vehicle Classification
Bike (BK) | Passenger Car (PC) | Heavy Vehicle (HV)



Intersection Total One Hour Volumes		Pct HV
3:30 AM	**135**	**0.7%**
3:45 AM	133	0.0%
4:00 AM	120	0.0%
4:15 AM	101	0.0%
4:30 AM	101	0.0%
4:45 AM	101	0.0%
5:00 AM	96	0.0%
5:15 AM	89	0.0%
5:30 AM	89	0.0%

App.= Approach
Pct= Percent

INTERSECTION

Phone: (509) 951-1851
email: beng@trfcnts.com

PROJECT: WCE The Summit — 23rd Avenue & Inland Empire Way
JOB NO. 21-52
DATE OF COUNT: 3/23/2021
Counter Analyst
Miovision BNG

APPROACH	MOVEMENT	PM PEAK HOURS 3:30 PM BK	PC	HV	3:45 PM BK	PC	HV	4:00 PM BK	PC	HV	4:15 PM BK	PC	HV
Eastbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0
	Left	0	11	0	0	16	0	0	14	0	0	5	0
	Right	0	2	0	0	3	0	0	1	0	0	5	0
	App. Total	0	13	0	0	19	0	0	15	0	0	10	0
	Pct HV		0%			0%			0%			0%	
Northbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0
	Left	0	4	0	0	2	0	0	2	0	0	3	0
	Through	0	2	1	0	3	0	0	5	0	0	2	0
	App. Total	0	6	1	0	5	0	0	7	0	0	5	0
	Pct HV		14%			0%			0%			0%	
Southbound	U-Turn	0	0	0	0	0	0	0	0	0	0	0	0
	Through	0	7	0	0	8	0	0	5	0	0	4	0
	Right	0	7	0	0	6	0	0	12	0	0	5	0
	App. Total	0	14	0	0	14	0	0	17	0	0	9	0
	Pct HV		0%			0%			0%			0%	
Total Class Volume		0	33	1	0	38	0	0	39	0	0	24	0
Total Interval Volume			34			38			39			24	
Intersection Pct Trucks			3%			0%			0%			0%	

Approach

Receiving

Mvmt	TOTAL HV	TOTAL Veh	PHF	Percentage of: HV	Percentage of: Approach
EBU	0	0			0.00%
EBL	0	46		0%	80.70%
EBR	0	11		0%	19.30%
Total	0	57	0.75	0%	100.00%
NBU	0	0			0.00%
NBL	0	11		0%	45.83%
NBT	1	13		8%	54.17%
Total	1	24	0.86	4%	100.00%
SBU	0	0			0.00%
SBT	0	24		0%	44.44%
SBR	0	30		0%	55.56%
Total	0	54	0.79	0%	100.00%
Total	**1**	**135**	**0.87**		

Departing

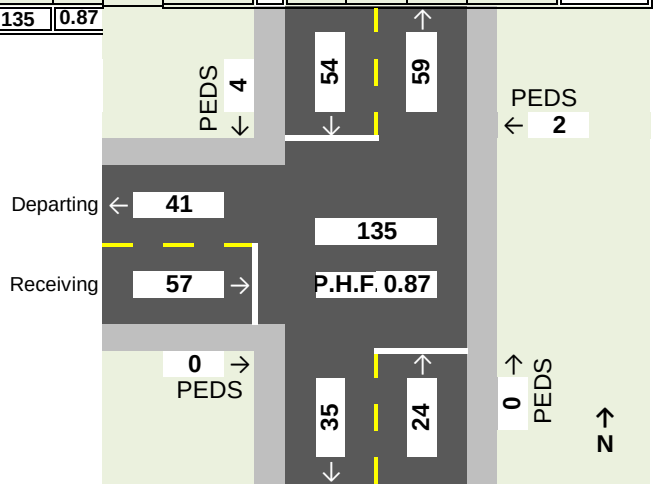
Mvmt	Total	Percentage of: HV	Percentage of: Approach	App.
EBU	0	0%	0.00%	Eastbound
NBL	11	0%	26.83%	
SBR	30	0%	73.17%	
Total	41	0%	100.00%	
NBU	0	0%	0.00%	Northbound
EBR	11	0%	31.43%	
SBT	24	0%	68.57%	
Total	35	0%	100.00%	
SBU	0	0%	0.00%	Southbound
NBT	13	100%	22.03%	
EBL	46	0%	77.97%	
Total	59	2%	100.00%	

Pedestrian Volumes

APPROACH	MOVEMENT	3:30	3:45	4:00	4:15	Confli. Ped TOTAL
Eastbound	Crosswalk	0	0	0	0	**0**
Westbound	Crosswalk	2	0	0	0	**2**
Northbound	Crosswalk	0	0	0	0	**0**
Southbound	Crosswalk	0	2	2	0	**4**
	Total	2	2	2	0	

Movement = Mvmt
Pedestrian = Ped
P.H.F.= Peak Hour Factor
App.= Approach
Pct= Percent





ADJUSTMENT TRAFFIC FACTOR CALCULATION

2021 Traffic Factor For Covid Pandemic AM

PROJECT NUMBER: Project Na Latah Glen Residential
2 **INTERSEC** SR 195 & Thorpe Avenue

AM PEAK HOUR
2021 Adjstment Factor

INITIAL COUNT DATE	11/6/2018
COUNT RATE TO EX	**1.00%**
N/S GROWTH RATE	**1.00%**
E/W GROWTH RATE	**1.00%**
PEAK HOUR FACTOR	0.85

1.030

EB	1.030
WB	1.030
NB	1.030
SB	1.030

YRS TO EXISTING	3	
YRS TO PHZ 1	5	Horizon Year
YRS TO PHZ 2		5

	N/S	
PHASE I GROWTH F	1.051	Horizon Year Growth F
PHASE 2 GROWTH F	1.000	1.051

TRK %	2018 INITIAL COUNT	MOVEMEN	2021 CURRENT TRAFFIC VC	2026 BACKGRO GROWTH	2026 BACKGRO GROWTH	2026 ACKGROU TRAFFIC	2026 ACKGROU TRAFFIC	2026 W/ BKGRN W/O PROJ	2026 W/ BKGRN W/O PROJ	Project Trips	Project Trips	2026 W/ BKGRD W/ Project	2026 W/ BKGRD W/ Project
3%	94	EB LT	97	102	97	0	0	102	97			102	97
3%	11	EB THRU	11	12	11	0	0	12	11			12	11
3%	55	EB RT	57	60	57	2	2	62	59			62	59
5%	17	WB LT	18	18	18	0	0	18	18			18	18
5%	3	WB THRU	3	3	3	0	0	3	3			3	3
5%	20	WB RT	21	22	21	2	2	24	23	2		26	23
8%	38	NB LT	39	41	39	0	0	41	39			41	39
1%	1379	NB THRU	1421	1493	1421	117	123	1610	1544	12		1622	1544
1%	117	NB RT	121	127	121	8	8	135	129	4		139	129
13%	15	SB LT	15	16	15	0	0	16	15			16	15
12%	498	SB THRU	513	539	513	40	42	579	555	7		586	555
12%	21	SB RT	22	23	22	4	4	27	26			27	26
	2268		2337	2456	2337	173	182	2629	2519	25	0	2654	2519
		Existing LOS=											
		LOS with IMP =											

SB

EB RT + WB LT + SB Thru = 587

PROJECT NUMBER: Project Na Latah Glen Residential
3 **INTERSEC** SR 195 & Inland Empire Way

AM PEAK HOUR
2021 Adjstment Factor

INITIAL COUNT DATE	1/6/2021
COUNT RATE TO EX	**1.00%**
N/S GROWTH RATE	**1.00%**
E/W GROWTH RATE	**1.00%**
PEAK HOUR FACTOR	0.90

1.000

EB	1.000
WB	1.000
NB	1.000
SB	1.000

YRS TO EXISTING	0	
YRS TO PHZ 1	5	Horizon Year
YRS TO PHZ 2		5

	N/S	
PHASE I GROWTH F	1.051	Horizon Year Growth F
PHASE 2 GROWTH F	1.000	1.051

TRK %	2021 INITIAL COUNT	MOVEMEN	2021 CURRENT TRAFFIC VC	2026 BACKGRO GROWTH	2026 BACKGRO GROWTH	2026 ACKGROU TRAFFIC	2026 ACKGROU TRAFFIC	2026 W/ BKGRN W/O PROJ	2026 W/ BKGRN W/O PROJ	Project Trips	Project Trips	2026 W/ BKGRD W/ Project	2026 W/ BKGRD W/ Project
	0	EB LT	0	0	0	0	0	0	0			0	0
	0	EB THRU	0	0	0	0	0	0	0			0	0
9%	11	EB RT	11	12	11	0	0	12	11	23		35	11
	0	WB LT	0	0	0	0	0	0	0			0	0
	0	WB THRU	0	0	0	0	0	0	0			0	0
	0	WB RT	0	0	0	0	0	0	0			0	0
	0	NB LT	0	0	0	0	0	0	0			0	0
	0	NB THRU	0	0	0	0	0	0	0	19		19	0
	0	NB RT	0	0	0	0	0	0	0			0	0
	0	SB LT	0	0	0	0	0	0	0			0	0
10%	492	SB THRU	492	517	492	42	44	559	536			559	536
10%	2	SB RT	2	2	2	0	0	2	2	10		12	2
	505		505	531	505	42	44	573	549	52	0	625	549
		Existing LOS=											
		LOS with IMP =											

SB

SB LT + SB Thru + SB RT = 494

Covid Factor for 2021 at SR 195 & Inland Empire Way

587/494 = 1.188809

2021 Traffic Factor For Covid Pandemic PM

PROJECT NUMBER: Project Nam Latah Glen Residential
2 INTERSEC SR 195 & Thorpe Avenue

PM PEAK HOUR
2021 Adjstment Factor

INITIAL COUNT DATE	11/13/2018
COUNT RATE TO EX	1.00%
N/S GROWTH RATE	1.00%
E/W GROWTH RATE	1.00%
PEAK HOUR FACTOR	0.93

1.030

EB	1.030
WB	1.030
NB	1.030
SB	1.030

YRS TO EXISTING	3	
YRS TO PHZ 1	5	Horizon Year
YRS TO PHZ 2		5

	N/S	
PHASE I GROWTH F	1.051	Horizon Year Growth Rate
PHASE 2 GROWTH F	1.000	1.051

tate

TRK %	2018 INITIAL COUNT	MOVEMEN	2021 CURRENT TRAFFIC VO	2026 BACKGRO GROWTH	2026 BACKGRO GROWTH	2026 BACKGROU TRAFFIC	2026 BACKGROU TRAFFIC	2026 W/ BKGRN W/O PROJ	2026 W/ BKGRN W/O PROJ	2026 Project Trips	2026 Project Trips	2026 W/ BKGRD W/ Project	2026 W/ BKGRD W/ Project
0%	41	EB LT	42	44	42	0	0	44	42			44	42
0%	8	EB THRU	8	9	8	0	0	9	8			9	8
0%	44	EB RT	45	48	45	5	5	53	51			53	51
1%	30	WB LT	31	32	31	0	0	32	31			32	31
1%	14	WB THRU	14	15	14	0	0	15	14			15	14
1%	23	WB RT	24	25	24	8	8	33	32	5		38	32
0%	59	NB LT	61	64	61	0	0	64	61			64	61
4%	578	NB THRU	596	626	596	78	82	704	677	7		711	677
4%	66	NB RT	68	71	68	5	5	76	73	3		79	73
0%	30	SB LT	31	32	31	0	0	32	31			32	31
1%	1299	SB THRU	1338	1407	1338	135	142	1542	1480	18		1560	1480
1%	59	SB RT	61	64	61	2	2	66	63			66	63
	2251		2319	2438	2319	233	245	2671	2564	33	0	2704	2564
		Existing LOS=											
		LOS with IMP =											

SB
EB RT + WB LT + SB Thru = 1415

PROJECT NUMBER: Project Nam Latah Glen Residential
3 INTERSEC SR 195 & Inland Empire Way

PM PEAK HOUR
2021 Adjstment Factor

INITIAL COUNT DATE	1/7/2021
COUNT RATE TO EX	1.00%
N/S GROWTH RATE	1.00%
E/W GROWTH RATE	1.00%
PEAK HOUR FACTOR	0.94

1.000

EB	1.000
WB	1.000
NB	1.000
SB	1.000

YRS TO EXISTING	0	
YRS TO PHZ 1	5	Horizon Year
YRS TO PHZ 2		5

	N/S	
PHASE I GROWTH F	1.051	Horizon Year Growth Rate
PHASE 2 GROWTH F	1.000	1.051

tate

TRK %	2021 INITIAL COUNT	MOVEMEN	2021 CURRENT TRAFFIC VO	2026 BACKGRO GROWTH	2026 BACKGRO GROWTH	2026 BACKGROU TRAFFIC	2026 BACKGROU TRAFFIC	2026 W/ BKGRN W/O PROJ	2026 W/ BKGRN W/O PROJ	2026 Project Trips	2026 Project Trips	2026 W/ BKGRD W/ Project	2026 W/ BKGRD W/ Project
		EB LT	0	0	0	0	0	0	0			0	0
		EB THRU	0	0	0	0	0	0	0			0	0
0%	3	EB RT	3	3	3	0	0	3	3	14		17	3
		WB LT	0	0	0	0	0	0	0			0	0
		WB THRU	0	0	0	0	0	0	0			0	0
		WB RT	0	0	0	0	0	0	0			0	0
		NB LT	0	0	0	0	0	0	0			0	0
		NB THRU	0	0	0	91	96	91	96	18		109	96
		NB RT	0	0	0	0	0	0	0			0	0
	0	SB LT	0	0	0	0	0	0	0			0	0
1%	1038	SB THRU	1038	1091	1038	132	139	1223	1177			1223	1177
1%	12	SB RT	12	13	12	0	0	13	12	26		39	12
	1053		1053	1107	1053	223	234	1330	1287	58	0	1388	1287
		Existing LOS=											
		LOS with IMP =											

SB
SB LT + SB Thru + SB RT = 1050

Covid Factor for 2021 at SR 195 & Inland Empire Way

1415/1050 = 1.347241

BACKGROUND PROJECTS

Original Background Projects

1 INTERSECTION: SR 195 & 16th Avenue
AM PEAK HOUR
Background

Trips	Eagle Ridge 13th Addition	The Summit	Tangle Ridge	Wheatland Estates	Total
EB LT					0
EB THRU					0
EB RT			1		1
					0
WB LT					0
WB THRU					0
WB RT					0
					0
NB LT			3		3
NB THRU	29	22	9	50	110
NB RT					0
					0
SB LT					0
SB THRU	10	8	3	16	37
SB RT					0

Original Background Projects

2 INTERSECTION: SR 195 & Thorpe Avenue
AM PEAK HOUR
Background

Trips	Eagle Ridge 13th Addition	The Summit	Tangle Ridge	Wheatland Estates	Total
EB LT					0
EB THRU					0
EB RT			1	1	2
					0
WB LT					0
WB THRU					0
WB RT				2	2
					0
NB LT					0
NB THRU	29	22	14	52	117
NB RT			1	7	8
					0
SB LT					0
SB THRU	10	8	4	18	40
SB RT			2	2	4

Original Background Projects

3 INTERSECTION: SR 195 & Inland Empire Way
AM PEAK HOUR
Background

Trips	Eagle Ridge 13th Addition	The Summit	Tangle Ridge	Wheatland Estates	Total
EB LT					0
EB THRU					0
EB RT					0
					0
WB LT					0
WB THRU					0
WB RT					0
					0
NB LT					0
NB THRU					0
NB RT					0
					0
SB LT					0
SB THRU	10	8	5	19	42
SB RT					0

Original Background Projects

4 INTERSECTION: Cheney-Spokane Road & SR 195 NB on/off Ramps
AM PEAK HOUR
Background

Trips	Eagle Ridge 13th Addition	The Summit	Tangle Ridge	Wheatland Estates	Total
EB LT	6	16	3		25
EB THRU					0
EB RT					0
					0
WB LT					0
WB THRU					0
WB RT					0
					0
NB LT				2	2
NB THRU					0
NB RT					0
					0
SB LT					0
SB THRU					0
SB RT					0

Original Background Projects

5 INTERSECTION: Cheney-Spokane Road & SR 195 SB on/off Ramps 1
AM PEAK HOUR
Background

Trips	Eagle Ridge 13th Addition	The Summit	Tangle Ridge	Wheatland Estates	Total
EB LT					0
EB THRU	6	16	3		25
EB RT				1	1
					0
WB LT					0
WB THRU				2	2
WB RT					0
					0
NB LT					0
NB THRU					0
NB RT					0
					0
SB LT					0
SB THRU					0
SB RT					0

Original Background Projects

6 INTERSECTION: Cheney-Spokane Road & SR 195 SB on/off Ramps 2
AM PEAK HOUR
Background

Trips	Eagle Ridge 13th Addition	The Summit	Tangle Ridge	Wheatland Estates	Total
EB LT					0
EB THRU					0
EB RT					0
					0
WB LT				2	2
WB THRU					0
WB RT					0
					0
NB LT					0
NB THRU					0
NB RT	6	16	3	1	26
					0
SB LT					0
SB THRU	2	6	1		9
SB RT					0

Original Background Projects

7 INTERSECTION: SR 195 & Meadowlane Drive
AM PEAK HOUR
Background

Trips	Eagle Ridge 13th Addition	The Summit	Tangle Ridge	Wheatland Estates	Total
EB LT	23	6	12		41
EB THRU					0
EB RT	12	8	4		24
					0
WB LT					0
WB THRU					0
WB RT					0
					0
NB LT	4	3	1		8
NB THRU	23	6	12	61	102
NB RT					0
					0
SB LT					0
SB THRU				20	20
SB RT	8	2	4		14

Original Background Projects

8 INTERSECTION: SR 195 & Hatch Road
AM PEAK HOUR
Background

Trips	Eagle Ridge 13th Addition	The Summit	Tangle Ridge	Wheatland Estates	Total
EB LT					0
EB THRU					0
EB RT					0
					0
WB LT				4	4
WB THRU					0
WB RT	2	2	1		5
					0
NB LT					0
NB THRU	2	1	0	16	19
NB RT				11	11
					0
SB LT	6	4	2		12
SB THRU	6	4	2	20	32
SB RT					0

Original Background Projects

1 INTERSECTION: SR 195 & 16th Avenue
PM PEAK HOUR
Background

Trips	Eagle Ridge 13th Additio	The Summit	Tangle Ridge	Wheatland Estates	Total
EB LT					0
EB THRU					0
EB RT			3		3
					0
WB LT					0
WB THRU					0
WB RT					0
					0
NB LT			2		2
NB THRU	17	17	6	34	74
NB RT					0
					0
SB LT					0
SB THRU	29	28	10	56	123
SB RT					0

Original Background Projects

2 INTERSECTION: SR 195 & Thorpe Avenue
PM PEAK HOUR
Background

Trips	Eagle Ridge 13th Additio	The Summit	Tangle Ridge	Wheatland Estates	Total
EB LT					0
EB THRU					0
EB RT			3	2	5
					0
WB LT					0
WB THRU					0
WB RT				8	8
					0
NB LT					0
NB THRU	17	17	9	35	78
NB RT				5	5
					0
SB LT					0
SB THRU	29	28	14	64	135
SB RT			1	1	2

Original Background Projects

3 INTERSECTION: SR 195 & Inland Empire Way
PM PEAK HOUR
Background

Trips	Eagle Ridge 13th Additio	The Summit	Tangle Ridge	Wheatland Estates	Total
EB LT					0
EB THRU					0
EB RT					0
					0
WB LT					0
WB THRU					0
WB RT					0
					0
NB LT					0
NB THRU	17	17	17	40	91
NB RT					0
					0
SB LT					0
SB THRU	29	28	9	66	132
SB RT					0

Original Background Projects

4 INTERSECTION: Cheney-Spokane Road & SR 195 NB on/off Ramps
PM PEAK HOUR
Background

Trips	Eagle Ridge 13th Additio	The Summit	Tangle Ridge	Wheatland Estates	Total
EB LT	4	12	2		18
EB THRU					0
EB RT					0
					0
WB LT					0
WB THRU					0
WB RT					0
					0
NB LT				1	1
NB THRU					0
NB RT					0
					0
SB LT					0
SB THRU					0
SB RT					0

Original Background Projects

5 INTERSECTION: Cheney-Spokane Road & SR 195 SB on/off Ramps 1
PM PEAK HOUR
Background

Trips	Eagle Ridge 13th Additio	The Summit	Tangle Ridge	Wheatland Estates	Total
EB LT					0
EB THRU	4	12	2		18
EB RT				2	2
					0
WB LT					0
WB THRU				1	1
WB RT					0
					0
NB LT					0
NB THRU					0
NB RT					0
					0
SB LT					0
SB THRU					0
SB RT					0

Original Background Projects

6 INTERSECTION: Cheney-Spokane Road & SR 195 SB on/off Ramps 2
PM PEAK HOUR
Background

Trips	Eagle Ridge 13th Additic	The Summit	Tangle Ridge	Wheatland Estates	Total
EB LT					0
EB THRU					0
EB RT					0
					0
WB LT				1	1
WB THRU					0
WB RT					0
					0
NB LT					0
NB THRU					0
NB RT	4	12	2	2	20
					0
SB LT					0
SB THRU	6	18	4		28
SB RT					0

Original Background Projects

7 INTERSECTION: SR 195 & Meadowlane Drive
PM PEAK HOUR
Background

Trips	Eagle Ridge 13th Additic	The Summit	Tangle Ridge	Wheatland Estates	Total
EB LT	13	5	7		25
EB THRU					0
EB RT	10	4	3		17
					0
WB LT					0
WB THRU					0
WB RT					0
					0
NB LT	16	6	4		26
NB THRU	13	5	7	41	66
NB RT					0
					0
SB LT					0
SB THRU				68	68
SB RT	23	10	13		46

Original Background Projects

8 INTERSECTION: SR 195 & Hatch Road
PM PEAK HOUR
Background

Trips	Eagle Ridge 13th Additio	The Summit	Tangle Ridge	Wheatland Estates	Total
EB LT					0
EB THRU					0
EB RT					0
					0
WB LT				13	13
WB THRU					0
WB RT	8	3	2		13
					0
NB LT					0
NB THRU	8	3	2	41	54
NB RT				7	7
					0
SB LT	5	2	2		9
SB THRU	5	2	1	68	76
SB RT					0

2021 Traffic Factor For Covid Pandemic AM

PROJECT NUMBER: Project Na Latah Glen Residential
2 INTERSEC SR 195 & Thorpe Avenue

AM PEAK HOUR
2021 Adjstment Factor

INITIAL COUNT DATE	11/6/2018		
COUNT RATE TO EX	1.00%	1.030	
N/S GROWTH RATE	1.00%		
E/W GROWTH RATE	1.00%		
PEAK HOUR FACTOI	0.85		

EB	1.030
WB	1.030
NB	1.030
SB	1.030

YRS TO EXISTING	3	
YRS TO PHZ 1	5	Horizon Year
YRS TO PHZ 2		5

	N/S	
PHASE I GROWTH F	1.051	Horizon Year Growth F
PHASE 2 GROWTH F	1.000	1.051

TRK %	2018 INITIAL COUNT	MOVEMEN	2021 CURRENT TRAFFIC VO	2026 BACKGRO GROWTH	2026 BACKGRO GROWTH	2026 ACKGROU TRAFFIC	2026 ACKGROU TRAFFIC	2026 W/ BKGRN W/O PROJ	2026 W/ BKGRN W/O PROJ	Project Trips	Project Trips	2026 W/ BKGRD W/ Project	2026 W/ BKGRD W/ Project
3%	94	EB LT	97	102	97	0	0	102	97			102	97
3%	11	EB THRU	11	12	11	0	0	12	11			12	11
3%	55	EB RT	57	60	57	2	2	62	59			62	59
5%	17	WB LT	18	18	18	0	0	18	18			18	18
5%	3	WB THRU	3	3	3	0	0	3	3			3	3
5%	20	WB RT	21	22	21	2	2	24	23	2		26	23
8%	38	NB LT	39	41	39	0	0	41	39			41	39
1%	1379	NB THRU	1421	1493	1421	117	123	1610	1544	12		1622	1544
1%	117	NB RT	121	127	121	8	8	135	129	4		139	129
13%	15	SB LT	15	16	15	0	0	16	15			16	15
12%	498	SB THRU	513	539	513	40	42	579	555	7		586	555
12%	21	SB RT	22	23	22	4	4	27	26			27	26
	2268		2337	2456	2337	173	182	2629	2519	25	0	2654	2519
		Existing LOS=											
		LOS with IMP =											

SB

EB RT + WB LT + SB Thru = 587

PROJECT NUMBER: Project Na Latah Glen Residential
3 INTERSEC SR 195 & Inland Empire Way

AM PEAK HOUR
2021 Adjstment Factor

INITIAL COUNT DATE	1/6/2021		
COUNT RATE TO EX	1.00%	1.000	
N/S GROWTH RATE	1.00%		
E/W GROWTH RATE	1.00%		
PEAK HOUR FACTOI	0.90		

EB	1.000
WB	1.000
NB	1.000
SB	1.000

YRS TO EXISTING	0	
YRS TO PHZ 1	5	Horizon Year
YRS TO PHZ 2		5

	N/S	
PHASE I GROWTH F	1.051	Horizon Year Growth F
PHASE 2 GROWTH F	1.000	1.051

TRK %	2021 INITIAL COUNT	MOVEMEN	2021 CURRENT TRAFFIC VO	2026 BACKGRO GROWTH	2026 BACKGRO GROWTH	2026 ACKGROU TRAFFIC	2026 ACKGROU TRAFFIC	2026 W/ BKGRN W/O PROJ	2026 W/ BKGRN W/O PROJ	Project Trips	Project Trips	2026 W/ BKGRD W/ Project	2026 W/ BKGRD W/ Project
	0	EB LT	0	0	0	0	0	0	0			0	0
	0	EB THRU	0	0	0	0	0	0	0			0	0
9%	11	EB RT	11	12	11	0	0	12	11	23		35	11
	0	WB LT	0	0	0	0	0	0	0			0	0
	0	WB THRU	0	0	0	0	0	0	0			0	0
	0	WB RT	0	0	0	0	0	0	0			0	0
	0	NB LT	0	0	0	0	0	0	0			0	0
	0	NB THRU	0	0	0	0	0	0	0	19		19	0
	0	NB RT	0	0	0	0	0	0	0			0	0
	0	SB LT	0	0	0	0	0	0	0			0	0
10%	492	SB THRU	492	517	492	42	44	559	536			559	536
10%	2	SB RT	2	2	2	0	0	2	2	10		12	2
	505		505	531	505	42	44	573	549	52	0	625	549
		Existing LOS=											
		LOS with IMP =											

SB

SB LT + SB Thru + SB RT = 494

Covid Factor for 2021 at SR 195 & Inland Empire Way

587/494 = 1.188809

2021 Traffic Factor For Covid Pandemic PM

PROJECT NUMBER: Project Nam Latah Glen Residential
2 **INTERSEC** SR 195 & Thorpe Avenue

INITIAL COUNT DATE	11/13/2018		
COUNT RATE TO EX	**1.00%**	1.030	
N/S GROWTH RATE	**1.00%**		
E/W GROWTH RATE	**1.00%**		
PEAK HOUR FACTOR	0.93		

PM PEAK HOUR
2021 Adjstment Factor

EB	1.030
WB	1.030
NB	1.030
SB	1.030

YRS TO EXISTING	3	
YRS TO PHZ 1	5	Horizon Year
YRS TO PHZ 2		5
	N/S	
PHASE I GROWTH F	1.051	Horizon Year Growth Rate
PHASE 2 GROWTH F	1.000	1.051

TRK %	2018 INITIAL COUNT	MOVEMEN	2021 CURRENT TRAFFIC VO	2026 BACKGRO GROWTH	2026 BACKGRO GROWTH	2026 BACKGROU TRAFFIC	2026 BACKGROU TRAFFIC	2026 W/ BKGRN W/O PROJ	2026 W/ BKGRN W/O PROJ	Project Trips	Project Trips	2026 W/ BKGRD W/ Project	2026 W/ BKGRD W/ Project
0%	41	EB LT	42	44	42	0	0	44	42			44	42
0%	8	EB THRU	8	9	8	0	0	9	8			9	8
0%	44	EB RT	45	48	45	5	5	53	51			53	51
1%	30	WB LT	31	32	31	0	0	32	31			32	31
1%	14	WB THRU	14	15	14	0	0	15	14			15	14
1%	23	WB RT	24	25	24	8	8	33	32	5		38	32
0%	59	NB LT	61	64	61	0	0	64	61			64	61
4%	578	NB THRU	596	626	596	78	82	704	677	7		711	677
4%	66	NB RT	68	71	68	5	5	76	73	3		79	73
0%	30	SB LT	31	32	31	0	0	32	31			32	31
1%	1299	SB THRU	1338	1407	1338	135	142	1542	1480	18		1560	1480
1%	59	SB RT	61	64	61	2	2	66	63			66	63
	2251		2319	2438	2319	233	245	2671	2564	33	0	2704	2564
		Existing LOS=											
		LOS with IMP =											

SB

EB RT + WB LT + SB Thru = 1415

PROJECT NUMBER: Project Nam Latah Glen Residential
3 **INTERSEC** SR 195 & Inland Empire Way

INITIAL COUNT DATE	1/7/2021		
COUNT RATE TO EX	**1.00%**	1.000	
N/S GROWTH RATE	**1.00%**		
E/W GROWTH RATE	**1.00%**		
PEAK HOUR FACTOR	0.94		

PM PEAK HOUR
2021 Adjstment Factor

EB	1.000
WB	1.000
NB	1.000
SB	1.000

YRS TO EXISTING	0	
YRS TO PHZ 1	5	Horizon Year
YRS TO PHZ 2		5
	N/S	
PHASE I GROWTH F	1.051	Horizon Year Growth Rate
PHASE 2 GROWTH F	1.000	1.051

TRK %	2021 INITIAL COUNT	MOVEMEN	2021 CURRENT TRAFFIC VO	2026 BACKGRO GROWTH	2026 BACKGRO GROWTH	2026 BACKGROU TRAFFIC	2026 BACKGROU TRAFFIC	2026 W/ BKGRN W/O PROJ	2026 W/ BKGRN W/O PROJ	Project Trips	Project Trips	2026 W/ BKGRD W/ Project	2026 W/ BKGRD W/ Project
		EB LT	0	0	0	0	0	0	0			0	0
		EB THRU	0	0	0	0	0	0	0			0	0
0%	3	EB RT	3	3	3	0	0	3	3	14		17	3
		WB LT	0	0	0	0	0	0	0			0	0
		WB THRU	0	0	0	0	0	0	0			0	0
		WB RT	0	0	0	0	0	0	0			0	0
		NB LT	0	0	0	0	0	0	0			0	0
		NB THRU	0	0	0	91	96	91	96	18		109	96
		NB RT	0	0	0	0	0	0	0			0	0
	0	SB LT	0	0	0	0	0	0	0			0	0
1%	1038	SB THRU	1038	1091	1038	132	139	1223	1177			1223	1177
1%	12	SB RT	12	13	12	0	0	13	12	26		39	12
	1053		1053	1107	1053	223	234	1330	1287	58	0	1388	1287
		Existing LOS=											
		LOS with IMP =											

SB

SB LT + SB Thru + SB RT = 1050

Covid Factor for 2021 at SR 195 & Inland Empire Way

1415/1050 = 1.347241

Original Background Projects

INTERSECTION: ramp
AM PEAK HOUR
Background

Trips	Amazon	The Summit	Eagle Ridge	Tangle Ridge	Wheatland Estated	Total
I-90 Main	8		0			8
US 195 EB		17	23	6	35	40

Original Background Projects

INTERSECTION: ramp
PM PEAK HOUR
Background

Trips	Amazon	The Summit	Eagle Ridge	Tangle Ridge	Wheatland Estated	Total
I-90 Main	719		0			719
US 195 EB		13	13	4	24	26

BACKGROUND TRAFFIC GROWTH & BACKGROUND PROJECTS

Background Traffic Growth

Background traffic growth is an anticipated increase in traffic volume from year to year. As the existing land uses that surround a transportation facility mature, an increase in traffic results and may be due to either an increase in drivers per household or a household's purchase of an additional vehicle. Many things can cause an increase in the traffic volumes of a facility. The objective of the background traffic growth rate is to anticipate what the traffic volumes may be in the future. The background traffic growth rate for an area or street is determined by means of physical counts collected by local governmental agencies. The counts are compared on a yearly basis and a rate of increase is calculated from the data.

The background growth rate was determined to be 1.0% per year. Based on a seven-year build out, compounded annually, the total increase in traffic rate for the year 2025 is anticipated to be 1.072.

Background Project Traffic

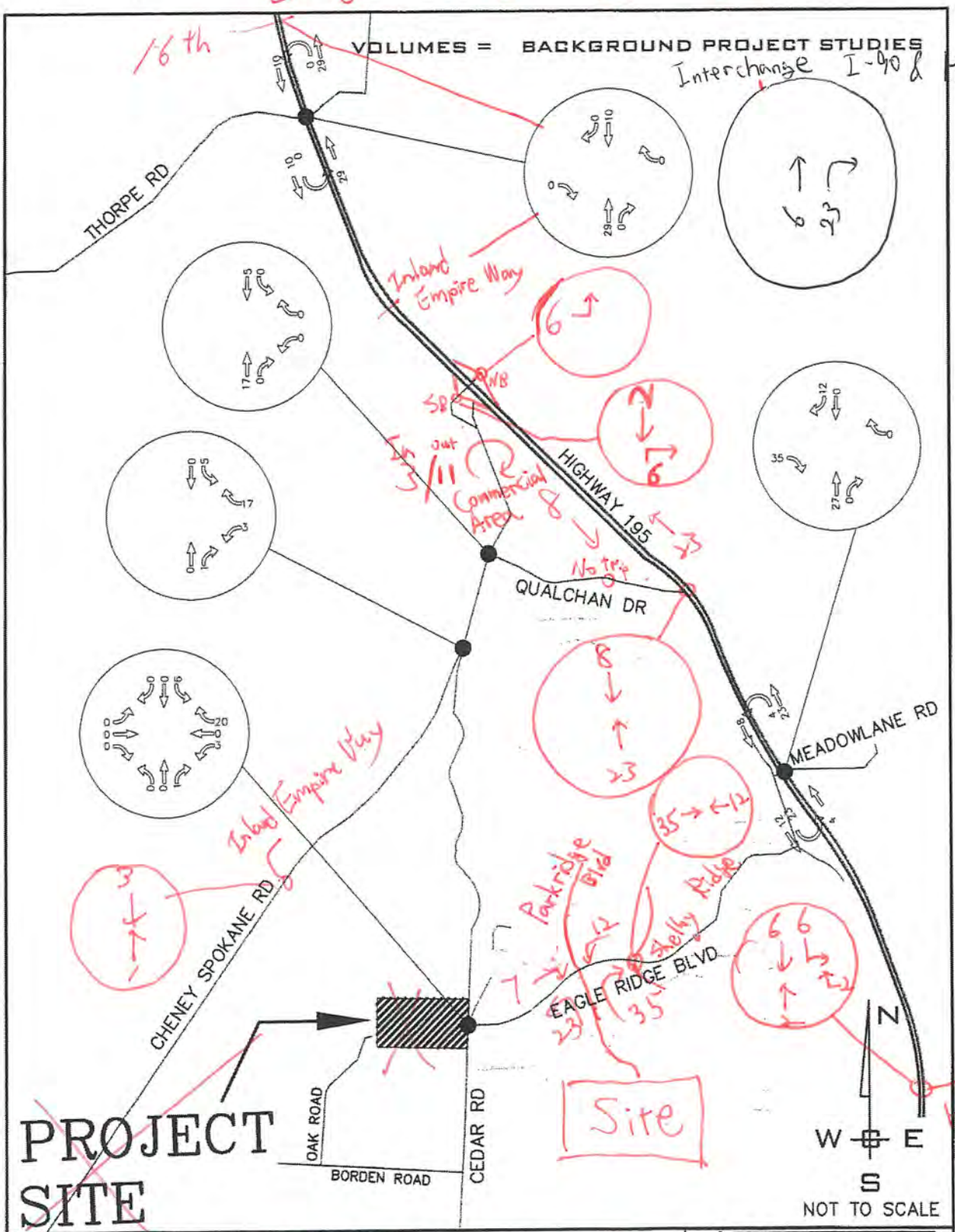
In addition to the natural increase in background growth, background projects that have already been approved or have made application and have been vested before this project have been included. The background projects scoped for this analysis are shown in Table 3. The background project traffic volumes used for this report are shown on Figure 5 and Figure 6.

Table 3 – Background Projects and Vested AM & PM Trips

Background Project	Remaining Lots/ units	AM Peak Hour Trips			PM Peak Hour Trips		
		Total	In	Out	Total	In	Out
Eagle Ridge	104	77	19	58	103	65	38
Total Vested	**104**	**77**	**19**	**58**	**103**	**65**	**38**

Note: all of the trips shown are not anticipated to travel through the scoped intersections.

Eagle Ridge 13th Edition



PROJ #:	18-2178
DATE:	3/19/19
DRAWN:	TAE
APPROVED:	TRW

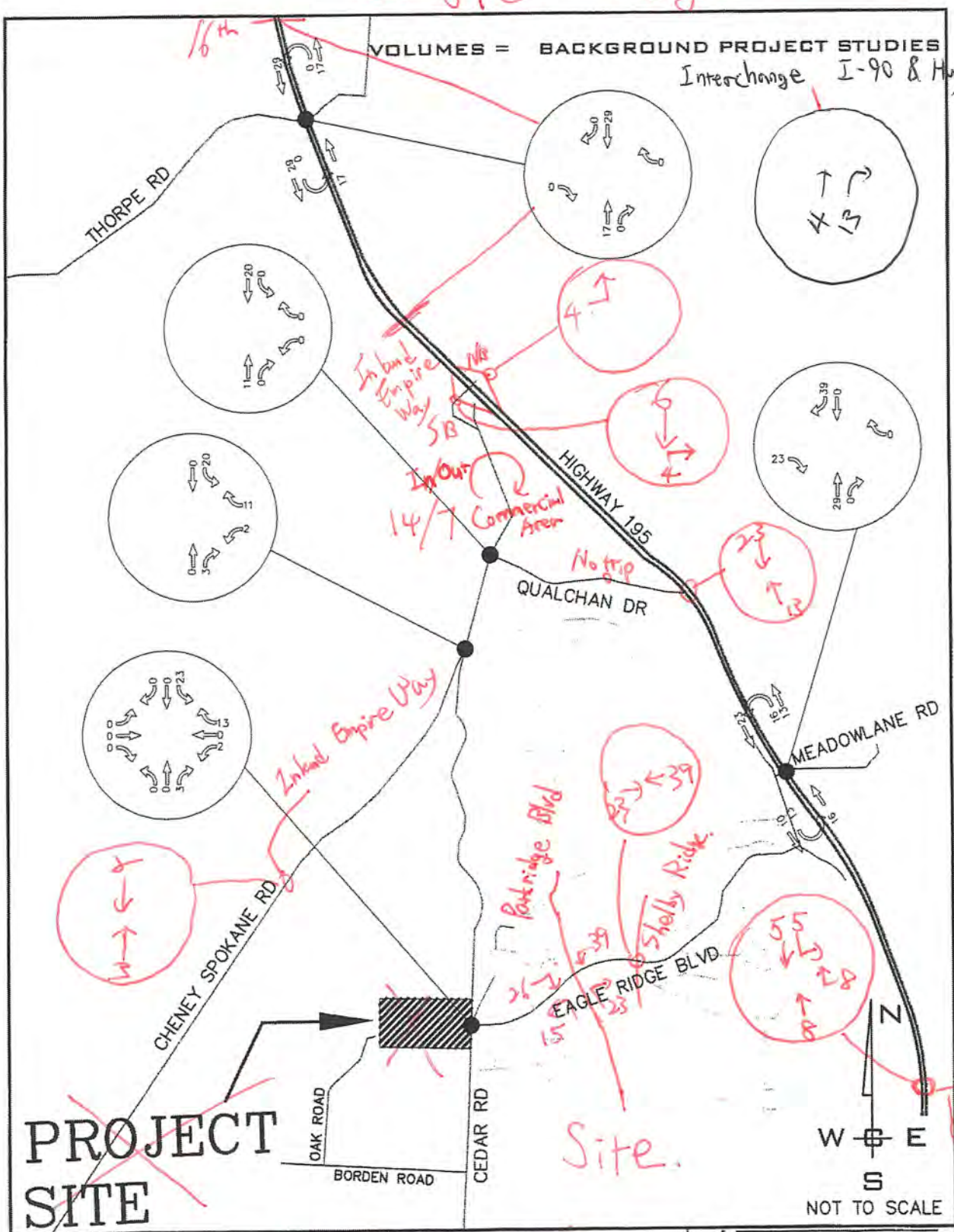
TRAFFIC IMPACT ANALYSIS
THE SUMMIT
EAGLE RIDGE BLVD & CEDAR RD
SPOKANE, WASHINGTON

FIGURE 5 — AM BACKGROUND TRIPS

WCE
WHIPPLE CONSULTING ENGINEERS
CIVIL AND TRANSPORTATION ENGINEERING
21 S. PINES ROAD
SPOKANE VALLEY, WASHINGTON 99206
PH: 509-893-2617 FAX: 509-926-0227

Total	In	Out
77	19	58

Eagle Ridge 13th Edition



PROJ #: 18-2178 DATE: 3/19/19 DRAWN: TAE APPROVED: TRW	TRAFFIC IMPACT ANALYSIS THE SUMMIT EAGLE RIDGE BLVD & CEDAR RD SPOKANE, WASHINGTON	WCE WHIPPLE CONSULTING ENGINEERS CIVIL AND TRANSPORTATION ENGINEERING 21 S. PINES ROAD SPOKANE VALLEY, WASHINGTON 99206 PH: 509-893-2617 FAX: 509-926-0227
FIGURE 6	PM BACKGROUND TRIPS	

Total	In	Out

TRIP GENERATION AND DISTRIBUTION

As noted earlier, trip generation rates for the AM and PM peak hours are determined by the use of the *Trip Generation Manual, 10th Edition* published by the Institute of Transportation Engineers (ITE). The purpose of the *Trip Generation Manual* is to compile and quantify empirical data into trip generation rates for specific land uses within the US, UK and Canada.

For the proposed plat, the 99 Single Family lots, Land Use Code (LUC) # 210 Single Family Detached Housing was used to establish the number of potential trips generated by the land use. The trip generation rates and the anticipated number of AM and PM peak hour trips for the land use of the proposed project are shown on Table 4.

Table 4-Trip Generation Rates for LUC # 210 – Single Family Detached Housing

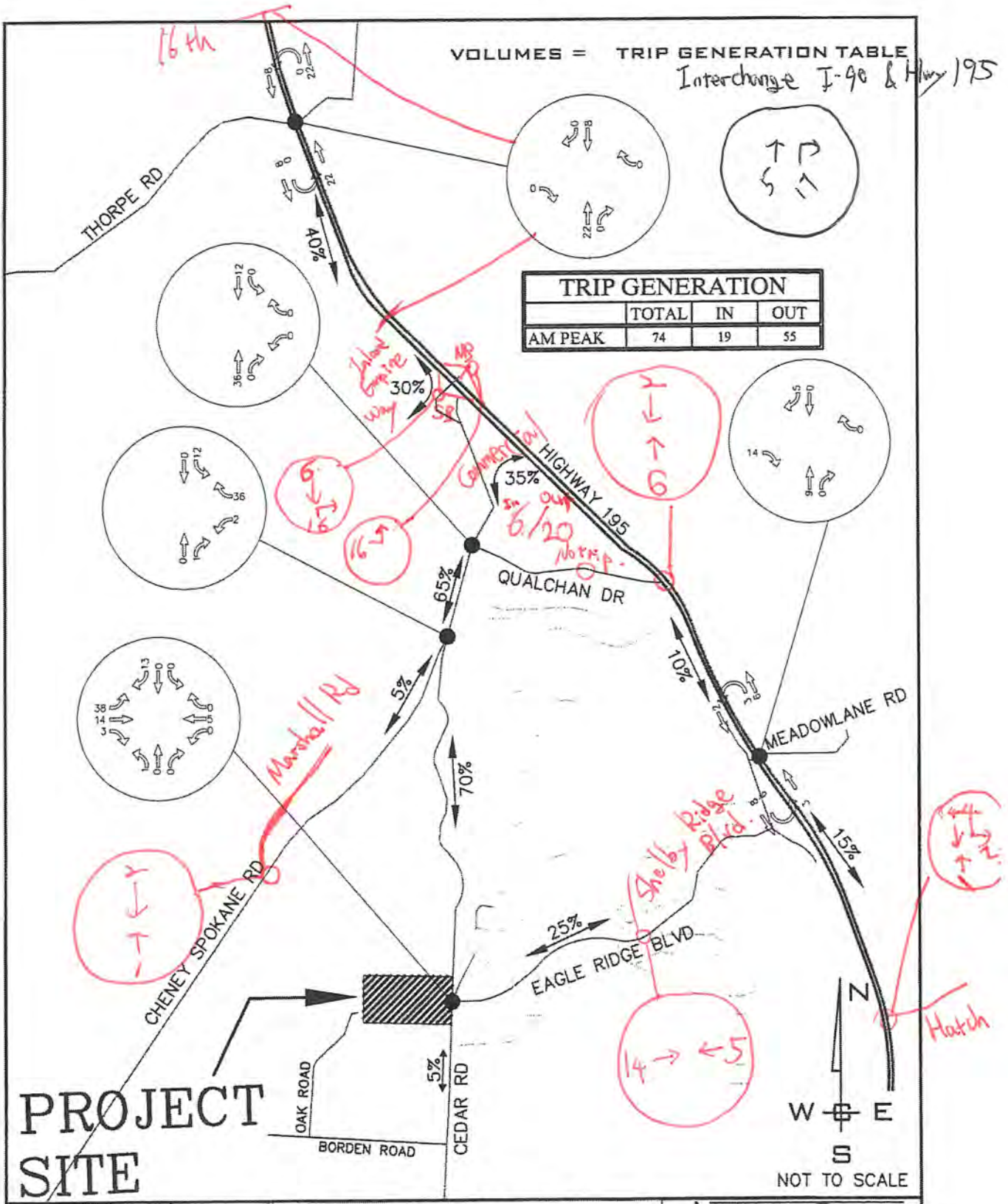
Dwelling Units	AM Peak Hour			PM Peak Hour		
	Vol. @ 0.74 trips per Unit	Directional Distribution		Vol. @ 0.99 trips per Unit	Directional Distribution	
		25% In	75% Out		63% In	37% Out
99	74	19	55	99	62	37

Average Daily Trip Ends (ADT)		
Units	Rate	ADT
99	9.44	935

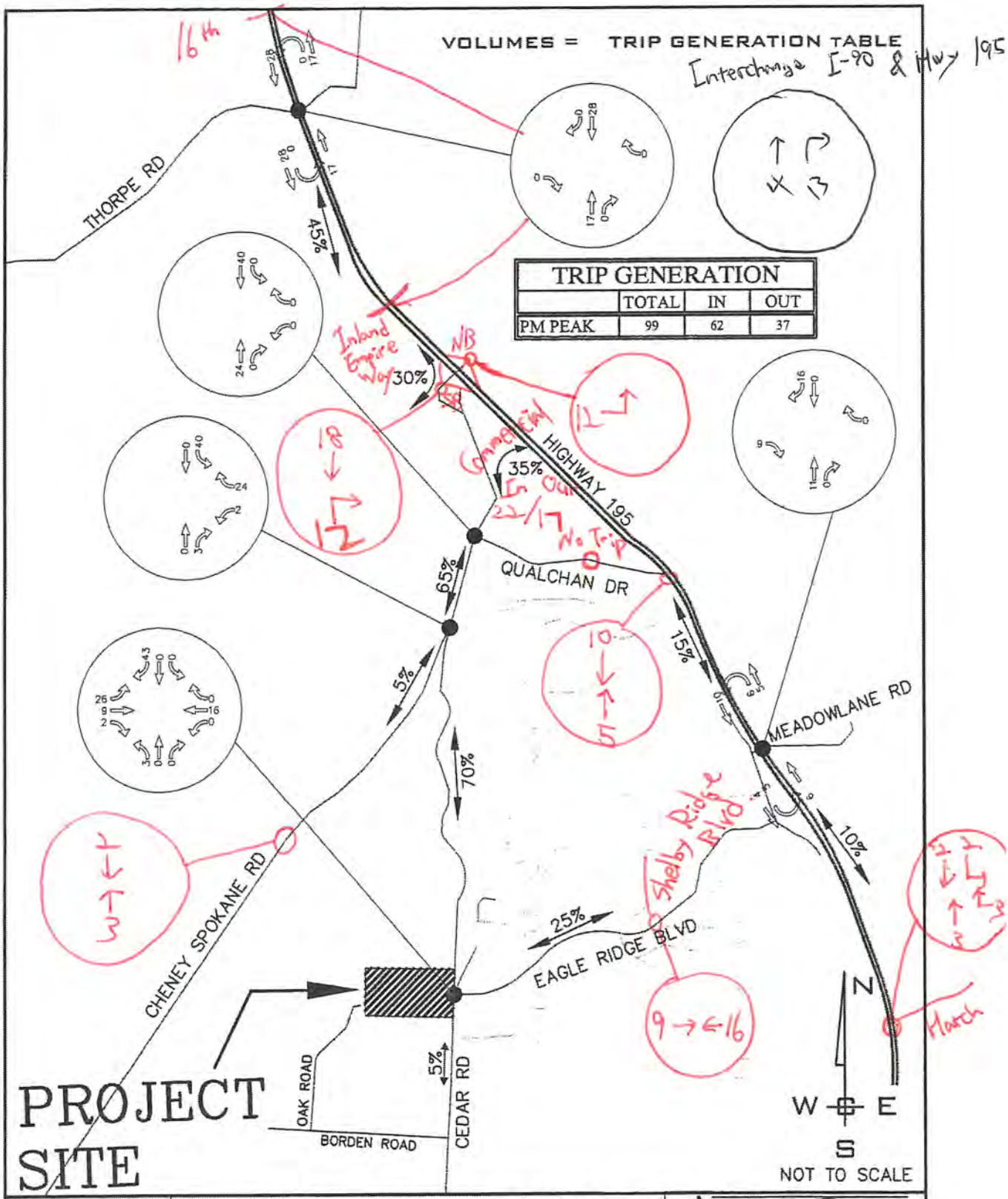
As shown in Table 4, the proposed residential development is anticipated to generate 74 trips in the AM peak hour with 19 trips entering the site and 55 trips exiting the site. In the PM peak hour, the land use of the development is anticipated to generate 99 trips with 62 trips entering the site and 37 trips exiting the site. The land use of the development is anticipated to generate 935 average daily trips to/from the project over a 24-hour period.

Trip Distribution Characteristics of the Proposed Project

Considering many factors such as the surrounding transportation facilities, typical commuting patterns, existing development in the area, and Average Daily Traffic counts, traffic for the proposed development is anticipated as follows: 70% of trips are anticipated to travel to/from the north via Cedar Road, 5% of trips are anticipated to travel to/from the south via Cedar Road and 25% of trips are anticipated to travel to/from the east via Eagle Ridge Boulevard. Please see Figures 3 & 4 to see a graphical representation of these distribution.



PROJ #: 18-2178 DATE: 3/19/19 DRAWN: TAE APPROVED: TRW	TRAFFIC IMPACT ANALYSIS **THE SUMMIT** EAGLE RIDGE BLVD & CEDAR RD SPOKANE, WASHINGTON	WCE WHIPPLE CONSULTING ENGINEERS CIVIL AND TRANSPORTATION ENGINEERING 21 S. PINES ROAD SPOKANE VALLEY, WASHINGTON 99206 PH: 509-893-2617 FAX: 509-926-0227
FIGURE 7	AM PROJECT TRIP DISTRIBUTION	



TRIP GENERATION			
	TOTAL	IN	OUT
PM PEAK	99	62	37

PROJ #: 18-2178
DATE: 3/19/19
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APPROVED: TRW

TRAFFIC IMPACT ANALYSIS
THE SUMMIT
EAGLE RIDGE BLVD & CEDAR RD
SPOKANE, WASHINGTON

FIGURE 8

PM PROJECT TRIP DISTRIBUTION

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SPOKANE VALLEY, WASHINGTON 99206
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Trip Generation Characteristics for the Proposed Project

As noted earlier, trip generation rates are determined by use of the *Trip Generation Manual, 10th Edition* published by the Institute of Transportation Engineers (ITE) to determine the number of trips generated during the AM & PM Peak Hour. The purpose of the *Trip Generation Manual* is to compile and quantify empirical trip generation rates for specific land uses within the US, UK and Canada.

Proposed Land Use

For the proposed 45 lot development, Land Use Code LUC#210, Single Family Detached Housing was used to establish the number of additional potential trips generated by the proposed land use. The trip generation rates and the anticipated number of AM & PM peak hour trips for the proposed land use are shown on Table 1.

Table 1 - Trip Generation Rates for LUC # 210 – Single Family Detached Housing

No. of Dwelling Units	AM Peak Hour			PM Peak Hour		
	Vol. @ 0.74 trips per Unit	Directional Distribution		Vol. @ 0.99 trips per Unit	Directional Distribution	
		25% In	75% Out		63% In	37% Out
45	34	8	26	45	28	17

Average Daily Trip Ends (ADT)		
Units	Rate	ADT
45	9.44	425

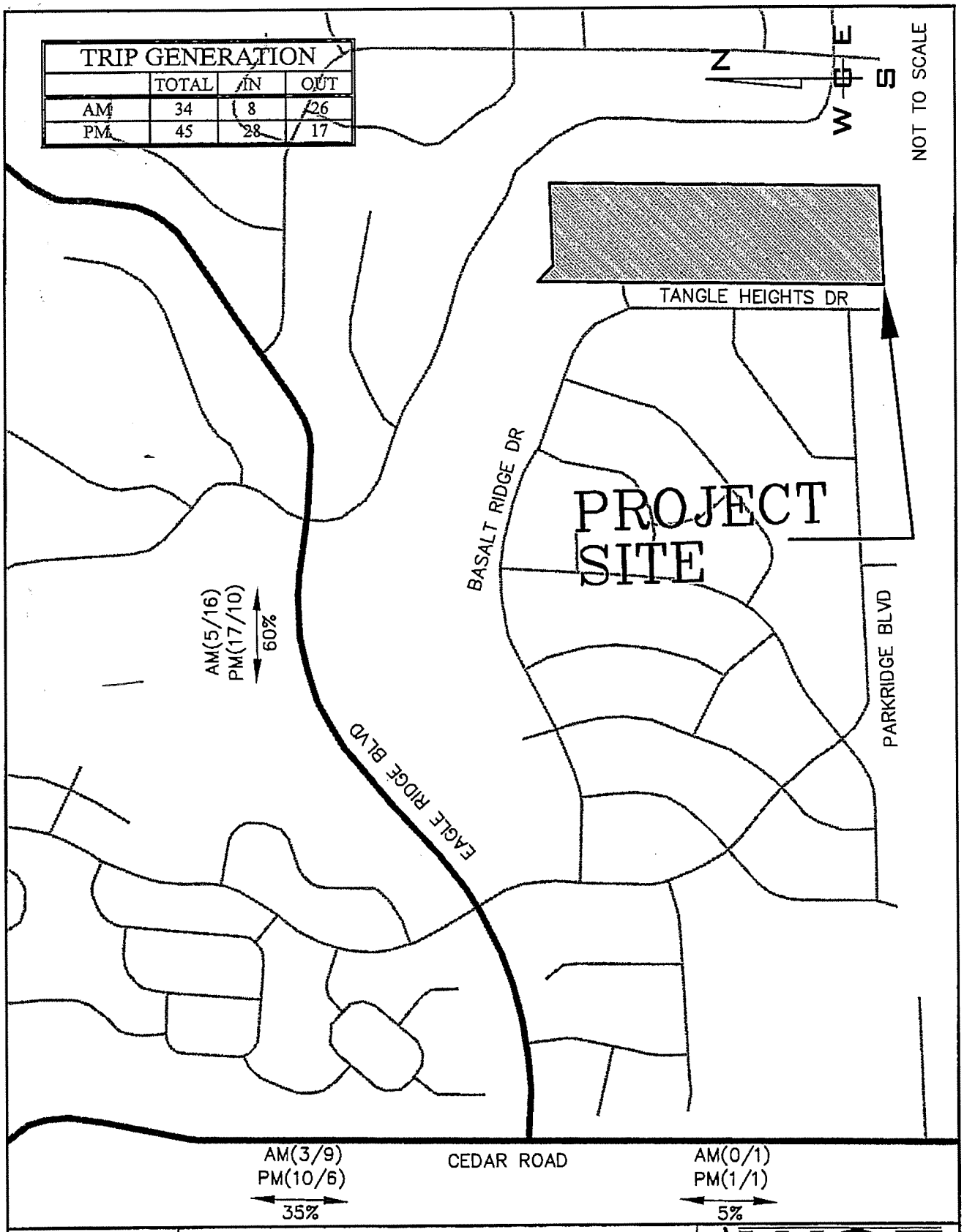
As shown in Table 1, the land use of the development is anticipated to generate 34 trips in the AM peak hour with 8 trips entering the site and 26 trips exiting the site. In the PM peak hour, the land use of the development is anticipated to generate 45 trips with 28 trips entering the site and 17 trips exiting the site. The land use of the development is anticipated to generate 425 average daily trips to/from the project.

TRIP DISTRIBUTION

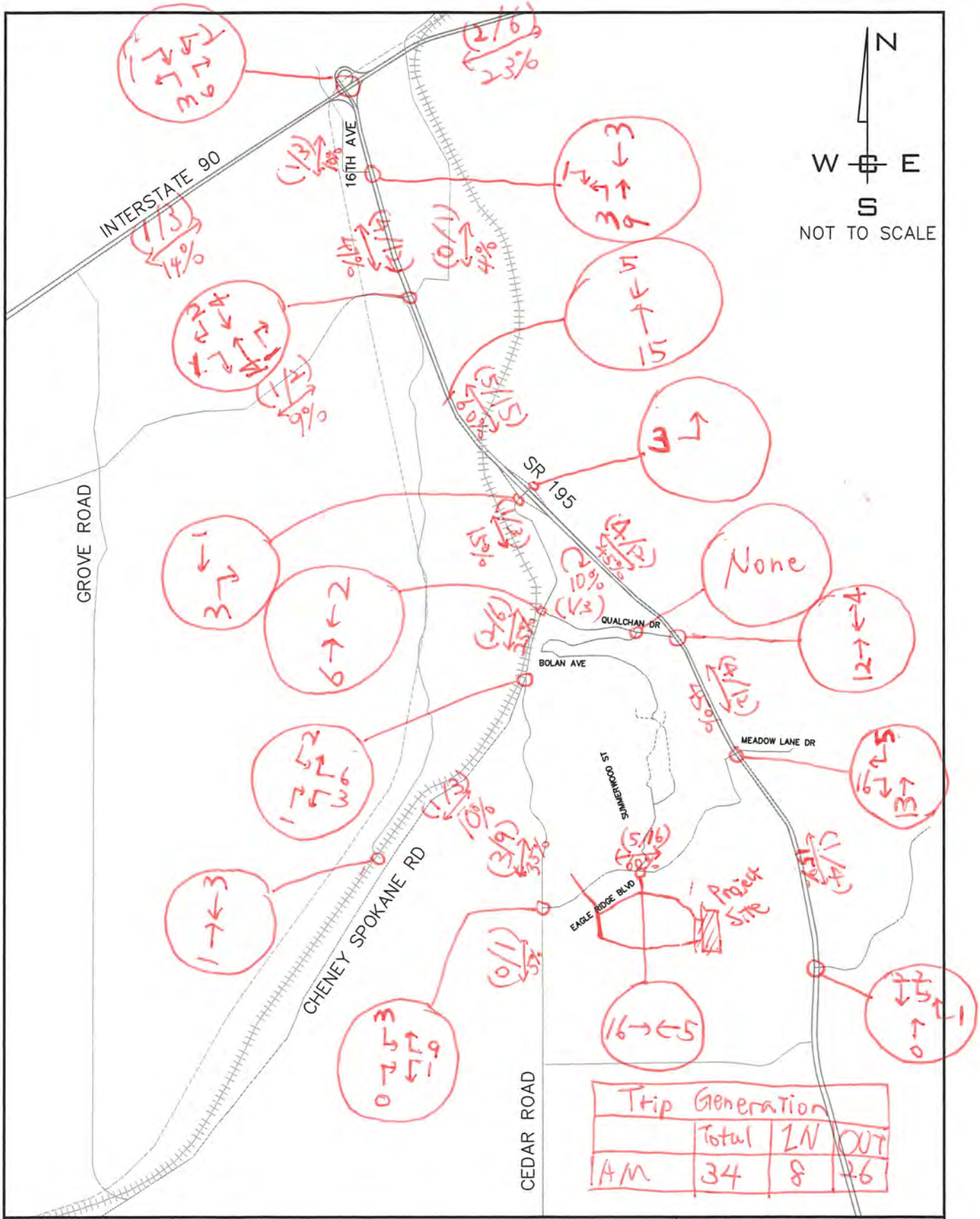
As shown on the site plan, the site will be accessed by Boulder Ridge Drive (please see Figure 2, Site Plan). It is anticipated that the residents of the site will generally use the following roadways:

Parkridge Boulevard is generally a north-south, two-way, 2-lane local access road that extends south from Eagle Ridge Boulevard through Basalt Ridge Drive, Pheasant Ridge Drive Woodhaven Drive, and Siena Peak Drive before curving east and intersecting with Tangle Heights Drive. Parkridge Boulevard primarily serves residential land uses. The speed limit on Parkridge Boulevard is 25 MPH

Basalt Ridge Drive is an east-west, two-way, 2-lane local access road that extends east from Parkridge Boulevard through Pheasant Ridge Drive, Woodhaven Drive, Siena Peak Drive, and Forest Ridge Drive before curving south, going through Boulder Ridge Drive and transitioning into Tangle Heights Drive. Basalt Ridge Drive primarily serves residential land uses. The speed limit on Basalt Ridge Drive is 25 MPH.



PROJ #: 19-2394 DATE: 02/06/20 DRAWN: KMK APPROVED: TRW	TRIP GENERATION & DISTRIBUTION **TANGLE RIDGE** BOULDER RIDGE DR. & TANGLE HEIGHTS DR. SPOKANE, WASHINGTON	WCE WHIPPLE CONSULTING ENGINEERS CIVIL AND TRANSPORTATION ENGINEERING 21 S. PINES ROAD SPOKANE VALLEY, WASHINGTON 99206 PH: 509-893-2617 FAX: 509-926-0227
FIGURE 3	PROJECT TRIP DISTRIBUTION	



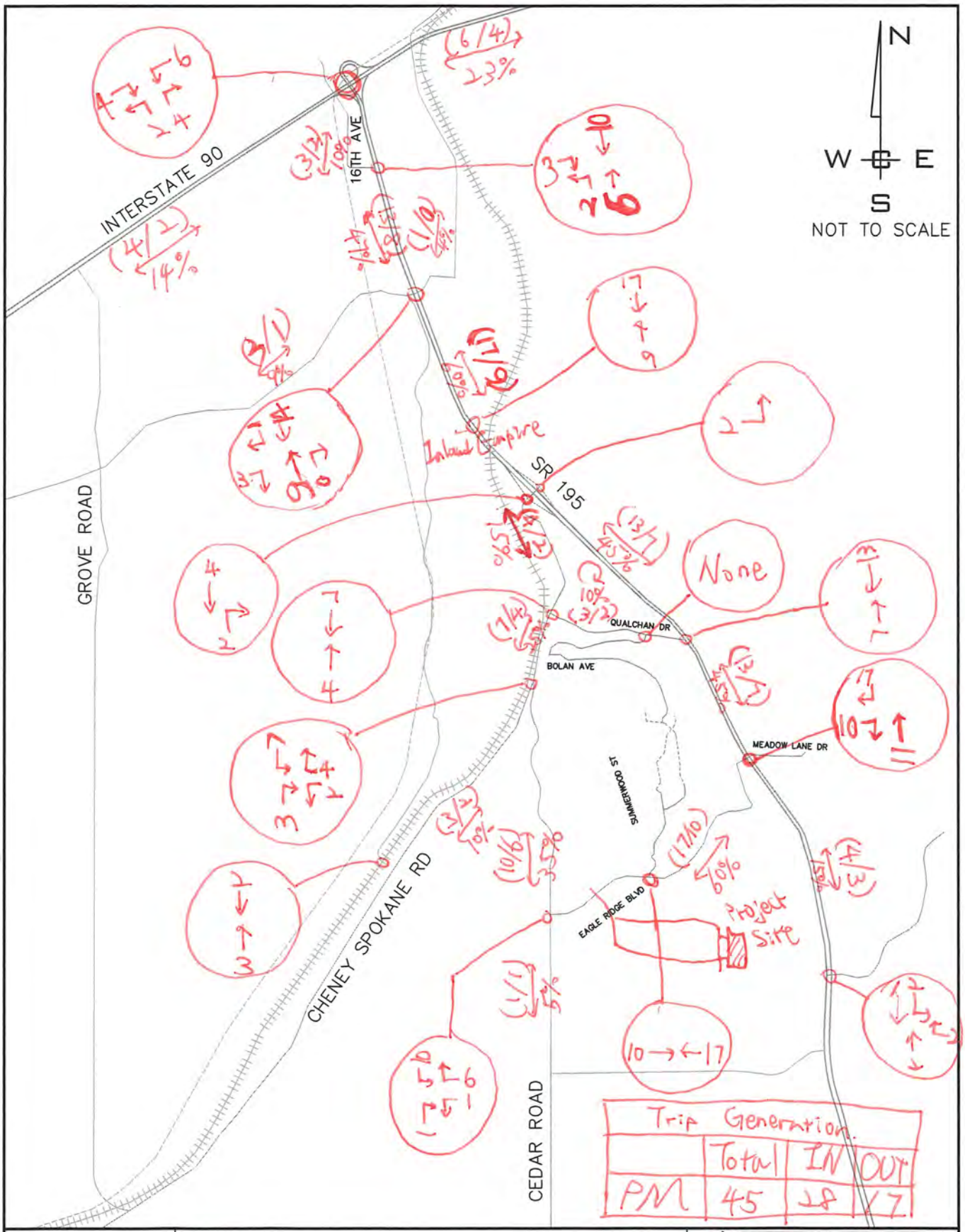
Trip Generation			
	Total	IN	OUT
AM	34	8	26

PROJ #:
DATE:
DRAWN:
APPROVED:

Tangle Ridge

AM Background Project

WCE
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21 SOUTH PINES ROAD
SPOKANE VALLEY, WASHINGTON 99206
PH: 509-893-2617 FAX: 509-926-0227



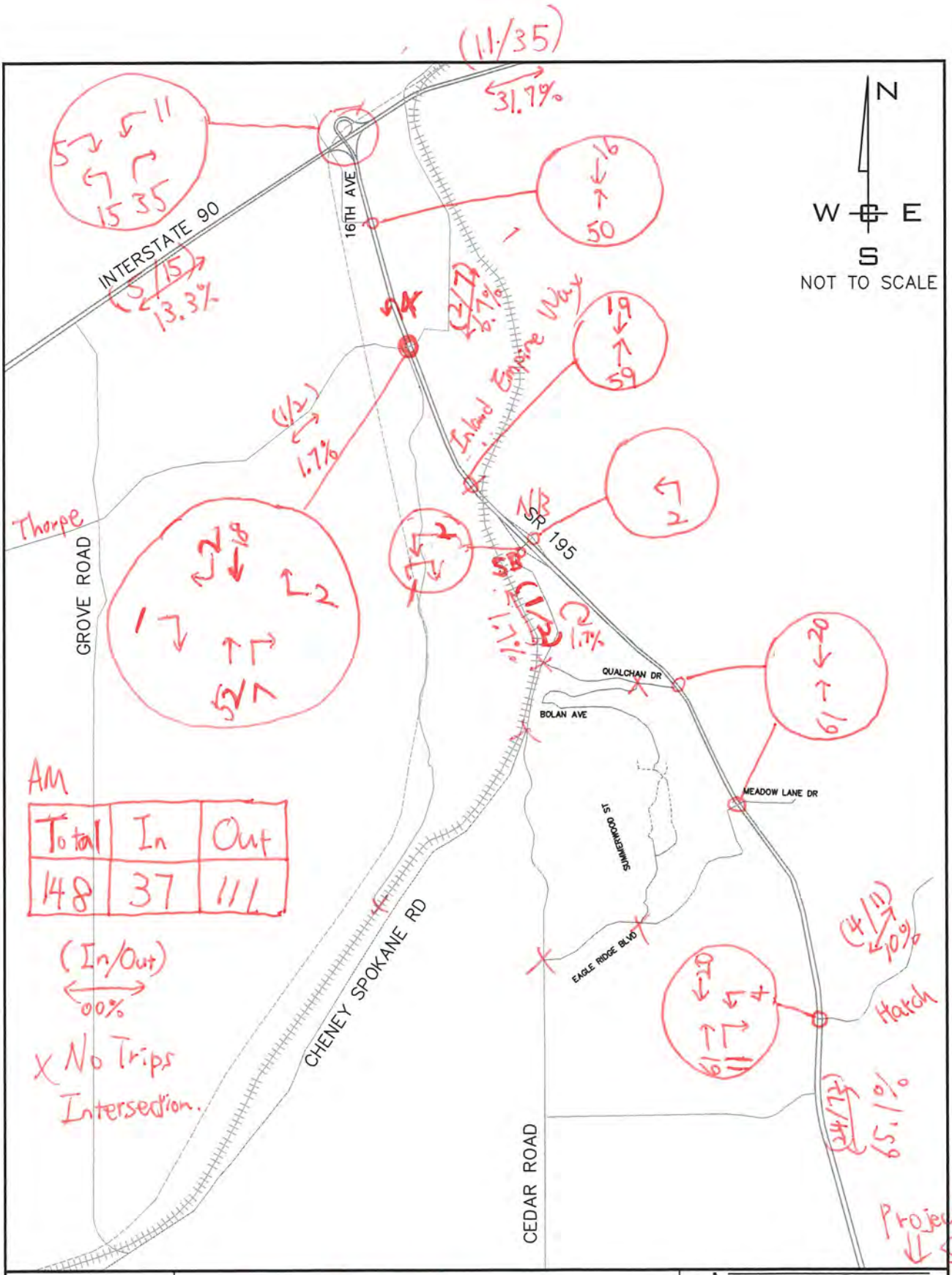
Trip Generation			
	Total	IN	OUT
PM	45	28	17

PROJ #:
DATE:
DRAWN:
APPROVED:

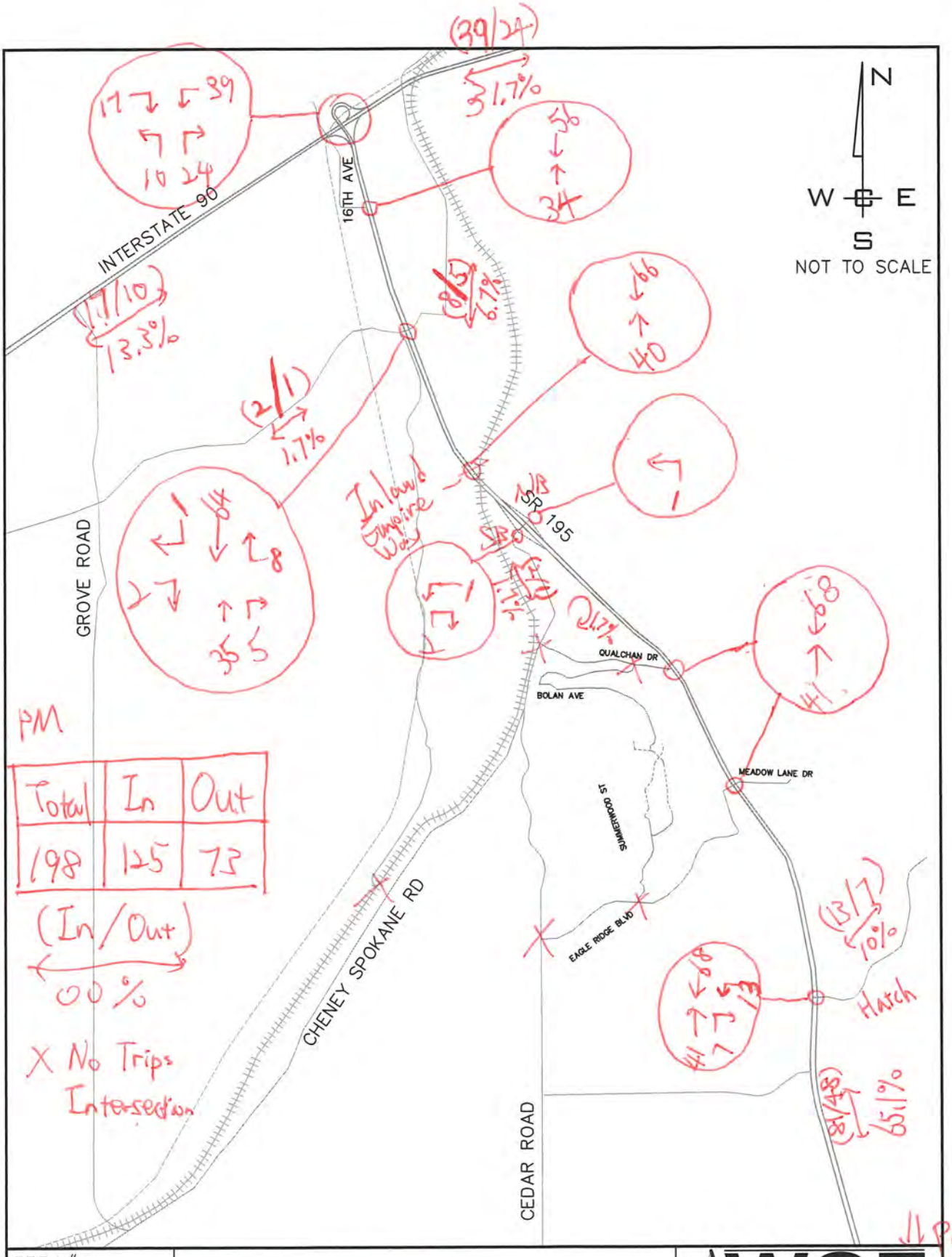
Tangle Ridge

PM Background Project

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CIVIL AND TRANSPORTATION ENGINEERING
21 SOUTH PINES ROAD
SPOKANE VALLEY, WASHINGTON 99206
PH: 509-893-2617 FAX: 509-926-0227



PROJ #: DATE: DRAWN: APPROVED:	Wheatland Estates	WCE WHIPPLE CONSULTING ENGINEERS CIVIL AND TRANSPORTATION ENGINEERING 21 SOUTH PINES ROAD SPOKANE VALLEY, WASHINGTON 99206 PH: 509-893-2617 FAX: 509-926-0227
	AM Background Project	



PM

Total	In	Out
198	125	73

(In/Out)

00%

X No Trips Intersection

PROJ #: DATE: DRAWN: APPROVED:	Wheatland Estates	WCE WHIPPLE CONSULTING ENGINEERS CIVIL AND TRANSPORTATION ENGINEERING 21 SOUTH PINES ROAD SPOKANE VALLEY, WASHINGTON 99206 PH: 509-893-2617 FAX: 509-926-0227
	PM Background Project	

// Project Site

Whipple Consulting Engineers, Inc.

WCE No. 18-2224
March 2, 2021

Washington State Department of Transportation
2714 N Mayfair
Spokane WA 99207

Attn: Greg Figg, WSDOT Planner

Re: Wheatland Estates Proposed Traffic / Transportation Conditions of Approval.

Dear Greg

We understand that WSDOT is looking for a net value of no new trips at the eastbound on ramp of the I-90/SR 195 interchange, due to level of service concerns on I-90. Attached to this letter is a trip distribution for the anticipated PM Peak hour trips to/from the Wheatland Estates Development. The distribution is based upon the Street Light analysis for the town of Spangle to/from the corridor that was established within TIA Addendum.

As shown in the expanded distribution figures of the 110 AM and 73 PM outbound trips, it is anticipated that 35 AM trips and 24 PM trips have the potential to use the I-90/SR195 interchange.

In order to achieve a net value of zero trips at the interchange ramp. We propose that the project construct the 16th Avenue island project and participate in the Meadowlane Road ½ J-turn project. Given the small number of trips that need to be redirected we believe that these two projects will redirect more trips than the Spangle - Wheatland Estates project will need to meet its net zero requirement.

We propose that the following conditions be accepted by WSDOT, the Town of Spangle and Spokane County:

> That the proposed land development project is outside of the City of Spokane and in the Town of Spangle, WA. While not in the City of Spokane, like most projects in a joint planning area, it is estimated that most if not all the 196 PM Peak hour generated trips will go to and from the City of Spokane for commerce, employment, culture or recreation. As has been the case in joint planning areas within Spokane County that have a direct impact to City of Spokane facilities, it has been demonstrated that this project will have a direct impact to the SR-195 and Meadowlane Intersection, which is currently at Level of Service F. In order to pay a proportionate share of the impacts within this corridor to the SR-195 and I-90 Interchange and the SR-195 and Meadowlane Intersection, the following conditions are proposed to adequately mitigate the impacts from this development.

1. Within the City of Spokane South Service Area, the current transportation impact fee is $1,160.64 / PM Peak trip paid at time of building permit. As this project is in the Town of Spangle and there exists no inter-local agreement between the City and the Town, respectively the Spangle-Wheatland project shall participate in the Meadowlane ½ J-turn project for a value of $1,160.64 x 197 lots = $228,646.08 less the cost of the 16th Avenue Improvements.
2. The Spangle-Wheatland project will construct the 16th Avenue and SR-195 Island Project at the noted intersection. The cost of this improvement has been estimated at $50,000.
3. Based on the cost of the 16th Avenue and SR-195 Island Project, it is anticipated that the Spangle-Wheatland project would contribute $228,646.08- $50,000 = $178,646.08 toward the Meadowlane and SR-195 ½ J-Turn project.
4. Based on previous projects within this corridor it would be expected that the Spangle-Wheatland project would post two bonds, one for the 16th Avenue Island Project and one for the Meadowlane ½ J-Turn project at the time of final plat of the first phase in addition to any bonds required to the Town of Spangle for said phase. These bonds would be in the name of both the Town of Spangle and the City of Spokane, these bonds can be released upon acceptance of the constructed projects by the WSDOT.
5. That the Spangle-Wheatland project accepts a condition to be a member of the LLC or other entity that will be created to construct the Meadowlane ½ J-Turn and that the project agrees to be responsible for its proportionate share even in the event that the value exceeds the $178,646.08, conversely, if the project is constructed and the value is less no additional payments to any public corporation would be required.
6. It would be the intent that the bond could be in effect for as many as 5 years from the time of preliminary plat approval, with the element being constructed prior to any plat extensions.

A follow-up assessment of the effectiveness of the 16th Avenue improvement or lack of increase in traffic at the SR-195 and I-90 Interchange, is required 120 days after final platting of the last lot. That assessment will include a pre- vs post-improvement analysis prepared by the applicant's traffic engineer. The purpose of the analysis is to determine to what extent, the proposed improvement results in the diversion of traffic from the SR 195 and I-90 Interchange northbound to eastbound ramp as a result of changes at the 16th Avenue Island project. The Meadowlane ½ J-turn would be exempt from any future analysis as this was an impact and LOS mitigatory contribution.

The effective analysis shall be based upon traffic data collected between 14 to 30 days prior (pre) to and after (post) the installation of the improvement, and opening of 16th Avenue.

During the period that data is being collected for the Pre- to Post-improvement analysis WSDOT will not change its ramp metering protocol for the I-90/SR 195 ramp interchange, in order to ensure that the results of the post-improvement analysis are not

affected by such changes. The applicant's traffic engineer is responsible for notifying WSDOT of the study dates. Notification is to be by email as well as by phone.

The Pre- vs Post- improvement assessment, will be submitted to WSDOT for information only, the development of the project is not conditioned upon the effectiveness of the improvement projects, given that match funds will have been spent, and that mitigation is consistent with the project impacts.

We believe that these proposed changes, along with other changes in the corridor, will reduce trips to the NB to EB ramp thereby positively impacting the ramp metered facility. Additionally, the improvements and participation at the Meadowlane ½ J-Turn will significantly improve Level of Service and Safety within the SR-195 Corridor by continuing to minimize conflicting movements. We would accept these as appropriate conditions to mitigate the peak hour trip impacts from this proposal.

For reference related to the Meadowland ½ J-Turn, LLC or constructed entity the following should apply.

TABLE 1 – MEADOW LANE ½ J-TURN INTIAL CONTRIBUTION BY PROJECT

SR-195 DEVELOMENT IMPACTING MEADOWLANE	NUMBER OF LOTS	City Impact Fee CONTIBUTION AT $1,160.64 / LOT	CONTRIBUTION BY PROJECT AT $1,802.38
Spangle – Wheatland Estates (less $50k for 16th Avenue)	197	$228,646.08 - $50,000.00 $178,646.08	$178,646.08
Tangle Ridge	45	$52,228.80	$81,107.10
Paras – Short Course	32	$37,140.48	$57,676.16
Talon / Qualchan View	160	$185.702.40	$288,380.80
Summit	80	$95,851.20	$144,190.40
Total	514	$546,568.96	$750,000.54
Estimated Improvement Cost		$750,000.00	
Estimated Short Fall		$203,431.04	~
Difference from Standard Impact Fee (Spangle does not have a waiver available)	317	$641.74 / lot extra	
Total Fee per lot ($1,160.64 + 641.74)		$1,802.38/lot	

We would accept this as mitigation for the Wheatland Estates project and will incorporate this into an updated and final TIA as this would then allow this project to proceed to hearing.
If you have any questions or comments in regard to this letter pleased feel free to contact us at (509) 893-2617.

Thank you



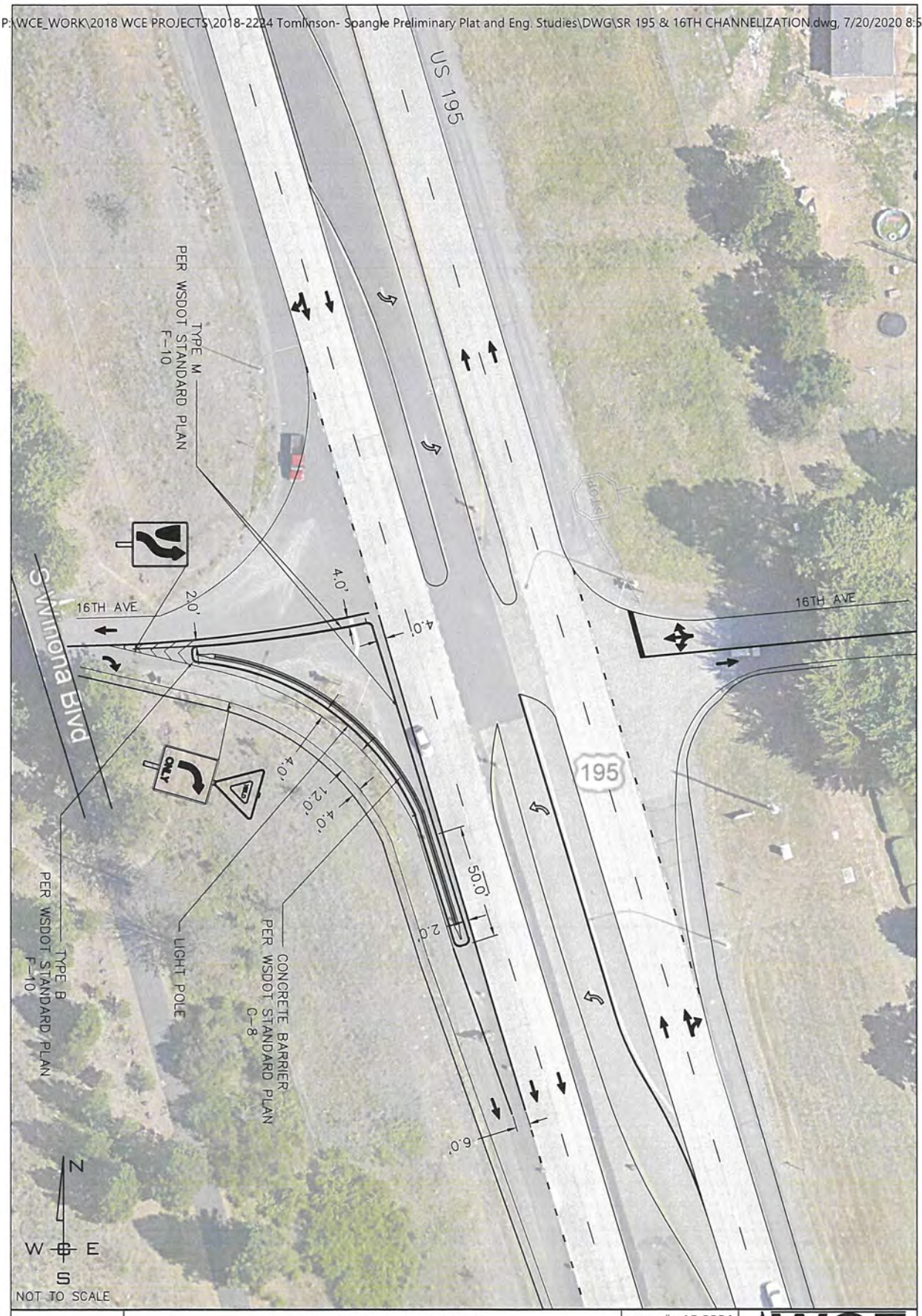
Todd R. Whipple, P.E.

TRW/bng

Encl: 16th Avenue Concept Raised Island and Barrier Figure A, B & C.
Meadowlane ½ J-turn Draft Intersection Plan for Approval (IPA)

CC: Barry Greene, P.E. Spokane County, Engineering and Roads
Inga Note, P.E. City of Spokane, Transportation Engineer

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TRAFFIC IMPACT ANALYSIS
WHEATLAND ESTATES
CHENEY SPANGLE RD. & US195
SPANGLE, WASHINGTON

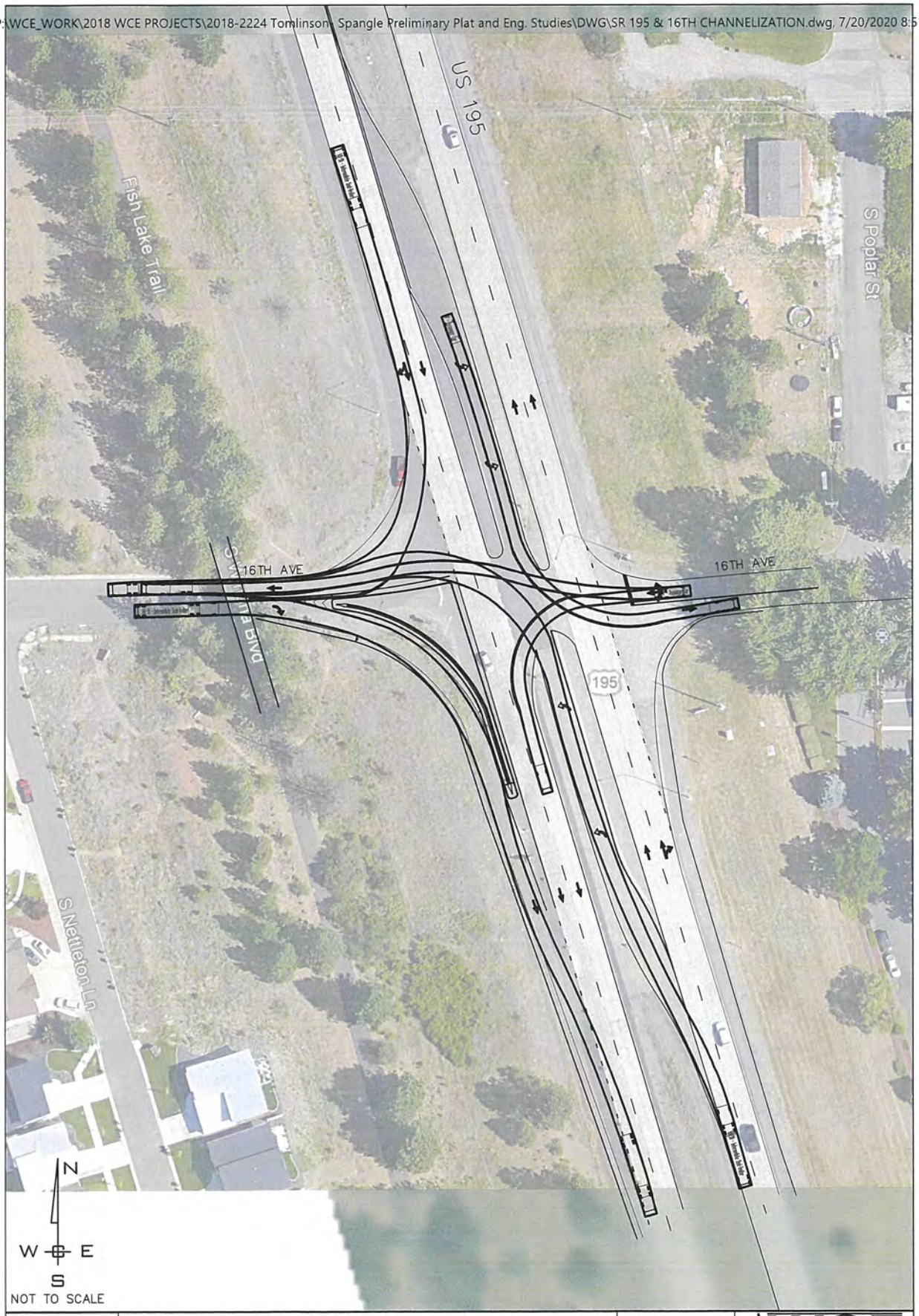
ISLAND & BARRIER EXHIBIT

FIGURE A

PROJ #: 18-2224
DATE: 05/12/20
DRAWN: BNG
APPROVED: TRW

WCE
WHIPPLE CONSULTING ENGINEERS
CIVIL, STRUCTURAL AND
TRANSPORTATION ENGINEERING
2528 NORTH SULLIVAN ROAD
SPOKANE VALLEY, WASHINGTON 99216
PH 509-893-2617 FAX 509-926-0227

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NOT TO SCALE

FIGURE B

TRAFFIC IMPACT ANALYSIS
WHEATLAND ESTATES
CHENEY SPANGLE RD. & US195
SPANGLE, WASHINGTON

VEHICLE TURNS EXHIBIT

PROJ #: 18-2224
DATE: 05/12/20
DRAWN: BNG
APPROVED: TRW

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CIVIL, STRUCTURAL AND
TRANSPORTATION ENGINEERING
2508 NORTH SULLIVAN ROAD
SPOKANE VALLEY, WASHINGTON 99216
PH. 509-893-2617 FAX 509-926-0227

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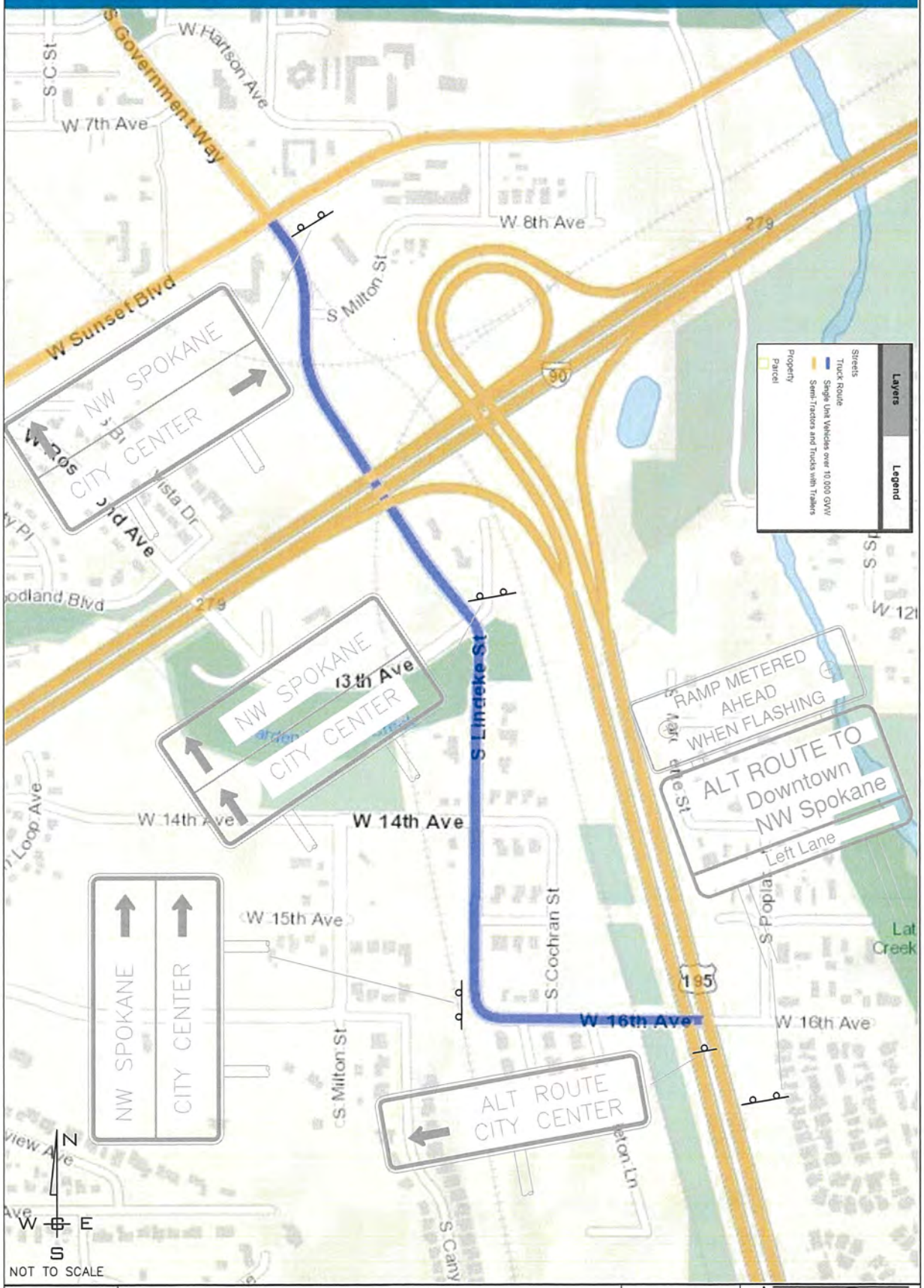


FIGURE 3

TRAFFIC IMPACT ANALYSIS
WHEATLAND ESTATES
CHENEY SPANGLE RD. & US195
SPANGLE, WASHINGTON

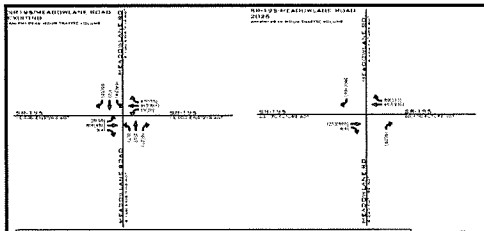
DIRECTIONAL SIGNS

PROJ #: 18-2224
DATE: 05/12/20
DRAWN: BNG
APPROVED: TRW

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CIVIL, STRUCTURAL AND
TRANSPORTATION ENGINEERING
2528 NORTH SULLIVAN ROAD
SPOKANE VALLEY, WASHINGTON 99216
PH. 509-893-2617 FAX. 509-926-0227

NW¼, SEC. 4, T.24N., R.43E., W.M.

INTERSECTION PLAN FOR APPROVAL
SR195 MEADOWLANE INTERSETION MODIFICATION & 1/2 J-TURN
LOCATED IN A PORTION OF
NW 1/4, SEC. 4 T. 24 N., R.43 E., W.M.
SPOKANE COUNTY, WA



UNDERGROUND SERVICE ALERT ONE-CALL NUMBER 811 CALL TWO BUSINESS DAYS BEFORE YOU DIG

CONCURRENCE _____ DATE _____
EASTERN REGION TRAFFIC ENGINEER

APPROVED _____ DATE _____
EASTERN REGION ASSISTANT REGION ADMINISTRATOR FOR DEVELOPMENT

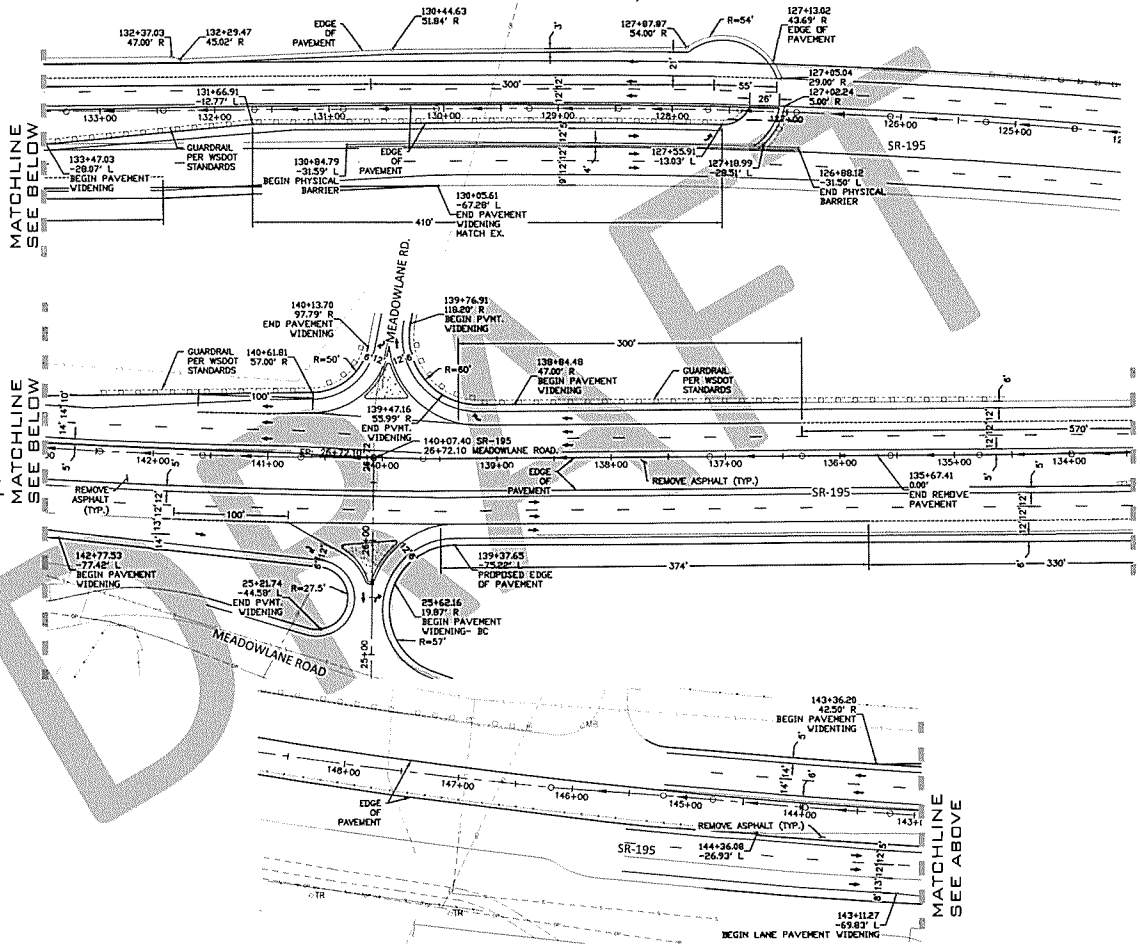
WSDOT APPROVAL IS ONLY FOR THE ROADWAY GEOMETRIC DESIGN WITHIN THE RIGHT OF WAY ALONG STATE ROUTE 290 WITHIN THE WSDOT BOUNDARY. RIGHT OF WAY LINES ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY.

DESIGN ELEMENTS		
ALIGNMENT	SR-195	MEADOWLANE ROAD
ROADWAY CLASSIFICATION	MINOR ARTERIAL	MINOR ARTERIAL
ACCESS CONTROL	LIMITED ACCESS FULL CONTROL	N/A
LAND USE	URBAN	URBAN
ADT (EXISTING)	15,000	4,100
ADT (2026)	20,170	4,220
PERCENT TRUCKS (PM PEAK)	3%	3%
DESIGN VEHICLE	WB-50	WB-50
DESIGN SPEED (MPH)	60	30
POSTED SPEED (EXISTING)	55	30

INTERSECTION REVISIONS
THIS PLAN AMENDS THE EXISTING INTERSECTION OF SR-195 & MEADOWLANE ROAD

SHEET INDEX

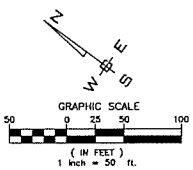
SHEET 1 INTERSECTION PLAN FOR APPROVAL
SHEET 2 OVERALL SITE PLAN
~~SHEET 3 ISLAND DETAILS~~
~~SHEET 4 CONCEPT CHANNELIZATION PLAN~~
~~SHEET 5 CONCEPT ILLUMINATION PLAN~~

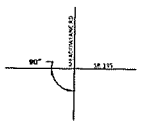


LEGEND
- EXISTING RIGHT OF WAY
- EXISTING EDGE OF PAVEMENT
- EXISTING STREET LIGHT
- EXISTING POWER POLE
- EXISTING GUY WIRE
- EXISTING OVERHEAD POWER LINE
- EXISTING TRAFFIC SIGN
- EXISTING STORM DRAINAGE MANHOLE
- EXISTING DRYWELL
- EXISTING CATCH BASIN
- EXISTING CULVERT
- EXISTING UTILITY MANHOLE
- EXISTING UTILITY JUNCTION BOX
- EXISTING TELEPHONE JUNCTION BOX
- PROPOSED SIDEWALK
- PROPOSED PAVEMENT
- PROPOSED ROAD SHOULDER
- PROPOSED CURB AND GUTTER
- PROPOSED CURB CUT
- PROPOSED STREET LIGHT
- PROPOSED RAISED ISLAND
- PROPOSED CENTER ISLAND

NOTE:
SEE SHEET 2 FOR ISLAND CONSTRUCTION STATIONING AND DATA TABLES.

PAVEMENT MARKINGS SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. SEE CONTRACT PLANS FOR PAVEMENT MARKINGS.





NAVD - 88
XXXX

SR-195 & MEADOWLANE ROAD INTERSECTION PLAN FOR APPROVAL
SCALE: 1"=50'

PLANS NOT APPROVED BY AGENCY

TODD R. WHITE EXPIRES 9/30/2020 PRELIMINARY

NO	DATE	BY	REVISIONS

SCALE:		PROJ #:	19-2305
HORIZONTAL:	AS SHOWN	DATE:	12/17/19
VERTICAL:	N/A	DRAWN:	STT
		REVIEWED:	TRW

CIVIL / STRUCTURAL / SURVEYING / TRAFFIC / X PLANNING / LANDSCAPE / OTHER

WCE
WHITLEE CONSULTING ENGINEERS
215 S. RIVER ROAD
SPOKANE VALLEY, WA 99206
PH 509-893-7617 FAX 509-905-0277

MEADOWLANE ROAD.
SR-195 & MEADOWLANE ROAD
MP 92.20 VICINITY
SPOKANE COUNTY, WASHINGTON

SHEET 1 OF 5

JOB NUMBER 19-2318

DRAFT

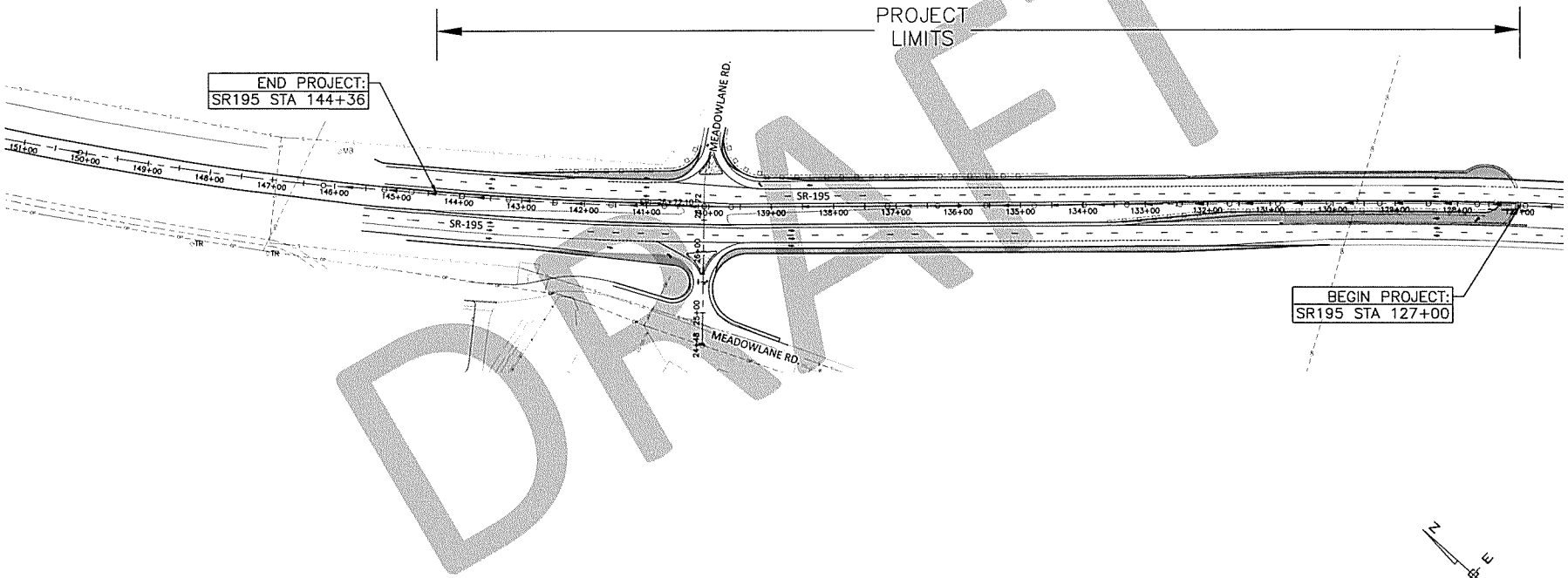
NW¼, SEC. 4, T.24N., R.43E., W.M.

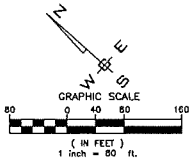
UNDERGROUND SERVICE ALERT
ONE-CALL NUMBER
811
CALL TWO BUSINESS DAYS BEFORE YOU DIG

INTERSECTION PLAN FOR APPROVAL
SR195 MEADOWLANE INTERSETION MODIFICATION & 1/2 J-TURN

LOCATED IN A PORTION OF
NW 1/4, SEC. 4 T. 24 N., R.43 E., W.M.
SPOKANE COUNTY, WA

DRAFT





PLANS NOT APPROVED BY AGENCY

TODD R. WHITE — STATE OF WASHINGTON — 32462 — REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY

NAVD - 88
XXXX

NO	DATE	BY	REVISIONS

SCALE:	PROJ #:	19-2305
HORIZONTAL: AS SHOWN	DATE:	12/17/19
VERTICAL: N/A	DRAWN:	GTT
	REVIEWED:	TRW

X CIVIL
STRUCTURAL
SURVEYING
TRAFFIC
PLANNING
LANDSCAPE
OTHER

WCE
WHIPPLE CONSULTING ENGINEERS
21 N. PINES ROAD
SPOKANE VALLEY, WA. 99206
PH 509.893.2617 FAX 509.926.2277

MEADOWLANE ROAD,
OVERALL SITE PLAN
SPOKANE COUNTY, WASHINGTON

SHEET 2 OF 5

JOB NUMBER 19-2318

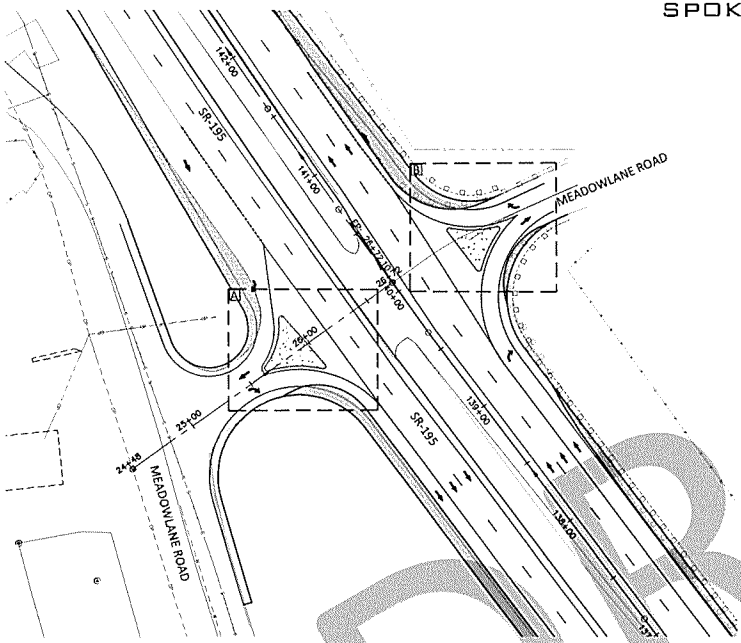
NW¼, SEC. 4, T.24N., R.43E., W.M.

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INTERSECTION PLAN FOR APPROVAL
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SPOKANE COUNTY, WA

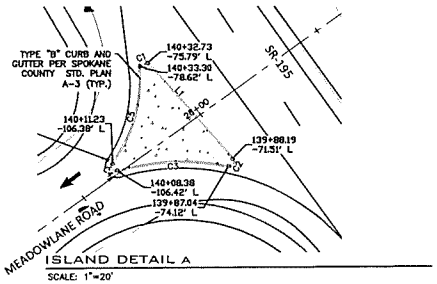
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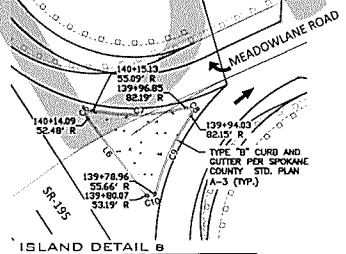
RAISED ISLAND DETAIL KEY MAP
SCALE: 1"=50'

LEGEND
RAISED ISLAND

N
W E
S
GRAPHIC SCALE
40 0 20 40 80
(IN FEET)
1 inch = 40 ft.



ISLAND DETAIL A
SCALE: 1"=20'



ISLAND DETAIL B
SCALE: 1"=20'

N
W E
S
GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20 ft.

Line Table		
Line #	Length	Direction
L1	44.71	S41° 16' 03"E
L6	34.02	N36° 54' 19"W

Curve Table			
Curve #	Length	Radius	Delta
C1	3.77	1.50	144.15
C2	3.76	1.50	143.47
C3	39.13	77.50	28.93
C4	3.76	1.50	143.74
C5	36.28	49.00	42.42
C6	3.63	1.50	138.59
C7	32.99	70.50	26.81
C8	3.68	1.50	140.68
C9	30.65	80.50	21.82
C10	3.39	1.50	129.36

N
W E
S
GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20 ft.

PLANS NOT APPROVED BY AGENCY

TODD R. WHITE — STATE OF WASHINGTON — 24462 — REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY

NAVD - 88
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NO	DATE	BY	REVISIONS

SCALE:	
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X CIVIL
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WHITE CONSULTING ENGINEERS
21 S. PINES ROAD
SPOKANE VALLEY, WA 99206
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MEADOWLANE ROAD.
ISLAND DETAILS
SPOKANE COUNTY, WASHINGTON

SHEET
3 OF 5

JOB NUMBER
19-2318

YEAR 2021

LEVEL OF SERVICE CALCULATIONS

AM & PM EXISTING CONDITIONS

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	60	2	51	2	2	14	104	1431	4	5	518	20
Future Vol, veh/h	60	2	51	2	2	14	104	1431	4	5	518	20
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	-	-	-	-	-	-	300	-	25	300	-	25
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0	0	2	2	0	11	11
Mvmt Flow	67	2	57	2	2	16	116	1590	4	6	576	22

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1616	2414	288	2123	2432	795	598	0	0	1594	0	0
Stage 1	588	588	-	1822	1822	-	-	-	-	-	-	-
Stage 2	1028	1826	-	301	610	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	70	33	715	29	32	335	989	-	-	417	-	-
Stage 1	467	499	-	82	130	-	-	-	-	-	-	-
Stage 2	254	129	-	689	488	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 59	29	715	24	28	335	989	-	-	417	-	-
Mov Cap-2 Maneuver	148	88	-	62	89	-	-	-	-	-	-	-
Stage 1	412	492	-	72	115	-	-	-	-	-	-	-
Stage 2	210	114	-	622	481	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	39.2	26.7	0.6	0.1
HCM LOS	E	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	989	-	-	226	186	417	-	-
HCM Lane V/C Ratio	0.117	-	-	0.556	0.108	0.013	-	-
HCM Control Delay (s)	9.1	-	-	39.2	26.7	13.8	-	-
HCM Lane LOS	A	-	-	E	D	B	-	-
HCM 95th %tile Q(veh)	0.4	-	-	3	0.4	0	-	-

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

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	165	0	0	41	39	1518	132	15	531	25
Future Vol, veh/h	0	0	165	0	0	41	39	1518	132	15	531	25
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	-	-	Stop	-	-	None	-	-	Yield
Storage Length	-	-	0	-	-	0	217	-	25	217	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	3	3	3	5	5	5	8	1	1	13	12	12
Mvmt Flow	0	0	194	0	0	48	46	1786	155	18	625	29

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	313	-	-	893	625	0	0	1941	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.96	-	-	7	4.26	-	-	4.36	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.33	-	-	3.35	2.28	-	-	2.33	-	-
Pot Cap-1 Maneuver	0	0	680	0	0	279	913	-	-	259	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	680	-	-	279	913	-	-	259	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.4	20.6	0.2	0.5
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	913	-	-	680	279	259	-	-
HCM Lane V/C Ratio	0.05	-	-	0.285	0.173	0.068	-	-
HCM Control Delay (s)	9.2	-	-	12.4	20.6	19.9	-	-
HCM Lane LOS	A	-	-	B	C	C	-	-
HCM 95th %tile Q(veh)	0.2	-	-	1.2	0.6	0.2	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	21	21	1538	550	0
Future Vol, veh/h	0	21	21	1538	550	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	-	0	600	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	5	5	1	12	2
Mvmt Flow	0	23	23	1672	598	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	299	598	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7	4.2	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.35	2.25	-	-	-
Pot Cap-1 Maneuver	0	688	954	-	-	0
Stage 1	0	-	-	-	-	0
Stage 2	0	-	-	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	-	688	954	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.4	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT
Capacity (veh/h)	954	-	688	-
HCM Lane V/C Ratio	0.024	-	0.033	-
HCM Control Delay (s)	8.9	-	10.4	-
HCM Lane LOS	A	-	B	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-

Intersection	
Int Delay, s/veh	2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	108	1580	0	108	587
Future Vol, veh/h	0	108	1580	0	108	587
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	-	0	-	-	600	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	3	1	0	3	12
Mvmt Flow	0	117	1717	0	117	638

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	859	0	-	1717	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.96	-	-	4.16	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.33	-	-	2.23	-
Pot Cap-1 Maneuver	0	298	-	0	361	-
Stage 1	0	-	-	0	-	-
Stage 2	0	-	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	-	298	-	-	361	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	24.7	0	3.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	WBLn1	SBL	SBT
Capacity (veh/h)	-	298	361	-
HCM Lane V/C Ratio	-	0.394	0.325	-
HCM Control Delay (s)	-	24.7	19.7	-
HCM Lane LOS	-	C	C	-
HCM 95th %tile Q(veh)	-	1.8	1.4	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↱			↑↑	↱
Traffic Vol, veh/h	0	13	0	0	585	2
Future Vol, veh/h	0	13	0	0	585	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	25
Veh in Median Storage, #	0	-	-	16974	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	9	9	0	0	10	10
Mvmt Flow	0	14	0	0	650	2

Major/Minor	Minor2			Major2	
Conflicting Flow All	-	325		-	0
Stage 1	-	-		-	-
Stage 2	-	-		-	-
Critical Hdwy	-	7.08		-	-
Critical Hdwy Stg 1	-	-		-	-
Critical Hdwy Stg 2	-	-		-	-
Follow-up Hdwy	-	3.39		-	-
Pot Cap-1 Maneuver	0	651		-	-
Stage 1	0	-		-	-
Stage 2	0	-		-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	651		-	-
Mov Cap-2 Maneuver	-	-		-	-
Stage 1	-	-		-	-
Stage 2	-	-		-	-

Approach	EB	SB
HCM Control Delay, s	10.7	0
HCM LOS	B	

Minor Lane/Major Mvmt	EBLn1	SBT	SBR
Capacity (veh/h)	651	-	-
HCM Lane V/C Ratio	0.022	-	-
HCM Control Delay (s)	10.7	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-

Intersection	
Int Delay, s/veh	8.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	719	0	0	0	0	0	107	0	0	0	0	0
Future Vol, veh/h	719	0	0	0	0	0	107	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	0	0	2	2	0	0
Mvmt Flow	922	0	0	0	0	0	137	0	0	0	0	0

Major/Minor	Major2			Minor1			Minor2		
Conflicting Flow All	-	-	0	1	1	-	-	-	1
Stage 1	-	-	-	0	0	-	-	-	-
Stage 2	-	-	-	1	1	-	-	-	-
Critical Hdwy	-	-	-	7.1	6.5	-	-	-	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.1	5.5	-	-	-	-
Follow-up Hdwy	-	-	-	3.5	4	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	0	1027	899	0	0	0	1090
Stage 1	0	-	0	-	-	0	0	0	-
Stage 2	0	-	0	1027	899	0	0	0	-
Platoon blocked, %		-							
Mov Cap-1 Maneuver	-	-	-	1027	899	-	-	-	1090
Mov Cap-2 Maneuver	-	-	-	1027	899	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	1027	899	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	9	0
HCM LOS		A	A

Minor Lane/Major Mvmt	NBLn1	WBT	SBLn1
Capacity (veh/h)	1027	-	-
HCM Lane V/C Ratio	0.134	-	-
HCM Control Delay (s)	9	-	0
HCM Lane LOS	A	-	A
HCM 95th %tile Q(veh)	0.5	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	630	49	2	120	0	0	0	0	17	1	0
Future Vol, veh/h	0	630	49	2	120	0	0	0	0	17	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	77	77	77	77	77	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2	0	0	0	22	22	22
Mvmt Flow	0	818	64	3	156	0	0	0	0	22	1	0

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	882	0	0	1012	1044	-
Stage 1	-	-	-	-	-	-	162	162	-
Stage 2	-	-	-	-	-	-	850	882	-
Critical Hdwy	-	-	-	4.12	-	-	6.62	6.72	-
Critical Hdwy Stg 1	-	-	-	-	-	-	5.62	5.72	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.62	5.72	-
Follow-up Hdwy	-	-	-	2.218	-	-	3.698	4.198	-
Pot Cap-1 Maneuver	0	-	-	767	-	0	243	211	0
Stage 1	0	-	-	-	-	0	821	728	0
Stage 2	0	-	-	-	-	0	387	338	0
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	767	-	-	242	0	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	242	0	-
Stage 1	-	-	-	-	-	-	821	0	-
Stage 2	-	-	-	-	-	-	385	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.2	21.5
HCM LOS			C

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	767	-	242
HCM Lane V/C Ratio	-	-	0.003	-	0.097
HCM Control Delay (s)	-	-	9.7	0	21.5
HCM Lane LOS	-	-	A	A	C
HCM 95th %tile Q(veh)	-	-	0	-	0.3

Intersection	
Int Delay, s/veh	4.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	120	0	0	679	0	193
Future Vol, veh/h	120	0	0	679	0	193
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Free	-	None
Storage Length	0	-	-	0	-	-
Veh in Median Storage, #	0	-	16974	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	3	3	0	0	8	8
Mvmt Flow	138	0	0	780	0	222

Major/Minor	Minor1		Major2	
Conflicting Flow All	222	-	-	-
Stage 1	0	-	-	-
Stage 2	222	-	-	-
Critical Hdwy	6.43	-	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-
Follow-up Hdwy	3.527	-	-	-
Pot Cap-1 Maneuver	764	0	0	-
Stage 1	-	0	0	-
Stage 2	813	0	0	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	764	-	-	-
Mov Cap-2 Maneuver	764	-	-	-
Stage 1	-	-	-	-
Stage 2	813	-	-	-

Approach	WB	SB
HCM Control Delay, s	10.7	0
HCM LOS	B	

Minor Lane/Major Mvmt	WBLn1	SBT
Capacity (veh/h)	764	-
HCM Lane V/C Ratio	0.181	-
HCM Control Delay (s)	10.7	-
HCM Lane LOS	B	-
HCM 95th %tile Q(veh)	0.7	-

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	186	1	95	0	2	16	28	816	3	11	412	67
Future Vol, veh/h	186	1	95	0	2	16	28	816	3	11	412	67
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	-	-	-	200	-	25	200	-	525
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	3	3	3	17	17	17	4	2	2	9	9	6
Mvmt Flow	194	1	99	0	2	17	29	850	3	11	429	70

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	935	1362	215	1145	1429	425	499	0	0	853	0	0
Stage 1	451	451	-	908	908	-	-	-	-	-	-	-
Stage 2	484	911	-	237	521	-	-	-	-	-	-	-
Critical Hdwy	7.56	6.56	6.96	7.84	6.84	7.24	4.18	-	-	4.28	-	-
Critical Hdwy Stg 1	6.56	5.56	-	6.84	5.84	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.56	5.56	-	6.84	5.84	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.03	3.33	3.67	4.17	3.47	2.24	-	-	2.29	-	-
Pot Cap-1 Maneuver	219	146	787	137	117	538	1047	-	-	739	-	-
Stage 1	555	567	-	268	320	-	-	-	-	-	-	-
Stage 2	530	349	-	704	494	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	204	140	787	115	112	538	1047	-	-	739	-	-
Mov Cap-2 Maneuver	326	246	-	206	218	-	-	-	-	-	-	-
Stage 1	539	558	-	260	311	-	-	-	-	-	-	-
Stage 2	496	339	-	605	487	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	24.3	13.1	0.3	0.2
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1047	-	-	325	787	463	739	-	-
HCM Lane V/C Ratio	0.028	-	-	0.599	0.126	0.04	0.016	-	-
HCM Control Delay (s)	8.5	-	-	31.4	10.2	13.1	9.9	-	-
HCM Lane LOS	A	-	-	D	B	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	3.7	0.4	0.1	0	-	-

Intersection	
Int Delay, s/veh	6.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	59	378	397	87	194	229
Future Vol, veh/h	59	378	397	87	194	229
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	25	-	25	350	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	1	1	2	2	9	9
Mvmt Flow	69	440	462	101	226	266

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1047	231	0	0	563	0
Stage 1	462	-	-	-	-	-
Stage 2	585	-	-	-	-	-
Critical Hdwy	6.82	6.92	-	-	4.28	-
Critical Hdwy Stg 1	5.82	-	-	-	-	-
Critical Hdwy Stg 2	5.82	-	-	-	-	-
Follow-up Hdwy	3.51	3.31	-	-	2.29	-
Pot Cap-1 Maneuver	225	774	-	-	958	-
Stage 1	604	-	-	-	-	-
Stage 2	523	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	172	774	-	-	958	-
Mov Cap-2 Maneuver	293	-	-	-	-	-
Stage 1	604	-	-	-	-	-
Stage 2	400	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.3	0	4.5
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	293	774	958	-
HCM Lane V/C Ratio	-	-	0.234	0.568	0.235	-
HCM Control Delay (s)	-	-	21	15.6	9.9	-
HCM Lane LOS	-	-	C	C	A	-
HCM 95th %tile Q(veh)	-	-	0.9	3.6	0.9	-

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↰	↑↑	↱	↰	↑↑	↱
Traffic Vol, veh/h	22	2	141	4	2	15	86	596	10	22	1341	67
Future Vol, veh/h	22	2	141	4	2	15	86	596	10	22	1341	67
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	-	-	-	-	-	-	300	-	25	300	-	25
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	5	5	5	0	7	7	5	1	1
Mvmt Flow	23	2	148	4	2	16	91	627	11	23	1412	71

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1955	2278	706	1562	2338	314	1483	0	0	638	0	0
Stage 1	1458	1458	-	809	809	-	-	-	-	-	-	-
Stage 2	497	820	-	753	1529	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.6	6.6	7	4.1	-	-	4.2	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.6	5.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.6	5.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.55	4.05	3.35	2.2	-	-	2.25	-	-
Pot Cap-1 Maneuver	39	40	383	74	35	673	460	-	-	922	-	-
Stage 1	138	196	-	334	385	-	-	-	-	-	-	-
Stage 2	529	392	-	361	173	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	31	31	383	37	27	673	460	-	-	922	-	-
Mov Cap-2 Maneuver	88	119	-	90	64	-	-	-	-	-	-	-
Stage 1	111	191	-	268	309	-	-	-	-	-	-	-
Stage 2	412	314	-	213	169	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	42.9	23.8	1.8	0.1
HCM LOS	E	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	460	-	-	260	214	922	-	-
HCM Lane V/C Ratio	0.197	-	-	0.668	0.103	0.025	-	-
HCM Control Delay (s)	14.7	-	-	42.9	23.8	9	-	-
HCM Lane LOS	B	-	-	E	C	A	-	-
HCM 95th %tile Q(veh)	0.7	-	-	4.3	0.3	0.1	-	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	96	0	0	69	61	638	76	31	1369	75
Future Vol, veh/h	0	0	96	0	0	69	61	638	76	31	1369	75
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	-	-	Stop	-	-	None	-	-	Yield
Storage Length	-	-	0	-	-	0	217	-	25	217	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	1	1	1	0	4	4	0	1	1
Mvmt Flow	0	0	103	0	0	74	66	686	82	33	1472	81

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	736	-	-	343	1472	0	0	768	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.9	-	-	6.92	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.3	-	-	3.31	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	0	0	366	0	0	656	464	-	-	855	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	366	-	-	656	464	-	-	855	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18.7	11.2	1.1	0.2
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	464	-	-	366	656	855	-	-
HCM Lane V/C Ratio	0.141	-	-	0.282	0.113	0.039	-	-
HCM Control Delay (s)	14	-	-	18.7	11.2	9.4	-	-
HCM Lane LOS	B	-	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0.5	-	-	1.1	0.4	0.1	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	45	45	661	1430	0
Future Vol, veh/h	0	45	45	661	1430	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	-	0	600	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	1	1	4	1	0
Mvmt Flow	0	49	49	718	1554	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	777	1554	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.92	4.12	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.31	2.21	-	-	-
Pot Cap-1 Maneuver	0	342	427	-	-	0
Stage 1	0	-	-	-	-	0
Stage 2	0	-	-	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	-	342	427	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.3	0.9	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT
Capacity (veh/h)	427	-	342	-
HCM Lane V/C Ratio	0.115	-	0.143	-
HCM Control Delay (s)	14.5	-	17.3	-
HCM Lane LOS	B	-	C	-
HCM 95th %tile Q(veh)	0.4	-	0.5	-

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	50	724	0	50	1415
Future Vol, veh/h	0	50	724	0	50	1415
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	-	0	-	-	600	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	4	0	0	1
Mvmt Flow	0	54	787	0	54	1538

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	394	0	-	787	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	4.1	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	0	611	-	0	841	-
Stage 1	0	-	-	0	-	-
Stage 2	0	-	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	-	611	-	-	841	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.5	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	WBLn1	SBL	SBT
Capacity (veh/h)	-	611	841	-
HCM Lane V/C Ratio	-	0.089	0.065	-
HCM Control Delay (s)	-	11.5	9.6	-
HCM Lane LOS	-	B	A	-
HCM 95th %tile Q(veh)	-	0.3	0.2	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	4	0	0	1398	16
Future Vol, veh/h	0	4	0	0	1398	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	25
Veh in Median Storage, #	0	-	-	16974	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	1	1
Mvmt Flow	0	4	0	0	1487	17

Major/Minor	Minor2			Major2	
Conflicting Flow All	-	744		-	0
Stage 1	-	-		-	-
Stage 2	-	-		-	-
Critical Hdwy	-	6.9		-	-
Critical Hdwy Stg 1	-	-		-	-
Critical Hdwy Stg 2	-	-		-	-
Follow-up Hdwy	-	3.3		-	-
Pot Cap-1 Maneuver	0	362		-	-
Stage 1	0	-		-	-
Stage 2	0	-		-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	362		-	-
Mov Cap-2 Maneuver	-	-		-	-
Stage 1	-	-		-	-
Stage 2	-	-		-	-

Approach	EB	SB
HCM Control Delay, s	15.1	0
HCM LOS	C	

Minor Lane/Major Mvmt	EBLn1	SBT	SBR
Capacity (veh/h)	362	-	-
HCM Lane V/C Ratio	0.012	-	-
HCM Control Delay (s)	15.1	-	-
HCM Lane LOS	C	-	-
HCM 95th %tile Q(veh)	0	-	-

Intersection	
Int Delay, s/veh	8.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	360	0	0	0	0	0	124	1	0	0	0	0
Future Vol, veh/h	360	0	0	0	0	0	124	1	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	0
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, %	1	1	1	0	0	0	0	0	0	0	0	0
Mvmt Flow	383	0	0	0	0	0	132	1	0	0	0	0

Major/Minor	Major2			Minor1			Minor2		
Conflicting Flow All	-	-	0	1	1	-	-	-	1
Stage 1	-	-	-	0	0	-	-	-	-
Stage 2	-	-	-	1	1	-	-	-	-
Critical Hdwy	-	-	-	7.1	6.5	-	-	-	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.1	5.5	-	-	-	-
Follow-up Hdwy	-	-	-	3.5	4	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	0	1027	899	0	0	0	1090
Stage 1	0	-	0	-	-	0	0	0	-
Stage 2	0	-	0	1027	899	0	0	0	-
Platoon blocked, %		-							
Mov Cap-1 Maneuver	-	-	-	1027	899	-	-	-	1090
Mov Cap-2 Maneuver	-	-	-	1027	899	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	1027	899	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	9	0
HCM LOS		A	A

Minor Lane/Major Mvmt	NBLn1	WBT	SBLn1
Capacity (veh/h)	1026	-	-
HCM Lane V/C Ratio	0.13	-	-
HCM Control Delay (s)	9	-	0
HCM Lane LOS	A	-	A
HCM 95th %tile Q(veh)	0.4	-	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	328	135	8	113	0	0	0	0	10	1	0
Future Vol, veh/h	0	328	135	8	113	0	0	0	0	10	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	2	2	2	3	3	3	0	0	0	0	0	0
Mvmt Flow	0	410	169	10	141	0	0	0	0	13	1	0

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	579	0	0	656	740	-
Stage 1	-	-	-	-	-	-	161	161	-
Stage 2	-	-	-	-	-	-	495	579	-
Critical Hdwy	-	-	-	4.13	-	-	6.4	6.5	-
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.227	-	-	3.5	4	-
Pot Cap-1 Maneuver	0	-	-	990	-	0	433	347	0
Stage 1	0	-	-	-	-	0	873	769	0
Stage 2	0	-	-	-	-	0	617	504	0
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	990	-	-	428	0	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	428	0	-
Stage 1	-	-	-	-	-	-	873	0	-
Stage 2	-	-	-	-	-	-	610	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.6	13.7
HCM LOS			B

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	990	-	428
HCM Lane V/C Ratio	-	-	0.01	-	0.032
HCM Control Delay (s)	-	-	8.7	0	13.7
HCM Lane LOS	-	-	A	A	B
HCM 95th %tile Q(veh)	-	-	0	-	0.1

Intersection	
Int Delay, s/veh	2.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	113	0	0	463	0	548
Future Vol, veh/h	113	0	0	463	0	548
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Free	-	None
Storage Length	0	-	-	0	-	-
Veh in Median Storage, #	0	-	16974	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	1	1	0	0	1	1
Mvmt Flow	126	0	0	514	0	609

Major/Minor	Minor1			Major2	
Conflicting Flow All	609	-		-	-
Stage 1	0	-		-	-
Stage 2	609	-		-	-
Critical Hdwy	6.41	-		-	-
Critical Hdwy Stg 1	-	-		-	-
Critical Hdwy Stg 2	5.41	-		-	-
Follow-up Hdwy	3.509	-		-	-
Pot Cap-1 Maneuver	460	0		0	-
Stage 1	-	0		0	-
Stage 2	545	0		0	-
Platoon blocked, %					-
Mov Cap-1 Maneuver	460	-		-	-
Mov Cap-2 Maneuver	460	-		-	-
Stage 1	-	-		-	-
Stage 2	545	-		-	-

Approach	WB	SB
HCM Control Delay, s	15.7	0
HCM LOS	C	

Minor Lane/Major Mvmt	WBLn1	SBT
Capacity (veh/h)	460	-
HCM Lane V/C Ratio	0.273	-
HCM Control Delay (s)	15.7	-
HCM Lane LOS	C	-
HCM 95th %tile Q(veh)	1.1	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	54	0	55	7	0	21	98	481	4	20	811	155
Future Vol, veh/h	54	0	55	7	0	21	98	481	4	20	811	155
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	-	-	-	200	-	25	200	-	525
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	4	4	4	0	5	5	0	1	1
Mvmt Flow	56	0	57	7	0	22	101	496	4	21	836	160

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1328	1580	418	1158	1736	248	996	0	0	500	0	0
Stage 1	878	878	-	698	698	-	-	-	-	-	-	-
Stage 2	450	702	-	460	1038	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.58	6.58	6.98	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.58	5.58	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.58	5.58	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.54	4.04	3.34	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	113	108	584	149	85	746	703	-	-	1075	-	-
Stage 1	309	364	-	392	436	-	-	-	-	-	-	-
Stage 2	558	439	-	545	302	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	96	91	584	118	71	746	703	-	-	1075	-	-
Mov Cap-2 Maneuver	191	204	-	217	145	-	-	-	-	-	-	-
Stage 1	265	357	-	336	373	-	-	-	-	-	-	-
Stage 2	464	376	-	482	296	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	21.5	13.3	1.8	0.2
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	703	-	-	191	584	464	1075	-	-
HCM Lane V/C Ratio	0.144	-	-	0.291	0.097	0.062	0.019	-	-
HCM Control Delay (s)	11	-	-	31.4	11.8	13.3	8.4	-	-
HCM Lane LOS	B	-	-	D	B	B	A	-	-
HCM 95th %tile Q(veh)	0.5	-	-	1.2	0.3	0.2	0.1	-	-

Intersection	
Int Delay, s/veh	7.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	89	282	229	55	404	414
Future Vol, veh/h	89	282	229	55	404	414
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	25	-	25	350	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	1	1	5	5	2	2
Mvmt Flow	92	291	236	57	416	427

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1282	118	0	0	293	0
Stage 1	236	-	-	-	-	-
Stage 2	1046	-	-	-	-	-
Critical Hdwy	6.82	6.92	-	-	4.14	-
Critical Hdwy Stg 1	5.82	-	-	-	-	-
Critical Hdwy Stg 2	5.82	-	-	-	-	-
Follow-up Hdwy	3.51	3.31	-	-	2.22	-
Pot Cap-1 Maneuver	158	915	-	-	1265	-
Stage 1	784	-	-	-	-	-
Stage 2	302	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	106	915	-	-	1265	-
Mov Cap-2 Maneuver	174	-	-	-	-	-
Stage 1	784	-	-	-	-	-
Stage 2	203	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.4	0	4.6
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	174	915	1265	-
HCM Lane V/C Ratio	-	-	0.527	0.318	0.329	-
HCM Control Delay (s)	-	-	46.7	10.8	9.2	-
HCM Lane LOS	-	-	E	B	A	-
HCM 95th %tile Q(veh)	-	-	2.7	1.4	1.5	-

YEAR 2026

LEVEL OF SERVICE CALCULATIONS

AM & PM WITH BACKGROUND GROWTH RATE

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	63	2	54	2	2	15	109	1504	4	5	545	21
Future Vol, veh/h	63	2	54	2	2	15	109	1504	4	5	545	21
Conflicting Peds, #/hr	1	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	-	-	-	-	-	-	300	-	25	300	-	25
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0	0	2	2	0	11	11
Mvmt Flow	70	2	60	2	2	17	121	1671	4	6	606	23

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1698	2535	303	2229	2554	837	629	0	0	1675	0	0
Stage 1	618	618	-	1913	1913	-	-	-	-	-	-	-
Stage 2	1080	1917	-	316	641	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	~ 61	28	699	24	27	314	963	-	-	388	-	-
Stage 1	448	484	-	72	117	-	-	-	-	-	-	-
Stage 2	236	116	-	675	473	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 50	24	699	19	23	314	963	-	-	388	-	-
Mov Cap-2 Maneuver	134	78	-	54	79	-	-	-	-	-	-	-
Stage 1	392	477	-	63	102	-	-	-	-	-	-	-
Stage 2	191	101	-	605	466	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	48.4	28.7	0.6	0.1
HCM LOS	E	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	963	-	-	208	173	388	-	-
HCM Lane V/C Ratio	0.126	-	-	0.636	0.122	0.014	-	-
HCM Control Delay (s)	9.3	-	-	48.4	28.7	14.4	-	-
HCM Lane LOS	A	-	-	E	D	B	-	-
HCM 95th %tile Q(veh)	0.4	-	-	3.8	0.4	0	-	-

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

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	119	2	2	15	109	1567	6	5	545	21
Future Vol, veh/h	0	0	119	2	2	15	109	1567	6	5	545	21
Conflicting Peds, #/hr	1	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Yield	Yield	Yield	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	300	-	25	300	-	25
Veh in Median Storage, #	-	0	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0	0	2	2	0	11	11
Mvmt Flow	0	0	132	2	2	17	121	1741	7	6	606	23

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	2298	2624	871	629	0	0	1748	0	0
Stage 1	1983	1983	-	-	-	-	-	-	-
Stage 2	315	641	-	-	-	-	-	-	-
Critical Hdwy	6.8	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	5.8	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.8	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	34	24	298	963	-	-	364	-	-
Stage 1	95	108	-	-	-	-	-	-	-
Stage 2	719	473	-	-	-	-	-	-	-
Platoon blocked, %					-	-		-	-
Mov Cap-1 Maneuver	29	0	298	963	-	-	364	-	-
Mov Cap-2 Maneuver	71	0	-	-	-	-	-	-	-
Stage 1	83	0	-	-	-	-	-	-	-
Stage 2	707	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	23.4	0.6	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	963	-	-	217	364	-	-
HCM Lane V/C Ratio	0.126	-	-	0.097	0.015	-	-
HCM Control Delay (s)	9.3	-	-	23.4	15	-	-
HCM Lane LOS	A	-	-	C	C	-	-
HCM 95th %tile Q(veh)	0.4	-	-	0.3	0	-	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	173	0	0	43	41	1595	139	16	558	26
Future Vol, veh/h	0	0	173	0	0	43	41	1595	139	16	558	26
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	-	-	Stop	-	-	None	-	-	Yield
Storage Length	-	-	0	-	-	0	217	-	25	217	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	3	3	3	5	5	5	8	1	1	13	12	12
Mvmt Flow	0	0	204	0	0	51	48	1876	164	19	656	31

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	328	-	-	938	656	0	0	2040	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.96	-	-	7	4.26	-	-	4.36	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.33	-	-	3.35	2.28	-	-	2.33	-	-
Pot Cap-1 Maneuver	0	0	665	0	0	260	888	-	-	235	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	665	-	-	260	888	-	-	235	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.8	22.2	0.2	0.6
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	888	-	-	665	260	235	-	-
HCM Lane V/C Ratio	0.054	-	-	0.306	0.195	0.08	-	-
HCM Control Delay (s)	9.3	-	-	12.8	22.2	21.6	-	-
HCM Lane LOS	A	-	-	B	C	C	-	-
HCM 95th %tile Q(veh)	0.2	-	-	1.3	0.7	0.3	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	22	22	1617	578	0
Future Vol, veh/h	0	22	22	1617	578	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	-	0	600	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	5	5	1	12	2
Mvmt Flow	0	24	24	1758	628	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	314	628	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7	4.2	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.35	2.25	-	-	-
Pot Cap-1 Maneuver	0	673	930	-	-	0
Stage 1	0	-	-	-	-	0
Stage 2	0	-	-	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	-	673	930	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.5	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT
Capacity (veh/h)	930	-	673	-
HCM Lane V/C Ratio	0.026	-	0.036	-
HCM Control Delay (s)	9	-	10.5	-
HCM Lane LOS	A	-	B	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-

Intersection	
Int Delay, s/veh	2.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	114	1661	0	114	617
Future Vol, veh/h	0	114	1661	0	114	617
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	-	0	-	-	600	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	3	1	0	3	12
Mvmt Flow	0	124	1805	0	124	671

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	903	0	-	1805	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.96	-	-	4.16	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.33	-	-	2.23	-
Pot Cap-1 Maneuver	0	278	-	0	333	-
Stage 1	0	-	-	0	-	-
Stage 2	0	-	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	-	278	-	-	333	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	28	0	3.4
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	WBLn1	SBL	SBT
Capacity (veh/h)	-	278	333	-
HCM Lane V/C Ratio	-	0.446	0.372	-
HCM Control Delay (s)	-	28	22.1	-
HCM Lane LOS	-	D	C	-
HCM 95th %tile Q(veh)	-	2.2	1.7	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	14	0	0	615	2
Future Vol, veh/h	0	14	0	0	615	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	25
Veh in Median Storage, #	0	-	-	16974	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	9	9	0	0	10	10
Mvmt Flow	0	16	0	0	683	2

Major/Minor	Minor2			Major2		
Conflicting Flow All	-	342			-	0
Stage 1	-	-			-	-
Stage 2	-	-			-	-
Critical Hdwy	-	7.08			-	-
Critical Hdwy Stg 1	-	-			-	-
Critical Hdwy Stg 2	-	-			-	-
Follow-up Hdwy	-	3.39			-	-
Pot Cap-1 Maneuver	0	634			-	-
Stage 1	0	-			-	-
Stage 2	0	-			-	-
Platoon blocked, %					-	-
Mov Cap-1 Maneuver	-	634			-	-
Mov Cap-2 Maneuver	-	-			-	-
Stage 1	-	-			-	-
Stage 2	-	-			-	-

Approach	EB	SB
HCM Control Delay, s	10.8	0
HCM LOS	B	

Minor Lane/Major Mvmt	EBLn1	SBT	SBR
Capacity (veh/h)	634	-	-
HCM Lane V/C Ratio	0.025	-	-
HCM Control Delay (s)	10.8	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-

Intersection	
Int Delay, s/veh	9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	756	0	0	0	0	0	113	0	0	0	0	0
Future Vol, veh/h	756	0	0	0	0	0	113	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	0	0	0	0	0	0	0	0	0
Mvmt Flow	969	0	0	0	0	0	145	0	0	0	0	0

Major/Minor	Major2			Minor1			Minor2		
Conflicting Flow All	-	-	0	1	1	-	-	-	1
Stage 1	-	-	-	0	0	-	-	-	-
Stage 2	-	-	-	1	1	-	-	-	-
Critical Hdwy	-	-	-	7.1	6.5	-	-	-	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.1	5.5	-	-	-	-
Follow-up Hdwy	-	-	-	3.5	4	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	0	1027	899	0	0	0	1090
Stage 1	0	-	0	-	-	0	0	0	-
Stage 2	0	-	0	1027	899	0	0	0	-
Platoon blocked, %		-							
Mov Cap-1 Maneuver	-	-	-	1027	899	-	-	-	1090
Mov Cap-2 Maneuver	-	-	-	1027	899	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	1027	899	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	9.1	0
HCM LOS		A	A

Minor Lane/Major Mvmt	NBLn1	WBT	SBLn1
Capacity (veh/h)	1027	-	-
HCM Lane V/C Ratio	0.141	-	-
HCM Control Delay (s)	9.1	-	0
HCM Lane LOS	A	-	A
HCM 95th %tile Q(veh)	0.5	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	663	51	2	127	0	0	0	0	18	1	0
Future Vol, veh/h	0	663	51	2	127	0	0	0	0	18	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	77	77	77	77	77	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2	0	0	0	22	22	22
Mvmt Flow	0	861	66	3	165	0	0	0	0	23	1	0

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	927	0	0	1065	1098	-
Stage 1	-	-	-	-	-	-	171	171	-
Stage 2	-	-	-	-	-	-	894	927	-
Critical Hdwy	-	-	-	4.12	-	-	6.62	6.72	-
Critical Hdwy Stg 1	-	-	-	-	-	-	5.62	5.72	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.62	5.72	-
Follow-up Hdwy	-	-	-	2.218	-	-	3.698	4.198	-
Pot Cap-1 Maneuver	0	-	-	737	-	0	226	196	0
Stage 1	0	-	-	-	-	0	813	721	0
Stage 2	0	-	-	-	-	0	369	322	0
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	737	-	-	225	0	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	225	0	-
Stage 1	-	-	-	-	-	-	813	0	-
Stage 2	-	-	-	-	-	-	368	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.2	23
HCM LOS			C

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	737	-	225
HCM Lane V/C Ratio	-	-	0.004	-	0.11
HCM Control Delay (s)	-	-	9.9	0	23
HCM Lane LOS	-	-	A	A	C
HCM 95th %tile Q(veh)	-	-	0	-	0.4

Intersection	
Int Delay, s/veh	4.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	127	0	0	714	0	203
Future Vol, veh/h	127	0	0	714	0	203
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Free	-	None
Storage Length	0	-	-	0	-	-
Veh in Median Storage, #	0	-	16974	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	3	3	0	0	8	8
Mvmt Flow	146	0	0	821	0	233

Major/Minor	Minor1		Major2	
Conflicting Flow All	233	-	-	-
Stage 1	0	-	-	-
Stage 2	233	-	-	-
Critical Hdwy	6.43	-	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-
Follow-up Hdwy	3.527	-	-	-
Pot Cap-1 Maneuver	753	0	0	-
Stage 1	-	0	0	-
Stage 2	803	0	0	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	753	-	-	-
Mov Cap-2 Maneuver	753	-	-	-
Stage 1	-	-	-	-
Stage 2	803	-	-	-

Approach	WB	SB
HCM Control Delay, s	10.9	0
HCM LOS	B	

Minor Lane/Major Mvmt	WBLn1	SBT
Capacity (veh/h)	753	-
HCM Lane V/C Ratio	0.194	-
HCM Control Delay (s)	10.9	-
HCM Lane LOS	B	-
HCM 95th %tile Q(veh)	0.7	-

Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	196	1	100	0	2	17	29	858	3	12	433	70
Future Vol, veh/h	196	1	100	0	2	17	29	858	3	12	433	70
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	-	-	-	200	-	25	200	-	525
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	3	3	3	17	17	17	4	2	2	9	9	6
Mvmt Flow	204	1	104	0	2	18	30	894	3	13	451	73

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	985	1434	226	1206	1504	447	524	0	0	897	0	0
Stage 1	477	477	-	954	954	-	-	-	-	-	-	-
Stage 2	508	957	-	252	550	-	-	-	-	-	-	-
Critical Hdwy	7.56	6.56	6.96	7.84	6.84	7.24	4.18	-	-	4.28	-	-
Critical Hdwy Stg 1	6.56	5.56	-	6.84	5.84	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.56	5.56	-	6.84	5.84	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.03	3.33	3.67	4.17	3.47	2.24	-	-	2.29	-	-
Pot Cap-1 Maneuver	~ 201	132	774	123	105	520	1025	-	-	710	-	-
Stage 1	535	552	-	250	303	-	-	-	-	-	-	-
Stage 2	513	332	-	689	478	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 186	126	774	102	100	520	1025	-	-	710	-	-
Mov Cap-2 Maneuver	308	231	-	191	204	-	-	-	-	-	-	-
Stage 1	519	542	-	243	294	-	-	-	-	-	-	-
Stage 2	478	322	-	584	469	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	28.4	13.4	0.3	0.2
HCM LOS	D	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1025	-	-	307	774	447	710	-	-
HCM Lane V/C Ratio	0.029	-	-	0.668	0.135	0.044	0.018	-	-
HCM Control Delay (s)	8.6	-	-	37.5	10.4	13.4	10.2	-	-
HCM Lane LOS	A	-	-	E	B	B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	4.5	0.5	0.1	0.1	-	-

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

Intersection	
Int Delay, s/veh	7.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	62	397	417	91	204	241
Future Vol, veh/h	62	397	417	91	204	241
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	25	-	25	350	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	1	1	2	2	9	9
Mvmt Flow	72	462	485	106	237	280

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1099	243	0	0	591	0
Stage 1	485	-	-	-	-	-
Stage 2	614	-	-	-	-	-
Critical Hdwy	6.82	6.92	-	-	4.28	-
Critical Hdwy Stg 1	5.82	-	-	-	-	-
Critical Hdwy Stg 2	5.82	-	-	-	-	-
Follow-up Hdwy	3.51	3.31	-	-	2.29	-
Pot Cap-1 Maneuver	208	761	-	-	934	-
Stage 1	588	-	-	-	-	-
Stage 2	505	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	155	761	-	-	934	-
Mov Cap-2 Maneuver	275	-	-	-	-	-
Stage 1	588	-	-	-	-	-
Stage 2	377	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.5	0	4.7
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	275	761	934	-
HCM Lane V/C Ratio	-	-	0.262	0.607	0.254	-
HCM Control Delay (s)	-	-	22.7	16.7	10.2	-
HCM Lane LOS	-	-	C	C	B	-
HCM 95th %tile Q(veh)	-	-	1	4.2	1	-

Intersection	
Int Delay, s/veh	8.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	62	397	417	91	204	0
Future Vol, veh/h	62	397	417	91	204	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	25	-	25	300	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	1	1	2	2	9	9
Mvmt Flow	72	462	485	106	237	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	959	243	0	0	591	0
Stage 1	485	-	-	-	-	-
Stage 2	474	-	-	-	-	-
Critical Hdwy	6.615	6.915	-	-	4.235	-
Critical Hdwy Stg 1	5.815	-	-	-	-	-
Critical Hdwy Stg 2	5.415	-	-	-	-	-
Follow-up Hdwy	3.5095	3.3095	-	-	2.2855	-
Pot Cap-1 Maneuver	271	761	-	-	943	-
Stage 1	588	-	-	-	-	-
Stage 2	628	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	203	761	-	-	943	-
Mov Cap-2 Maneuver	390	-	-	-	-	-
Stage 1	588	-	-	-	-	-
Stage 2	470	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.6	0	10.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	390	761	943	-
HCM Lane V/C Ratio	-	-	0.185	0.607	0.252	-
HCM Control Delay (s)	-	-	16.3	16.7	10.1	-
HCM Lane LOS	-	-	C	C	B	-
HCM 95th %tile Q(veh)	-	-	0.7	4.2	1	-

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	24	2	148	4	2	16	90	626	11	24	1410	71
Future Vol, veh/h	24	2	148	4	2	16	90	626	11	24	1410	71
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	-	-	-	-	-	-	300	-	25	300	-	25
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	5	5	5	0	7	7	5	1	1
Mvmt Flow	25	2	156	4	2	17	95	659	12	25	1484	75

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2055	2395	742	1642	2458	330	1559	0	0	671	0	0
Stage 1	1534	1534	-	849	849	-	-	-	-	-	-	-
Stage 2	521	861	-	793	1609	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.6	6.6	7	4.1	-	-	4.2	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.6	5.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.6	5.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.55	4.05	3.35	2.2	-	-	2.25	-	-
Pot Cap-1 Maneuver	33	34	363	64	29	657	430	-	-	895	-	-
Stage 1	124	180	-	316	368	-	-	-	-	-	-	-
Stage 2	512	375	-	342	157	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 25	26	363	29	22	657	430	-	-	895	-	-
Mov Cap-2 Maneuver	77	108	-	71	49	-	-	-	-	-	-	-
Stage 1	97	175	-	246	287	-	-	-	-	-	-	-
Stage 2	386	292	-	187	153	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	58.6	27.8	1.9	0.1
HCM LOS	F	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	430	-	-	236	181	895	-	-
HCM Lane V/C Ratio	0.22	-	-	0.776	0.128	0.028	-	-
HCM Control Delay (s)	15.7	-	-	58.6	27.8	9.1	-	-
HCM Lane LOS	C	-	-	F	D	A	-	-
HCM 95th %tile Q(veh)	0.8	-	-	5.6	0.4	0.1	-	-

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

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	174	4	2	16	90	650	13	24	1410	71
Future Vol, veh/h	0	0	174	4	2	16	90	650	13	24	1410	71
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Yield	Yield	Yield	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	300	-	25	300	-	25
Veh in Median Storage, #	-	0	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	5	5	5	0	7	7	5	1	1
Mvmt Flow	0	0	183	4	2	17	95	684	14	25	1484	75

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	1666	2483	342	1559	0	0	698	0	0
Stage 1	874	874	-	-	-	-	-	-	-
Stage 2	792	1609	-	-	-	-	-	-	-
Critical Hdwy	6.9	6.6	7	4.1	-	-	4.2	-	-
Critical Hdwy Stg 1	5.9	5.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.9	5.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.55	4.05	3.35	2.2	-	-	2.25	-	-
Pot Cap-1 Maneuver	85	28	645	430	-	-	874	-	-
Stage 1	361	359	-	-	-	-	-	-	-
Stage 2	399	157	-	-	-	-	-	-	-
Platoon blocked, %					-	-		-	-
Mov Cap-1 Maneuver	64	0	645	430	-	-	874	-	-
Mov Cap-2 Maneuver	160	0	-	-	-	-	-	-	-
Stage 1	281	0	-	-	-	-	-	-	-
Stage 2	387	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.5	1.9	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	430	-	-	402	874	-	-
HCM Lane V/C Ratio	0.22	-	-	0.058	0.029	-	-
HCM Control Delay (s)	15.7	-	-	14.5	9.2	-	-
HCM Lane LOS	C	-	-	B	A	-	-
HCM 95th %tile Q(veh)	0.8	-	-	0.2	0.1	-	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	101	0	0	73	64	670	80	32	1439	79
Future Vol, veh/h	0	0	101	0	0	73	64	670	80	32	1439	79
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	-	-	Stop	-	-	None	-	-	Yield
Storage Length	-	-	0	-	-	0	217	-	25	217	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	1	1	1	0	4	4	0	1	1
Mvmt Flow	0	0	109	0	0	78	69	720	86	34	1547	85

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	774	-	-	360	1547	0	0	806	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.9	-	-	6.92	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.3	-	-	3.31	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	0	0	346	0	0	639	434	-	-	828	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	346	-	-	639	434	-	-	828	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	20.1	11.4	1.2	0.2
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	434	-	-	346	639	828	-	-
HCM Lane V/C Ratio	0.159	-	-	0.314	0.123	0.042	-	-
HCM Control Delay (s)	14.9	-	-	20.1	11.4	9.5	-	-
HCM Lane LOS	B	-	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0.6	-	-	1.3	0.4	0.1	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	48	48	695	1503	0
Future Vol, veh/h	0	48	48	695	1503	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	-	0	600	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	1	1	4	1	0
Mvmt Flow	0	52	52	755	1634	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	817	1634	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.92	4.12	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.31	2.21	-	-	-
Pot Cap-1 Maneuver	0	322	398	-	-	0
Stage 1	0	-	-	-	-	0
Stage 2	0	-	-	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	-	322	398	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.3	1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT
Capacity (veh/h)	398	-	322	-
HCM Lane V/C Ratio	0.131	-	0.162	-
HCM Control Delay (s)	15.4	-	18.3	-
HCM Lane LOS	C	-	C	-
HCM 95th %tile Q(veh)	0.4	-	0.6	-

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	53	761	0	53	1487
Future Vol, veh/h	0	53	761	0	53	1487
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	-	0	-	-	600	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	4	0	0	1
Mvmt Flow	0	58	827	0	58	1616

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	414	0	-	827	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	4.1	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	0	593	-	0	813	-
Stage 1	0	-	-	0	-	-
Stage 2	0	-	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	-	593	-	-	813	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.7	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	WBLn1	SBL	SBT
Capacity (veh/h)	-	593	813	-
HCM Lane V/C Ratio	-	0.097	0.071	-
HCM Control Delay (s)	-	11.7	9.8	-
HCM Lane LOS	-	B	A	-
HCM 95th %tile Q(veh)	-	0.3	0.2	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	4	0	0	1470	17
Future Vol, veh/h	0	4	0	0	1470	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	25
Veh in Median Storage, #	0	-	-	16974	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	1	1
Mvmt Flow	0	4	0	0	1564	18

Major/Minor	Minor2			Major2	
Conflicting Flow All	-	782		-	0
Stage 1	-	-		-	-
Stage 2	-	-		-	-
Critical Hdwy	-	6.9		-	-
Critical Hdwy Stg 1	-	-		-	-
Critical Hdwy Stg 2	-	-		-	-
Follow-up Hdwy	-	3.3		-	-
Pot Cap-1 Maneuver	0	341		-	-
Stage 1	0	-		-	-
Stage 2	0	-		-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	341		-	-
Mov Cap-2 Maneuver	-	-		-	-
Stage 1	-	-		-	-
Stage 2	-	-		-	-

Approach	EB	SB
HCM Control Delay, s	15.7	0
HCM LOS	C	

Minor Lane/Major Mvmt	EBLn1	SBT	SBR
Capacity (veh/h)	341	-	-
HCM Lane V/C Ratio	0.012	-	-
HCM Control Delay (s)	15.7	-	-
HCM Lane LOS	C	-	-
HCM 95th %tile Q(veh)	0	-	-

Intersection	
Int Delay, s/veh	9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	378	0	0	0	0	0	131	1	0	0	0	0
Future Vol, veh/h	378	0	0	0	0	0	131	1	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	0
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, %	1	1	1	0	0	0	0	0	0	0	0	0
Mvmt Flow	402	0	0	0	0	0	139	1	0	0	0	0

Major/Minor	Major2			Minor1			Minor2		
Conflicting Flow All	-	-	0	1	1	-	-	-	1
Stage 1	-	-	-	0	0	-	-	-	-
Stage 2	-	-	-	1	1	-	-	-	-
Critical Hdwy	-	-	-	7.1	6.5	-	-	-	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.1	5.5	-	-	-	-
Follow-up Hdwy	-	-	-	3.5	4	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	0	1027	899	0	0	0	1090
Stage 1	0	-	0	-	-	0	0	0	-
Stage 2	0	-	0	1027	899	0	0	0	-
Platoon blocked, %		-							
Mov Cap-1 Maneuver	-	-	-	1027	899	-	-	-	1090
Mov Cap-2 Maneuver	-	-	-	1027	899	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	1027	899	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	9.1	0
HCM LOS		A	A

Minor Lane/Major Mvmt	NBLn1	WBT	SBLn1
Capacity (veh/h)	1026	-	-
HCM Lane V/C Ratio	0.137	-	-
HCM Control Delay (s)	9.1	-	0
HCM Lane LOS	A	-	A
HCM 95th %tile Q(veh)	0.5	-	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	345	142	9	119	0	0	0	0	11	1	0
Future Vol, veh/h	0	345	142	9	119	0	0	0	0	11	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	2	2	2	3	3	3	0	0	0	0	0	0
Mvmt Flow	0	431	178	11	149	0	0	0	0	14	1	0

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	609	0	0	691	780	-
Stage 1	-	-	-	-	-	-	171	171	-
Stage 2	-	-	-	-	-	-	520	609	-
Critical Hdwy	-	-	-	4.13	-	-	6.4	6.5	-
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.227	-	-	3.5	4	-
Pot Cap-1 Maneuver	0	-	-	965	-	0	413	329	0
Stage 1	0	-	-	-	-	0	864	761	0
Stage 2	0	-	-	-	-	0	601	488	0
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	965	-	-	408	0	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	408	0	-
Stage 1	-	-	-	-	-	-	864	0	-
Stage 2	-	-	-	-	-	-	594	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.6	14.2
HCM LOS			B

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	965	-	408
HCM Lane V/C Ratio	-	-	0.012	-	0.037
HCM Control Delay (s)	-	-	8.8	0	14.2
HCM Lane LOS	-	-	A	A	B
HCM 95th %tile Q(veh)	-	-	0	-	0.1

Intersection	
Int Delay, s/veh	2.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	119	0	0	487	0	576
Future Vol, veh/h	119	0	0	487	0	576
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Free	-	None
Storage Length	0	-	-	0	-	-
Veh in Median Storage, #	0	-	16974	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	1	1	0	0	1	1
Mvmt Flow	132	0	0	541	0	640

Major/Minor	Minor1		Major2	
Conflicting Flow All	640	-	-	-
Stage 1	0	-	-	-
Stage 2	640	-	-	-
Critical Hdwy	6.41	-	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-
Follow-up Hdwy	3.509	-	-	-
Pot Cap-1 Maneuver	441	0	0	-
Stage 1	-	0	0	-
Stage 2	527	0	0	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	441	-	-	-
Mov Cap-2 Maneuver	441	-	-	-
Stage 1	-	-	-	-
Stage 2	527	-	-	-

Approach	WB	SB
HCM Control Delay, s	16.6	0
HCM LOS	C	

Minor Lane/Major Mvmt	WBLn1	SBT
Capacity (veh/h)	441	-
HCM Lane V/C Ratio	0.3	-
HCM Control Delay (s)	16.6	-
HCM Lane LOS	C	-
HCM 95th %tile Q(veh)	1.2	-

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	56	0	57	8	0	22	103	506	4	21	852	162
Future Vol, veh/h	56	0	57	8	0	22	103	506	4	21	852	162
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	-	-	-	200	-	25	200	-	525
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	4	4	4	0	5	5	0	1	1
Mvmt Flow	58	0	59	8	0	23	106	522	4	22	878	167

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1395	1660	439	1217	1823	261	1045	0	0	526	0	0
Stage 1	922	922	-	734	734	-	-	-	-	-	-	-
Stage 2	473	738	-	483	1089	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.58	6.58	6.98	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.58	5.58	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.58	5.58	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.54	4.04	3.34	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	101	96	566	134	75	732	673	-	-	1051	-	-
Stage 1	291	347	-	373	419	-	-	-	-	-	-	-
Stage 2	541	422	-	528	285	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	85	79	566	104	62	732	673	-	-	1051	-	-
Mov Cap-2 Maneuver	176	190	-	200	130	-	-	-	-	-	-	-
Stage 1	245	340	-	314	353	-	-	-	-	-	-	-
Stage 2	442	355	-	463	279	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	23.5	14.1	1.9	0.2
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	673	-	-	176	566	428	1051	-	-
HCM Lane V/C Ratio	0.158	-	-	0.328	0.104	0.072	0.021	-	-
HCM Control Delay (s)	11.3	-	-	35.1	12.1	14.1	8.5	-	-
HCM Lane LOS	B	-	-	E	B	B	A	-	-
HCM 95th %tile Q(veh)	0.6	-	-	1.3	0.3	0.2	0.1	-	-

Intersection	
Int Delay, s/veh	8.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	93	296	241	57	425	435
Future Vol, veh/h	93	296	241	57	425	435
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	25	-	25	350	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	1	1	5	5	2	2
Mvmt Flow	96	305	248	59	438	448

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1348	124	0	0	307	0
Stage 1	248	-	-	-	-	-
Stage 2	1100	-	-	-	-	-
Critical Hdwy	6.82	6.92	-	-	4.14	-
Critical Hdwy Stg 1	5.82	-	-	-	-	-
Critical Hdwy Stg 2	5.82	-	-	-	-	-
Follow-up Hdwy	3.51	3.31	-	-	2.22	-
Pot Cap-1 Maneuver	143	907	-	-	1250	-
Stage 1	773	-	-	-	-	-
Stage 2	282	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 93	907	-	-	1250	-
Mov Cap-2 Maneuver	157	-	-	-	-	-
Stage 1	773	-	-	-	-	-
Stage 2	183	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	22.4	0	4.7
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	157	907	1250	-
HCM Lane V/C Ratio	-	-	0.611	0.336	0.351	-
HCM Control Delay (s)	-	-	58.5	11	9.4	-
HCM Lane LOS	-	-	F	B	A	-
HCM 95th %tile Q(veh)	-	-	3.3	1.5	1.6	-

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

Intersection	
Int Delay, s/veh	8.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	93	296	241	57	425	0
Future Vol, veh/h	93	296	241	57	425	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	25	-	25	300	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	1	1	5	5	2	2
Mvmt Flow	96	305	248	59	438	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1124	124	0	0	307	0
Stage 1	248	-	-	-	-	-
Stage 2	876	-	-	-	-	-
Critical Hdwy	6.615	6.915	-	-	4.13	-
Critical Hdwy Stg 1	5.815	-	-	-	-	-
Critical Hdwy Stg 2	5.415	-	-	-	-	-
Follow-up Hdwy	3.5095	3.3095	-	-	2.219	-
Pot Cap-1 Maneuver	214	907	-	-	1252	-
Stage 1	774	-	-	-	-	-
Stage 2	408	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	139	907	-	-	1252	-
Mov Cap-2 Maneuver	248	-	-	-	-	-
Stage 1	774	-	-	-	-	-
Stage 2	265	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.2	0	9.4
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	248	907	1252	-
HCM Lane V/C Ratio	-	-	0.387	0.336	0.35	-
HCM Control Delay (s)	-	-	28.4	11	9.4	-
HCM Lane LOS	-	-	D	B	A	-
HCM 95th %tile Q(veh)	-	-	1.7	1.5	1.6	-

YEAR 2026

LEVEL OF SERVICE CALCULATIONS

AM & PM WITHOUT PROJECT, WITH BACKGROUND

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	63	2	55	2	2	15	112	1614	4	5	582	21
Future Vol, veh/h	63	2	55	2	2	15	112	1614	4	5	582	21
Conflicting Peds, #/hr	1	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	-	-	-	-	-	-	300	-	25	300	-	25
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0	0	2	2	0	11	11
Mvmt Flow	70	2	61	2	2	17	124	1793	4	6	647	23

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1806	2704	324	2378	2723	898	670	0	0	1797	0	0
Stage 1	659	659	-	2041	2041	-	-	-	-	-	-	-
Stage 2	1147	2045	-	337	682	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	~ 51	22	678	19	21	286	930	-	-	348	-	-
Stage 1	424	464	-	59	101	-	-	-	-	-	-	-
Stage 2	215	100	-	656	453	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 42	19	678	15	18	286	930	-	-	348	-	-
Mov Cap-2 Maneuver	120	67	-	44	68	-	-	-	-	-	-	-
Stage 1	368	456	-	51	88	-	-	-	-	-	-	-
Stage 2	171	87	-	584	445	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	59.9	33.1	0.6	0.1
HCM LOS	F	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	930	-	-	189	149	348	-	-
HCM Lane V/C Ratio	0.134	-	-	0.705	0.142	0.016	-	-
HCM Control Delay (s)	9.5	-	-	59.9	33.1	15.5	-	-
HCM Lane LOS	A	-	-	F	D	C	-	-
HCM 95th %tile Q(veh)	0.5	-	-	4.4	0.5	0	-	-

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

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	120	2	2	15	112	1677	6	5	582	21
Future Vol, veh/h	0	0	120	2	2	15	112	1677	6	5	582	21
Conflicting Peds, #/hr	1	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Yield	Yield	Yield	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	300	-	25	300	-	25
Veh in Median Storage, #	-	0	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0	0	2	2	0	11	11
Mvmt Flow	0	0	133	2	2	17	124	1863	7	6	647	23

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	2447	2793	932	670	0	0	1870	0	0
Stage 1	2111	2111	-	-	-	-	-	-	-
Stage 2	336	682	-	-	-	-	-	-	-
Critical Hdwy	6.8	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	5.8	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.8	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	27	19	272	930	-	-	326	-	-
Stage 1	81	93	-	-	-	-	-	-	-
Stage 2	702	453	-	-	-	-	-	-	-
Platoon blocked, %					-	-		-	-
Mov Cap-1 Maneuver	23	0	272	930	-	-	326	-	-
Mov Cap-2 Maneuver	60	0	-	-	-	-	-	-	-
Stage 1	70	0	-	-	-	-	-	-	-
Stage 2	689	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	26.1	0.6	0.1
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	930	-	-	192	326	-	-
HCM Lane V/C Ratio	0.134	-	-	0.11	0.017	-	-
HCM Control Delay (s)	9.5	-	-	26.1	16.2	-	-
HCM Lane LOS	A	-	-	D	C	-	-
HCM 95th %tile Q(veh)	0.5	-	-	0.4	0.1	-	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	175	0	0	45	45	1708	147	16	598	26
Future Vol, veh/h	0	0	175	0	0	45	45	1708	147	16	598	26
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	-	-	Stop	-	-	None	-	-	Yield
Storage Length	-	-	0	-	-	0	217	-	25	217	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	3	3	3	5	5	5	8	1	1	13	12	12
Mvmt Flow	0	0	206	0	0	53	53	2009	173	19	704	31

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	352	-	-	1005	704	0	0	2182	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.96	-	-	7	4.26	-	-	4.36	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.33	-	-	3.35	2.28	-	-	2.33	-	-
Pot Cap-1 Maneuver	0	0	641	0	0	234	851	-	-	205	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	641	-	-	234	851	-	-	205	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.3	24.8	0.2	0.6
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	851	-	-	641	234	205	-	-
HCM Lane V/C Ratio	0.062	-	-	0.321	0.226	0.092	-	-
HCM Control Delay (s)	9.5	-	-	13.3	24.8	24.3	-	-
HCM Lane LOS	A	-	-	B	C	C	-	-
HCM 95th %tile Q(veh)	0.2	-	-	1.4	0.8	0.3	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	24	24	1730	616	0
Future Vol, veh/h	0	24	24	1730	616	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	-	0	600	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	5	5	1	12	2
Mvmt Flow	0	26	26	1880	670	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	335	670	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7	4.2	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.35	2.25	-	-	-
Pot Cap-1 Maneuver	0	652	896	-	-	0
Stage 1	0	-	-	-	-	0
Stage 2	0	-	-	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	-	652	896	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.8	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT
Capacity (veh/h)	896	-	652	-
HCM Lane V/C Ratio	0.029	-	0.04	-
HCM Control Delay (s)	9.1	-	10.8	-
HCM Lane LOS	A	-	B	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-

Intersection	
Int Delay, s/veh	2.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	114	1786	0	114	659
Future Vol, veh/h	0	114	1786	0	114	659
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	-	0	-	-	600	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	3	1	0	3	12
Mvmt Flow	0	124	1941	0	124	716

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	971	0	-	1941	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.96	-	-	4.16	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.33	-	-	2.23	-
Pot Cap-1 Maneuver	0	251	-	0	295	-
Stage 1	0	-	-	0	-	-
Stage 2	0	-	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	-	251	-	-	295	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	32.6	0	3.8
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	WBLn1	SBL	SBT
Capacity (veh/h)	-	251	295	-
HCM Lane V/C Ratio	-	0.494	0.42	-
HCM Control Delay (s)	-	32.6	25.8	-
HCM Lane LOS	-	D	D	-
HCM 95th %tile Q(veh)	-	2.5	2	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	14	0	0	657	2
Future Vol, veh/h	0	14	0	0	657	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	25
Veh in Median Storage, #	0	-	-	16974	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	9	9	0	0	10	10
Mvmt Flow	0	16	0	0	730	2

Major/Minor	Minor2			Major2	
Conflicting Flow All	-	365		-	0
Stage 1	-	-		-	-
Stage 2	-	-		-	-
Critical Hdwy	-	7.08		-	-
Critical Hdwy Stg 1	-	-		-	-
Critical Hdwy Stg 2	-	-		-	-
Follow-up Hdwy	-	3.39		-	-
Pot Cap-1 Maneuver	0	612		-	-
Stage 1	0	-		-	-
Stage 2	0	-		-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	612		-	-
Mov Cap-2 Maneuver	-	-		-	-
Stage 1	-	-		-	-
Stage 2	-	-		-	-

Approach	EB	SB
HCM Control Delay, s	11	0
HCM LOS	B	

Minor Lane/Major Mvmt	EBLn1	SBT	SBR
Capacity (veh/h)	612	-	-
HCM Lane V/C Ratio	0.025	-	-
HCM Control Delay (s)	11	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-

Intersection	
Int Delay, s/veh	9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	781	0	0	0	0	0	115	0	0	0	0	0
Future Vol, veh/h	781	0	0	0	0	0	115	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	0	0	0	0	0	0	0	0	0
Mvmt Flow	1001	0	0	0	0	0	147	0	0	0	0	0

Major/Minor	Major2			Minor1			Minor2		
Conflicting Flow All	-	-	0	1	1	-	-	-	1
Stage 1	-	-	-	0	0	-	-	-	-
Stage 2	-	-	-	1	1	-	-	-	-
Critical Hdwy	-	-	-	7.1	6.5	-	-	-	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.1	5.5	-	-	-	-
Follow-up Hdwy	-	-	-	3.5	4	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	0	1027	899	0	0	0	1090
Stage 1	0	-	0	-	-	0	0	0	-
Stage 2	0	-	0	1027	899	0	0	0	-
Platoon blocked, %		-							
Mov Cap-1 Maneuver	-	-	-	1027	899	-	-	-	1090
Mov Cap-2 Maneuver	-	-	-	1027	899	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	1027	899	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	9.1	0
HCM LOS		A	A

Minor Lane/Major Mvmt	NBLn1	WBT	SBLn1
Capacity (veh/h)	1027	-	-
HCM Lane V/C Ratio	0.144	-	-
HCM Control Delay (s)	9.1	-	0
HCM Lane LOS	A	-	A
HCM 95th %tile Q(veh)	0.5	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	688	52	2	129	0	0	0	0	18	1	0
Future Vol, veh/h	0	688	52	2	129	0	0	0	0	18	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	77	77	77	77	77	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2	0	0	0	22	22	22
Mvmt Flow	0	894	68	3	168	0	0	0	0	23	1	0

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	962	0	0	1102	1136	-
Stage 1	-	-	-	-	-	-	174	174	-
Stage 2	-	-	-	-	-	-	928	962	-
Critical Hdwy	-	-	-	4.12	-	-	6.62	6.72	-
Critical Hdwy Stg 1	-	-	-	-	-	-	5.62	5.72	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.62	5.72	-
Follow-up Hdwy	-	-	-	2.218	-	-	3.698	4.198	-
Pot Cap-1 Maneuver	0	-	-	715	-	0	214	186	0
Stage 1	0	-	-	-	-	0	810	719	0
Stage 2	0	-	-	-	-	0	355	309	0
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	715	-	-	213	0	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	213	0	-
Stage 1	-	-	-	-	-	-	810	0	-
Stage 2	-	-	-	-	-	-	353	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.2	24.1
HCM LOS			C

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	715	-	213
HCM Lane V/C Ratio	-	-	0.004	-	0.116
HCM Control Delay (s)	-	-	10.1	0	24.1
HCM Lane LOS	-	-	B	A	C
HCM 95th %tile Q(veh)	-	-	0	-	0.4

Intersection	
Int Delay, s/veh	4.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	129	0	0	740	0	212
Future Vol, veh/h	129	0	0	740	0	212
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Free	-	None
Storage Length	0	-	-	0	-	-
Veh in Median Storage, #	0	-	16974	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	3	3	0	0	8	8
Mvmt Flow	148	0	0	851	0	244

Major/Minor	Minor1			Major2	
Conflicting Flow All	244	-		-	-
Stage 1	0	-		-	-
Stage 2	244	-		-	-
Critical Hdwy	6.43	-		-	-
Critical Hdwy Stg 1	-	-		-	-
Critical Hdwy Stg 2	5.43	-		-	-
Follow-up Hdwy	3.527	-		-	-
Pot Cap-1 Maneuver	742	0		0	-
Stage 1	-	0		0	-
Stage 2	794	0		0	-
Platoon blocked, %					-
Mov Cap-1 Maneuver	742	-		-	-
Mov Cap-2 Maneuver	742	-		-	-
Stage 1	-	-		-	-
Stage 2	794	-		-	-

Approach	WB	SB
HCM Control Delay, s	11.1	0
HCM LOS	B	

Minor Lane/Major Mvmt	WBLn1	SBT
Capacity (veh/h)	742	-
HCM Lane V/C Ratio	0.2	-
HCM Control Delay (s)	11.1	-
HCM Lane LOS	B	-
HCM 95th %tile Q(veh)	0.7	-

Intersection	
Int Delay, s/veh	9.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	237	1	124	0	2	17	37	919	3	12	453	84
Future Vol, veh/h	237	1	124	0	2	17	37	919	3	12	453	84
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	-	-	-	200	-	25	200	-	525
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	3	3	3	17	17	17	4	2	2	9	9	6
Mvmt Flow	247	1	129	0	2	18	39	957	3	13	472	88

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1056	1536	236	1298	1621	479	560	0	0	960	0	0
Stage 1	498	498	-	1035	1035	-	-	-	-	-	-	-
Stage 2	558	1038	-	263	586	-	-	-	-	-	-	-
Critical Hdwy	7.56	6.56	6.96	7.84	6.84	7.24	4.18	-	-	4.28	-	-
Critical Hdwy Stg 1	6.56	5.56	-	6.84	5.84	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.56	5.56	-	6.84	5.84	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.03	3.33	3.67	4.17	3.47	2.24	-	-	2.29	-	-
Pot Cap-1 Maneuver	~ 178	114	763	105	88	494	993	-	-	671	-	-
Stage 1	520	540	-	222	276	-	-	-	-	-	-	-
Stage 2	479	304	-	678	460	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 163	108	763	83	83	494	993	-	-	671	-	-
Mov Cap-2 Maneuver	284	210	-	167	183	-	-	-	-	-	-	-
Stage 1	500	530	-	213	265	-	-	-	-	-	-	-
Stage 2	440	292	-	551	451	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	46.5	14	0.3	0.2
HCM LOS	E	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	993	-	-	284	763	419	671	-	-
HCM Lane V/C Ratio	0.039	-	-	0.873	0.169	0.047	0.019	-	-
HCM Control Delay (s)	8.8	-	-	65.2	10.7	14	10.5	-	-
HCM Lane LOS	A	-	-	F	B	B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	7.6	0.6	0.1	0.1	-	-

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

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	362	0	0	19	37	1156	4	12	453	87
Future Vol, veh/h	0	0	362	0	0	19	37	1156	4	12	453	87
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	-	-	-	-	-	-	200	-	25	200	-	525
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	3	3	3	17	17	17	4	2	2	9	9	6
Mvmt Flow	0	0	377	0	0	20	39	1204	4	13	472	91

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	236	1544	1871	602	563	0	0	1208	0	0
Stage 1	-	-	-	1282	1282	-	-	-	-	-	-	-
Stage 2	-	-	-	262	589	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.96	7.84	6.84	7.24	4.18	-	-	4.28	-	-
Critical Hdwy Stg 1	-	-	-	6.84	5.84	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.84	5.84	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.33	3.67	4.17	3.47	2.24	-	-	2.29	-	-
Pot Cap-1 Maneuver	0	0	763	67	60	407	991	-	-	536	-	-
Stage 1	0	0	-	154	207	-	-	-	-	-	-	-
Stage 2	0	0	-	679	458	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	763	32	56	407	991	-	-	536	-	-
Mov Cap-2 Maneuver	-	-	-	103	144	-	-	-	-	-	-	-
Stage 1	-	-	-	148	199	-	-	-	-	-	-	-
Stage 2	-	-	-	335	447	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.2	14.3	0.3	0.3
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	991	-	-	763	407	536	-	-
HCM Lane V/C Ratio	0.039	-	-	0.494	0.049	0.023	-	-
HCM Control Delay (s)	8.8	-	-	14.2	14.3	11.9	-	-
HCM Lane LOS	A	-	-	B	B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	2.8	0.2	0.1	-	-

Intersection	
Int Delay, s/veh	3.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	197	959	0	197	577
Future Vol, veh/h	0	197	959	0	197	577
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	-	0	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	3	2	0	3	9
Mvmt Flow	0	214	1042	0	214	627

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	521	0	-	1042	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.96	-	-	4.16	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.33	-	-	2.23	-
Pot Cap-1 Maneuver	0	498	-	0	657	-
Stage 1	0	-	-	0	-	-
Stage 2	0	-	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	-	498	-	-	657	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.6	0	3.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	WBLn1	SBL	SBT
Capacity (veh/h)	-	498	657	-
HCM Lane V/C Ratio	-	0.43	0.326	-
HCM Control Delay (s)	-	17.6	13.1	-
HCM Lane LOS	-	C	B	-
HCM 95th %tile Q(veh)	-	2.1	1.4	-

Intersection	
Int Delay, s/veh	7.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	66	402	436	102	216	273
Future Vol, veh/h	66	402	436	102	216	273
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	25	-	25	350	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	1	1	2	2	9	9
Mvmt Flow	77	467	507	119	251	317

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1168	254	0	0	626	0
Stage 1	507	-	-	-	-	-
Stage 2	661	-	-	-	-	-
Critical Hdwy	6.82	6.92	-	-	4.28	-
Critical Hdwy Stg 1	5.82	-	-	-	-	-
Critical Hdwy Stg 2	5.82	-	-	-	-	-
Follow-up Hdwy	3.51	3.31	-	-	2.29	-
Pot Cap-1 Maneuver	188	748	-	-	905	-
Stage 1	573	-	-	-	-	-
Stage 2	478	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	136	748	-	-	905	-
Mov Cap-2 Maneuver	254	-	-	-	-	-
Stage 1	573	-	-	-	-	-
Stage 2	346	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.6	0	4.6
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	254	748	905	-
HCM Lane V/C Ratio	-	-	0.302	0.625	0.278	-
HCM Control Delay (s)	-	-	25.2	17.5	10.5	-
HCM Lane LOS	-	-	D	C	B	-
HCM 95th %tile Q(veh)	-	-	1.2	4.4	1.1	-

Intersection	
Int Delay, s/veh	8.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	66	402	436	102	216	0
Future Vol, veh/h	66	402	436	102	216	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	25	-	25	300	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	1	1	2	2	9	9
Mvmt Flow	77	467	507	119	251	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1009	254	0	0	626	0
Stage 1	507	-	-	-	-	-
Stage 2	502	-	-	-	-	-
Critical Hdwy	6.615	6.915	-	-	4.235	-
Critical Hdwy Stg 1	5.815	-	-	-	-	-
Critical Hdwy Stg 2	5.415	-	-	-	-	-
Follow-up Hdwy	3.5095	3.3095	-	-	2.2855	-
Pot Cap-1 Maneuver	252	749	-	-	914	-
Stage 1	573	-	-	-	-	-
Stage 2	610	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	183	749	-	-	914	-
Mov Cap-2 Maneuver	368	-	-	-	-	-
Stage 1	573	-	-	-	-	-
Stage 2	442	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.4	0	10.4
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	368	749	914	-
HCM Lane V/C Ratio	-	-	0.209	0.624	0.275	-
HCM Control Delay (s)	-	-	17.3	17.4	10.4	-
HCM Lane LOS	-	-	C	C	B	-
HCM 95th %tile Q(veh)	-	-	0.8	4.4	1.1	-

Intersection	
Int Delay, s/veh	7.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	24	2	151	4	2	16	92	700	11	24	1533	71
Future Vol, veh/h	24	2	151	4	2	16	92	700	11	24	1533	71
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	-	-	-	-	-	-	300	-	25	300	-	25
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	5	5	5	0	7	7	5	1	1
Mvmt Flow	25	2	159	4	2	17	97	737	12	25	1614	75

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2228	2607	807	1789	2670	369	1689	0	0	749	0	0
Stage 1	1664	1664	-	931	931	-	-	-	-	-	-	-
Stage 2	564	943	-	858	1739	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.6	6.6	7	4.1	-	-	4.2	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.6	5.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.6	5.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.55	4.05	3.35	2.2	-	-	2.25	-	-
Pot Cap-1 Maneuver	~ 24	25	329	49	21	620	383	-	-	836	-	-
Stage 1	103	155	-	281	337	-	-	-	-	-	-	-
Stage 2	483	344	-	312	135	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 17	18	329	20	15	620	383	-	-	836	-	-
Mov Cap-2 Maneuver	61	91	-	47	30	-	-	-	-	-	-	-
Stage 1	77	150	-	210	252	-	-	-	-	-	-	-
Stage 2	348	257	-	154	131	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	93.1	40.6	2	0.1
HCM LOS	F	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	383	-	-	202	124	836	-	-
HCM Lane V/C Ratio	0.253	-	-	0.922	0.187	0.03	-	-
HCM Control Delay (s)	17.6	-	-	93.1	40.6	9.4	-	-
HCM Lane LOS	C	-	-	F	E	A	-	-
HCM 95th %tile Q(veh)	1	-	-	7.4	0.7	0.1	-	-

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

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	177	4	2	16	92	724	13	24	1533	71
Future Vol, veh/h	0	0	177	4	2	16	92	724	13	24	1533	71
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Yield	Yield	Yield	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	300	-	25	300	-	25
Veh in Median Storage, #	-	0	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	5	5	5	0	7	7	5	1	1
Mvmt Flow	0	0	186	4	2	17	97	762	14	25	1614	75

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	1813	2695	381	1689	0	0	776	0	0
Stage 1	956	956	-	-	-	-	-	-	-
Stage 2	857	1739	-	-	-	-	-	-	-
Critical Hdwy	6.9	6.6	7	4.1	-	-	4.2	-	-
Critical Hdwy Stg 1	5.9	5.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.9	5.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.55	4.05	3.35	2.2	-	-	2.25	-	-
Pot Cap-1 Maneuver	67	20	608	383	-	-	817	-	-
Stage 1	327	328	-	-	-	-	-	-	-
Stage 2	369	135	-	-	-	-	-	-	-
Platoon blocked, %					-	-		-	-
Mov Cap-1 Maneuver	49	0	608	383	-	-	817	-	-
Mov Cap-2 Maneuver	137	0	-	-	-	-	-	-	-
Stage 1	244	0	-	-	-	-	-	-	-
Stage 2	358	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.7	1.9	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	383	-	-	360	817	-	-
HCM Lane V/C Ratio	0.253	-	-	0.064	0.031	-	-
HCM Control Delay (s)	17.6	-	-	15.7	9.5	-	-
HCM Lane LOS	C	-	-	C	A	-	-
HCM 95th %tile Q(veh)	1	-	-	0.2	0.1	-	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	106	0	0	81	66	746	85	32	1574	79
Future Vol, veh/h	0	0	106	0	0	81	66	746	85	32	1574	79
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	-	-	Stop	-	-	None	-	-	Yield
Storage Length	-	-	0	-	-	0	217	-	25	217	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	1	1	1	0	4	4	0	1	1
Mvmt Flow	0	0	114	0	0	87	71	802	91	34	1692	85

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	846	-	-	401	1692	0	0	893	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.9	-	-	6.92	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.3	-	-	3.31	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	0	0	310	0	0	602	382	-	-	768	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	310	-	-	602	382	-	-	768	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	23.2	12	1.2	0.2
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	382	-	-	310	602	768	-	-
HCM Lane V/C Ratio	0.186	-	-	0.368	0.145	0.045	-	-
HCM Control Delay (s)	16.6	-	-	23.2	12	9.9	-	-
HCM Lane LOS	C	-	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0.7	-	-	1.6	0.5	0.1	-	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	56	56	771	1629	0
Future Vol, veh/h	0	56	56	771	1629	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	-	0	600	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	1	1	4	1	0
Mvmt Flow	0	61	61	838	1771	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	886	1771	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.92	4.12	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.31	2.21	-	-	-
Pot Cap-1 Maneuver	0	290	352	-	-	0
Stage 1	0	-	-	-	-	0
Stage 2	0	-	-	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	-	290	352	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20.7	1.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT
Capacity (veh/h)	352	-	290	-
HCM Lane V/C Ratio	0.173	-	0.21	-
HCM Control Delay (s)	17.4	-	20.7	-
HCM Lane LOS	C	-	C	-
HCM 95th %tile Q(veh)	0.6	-	0.8	-

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	53	844	0	53	1627
Future Vol, veh/h	0	53	844	0	53	1627
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	-	0	-	-	600	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	4	0	0	1
Mvmt Flow	0	58	917	0	58	1768

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	459	0	-	917	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	4.1	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	0	554	-	0	752	-
Stage 1	0	-	-	0	-	-
Stage 2	0	-	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	-	554	-	-	752	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.3	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	WBLn1	SBL	SBT
Capacity (veh/h)	-	554	752	-
HCM Lane V/C Ratio	-	0.104	0.077	-
HCM Control Delay (s)	-	12.3	10.2	-
HCM Lane LOS	-	B	B	-
HCM 95th %tile Q(veh)	-	0.3	0.2	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	4	0	0	1610	17
Future Vol, veh/h	0	4	0	0	1610	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	25
Veh in Median Storage, #	0	-	-	16974	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	1	1
Mvmt Flow	0	4	0	0	1713	18

Major/Minor	Minor2			Major2	
Conflicting Flow All	-	857		-	0
Stage 1	-	-		-	-
Stage 2	-	-		-	-
Critical Hdwy	-	6.9		-	-
Critical Hdwy Stg 1	-	-		-	-
Critical Hdwy Stg 2	-	-		-	-
Follow-up Hdwy	-	3.3		-	-
Pot Cap-1 Maneuver	0	305		-	-
Stage 1	0	-		-	-
Stage 2	0	-		-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	305		-	-
Mov Cap-2 Maneuver	-	-		-	-
Stage 1	-	-		-	-
Stage 2	-	-		-	-

Approach	EB	SB
HCM Control Delay, s	17	0
HCM LOS	C	

Minor Lane/Major Mvmt	EBLn1	SBT	SBR
Capacity (veh/h)	305	-	-
HCM Lane V/C Ratio	0.014	-	-
HCM Control Delay (s)	17	-	-
HCM Lane LOS	C	-	-
HCM 95th %tile Q(veh)	0	-	-

Intersection	
Int Delay, s/veh	9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	396	0	0	0	0	0	132	1	0	0	0	0
Future Vol, veh/h	396	0	0	0	0	0	132	1	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	0
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, %	1	1	1	0	0	0	0	0	0	0	0	0
Mvmt Flow	421	0	0	0	0	0	140	1	0	0	0	0

Major/Minor	Major2			Minor1			Minor2		
Conflicting Flow All	-	-	0	1	1	-	-	-	1
Stage 1	-	-	-	0	0	-	-	-	-
Stage 2	-	-	-	1	1	-	-	-	-
Critical Hdwy	-	-	-	7.1	6.5	-	-	-	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.1	5.5	-	-	-	-
Follow-up Hdwy	-	-	-	3.5	4	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	0	1027	899	0	0	0	1090
Stage 1	0	-	0	-	-	0	0	0	-
Stage 2	0	-	0	1027	899	0	0	0	-
Platoon blocked, %		-							
Mov Cap-1 Maneuver	-	-	-	1027	899	-	-	-	1090
Mov Cap-2 Maneuver	-	-	-	1027	899	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	1027	899	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	9.1	0
HCM LOS		A	A

Minor Lane/Major Mvmt	NBLn1	WBT	SBLn1
Capacity (veh/h)	1026	-	-
HCM Lane V/C Ratio	0.138	-	-
HCM Control Delay (s)	9.1	-	0
HCM Lane LOS	A	-	A
HCM 95th %tile Q(veh)	0.5	-	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	363	144	9	120	0	0	0	0	11	1	0
Future Vol, veh/h	0	363	144	9	120	0	0	0	0	11	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	2	2	2	3	3	3	0	0	0	0	0	0
Mvmt Flow	0	454	180	11	150	0	0	0	0	14	1	0

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	634	0	0	716	806	-
Stage 1	-	-	-	-	-	-	172	172	-
Stage 2	-	-	-	-	-	-	544	634	-
Critical Hdwy	-	-	-	4.13	-	-	6.4	6.5	-
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.227	-	-	3.5	4	-
Pot Cap-1 Maneuver	0	-	-	944	-	0	400	318	0
Stage 1	0	-	-	-	-	0	863	760	0
Stage 2	0	-	-	-	-	0	586	476	0
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	944	-	-	395	0	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	395	0	-
Stage 1	-	-	-	-	-	-	863	0	-
Stage 2	-	-	-	-	-	-	578	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.6	14.5
HCM LOS			B

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	944	-	395
HCM Lane V/C Ratio	-	-	0.012	-	0.038
HCM Control Delay (s)	-	-	8.9	0	14.5
HCM Lane LOS	-	-	A	A	B
HCM 95th %tile Q(veh)	-	-	0	-	0.1

Intersection	
Int Delay, s/veh	2.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	120	0	0	507	0	604
Future Vol, veh/h	120	0	0	507	0	604
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Free	-	None
Storage Length	0	-	-	0	-	-
Veh in Median Storage, #	0	-	16974	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	1	1	0	0	1	1
Mvmt Flow	133	0	0	563	0	671

Major/Minor	Minor1		Major2	
Conflicting Flow All	671	-	-	-
Stage 1	0	-	-	-
Stage 2	671	-	-	-
Critical Hdwy	6.41	-	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-
Follow-up Hdwy	3.509	-	-	-
Pot Cap-1 Maneuver	423	0	0	-
Stage 1	-	0	0	-
Stage 2	510	0	0	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	423	-	-	-
Mov Cap-2 Maneuver	423	-	-	-
Stage 1	-	-	-	-
Stage 2	510	-	-	-

Approach	WB	SB
HCM Control Delay, s	17.4	0
HCM LOS	C	

Minor Lane/Major Mvmt	WBLn1	SBT
Capacity (veh/h)	423	-
HCM Lane V/C Ratio	0.315	-
HCM Control Delay (s)	17.4	-
HCM Lane LOS	C	-
HCM 95th %tile Q(veh)	1.3	-

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	81	0	74	8	0	22	129	547	4	21	920	208
Future Vol, veh/h	81	0	74	8	0	22	129	547	4	21	920	208
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	-	-	-	200	-	25	200	-	525
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	4	4	4	0	5	5	0	1	1
Mvmt Flow	84	0	76	8	0	23	133	564	4	22	948	214

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1540	1826	474	1348	2036	282	1162	0	0	568	0	0
Stage 1	992	992	-	830	830	-	-	-	-	-	-	-
Stage 2	548	834	-	518	1206	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.58	6.58	6.98	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.58	5.58	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.58	5.58	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.54	4.04	3.34	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	~ 79	76	537	107	55	709	608	-	-	1014	-	-
Stage 1	264	322	-	326	378	-	-	-	-	-	-	-
Stage 2	488	381	-	504	251	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 63	58	537	75	42	709	608	-	-	1014	-	-
Mov Cap-2 Maneuver	144	161	-	158	88	-	-	-	-	-	-	-
Stage 1	206	315	-	255	295	-	-	-	-	-	-	-
Stage 2	369	298	-	423	245	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	37.4	15.7	2.4	0.2
HCM LOS	E	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	608	-	-	144	537	367	1014	-	-
HCM Lane V/C Ratio	0.219	-	-	0.58	0.142	0.084	0.021	-	-
HCM Control Delay (s)	12.6	-	-	59.8	12.8	15.7	8.6	-	-
HCM Lane LOS	B	-	-	F	B	C	A	-	-
HCM 95th %tile Q(veh)	0.8	-	-	3	0.5	0.3	0.1	-	-

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

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	156	0	0	29	129	628	4	21	928	208
Future Vol, veh/h	0	0	156	0	0	29	129	628	4	21	928	208
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	-	-	-	-	-	-	200	-	25	200	-	525
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	4	4	4	0	5	5	0	1	1
Mvmt Flow	0	0	161	0	0	30	133	647	4	22	957	214

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	479	1436	2128	324	1171	0	0	651	0	0
Stage 1	-	-	-	913	913	-	-	-	-	-	-	-
Stage 2	-	-	-	523	1215	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	7.58	6.58	6.98	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	-	-	-	6.58	5.58	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.58	5.58	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	3.54	4.04	3.34	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	0	0	533	92	48	666	604	-	-	945	-	-
Stage 1	0	0	-	290	346	-	-	-	-	-	-	-
Stage 2	0	0	-	500	248	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	533	52	37	666	604	-	-	945	-	-
Mov Cap-2 Maneuver	-	-	-	123	84	-	-	-	-	-	-	-
Stage 1	-	-	-	226	270	-	-	-	-	-	-	-
Stage 2	-	-	-	341	242	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.6	10.7	2.1	0.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	604	-	-	533	666	945	-	-
HCM Lane V/C Ratio	0.22	-	-	0.302	0.045	0.023	-	-
HCM Control Delay (s)	12.6	-	-	14.6	10.7	8.9	-	-
HCM Lane LOS	B	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0.8	-	-	1.3	0.1	0.1	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	56	680	0	56	1002
Future Vol, veh/h	0	56	680	0	56	1002
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	-	0	-	-	600	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	2	5	0	2	1
Mvmt Flow	0	61	739	0	61	1089

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	370	0	-	739	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	4.14	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	0	627	-	0	863	-
Stage 1	0	-	-	0	-	-
Stage 2	0	-	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	-	627	-	-	863	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.4	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	WBLn1	SBL	SBT
Capacity (veh/h)	-	627	863	-
HCM Lane V/C Ratio	-	0.097	0.071	-
HCM Control Delay (s)	-	11.4	9.5	-
HCM Lane LOS	-	B	A	-
HCM 95th %tile Q(veh)	-	0.3	0.2	-

Intersection	
Int Delay, s/veh	10

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	106	309	295	64	434	511
Future Vol, veh/h	106	309	295	64	434	511
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	25	-	25	350	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	1	1	5	5	2	2
Mvmt Flow	109	319	304	66	447	527

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1462	152	0	0	370	0
Stage 1	304	-	-	-	-	-
Stage 2	1158	-	-	-	-	-
Critical Hdwy	6.82	6.92	-	-	4.14	-
Critical Hdwy Stg 1	5.82	-	-	-	-	-
Critical Hdwy Stg 2	5.82	-	-	-	-	-
Follow-up Hdwy	3.51	3.31	-	-	2.22	-
Pot Cap-1 Maneuver	121	870	-	-	1185	-
Stage 1	725	-	-	-	-	-
Stage 2	263	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 75	870	-	-	1185	-
Mov Cap-2 Maneuver	140	-	-	-	-	-
Stage 1	725	-	-	-	-	-
Stage 2	164	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	31.1	0	4.5
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	140	870	1185	-
HCM Lane V/C Ratio	-	-	0.781	0.366	0.378	-
HCM Control Delay (s)	-	-	88.4	11.5	9.9	-
HCM Lane LOS	-	-	F	B	A	-
HCM 95th %tile Q(veh)	-	-	4.8	1.7	1.8	-

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

Intersection	
Int Delay, s/veh	9.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	106	309	295	64	434	0
Future Vol, veh/h	106	309	295	64	434	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	25	-	25	300	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	1	1	5	5	2	2
Mvmt Flow	109	319	304	66	447	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1198	152	0	0	370	0
Stage 1	304	-	-	-	-	-
Stage 2	894	-	-	-	-	-
Critical Hdwy	6.615	6.915	-	-	4.13	-
Critical Hdwy Stg 1	5.815	-	-	-	-	-
Critical Hdwy Stg 2	5.415	-	-	-	-	-
Follow-up Hdwy	3.5095	3.3095	-	-	2.219	-
Pot Cap-1 Maneuver	192	870	-	-	1187	-
Stage 1	725	-	-	-	-	-
Stage 2	401	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	120	870	-	-	1187	-
Mov Cap-2 Maneuver	233	-	-	-	-	-
Stage 1	725	-	-	-	-	-
Stage 2	250	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.1	0	9.9
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	233	870	1187	-
HCM Lane V/C Ratio	-	-	0.469	0.366	0.377	-
HCM Control Delay (s)	-	-	33.4	11.5	9.9	-
HCM Lane LOS	-	-	D	B	A	-
HCM 95th %tile Q(veh)	-	-	2.3	1.7	1.8	-

YEAR 2026

LEVEL OF SERVICE CALCULATIONS

AM & PM WITH PROJECT, WITH BACKGROUND

Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	63	2	56	2	2	15	115	1625	4	5	587	21
Future Vol, veh/h	63	2	56	2	2	15	115	1625	4	5	587	21
Conflicting Peds, #/hr	1	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	-	-	-	-	-	-	300	-	25	300	-	25
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0	0	2	2	0	11	11
Mvmt Flow	70	2	62	2	2	17	128	1806	4	6	652	23

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1825	2730	326	2401	2749	904	675	0	0	1810	0	0
Stage 1	664	664	-	2062	2062	-	-	-	-	-	-	-
Stage 2	1161	2066	-	339	687	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	~ 49	21	676	18	20	284	926	-	-	344	-	-
Stage 1	421	461	-	58	98	-	-	-	-	-	-	-
Stage 2	211	98	-	655	450	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 40	18	676	14	17	284	926	-	-	344	-	-
Mov Cap-2 Maneuver	116	65	-	43	65	-	-	-	-	-	-	-
Stage 1	363	453	-	50	84	-	-	-	-	-	-	-
Stage 2	166	84	-	581	442	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	64.5	33.8	0.6	0.1
HCM LOS	F	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	926	-	-	184	146	344	-	-
HCM Lane V/C Ratio	0.138	-	-	0.731	0.145	0.016	-	-
HCM Control Delay (s)	9.5	-	-	64.5	33.8	15.6	-	-
HCM Lane LOS	A	-	-	F	D	C	-	-
HCM 95th %tile Q(veh)	0.5	-	-	4.6	0.5	0	-	-

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

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	121	2	2	15	115	1688	6	5	587	21
Future Vol, veh/h	0	0	121	2	2	15	115	1688	6	5	587	21
Conflicting Peds, #/hr	1	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Yield	Yield	Yield	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	300	-	25	300	-	25
Veh in Median Storage, #	-	0	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0	0	2	2	0	11	11
Mvmt Flow	0	0	134	2	2	17	128	1876	7	6	652	23

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	2470	2819	938	675	0	0	1883	0	0
Stage 1	2132	2132	-	-	-	-	-	-	-
Stage 2	338	687	-	-	-	-	-	-	-
Critical Hdwy	6.8	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	5.8	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.8	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	26	18	269	926	-	-	323	-	-
Stage 1	79	91	-	-	-	-	-	-	-
Stage 2	700	450	-	-	-	-	-	-	-
Platoon blocked, %					-	-		-	-
Mov Cap-1 Maneuver	22	0	269	926	-	-	323	-	-
Mov Cap-2 Maneuver	59	0	-	-	-	-	-	-	-
Stage 1	68	0	-	-	-	-	-	-	-
Stage 2	687	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	26.3	0.6	0.1
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	926	-	-	190	323	-	-
HCM Lane V/C Ratio	0.138	-	-	0.111	0.017	-	-
HCM Control Delay (s)	9.5	-	-	26.3	16.3	-	-
HCM Lane LOS	A	-	-	D	C	-	-
HCM 95th %tile Q(veh)	0.5	-	-	0.4	0.1	-	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	175	0	0	47	45	1722	152	16	606	26
Future Vol, veh/h	0	0	175	0	0	47	45	1722	152	16	606	26
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	-	-	Stop	-	-	None	-	-	Yield
Storage Length	-	-	0	-	-	0	217	-	25	217	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	3	3	3	5	5	5	8	1	1	13	12	12
Mvmt Flow	0	0	206	0	0	55	53	2026	179	19	713	31

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	357	-	-	1013	713	0	0	2205	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.96	-	-	7	4.26	-	-	4.36	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.33	-	-	3.35	2.28	-	-	2.33	-	-
Pot Cap-1 Maneuver	0	0	637	0	0	231	844	-	-	201	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	637	-	-	231	844	-	-	201	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.3	25.4	0.2	0.6
HCM LOS	B	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	844	-	-	637	231	201	-	-
HCM Lane V/C Ratio	0.063	-	-	0.323	0.239	0.094	-	-
HCM Control Delay (s)	9.6	-	-	13.3	25.4	24.8	-	-
HCM Lane LOS	A	-	-	B	D	C	-	-
HCM 95th %tile Q(veh)	0.2	-	-	1.4	0.9	0.3	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	26	26	1744	624	0
Future Vol, veh/h	0	26	26	1744	624	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	-	0	600	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	5	5	1	12	2
Mvmt Flow	0	28	28	1896	678	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	339	678	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7	4.2	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.35	2.25	-	-	-
Pot Cap-1 Maneuver	0	648	890	-	-	0
Stage 1	0	-	-	-	-	0
Stage 2	0	-	-	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	-	648	890	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.8	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT
Capacity (veh/h)	890	-	648	-
HCM Lane V/C Ratio	0.032	-	0.044	-
HCM Control Delay (s)	9.2	-	10.8	-
HCM Lane LOS	A	-	B	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-

Intersection	
Int Delay, s/veh	2.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	114	1805	0	114	669
Future Vol, veh/h	0	114	1805	0	114	669
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	-	0	-	-	600	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	3	1	0	3	12
Mvmt Flow	0	124	1962	0	124	727

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	981	0	-	1962	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.96	-	-	4.16	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.33	-	-	2.23	-
Pot Cap-1 Maneuver	0	247	-	0	289	-
Stage 1	0	-	-	0	-	-
Stage 2	0	-	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	-	247	-	-	289	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	33.4	0	3.9
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	WBLn1	SBL	SBT
Capacity (veh/h)	-	247	289	-
HCM Lane V/C Ratio	-	0.502	0.429	-
HCM Control Delay (s)	-	33.4	26.5	-
HCM Lane LOS	-	D	D	-
HCM 95th %tile Q(veh)	-	2.6	2	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	41	0	0	657	14
Future Vol, veh/h	0	41	0	0	657	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	25
Veh in Median Storage, #	0	-	-	16974	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	9	9	0	0	10	10
Mvmt Flow	0	46	0	0	730	16

Major/Minor	Minor2			Major2	
Conflicting Flow All	-	365		-	0
Stage 1	-	-		-	-
Stage 2	-	-		-	-
Critical Hdwy	-	7.08		-	-
Critical Hdwy Stg 1	-	-		-	-
Critical Hdwy Stg 2	-	-		-	-
Follow-up Hdwy	-	3.39		-	-
Pot Cap-1 Maneuver	0	612		-	-
Stage 1	0	-		-	-
Stage 2	0	-		-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	612		-	-
Mov Cap-2 Maneuver	-	-		-	-
Stage 1	-	-		-	-
Stage 2	-	-		-	-

Approach	EB	SB
HCM Control Delay, s	11.4	0
HCM LOS	B	

Minor Lane/Major Mvmt	EBLn1	SBT	SBR
Capacity (veh/h)	612	-	-
HCM Lane V/C Ratio	0.074	-	-
HCM Control Delay (s)	11.4	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.2	-	-

Intersection	
Int Delay, s/veh	4.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	13	1	0	28	12	0
Future Vol, veh/h	13	1	0	28	12	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	50	50	0	9	9	0
Mvmt Flow	14	1	0	30	13	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	41	15	0	0	30	0
Stage 1	15	-	-	-	-	-
Stage 2	26	-	-	-	-	-
Critical Hdwy	6.9	6.7	-	-	4.19	-
Critical Hdwy Stg 1	5.9	-	-	-	-	-
Critical Hdwy Stg 2	5.9	-	-	-	-	-
Follow-up Hdwy	3.95	3.75	-	-	2.281	-
Pot Cap-1 Maneuver	862	941	-	-	1539	-
Stage 1	897	-	-	-	-	-
Stage 2	886	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	855	941	-	-	1539	-
Mov Cap-2 Maneuver	855	-	-	-	-	-
Stage 1	897	-	-	-	-	-
Stage 2	879	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.3	0	7.4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	861	1539	-
HCM Lane V/C Ratio	-	-	0.018	0.008	-
HCM Control Delay (s)	-	-	9.3	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	5.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	28	0	0	0	0	13
Future Vol, veh/h	28	0	0	0	0	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	9	0	0	0	0	50
Mvmt Flow	30	0	0	0	0	14

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	7	7	14	0	-	0
Stage 1	7	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.49	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.49	-	-	-	-	-
Critical Hdwy Stg 2	5.49	-	-	-	-	-
Follow-up Hdwy	3.581	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	996	1081	1617	-	-	-
Stage 1	998	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	996	1081	1617	-	-	-
Mov Cap-2 Maneuver	996	-	-	-	-	-
Stage 1	998	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1617	-	996	-	-
HCM Lane V/C Ratio	-	-	0.031	-	-
HCM Control Delay (s)	0	-	8.7	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	802	0	0	0	0	0	115	0	0	0	0	0
Future Vol, veh/h	802	0	0	0	0	0	115	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	0	0	0	0	0	0	0	0	0
Mvmt Flow	1028	0	0	0	0	0	147	0	0	0	0	0

Major/Minor	Major2			Minor1			Minor2		
Conflicting Flow All	-	-	0	1	1	-	-	-	1
Stage 1	-	-	-	0	0	-	-	-	-
Stage 2	-	-	-	1	1	-	-	-	-
Critical Hdwy	-	-	-	7.1	6.5	-	-	-	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.1	5.5	-	-	-	-
Follow-up Hdwy	-	-	-	3.5	4	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	0	1027	899	0	0	0	1090
Stage 1	0	-	0	-	-	0	0	0	-
Stage 2	0	-	0	1027	899	0	0	0	-
Platoon blocked, %		-							
Mov Cap-1 Maneuver	-	-	-	1027	899	-	-	-	1090
Mov Cap-2 Maneuver	-	-	-	1027	899	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	1027	899	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	9.1	0
HCM LOS		A	A

Minor Lane/Major Mvmt	NBLn1	WBT	SBLn1
Capacity (veh/h)	1027	-	-
HCM Lane V/C Ratio	0.144	-	-
HCM Control Delay (s)	9.1	-	0
HCM Lane LOS	A	-	A
HCM 95th %tile Q(veh)	0.5	-	-

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	690	52	2	129	0	0	0	0	37	1	0
Future Vol, veh/h	0	690	52	2	129	0	0	0	0	37	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	77	77	77	77	77	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2	0	0	0	22	22	22
Mvmt Flow	0	896	68	3	168	0	0	0	0	48	1	0

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	964	0	0	1104	1138	-
Stage 1	-	-	-	-	-	-	174	174	-
Stage 2	-	-	-	-	-	-	930	964	-
Critical Hdwy	-	-	-	4.12	-	-	6.62	6.72	-
Critical Hdwy Stg 1	-	-	-	-	-	-	5.62	5.72	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.62	5.72	-
Follow-up Hdwy	-	-	-	2.218	-	-	3.698	4.198	-
Pot Cap-1 Maneuver	0	-	-	714	-	0	214	185	0
Stage 1	0	-	-	-	-	0	810	719	0
Stage 2	0	-	-	-	-	0	354	309	0
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	714	-	-	213	0	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	213	0	-
Stage 1	-	-	-	-	-	-	810	0	-
Stage 2	-	-	-	-	-	-	352	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.2	26.9
HCM LOS			D

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	714	-	213
HCM Lane V/C Ratio	-	-	0.004	-	0.232
HCM Control Delay (s)	-	-	10.1	0	26.9
HCM Lane LOS	-	-	B	A	D
HCM 95th %tile Q(veh)	-	-	0	-	0.9

Intersection	
Int Delay, s/veh	4.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	129	0	0	742	0	216
Future Vol, veh/h	129	0	0	742	0	216
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Free	-	None
Storage Length	0	-	-	0	-	-
Veh in Median Storage, #	0	-	16974	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	3	3	0	0	8	8
Mvmt Flow	148	0	0	853	0	248

Major/Minor	Minor1			Major2	
Conflicting Flow All	248	-		-	-
Stage 1	0	-		-	-
Stage 2	248	-		-	-
Critical Hdwy	6.43	-		-	-
Critical Hdwy Stg 1	-	-		-	-
Critical Hdwy Stg 2	5.43	-		-	-
Follow-up Hdwy	3.527	-		-	-
Pot Cap-1 Maneuver	738	0		0	-
Stage 1	-	0		0	-
Stage 2	791	0		0	-
Platoon blocked, %					-
Mov Cap-1 Maneuver	738	-		-	-
Mov Cap-2 Maneuver	738	-		-	-
Stage 1	-	-		-	-
Stage 2	791	-		-	-

Approach	WB	SB
HCM Control Delay, s	11.1	0
HCM LOS	B	

Minor Lane/Major Mvmt	WBLn1	SBT
Capacity (veh/h)	738	-
HCM Lane V/C Ratio	0.201	-
HCM Control Delay (s)	11.1	-
HCM Lane LOS	B	-
HCM 95th %tile Q(veh)	0.7	-

Intersection	
Int Delay, s/veh	9.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	237	1	124	0	2	17	37	921	3	12	457	84
Future Vol, veh/h	237	1	124	0	2	17	37	921	3	12	457	84
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	-	-	-	200	-	25	200	-	525
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	3	3	3	17	17	17	4	2	2	9	9	6
Mvmt Flow	247	1	129	0	2	18	39	959	3	13	476	88

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1061	1542	238	1302	1627	480	564	0	0	962	0	0
Stage 1	502	502	-	1037	1037	-	-	-	-	-	-	-
Stage 2	559	1040	-	265	590	-	-	-	-	-	-	-
Critical Hdwy	7.56	6.56	6.96	7.84	6.84	7.24	4.18	-	-	4.28	-	-
Critical Hdwy Stg 1	6.56	5.56	-	6.84	5.84	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.56	5.56	-	6.84	5.84	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.03	3.33	3.67	4.17	3.47	2.24	-	-	2.29	-	-
Pot Cap-1 Maneuver	~ 177	113	760	104	87	494	990	-	-	670	-	-
Stage 1	517	538	-	222	276	-	-	-	-	-	-	-
Stage 2	478	303	-	677	458	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 162	107	760	82	82	494	990	-	-	670	-	-
Mov Cap-2 Maneuver	283	209	-	166	182	-	-	-	-	-	-	-
Stage 1	497	528	-	213	265	-	-	-	-	-	-	-
Stage 2	439	291	-	550	449	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	47	14	0.3	0.2
HCM LOS	E	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	990	-	-	283	760	418	670	-	-
HCM Lane V/C Ratio	0.039	-	-	0.876	0.17	0.047	0.019	-	-
HCM Control Delay (s)	8.8	-	-	65.9	10.7	14	10.5	-	-
HCM Lane LOS	A	-	-	F	B	B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	7.7	0.6	0.1	0.1	-	-

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

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	362	0	0	19	37	1158	4	12	457	87
Future Vol, veh/h	0	0	362	0	0	19	37	1158	4	12	457	87
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	-	-	-	-	-	-	200	-	25	200	-	525
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	3	3	3	17	17	17	4	2	2	9	9	6
Mvmt Flow	0	0	377	0	0	20	39	1206	4	13	476	91

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	238	1548	1877	603	567	0	0	1210	0	0
Stage 1	-	-	-	1284	1284	-	-	-	-	-	-	-
Stage 2	-	-	-	264	593	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.96	7.84	6.84	7.24	4.18	-	-	4.28	-	-
Critical Hdwy Stg 1	-	-	-	6.84	5.84	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.84	5.84	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.33	3.67	4.17	3.47	2.24	-	-	2.29	-	-
Pot Cap-1 Maneuver	0	0	760	67	60	407	987	-	-	535	-	-
Stage 1	0	0	-	153	207	-	-	-	-	-	-	-
Stage 2	0	0	-	678	456	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	760	32	56	407	987	-	-	535	-	-
Mov Cap-2 Maneuver	-	-	-	102	144	-	-	-	-	-	-	-
Stage 1	-	-	-	147	199	-	-	-	-	-	-	-
Stage 2	-	-	-	333	445	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.3	14.3	0.3	0.3
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	987	-	-	760	407	535	-	-
HCM Lane V/C Ratio	0.039	-	-	0.496	0.049	0.023	-	-
HCM Control Delay (s)	8.8	-	-	14.3	14.3	11.9	-	-
HCM Lane LOS	A	-	-	B	B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	2.8	0.2	0.1	-	-

Intersection	
Int Delay, s/veh	3.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	197	961	0	197	581
Future Vol, veh/h	0	197	961	0	197	581
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	-	0	-	-	600	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	214	1045	0	214	632

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	523	0	-	1045	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	4.14	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	0	499	-	0	661	-
Stage 1	0	-	-	0	-	-
Stage 2	0	-	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	-	499	-	-	661	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.5	0	3.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	WBLn1	SBL	SBT
Capacity (veh/h)	-	499	661	-
HCM Lane V/C Ratio	-	0.429	0.324	-
HCM Control Delay (s)	-	17.5	13	-
HCM Lane LOS	-	C	B	-
HCM 95th %tile Q(veh)	-	2.1	1.4	-

Intersection	
Int Delay, s/veh	7.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	66	403	437	102	218	275
Future Vol, veh/h	66	403	437	102	218	275
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	25	-	25	350	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	1	1	2	2	9	9
Mvmt Flow	77	469	508	119	253	320

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1174	254	0	0	627	0
Stage 1	508	-	-	-	-	-
Stage 2	666	-	-	-	-	-
Critical Hdwy	6.82	6.92	-	-	4.28	-
Critical Hdwy Stg 1	5.82	-	-	-	-	-
Critical Hdwy Stg 2	5.82	-	-	-	-	-
Follow-up Hdwy	3.51	3.31	-	-	2.29	-
Pot Cap-1 Maneuver	186	748	-	-	905	-
Stage 1	572	-	-	-	-	-
Stage 2	475	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	134	748	-	-	905	-
Mov Cap-2 Maneuver	251	-	-	-	-	-
Stage 1	572	-	-	-	-	-
Stage 2	342	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.6	0	4.7
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	251	748	905	-
HCM Lane V/C Ratio	-	-	0.306	0.626	0.28	-
HCM Control Delay (s)	-	-	25.5	17.5	10.5	-
HCM Lane LOS	-	-	D	C	B	-
HCM 95th %tile Q(veh)	-	-	1.2	4.5	1.2	-

Intersection	
Int Delay, s/veh	8.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	66	403	437	102	218	0
Future Vol, veh/h	66	403	437	102	218	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	25	-	25	300	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	1	1	2	2	9	9
Mvmt Flow	77	469	508	119	253	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1014	254	0	0	627	0
Stage 1	508	-	-	-	-	-
Stage 2	506	-	-	-	-	-
Critical Hdwy	6.615	6.915	-	-	4.235	-
Critical Hdwy Stg 1	5.815	-	-	-	-	-
Critical Hdwy Stg 2	5.415	-	-	-	-	-
Follow-up Hdwy	3.5095	3.3095	-	-	2.2855	-
Pot Cap-1 Maneuver	251	749	-	-	913	-
Stage 1	573	-	-	-	-	-
Stage 2	607	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	181	749	-	-	913	-
Mov Cap-2 Maneuver	366	-	-	-	-	-
Stage 1	573	-	-	-	-	-
Stage 2	439	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.5	0	10.5
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	366	749	913	-
HCM Lane V/C Ratio	-	-	0.21	0.626	0.278	-
HCM Control Delay (s)	-	-	17.4	17.5	10.5	-
HCM Lane LOS	-	-	C	C	B	-
HCM 95th %tile Q(veh)	-	-	0.8	4.4	1.1	-

HCS7 Two-Way Stop-Control Report

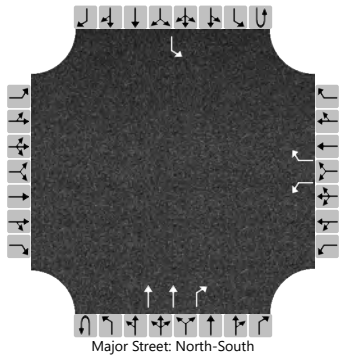
General Information

Analyst	WCE
Agency/Co.	WSDOT
Date Performed	11/2/2021
Analysis Year	2026
Time Analyzed	AM W BK Proj. & Proj.
Intersection Orientation	North-South
Project Description	20-2564 Latah Glen

Site Information

Intersection	SR 195 & Hatch Road
Jurisdiction	WSDOT
East/West Street	Hatch Rd
North/South Street	SR 195
Peak Hour Factor	0.96
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		1	0	1	0	0	2	1	0	1	0	0
Configuration						L		R			T	R		L		
Volume (veh/h)						66		403			437	102	0	218		
Percent Heavy Vehicles (%)						2		2					0	9		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized						No					No					
Median Type | Storage		Left Only									2					

Critical and Follow-up Headways

Base Critical Headway (sec)						7.5		6.9						4.1		
Critical Headway (sec)						6.84		6.94						4.28		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.52		3.32						2.29		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						69		420						227		
Capacity, c (veh/h)						545		775						959		
v/c Ratio						0.13		0.54						0.24		
95% Queue Length, Q_{95} (veh)						0.4		3.3						0.9		
Control Delay (s/veh)						12.6		15.0						9.9		
Level of Service (LOS)						B		B						A		
Approach Delay (s/veh)						14.6								9.9		
Approach LOS						B										

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Intersection	
Int Delay, s/veh	8.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	24	2	155	4	2	16	95	711	11	24	1551	71
Future Vol, veh/h	24	2	155	4	2	16	95	711	11	24	1551	71
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	-	-	-	-	-	-	300	-	25	300	-	25
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	5	5	5	0	7	7	5	1	1
Mvmt Flow	25	2	163	4	2	17	100	748	12	25	1633	75

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2258	2643	817	1816	2706	374	1708	0	0	760	0	0
Stage 1	1683	1683	-	948	948	-	-	-	-	-	-	-
Stage 2	575	960	-	868	1758	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.6	6.6	7	4.1	-	-	4.2	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.6	5.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.6	5.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.55	4.05	3.35	2.2	-	-	2.25	-	-
Pot Cap-1 Maneuver	~ 23	24	324	47	20	615	377	-	-	828	-	-
Stage 1	100	152	-	275	331	-	-	-	-	-	-	-
Stage 2	475	338	-	307	132	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 16	17	324	18	14	615	377	-	-	828	-	-
Mov Cap-2 Maneuver	59	88	-	39	25	-	-	-	-	-	-	-
Stage 1	74	147	-	202	243	-	-	-	-	-	-	-
Stage 2	337	248	-	146	128	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	102.3	48.7	2.1	0.1
HCM LOS	F	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	377	-	-	199	105	828	-	-
HCM Lane V/C Ratio	0.265	-	-	0.957	0.221	0.031	-	-
HCM Control Delay (s)	18	-	-	102.3	48.7	9.5	-	-
HCM Lane LOS	C	-	-	F	E	A	-	-
HCM 95th %tile Q(veh)	1.1	-	-	7.9	0.8	0.1	-	-

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

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	181	4	2	16	95	735	13	24	1551	71
Future Vol, veh/h	0	0	181	4	2	16	95	735	13	24	1551	71
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Yield	Yield	Yield	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	300	-	25	300	-	25
Veh in Median Storage, #	-	0	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	5	5	5	0	7	7	5	1	1
Mvmt Flow	0	0	191	4	2	17	100	774	14	25	1633	75

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	1841	2732	387	1708	0	0	788	0	0
Stage 1	974	974	-	-	-	-	-	-	-
Stage 2	867	1758	-	-	-	-	-	-	-
Critical Hdwy	6.9	6.6	7	4.1	-	-	4.2	-	-
Critical Hdwy Stg 1	5.9	5.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.9	5.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.55	4.05	3.35	2.2	-	-	2.25	-	-
Pot Cap-1 Maneuver	65	19	603	377	-	-	808	-	-
Stage 1	320	322	-	-	-	-	-	-	-
Stage 2	364	132	-	-	-	-	-	-	-
Platoon blocked, %					-	-		-	-
Mov Cap-1 Maneuver	46	0	603	377	-	-	808	-	-
Mov Cap-2 Maneuver	132	0	-	-	-	-	-	-	-
Stage 1	235	0	-	-	-	-	-	-	-
Stage 2	353	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.9	2	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	377	-	-	352	808	-	-
HCM Lane V/C Ratio	0.265	-	-	0.066	0.031	-	-
HCM Control Delay (s)	18	-	-	15.9	9.6	-	-
HCM Lane LOS	C	-	-	C	A	-	-
HCM 95th %tile Q(veh)	1.1	-	-	0.2	0.1	-	-

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	106	0	0	90	66	760	90	32	1605	79
Future Vol, veh/h	0	0	106	0	0	90	66	760	90	32	1605	79
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	-	-	Stop	-	-	None	-	-	Yield
Storage Length	-	-	0	-	-	0	217	-	25	217	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	1	1	1	0	4	4	0	1	1
Mvmt Flow	0	0	114	0	0	97	71	817	97	34	1726	85

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	863	-	-	409	1726	0	0	914	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.9	-	-	6.92	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.3	-	-	3.31	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	0	0	302	0	0	594	371	-	-	754	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	302	-	-	594	371	-	-	754	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	24	12.2	1.2	0.2
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	371	-	-	302	594	754	-	-
HCM Lane V/C Ratio	0.191	-	-	0.377	0.163	0.046	-	-
HCM Control Delay (s)	17	-	-	24	12.2	10	-	-
HCM Lane LOS	C	-	-	C	B	B	-	-
HCM 95th %tile Q(veh)	0.7	-	-	1.7	0.6	0.1	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	65	65	785	1651	0
Future Vol, veh/h	0	65	65	785	1651	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	-	0	600	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	1	1	4	1	0
Mvmt Flow	0	71	71	853	1795	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	898	1795	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.92	4.12	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.31	2.21	-	-	-
Pot Cap-1 Maneuver	0	284	345	-	-	0
Stage 1	0	-	-	-	-	0
Stage 2	0	-	-	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	-	284	345	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	21.8	1.4	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT
Capacity (veh/h)	345	-	284	-
HCM Lane V/C Ratio	0.205	-	0.249	-
HCM Control Delay (s)	18.1	-	21.8	-
HCM Lane LOS	C	-	C	-
HCM 95th %tile Q(veh)	0.8	-	1	-

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	53	863	0	53	1658
Future Vol, veh/h	0	53	863	0	53	1658
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	-	0	-	-	600	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	4	0	0	1
Mvmt Flow	0	58	938	0	58	1802

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	469	0	-	938	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	4.1	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	0	546	-	0	739	-
Stage 1	0	-	-	0	-	-
Stage 2	0	-	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	-	546	-	-	739	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.4	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	WBLn1	SBL	SBT
Capacity (veh/h)	-	546	739	-
HCM Lane V/C Ratio	-	0.106	0.078	-
HCM Control Delay (s)	-	12.4	10.3	-
HCM Lane LOS	-	B	B	-
HCM 95th %tile Q(veh)	-	0.4	0.3	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	31	0	0	1610	61
Future Vol, veh/h	0	31	0	0	1610	61
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	25
Veh in Median Storage, #	0	-	-	16974	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	1	1
Mvmt Flow	0	33	0	0	1713	65

Major/Minor	Minor2			Major2	
Conflicting Flow All	-	857		-	0
Stage 1	-	-		-	-
Stage 2	-	-		-	-
Critical Hdwy	-	6.9		-	-
Critical Hdwy Stg 1	-	-		-	-
Critical Hdwy Stg 2	-	-		-	-
Follow-up Hdwy	-	3.3		-	-
Pot Cap-1 Maneuver	0	305		-	-
Stage 1	0	-		-	-
Stage 2	0	-		-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	305		-	-
Mov Cap-2 Maneuver	-	-		-	-
Stage 1	-	-		-	-
Stage 2	-	-		-	-

Approach	EB	SB
HCM Control Delay, s	18.2	0
HCM LOS	C	

Minor Lane/Major Mvmt	EBLn1	SBT	SBR
Capacity (veh/h)	305	-	-
HCM Lane V/C Ratio	0.108	-	-
HCM Control Delay (s)	18.2	-	-
HCM Lane LOS	C	-	-
HCM 95th %tile Q(veh)	0.4	-	-

Intersection	
Int Delay, s/veh	6.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	45	16	0	28	4	0
Future Vol, veh/h	45	16	0	28	4	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	49	17	0	30	4	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	23	15	0	0	30	0
Stage 1	15	-	-	-	-	-
Stage 2	8	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	998	1070	-	-	1596	-
Stage 1	1013	-	-	-	-	-
Stage 2	1020	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	995	1070	-	-	1596	-
Mov Cap-2 Maneuver	995	-	-	-	-	-
Stage 1	1013	-	-	-	-	-
Stage 2	1017	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	7.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1014	1596	-
HCM Lane V/C Ratio	-	-	0.065	0.003	-
HCM Control Delay (s)	-	-	8.8	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	28	0	0	0	0	45
Future Vol, veh/h	28	0	0	0	0	45
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	30	0	0	0	0	49

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	25	25	49	0	-	0
Stage 1	25	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	996	1057	1571	-	-	-
Stage 1	1003	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	996	1057	1571	-	-	-
Mov Cap-2 Maneuver	996	-	-	-	-	-
Stage 1	1003	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1571	-	996	-	-
HCM Lane V/C Ratio	-	-	0.031	-	-
HCM Control Delay (s)	0	-	8.7	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	421	0	0	0	0	0	132	1	0	0	0	0
Future Vol, veh/h	421	0	0	0	0	0	132	1	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	0
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, %	1	1	1	0	0	0	0	0	0	0	0	0
Mvmt Flow	448	0	0	0	0	0	140	1	0	0	0	0

Major/Minor	Major2			Minor1			Minor2		
Conflicting Flow All	-	-	0	1	1	-	-	-	1
Stage 1	-	-	-	0	0	-	-	-	-
Stage 2	-	-	-	1	1	-	-	-	-
Critical Hdwy	-	-	-	7.1	6.5	-	-	-	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.1	5.5	-	-	-	-
Follow-up Hdwy	-	-	-	3.5	4	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	0	1027	899	0	0	0	1090
Stage 1	0	-	0	-	-	0	0	0	-
Stage 2	0	-	0	1027	899	0	0	0	-
Platoon blocked, %		-							
Mov Cap-1 Maneuver	-	-	-	1027	899	-	-	-	1090
Mov Cap-2 Maneuver	-	-	-	1027	899	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	1027	899	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	9.1	0
HCM LOS		A	A

Minor Lane/Major Mvmt	NBLn1	WBT	SBLn1
Capacity (veh/h)	1026	-	-
HCM Lane V/C Ratio	0.138	-	-
HCM Control Delay (s)	9.1	-	0
HCM Lane LOS	A	-	A
HCM 95th %tile Q(veh)	0.5	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	369	144	9	120	0	0	0	0	30	1	0
Future Vol, veh/h	0	369	144	9	120	0	0	0	0	30	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	2	2	2	3	3	3	0	0	0	0	0	0
Mvmt Flow	0	461	180	11	150	0	0	0	0	38	1	0

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	641	0	0	723	813	-
Stage 1	-	-	-	-	-	-	172	172	-
Stage 2	-	-	-	-	-	-	551	641	-
Critical Hdwy	-	-	-	4.13	-	-	6.4	6.5	-
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.227	-	-	3.5	4	-
Pot Cap-1 Maneuver	0	-	-	939	-	0	396	315	0
Stage 1	0	-	-	-	-	0	863	760	0
Stage 2	0	-	-	-	-	0	581	473	0
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	939	-	-	391	0	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	391	0	-
Stage 1	-	-	-	-	-	-	863	0	-
Stage 2	-	-	-	-	-	-	573	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.6	15.2
HCM LOS			C

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	939	-	391
HCM Lane V/C Ratio	-	-	0.012	-	0.099
HCM Control Delay (s)	-	-	8.9	0	15.2
HCM Lane LOS	-	-	A	A	C
HCM 95th %tile Q(veh)	-	-	0	-	0.3

Intersection	
Int Delay, s/veh	2.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	120	0	0	513	0	608
Future Vol, veh/h	120	0	0	513	0	608
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Free	-	None
Storage Length	0	-	-	0	-	-
Veh in Median Storage, #	0	-	16974	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	1	1	0	0	1	1
Mvmt Flow	133	0	0	570	0	676

Major/Minor	Minor1			Major2	
Conflicting Flow All	676	-		-	-
Stage 1	0	-		-	-
Stage 2	676	-		-	-
Critical Hdwy	6.41	-		-	-
Critical Hdwy Stg 1	-	-		-	-
Critical Hdwy Stg 2	5.41	-		-	-
Follow-up Hdwy	3.509	-		-	-
Pot Cap-1 Maneuver	420	0		0	-
Stage 1	-	0		0	-
Stage 2	507	0		0	-
Platoon blocked, %					-
Mov Cap-1 Maneuver	420	-		-	-
Mov Cap-2 Maneuver	420	-		-	-
Stage 1	-	-		-	-
Stage 2	507	-		-	-

Approach	WB	SB
HCM Control Delay, s	17.5	0
HCM LOS	C	

Minor Lane/Major Mvmt	WBLn1	SBT
Capacity (veh/h)	420	-
HCM Lane V/C Ratio	0.317	-
HCM Control Delay (s)	17.5	-
HCM Lane LOS	C	-
HCM 95th %tile Q(veh)	1.3	-

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	81	0	74	8	0	22	129	554	4	21	924	208
Future Vol, veh/h	81	0	74	8	0	22	129	554	4	21	924	208
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	-	-	-	200	-	25	200	-	525
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	4	4	4	0	5	5	0	1	1
Mvmt Flow	84	0	76	8	0	23	133	571	4	22	953	214

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1549	1838	477	1358	2048	286	1167	0	0	575	0	0
Stage 1	997	997	-	837	837	-	-	-	-	-	-	-
Stage 2	552	841	-	521	1211	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.58	6.58	6.98	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.58	5.58	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.58	5.58	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.54	4.04	3.34	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	~ 77	75	534	106	54	705	606	-	-	1008	-	-
Stage 1	262	320	-	323	375	-	-	-	-	-	-	-
Stage 2	486	379	-	501	249	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 61	57	534	74	41	705	606	-	-	1008	-	-
Mov Cap-2 Maneuver	143	159	-	156	87	-	-	-	-	-	-	-
Stage 1	205	313	-	252	293	-	-	-	-	-	-	-
Stage 2	367	296	-	420	244	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	37.8	15.8	2.4	0.2
HCM LOS	E	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	606	-	-	143	534	364	1008	-	-
HCM Lane V/C Ratio	0.219	-	-	0.584	0.143	0.085	0.021	-	-
HCM Control Delay (s)	12.6	-	-	60.6	12.9	15.8	8.7	-	-
HCM Lane LOS	B	-	-	F	B	C	A	-	-
HCM 95th %tile Q(veh)	0.8	-	-	3	0.5	0.3	0.1	-	-

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

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	156	0	0	29	129	635	4	21	932	208
Future Vol, veh/h	0	0	156	0	0	29	129	635	4	21	932	208
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	-	-	-	-	-	-	200	-	25	200	-	525
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	4	4	4	0	5	5	0	1	1
Mvmt Flow	0	0	161	0	0	30	133	655	4	22	961	214

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	481	1446	2140	328	1175	0	0	659	0	0
Stage 1	-	-	-	921	921	-	-	-	-	-	-	-
Stage 2	-	-	-	525	1219	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	7.58	6.58	6.98	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	-	-	-	6.58	5.58	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.58	5.58	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	3.54	4.04	3.34	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	0	0	531	91	47	662	602	-	-	939	-	-
Stage 1	0	0	-	287	343	-	-	-	-	-	-	-
Stage 2	0	0	-	499	247	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	531	52	36	662	602	-	-	939	-	-
Mov Cap-2 Maneuver	-	-	-	122	83	-	-	-	-	-	-	-
Stage 1	-	-	-	224	267	-	-	-	-	-	-	-
Stage 2	-	-	-	340	241	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.7	10.7	2.1	0.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	602	-	-	531	662	939	-	-
HCM Lane V/C Ratio	0.221	-	-	0.303	0.045	0.023	-	-
HCM Control Delay (s)	12.7	-	-	14.7	10.7	8.9	-	-
HCM Lane LOS	B	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0.8	-	-	1.3	0.1	0.1	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	56	687	0	56	1006
Future Vol, veh/h	0	56	687	0	56	1006
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	-	0	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	5	0	2	1
Mvmt Flow	0	61	747	0	61	1093

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	374	0	-	747	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	4.14	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	2.22	-
Pot Cap-1 Maneuver	0	629	-	0	857	-
Stage 1	0	-	-	0	-	-
Stage 2	0	-	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	-	629	-	-	857	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.3	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	WBLn1	SBL	SBT
Capacity (veh/h)	-	629	857	-
HCM Lane V/C Ratio	-	0.097	0.071	-
HCM Control Delay (s)	-	11.3	9.5	-
HCM Lane LOS	-	B	A	-
HCM 95th %tile Q(veh)	-	0.3	0.2	-

Intersection	
Int Delay, s/veh	10.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	106	313	298	64	436	513
Future Vol, veh/h	106	313	298	64	436	513
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	25	-	25	350	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	1	1	5	5	2	2
Mvmt Flow	109	323	307	66	449	529

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1470	154	0	0	373	0
Stage 1	307	-	-	-	-	-
Stage 2	1163	-	-	-	-	-
Critical Hdwy	6.82	6.92	-	-	4.14	-
Critical Hdwy Stg 1	5.82	-	-	-	-	-
Critical Hdwy Stg 2	5.82	-	-	-	-	-
Follow-up Hdwy	3.51	3.31	-	-	2.22	-
Pot Cap-1 Maneuver	119	868	-	-	1182	-
Stage 1	722	-	-	-	-	-
Stage 2	262	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 74	868	-	-	1182	-
Mov Cap-2 Maneuver	138	-	-	-	-	-
Stage 1	722	-	-	-	-	-
Stage 2	162	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	31.8	0	4.5
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	138	868	1182	-
HCM Lane V/C Ratio	-	-	0.792	0.372	0.38	-
HCM Control Delay (s)	-	-	91.4	11.6	9.9	-
HCM Lane LOS	-	-	F	B	A	-
HCM 95th %tile Q(veh)	-	-	4.9	1.7	1.8	-

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

Intersection	
Int Delay, s/veh	9.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	106	313	298	64	436	0
Future Vol, veh/h	106	313	298	64	436	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	25	-	25	300	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	1	1	5	5	2	2
Mvmt Flow	109	323	307	66	449	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1205	154	0	0	373	0
Stage 1	307	-	-	-	-	-
Stage 2	898	-	-	-	-	-
Critical Hdwy	6.615	6.915	-	-	4.13	-
Critical Hdwy Stg 1	5.815	-	-	-	-	-
Critical Hdwy Stg 2	5.415	-	-	-	-	-
Follow-up Hdwy	3.5095	3.3095	-	-	2.219	-
Pot Cap-1 Maneuver	190	868	-	-	1184	-
Stage 1	723	-	-	-	-	-
Stage 2	399	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	118	868	-	-	1184	-
Mov Cap-2 Maneuver	231	-	-	-	-	-
Stage 1	723	-	-	-	-	-
Stage 2	248	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.2	0	9.9
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	231	868	1184	-
HCM Lane V/C Ratio	-	-	0.473	0.372	0.38	-
HCM Control Delay (s)	-	-	33.8	11.6	9.9	-
HCM Lane LOS	-	-	D	B	A	-
HCM 95th %tile Q(veh)	-	-	2.3	1.7	1.8	-

HCS7 Two-Way Stop-Control Report

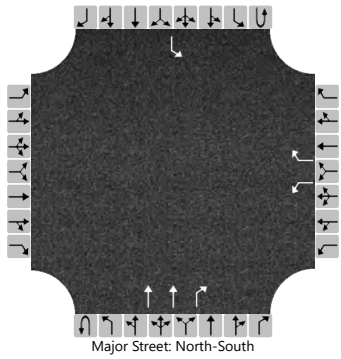
General Information

Analyst	WCE
Agency/Co.	WSDOT
Date Performed	11/2/2021
Analysis Year	2026
Time Analyzed	PM w/ BK Proj. & Proj.
Intersection Orientation	North-South
Project Description	20-2564 Latah Glen

Site Information

Intersection	SR 195 & Hatch Road
Jurisdiction	WSDOT
East/West Street	Hatch Rd
North/South Street	SR 195
Peak Hour Factor	0.97
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		1	0	1	0	0	2	1	0	1	0	0
Configuration						L		R			T	R		L		
Volume (veh/h)						106		313			298	64	0	436		
Percent Heavy Vehicles (%)						2		2					3	2		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized						No					No					
Median Type | Storage		Left Only									2					

Critical and Follow-up Headways

Base Critical Headway (sec)						7.5		6.9						4.1		
Critical Headway (sec)						6.84		6.94						4.14		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.52		3.32						2.22		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						109		323						449		
Capacity, c (veh/h)						552		865						1182		
v/c Ratio						0.20		0.37						0.38		
95% Queue Length, Q_{95} (veh)						0.7		1.7						1.8		
Control Delay (s/veh)						13.1		11.6						9.9		
Level of Service (LOS)						B		B						A		
Approach Delay (s/veh)						12.0								9.9		
Approach LOS						B										

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I-90 SEGMENT LOS & QUEUE ANALYSIS

HCS7 Freeway Merge Report

Project Information			
Analyst	Whipple Consulting Engineers	Date	03/05/2021
Agency	WSDOT	Analysis Year	2021 existing
Jurisdiction	WSDOT	Time Period Analyzed	AM
Project Description	20-2564 Latah Glen		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	64.0	45.0
Segment Length (L) / Acceleration Length (LA),ft	970	465
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	3627	1200
Peak Hour Factor (PHF)	0.88	0.89
Total Trucks, %	8.93	1.70
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.918	0.983
Flow Rate (vi),pc/h	4490	1372
Capacity (c), pc/h	6900	2100
Volume-to-Capacity Ratio (v/c)	0.85	0.65

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	1412.3	Number of Outer Lanes on Freeway (NO)	1
Distance to Upstream Ramp (LUP), ft	1250	Speed Index (MS)	0.632
Downstream Equilibrium Distance (LEQ), ft	8799.9	Flow Outer Lanes (vOA), pc/mi/ln	1356
Distance to Downstream Ramp (LDOWN), ft	2470	On-Ramp Influenece Area Speed (SR), mi/h	50.1
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	0.698	Outer Lanes Freeway Speed (SO), mi/h	60.9
Flow in Lanes 1 and 2 (v12), pc/h	3134	Ramp Junction Speed (S), mi/h	52.2
Flow Entering Ramp-Infl. Area (vR12), pc/h	4506	Average Density (D), pc/mi/ln	37.4
Level of Service (LOS)	E	Density in Ramp Influence Area (DR), pc/mi/ln	37.1

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HCS7 Basic Freeway Report

Project Information

Analyst	Whipple Consulting Engineers	Date	03/05/2021
Agency	WSDOT	Analysis Year	2021 Existing
Jurisdiction	WSDOT	Time Period Analyzed	AM
Project Description	20-2564 Latah Glen		

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	64.0	Total Ramp Density (TRD), ramps/mi	2.17
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	57.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4827	Heavy Vehicle Adjustment Factor (f_{HV})	0.935
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	1956
Total Trucks, %	6.90	Capacity (c), pc/h/ln	2278
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2278
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.86
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	56.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	34.7
Total Ramp Density Adjustment	6.2	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	57.8		

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HCS7 Freeway Diverge Report

Project Information			
Analyst	Whipple Consulting Engineers	Date	03/05/2021
Agency	WSDOT	Analysis Year	2021 Existing
Jurisdiction	WSDOT	Time Period Analyzed	AM
Project Description	20-2564 Latah Glen		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	64.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	970	790
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	3572	1255
Peak Hour Factor (PHF)	0.91	0.78
Total Trucks, %	8.30	2.40
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.923	0.977
Flow Rate (vi),pc/h	4253	1647
Capacity (c), pc/h	6900	4000
Volume-to-Capacity Ratio (v/c)	0.62	0.41

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	18237.3	Number of Outer Lanes on Freeway (NO)	1
Distance to Upstream Ramp (LUP), ft	2470	Speed Index (DS)	0.576
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	1433
Distance to Downstream Ramp (LDOWN), ft	2700	Off-Ramp Influenece Area Speed (SR), mi/h	51.3
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	0.450	Outer Lanes Freeway Speed (SO), mi/h	68.5
Flow in Lanes 1 and 2 (v12), pc/h	2820	Ramp Junction Speed (S), mi/h	56.0
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	25.3
Level of Service (LOS)	C	Density in Ramp Influence Area (DR), pc/mi/ln	21.4

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HCS7 Freeway Merge Report

Project Information			
Analyst	Whipple Consulting Engineers	Date	03/05/2021
Agency	WSDOT	Analysis Year	2021 Existing
Jurisdiction	WSDOT	Time Period Analyzed	PM
Project Description	20-2564 Latah Glen		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	64.0	45.0
Segment Length (L) / Acceleration Length (LA),ft	970	465
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	4409	643
Peak Hour Factor (PHF)	0.92	0.96
Total Trucks, %	8.61	8.70
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.921	0.920
Flow Rate (vi),pc/h	5203	728
Capacity (c), pc/h	6900	2100
Volume-to-Capacity Ratio (v/c)	0.86	0.35

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	1427.1	Number of Outer Lanes on Freeway (NO)	1
Distance to Upstream Ramp (LUP), ft	1250	Speed Index (MS)	0.584
Downstream Equilibrium Distance (LEQ), ft	8799.9	Flow Outer Lanes (vOA), pc/mi/ln	1571
Distance to Downstream Ramp (LDOWN), ft	2470	On-Ramp Influenece Area Speed (SR), mi/h	51.2
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	0.698	Outer Lanes Freeway Speed (SO), mi/h	60.1
Flow in Lanes 1 and 2 (v12), pc/h	3632	Ramp Junction Speed (S), mi/h	53.3
Flow Entering Ramp-Infl. Area (vR12), pc/h	4360	Average Density (D), pc/mi/ln	37.1
Level of Service (LOS)	E	Density in Ramp Influence Area (DR), pc/mi/ln	36.3

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HCS7 Basic Freeway Report

Project Information

Analyst	Whipple Consulting Engineers	Date	03/05/2021
Agency	WSDOT	Analysis Year	2021 Existing
Jurisdiction	WSDOT	Time Period Analyzed	PM
Project Description	20-2564 Latah Glen		

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	64.0	Total Ramp Density (TRD), ramps/mi	2.17
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	57.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	5052	Heavy Vehicle Adjustment Factor (f_{HV})	0.921
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1945
Total Trucks, %	8.60	Capacity (c), pc/h/ln	2278
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2278
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.85
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	56.4
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	34.5
Total Ramp Density Adjustment	6.2	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	57.8		

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HCS7 Freeway Diverge Report

Project Information			
Analyst	Whipple Consulting Engineers	Date	03/05/2021
Agency	WSDOT	Analysis Year	2021 Existing
Jurisdiction	WSDOT	Time Period Analyzed	PM
Project Description	20-2564 Latah Glen		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	64.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	970	790
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	3587	1465
Peak Hour Factor (PHF)	0.94	0.93
Total Trucks, %	7.20	2.50
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.933	0.976
Flow Rate (vi),pc/h	4090	1614
Capacity (c), pc/h	6900	4000
Volume-to-Capacity Ratio (v/c)	0.59	0.40

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	18771.0	Number of Outer Lanes on Freeway (NO)	1
Distance to Upstream Ramp (LUP), ft	2470	Speed Index (DS)	0.573
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	1362
Distance to Downstream Ramp (LDOWN), ft	2700	Off-Ramp Influenece Area Speed (SR), mi/h	51.4
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	0.450	Outer Lanes Freeway Speed (SO), mi/h	68.8
Flow in Lanes 1 and 2 (v12), pc/h	2728	Ramp Junction Speed (S), mi/h	56.1
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	24.3
Level of Service (LOS)	C	Density in Ramp Influence Area (DR), pc/mi/ln	20.6

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HCS7 Freeway Merge Report

Project Information			
Analyst	Whipple Consulting Engineers	Date	03/05/2021
Agency	WSDOT	Analysis Year	2026 W/ BK Projects
Jurisdiction	WSDOT	Time Period Analyzed	AM
Project Description	20-2564 Latah Glen		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	64.0	45.0
Segment Length (L) / Acceleration Length (LA),ft	970	465
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	3821	1200
Peak Hour Factor (PHF)	0.88	0.89
Total Trucks, %	8.93	1.70
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.918	0.983
Flow Rate (vi),pc/h	4730	1372
Capacity (c), pc/h	6900	2100
Volume-to-Capacity Ratio (v/c)	0.88	0.65

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	1463.7	Number of Outer Lanes on Freeway (NO)	1
Distance to Upstream Ramp (LUP), ft	1250	Speed Index (MS)	0.697
Downstream Equilibrium Distance (LEQ), ft	8799.9	Flow Outer Lanes (vOA), pc/mi/ln	1428
Distance to Downstream Ramp (LDOWN), ft	2470	On-Ramp Influenece Area Speed (SR), mi/h	48.7
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	0.698	Outer Lanes Freeway Speed (SO), mi/h	60.7
Flow in Lanes 1 and 2 (v12), pc/h	3302	Ramp Junction Speed (S), mi/h	51.1
Flow Entering Ramp-Infl. Area (vR12), pc/h	4674	Average Density (D), pc/mi/ln	39.8
Level of Service (LOS)	E	Density in Ramp Influence Area (DR), pc/mi/ln	38.5

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HCS7 Basic Freeway Report

Project Information

Analyst	Whipple Consulting Engineers	Date	03/05/2021
Agency	WSDOT	Analysis Year	2026 W/ BK Projects
Jurisdiction	WSDOT	Time Period Analyzed	AM
Project Description	20-2564 Latah Glen		

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	64.0	Total Ramp Density (TRD), ramps/mi	2.17
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	57.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	5021	Heavy Vehicle Adjustment Factor (f_{HV})	0.935
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	2034
Total Trucks, %	6.90	Capacity (c), pc/h/ln	2278
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2278
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.89
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	55.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	36.8
Total Ramp Density Adjustment	6.2	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	57.8		

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HCS7 Freeway Diverge Report

Project Information			
Analyst	Whipple Consulting Engineers	Date	03/05/2021
Agency	WSDOT	Analysis Year	2026 AM W BK Projects
Jurisdiction	WSDOT	Time Period Analyzed	AM
Project Description	20-2564 Latah Glen		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	64.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	970	790
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	3715	1306
Peak Hour Factor (PHF)	0.91	0.78
Total Trucks, %	8.30	2.40
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.923	0.977
Flow Rate (vi),pc/h	4423	1714
Capacity (c), pc/h	6900	4000
Volume-to-Capacity Ratio (v/c)	0.64	0.43

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	18744.9	Number of Outer Lanes on Freeway (NO)	1
Distance to Upstream Ramp (LUP), ft	2470	Speed Index (DS)	0.582
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	1490
Distance to Downstream Ramp (LDOWN), ft	2700	Off-Ramp Influenece Area Speed (SR), mi/h	51.2
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	0.450	Outer Lanes Freeway Speed (SO), mi/h	68.3
Flow in Lanes 1 and 2 (v12), pc/h	2933	Ramp Junction Speed (S), mi/h	55.9
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	26.4
Level of Service (LOS)	C	Density in Ramp Influence Area (DR), pc/mi/ln	22.4

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HCS7 Freeway Merge Report

Project Information			
Analyst	Whipple Consulting Engineers	Date	03/05/2021
Agency	WSDOT	Analysis Year	2026 PM W/ BK Projects
Jurisdiction	WSDOT	Time Period Analyzed	PM
Project Description	20-2564 Latah Glen		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	64.0	45.0
Segment Length (L) / Acceleration Length (LA),ft	970	465
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	5353	758
Peak Hour Factor (PHF)	0.92	0.96
Total Trucks, %	8.61	8.70
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.921	0.920
Flow Rate (vi),pc/h	6318	858
Capacity (c), pc/h	6900	2100
Volume-to-Capacity Ratio (v/c)	1.04	0.41

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	1693.5	Number of Outer Lanes on Freeway (NO)	1
Distance to Upstream Ramp (LUP), ft	1250	Speed Index (MS)	-
Downstream Equilibrium Distance (LEQ), ft	8799.9	Flow Outer Lanes (vOA), pc/mi/ln	1908
Distance to Downstream Ramp (LDOWN), ft	2470	On-Ramp Influenece Area Speed (SR), mi/h	41.2
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	0.698	Outer Lanes Freeway Speed (SO), mi/h	58.9
Flow in Lanes 1 and 2 (v12), pc/h	4410	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	5268	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (DR), pc/mi/ln	43.3

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HCS7 Freeway Merge Report

Project Information			
Analyst	Whipple Consulting Engineers	Date	03/05/2021
Agency	WSDOT	Analysis Year	2026 PM W/ BK Growth Rate (500vph)
Jurisdiction	WSDOT	Time Period Analyzed	PM
Project Description	20-2564 Latah Glen		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	64.0	45.0
Segment Length (L) / Acceleration Length (LA),ft	970	465
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	5353	500
Peak Hour Factor (PHF)	0.92	0.96
Total Trucks, %	8.61	8.70
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.921	0.920
Flow Rate (vi),pc/h	6318	566
Capacity (c), pc/h	6900	2100
Volume-to-Capacity Ratio (v/c)	1.00	0.27

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	1631.0	Number of Outer Lanes on Freeway (NO)	1
Distance to Upstream Ramp (LUP), ft	1250	Speed Index (MS)	0.844
Downstream Equilibrium Distance (LEQ), ft	8799.9	Flow Outer Lanes (vOA), pc/mi/ln	1908
Distance to Downstream Ramp (LDOWN), ft	2470	On-Ramp Influenece Area Speed (SR), mi/h	45.4
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	0.698	Outer Lanes Freeway Speed (SO), mi/h	58.9
Flow in Lanes 1 and 2 (v12), pc/h	4410	Ramp Junction Speed (S), mi/h	48.5
Flow Entering Ramp-Infl. Area (vR12), pc/h	4976	Average Density (D), pc/mi/ln	47.3
Level of Service (LOS)	E	Density in Ramp Influence Area (DR), pc/mi/ln	41.2

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HCS7 Basic Freeway Report

Project Information

Analyst	Whipple Consulting Engineers	Date	03/05/2021
Agency	WSDOT	Analysis Year	2026 PM W BK Projects
Jurisdiction	WSDOT	Time Period Analyzed	PM
Project Description	20-2564 Latah Glen		

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	64.0	Total Ramp Density (TRD), ramps/mi	2.17
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	57.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	6111	Heavy Vehicle Adjustment Factor (f_{HV})	0.921
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	2353
Total Trucks, %	8.60	Capacity (c), pc/h/ln	2278
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2278
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.03
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	6.2	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	57.8		

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HCS7 Basic Freeway Report

Project Information

Analyst	Whipple Consulting Engineers	Date	03/05/2021
Agency	WSDOT	Analysis Year	2026 PM W BK Projects (500 vph)
Jurisdiction	WSDOT	Time Period Analyzed	PM
Project Description	20-2564 Latah Glen		

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	64.0	Total Ramp Density (TRD), ramps/mi	2.17
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	57.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	5853	Heavy Vehicle Adjustment Factor (f_{HV})	0.921
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	2254
Total Trucks, %	8.60	Capacity (c), pc/h/ln	2278
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2278
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.99
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	44.0
Total Ramp Density Adjustment	6.2	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	57.8		

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HCS7 Freeway Diverge Report

Project Information			
Analyst	Whipple Consulting Engineers	Date	03/05/2021
Agency	WSDOT	Analysis Year	2026 PM W BK Projects
Jurisdiction	WSDOT	Time Period Analyzed	PM
Project Description	20-2564 Latah Glen		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	64.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	970	790
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	4339	1772
Peak Hour Factor (PHF)	0.94	0.93
Total Trucks, %	7.20	2.50
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.933	0.976
Flow Rate (vi),pc/h	4947	1952
Capacity (c), pc/h	6900	4000
Volume-to-Capacity Ratio (v/c)	0.72	0.49

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	21850.8	Number of Outer Lanes on Freeway (NO)	1
Distance to Upstream Ramp (LUP), ft	2470	Speed Index (DS)	0.604
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	1647
Distance to Downstream Ramp (LDOWN), ft	2700	Off-Ramp Influenece Area Speed (SR), mi/h	50.7
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	0.450	Outer Lanes Freeway Speed (SO), mi/h	67.7
Flow in Lanes 1 and 2 (v12), pc/h	3300	Ramp Junction Speed (S), mi/h	55.3
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	29.8
Level of Service (LOS)	C	Density in Ramp Influence Area (DR), pc/mi/ln	25.5

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HCS7 Freeway Merge Report

Project Information			
Analyst	Whipple Consulting Engineers	Date	03/05/2021
Agency	WSDOT	Analysis Year	2026 W/ BK Projects W/ IMP
Jurisdiction	WSDOT	Time Period Analyzed	AM
Project Description	20-2564 Latah Glen		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	64.0	45.0
Segment Length (L) / Acceleration Length (LA),ft	970	465
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	3821	1133
Peak Hour Factor (PHF)	0.88	0.89
Total Trucks, %	8.93	1.70
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.918	0.983
Flow Rate (vi),pc/h	4730	1295
Capacity (c), pc/h	6900	2100
Volume-to-Capacity Ratio (v/c)	0.87	0.62

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	1447.2	Number of Outer Lanes on Freeway (NO)	1
Distance to Upstream Ramp (LUP), ft	1250	Speed Index (MS)	0.666
Downstream Equilibrium Distance (LEQ), ft	8799.9	Flow Outer Lanes (vOA), pc/mi/ln	1428
Distance to Downstream Ramp (LDOWN), ft	2470	On-Ramp Influenece Area Speed (SR), mi/h	49.3
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	0.698	Outer Lanes Freeway Speed (SO), mi/h	60.7
Flow in Lanes 1 and 2 (v12), pc/h	3302	Ramp Junction Speed (S), mi/h	51.6
Flow Entering Ramp-Infl. Area (vR12), pc/h	4597	Average Density (D), pc/mi/ln	38.9
Level of Service (LOS)	E	Density in Ramp Influence Area (DR), pc/mi/ln	37.9

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HCS7 Freeway Merge Report

Project Information			
Analyst	Whipple Consulting Engineers	Date	03/05/2021
Agency	WSDOT	Analysis Year	2026 W/ BK Projects & Project
Jurisdiction	WSDOT	Time Period Analyzed	AM
Project Description	20-2564 Latah Glen		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	64.0	45.0
Segment Length (L) / Acceleration Length (LA),ft	970	465
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	3821	1200
Peak Hour Factor (PHF)	0.88	0.89
Total Trucks, %	8.93	1.70
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.918	0.983
Flow Rate (vi),pc/h	4730	1372
Capacity (c), pc/h	6900	2100
Volume-to-Capacity Ratio (v/c)	0.88	0.65

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	1463.7	Number of Outer Lanes on Freeway (NO)	1
Distance to Upstream Ramp (LUP), ft	1250	Speed Index (MS)	0.697
Downstream Equilibrium Distance (LEQ), ft	8799.9	Flow Outer Lanes (vOA), pc/mi/ln	1428
Distance to Downstream Ramp (LDOWN), ft	2470	On-Ramp Influenece Area Speed (SR), mi/h	48.7
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	0.698	Outer Lanes Freeway Speed (SO), mi/h	60.7
Flow in Lanes 1 and 2 (v12), pc/h	3302	Ramp Junction Speed (S), mi/h	51.1
Flow Entering Ramp-Infl. Area (vR12), pc/h	4674	Average Density (D), pc/mi/ln	39.8
Level of Service (LOS)	E	Density in Ramp Influence Area (DR), pc/mi/ln	38.5

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HCS7 Basic Freeway Report

Project Information

Analyst	Whipple Consulting Engineers	Date	03/05/2021
Agency	WSDOT	Analysis Year	2026 W/ BK Projects & Project
Jurisdiction	WSDOT	Time Period Analyzed	AM
Project Description	20-2564 Latah Glen		

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	64.0	Total Ramp Density (TRD), ramps/mi	2.17
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	57.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	5021	Heavy Vehicle Adjustment Factor (f_{HV})	0.935
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	2034
Total Trucks, %	6.90	Capacity (c), pc/h/ln	2278
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2278
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.89
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	55.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	36.8
Total Ramp Density Adjustment	6.2	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	57.8		

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HCS7 Freeway Diverge Report

Project Information			
Analyst	Whipple Consulting Engineers	Date	03/05/2021
Agency	WSDOT	Analysis Year	2026 AM W BK Projects & Project
Jurisdiction	WSDOT	Time Period Analyzed	AM
Project Description	20-2564 Latah Glen		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	64.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	970	790
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	3715	1306
Peak Hour Factor (PHF)	0.91	0.78
Total Trucks, %	8.30	2.40
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.923	0.977
Flow Rate (vi),pc/h	4423	1714
Capacity (c), pc/h	6900	4000
Volume-to-Capacity Ratio (v/c)	0.64	0.43

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	18744.9	Number of Outer Lanes on Freeway (NO)	1
Distance to Upstream Ramp (LUP), ft	2470	Speed Index (DS)	0.582
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	1490
Distance to Downstream Ramp (LDOWN), ft	2700	Off-Ramp Influenece Area Speed (SR), mi/h	51.2
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	0.450	Outer Lanes Freeway Speed (SO), mi/h	68.3
Flow in Lanes 1 and 2 (v12), pc/h	2933	Ramp Junction Speed (S), mi/h	55.9
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	26.4
Level of Service (LOS)	C	Density in Ramp Influence Area (DR), pc/mi/ln	22.4

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HCS7 Freeway Merge Report

Project Information			
Analyst	Whipple Consulting Engineers	Date	03/05/2021
Agency	WSDOT	Analysis Year	2026 PM W/ BK Projects & Project
Jurisdiction	WSDOT	Time Period Analyzed	PM
Project Description	20-2564 Latah Glen		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	64.0	45.0
Segment Length (L) / Acceleration Length (LA),ft	970	465
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	5353	763
Peak Hour Factor (PHF)	0.92	0.96
Total Trucks, %	8.61	8.70
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.921	0.920
Flow Rate (vi),pc/h	6318	864
Capacity (c), pc/h	6900	2100
Volume-to-Capacity Ratio (v/c)	1.04	0.41

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	1694.8	Number of Outer Lanes on Freeway (NO)	1
Distance to Upstream Ramp (LUP), ft	1250	Speed Index (MS)	-
Downstream Equilibrium Distance (LEQ), ft	8799.9	Flow Outer Lanes (vOA), pc/mi/ln	1908
Distance to Downstream Ramp (LDOWN), ft	2470	On-Ramp Influenece Area Speed (SR), mi/h	41.1
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	0.698	Outer Lanes Freeway Speed (SO), mi/h	58.9
Flow in Lanes 1 and 2 (v12), pc/h	4410	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	5274	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (DR), pc/mi/ln	43.4

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HCS7 Freeway Merge Report

Project Information			
Analyst	Whipple Consulting Engineers	Date	03/05/2021
Agency	WSDOT	Analysis Year	2026 PM W/ BK Projects & Project(500vph)
Jurisdiction	WSDOT	Time Period Analyzed	PM
Project Description	20-2564 Latah Glen		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	64.0	45.0
Segment Length (L) / Acceleration Length (LA),ft	970	465
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	5353	500
Peak Hour Factor (PHF)	0.92	0.96
Total Trucks, %	8.61	8.70
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.921	0.920
Flow Rate (vi),pc/h	6318	566
Capacity (c), pc/h	6900	2100
Volume-to-Capacity Ratio (v/c)	1.00	0.27

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	1631.0	Number of Outer Lanes on Freeway (NO)	1
Distance to Upstream Ramp (LUP), ft	1250	Speed Index (MS)	0.844
Downstream Equilibrium Distance (LEQ), ft	8799.9	Flow Outer Lanes (vOA), pc/mi/ln	1908
Distance to Downstream Ramp (LDOWN), ft	2470	On-Ramp Influenece Area Speed (SR), mi/h	45.4
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	0.698	Outer Lanes Freeway Speed (SO), mi/h	58.9
Flow in Lanes 1 and 2 (v12), pc/h	4410	Ramp Junction Speed (S), mi/h	48.5
Flow Entering Ramp-Infl. Area (vR12), pc/h	4976	Average Density (D), pc/mi/ln	47.3
Level of Service (LOS)	E	Density in Ramp Influence Area (DR), pc/mi/ln	41.2

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HCS7 Basic Freeway Report

Project Information

Analyst	Whipple Consulting Engineers	Date	03/05/2021
Agency	WSDOT	Analysis Year	2026 PM W BK Projects & Project
Jurisdiction	WSDOT	Time Period Analyzed	PM
Project Description	20-2564 Latah Glen		

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	64.0	Total Ramp Density (TRD), ramps/mi	2.17
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	57.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	6116	Heavy Vehicle Adjustment Factor (f_{HV})	0.921
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	2355
Total Trucks, %	8.60	Capacity (c), pc/h/ln	2278
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2278
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.03
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	6.2	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	57.8		

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HCS7 Basic Freeway Report

Project Information

Analyst	Whipple Consulting Engineers	Date	03/05/2021
Agency	WSDOT	Analysis Year	2026 PM W BK Projects & Project(500 vph)
Jurisdiction	WSDOT	Time Period Analyzed	PM
Project Description	20-2564 Latah Glen		

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	64.0	Total Ramp Density (TRD), ramps/mi	2.17
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	57.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	5853	Heavy Vehicle Adjustment Factor (f_{HV})	0.921
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	2254
Total Trucks, %	8.60	Capacity (c), pc/h/ln	2278
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2278
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.99
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	44.0
Total Ramp Density Adjustment	6.2	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	57.8		

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HCS7 Freeway Diverge Report

Project Information			
Analyst	Whipple Consulting Engineers	Date	03/05/2021
Agency	WSDOT	Analysis Year	2026 PM W BK Projects & Project
Jurisdiction	WSDOT	Time Period Analyzed	PM
Project Description	20-2564 Latah Glen		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	64.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	970	790
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	4343	1773
Peak Hour Factor (PHF)	0.94	0.93
Total Trucks, %	7.20	2.50
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.933	0.976
Flow Rate (vi),pc/h	4952	1953
Capacity (c), pc/h	6900	4000
Volume-to-Capacity Ratio (v/c)	0.72	0.49

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	21827.4	Number of Outer Lanes on Freeway (NO)	1
Distance to Upstream Ramp (LUP), ft	2470	Speed Index (DS)	0.604
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	1649
Distance to Downstream Ramp (LDOWN), ft	2700	Off-Ramp Influenece Area Speed (SR), mi/h	50.7
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	0.450	Outer Lanes Freeway Speed (SO), mi/h	67.7
Flow in Lanes 1 and 2 (v12), pc/h	3303	Ramp Junction Speed (S), mi/h	55.3
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	29.8
Level of Service (LOS)	C	Density in Ramp Influence Area (DR), pc/mi/ln	25.5

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DRAFT

Ramp Merge Area LOS - NB 195 to EB 90
Ramp Meter in Operation Starting Tuesday, April 9, 2019
HCS7 Version 7.4

Date	AM Peak Hour	Mainline Volume	Ramp Volume	Density	LOS
Wednesday, August 23, 2017	7:15 AM	2644	1078	28.9	D
Thursday, August 16, 2018	7:15 AM	2676	1040	29.0	D
Friday, August 17, 2018	7:15 AM	2509	924	26.8	C
Tuesday, September 25, 2018	7:15 AM	2897	1270	32.4	D
Wednesday, September 26, 2018	7:15 AM	3056	1227	33.2	D
9/26/2018 +500/50	7:15 AM	3556	1277	37.9	E
Wednesday, December 5, 2018	7:15 AM	2718	1130	29.6	D
Tuesday, April 16, 2019	7:15 AM	2964	1059	30.5	D
4/16/2019 +500/0	AM	3464	1059	34.7	D
4/16/2019 +500/50	AM	3964	1109	35.2	E
4/16/2019 +1000/0	AM	3964	1059	39.1	E
4/16/2019 +1000/50	AM	3964	1109	39.6	E
4/16/2019 +1500/0	AM	4464	1059	43.7	E
4/16/2019 +1500/50	AM	4464	1109	44.2	E

Date	PM Peak Hour	Mainline Volume	Ramp Volume	Density	LOS
Tuesday, August 22, 2017	3:15 PM	3659	642	29.8	D
Thursday, August 16, 2018	3:30 PM	3862	617	30.9	D
Friday, August 17, 2018	3:15 PM	3930	655	31.2	D
Tuesday, September 25, 2018	3:15 PM	3914	593	30.9	D
Wednesday, September 26, 2018	3:15 PM	3822	580	31.1	D
9/26/2018 +500/50	3:15 PM	4322	630	35.6	E
Wednesday, December 5, 2018	2:45 PM	3372	582	27.9	C
Tuesday, April 16, 2019	3:45 PM	3664	570	30.7	D
4/16/2019 +500/0	PM	4164	570	34.7	D
4/16/2019 +500/50	PM	4164	620	35.2	E
4/16/2019 +1000/0	PM	4664	570	38.9	E
4/16/2019 +1000/50	PM	4664	620	39.5	E
4/16/2019 +1500/0	PM	5164	570	43.3	E
4/16/2019 +1500/50	PM	5164	620	43.9	E

Notes
1. 500/50 indicates that for this scenario 500 vehicles were added to mainline and 50 vehicles were added to ramp volumes *(mailine add/ramp add)*.

2. HCS7 Diverge analysis of the adjacent Walnut EB off-ramp showed a better LOS than this ramp (LOS B for AM and PM using 2017 counts). See G:\TSM&O\12_I-90\090- 280 Walnut\090 EB Walnut On-ramp Ramp Meter_2018\5_Analysis for details. Therefore, further analysis was not done for this ramp.

LOS	Density (pc/mi/ln)
A	≤10
B	>10–20
C	>20–28
D	>28–35
E	>35
F	Demand exceeds capacity

Exhibit 14-3
LOS Criteria for Freeway Merge and Diverge Segments

HCS7 Freeway Merge Report

DRAFT

Project Information

Analyst	ER Traffic	Date	TBD
Agency	WSDOT	Analysis Year	TBD
Jurisdiction	WSDOT	Time Period Analyzed	9/26/2018 AM Peak Hour +500/50
Project Description	NB US 195 to EB I-90 On-ramp, 9/26/2018 AM Peak Hour with 500/50 Additional Mainline/Ramp Vehicles		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	64.0	45.0
Segment Length (L) / Acceleration Length (L_A), ft	970	465
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V_i), veh/h	3556	1277
Peak Hour Factor (PHF)	0.88	0.89
Total Trucks, %	8.93	1.70
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.918	0.983
Flow Rate (v_i), pc/h	4402	1460
Capacity (c), pc/h	6900	2100
Volume-to-Capacity Ratio (v/c)	0.85	0.70

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	1412.3	Density in Ramp Influence Area (D_R), pc/mi/ln	37.9
Distance to Upstream Ramp (L_{UP}), ft	1250	Speed Index (M_S)	0.672
Downstream Equilibrium Distance (L_{EQ}), ft	9877.8	Flow Outer Lanes (v_{OA}), pc/h/ln	1250
Distance to Downstream Ramp (L_{DOWN}), ft	2470	On-Ramp Influence Area Speed (S_R), mi/h	49.2
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.716	Outer Lanes Freeway Speed (S_O), mi/h	61.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	3152	Ramp Junction Speed (S), mi/h	51.4
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4612	Average Density (D), pc/mi/ln	38.0
Level of Service (LOS)	E		

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HCS7 Freeway Merge Report

DRAFT

Project Information

Analyst	ER Traffic	Date	TBD
Agency	WSDOT	Analysis Year	TBD
Jurisdiction	WSDOT	Time Period Analyzed	9/26/2018 PM Peak Hour +500/50
Project Description	NB US 195 to EB I-90 On-ramp, 9/26/2018 PM Peak Hour with 500/50 Additional Mainline/Ramp Vehicles		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	64.0	45.0
Segment Length (L) / Acceleration Length (L_A), ft	970	465
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V_i), veh/h	4322	630
Peak Hour Factor (PHF)	0.92	0.96
Total Trucks, %	8.61	8.70
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.921	0.920
Flow Rate (v_i), pc/h	5101	713
Capacity (c), pc/h	6900	2100
Volume-to-Capacity Ratio (v/c)	0.84	0.34

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	1402.1	Density in Ramp Influence Area (D_R), pc/mi/ln	35.6
Distance to Upstream Ramp (L_{UP}), ft	1250	Speed Index (M_S)	0.558
Downstream Equilibrium Distance (L_{EQ}), ft	8718.9	Flow Outer Lanes (v_{OA}), pc/h/ln	1546
Distance to Downstream Ramp (L_{DOWN}), ft	2470	On-Ramp Influence Area Speed (S_R), mi/h	51.7
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.697	Outer Lanes Freeway Speed (S_O), mi/h	60.2
Flow in Lanes 1 and 2 (v_{12}), pc/h	3555	Ramp Junction Speed (S), mi/h	53.7
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4268	Average Density (D), pc/mi/ln	36.1
Level of Service (LOS)	E		

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HCS7 Basic Freeway Report

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Project Information

Analyst	ER Traffic	Date	TBD
Agency	WSDOT	Analysis Year	TBD
Jurisdiction	WSDOT	Time Period Analyzed	9/26/2018 AM Peak Hour +550
Project Description	EB Section Between 195 and Walnut, 9/26/2018 AM Peak Hour with 550 Additional Mainline Vehicles		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	64.0	Total Ramp Density (TRD), ramps/mi	2.17
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	57.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	4833	Heavy Vehicle Adjustment Factor (f_{HV})	0.935
Peak Hour Factor (PHF)	0.88	Flow Rate (v_p), pc/h/ln	1958
Total Trucks, %	6.90	Capacity (c), pc/h/ln	2278
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2278
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.86
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	56.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	34.8
Total Ramp Density Adjustment	6.2	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	57.8		

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HCS7 Basic Freeway Report

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Project Information

Analyst	ER Traffic	Date	TBD
Agency	WSDOT	Analysis Year	TBD
Jurisdiction	WSDOT	Time Period Analyzed	9/26/2018 PM Peak Hour +550
Project Description	Basice EB Section Between 195 and Walnut		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	64.0	Total Ramp Density (TRD), ramps/mi	2.17
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	57.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	4952	Heavy Vehicle Adjustment Factor (f_{HV})	0.921
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1907
Total Trucks, %	8.60	Capacity (c), pc/h/ln	2278
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2278
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.84
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	56.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	33.6
Total Ramp Density Adjustment	6.2	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	57.8		

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HCS7 Freeway Diverge Report

DRAFT

Project Information

Analyst	ER Traffic	Date	7/18/2017
Agency	WSDOT	Analysis Year	2017
Jurisdiction	WSDOT	Time Period Analyzed	AM Peak Hour 0715-0815
Project Description	EB Walnut Off-ramp		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	2
Free-Flow Speed (FFS), mi/h	64.0	35.0
Segment Length (L) / Deceleration Length (L_D), ft	970	790
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V_i), veh/h	2739 74%	983 26%
Peak Hour Factor (PHF)	0.91	0.78
Total Trucks, %	8.30	2.40
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.923	0.977
Flow Rate (v_i), pc/h	3261	1290
Capacity (c), pc/h	6900	4000
Volume-to-Capacity Ratio (v/c)	0.47	0.32

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	25921.9	Density in Ramp Influence Area (D_R), pc/mi/ln	15.9
Distance to Upstream Ramp (L_{UP}), ft	2470	Speed Index (D_S)	0.544
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1084
Distance to Downstream Ramp (L_{DOWN}), ft	2700	Off-Ramp Influence Area Speed (S_R), mi/h	52.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.450	Outer Lanes Freeway Speed (S_O), mi/h	69.9
Flow in Lanes 1 and 2 (v_{12}), pc/h	2177	Ramp Junction Speed (S), mi/h	56.8
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	19.1
Level of Service (LOS)	B		

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HCS7 Freeway Diverge Report

DRAFT

Project Information

Analyst	ER Traffic	Date	7/18/2017
Agency	WSDOT	Analysis Year	2017
Jurisdiction	WSDOT	Time Period Analyzed	PM Peak Hour 1615-1715
Project Description	EB Walnut Off-ramp		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	2
Free-Flow Speed (FFS), mi/h	64.0	35.0
Segment Length (L) / Deceleration Length (L_D), ft	970	790
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

	Freeway	Ramp
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

	Freeway	Ramp
Demand Volume (V_i), veh/h	2921 71%	1182 29%
Peak Hour Factor (PHF)	0.94	0.93
Total Trucks, %	7.20	2.50
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.933	0.976
Flow Rate (v_i), pc/h	3331	1302
Capacity (c), pc/h	6900	4000
Volume-to-Capacity Ratio (v/c)	0.48	0.33

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	13119.3	Density in Ramp Influence Area (D_R), pc/mi/ln	16.2
Distance to Upstream Ramp (L_{UP}), ft	2470	Speed Index (D_S)	0.545
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1116
Distance to Downstream Ramp (L_{DOWN}), ft	2700	Off-Ramp Influence Area Speed (S_R), mi/h	52.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.450	Outer Lanes Freeway Speed (S_O), mi/h	69.8
Flow in Lanes 1 and 2 (v_{12}), pc/h	2215	Ramp Junction Speed (S), mi/h	56.9
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	19.5
Level of Service (LOS)	B		

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HCS7 Freeway Merge Report

Project Information			
Analyst	Whipple Consulting Engineers	Date	03/05/2021
Agency	WSDOT	Analysis Year	2021 existing - SR 195 IMP
Jurisdiction	WSDOT	Time Period Analyzed	AM
Project Description	20-2564 Latah Glen		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	64.0	45.0
Segment Length (L) / Acceleration Length (LA),ft	970	465
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	3627	990
Peak Hour Factor (PHF)	0.88	0.89
Total Trucks, %	8.93	1.70
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.918	0.983
Flow Rate (vi),pc/h	4490	1132
Capacity (c), pc/h	6900	2100
Volume-to-Capacity Ratio (v/c)	0.81	0.54

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	1361.0	Number of Outer Lanes on Freeway (NO)	1
Distance to Upstream Ramp (LUP), ft	1250	Speed Index (MS)	0.557
Downstream Equilibrium Distance (LEQ), ft	8799.9	Flow Outer Lanes (vOA), pc/mi/ln	1356
Distance to Downstream Ramp (LDOWN), ft	2470	On-Ramp Influenece Area Speed (SR), mi/h	51.7
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	0.698	Outer Lanes Freeway Speed (SO), mi/h	60.9
Flow in Lanes 1 and 2 (v12), pc/h	3134	Ramp Junction Speed (S), mi/h	53.7
Flow Entering Ramp-Infl. Area (vR12), pc/h	4266	Average Density (D), pc/mi/ln	34.9
Level of Service (LOS)	E	Density in Ramp Influence Area (DR), pc/mi/ln	35.4

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HCS7 Freeway Merge Report

Project Information			
Analyst	Whipple Consulting Engineers	Date	03/05/2021
Agency	WSDOT	Analysis Year	2021 Existing - SR 195 IMP
Jurisdiction	WSDOT	Time Period Analyzed	PM
Project Description	20-2564 Latah Glen		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	64.0	45.0
Segment Length (L) / Acceleration Length (LA),ft	970	465
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	4409	506
Peak Hour Factor (PHF)	0.92	0.96
Total Trucks, %	8.61	8.70
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.921	0.920
Flow Rate (vi),pc/h	5203	573
Capacity (c), pc/h	6900	2100
Volume-to-Capacity Ratio (v/c)	0.84	0.27

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	1393.9	Number of Outer Lanes on Freeway (NO)	1
Distance to Upstream Ramp (LUP), ft	1250	Speed Index (MS)	0.541
Downstream Equilibrium Distance (LEQ), ft	8799.9	Flow Outer Lanes (vOA), pc/mi/ln	1571
Distance to Downstream Ramp (LDOWN), ft	2470	On-Ramp Influenece Area Speed (SR), mi/h	52.1
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	0.698	Outer Lanes Freeway Speed (SO), mi/h	60.1
Flow in Lanes 1 and 2 (v12), pc/h	3632	Ramp Junction Speed (S), mi/h	54.1
Flow Entering Ramp-Infl. Area (vR12), pc/h	4205	Average Density (D), pc/mi/ln	35.6
Level of Service (LOS)	E	Density in Ramp Influence Area (DR), pc/mi/ln	35.2

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HCS7 Basic Freeway Report

Project Information

Analyst	Whipple Consulting Engineers	Date	03/05/2021
Agency	WSDOT	Analysis Year	2021 Existing - SR 195 IMP
Jurisdiction	WSDOT	Time Period Analyzed	AM
Project Description	20-2564 Latah Glen		

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	64.0	Total Ramp Density (TRD), ramps/mi	2.17
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	57.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4617	Heavy Vehicle Adjustment Factor (f_{HV})	0.935
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	1870
Total Trucks, %	6.90	Capacity (c), pc/h/ln	2278
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2278
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.82
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	57.1
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	32.7
Total Ramp Density Adjustment	6.2	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	57.8		

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HCS7 Basic Freeway Report

Project Information

Analyst	Whipple Consulting Engineers	Date	03/05/2021
Agency	WSDOT	Analysis Year	2021 Existing - SR 195 IMP
Jurisdiction	WSDOT	Time Period Analyzed	PM
Project Description	20-2564 Latah Glen		

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	64.0	Total Ramp Density (TRD), ramps/mi	2.17
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	57.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4915	Heavy Vehicle Adjustment Factor (f_{HV})	0.921
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1892
Total Trucks, %	8.60	Capacity (c), pc/h/ln	2278
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2278
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.83
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	56.9
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	33.3
Total Ramp Density Adjustment	6.2	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	57.8		

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HCS7 Freeway Diverge Report

Project Information			
Analyst	Whipple Consulting Engineers	Date	03/05/2021
Agency	WSDOT	Analysis Year	2021 Existing - SR 195 IMP
Jurisdiction	WSDOT	Time Period Analyzed	AM
Project Description	20-2564 Latah Glen		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	64.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	970	790
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	3417	1200
Peak Hour Factor (PHF)	0.91	0.78
Total Trucks, %	8.30	2.40
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.923	0.977
Flow Rate (vi),pc/h	4068	1575
Capacity (c), pc/h	6900	4000
Volume-to-Capacity Ratio (v/c)	0.59	0.39

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	17742.5	Number of Outer Lanes on Freeway (NO)	1
Distance to Upstream Ramp (LUP), ft	2470	Speed Index (DS)	0.570
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	1371
Distance to Downstream Ramp (LDOWN), ft	2700	Off-Ramp Influenece Area Speed (SR), mi/h	51.5
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	0.450	Outer Lanes Freeway Speed (SO), mi/h	68.8
Flow in Lanes 1 and 2 (v12), pc/h	2697	Ramp Junction Speed (S), mi/h	56.3
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	24.1
Level of Service (LOS)	C	Density in Ramp Influence Area (DR), pc/mi/ln	20.3

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HCS7 Freeway Diverge Report

Project Information			
Analyst	Whipple Consulting Engineers	Date	03/05/2021
Agency	WSDOT	Analysis Year	2021 Existing - SR 195 IMP
Jurisdiction	WSDOT	Time Period Analyzed	PM
Project Description	20-2564 Latah Glen		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	64.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	970	790
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	3490	1425
Peak Hour Factor (PHF)	0.94	0.93
Total Trucks, %	7.20	2.50
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.933	0.976
Flow Rate (vi),pc/h	3979	1570
Capacity (c), pc/h	6900	4000
Volume-to-Capacity Ratio (v/c)	0.58	0.39

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	18427.2	Number of Outer Lanes on Freeway (NO)	1
Distance to Upstream Ramp (LUP), ft	2470	Speed Index (DS)	0.569
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	1325
Distance to Downstream Ramp (LDOWN), ft	2700	Off-Ramp Influenece Area Speed (SR), mi/h	51.5
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	0.450	Outer Lanes Freeway Speed (SO), mi/h	68.9
Flow in Lanes 1 and 2 (v12), pc/h	2654	Ramp Junction Speed (S), mi/h	56.2
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	23.6
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	20.0

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HCS7 Freeway Merge Report

Project Information			
Analyst	Whipple Consulting Engineers	Date	03/05/2021
Agency	WSDOT	Analysis Year	2026 W/ BK Projects W/ IMP
Jurisdiction	WSDOT	Time Period Analyzed	AM
Project Description	20-2564 Latah Glen		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	64.0	45.0
Segment Length (L) / Acceleration Length (LA),ft	970	465
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	3821	1193
Peak Hour Factor (PHF)	0.88	0.89
Total Trucks, %	8.93	1.70
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.918	0.983
Flow Rate (vi),pc/h	4730	1364
Capacity (c), pc/h	6900	2100
Volume-to-Capacity Ratio (v/c)	0.88	0.65

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	1462.0	Number of Outer Lanes on Freeway (NO)	1
Distance to Upstream Ramp (LUP), ft	1250	Speed Index (MS)	0.694
Downstream Equilibrium Distance (LEQ), ft	8799.9	Flow Outer Lanes (vOA), pc/mi/ln	1428
Distance to Downstream Ramp (LDOWN), ft	2470	On-Ramp Influenece Area Speed (SR), mi/h	48.7
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	0.698	Outer Lanes Freeway Speed (SO), mi/h	60.7
Flow in Lanes 1 and 2 (v12), pc/h	3302	Ramp Junction Speed (S), mi/h	51.1
Flow Entering Ramp-Infl. Area (vR12), pc/h	4666	Average Density (D), pc/mi/ln	39.8
Level of Service (LOS)	E	Density in Ramp Influence Area (DR), pc/mi/ln	38.4

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HCS7 Freeway Merge Report

Project Information			
Analyst	Whipple Consulting Engineers	Date	03/05/2021
Agency	WSDOT	Analysis Year	2026 PM W/ BK Projects W/ SR195 IMP
Jurisdiction	WSDOT	Time Period Analyzed	PM
Project Description	20-2564 Latah Glen		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	64.0	45.0
Segment Length (L) / Acceleration Length (LA),ft	970	465
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	5353	594
Peak Hour Factor (PHF)	0.92	0.96
Total Trucks, %	8.61	8.70
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.921	0.920
Flow Rate (vi),pc/h	6318	673
Capacity (c), pc/h	6900	2100
Volume-to-Capacity Ratio (v/c)	1.01	0.32

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	1653.9	Number of Outer Lanes on Freeway (NO)	1
Distance to Upstream Ramp (LUP), ft	1250	Speed Index (MS)	-
Downstream Equilibrium Distance (LEQ), ft	8799.9	Flow Outer Lanes (vOA), pc/mi/ln	1908
Distance to Downstream Ramp (LDOWN), ft	2470	On-Ramp Influenece Area Speed (SR), mi/h	44.0
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	0.698	Outer Lanes Freeway Speed (SO), mi/h	58.9
Flow in Lanes 1 and 2 (v12), pc/h	4410	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	5083	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (DR), pc/mi/ln	42.0

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HCS7 Freeway Merge Report

Project Information			
Analyst	Whipple Consulting Engineers	Date	03/05/2021
Agency	WSDOT	Analysis Year	2026 PM W/ BK Projects W/ SR195 IMP (500vph)
Jurisdiction	WSDOT	Time Period Analyzed	PM
Project Description	20-2564 Latah Glen		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	64.0	45.0
Segment Length (L) / Acceleration Length (LA),ft	970	465
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	5353	500
Peak Hour Factor (PHF)	0.92	0.96
Total Trucks, %	8.61	8.70
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.921	0.920
Flow Rate (vi),pc/h	6318	566
Capacity (c), pc/h	6900	2100
Volume-to-Capacity Ratio (v/c)	1.00	0.27

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	1631.0	Number of Outer Lanes on Freeway (NO)	1
Distance to Upstream Ramp (LUP), ft	1250	Speed Index (MS)	0.844
Downstream Equilibrium Distance (LEQ), ft	8799.9	Flow Outer Lanes (vOA), pc/mi/ln	1908
Distance to Downstream Ramp (LDOWN), ft	2470	On-Ramp Influenece Area Speed (SR), mi/h	45.4
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	0.698	Outer Lanes Freeway Speed (SO), mi/h	58.9
Flow in Lanes 1 and 2 (v12), pc/h	4410	Ramp Junction Speed (S), mi/h	48.5
Flow Entering Ramp-Infl. Area (vR12), pc/h	4976	Average Density (D), pc/mi/ln	47.3
Level of Service (LOS)	E	Density in Ramp Influence Area (DR), pc/mi/ln	41.2

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HCS7 Basic Freeway Report

Project Information

Analyst	Whipple Consulting Engineers	Date	03/05/2021
Agency	WSDOT	Analysis Year	2026 W/ BK Projects W/ SR195 IMP
Jurisdiction	WSDOT	Time Period Analyzed	AM
Project Description	20-2564 Latah Glen		

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	64.0	Total Ramp Density (TRD), ramps/mi	2.17
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	57.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	5014	Heavy Vehicle Adjustment Factor (f_{HV})	0.935
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	2031
Total Trucks, %	6.90	Capacity (c), pc/h/ln	2278
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2278
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.89
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	55.4
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	36.7
Total Ramp Density Adjustment	6.2	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	57.8		

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HCS7 Basic Freeway Report

Project Information

Analyst	Whipple Consulting Engineers	Date	03/05/2021
Agency	WSDOT	Analysis Year	2026 PM W BK Projects W SR195 IMP
Jurisdiction	WSDOT	Time Period Analyzed	PM
Project Description	20-2564 Latah Glen		

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	64.0	Total Ramp Density (TRD), ramps/mi	2.17
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	57.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	5947	Heavy Vehicle Adjustment Factor (f_{HV})	0.921
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	2290
Total Trucks, %	8.60	Capacity (c), pc/h/ln	2278
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2278
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.01
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	6.2	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	57.8		

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HCS7 Basic Freeway Report

Project Information

Analyst	Whipple Consulting Engineers	Date	03/05/2021
Agency	WSDOT	Analysis Year	2026 PM W BK Projects W SR195 IMP(500 vph)
Jurisdiction	WSDOT	Time Period Analyzed	PM
Project Description	20-2564 Latah Glen		

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	64.0	Total Ramp Density (TRD), ramps/mi	2.17
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	57.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	5853	Heavy Vehicle Adjustment Factor (f_{HV})	0.921
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	2254
Total Trucks, %	8.60	Capacity (c), pc/h/ln	2278
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2278
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.99
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	44.0
Total Ramp Density Adjustment	6.2	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	57.8		

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HCS7 Freeway Diverge Report

Project Information			
Analyst	Whipple Consulting Engineers	Date	03/05/2021
Agency	WSDOT	Analysis Year	2026 AM W BK Projects W SR195 IMP
Jurisdiction	WSDOT	Time Period Analyzed	AM
Project Description	20-2564 Latah Glen		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	64.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	970	790
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	3710	1304
Peak Hour Factor (PHF)	0.91	0.78
Total Trucks, %	8.30	2.40
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.923	0.977
Flow Rate (vi),pc/h	4417	1711
Capacity (c), pc/h	6900	4000
Volume-to-Capacity Ratio (v/c)	0.64	0.43

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	18705.2	Number of Outer Lanes on Freeway (NO)	1
Distance to Upstream Ramp (LUP), ft	2470	Speed Index (DS)	0.582
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	1488
Distance to Downstream Ramp (LDOWN), ft	2700	Off-Ramp Influenece Area Speed (SR), mi/h	51.2
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	0.450	Outer Lanes Freeway Speed (SO), mi/h	68.3
Flow in Lanes 1 and 2 (v12), pc/h	2929	Ramp Junction Speed (S), mi/h	55.9
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	26.3
Level of Service (LOS)	C	Density in Ramp Influence Area (DR), pc/mi/ln	22.3

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HCS7 Freeway Diverge Report

Project Information			
Analyst	Whipple Consulting Engineers	Date	03/05/2021
Agency	WSDOT	Analysis Year	2026 PM W BK Projects W SR195 IMP
Jurisdiction	WSDOT	Time Period Analyzed	PM
Project Description	20-2564 Latah Glen		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	64.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	970	790
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	4222	1725
Peak Hour Factor (PHF)	0.94	0.93
Total Trucks, %	7.20	2.50
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.933	0.976
Flow Rate (vi),pc/h	4814	1900
Capacity (c), pc/h	6900	4000
Volume-to-Capacity Ratio (v/c)	0.70	0.48

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	21327.9	Number of Outer Lanes on Freeway (NO)	1
Distance to Upstream Ramp (LUP), ft	2470	Speed Index (DS)	0.599
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	1603
Distance to Downstream Ramp (LDOWN), ft	2700	Off-Ramp Influenece Area Speed (SR), mi/h	50.8
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	0.450	Outer Lanes Freeway Speed (SO), mi/h	67.9
Flow in Lanes 1 and 2 (v12), pc/h	3211	Ramp Junction Speed (S), mi/h	55.5
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	28.9
Level of Service (LOS)	C	Density in Ramp Influence Area (DR), pc/mi/ln	24.8

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HCS7 Freeway Merge Report

Project Information			
Analyst	Whipple Consulting Engineers	Date	03/05/2021
Agency	WSDOT	Analysis Year	2026 W/ BK Projects & Project W SR195 IMP
Jurisdiction	WSDOT	Time Period Analyzed	AM
Project Description	20-2564 Latah Glen		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	64.0	45.0
Segment Length (L) / Acceleration Length (LA),ft	970	465
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	3821	1200
Peak Hour Factor (PHF)	0.88	0.89
Total Trucks, %	8.93	1.70
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.918	0.983
Flow Rate (vi),pc/h	4730	1372
Capacity (c), pc/h	6900	2100
Volume-to-Capacity Ratio (v/c)	0.88	0.65

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	1463.7	Number of Outer Lanes on Freeway (NO)	1
Distance to Upstream Ramp (LUP), ft	1250	Speed Index (MS)	0.697
Downstream Equilibrium Distance (LEQ), ft	8799.9	Flow Outer Lanes (vOA), pc/mi/ln	1428
Distance to Downstream Ramp (LDOWN), ft	2470	On-Ramp Influenece Area Speed (SR), mi/h	48.7
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	0.698	Outer Lanes Freeway Speed (SO), mi/h	60.7
Flow in Lanes 1 and 2 (v12), pc/h	3302	Ramp Junction Speed (S), mi/h	51.1
Flow Entering Ramp-Infl. Area (vR12), pc/h	4674	Average Density (D), pc/mi/ln	39.8
Level of Service (LOS)	E	Density in Ramp Influence Area (DR), pc/mi/ln	38.5

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HCS7 Freeway Merge Report

Project Information			
Analyst	Whipple Consulting Engineers	Date	03/05/2021
Agency	WSDOT	Analysis Year	2026 PM W/ BK Projects & Project W/ SR195 IMP
Jurisdiction	WSDOT	Time Period Analyzed	PM
Project Description	20-2564 Latah Glen		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	64.0	45.0
Segment Length (L) / Acceleration Length (LA),ft	970	465
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	5353	598
Peak Hour Factor (PHF)	0.92	0.96
Total Trucks, %	8.61	8.70
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.921	0.920
Flow Rate (vi),pc/h	6318	677
Capacity (c), pc/h	6900	2100
Volume-to-Capacity Ratio (v/c)	1.01	0.32

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	1654.8	Number of Outer Lanes on Freeway (NO)	1
Distance to Upstream Ramp (LUP), ft	1250	Speed Index (MS)	-
Downstream Equilibrium Distance (LEQ), ft	8799.9	Flow Outer Lanes (vOA), pc/mi/ln	1908
Distance to Downstream Ramp (LDOWN), ft	2470	On-Ramp Influenece Area Speed (SR), mi/h	44.0
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	0.698	Outer Lanes Freeway Speed (SO), mi/h	58.9
Flow in Lanes 1 and 2 (v12), pc/h	4410	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	5087	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (DR), pc/mi/ln	42.0

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HCS7 Freeway Merge Report

Project Information			
Analyst	Whipple Consulting Engineers	Date	03/05/2021
Agency	WSDOT	Analysis Year	2026 PM W/ BK Projects & Project W/ SR195 IMP(500vph)
Jurisdiction	WSDOT	Time Period Analyzed	PM
Project Description	20-2564 Latah Glen		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	64.0	45.0
Segment Length (L) / Acceleration Length (LA),ft	970	465
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	5353	500
Peak Hour Factor (PHF)	0.92	0.96
Total Trucks, %	8.61	8.70
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.921	0.920
Flow Rate (vi),pc/h	6318	566
Capacity (c), pc/h	6900	2100
Volume-to-Capacity Ratio (v/c)	1.00	0.27

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	1631.0	Number of Outer Lanes on Freeway (NO)	1
Distance to Upstream Ramp (LUP), ft	1250	Speed Index (MS)	0.844
Downstream Equilibrium Distance (LEQ), ft	8799.9	Flow Outer Lanes (vOA), pc/mi/ln	1908
Distance to Downstream Ramp (LDOWN), ft	2470	On-Ramp Influenece Area Speed (SR), mi/h	45.4
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	0.698	Outer Lanes Freeway Speed (SO), mi/h	58.9
Flow in Lanes 1 and 2 (v12), pc/h	4410	Ramp Junction Speed (S), mi/h	48.5
Flow Entering Ramp-Infl. Area (vR12), pc/h	4976	Average Density (D), pc/mi/ln	47.3
Level of Service (LOS)	E	Density in Ramp Influence Area (DR), pc/mi/ln	41.2

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HCS7 Basic Freeway Report

Project Information

Analyst	Whipple Consulting Engineers	Date	03/05/2021
Agency	WSDOT	Analysis Year	2026 W/ BK Projects & Project W/ SR195 IMP
Jurisdiction	WSDOT	Time Period Analyzed	AM
Project Description	20-2564 Latah Glen		

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	64.0	Total Ramp Density (TRD), ramps/mi	2.17
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	57.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	5021	Heavy Vehicle Adjustment Factor (f_{HV})	0.935
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	2034
Total Trucks, %	6.90	Capacity (c), pc/h/ln	2278
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2278
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.89
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	55.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	36.8
Total Ramp Density Adjustment	6.2	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	57.8		

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HCS7 Basic Freeway Report

Project Information

Analyst	Whipple Consulting Engineers	Date	03/05/2021
Agency	WSDOT	Analysis Year	2026 PM W BK Projects & Project W SR195 IMP
Jurisdiction	WSDOT	Time Period Analyzed	PM
Project Description	20-2564 Latah Glen		

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	64.0	Total Ramp Density (TRD), ramps/mi	2.17
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	57.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	5951	Heavy Vehicle Adjustment Factor (f_{HV})	0.921
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	2291
Total Trucks, %	8.60	Capacity (c), pc/h/ln	2278
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2278
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.01
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	6.2	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	57.8		

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HCS7 Basic Freeway Report

Project Information

Analyst	Whipple Consulting Engineers	Date	03/05/2021
Agency	WSDOT	Analysis Year	2026 PM W BK Projects & Project W SR195 IMP(500 vph)
Jurisdiction	WSDOT	Time Period Analyzed	PM
Project Description	20-2564 Latah Glen		

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	64.0	Total Ramp Density (TRD), ramps/mi	2.17
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	57.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	5853	Heavy Vehicle Adjustment Factor (f_{HV})	0.921
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	2254
Total Trucks, %	8.60	Capacity (c), pc/h/ln	2278
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2278
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.99
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	44.0
Total Ramp Density Adjustment	6.2	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	57.8		

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HCS7 Freeway Diverge Report

Project Information			
Analyst	Whipple Consulting Engineers	Date	03/05/2021
Agency	WSDOT	Analysis Year	2026 AM W BK Projects & Project W SR195 IMP
Jurisdiction	WSDOT	Time Period Analyzed	AM
Project Description	20-2564 Latah Glen		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	64.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	970	790
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	3715	1306
Peak Hour Factor (PHF)	0.91	0.78
Total Trucks, %	8.30	2.40
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.923	0.977
Flow Rate (vi),pc/h	4423	1714
Capacity (c), pc/h	6900	4000
Volume-to-Capacity Ratio (v/c)	0.64	0.43

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	18744.9	Number of Outer Lanes on Freeway (NO)	1
Distance to Upstream Ramp (LUP), ft	2470	Speed Index (DS)	0.582
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	1490
Distance to Downstream Ramp (LDOWN), ft	2700	Off-Ramp Influenece Area Speed (SR), mi/h	51.2
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	0.450	Outer Lanes Freeway Speed (SO), mi/h	68.3
Flow in Lanes 1 and 2 (v12), pc/h	2933	Ramp Junction Speed (S), mi/h	55.9
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	26.4
Level of Service (LOS)	C	Density in Ramp Influence Area (DR), pc/mi/ln	22.4

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HCS7 Freeway Diverge Report

Project Information			
Analyst	Whipple Consulting Engineers	Date	03/05/2021
Agency	WSDOT	Analysis Year	2026 PM W BK Projects & Project W SR195 IMP
Jurisdiction	WSDOT	Time Period Analyzed	PM
Project Description	20-2564 Latah Glen		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	64.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	970	790
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	4225	1726
Peak Hour Factor (PHF)	0.94	0.93
Total Trucks, %	7.20	2.50
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.933	0.976
Flow Rate (vi),pc/h	4817	1902
Capacity (c), pc/h	6900	4000
Volume-to-Capacity Ratio (v/c)	0.70	0.48

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	21375.5	Number of Outer Lanes on Freeway (NO)	1
Distance to Upstream Ramp (LUP), ft	2470	Speed Index (DS)	0.599
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	1603
Distance to Downstream Ramp (LDOWN), ft	2700	Off-Ramp Influenece Area Speed (SR), mi/h	50.8
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	0.450	Outer Lanes Freeway Speed (SO), mi/h	67.9
Flow in Lanes 1 and 2 (v12), pc/h	3214	Ramp Junction Speed (S), mi/h	55.4
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	29.0
Level of Service (LOS)	C	Density in Ramp Influence Area (DR), pc/mi/ln	24.8

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EB 195

2021 AM Existing

AM Adjustment factor	1.062	AM k30 factor (R103)	1.15			
Storage Length	1000	**No. of Storage Lanes**	1	Ramp Meter Rate	1200	**2-lane retrofit (use shoulder) alternate release Max rate = 1400**

Time	2018 AM Volume	Adjusted Volume	Vehicles released	Vehicles in queue	Queue length	Exceed Storage
6:00 AM	4	4	4	0	0	0
6:01 AM	5	5	5	0	0	0
6:02 AM	1	1	1	0	0	0
6:03 AM	2	2	2	0	0	0
6:04 AM	5	5	5	0	0	0
6:05 AM	4	4	4	0	0	0
6:06 AM	7	7	7	0	0	0
6:07 AM	5	5	5	0	0	0
6:08 AM	4	4	4	0	0	0
6:09 AM	5	5	5	0	0	0
6:10 AM	7	7	7	0	0	0
6:11 AM	6	6	6	0	0	0
6:12 AM	9	10	10	0	0	0
6:13 AM	6	6	6	0	0	0
6:14 AM	5	5	5	0	0	0
6:15 AM	6	6	6	0	0	0
6:16 AM	5	5	5	0	0	0
6:17 AM	6	6	6	0	0	0
6:18 AM	4	4	4	0	0	0
6:19 AM	10	11	11	0	0	0
6:20 AM	12	13	13	0	0	0
6:21 AM	13	14	14	0	0	0
6:22 AM	8	8	8	0	0	0
6:23 AM	12	13	13	0	0	0
6:24 AM	15	16	16	0	0	0
6:25 AM	17	18	18	0	0	0
6:26 AM	6	6	6	0	0	0
6:27 AM	11	12	12	0	0	0
6:28 AM	7	7	7	0	0	0
6:29 AM	12	13	13	0	0	0
6:30 AM	9	10	10	0	0	0
6:31 AM	15	16	16	0	0	0
6:32 AM	15	16	16	0	0	0
6:33 AM	6	6	6	0	0	0
6:34 AM	11	12	12	0	0	0
6:35 AM	11	12	12	0	0	0
6:36 AM	10	11	11	0	0	0
6:37 AM	12	13	13	0	0	0
6:38 AM	12	13	13	0	0	0
6:39 AM	14	15	15	0	0	0
6:40 AM	8	8	8	0	0	0
6:41 AM	21	22	20	2	58	0
6:42 AM	16	17	19	0	0	0
6:43 AM	21	22	20	2	58	0
6:44 AM	26	28	20	10	248	0
6:45 AM	21	22	20	12	305	0
6:46 AM	23	24	20	17	416	0
6:47 AM	19	20	20	17	421	0
6:48 AM	20	21	20	18	452	0
6:49 AM	23	24	20	22	562	0
6:50 AM	16	17	20	19	487	0
6:51 AM	22	23	20	23	571	0
6:52 AM	21	22	20	25	629	0
6:53 AM	17	18	20	23	580	0
6:54 AM	13	14	20	17	425	0
6:55 AM	16	17	20	14	350	0
6:56 AM	18	19	20	13	328	0
6:57 AM	12	13	20	6	146	0
6:58 AM	12	13	19	0	0	0
6:59 AM	16	17	17	0	0	0
7:00 AM	15	16	16	0	0	0
7:01 AM	15	16	16	0	0	0
7:02 AM	7	7	7	0	0	0
7:03 AM	22	23	20	3	84	0
7:04 AM	11	12	15	0	0	0
7:05 AM	16	17	17	0	0	0
7:06 AM	6	6	6	0	0	0
7:07 AM	18	19	19	0	0	0
7:08 AM	20	21	20	1	31	0
7:09 AM	14	15	16	0	0	0
7:10 AM	11	12	12	0	0	0
7:11 AM	16	17	17	0	0	0
7:12 AM	23	24	20	4	111	0
7:13 AM	22	23	20	8	195	0
7:14 AM	18	19	20	7	173	0
7:15 AM	20	21	20	8	204	0
7:16 AM	14	15	20	3	75	0
7:17 AM	22	23	20	6	159	0
7:18 AM	16	17	20	3	84	0
7:19 AM	22	23	20	7	168	0
7:20 AM	22	23	20	10	252	0
7:21 AM	24	25	20	16	390	0
7:22 AM	22	23	20	19	474	0
7:23 AM	17	18	20	17	425	0
7:24 AM	19	20	20	17	430	0
7:25 AM	15	16	20	13	328	0
7:26 AM	15	16	20	9	226	0
7:27 AM	24	25	20	15	363	0
7:28 AM	16	17	20	12	288	0
7:29 AM	14	15	20	6	160	0
7:30 AM	28	30	20	16	403	0
7:31 AM	22	23	20	19	487	0
7:32 AM	21	22	20	22	545	0
7:33 AM	22	23	20	25	629	0
7:34 AM	25	27	20	32	793	0
7:35 AM	28	30	20	41	1036	36
7:36 AM	26	28	20	49	1226	226
7:37 AM	21	22	20	51	1284	284
7:38 AM	24	25	20	57	1421	421
7:39 AM	19	20	20	57	1426	426
7:40 AM	15	16	20	53	1324	324
7:41 AM	23	24	20	57	1434	434
7:42 AM	23	24	20	62	1545	545
7:43 AM	30	32	20	74	1842	842
7:44 AM	18	19	20	73	1820	820
7:45 AM	19	20	20	73	1824	824
7:46 AM	26	28	20	81	2014	1014
7:47 AM	24	25	20	86	2151	1151
7:48 AM	26	28	20	94	2342	1342
7:49 AM	27	29	20	102	2559	1559
7:50 AM	28	30	20	112	2802	1802
7:51 AM	24	25	20	118	2939	1939
7:52 AM	26	28	20	125	3130	2130
7:53 AM	27	29	20	134	3346	2346
7:54 AM	20	21	20	135	3377	2377
7:55 AM	16	17	20	132	3302	2302
7:56 AM	21	22	20	134	3360	2360
7:57 AM	16	17	20	131	3285	2285
7:58 AM	19	20	20	132	3289	2289
7:59 AM	9	10	20	121	3028	2028
8:00 AM	24	25	20	127	3165	2165
8:01 AM	15	16	20	123	3063	2063
8:02 AM	15	16	20	118	2962	1962
8:03 AM	13	14	20	112	2807	1807
8:04 AM	15	16	20	108	2705	1705
8:05 AM	25	27	20	115	2869	1869
8:06 AM	15	16	20	111	2767	1767
8:07 AM	18	19	20	110	2745	1745
8:08 AM	20	21	20	111	2776	1776
8:09 AM	22	23	20	114	2860	1860
8:10 AM	18	19	20	114	2838	1838
8:11 AM	17	18	20	112	2789	1789
8:12 AM	25	27	20	118	2953	1953
8:13 AM	9	10	20	108	2692	1692
8:14 AM	21	22	20	110	2750	1750
8:15 AM	12	13	20	103	2568	1568
8:16 AM	16	17	20	100	2493	1493
8:17 AM	19	20	20	100	2497	1497
8:18 AM	19	20	20	100	2502	1502
8:19 AM	12	13	20	93	2320	1320
8:20 AM	18	19	20	92	2298	1298
8:21 AM	11	12	20	84	2090	1090
8:22 AM	15	16	20	80	1989	989
8:23 AM	14	15	20	74	1860	860
8:24 AM	10	11	20	65	1626	626
8:25 AM	8	8	20	54	1338	338
8:26 AM	16	17	20	51	1263	263
8:27 AM	19	20	20	51	1267	267
8:28 AM	15	16	20	47	1166	166
8:29 AM	14	15	20	41	1037	37
8:30 AM	15	16	20	37	936	0
8:31 AM	18	19	20	37	914	0
8:32 AM	14	15	20	31	785	0
8:33 AM	9	10	20	21	524	0
8:34 AM	15	16	20	17	422	0
8:35 AM	13	14	20	11	268	0
8:36 AM	16	17	20	8	192	0
8:37 AM	14	15	20	3	64	0
8:38 AM	17	18	20	1	15	0
8:39 AM	14	15	15	0	0	0
8:40 AM	17	18	18	0	0	0
8:41 AM	15	16	16	0	0	0
8:42 AM	12	13	13	0	0	0
8:43 AM	15	16	16	0	0	0
8:44 AM	17	18	18	0	0	0
8:45 AM	5	5	5	0	0	0
8:46 AM	13	14	14	0	0	0
8:47 AM	17	18	18	0	0	0
8:48 AM	13	14	14	0	0	0
8:49 AM	15	16	16	0	0	0
8:50 AM	12	13	13	0	0	0
8:51 AM	12	13	13	0	0	0
8:52 AM	10	11	11	0	0	0
8:53 AM	11	12	12	0	0	0
8:54 AM	17	18	18	0	0	0
8:55 AM	13	14	14	0	0	0
8:56 AM	11	12	12	0	0	0
8:57 AM	9	10	10	0	0	0
8:58 AM	18	19	19	0	0	0
8:59 AM	13	14	14	0	0	0
7:10 - 8:10		1303				

PEAK HOUR I-90 EB FLOW

THE TIME PERIOD WITH QUEUE BEYOND THE STORAGE AFTER I-90 EB PEAK HOUR

EB 195

Time	Cumulative	Cumulative Exceed	Excessive Queue Length	Peak Hour
6:00 AM	4	4	0	695
6:01 AM	10	10	0	706
6:02 AM	11	11	0	716
6:03 AM	13	13	0	722
6:04 AM	18	18	0	742
6:05 AM	22	22	0	748
6:06 AM	30	30	0	760
6:07 AM	35	35	0	759
6:08 AM	39	39	0	772
6:09 AM	45	45	0	788
6:10 AM	52	52	0	797
6:11 AM	58	58	0	801
6:12 AM	68	68	0	811
6:13 AM	74	74	0	825
6:14 AM	80	80	0	841
6:15 AM	86	86	0	854
6:16 AM	91	91	0	868
6:17 AM	98	98	0	877
6:18 AM	102	102	0	893
6:19 AM	113	113	0	905
6:20 AM	125	125	0	917
6:21 AM	139	139	0	927
6:22 AM	148	148	0	938
6:23 AM	160	160	0	952
6:24 AM	176	176	0	957
6:25 AM	194	194	0	961
6:26 AM	201	201	0	959
6:27 AM	212	212	0	968
6:28 AM	220	220	0	981
6:29 AM	233	233	0	990
6:30 AM	242	242	0	992
6:31 AM	258	258	0	1011
6:32 AM	274	274	0	1018
6:33 AM	280	280	0	1024
6:34 AM	292	292	0	1040
6:35 AM	304	304	0	1054
6:36 AM	314	314	0	1071
6:37 AM	327	327	0	1087
6:38 AM	340	340	0	1096
6:39 AM	355	355	0	1108
6:40 AM	363	363	0	1113
6:41 AM	386	383	0	1120
6:42 AM	402	402	0	1122
6:43 AM	425	422	0	1129
6:44 AM	452	442	0	1138
6:45 AM	475	462	0	1130
6:46 AM	499	482	0	1128
6:47 AM	519	502	0	1131
6:48 AM	541	522	0	1136
6:49 AM	565	542	0	1142
6:50 AM	582	562	0	1146
6:51 AM	605	582	0	1158
6:52 AM	628	602	0	1160
6:53 AM	646	622	0	1165
6:54 AM	660	642	0	1175
6:55 AM	676	662	0	1182
6:56 AM	696	682	0	1182
6:57 AM	708	702	0	1185
6:58 AM	721	721	0	1189
6:59 AM	738	738	0	1196
7:00 AM	754	754	0	1189
7:01 AM	770	770	0	1198
7:02 AM	777	777	0	1198
7:03 AM	801	797	0	1206
7:04 AM	812	812	0	1197
7:05 AM	829	829	0	1201
7:06 AM	836	836	0	1210
7:07 AM	855	855	0	1219
7:08 AM	876	875	0	1219
7:09 AM	891	891	0	1219
7:10 AM	903	903	0	1227
7:11 AM	920	920	0	1234
7:12 AM	944	940	0	1235
7:13 AM	967	960	0	1237 Max
7:14 AM	987	980	0	1224
7:15 AM	1008	1000	0	1227
7:16 AM	1023	1020	0	1219
7:17 AM	1046	1040	0	1221
7:18 AM	1063	1060	0	1218
7:19 AM	1086	1080	0	1221
7:20 AM	1110	1100	0	1211
7:21 AM	1135	1120	0	1207
7:22 AM	1159	1140	0	1194
7:23 AM	1177	1160	0	1187
7:24 AM	1197	1180	0	1184
7:25 AM	1213	1200	0	1175
7:26 AM	1229	1220	0	1168
7:27 AM	1254	1240	0	1169
7:28 AM	1271	1260	0	1164
7:29 AM	1286	1280	0	1163
7:30 AM	1316	1300	0	1163
7:31 AM	1339	1320	0	1150
7:32 AM	1361	1340	0	1146
7:33 AM	1385	1360	0	1139
7:34 AM	1411	1380	0	1126
7:35 AM	1441	1400	36	1116
7:36 AM	1469	1420	226	1101
7:37 AM	1491	1440	284	1091
7:38 AM	1517	1460	421	1084
7:39 AM	1537	1480	426	1077
7:40 AM	1553	1500	324	1072
7:41 AM	1577	1520	434	1074
7:42 AM	1601	1540	545	1066
7:43 AM	1633	1560	842	1055
7:44 AM	1652	1580	820	1040
7:45 AM	1673	1600	824	1039
7:46 AM	1700	1620	1014	1025
7:47 AM	1726	1640	1151	
7:48 AM	1753	1660	1342	
7:49 AM	1782	1680	1559	
7:50 AM	1812	1700	1802	
7:51 AM	1837	1720	1939	
7:52 AM	1865	1740	2130	
7:53 AM	1894	1760	2346	
7:54 AM	1915	1780	2377	
7:55 AM	1932	1800	2302	
7:56 AM	1954	1820	2360	
7:57 AM	1971	1840	2285	
7:58 AM	1991	1860	2289	
7:59 AM	2001	1880	2028	
8:00 AM	2026	1900	2165	
8:01 AM	2042	1920	2063	
8:02 AM	2058	1940	1962	
8:03 AM	2072	1960	1807	
8:04 AM	2088	1980	1705	
8:05 AM	2114	2000	1869	
8:06 AM	2130	2020	1767	
8:07 AM	2149	2040	1745	
8:08 AM	2171	2060	1776	
8:09 AM	2194	2080	1860	
8:10 AM	2213	2100	1838	
8:11 AM	2231	2120	1789	
8:12 AM	2258	2140	1953	
8:13 AM	2267	2160	1692	
8:14 AM	2290	2180	1750	
8:15 AM	2302	2200	1568	
8:16 AM	2319	2220	1493	
8:17 AM	2340	2240	1497	
8:18 AM	2360	2260	1502	
8:19 AM	2373	2280	1320	
8:20 AM	2392	2300	1298	
8:21 AM	2403	2320	1090	
8:22 AM	2419	2340	989	
8:23 AM	2434	2360	860	
8:24 AM	2445	2380	626	
8:25 AM	2453	2400	338	
8:26 AM	2470	2420	263	
8:27 AM	2490	2440	267	
8:28 AM	2506	2460	166	
8:29 AM	2521	2480	37	
8:30 AM	2537	2500	0	
8:31 AM	2556	2520	0	
8:32 AM	2571	2540	0	
8:33 AM	2581	2560	0	
8:34 AM	2597	2580	0	
8:35 AM	2610	2600	0	
8:36 AM	2627	2620	0	
8:37 AM	2642	2640	0	
8:38 AM	2660	2660	0	
8:39 AM	2675	2675	0	
8:40 AM	2693	2693	0	
8:41 AM	2709	2709	0	
8:42 AM	2722	2722	0	
8:43 AM	2738	2738	0	
8:44 AM	2756	2756	0	
8:45 AM	2761	2761	0	
8:46 AM	2775	2775	0	
8:47 AM	2793	2793	0	
8:48 AM	2807	2807	0	
8:49 AM	2823	2823	0	
8:50 AM	2836	2836	0	
8:51 AM	2848	2848	0	
8:52 AM	2859	2859	0	
8:53 AM	2871	2871	0	
8:54 AM	2889	2889	0	
8:55 AM	2902	2902	0	
8:56 AM	2914	2914	0	
8:57 AM	2924	2924	0	
8:58 AM	2943	2943	0	
8:59 AM	2957	2957	0	

PEAK HOUR I-90 EB

EB 195

		2021 PM Existing	PM Adjustment factor	1.109	PM k30 factor (R103)	1.14	
Storage Length	1000	No. of Storage Lanes	1	Ramp Meter Rate	800	2-lane retrofit (use shoulder) alternate release Max rate = 1400	

Time	2018 PM Volume	Adjusted Volume	Vehicles released	Vehicles in queue	Queue length	Exceed Storage
3:00 PM	12	13	13	0	0	0
3:01 PM	6	7	7	0	0	0
3:02 PM	12	13	13	0	0	0
3:03 PM	8	9	9	0	0	0
3:04 PM	10	11	11	0	0	0
3:05 PM	8	9	9	0	0	0
3:06 PM	11	12	12	0	0	0
3:07 PM	5	6	6	0	0	0
3:08 PM	5	6	6	0	0	0
3:09 PM	16	18	13	4	110	0
3:10 PM	5	6	10	0	0	0
3:11 PM	9	10	10	0	0	0
3:12 PM	7	8	8	0	0	0
3:13 PM	4	4	4	0	0	0
3:14 PM	10	11	11	0	0	0
3:15 PM	11	12	12	0	0	0
3:16 PM	7	8	8	0	0	0
3:17 PM	10	11	11	0	0	0
3:18 PM	13	14	13	1	27	0
3:19 PM	14	16	13	3	82	0
3:20 PM	10	11	13	1	26	0
3:21 PM	5	6	7	0	0	0
3:22 PM	9	10	10	0	0	0
3:23 PM	7	8	8	0	0	0
3:24 PM	7	8	8	0	0	0
3:25 PM	12	13	13	0	0	0
3:26 PM	4	4	4	0	0	0
3:27 PM	4	4	4	0	0	0
3:28 PM	14	16	13	2	55	0
3:29 PM	13	14	13	3	82	0
3:30 PM	9	10	13	0	0	0
3:31 PM	9	10	10	0	0	0
3:32 PM	8	9	9	0	0	0
3:33 PM	10	11	11	0	0	0
3:34 PM	8	9	9	0	0	0
3:35 PM	16	18	13	4	110	0
3:36 PM	15	17	13	8	193	0
3:37 PM	14	16	13	10	248	0
3:38 PM	6	7	13	3	81	0
3:39 PM	11	12	13	2	52	0
3:40 PM	9	10	12	0	0	0
3:41 PM	6	7	7	0	0	0
3:42 PM	8	9	9	0	0	0
3:43 PM	7	8	8	0	0	0
3:44 PM	12	13	13	0	0	0
3:45 PM	9	10	10	0	0	0
3:46 PM	8	9	9	0	0	0
3:47 PM	14	16	13	2	55	0
3:48 PM	21	23	13	12	304	0
3:49 PM	8	9	13	8	192	0
3:50 PM	12	13	13	8	192	0
3:51 PM	9	10	13	4	108	0
3:52 PM	10	11	13	2	52	0
3:53 PM	6	7	9	0	0	0
3:54 PM	2	2	2	0	0	0
3:55 PM	9	10	10	0	0	0
3:56 PM	12	13	13	0	0	0
3:57 PM	6	7	7	0	0	0
3:58 PM	16	18	13	4	110	0
3:59 PM	9	10	13	1	26	0
4:00 PM	8	9	10	0	0	0
4:01 PM	10	11	11	0	0	0
4:02 PM	12	13	13	0	0	0
4:03 PM	10	11	11	0	0	0
4:04 PM	11	12	12	0	0	0
4:05 PM	13	14	13	1	27	0
4:06 PM	9	10	11	0	0	0
4:07 PM	12	13	13	0	0	0
4:08 PM	5	6	6	0	0	0
4:09 PM	8	9	9	0	0	0
4:10 PM	7	8	8	0	0	0
4:11 PM	10	11	11	0	0	0
4:12 PM	8	9	9	0	0	0
4:13 PM	9	10	10	0	0	0
4:14 PM	9	10	10	0	0	0
4:15 PM	11	12	12	0	0	0
4:16 PM	13	14	13	1	27	0
4:17 PM	7	8	9	0	0	0
4:18 PM	10	11	11	0	0	0
4:19 PM	7	8	8	0	0	0
4:20 PM	12	13	13	0	0	0
4:21 PM	4	4	4	0	0	0
4:22 PM	10	11	11	0	0	0
4:23 PM	6	7	7	0	0	0
4:24 PM	9	10	10	0	0	0
4:25 PM	5	6	6	0	0	0
4:26 PM	3	3	3	0	0	0
4:27 PM	13	14	13	1	27	0
4:28 PM	3	3	4	0	0	0
4:29 PM	11	12	12	0	0	0
4:30 PM	8	9	9	0	0	0
4:31 PM	8	9	9	0	0	0
4:32 PM	7	8	8	0	0	0
4:33 PM	7	8	8	0	0	0
4:34 PM	6	7	7	0	0	0
4:35 PM	8	9	9	0	0	0
4:36 PM	5	6	6	0	0	0
4:37 PM	11	12	12	0	0	0
4:38 PM	10	11	11	0	0	0
4:39 PM	16	18	13	4	110	0
4:40 PM	7	8	12	0	0	0
4:41 PM	10	11	11	0	0	0
4:42 PM	13	14	13	1	27	0
4:43 PM	3	3	4	0	0	0
4:44 PM	10	11	11	0	0	0
4:45 PM	5	6	6	0	0	0
4:46 PM	5	6	6	0	0	0
4:47 PM	9	10	10	0	0	0
4:48 PM	12	13	13	0	0	0
4:49 PM	13	14	13	1	27	0
4:50 PM	24	27	13	14	359	0
4:51 PM	10	11	13	12	303	0
4:52 PM	10	11	13	10	247	0
4:53 PM	7	8	13	4	108	0
4:54 PM	6	7	11	0	0	0
4:55 PM	1	1	1	0	0	0
4:56 PM	7	8	8	0	0	0
4:57 PM	9	10	10	0	0	0
4:58 PM	7	8	8	0	0	0
4:59 PM	9	10	10	0	0	0
5:00 PM	11	12	12	0	0	0
5:01 PM	19	21	13	8	193	0
5:02 PM	12	13	13	8	193	0
5:03 PM	7	8	13	2	54	0
5:04 PM	6	7	9	0	0	0
5:05 PM	6	7	7	0	0	0
5:06 PM	5	6	6	0	0	0
5:07 PM	8	9	9	0	0	0
5:08 PM	6	7	7	0	0	0
5:09 PM	7	8	8	0	0	0
5:10 PM	12	13	13	0	0	0
5:11 PM	18	20	13	7	166	0
5:12 PM	10	11	13	4	110	0
5:13 PM	11	12	13	3	81	0
5:14 PM	10	11	13	1	25	0
5:15 PM	7	8	9	0	0	0
5:16 PM	10	11	11	0	0	0
5:17 PM	6	7	7	0	0	0
5:18 PM	14	16	13	2	55	0
5:19 PM	10	11	13	0	0	0
5:20 PM	7	8	8	0	0	0
5:21 PM	9	10	10	0	0	0
5:22 PM	9	10	10	0	0	0
5:23 PM	5	6	6	0	0	0
5:24 PM	6	7	7	0	0	0
5:25 PM	7	8	8	0	0	0
5:26 PM	6	7	7	0	0	0
5:27 PM	8	9	9	0	0	0
5:28 PM	9	10	10	0	0	0
5:29 PM	5	6	6	0	0	0
5:30 PM	17	19	13	6	138	0
5:31 PM	6	7	12	0	0	0
5:32 PM	7	8	8	0	0	0
5:33 PM	11	12	12	0	0	0
5:34 PM	10	11	11	0	0	0
5:35 PM	9	10	10	0	0	0
5:36 PM	13	14	13	1	27	0
5:37 PM	7	8	9	0	0	0
5:38 PM	7	8	8	0	0	0
5:39 PM	8	9	9	0	0	0
5:40 PM	11	12	12	0	0	0
5:41 PM	9	10	10	0	0	0
5:42 PM	4	4	4	0	0	0
5:43 PM	8	9	9	0	0	0
5:44 PM	8	9	9	0	0	0
5:45 PM	9	10	10	0	0	0
5:46 PM	9	10	10	0	0	0
5:47 PM	14	16	13	2	55	0
5:48 PM	12	13	13	2	54	0
5:49 PM	11	12	13	1	26	0
5:50 PM	11	12	13	0	0	0
5:51 PM	9	10	10	0	0	0
5:52 PM	9	10	10	0	0	0
5:53 PM	10	11	11	0	0	0
5:54 PM	10	11	11	0	0	0
5:55 PM	9	10	10	0	0	0
5:56 PM	10	11	11	0	0	0
5:57 PM	13	14	13	1	27	0
5:58 PM	13	14	13	2	54	0
5:59 PM	9	10	12	0	0	0
3:16-4:16		643		12		

EB 195

Time	Cumulative	Cumulative	Excessive Queue Length
3:00 PM	13	13	0
3:01 PM	20	20	0
3:02 PM	33	33	0
3:03 PM	42	42	0
3:04 PM	53	53	0
3:05 PM	62	62	0
3:06 PM	74	74	0
3:07 PM	80	80	0
3:08 PM	85	85	0
3:09 PM	103	99	0
3:10 PM	109	109	0
3:11 PM	119	119	0
3:12 PM	126	126	0
3:13 PM	131	131	0
3:14 PM	142	142	0
3:15 PM	154	154	0
3:16 PM	162	162	0
3:17 PM	173	173	0
3:18 PM	187	186	0
3:19 PM	203	200	0
3:20 PM	214	213	0
3:21 PM	220	220	0
3:22 PM	230	230	0
3:23 PM	237	237	0
3:24 PM	245	245	0
3:25 PM	258	258	0
3:26 PM	263	263	0
3:27 PM	267	267	0
3:28 PM	283	281	0
3:29 PM	297	294	0
3:30 PM	307	307	0
3:31 PM	317	317	0
3:32 PM	326	326	0
3:33 PM	337	337	0
3:34 PM	346	346	0
3:35 PM	364	359	0
3:36 PM	380	373	0
3:37 PM	396	386	0
3:38 PM	403	399	0
3:39 PM	415	413	0
3:40 PM	425	425	0
3:41 PM	431	431	0
3:42 PM	440	440	0
3:43 PM	448	448	0
3:44 PM	461	461	0
3:45 PM	471	471	0
3:46 PM	480	480	0
3:47 PM	496	494	0
3:48 PM	519	507	0
3:49 PM	528	520	0
3:50 PM	541	534	0
3:51 PM	551	547	0
3:52 PM	562	560	0
3:53 PM	569	569	0
3:54 PM	571	571	0
3:55 PM	581	581	0
3:56 PM	594	594	0
3:57 PM	601	601	0
3:58 PM	619	614	0
3:59 PM	629	628	0
4:00 PM	638	638	0
4:01 PM	649	649	0
4:02 PM	662	662	0
4:03 PM	673	673	0
4:04 PM	685	685	0
4:05 PM	700	699	0
4:06 PM	710	710	0
4:07 PM	723	723	0
4:08 PM	729	729	0
4:09 PM	737	737	0
4:10 PM	745	745	0
4:11 PM	756	756	0
4:12 PM	765	765	0
4:13 PM	775	775	0
4:14 PM	785	785	0
4:15 PM	797	797	0
4:16 PM	812	811	0
4:17 PM	820	820	0
4:18 PM	831	831	0
4:19 PM	838	838	0
4:20 PM	852	852	0
4:21 PM	856	856	0
4:22 PM	867	867	0
4:23 PM	874	874	0
4:24 PM	884	884	0
4:25 PM	889	889	0
4:26 PM	893	893	0
4:27 PM	907	906	0
4:28 PM	910	910	0
4:29 PM	923	923	0
4:30 PM	932	932	0
4:31 PM	940	940	0
4:32 PM	948	948	0
4:33 PM	956	956	0
4:34 PM	963	963	0
4:35 PM	971	971	0
4:36 PM	977	977	0
4:37 PM	989	989	0
4:38 PM	1000	1000	0
4:39 PM	1018	1014	0
4:40 PM	1026	1026	0
4:41 PM	1037	1037	0
4:42 PM	1051	1050	0
4:43 PM	1055	1055	0
4:44 PM	1066	1066	0
4:45 PM	1071	1071	0
4:46 PM	1077	1077	0
4:47 PM	1087	1087	0
4:48 PM	1100	1100	0
4:49 PM	1115	1113	0
4:50 PM	1141	1127	0
4:51 PM	1152	1140	0
4:52 PM	1163	1153	0
4:53 PM	1171	1167	0
4:54 PM	1178	1178	0
4:55 PM	1179	1179	0
4:56 PM	1187	1187	0
4:57 PM	1197	1197	0
4:58 PM	1204	1204	0
4:59 PM	1214	1214	0
5:00 PM	1227	1227	0
5:01 PM	1248	1240	0
5:02 PM	1261	1253	0
5:03 PM	1269	1267	0
5:04 PM	1275	1275	0
5:05 PM	1282	1282	0
5:06 PM	1288	1288	0
5:07 PM	1296	1296	0
5:08 PM	1303	1303	0
5:09 PM	1311	1311	0
5:10 PM	1324	1324	0
5:11 PM	1344	1337	0
5:12 PM	1355	1351	0
5:13 PM	1367	1364	0
5:14 PM	1378	1377	0
5:15 PM	1386	1386	0
5:16 PM	1397	1397	0
5:17 PM	1404	1404	0
5:18 PM	1420	1417	0
5:19 PM	1431	1431	0
5:20 PM	1438	1438	0
5:21 PM	1448	1448	0
5:22 PM	1458	1458	0
5:23 PM	1464	1464	0
5:24 PM	1471	1471	0
5:25 PM	1478	1478	0
5:26 PM	1485	1485	0
5:27 PM	1494	1494	0
5:28 PM	1504	1504	0
5:29 PM	1509	1509	0
5:30 PM	1528	1523	0
5:31 PM	1535	1535	0
5:32 PM	1543	1543	0
5:33 PM	1555	1555	0
5:34 PM	1566	1566	0
5:35 PM	1576	1576	0
5:36 PM	1590	1589	0
5:37 PM	1598	1598	0
5:38 PM	1606	1606	0
5:39 PM	1615	1615	0
5:40 PM	1627	1627	0
5:41 PM	1637	1637	0
5:42 PM	1641	1641	0
5:43 PM	1650	1650	0
5:44 PM	1659	1659	0
5:45 PM	1669	1669	0
5:46 PM	1679	1679	0
5:47 PM	1695	1692	0
5:48 PM	1708	1706	0
5:49 PM	1720	1719	0
5:50 PM	1732	1732	0
5:51 PM	1742	1742	0
5:52 PM	1752	1752	0
5:53 PM	1763	1763	0
5:54 PM	1774	1774	0
5:55 PM	1784	1784	0
5:56 PM	1795	1795	0
5:57 PM	1810	1809	0
5:58 PM	1824	1822	0
5:59 PM	1834	1834	0

EB 195

2021 AM Existing W SR 195 IMP

AM Adjustment factor 0.807

AM k30 factor (R103) 1.15

Storage Length 1000

No. of Storage Lanes 1

Ramp Meter Rate 1200

2-lane retrofit (use shoulder) alternate release
Max rate = 1400

Time	2018 AM Volume	Adjusted Volume	Vehicles released	Vehicles in queue	Queue length	Exceed Storage
6:00 AM	4	3	3	0	0	0
6:01 AM	5	4	4	0	0	0
6:02 AM	1	1	1	0	0	0
6:03 AM	2	2	2	0	0	0
6:04 AM	5	4	4	0	0	0
6:05 AM	4	3	3	0	0	0
6:06 AM	7	6	6	0	0	0
6:07 AM	5	4	4	0	0	0
6:08 AM	4	3	3	0	0	0
6:09 AM	5	4	4	0	0	0
6:10 AM	7	6	6	0	0	0
6:11 AM	6	5	5	0	0	0
6:12 AM	9	7	7	0	0	0
6:13 AM	6	5	5	0	0	0
6:14 AM	5	4	4	0	0	0
6:15 AM	6	5	5	0	0	0
6:16 AM	5	4	4	0	0	0
6:17 AM	6	5	5	0	0	0
6:18 AM	4	3	3	0	0	0
6:19 AM	10	8	8	0	0	0
6:20 AM	12	10	10	0	0	0
6:21 AM	13	10	10	0	0	0
6:22 AM	8	6	6	0	0	0
6:23 AM	12	10	10	0	0	0
6:24 AM	15	12	12	0	0	0
6:25 AM	17	14	14	0	0	0
6:26 AM	6	5	5	0	0	0
6:27 AM	11	9	9	0	0	0
6:28 AM	7	6	6	0	0	0
6:29 AM	12	10	10	0	0	0
6:30 AM	9	7	7	0	0	0
6:31 AM	15	12	12	0	0	0
6:32 AM	15	12	12	0	0	0
6:33 AM	6	5	5	0	0	0
6:34 AM	11	9	9	0	0	0
6:35 AM	11	9	9	0	0	0
6:36 AM	10	8	8	0	0	0
6:37 AM	12	10	10	0	0	0
6:38 AM	12	10	10	0	0	0
6:39 AM	14	11	11	0	0	0
6:40 AM	8	6	6	0	0	0
6:41 AM	21	17	17	0	0	0
6:42 AM	16	13	13	0	0	0
6:43 AM	21	17	17	0	0	0
6:44 AM	26	21	20	1	25	0
6:45 AM	21	17	18	0	0	0
6:46 AM	23	19	19	0	0	0
6:47 AM	19	15	15	0	0	0
6:48 AM	20	16	16	0	0	0
6:49 AM	23	19	19	0	0	0
6:50 AM	16	13	13	0	0	0
6:51 AM	22	18	18	0	0	0
6:52 AM	21	17	17	0	0	0
6:53 AM	17	14	14	0	0	0
6:54 AM	13	10	10	0	0	0
6:55 AM	16	13	13	0	0	0
6:56 AM	18	15	15	0	0	0
6:57 AM	12	10	10	0	0	0
6:58 AM	12	10	10	0	0	0
6:59 AM	16	13	13	0	0	0
7:00 AM	15	12	12	0	0	0
7:01 AM	15	12	12	0	0	0
7:02 AM	7	6	6	0	0	0
7:03 AM	22	18	18	0	0	0
7:04 AM	11	9	9	0	0	0
7:05 AM	16	13	13	0	0	0
7:06 AM	6	5	5	0	0	0
7:07 AM	18	15	15	0	0	0
7:08 AM	20	16	16	0	0	0
7:09 AM	14	11	11	0	0	0
7:10 AM	11	9	9	0	0	0
7:11 AM	16	13	13	0	0	0
7:12 AM	23	19	19	0	0	0
7:13 AM	22	18	18	0	0	0
7:14 AM	18	15	15	0	0	0
7:15 AM	20	16	16	0	0	0
7:16 AM	14	11	11	0	0	0
7:17 AM	22	18	18	0	0	0
7:18 AM	16	13	13	0	0	0
7:19 AM	22	18	18	0	0	0
7:20 AM	22	18	18	0	0	0
7:21 AM	24	19	19	0	0	0
7:22 AM	22	18	18	0	0	0
7:23 AM	17	14	14	0	0	0
7:24 AM	19	15	15	0	0	0
7:25 AM	15	12	12	0	0	0
7:26 AM	15	12	12	0	0	0
7:27 AM	24	19	19	0	0	0
7:28 AM	16	13	13	0	0	0
7:29 AM	14	11	11	0	0	0
7:30 AM	28	23	20	3	65	0
7:31 AM	22	18	20	0	9	0
7:32 AM	21	17	17	0	0	0
7:33 AM	22	18	18	0	0	0
7:34 AM	25	20	20	0	4	0
7:35 AM	28	23	20	3	69	0
7:36 AM	26	21	20	4	94	0
7:37 AM	21	17	20	1	18	0
7:38 AM	24	19	20	0	2	0
7:39 AM	19	15	15	0	0	0
7:40 AM	15	12	12	0	0	0
7:41 AM	23	19	19	0	0	0
7:42 AM	23	19	19	0	0	0
7:43 AM	30	24	20	4	105	0
7:44 AM	18	15	19	0	0	0
7:45 AM	19	15	15	0	0	0
7:46 AM	26	21	20	1	25	0
7:47 AM	24	19	20	0	9	0
7:48 AM	26	21	20	1	33	0
7:49 AM	27	22	20	3	78	0
7:50 AM	28	23	20	6	143	0
7:51 AM	24	19	20	5	127	0
7:52 AM	26	21	20	6	152	0
7:53 AM	27	22	20	8	196	0
7:54 AM	20	16	20	4	100	0
7:55 AM	16	13	17	0	0	0
7:56 AM	21	17	17	0	0	0
7:57 AM	16	13	13	0	0	0
7:58 AM	19	15	15	0	0	0
7:59 AM	9	7	7	0	0	0
8:00 AM	24	19	19	0	0	0
8:01 AM	15	12	12	0	0	0
8:02 AM	15	12	12	0	0	0
8:03 AM	13	10	10	0	0	0
8:04 AM	15	12	12	0	0	0
8:05 AM	25	20	20	0	4	0
8:06 AM	15	12	12	0	0	0
8:07 AM	18	15	15	0	0	0
8:08 AM	20	16	16	0	0	0
8:09 AM	22	18	18	0	0	0
8:10 AM	18	15	15	0	0	0
8:11 AM	17	14	14	0	0	0
8:12 AM	25	20	20	0	4	0
8:13 AM	9	7	7	0	0	0
8:14 AM	21	17	17	0	0	0
8:15 AM	12	10	10	0	0	0
8:16 AM	16	13	13	0	0	0
8:17 AM	19	15	15	0	0	0
8:18 AM	19	15	15	0	0	0
8:19 AM	12	10	10	0	0	0
8:20 AM	18	15	15	0	0	0
8:21 AM	11	9	9	0	0	0
8:22 AM	15	12	12	0	0	0
8:23 AM	14	11	11	0	0	0
8:24 AM	10	8	8	0	0	0
8:25 AM	8	6	6	0	0	0
8:26 AM	16	13	13	0	0	0
8:27 AM	19	15	15	0	0	0
8:28 AM	15	12	12	0	0	0
8:29 AM	14	11	11	0	0	0
8:30 AM	15	12	12	0	0	0
8:31 AM	18	15	15	0	0	0
8:32 AM	14	11	11	0	0	0
8:33 AM	9	7	7	0	0	0
8:34 AM	15	12	12	0	0	0
8:35 AM	13	10	10	0	0	0
8:36 AM	16	13	13	0	0	0
8:37 AM	14	11	11	0	0	0
8:38 AM	17	14	14	0	0	0
8:39 AM	14	11	11	0	0	0
8:40 AM	17	14	14	0	0	0
8:41 AM	15	12	12	0	0	0
8:42 AM	12	10	10	0	0	0
8:43 AM	15	12	12	0	0	0
8:44 AM	17	14	14	0	0	0
8:45 AM	5	4	4	0	0	0
8:46 AM	13	10	10	0	0	0
8:47 AM	17	14	14	0	0	0
8:48 AM	13	10	10	0	0	0
8:49 AM	15	12	12	0	0	0
8:50 AM	12	10	10	0	0	0
8:51 AM	12	10	10	0	0	0
8:52 AM	10	8	8	0	0	0
8:53 AM	11	9	9	0	0	0
8:54 AM	17	14	14	0	0	0
8:55 AM	13	10	10	0	0	0
8:56 AM	11	9	9	0	0	0
8:57 AM	9	7	7	0	0	0
8:58 AM	18	15	15	0	0	0
8:59 AM	13	10	10	0	0	0
7:10 - 8:10		990				

EB 195

Time	Cumulative	Cumulative Excessive	Queue Length	Peak Hour
6:00 AM	3	3	0	695
6:01 AM	7	7	0	706
6:02 AM	8	8	0	716
6:03 AM	10	10	0	722
6:04 AM	14	14	0	742
6:05 AM	17	17	0	748
6:06 AM	23	23	0	760
6:07 AM	27	27	0	759
6:08 AM	30	30	0	772
6:09 AM	34	34	0	788
6:10 AM	40	40	0	797
6:11 AM	44	44	0	801
6:12 AM	52	52	0	811
6:13 AM	56	56	0	825
6:14 AM	61	61	0	841
6:15 AM	65	65	0	854
6:16 AM	69	69	0	868
6:17 AM	74	74	0	877
6:18 AM	77	77	0	893
6:19 AM	86	86	0	905
6:20 AM	95	95	0	917
6:21 AM	106	106	0	927
6:22 AM	112	112	0	938
6:23 AM	122	122	0	952
6:24 AM	134	134	0	957
6:25 AM	148	148	0	961
6:26 AM	153	153	0	959
6:27 AM	161	161	0	968
6:28 AM	167	167	0	981
6:29 AM	177	177	0	990
6:30 AM	184	184	0	992
6:31 AM	196	196	0	1011
6:32 AM	208	208	0	1018
6:33 AM	213	213	0	1024
6:34 AM	222	222	0	1040
6:35 AM	231	231	0	1054
6:36 AM	239	239	0	1071
6:37 AM	249	249	0	1087
6:38 AM	258	258	0	1096
6:39 AM	270	270	0	1108
6:40 AM	276	276	0	1113
6:41 AM	293	293	0	1120
6:42 AM	306	306	0	1122
6:43 AM	323	323	0	1129
6:44 AM	344	343	0	1138
6:45 AM	361	361	0	1130
6:46 AM	379	379	0	1128
6:47 AM	395	395	0	1131
6:48 AM	411	411	0	1136
6:49 AM	429	429	0	1142
6:50 AM	442	442	0	1146
6:51 AM	460	460	0	1158
6:52 AM	477	477	0	1160
6:53 AM	491	491	0	1165
6:54 AM	501	501	0	1175
6:55 AM	514	514	0	1182
6:56 AM	529	529	0	1182
6:57 AM	538	538	0	1185
6:58 AM	548	548	0	1189
6:59 AM	561	561	0	1196
7:00 AM	573	573	0	1189
7:01 AM	585	585	0	1198
7:02 AM	591	591	0	1198
7:03 AM	608	608	0	1206
7:04 AM	617	617	0	1197
7:05 AM	630	630	0	1201
7:06 AM	635	635	0	1210
7:07 AM	650	650	0	1219
7:08 AM	666	666	0	1219
7:09 AM	677	677	0	1219
7:10 AM	686	686	0	1227
7:11 AM	699	699	0	1234
7:12 AM	717	717	0	1235
7:13 AM	735	735	0	1237 Max
7:14 AM	750	750	0	1224
7:15 AM	766	766	0	1227
7:16 AM	777	777	0	1219
7:17 AM	795	795	0	1221
7:18 AM	808	808	0	1218
7:19 AM	826	826	0	1221
7:20 AM	843	843	0	1211
7:21 AM	863	863	0	1207
7:22 AM	880	880	0	1194
7:23 AM	894	894	0	1187
7:24 AM	909	909	0	1184
7:25 AM	922	922	0	1175
7:26 AM	934	934	0	1168
7:27 AM	953	953	0	1169
7:28 AM	966	966	0	1164
7:29 AM	977	977	0	1163
7:30 AM	1000	997	0	1163
7:31 AM	1018	1017	0	1150
7:32 AM	1035	1035	0	1146
7:33 AM	1052	1052	0	1139
7:34 AM	1073	1072	0	1126
7:35 AM	1095	1092	0	1116
7:36 AM	1116	1112	0	1101
7:37 AM	1133	1132	0	1091
7:38 AM	1152	1152	0	1084
7:39 AM	1168	1168	0	1077
7:40 AM	1180	1180	0	1072
7:41 AM	1198	1198	0	1074
7:42 AM	1217	1217	0	1066
7:43 AM	1241	1237	0	1055
7:44 AM	1256	1256	0	1040
7:45 AM	1271	1271	0	1039
7:46 AM	1292	1291	0	1025
7:47 AM	1311	1311	0	
7:48 AM	1332	1331	0	
7:49 AM	1354	1351	0	
7:50 AM	1377	1371	0	
7:51 AM	1396	1391	0	
7:52 AM	1417	1411	0	
7:53 AM	1439	1431	0	
7:54 AM	1455	1451	0	
7:55 AM	1468	1468	0	
7:56 AM	1485	1485	0	
7:57 AM	1498	1498	0	
7:58 AM	1513	1513	0	
7:59 AM	1520	1520	0	
8:00 AM	1540	1540	0	
8:01 AM	1552	1552	0	
8:02 AM	1564	1564	0	
8:03 AM	1574	1574	0	
8:04 AM	1587	1587	0	
8:05 AM	1607	1607	0	
8:06 AM	1619	1619	0	
8:07 AM	1633	1633	0	
8:08 AM	1650	1650	0	
8:09 AM	1667	1667	0	
8:10 AM	1682	1682	0	
8:11 AM	1696	1696	0	
8:12 AM	1716	1716	0	
8:13 AM	1723	1723	0	
8:14 AM	1740	1740	0	
8:15 AM	1750	1750	0	
8:16 AM	1762	1762	0	
8:17 AM	1778	1778	0	
8:18 AM	1793	1793	0	
8:19 AM	1803	1803	0	
8:20 AM	1817	1817	0	
8:21 AM	1826	1826	0	
8:22 AM	1838	1838	0	
8:23 AM	1850	1850	0	
8:24 AM	1858	1858	0	
8:25 AM	1864	1864	0	
8:26 AM	1877	1877	0	
8:27 AM	1892	1892	0	
8:28 AM	1905	1905	0	
8:29 AM	1916	1916	0	
8:30 AM	1928	1928	0	
8:31 AM	1942	1942	0	
8:32 AM	1954	1954	0	
8:33 AM	1961	1961	0	
8:34 AM	1973	1973	0	
8:35 AM	1984	1984	0	
8:36 AM	1997	1997	0	
8:37 AM	2008	2008	0	
8:38 AM	2022	2022	0	
8:39 AM	2033	2033	0	
8:40 AM	2047	2047	0	
8:41 AM	2059	2059	0	
8:42 AM	2068	2068	0	
8:43 AM	2080	2080	0	
8:44 AM	2094	2094	0	
8:45 AM	2098	2098	0	
8:46 AM	2109	2109	0	
8:47 AM	2122	2122	0	
8:48 AM	2133	2133	0	
8:49 AM	2145	2145	0	
8:50 AM	2155	2155	0	
8:51 AM	2164	2164	0	
8:52 AM	2172	2172	0	
8:53 AM	2181	2181	0	
8:54 AM	2195	2195	0	
8:55 AM	2206	2206	0	
8:56 AM	2214	2214	0	
8:57 AM	2222	2222	0	
8:58 AM	2236	2236	0	
8:59 AM	2247	2247	0	

PEAK HOUR I-90 EB FLOW

THE TIME PERIOD WITH QUEUE BEYOND THE STORAGE AFTER I-90 EB PEAK HOUR

PEAK HOUR I-90 EB

EB 195

2021 PM Existing W SR 195 IMP

PM Adjustment factor 0.872

PM k30 factor (R103) 1.14

Storage Length	No. of Storage Lanes	Ramp Meter Rate	2-lane retrofit (use shoulder) alternate release Max rate = 1400
1000	1	800	

Time	2018 PM Volume	Adjusted Volume	Vehicles released	Vehicles in queue	Queue length	Exceed Storage
3:00 PM	12	10	10	0	0	0
3:01 PM	6	5	5	0	0	0
3:02 PM	12	10	10	0	0	0
3:03 PM	8	7	7	0	0	0
3:04 PM	10	9	9	0	0	0
3:05 PM	8	7	7	0	0	0
3:06 PM	11	10	10	0	0	0
3:07 PM	5	4	4	0	0	0
3:08 PM	5	4	4	0	0	0
3:09 PM	16	14	13	1	15	0
3:10 PM	5	4	5	0	0	0
3:11 PM	9	8	8	0	0	0
3:12 PM	7	6	6	0	0	0
3:13 PM	4	3	3	0	0	0
3:14 PM	10	9	9	0	0	0
3:15 PM	11	10	10	0	0	0
3:16 PM	7	6	6	0	0	0
3:17 PM	10	9	9	0	0	0
3:18 PM	13	11	11	0	0	0
3:19 PM	14	12	12	0	0	0
3:20 PM	10	9	9	0	0	0
3:21 PM	5	4	4	0	0	0
3:22 PM	9	8	8	0	0	0
3:23 PM	7	6	6	0	0	0
3:24 PM	7	6	6	0	0	0
3:25 PM	12	10	10	0	0	0
3:26 PM	4	3	3	0	0	0
3:27 PM	4	3	3	0	0	0
3:28 PM	14	12	12	0	0	0
3:29 PM	13	11	11	0	0	0
3:30 PM	9	8	8	0	0	0
3:31 PM	9	8	8	0	0	0
3:32 PM	8	7	7	0	0	0
3:33 PM	10	9	9	0	0	0
3:34 PM	8	7	7	0	0	0
3:35 PM	16	14	13	1	15	0
3:36 PM	15	13	13	0	9	0
3:37 PM	14	12	13	0	0	0
3:38 PM	6	5	5	0	0	0
3:39 PM	11	10	10	0	0	0
3:40 PM	9	8	8	0	0	0
3:41 PM	6	5	5	0	0	0
3:42 PM	8	7	7	0	0	0
3:43 PM	7	6	6	0	0	0
3:44 PM	12	10	10	0	0	0
3:45 PM	9	8	8	0	0	0
3:46 PM	8	7	7	0	0	0
3:47 PM	14	12	12	0	0	0
3:48 PM	21	18	13	5	124	0
3:49 PM	8	7	12	0	0	0
3:50 PM	12	10	10	0	0	0
3:51 PM	9	8	8	0	0	0
3:52 PM	10	9	9	0	0	0
3:53 PM	6	5	5	0	0	0
3:54 PM	2	2	2	0	0	0
3:55 PM	9	8	8	0	0	0
3:56 PM	12	10	10	0	0	0
3:57 PM	6	5	5	0	0	0
3:58 PM	16	14	13	1	15	0
3:59 PM	9	8	8	0	0	0
4:00 PM	8	7	7	0	0	0
4:01 PM	10	9	9	0	0	0
4:02 PM	12	10	10	0	0	0
4:03 PM	10	9	9	0	0	0
4:04 PM	11	10	10	0	0	0
4:05 PM	13	11	11	0	0	0
4:06 PM	9	8	8	0	0	0
4:07 PM	12	10	10	0	0	0
4:08 PM	5	4	4	0	0	0
4:09 PM	8	7	7	0	0	0
4:10 PM	7	6	6	0	0	0
4:11 PM	10	9	9	0	0	0
4:12 PM	8	7	7	0	0	0
4:13 PM	9	8	8	0	0	0
4:14 PM	9	8	8	0	0	0
4:15 PM	11	10	10	0	0	0
4:16 PM	13	11	11	0	0	0
4:17 PM	7	6	6	0	0	0
4:18 PM	10	9	9	0	0	0
4:19 PM	7	6	6	0	0	0
4:20 PM	12	10	10	0	0	0
4:21 PM	4	3	3	0	0	0
4:22 PM	10	9	9	0	0	0
4:23 PM	6	5	5	0	0	0
4:24 PM	9	8	8	0	0	0
4:25 PM	5	4	4	0	0	0
4:26 PM	3	3	3	0	0	0
4:27 PM	13	11	11	0	0	0
4:28 PM	3	3	3	0	0	0
4:29 PM	11	10	10	0	0	0
4:30 PM	8	7	7	0	0	0
4:31 PM	8	7	7	0	0	0
4:32 PM	7	6	6	0	0	0
4:33 PM	7	6	6	0	0	0
4:34 PM	6	5	5	0	0	0
4:35 PM	8	7	7	0	0	0
4:36 PM	5	4	4	0	0	0
4:37 PM	11	10	10	0	0	0
4:38 PM	10	9	9	0	0	0
4:39 PM	16	14	13	1	15	0
4:40 PM	7	6	7	0	0	0
4:41 PM	10	9	9	0	0	0
4:42 PM	13	11	11	0	0	0
4:43 PM	3	3	3	0	0	0
4:44 PM	10	9	9	0	0	0
4:45 PM	5	4	4	0	0	0
4:46 PM	5	4	4	0	0	0
4:47 PM	9	8	8	0	0	0
4:48 PM	12	10	10	0	0	0
4:49 PM	13	11	11	0	0	0
4:50 PM	24	21	13	8	190	0
4:51 PM	10	9	13	3	75	0
4:52 PM	10	9	12	0	0	0
4:53 PM	7	6	6	0	0	0
4:54 PM	6	5	5	0	0	0
4:55 PM	1	1	1	0	0	0
4:56 PM	7	6	6	0	0	0
4:57 PM	9	8	8	0	0	0
4:58 PM	7	6	6	0	0	0
4:59 PM	9	8	8	0	0	0
5:00 PM	11	10	10	0	0	0
5:01 PM	19	17	13	3	81	0
5:02 PM	12	10	13	0	9	0
5:03 PM	7	6	6	0	0	0
5:04 PM	6	5	5	0	0	0
5:05 PM	6	5	5	0	0	0
5:06 PM	5	4	4	0	0	0
5:07 PM	8	7	7	0	0	0
5:08 PM	6	5	5	0	0	0
5:09 PM	7	6	6	0	0	0
5:10 PM	12	10	10	0	0	0
5:11 PM	18	16	13	2	59	0
5:12 PM	10	9	11	0	0	0
5:13 PM	11	10	10	0	0	0
5:14 PM	10	9	9	0	0	0
5:15 PM	7	6	6	0	0	0
5:16 PM	10	9	9	0	0	0
5:17 PM	6	5	5	0	0	0
5:18 PM	14	12	12	0	0	0
5:19 PM	10	9	9	0	0	0
5:20 PM	7	6	6	0	0	0
5:21 PM	9	8	8	0	0	0
5:22 PM	9	8	8	0	0	0
5:23 PM	5	4	4	0	0	0
5:24 PM	6	5	5	0	0	0
5:25 PM	7	6	6	0	0	0
5:26 PM	6	5	5	0	0	0
5:27 PM	8	7	7	0	0	0
5:28 PM	9	8	8	0	0	0
5:29 PM	5	4	4	0	0	0
5:30 PM	17	15	13	1	37	0
5:31 PM	6	5	7	0	0	0
5:32 PM	7	6	6	0	0	0
5:33 PM	11	10	10	0	0	0
5:34 PM	10	9	9	0	0	0
5:35 PM	9	8	8	0	0	0
5:36 PM	13	11	11	0	0	0
5:37 PM	7	6	6	0	0	0
5:38 PM	7	6	6	0	0	0
5:39 PM	8	7	7	0	0	0
5:40 PM	11	10	10	0	0	0
5:41 PM	9	8	8	0	0	0
5:42 PM	4	3	3	0	0	0
5:43 PM	8	7	7	0	0	0
5:44 PM	8	7	7	0	0	0
5:45 PM	9	8	8	0	0	0
5:46 PM	9	8	8	0	0	0
5:47 PM	14	12	12	0	0	0
5:48 PM	12	10	10	0	0	0
5:49 PM	11	10	10	0	0	0
5:50 PM	11	10	10	0	0	0
5:51 PM	9	8	8	0	0	0
5:52 PM	9	8	8	0	0	0
5:53 PM	10	9	9	0	0	0
5:54 PM	10	9	9	0	0	0
5:55 PM	9	8	8	0	0	0
5:56 PM	10	9	9	0	0	0
5:57 PM	13	11	11	0	0	0
5:58 PM	13	11	11	0	0	0
5:59 PM	9	8	8	0	0	0
3:16-4:16		506		5		

EB 195

Time	Cumulative	Cumulative	Excessive Queue Length
3:00 PM	10	10	0
3:01 PM	16	16	0
3:02 PM	26	26	0
3:03 PM	33	33	0
3:04 PM	42	42	0
3:05 PM	49	49	0
3:06 PM	58	58	0
3:07 PM	63	63	0
3:08 PM	67	67	0
3:09 PM	81	80	0
3:10 PM	85	85	0
3:11 PM	93	93	0
3:12 PM	99	99	0
3:13 PM	103	103	0
3:14 PM	112	112	0
3:15 PM	121	121	0
3:16 PM	127	127	0
3:17 PM	136	136	0
3:18 PM	147	147	0
3:19 PM	160	160	0
3:20 PM	168	168	0
3:21 PM	173	173	0
3:22 PM	181	181	0
3:23 PM	187	187	0
3:24 PM	193	193	0
3:25 PM	203	203	0
3:26 PM	207	207	0
3:27 PM	210	210	0
3:28 PM	222	222	0
3:29 PM	234	234	0
3:30 PM	242	242	0
3:31 PM	249	249	0
3:32 PM	256	256	0
3:33 PM	265	265	0
3:34 PM	272	272	0
3:35 PM	286	285	0
3:36 PM	299	299	0
3:37 PM	311	311	0
3:38 PM	317	317	0
3:39 PM	326	326	0
3:40 PM	334	334	0
3:41 PM	339	339	0
3:42 PM	346	346	0
3:43 PM	352	352	0
3:44 PM	363	363	0
3:45 PM	371	371	0
3:46 PM	378	378	0
3:47 PM	390	390	0
3:48 PM	408	403	0
3:49 PM	415	415	0
3:50 PM	426	426	0
3:51 PM	433	433	0
3:52 PM	442	442	0
3:53 PM	447	447	0
3:54 PM	449	449	0
3:55 PM	457	457	0
3:56 PM	467	467	0
3:57 PM	473	473	0
3:58 PM	487	486	0
3:59 PM	494	494	0
4:00 PM	501	501	0
4:01 PM	510	510	0
4:02 PM	521	521	0
4:03 PM	529	529	0
4:04 PM	539	539	0
4:05 PM	550	550	0
4:06 PM	558	558	0
4:07 PM	569	569	0
4:08 PM	573	573	0
4:09 PM	580	580	0
4:10 PM	586	586	0
4:11 PM	595	595	0
4:12 PM	602	602	0
4:13 PM	610	610	0
4:14 PM	617	617	0
4:15 PM	627	627	0
4:16 PM	638	638	0
4:17 PM	644	644	0
4:18 PM	653	653	0
4:19 PM	659	659	0
4:20 PM	670	670	0
4:21 PM	673	673	0
4:22 PM	682	682	0
4:23 PM	687	687	0
4:24 PM	695	695	0
4:25 PM	699	699	0
4:26 PM	702	702	0
4:27 PM	713	713	0
4:28 PM	716	716	0
4:29 PM	726	726	0
4:30 PM	732	732	0
4:31 PM	739	739	0
4:32 PM	746	746	0
4:33 PM	752	752	0
4:34 PM	757	757	0
4:35 PM	764	764	0
4:36 PM	768	768	0
4:37 PM	778	778	0
4:38 PM	787	787	0
4:39 PM	800	800	0
4:40 PM	807	807	0
4:41 PM	815	815	0
4:42 PM	827	827	0
4:43 PM	829	829	0
4:44 PM	838	838	0
4:45 PM	842	842	0
4:46 PM	847	847	0
4:47 PM	855	855	0
4:48 PM	865	865	0
4:49 PM	876	876	0
4:50 PM	897	890	0
4:51 PM	906	903	0
4:52 PM	915	915	0
4:53 PM	921	921	0
4:54 PM	926	926	0
4:55 PM	927	927	0
4:56 PM	933	933	0
4:57 PM	941	941	0
4:58 PM	947	947	0
4:59 PM	955	955	0
5:00 PM	964	964	0
5:01 PM	981	978	0
5:02 PM	991	991	0
5:03 PM	998	998	0
5:04 PM	1003	1003	0
5:05 PM	1008	1008	0
5:06 PM	1012	1012	0
5:07 PM	1019	1019	0
5:08 PM	1025	1025	0
5:09 PM	1031	1031	0
5:10 PM	1041	1041	0
5:11 PM	1057	1055	0
5:12 PM	1066	1066	0
5:13 PM	1075	1075	0
5:14 PM	1084	1084	0
5:15 PM	1090	1090	0
5:16 PM	1099	1099	0
5:17 PM	1104	1104	0
5:18 PM	1116	1116	0
5:19 PM	1125	1125	0
5:20 PM	1131	1131	0
5:21 PM	1139	1139	0
5:22 PM	1147	1147	0
5:23 PM	1151	1151	0
5:24 PM	1156	1156	0
5:25 PM	1162	1162	0
5:26 PM	1168	1168	0
5:27 PM	1175	1175	0
5:28 PM	1182	1182	0
5:29 PM	1187	1187	0
5:30 PM	1202	1200	0
5:31 PM	1207	1207	0
5:32 PM	1213	1213	0
5:33 PM	1223	1223	0
5:34 PM	1231	1231	0
5:35 PM	1239	1239	0
5:36 PM	1250	1250	0
5:37 PM	1257	1257	0
5:38 PM	1263	1263	0
5:39 PM	1270	1270	0
5:40 PM	1279	1279	0
5:41 PM	1287	1287	0
5:42 PM	1291	1291	0
5:43 PM	1298	1298	0
5:44 PM	1305	1305	0
5:45 PM	1312	1312	0
5:46 PM	1320	1320	0
5:47 PM	1332	1332	0
5:48 PM	1343	1343	0
5:49 PM	1352	1352	0
5:50 PM	1362	1362	0
5:51 PM	1370	1370	0
5:52 PM	1378	1378	0
5:53 PM	1386	1386	0
5:54 PM	1395	1395	0
5:55 PM	1403	1403	0
5:56 PM	1412	1412	0
5:57 PM	1423	1423	0
5:58 PM	1434	1434	0
5:59 PM	1442	1442	0

EB 195

2026 AM w/ BK Project

AM Adjustment factor 1.205

AM k30 factor (R103) 1.15

Storage Length	No. of Storage Lanes	Ramp Meter Rate
1000	1	1200

2-lane retrofit (use shoulder) alternate release Max rate = 1400

EB 195

Time	2021 AM Volume	Adjusted Volume	Vehicles released	Vehicles in queue	Queue length	Exceed Storage
6:00 AM	4	5	5	0	0	0
6:01 AM	5	6	6	0	0	0
6:02 AM	1	1	1	0	0	0
6:03 AM	2	3	3	0	0	0
6:04 AM	5	6	6	0	0	0
6:05 AM	4	5	5	0	0	0
6:06 AM	7	9	9	0	0	0
6:07 AM	5	6	6	0	0	0
6:08 AM	4	5	5	0	0	0
6:09 AM	5	6	6	0	0	0
6:10 AM	7	9	9	0	0	0
6:11 AM	6	8	8	0	0	0
6:12 AM	10	12	12	0	0	0
6:13 AM	6	8	8	0	0	0
6:14 AM	5	6	6	0	0	0
6:15 AM	6	8	8	0	0	0
6:16 AM	5	6	6	0	0	0
6:17 AM	6	8	8	0	0	0
6:18 AM	4	5	5	0	0	0
6:19 AM	11	13	13	0	0	0
6:20 AM	13	15	15	0	0	0
6:21 AM	14	17	17	0	0	0
6:22 AM	8	10	10	0	0	0
6:23 AM	13	15	15	0	0	0
6:24 AM	16	19	19	0	0	0
6:25 AM	18	22	20	2	44	0
6:26 AM	6	8	9	0	0	0
6:27 AM	12	14	14	0	0	0
6:28 AM	7	9	9	0	0	0
6:29 AM	13	15	15	0	0	0
6:30 AM	10	12	12	0	0	0
6:31 AM	16	19	19	0	0	0
6:32 AM	16	19	19	0	0	0
6:33 AM	6	8	8	0	0	0
6:34 AM	12	14	14	0	0	0
6:35 AM	12	14	14	0	0	0
6:36 AM	11	13	13	0	0	0
6:37 AM	13	15	15	0	0	0
6:38 AM	13	15	15	0	0	0
6:39 AM	15	18	18	0	0	0
6:40 AM	8	10	10	0	0	0
6:41 AM	22	27	20	7	172	0
6:42 AM	17	20	20	7	184	0
6:43 AM	22	27	20	14	356	0
6:44 AM	28	33	20	27	687	0
6:45 AM	22	27	20	34	859	0
6:46 AM	24	29	20	44	1095	95
6:47 AM	20	24	20	48	1203	203
6:48 AM	21	26	20	54	1343	343
6:49 AM	24	29	20	63	1579	579
6:50 AM	17	20	20	64	1591	591
6:51 AM	23	28	20	72	1794	794
6:52 AM	22	27	20	79	1966	966
6:53 AM	18	22	20	80	2010	1010
6:54 AM	14	17	20	77	1926	926
6:55 AM	17	20	20	78	1938	938
6:56 AM	19	23	20	81	2014	1014
6:57 AM	13	15	20	76	1898	898
6:58 AM	13	15	20	71	1782	782
6:59 AM	17	20	20	72	1793	793
7:00 AM	16	19	20	71	1773	773
7:01 AM	16	19	20	70	1753	753
7:02 AM	7	9	20	59	1477	477
7:03 AM	23	28	20	67	1681	681
7:04 AM	12	14	20	61	1533	533
7:05 AM	17	20	20	62	1545	545
7:06 AM	6	8	20	49	1237	237
7:07 AM	19	23	20	53	1313	313
7:08 AM	21	26	20	58	1452	452
7:09 AM	15	18	20	56	1400	400
7:10 AM	12	14	20	50	1252	252
7:11 AM	17	20	20	51	1264	264
7:12 AM	24	29	20	60	1500	500
7:13 AM	23	28	20	68	1704	704
7:14 AM	19	23	20	71	1780	780
7:15 AM	21	26	20	77	1920	920
7:16 AM	15	18	20	75	1867	867
7:17 AM	23	28	20	83	2071	1071
7:18 AM	17	20	20	83	2083	1083
7:19 AM	23	28	20	91	2287	1287
7:20 AM	23	28	20	100	2491	1491
7:21 AM	25	31	20	110	2759	1759
7:22 AM	23	28	20	119	2963	1963
7:23 AM	18	22	20	120	3006	2006
7:24 AM	20	24	20	125	3114	2114
7:25 AM	16	19	20	124	3094	2094
7:26 AM	16	19	20	123	3074	2074
7:27 AM	25	31	20	134	3342	2342
7:28 AM	17	20	20	134	3354	2354
7:29 AM	15	18	20	132	3302	2302
7:30 AM	30	36	20	148	3697	2697
7:31 AM	23	28	20	156	3901	2901
7:32 AM	22	27	20	163	4073	3073
7:33 AM	23	28	20	171	4277	3277
7:34 AM	27	32	20	183	4577	3577
7:35 AM	30	36	20	199	4973	3973
7:36 AM	28	33	20	212	5304	4304
7:37 AM	22	27	20	219	5476	4476
7:38 AM	25	31	20	230	5744	4744
7:39 AM	20	24	20	234	5852	4852
7:40 AM	16	19	20	233	5832	4832
7:41 AM	24	29	20	243	6068	5068
7:42 AM	24	29	20	252	6304	5304
7:43 AM	32	38	20	271	6763	5763
7:44 AM	19	23	20	274	6839	5839
7:45 AM	20	24	20	278	6947	5947
7:46 AM	28	33	20	291	7279	6279
7:47 AM	25	31	20	302	7547	6547
7:48 AM	28	33	20	315	7879	6879
7:49 AM	29	35	20	330	8242	7242
7:50 AM	30	36	20	346	8638	7638
7:51 AM	25	31	20	356	8906	7906
7:52 AM	28	33	20	370	9238	8238
7:53 AM	29	35	20	384	9602	8602
7:54 AM	21	26	20	390	9741	8741
7:55 AM	17	20	20	390	9753	8753
7:56 AM	22	27	20	397	9925	8925
7:57 AM	17	20	20	397	9937	8937
7:58 AM	20	24	20	402	10045	9045
7:59 AM	10	12	20	393	9833	8833
8:00 AM	25	31	20	404	10101	9101
8:01 AM	16	19	20	403	10081	9081
8:02 AM	16	19	20	402	10060	9060
8:03 AM	14	17	20	399	9976	8976
8:04 AM	16	19	20	398	9956	8956
8:05 AM	27	32	20	410	10256	9256
8:06 AM	16	19	20	409	10236	9236
8:07 AM	19	23	20	412	10312	9312
8:08 AM	21	26	20	418	10452	9452
8:09 AM	23	28	20	426	10656	9656
8:10 AM	19	23	20	429	10731	9731
8:11 AM	18	22	20	431	10775	9775
8:12 AM	27	32	20	443	11075	10075
8:13 AM	10	12	20	435	10863	9863
8:14 AM	22	27	20	441	11035	10035
8:15 AM	13	15	20	437	10919	9919
8:16 AM	17	20	20	437	10931	9931
8:17 AM	20	24	20	442	11039	10039
8:18 AM	20	24	20	446	11146	10146
8:19 AM	13	15	20	441	11030	10030
8:20 AM	19	23	20	444	11106	10106
8:21 AM	12	14	20	438	10958	9958
8:22 AM	16	19	20	438	10938	9938
8:23 AM	15	18	20	435	10886	9886
8:24 AM	11	13	20	428	10706	9706
8:25 AM	8	10	20	418	10462	9462
8:26 AM	17	20	20	419	10474	9474
8:27 AM	20	24	20	423	10581	9581
8:28 AM	16	19	20	422	10561	9561
8:29 AM	15	18	20	420	10509	9509
8:30 AM	16	19	20	420	10489	9489
8:31 AM	19	23	20	423	10565	9565
8:32 AM	15	18	20	421	10513	9513
8:33 AM	10	12	20	412	10301	9301
8:34 AM	16	19	20	411	10281	9281
8:35 AM	14	17	20	408	10197	9197
8:36 AM	17	20	20	408	10209	9209
8:37 AM	15	18	20	406	10156	9156
8:38 AM	18	22	20	408	10200	9200
8:39 AM	15	18	20	406	10148	9148
8:40 AM	18	22	20	408	10192	9192
8:41 AM	16	19	20	407	10172	9172
8:42 AM	13	15	20	402	10056	9056
8:43 AM	16	19	20	401	10036	9036
8:44 AM	18	22	20	403	10080	9080
8:45 AM	5	6	20	390	9740	8740
8:46 AM	14	17	20	386	9656	8656
8:47 AM	18	22	20	388	9699	8699
8:48 AM	14	17	20	385	9615	8615
8:49 AM	16	19	20	384	9595	8595
8:50 AM	13	15	20	379	9479	8479
8:51 AM	13	15	20	375	9363	8363
8:52 AM	11	13	20	367	9183	8183
8:53 AM	12	14	20	361	9035	8035
8:54 AM	18	22	20	363	9079	8079
8:55 AM	14	17	20	360	8995	7995
8:56 AM	12	14	20	354	8847	7847
8:57 AM	10	12	20	345	8635	7635
8:58 AM	19	23	20	348	8710	7710
8:59 AM	14	17	20	345	8626	7626
7:10 - 8:10	1303	1570				

PEAK HOUR I-90 EB

THE TIME PERIOD WITH QUEUE BEYOND THE STORAGE AFTER I-90 EB PEAK HOUR

EB 195

Time	Cumulative	Cumulative	Excessive Queue Length
6:00 AM	5	5	0
6:01 AM	12	12	0
6:02 AM	13	13	0
6:03 AM	15	15	0
6:04 AM	22	22	0
6:05 AM	27	27	0
6:06 AM	36	36	0
6:07 AM	42	42	0
6:08 AM	47	47	0
6:09 AM	54	54	0
6:10 AM	63	63	0
6:11 AM	70	70	0
6:12 AM	82	82	0
6:13 AM	90	90	0
6:14 AM	96	96	0
6:15 AM	104	104	0
6:16 AM	110	110	0
6:17 AM	118	118	0
6:18 AM	123	123	0
6:19 AM	136	136	0
6:20 AM	151	151	0
6:21 AM	168	168	0
6:22 AM	178	178	0
6:23 AM	193	193	0
6:24 AM	212	212	0
6:25 AM	234	232	0
6:26 AM	242	242	0
6:27 AM	256	256	0
6:28 AM	265	265	0
6:29 AM	280	280	0
6:30 AM	292	292	0
6:31 AM	311	311	0
6:32 AM	330	330	0
6:33 AM	338	338	0
6:34 AM	352	352	0
6:35 AM	366	366	0
6:36 AM	379	379	0
6:37 AM	394	394	0
6:38 AM	410	410	0
6:39 AM	427	427	0
6:40 AM	438	438	0
6:41 AM	465	458	0
6:42 AM	485	478	0
6:43 AM	512	498	0
6:44 AM	545	518	0
6:45 AM	572	538	0
6:46 AM	601	558	95
6:47 AM	626	578	203
6:48 AM	651	598	343
6:49 AM	681	618	579
6:50 AM	701	638	591
6:51 AM	729	658	794
6:52 AM	756	678	966
6:53 AM	778	698	1010
6:54 AM	795	718	926
6:55 AM	815	738	938
6:56 AM	838	758	1014
6:57 AM	854	778	898
6:58 AM	869	798	782
6:59 AM	889	818	793
7:00 AM	909	838	773
7:01 AM	928	858	753
7:02 AM	937	878	477
7:03 AM	965	898	681
7:04 AM	979	918	533
7:05 AM	999	938	545
7:06 AM	1007	958	237
7:07 AM	1030	978	313
7:08 AM	1056	998	452
7:09 AM	1074	1018	400
7:10 AM	1088	1038	252
7:11 AM	1108	1058	264
7:12 AM	1138	1078	500
7:13 AM	1166	1098	704
7:14 AM	1189	1118	780
7:15 AM	1214	1138	920
7:16 AM	1232	1158	867
7:17 AM	1261	1178	1071
7:18 AM	1281	1198	1083
7:19 AM	1309	1218	1287
7:20 AM	1337	1238	1491
7:21 AM	1368	1258	1759
7:22 AM	1396	1278	1963
7:23 AM	1418	1298	2006
7:24 AM	1442	1318	2114
7:25 AM	1461	1338	2094
7:26 AM	1481	1358	2074
7:27 AM	1511	1378	2342
7:28 AM	1532	1398	2354
7:29 AM	1550	1418	2302
7:30 AM	1586	1438	2697
7:31 AM	1614	1458	2901
7:32 AM	1641	1478	3073
7:33 AM	1669	1498	3277
7:34 AM	1701	1518	3577
7:35 AM	1737	1538	3973
7:36 AM	1770	1558	4304
7:37 AM	1797	1578	4476
7:38 AM	1827	1598	4744
7:39 AM	1852	1618	4852
7:40 AM	1871	1638	4832
7:41 AM	1900	1658	5068
7:42 AM	1930	1678	5304
7:43 AM	1968	1698	5763
7:44 AM	1991	1718	5839
7:45 AM	2016	1738	5947
7:46 AM	2049	1758	6279
7:47 AM	2080	1778	6547
7:48 AM	2113	1798	6879
7:49 AM	2147	1818	7242
7:50 AM	2183	1838	7638
7:51 AM	2214	1858	7906
7:52 AM	2247	1878	8238
7:53 AM	2282	1898	8602
7:54 AM	2307	1918	8741
7:55 AM	2328	1938	8753
7:56 AM	2355	1958	8925
7:57 AM	2375	1978	8937
7:58 AM	2399	1998	9045
7:59 AM	2411	2018	8833
8:00 AM	2442	2038	9101
8:01 AM	2461	2058	9081
8:02 AM	2480	2078	9060
8:03 AM	2497	2098	8976
8:04 AM	2516	2118	8956
8:05 AM	2548	2138	9256
8:06 AM	2567	2158	9236
8:07 AM	2590	2178	9312
8:08 AM	2616	2198	9452
8:09 AM	2644	2218	9656
8:10 AM	2667	2238	9731
8:11 AM	2689	2258	9775
8:12 AM	2721	2278	10075
8:13 AM	2732	2298	9863
8:14 AM	2759	2318	10035
8:15 AM	2774	2338	9919
8:16 AM	2795	2358	9931
8:17 AM	2819	2378	10039
8:18 AM	2844	2398	10146
8:19 AM	2859	2418	10030
8:20 AM	2882	2438	10106
8:21 AM	2896	2458	9958
8:22 AM	2915	2478	9938
8:23 AM	2933	2498	9886
8:24 AM	2946	2518	9706
8:25 AM	2956	2538	9462
8:26 AM	2977	2558	9474
8:27 AM	3001	2578	9581
8:28 AM	3020	2598	9561
8:29 AM	3038	2618	9509
8:30 AM	3057	2638	9489
8:31 AM	3080	2658	9565
8:32 AM	3098	2678	9513
8:33 AM	3110	2698	9301
8:34 AM	3129	2718	9281
8:35 AM	3146	2738	9197
8:36 AM	3166	2758	9209
8:37 AM	3184	2778	9156
8:38 AM	3206	2798	9200
8:39 AM	3224	2818	9148
8:40 AM	3245	2838	9192
8:41 AM	3265	2858	9172
8:42 AM	3280	2878	9056
8:43 AM	3299	2898	9036
8:44 AM	3321	2918	9080
8:45 AM	3327	2938	8740
8:46 AM	3344	2958	8656
8:47 AM	3366	2978	8699
8:48 AM	3382	2998	8615
8:49 AM	3401	3018	8595
8:50 AM	3417	3038	8479
8:51 AM	3432	3058	8363
8:52 AM	3445	3078	8183
8:53 AM	3459	3098	8035
8:54 AM	3481	3118	8079
8:55 AM	3497	3138	7995
8:56 AM	3512	3158	7847
8:57 AM	3523	3178	7635
8:58 AM	3546	3198	7710
8:59 AM	3563	3218	7626
			0

PEAK HOUR I-90 EB

EB 195

2026 PM w/ BK Project

PM Adjustment factor 1.178

PM k30 factor (R103) 1.14

Storage Length 1000

No. of Storage Lanes 1

Ramp Meter Rate 800

2-lane retrofit (use shoulder) alternate release
Max rate = 1400

Time	2021 PM Volume	Adjusted Volume	Vehicles released	Vehicles in queue	Queue length	Exceed Storage
3:00 PM	13	16	13	2	59	0
3:01 PM	7	8	10	0	0	0
3:02 PM	13	16	13	2	59	0
3:03 PM	9	10	13	0	0	0
3:04 PM	11	13	13	0	0	0
3:05 PM	9	10	10	0	0	0
3:06 PM	12	14	13	1	26	0
3:07 PM	6	7	8	0	0	0
3:08 PM	6	7	7	0	0	0
3:09 PM	18	21	13	8	189	0
3:10 PM	6	7	13	1	19	0
3:11 PM	10	12	13	0	0	0
3:12 PM	8	9	9	0	0	0
3:13 PM	4	5	5	0	0	0
3:14 PM	11	13	13	0	0	0
3:15 PM	12	14	13	1	26	0
3:16 PM	8	9	10	0	0	0
3:17 PM	11	13	13	0	0	0
3:18 PM	14	17	13	4	91	0
3:19 PM	16	18	13	9	215	0
3:20 PM	11	13	13	8	208	0
3:21 PM	6	7	13	2	38	0
3:22 PM	10	12	13	0	0	0
3:23 PM	8	9	9	0	0	0
3:24 PM	8	9	9	0	0	0
3:25 PM	13	16	13	2	59	0
3:26 PM	4	5	8	0	0	0
3:27 PM	4	5	5	0	0	0
3:28 PM	16	18	13	5	124	0
3:29 PM	14	17	13	9	215	0
3:30 PM	10	12	13	7	176	0
3:31 PM	10	12	13	5	136	0
3:32 PM	9	10	13	3	64	0
3:33 PM	11	13	13	2	58	0
3:34 PM	9	10	13	0	0	0
3:35 PM	18	21	13	8	189	0
3:36 PM	17	20	13	14	346	0
3:37 PM	16	18	13	19	470	0
3:38 PM	7	8	13	13	332	0
3:39 PM	12	14	13	14	358	0
3:40 PM	10	12	13	13	319	0
3:41 PM	7	8	13	7	181	0
3:42 PM	9	10	13	4	109	0
3:43 PM	8	9	13	0	5	0
3:44 PM	13	16	13	3	63	0
3:45 PM	10	12	13	1	24	0
3:46 PM	9	10	11	0	0	0
3:47 PM	16	18	13	5	124	0
3:48 PM	23	27	13	19	476	0
3:49 PM	9	10	13	16	404	0
3:50 PM	13	16	13	19	463	0
3:51 PM	10	12	13	17	424	0
3:52 PM	11	13	13	17	417	0
3:53 PM	7	8	13	11	279	0
3:54 PM	2	3	13	0	11	0
3:55 PM	10	12	12	0	0	0
3:56 PM	13	16	13	2	59	0
3:57 PM	7	8	10	0	0	0
3:58 PM	18	21	13	8	189	0
3:59 PM	10	12	13	6	150	0
4:00 PM	9	10	13	3	78	0
4:01 PM	11	13	13	3	71	0
4:02 PM	13	16	13	5	130	0
4:03 PM	11	13	13	5	123	0
4:04 PM	12	14	13	6	149	0
4:05 PM	14	17	13	10	240	0
4:06 PM	10	12	13	8	201	0
4:07 PM	13	16	13	10	259	0
4:08 PM	6	7	13	4	89	0
4:09 PM	9	10	13	1	17	0
4:10 PM	8	9	10	0	0	0
4:11 PM	11	13	13	0	0	0
4:12 PM	9	10	10	0	0	0
4:13 PM	10	12	12	0	0	0
4:14 PM	10	12	12	0	0	0
4:15 PM	12	14	13	1	26	0
4:16 PM	14	17	13	5	117	0
4:17 PM	8	9	13	0	12	0
4:18 PM	11	13	13	0	6	0
4:19 PM	8	9	9	0	0	0
4:20 PM	13	16	13	2	59	0
4:21 PM	4	5	8	0	0	0
4:22 PM	11	13	13	0	0	0
4:23 PM	7	8	8	0	0	0
4:24 PM	10	12	12	0	0	0
4:25 PM	6	7	7	0	0	0
4:26 PM	3	4	4	0	0	0
4:27 PM	14	17	13	4	91	0
4:28 PM	3	4	8	0	0	0
4:29 PM	12	14	13	1	26	0
4:30 PM	9	10	11	0	0	0
4:31 PM	9	10	10	0	0	0
4:32 PM	8	9	9	0	0	0
4:33 PM	8	9	9	0	0	0
4:34 PM	7	8	8	0	0	0
4:35 PM	9	10	10	0	0	0
4:36 PM	6	7	7	0	0	0
4:37 PM	12	14	13	1	26	0
4:38 PM	11	13	13	1	19	0
4:39 PM	18	21	13	8	208	0
4:40 PM	8	9	13	4	104	0
4:41 PM	11	13	13	4	97	0
4:42 PM	14	17	13	8	188	0
4:43 PM	3	4	11	0	0	0
4:44 PM	11	13	13	0	0	0
4:45 PM	6	7	7	0	0	0
4:46 PM	6	7	7	0	0	0
4:47 PM	10	12	12	0	0	0
4:48 PM	13	16	13	2	59	0
4:49 PM	14	17	13	6	150	0
4:50 PM	27	31	13	24	600	0
4:51 PM	11	13	13	24	594	0
4:52 PM	11	13	13	23	587	0
4:53 PM	8	9	13	19	482	0
4:54 PM	7	8	13	14	345	0
4:55 PM	1	1	13	2	44	0
4:56 PM	8	9	11	0	0	0
4:57 PM	10	12	12	0	0	0
4:58 PM	8	9	9	0	0	0
4:59 PM	10	12	12	0	0	0
5:00 PM	12	14	13	1	26	0
5:01 PM	21	25	13	13	313	0
5:02 PM	13	16	13	15	372	0
5:03 PM	8	9	13	11	267	0
5:04 PM	7	8	13	5	130	0
5:05 PM	7	8	13	0	0	0
5:06 PM	6	7	7	0	0	0
5:07 PM	9	10	10	0	0	0
5:08 PM	7	8	8	0	0	0
5:09 PM	8	9	9	0	0	0
5:10 PM	13	16	13	2	59	0
5:11 PM	20	24	13	13	313	0
5:12 PM	11	13	13	12	306	0
5:13 PM	12	14	13	13	332	0
5:14 PM	11	13	13	13	326	0
5:15 PM	8	9	13	9	221	0
5:16 PM	11	13	13	9	214	0
5:17 PM	7	8	13	3	77	0
5:18 PM	16	18	13	8	201	0
5:19 PM	11	13	13	8	194	0
5:20 PM	8	9	13	4	89	0
5:21 PM	10	12	13	2	50	0
5:22 PM	10	12	13	0	10	0
5:23 PM	6	7	7	0	0	0
5:24 PM	7	8	8	0	0	0
5:25 PM	8	9	9	0	0	0
5:26 PM	7	8	8	0	0	0
5:27 PM	9	10	10	0	0	0
5:28 PM	10	12	12	0	0	0
5:29 PM	6	7	7	0	0	0
5:30 PM	19	22	13	9	222	0
5:31 PM	7	8	13	3	85	0
5:32 PM	8	9	13	0	0	0
5:33 PM	12	14	13	1	26	0
5:34 PM	11	13	13	1	19	0
5:35 PM	10	12	13	0	0	0
5:36 PM	14	17	13	4	91	0
5:37 PM	8	9	13	0	0	0
5:38 PM	8	9	9	0	0	0
5:39 PM	9	10	10	0	0	0
5:40 PM	12	14	13	1	26	0
5:41 PM	10	12	13	0	0	0
5:42 PM	4	5	5	0	0	0
5:43 PM	9	10	10	0	0	0
5:44 PM	9	10	10	0	0	0
5:45 PM	10	12	12	0	0	0
5:46 PM	10	12	12	0	0	0
5:47 PM	16	18	13	5	124	0
5:48 PM	13	16	13	7	182	0
5:49 PM	12	14	13	8	208	0
5:50 PM	12	14	13	9	234	0
5:51 PM	10	12	13	8	195	0
5:52 PM	10	12	13	6	156	0
5:53 PM	11	13	13	6	149	0
5:54 PM	11	13	13	6	142	0
5:55 PM	10	12	13	4	103	0
5:56 PM	11	13	13	4	96	0
5:57 PM	14	17	13	7	187	0
5:58 PM	14	17	13	11	278	0
5:59 PM	10	12	13	10	239	0
3:16-4:16	643	758		19		

EB 195

Time	Cumulative	Cumulative	Excessive Queue Length
3:00 PM	16	13	0
3:01 PM	24	24	0
3:02 PM	39	37	0
3:03 PM	50	50	0
3:04 PM	63	63	0
3:05 PM	73	73	0
3:06 PM	88	86	0
3:07 PM	94	94	0
3:08 PM	101	101	0
3:09 PM	121	114	0
3:10 PM	128	127	0
3:11 PM	140	140	0
3:12 PM	149	149	0
3:13 PM	154	154	0
3:14 PM	167	167	0
3:15 PM	182	181	0
3:16 PM	191	191	0
3:17 PM	204	204	0
3:18 PM	221	217	0
3:19 PM	239	230	0
3:20 PM	252	244	0
3:21 PM	259	257	0
3:22 PM	270	270	0
3:23 PM	280	280	0
3:24 PM	289	289	0
3:25 PM	304	302	0
3:26 PM	310	310	0
3:27 PM	315	315	0
3:28 PM	333	328	0
3:29 PM	350	342	0
3:30 PM	362	355	0
3:31 PM	374	368	0
3:32 PM	384	382	0
3:33 PM	397	395	0
3:34 PM	408	408	0
3:35 PM	428	421	0
3:36 PM	448	434	0
3:37 PM	466	448	0
3:38 PM	474	461	0
3:39 PM	489	474	0
3:40 PM	500	488	0
3:41 PM	508	501	0
3:42 PM	519	514	0
3:43 PM	528	528	0
3:44 PM	543	541	0
3:45 PM	555	554	0
3:46 PM	566	566	0
3:47 PM	584	579	0
3:48 PM	611	592	0
3:49 PM	622	606	0
3:50 PM	638	619	0
3:51 PM	649	632	0
3:52 PM	662	646	0
3:53 PM	670	659	0
3:54 PM	673	672	0
3:55 PM	685	685	0
3:56 PM	700	698	0
3:57 PM	708	708	0
3:58 PM	729	721	0
3:59 PM	741	735	0
4:00 PM	751	748	0
4:01 PM	764	761	0
4:02 PM	780	775	0
4:03 PM	793	788	0
4:04 PM	807	801	0
4:05 PM	824	815	0
4:06 PM	836	828	0
4:07 PM	852	841	0
4:08 PM	858	855	0
4:09 PM	869	868	0
4:10 PM	878	878	0
4:11 PM	891	891	0
4:12 PM	901	901	0
4:13 PM	913	913	0
4:14 PM	925	925	0
4:15 PM	939	938	0
4:16 PM	956	952	0
4:17 PM	965	965	0
4:18 PM	978	978	0
4:19 PM	988	988	0
4:20 PM	1003	1001	0
4:21 PM	1009	1009	0
4:22 PM	1022	1022	0
4:23 PM	1029	1029	0
4:24 PM	1041	1041	0
4:25 PM	1048	1048	0
4:26 PM	1052	1052	0
4:27 PM	1069	1065	0
4:28 PM	1073	1073	0
4:29 PM	1087	1086	0
4:30 PM	1097	1097	0
4:31 PM	1108	1108	0
4:32 PM	1117	1117	0
4:33 PM	1126	1126	0
4:34 PM	1134	1134	0
4:35 PM	1144	1144	0
4:36 PM	1151	1151	0
4:37 PM	1165	1164	0
4:38 PM	1178	1178	0
4:39 PM	1199	1191	0
4:40 PM	1208	1204	0
4:41 PM	1221	1218	0
4:42 PM	1238	1231	0
4:43 PM	1242	1242	0
4:44 PM	1255	1255	0
4:45 PM	1262	1262	0
4:46 PM	1269	1269	0
4:47 PM	1280	1280	0
4:48 PM	1296	1294	0
4:49 PM	1313	1307	0
4:50 PM	1344	1320	0
4:51 PM	1357	1334	0
4:52 PM	1370	1347	0
4:53 PM	1380	1360	0
4:54 PM	1387	1374	0
4:55 PM	1389	1387	0
4:56 PM	1398	1398	0
4:57 PM	1410	1410	0
4:58 PM	1419	1419	0
4:59 PM	1431	1431	0
5:00 PM	1445	1444	0
5:01 PM	1470	1457	0
5:02 PM	1485	1471	0
5:03 PM	1495	1484	0
5:04 PM	1502	1497	0
5:05 PM	1510	1510	0
5:06 PM	1517	1517	0
5:07 PM	1527	1527	0
5:08 PM	1535	1535	0
5:09 PM	1544	1544	0
5:10 PM	1560	1558	0
5:11 PM	1583	1571	0
5:12 PM	1596	1584	0
5:13 PM	1611	1598	0
5:14 PM	1624	1611	0
5:15 PM	1633	1624	0
5:16 PM	1646	1638	0
5:17 PM	1654	1651	0
5:18 PM	1672	1664	0
5:19 PM	1685	1678	0
5:20 PM	1694	1691	0
5:21 PM	1706	1704	0
5:22 PM	1718	1718	0
5:23 PM	1724	1724	0
5:24 PM	1732	1732	0
5:25 PM	1741	1741	0
5:26 PM	1749	1749	0
5:27 PM	1760	1760	0
5:28 PM	1771	1771	0
5:29 PM	1778	1778	0
5:30 PM	1800	1791	0
5:31 PM	1808	1805	0
5:32 PM	1817	1817	0
5:33 PM	1832	1831	0
5:34 PM	1845	1844	0
5:35 PM	1856	1856	0
5:36 PM	1873	1870	0
5:37 PM	1883	1883	0
5:38 PM	1892	1892	0
5:39 PM	1902	1902	0
5:40 PM	1916	1915	0
5:41 PM	1928	1928	0
5:42 PM	1933	1933	0
5:43 PM	1944	1944	0
5:44 PM	1954	1954	0
5:45 PM	1966	1966	0
5:46 PM	1978	1978	0
5:47 PM	1996	1991	0
5:48 PM	2012	2005	0
5:49 PM	2026	2018	0
5:50 PM	2041	2031	0
5:51 PM	2052	2045	0
5:52 PM	2064	2058	0
5:53 PM	2077	2071	0
5:54 PM	2090	2085	0
5:55 PM	2102	2098	0
5:56 PM	2115	2111	0
5:57 PM	2132	2125	0
5:58 PM	2149	2138	0
5:59 PM	2161	2151	0

PEAK HOUR I-90 EB

THE TIME PERIOD WITH QUEUE BEYOND THE STORAGE AFTER I-90 EB PEAK HOUR

EB 195

2026 PM w/ BK Project (500vph)

PM Adjustment factor 1.178

PM k30 factor (R103) 1.14

Storage Length	1000	**No. of Storage Lanes**	1	Ramp Meter Rate	500	**2-lane retrofit (use shoulder) alternate release Max rate = 1400**	
Time	**2021 PM Volume**	**Adjusted Volume**	**Vehicles released**	**Vehicles in queue**	**Queue length**	**Exceed Storage**	
3:00 PM	13	16	8	7	184	0	
3:01 PM	7	8	8	7	171	0	
3:02 PM	13	16	8	14	355	0	
3:03 PM	9	10	8	16	408	0	
3:04 PM	11	13	8	21	526	0	
3:05 PM	9	10	8	23	579	0	
3:06 PM	12	14	8	29	730	0	
3:07 PM	6	7	8	27	685	0	
3:08 PM	6	7	8	26	640	0	
3:09 PM	18	21	8	38	954	0	
3:10 PM	6	7	8	36	909	0	
3:11 PM	10	12	8	40	995	0	
3:12 PM	8	9	8	41	1015	15	
3:13 PM	4	5	8	37	937	0	
3:14 PM	11	13	8	42	1055	55	
3:15 PM	12	14	8	48	1206	206	
3:16 PM	8	9	8	49	1227	227	
3:17 PM	11	13	8	54	1345	345	
3:18 PM	14	17	8	62	1561	561	
3:19 PM	16	18	8	72	1810	810	
3:20 PM	11	13	8	77	1928	928	
3:21 PM	6	7	8	75	1883	883	
3:22 PM	10	12	8	79	1969	969	
3:23 PM	8	9	8	80	1989	989	
3:24 PM	8	9	8	80	2010	1010	
3:25 PM	13	16	8	88	2193	1193	
3:26 PM	4	5	8	85	2115	1115	
3:27 PM	4	5	8	82	2038	1038	
3:28 PM	16	18	8	91	2287	1287	
3:29 PM	14	17	8	100	2503	1503	
3:30 PM	10	12	8	104	2589	1589	
3:31 PM	10	12	8	107	2674	1674	
3:32 PM	9	10	8	109	2727	1727	
3:33 PM	11	13	8	114	2845	1845	
3:34 PM	9	10	8	116	2898	1898	
3:35 PM	18	21	8	128	3212	2212	
3:36 PM	17	20	8	140	3494	2494	
3:37 PM	16	18	8	150	3743	2743	
3:38 PM	7	8	8	149	3731	2731	
3:39 PM	12	14	8	155	3882	2882	
3:40 PM	10	12	8	159	3967	2967	
3:41 PM	7	8	8	158	3955	2955	
3:42 PM	9	10	8	160	4008	3008	
3:43 PM	8	9	8	161	4028	3028	
3:44 PM	13	16	8	168	4212	3212	
3:45 PM	10	12	8	172	4297	3297	
3:46 PM	9	10	8	174	4350	3350	
3:47 PM	16	18	8	184	4599	3599	
3:48 PM	23	27	8	203	5077	4077	
3:49 PM	9	10	8	205	5130	4130	
3:50 PM	13	16	8	213	5313	4313	
3:51 PM	10	12	8	216	5399	4399	
3:52 PM	11	13	8	221	5517	4517	
3:53 PM	7	8	8	220	5505	4505	
3:54 PM	2	3	8	214	5362	4362	
3:55 PM	10	12	8	218	5447	4447	
3:56 PM	13	16	8	225	5631	4631	
3:57 PM	7	8	8	225	5618	4618	
3:58 PM	18	21	8	237	5933	4933	
3:59 PM	10	12	8	241	6018	5018	
4:00 PM	9	10	8	243	6071	5071	
4:01 PM	11	13	8	248	6189	5189	
4:02 PM	13	16	8	255	6373	5373	
4:03 PM	11	13	8	260	6491	5491	
4:04 PM	12	14	8	266	6642	5642	
4:05 PM	14	17	8	274	6858	5858	
4:06 PM	10	12	8	278	6944	5944	
4:07 PM	13	16	8	285	7128	6128	
4:08 PM	6	7	8	283	7083	6083	
4:09 PM	9	10	8	285	7136	6136	
4:10 PM	8	9	8	286	7156	6156	
4:11 PM	11	13	8	291	7274	6274	
4:12 PM	9	10	8	293	7327	6327	
4:13 PM	10	12	8	297	7413	6413	
4:14 PM	10	12	8	300	7498	6498	
4:15 PM	12	14	8	306	7649	6649	
4:16 PM	14	17	8	315	7865	6865	
4:17 PM	8	9	8	315	7886	6886	
4:18 PM	11	13	8	320	8004	7004	
4:19 PM	8	9	8	321	8024	7024	
4:20 PM	13	16	8	328	8208	7208	
4:21 PM	4	5	8	325	8130	7130	
4:22 PM	11	13	8	330	8248	7248	
4:23 PM	7	8	8	329	8236	7236	
4:24 PM	10	12	8	333	8322	7322	
4:25 PM	6	7	8	331	8277	7277	
4:26 PM	3	4	8	327	8166	7166	
4:27 PM	14	17	8	335	8383	7383	
4:28 PM	3	4	8	331	8272	7272	
4:29 PM	12	14	8	337	8423	7423	
4:30 PM	9	10	8	339	8476	7476	
4:31 PM	9	10	8	341	8529	7529	
4:32 PM	8	9	8	342	8549	7549	
4:33 PM	8	9	8	343	8570	7570	
4:34 PM	7	8	8	342	8557	7557	
4:35 PM	9	10	8	344	8610	7610	
4:36 PM	6	7	8	343	8565	7565	
4:37 PM	12	14	8	349	8716	7716	
4:38 PM	11	13	8	353	8834	7834	
4:39 PM	18	21	8	366	9149	8149	
4:40 PM	8	9	8	367	9169	8169	
4:41 PM	11	13	8	371	9287	8287	
4:42 PM	14	17	8	380	9503	8503	
4:43 PM	3	4	8	376	9393	8393	
4:44 PM	11	13	8	380	9511	8511	
4:45 PM	6	7	8	379	9466	8466	
4:46 PM	6	7	8	377	9421	8421	
4:47 PM	10	12	8	380	9507	8507	
4:48 PM	13	16	8	388	9690	8690	
4:49 PM	14	17	8	396	9907	8907	
4:50 PM	27	31	8	419	10482	9482	
4:51 PM	11	13	8	424	10600	9600	
4:52 PM	11	13	8	429	10719	9719	
4:53 PM	8	9	8	430	10739	9739	
4:54 PM	7	8	8	429	10727	9727	
4:55 PM	1	1	8	422	10551	9551	
4:56 PM	8	9	8	423	10571	9571	
4:57 PM	10	12	8	426	10657	9657	
4:58 PM	8	9	8	427	10677	9677	
4:59 PM	10	12	8	431	10763	9763	
5:00 PM	12	14	8	437	10914	9914	
5:01 PM	21	25	8	453	11326	10326	
5:02 PM	13	16	8	460	11509	10509	
5:03 PM	8	9	8	461	11530	10530	
5:04 PM	7	8	8	461	11517	10517	
5:05 PM	7	8	8	460	11505	10505	
5:06 PM	6	7	8	458	11460	10460	
5:07 PM	9	10	8	461	11513	10513	
5:08 PM	7	8	8	460	11501	10501	
5:09 PM	8	9	8	461	11521	10521	
5:10 PM	13	16	8	468	11704	10704	
5:11 PM	20	24	8	483	12084	11084	
5:12 PM	11	13	8	488	12202	11202	
5:13 PM	12	14	8	494	12353	11353	
5:14 PM	11	13	8	499	12471	11471	
5:15 PM	8	9	8	500	12492	11492	
5:16 PM	11	13	8	504	12610	11610	
5:17 PM	7	8	8	504	12598	11598	
5:18 PM	16	18	8	514	12847	11847	
5:19 PM	11	13	8	519	12965	11965	
5:20 PM	8	9	8	519	12985	11985	
5:21 PM	10	12	8	523	13071	12071	
5:22 PM	10	12	8	526	13156	12156	
5:23 PM	6	7	8	524	13111	12111	
5:24 PM	7	8	8	524	13099	12099	
5:25 PM	8	9	8	525	13119	12119	
5:26 PM	7	8	8	524	13107	12107	
5:27 PM	9	10	8	526	13160	12160	
5:28 PM	10	12	8	530	13245	12245	
5:29 PM	6	7	8	528	13200	12200	
5:30 PM	19	22	8	542	13547	12547	
5:31 PM	7	8	8	541	13535	12535	
5:32 PM	8	9	8	542	13555	12555	
5:33 PM	12	14	8	548	13706	12706	
5:34 PM	11	13	8	553	13824	12824	
5:35 PM	10	12	8	556	13910	12910	
5:36 PM	14	17	8	565	14126	13126	
5:37 PM	8	9	8	566	14146	13146	
5:38 PM	8	9	8	567	14167	13167	
5:39 PM	9	10	8	569	14220	13220	
5:40 PM	12	14	8	575	14371	13371	
5:41 PM	10	12	8	578	14456	13456	
5:42 PM	4	5	8	575	14379	13379	
5:43 PM	9	10	8	577	14431	13431	
5:44 PM	9	10	8	579	14484	13484	
5:45 PM	10	12	8	583	14570	13570	
5:46 PM	10	12	8	586	14656	13656	
5:47 PM	16	18	8	596	14905	13905	
5:48 PM	13	16	8	604	15088	14088	
5:49 PM	12	14	8	610	15239	14239	
5:50 PM	12	14	8	616	15390	14390	
5:51 PM	10	12	8	619	15476	14476	
5:52 PM	10	12	8	622	15561	14561	
5:53 PM	11	13	8	627	15679	14679	
5:54 PM	11	13	8	632	15798	14798	
5:55 PM	10	12	8	635	15883	14883	
5:56 PM	11	13	8	640	16002	15002	
5:57 PM	14	17	8	649	16218	15218	
5:58 PM	14	17	8	657	16434	15434	
5:59 PM	10	12	8	661	16520	15520	
3:16-4:16	643	758		306			

EB 195

Time	Cumulative	Cumulative	Excessive Queue Length	
3:00 PM	16	8	0	
3:01 PM	24	17	0	
3:02 PM	39	25	0	
3:03 PM	50	33	0	
3:04 PM	63	42	0	
3:05 PM	73	50	0	
3:06 PM	88	58	0	
3:07 PM	94	67	0	
3:08 PM	101	75	0	
3:09 PM	121	83	0	
3:10 PM	128	92	0	
3:11 PM	140	100	0	
3:12 PM	149	108	15	
3:13 PM	154	117	0	
3:14 PM	167	125	55	
3:15 PM	182	133	206	
3:16 PM	191	142	227	
3:17 PM	204	150	345	
3:18 PM	221	158	561	
3:19 PM	239	167	810	
3:20 PM	252	175	928	
3:21 PM	259	183	883	
3:22 PM	270	192	969	
3:23 PM	280	200	989	
3:24 PM	289	208	1010	
3:25 PM	304	217	1193	
3:26 PM	310	225	1115	
3:27 PM	315	233	1038	
3:28 PM	333	242	1287	
3:29 PM	350	250	1503	
3:30 PM	362	258	1589	
3:31 PM	374	267	1674	
3:32 PM	384	275	1727	
3:33 PM	397	283	1845	
3:34 PM	408	292	1898	
3:35 PM	428	300	2212	
3:36 PM	448	308	2494	
3:37 PM	466	317	2743	
3:38 PM	474	325	2731	
3:39 PM	489	333	2882	
3:40 PM	500	342	2967	
3:41 PM	508	350	2955	
3:42 PM	519	358	3008	
3:43 PM	528	367	3028	
3:44 PM	543	375	3212	
3:45 PM	555	383	3297	
3:46 PM	566	392	3350	
3:47 PM	584	400	3599	
3:48 PM	611	408	4077	
3:49 PM	622	417	4130	
3:50 PM	638	425	4313	
3:51 PM	649	433	4399	
3:52 PM	662	442	4517	
3:53 PM	670	450	4505	
3:54 PM	673	458	4362	
3:55 PM	685	467	4447	
3:56 PM	700	475	4631	
3:57 PM	708	483	4618	
3:58 PM	729	492	4933	
3:59 PM	741	500	5018	
4:00 PM	751	508	5071	
4:01 PM	764	517	5189	
4:02 PM	780	525	5373	
4:03 PM	793	533	5491	
4:04 PM	807	542	5642	
4:05 PM	824	550	5858	
4:06 PM	836	558	5944	
4:07 PM	852	567	6128	
4:08 PM	858	575	6083	
4:09 PM	869	583	6136	
4:10 PM	878	592	6156	
4:11 PM	891	600	6274	
4:12 PM	901	608	6327	
4:13 PM	913	617	6413	
4:14 PM	925	625	6498	
4:15 PM	939	633	6649	
4:16 PM	956	642	6865	
4:17 PM	965	650	6886	
4:18 PM	978	658	7004	
4:19 PM	988	667	7024	
4:20 PM	1003	675	7208	
4:21 PM	1009	683	7130	
4:22 PM	1022	692	7248	
4:23 PM	1029	700	7236	
4:24 PM	1041	708	7322	
4:25 PM	1048	717	7277	
4:26 PM	1052	725	7166	
4:27 PM	1069	733	7383	
4:28 PM	1073	742	7272	
4:29 PM	1087	750	7423	
4:30 PM	1097	758	7476	
4:31 PM	1108	767	7529	
4:32 PM	1117	775	7549	
4:33 PM	1126	783	7570	
4:34 PM	1134	792	7557	
4:35 PM	1144	800	7610	
4:36 PM	1151	808	7565	
4:37 PM	1165	817	7716	
4:38 PM	1178	825	7834	
4:39 PM	1199	833	8149	
4:40 PM	1208	842	8169	
4:41 PM	1221	850	8287	
4:42 PM	1238	858	8503	
4:43 PM	1242	867	8393	
4:44 PM	1255	875	8511	
4:45 PM	1262	883	8466	
4:46 PM	1269	892	8421	
4:47 PM	1280	900	8507	
4:48 PM	1296	908	8690	
4:49 PM	1313	917	8907	
4:50 PM	1344	925	9482	
4:51 PM	1357	933	9600	
4:52 PM	1370	942	9719	
4:53 PM	1380	950	9739	
4:54 PM	1387	958	9727	
4:55 PM	1389	967	9551	
4:56 PM	1398	975	9571	
4:57 PM	1410	983	9657	
4:58 PM	1419	992	9677	
4:59 PM	1431	1000	9763	
5:00 PM	1445	1008	9914	
5:01 PM	1470	1017	10326	
5:02 PM	1485	1025	10509	
5:03 PM	1495	1033	10530	
5:04 PM	1502	1042	10517	
5:05 PM	1510	1050	10505	
5:06 PM	1517	1058	10460	
5:07 PM	1527	1067	10513	
5:08 PM	1535	1075	10501	
5:09 PM	1544	1083	10521	
5:10 PM	1560	1092	10704	
5:11 PM	1583	1100	11084	
5:12 PM	1596	1108	11202	
5:13 PM	1611	1117	11353	
5:14 PM	1624	1125	11471	
5:15 PM	1633	1133	11492	
5:16 PM	1646	1142	11610	
5:17 PM	1654	1150	11598	
5:18 PM	1672	1158	11847	
5:19 PM	1685	1167	11965	
5:20 PM	1694	1175	11985	
5:21 PM	1706	1183	12071	
5:22 PM	1718	1192	12156	
5:23 PM	1724	1200	12111	
5:24 PM	1732	1208	12099	
5:25 PM	1741	1217	12119	
5:26 PM	1749	1225	12107	
5:27 PM	1760	1233	12160	
5:28 PM	1771	1242	12245	
5:29 PM	1778	1250	12200	
5:30 PM	1800	1258	12547	
5:31 PM	1808	1267	12535	
5:32 PM	1817	1275	12555	
5:33 PM	1832	1283	12706	
5:34 PM	1845	1292	12824	
5:35 PM	1856	1300	12910	
5:36 PM	1873	1308	13126	
5:37 PM	1883	1317	13146	
5:38 PM	1892	1325	13167	
5:39 PM	1902	1333	13220	
5:40 PM	1916	1342	13371	
5:41 PM	1928	1350	13456	
5:42 PM	1933	1358	13379	
5:43 PM	1944	1367	13431	
5:44 PM	1954	1375	13484	
5:45 PM	1966	1383	13570	
5:46 PM	1978	1392	13656	
5:47 PM	1996	1400	13905	
5:48 PM	2012	1408	14088	
5:49 PM	2026	1417	14239	
5:50 PM	2041	1425	14390	
5:51 PM	2052	1433	14476	
5:52 PM	2064	1442	14561	
5:53 PM	2077	1450	14679	
5:54 PM	2090	1458	14798	
5:55 PM	2102	1467	14883	
5:56 PM	2115	1475	15002	
5:57 PM	2132	1483	15218	
5:58 PM	2149	1492	15434	
5:59 PM	2161	1500	15520	

EB 195

2026 AM w/ BK Project w/ SR195 IMP

AM Adjustment factor 0.9155

AM k30 factor (R103) 1.15

Storage Length 1000

No. of Storage Lanes 1

Ramp Meter Rate 1200

2-lane retrofit (use shoulder) alternate release
Max rate = 1400

EB 195

Time	2021 AM Volume	Adjusted Volume	Vehicles released	Vehicles in queue	Queue length	Exceed Storage
6:00 AM	4	4	4	0	0	0
6:01 AM	5	5	5	0	0	0
6:02 AM	1	1	1	0	0	0
6:03 AM	2	2	2	0	0	0
6:04 AM	5	5	5	0	0	0
6:05 AM	4	4	4	0	0	0
6:06 AM	7	7	7	0	0	0
6:07 AM	5	5	5	0	0	0
6:08 AM	4	4	4	0	0	0
6:09 AM	5	5	5	0	0	0
6:10 AM	7	7	7	0	0	0
6:11 AM	6	6	6	0	0	0
6:12 AM	10	9	9	0	0	0
6:13 AM	6	6	6	0	0	0
6:14 AM	5	5	5	0	0	0
6:15 AM	6	6	6	0	0	0
6:16 AM	5	5	5	0	0	0
6:17 AM	6	6	6	0	0	0
6:18 AM	4	4	4	0	0	0
6:19 AM	11	10	10	0	0	0
6:20 AM	13	12	12	0	0	0
6:21 AM	14	13	13	0	0	0
6:22 AM	8	8	8	0	0	0
6:23 AM	13	12	12	0	0	0
6:24 AM	16	15	15	0	0	0
6:25 AM	18	17	17	0	0	0
6:26 AM	6	6	6	0	0	0
6:27 AM	12	11	11	0	0	0
6:28 AM	7	7	7	0	0	0
6:29 AM	13	12	12	0	0	0
6:30 AM	10	9	9	0	0	0
6:31 AM	16	15	15	0	0	0
6:32 AM	16	15	15	0	0	0
6:33 AM	6	6	6	0	0	0
6:34 AM	12	11	11	0	0	0
6:35 AM	12	11	11	0	0	0
6:36 AM	11	10	10	0	0	0
6:37 AM	13	12	12	0	0	0
6:38 AM	13	12	12	0	0	0
6:39 AM	15	14	14	0	0	0
6:40 AM	8	8	8	0	0	0
6:41 AM	22	20	20	0	10	0
6:42 AM	17	16	16	0	0	0
6:43 AM	22	20	20	0	10	0
6:44 AM	28	25	20	6	142	0
6:45 AM	22	20	20	6	153	0
6:46 AM	24	22	20	8	212	0
6:47 AM	20	18	20	7	174	0
6:48 AM	21	19	20	6	160	0
6:49 AM	24	22	20	9	219	0
6:50 AM	17	16	20	4	108	0
6:51 AM	23	21	20	6	143	0
6:52 AM	22	20	20	6	153	0
6:53 AM	18	17	20	3	66	0
6:54 AM	14	13	15	0	0	0
6:55 AM	17	16	16	0	0	0
6:56 AM	19	18	18	0	0	0
6:57 AM	13	12	12	0	0	0
6:58 AM	13	12	12	0	0	0
6:59 AM	17	16	16	0	0	0
7:00 AM	16	15	15	0	0	0
7:01 AM	16	15	15	0	0	0
7:02 AM	7	7	7	0	0	0
7:03 AM	23	21	20	1	35	0
7:04 AM	12	11	12	0	0	0
7:05 AM	17	16	16	0	0	0
7:06 AM	6	6	6	0	0	0
7:07 AM	19	18	18	0	0	0
7:08 AM	21	19	19	0	0	0
7:09 AM	15	14	14	0	0	0
7:10 AM	12	11	11	0	0	0
7:11 AM	17	16	16	0	0	0
7:12 AM	24	22	20	2	59	0
7:13 AM	23	21	20	4	94	0
7:14 AM	19	18	20	1	31	0
7:15 AM	21	19	20	1	17	0
7:16 AM	15	14	14	0	0	0
7:17 AM	23	21	20	1	35	0
7:18 AM	17	16	17	0	0	0
7:19 AM	23	21	20	1	35	0
7:20 AM	23	21	20	3	69	0
7:21 AM	25	23	20	6	153	0
7:22 AM	23	21	20	8	188	0
7:23 AM	18	17	20	4	101	0
7:24 AM	20	18	20	3	63	0
7:25 AM	16	15	17	0	0	0
7:26 AM	16	15	15	0	0	0
7:27 AM	25	23	20	3	83	0
7:28 AM	17	16	19	0	0	0
7:29 AM	15	14	14	0	0	0
7:30 AM	30	27	20	7	181	0
7:31 AM	23	21	20	9	215	0
7:32 AM	22	20	20	9	226	0
7:33 AM	23	21	20	10	261	0
7:34 AM	27	24	20	15	368	0
7:35 AM	30	27	20	22	549	0
7:36 AM	28	25	20	27	681	0
7:37 AM	22	20	20	28	691	0
7:38 AM	25	23	20	31	775	0
7:39 AM	20	18	20	29	736	0
7:40 AM	16	15	20	24	601	0
7:41 AM	24	22	20	26	660	0
7:42 AM	24	22	20	29	719	0
7:43 AM	32	29	20	38	948	0
7:44 AM	19	18	20	35	886	0
7:45 AM	20	18	20	34	848	0
7:46 AM	28	25	20	39	980	0
7:47 AM	25	23	20	43	1063	63
7:48 AM	28	25	20	48	1195	195
7:49 AM	29	26	20	54	1351	351
7:50 AM	30	27	20	61	1532	532
7:51 AM	25	23	20	65	1615	615
7:52 AM	28	25	20	70	1747	747
7:53 AM	29	26	20	76	1903	903
7:54 AM	21	19	20	76	1889	889
7:55 AM	17	16	20	71	1778	778
7:56 AM	22	20	20	72	1789	789
7:57 AM	17	16	20	67	1678	678
7:58 AM	20	18	20	66	1640	640
7:59 AM	10	9	20	54	1358	358
8:00 AM	25	23	20	58	1442	442
8:01 AM	16	15	20	52	1306	306
8:02 AM	16	15	20	47	1171	171
8:03 AM	14	13	20	39	987	0
8:04 AM	16	15	20	34	851	0
8:05 AM	27	24	20	38	959	0
8:06 AM	16	15	20	33	824	0
8:07 AM	19	18	20	30	761	0
8:08 AM	21	19	20	30	747	0
8:09 AM	23	21	20	31	782	0
8:10 AM	19	18	20	29	720	0
8:11 AM	18	17	20	25	633	0
8:12 AM	27	24	20	30	740	0
8:13 AM	10	9	20	18	459	0
8:14 AM	22	20	20	19	470	0
8:15 AM	13	12	20	10	261	0
8:16 AM	17	16	20	6	150	0
8:17 AM	20	18	20	4	112	0
8:18 AM	20	18	20	3	74	0
8:19 AM	13	12	15	0	0	0
8:20 AM	19	18	18	0	0	0
8:21 AM	12	11	11	0	0	0
8:22 AM	16	15	15	0	0	0
8:23 AM	15	14	14	0	0	0
8:24 AM	11	10	10	0	0	0
8:25 AM	8	8	8	0	0	0
8:26 AM	17	16	16	0	0	0
8:27 AM	20	18	18	0	0	0
8:28 AM	16	15	15	0	0	0
8:29 AM	15	14	14	0	0	0
8:30 AM	16	15	15	0	0	0
8:31 AM	19	18	18	0	0	0
8:32 AM	15	14	14	0	0	0
8:33 AM	10	9	9	0	0	0
8:34 AM	16	15	15	0	0	0
8:35 AM	14	13	13	0	0	0
8:36 AM	17	16	16	0	0	0
8:37 AM	15	14	14	0	0	0
8:38 AM	18	17	17	0	0	0
8:39 AM	15	14	14	0	0	0
8:40 AM	18	17	17	0	0	0
8:41 AM	16	15	15	0	0	0
8:42 AM	13	12	12	0	0	0
8:43 AM	16	15	15	0	0	0
8:44 AM	18	17	17	0	0	0
8:45 AM	5	5	5	0	0	0
8:46 AM	14	13	13	0	0	0
8:47 AM	18	17	17	0	0	0
8:48 AM	14	13	13	0	0	0
8:49 AM	16	15	15	0	0	0
8:50 AM	13	12	12	0	0	0
8:51 AM	13	12	12	0	0	0
8:52 AM	11	10	10	0	0	0
8:53 AM	12	11	11	0	0	0
8:54 AM	18	17	17	0	0	0
8:55 AM	14	13	13	0	0	0
8:56 AM	12	11	11	0	0	0
8:57 AM	10	9	9	0	0	0
8:58 AM	19	18	18	0	0	0
8:59 AM	14	13	13	0	0	0
7:10 - 8:10	1303	1193				

PEAK HOUR I-90 EB

THE TIME PERIOD WITH QUEUE BEYOND THE STORAGE AFTER I-90 EB PEAK HOUR

EB 195

Time	Cumulative Volume	Cumulative Released	Excessive Queue Length
6:00 AM	4	4	0
6:01 AM	9	9	0
6:02 AM	10	10	0
6:03 AM	12	12	0
6:04 AM	17	17	0
6:05 AM	20	20	0
6:06 AM	27	27	0
6:07 AM	32	32	0
6:08 AM	36	36	0
6:09 AM	41	41	0
6:10 AM	48	48	0
6:11 AM	53	53	0
6:12 AM	62	62	0
6:13 AM	68	68	0
6:14 AM	73	73	0
6:15 AM	79	79	0
6:16 AM	84	84	0
6:17 AM	89	89	0
6:18 AM	93	93	0
6:19 AM	103	103	0
6:20 AM	115	115	0
6:21 AM	127	127	0
6:22 AM	135	135	0
6:23 AM	147	147	0
6:24 AM	161	161	0
6:25 AM	178	178	0
6:26 AM	184	184	0
6:27 AM	194	194	0
6:28 AM	201	201	0
6:29 AM	213	213	0
6:30 AM	222	222	0
6:31 AM	236	236	0
6:32 AM	251	251	0
6:33 AM	257	257	0
6:34 AM	267	267	0
6:35 AM	278	278	0
6:36 AM	288	288	0
6:37 AM	299	299	0
6:38 AM	311	311	0
6:39 AM	325	325	0
6:40 AM	333	333	0
6:41 AM	353	353	0
6:42 AM	368	368	0
6:43 AM	389	388	0
6:44 AM	414	408	0
6:45 AM	435	428	0
6:46 AM	457	448	0
6:47 AM	475	468	0
6:48 AM	495	488	0
6:49 AM	517	508	0
6:50 AM	533	528	0
6:51 AM	554	548	0
6:52 AM	575	568	0
6:53 AM	591	588	0
6:54 AM	604	604	0
6:55 AM	619	619	0
6:56 AM	637	637	0
6:57 AM	648	648	0
6:58 AM	660	660	0
6:59 AM	676	676	0
7:00 AM	690	690	0
7:01 AM	705	705	0
7:02 AM	712	712	0
7:03 AM	733	732	0
7:04 AM	744	744	0
7:05 AM	759	759	0
7:06 AM	765	765	0
7:07 AM	783	783	0
7:08 AM	802	802	0
7:09 AM	816	816	0
7:10 AM	826	826	0
7:11 AM	842	842	0
7:12 AM	864	862	0
7:13 AM	886	882	0
7:14 AM	903	902	0
7:15 AM	923	922	0
7:16 AM	936	936	0
7:17 AM	958	956	0
7:18 AM	973	973	0
7:19 AM	995	993	0
7:20 AM	1016	1013	0
7:21 AM	1039	1033	0
7:22 AM	1061	1053	0
7:23 AM	1077	1073	0
7:24 AM	1096	1093	0
7:25 AM	1110	1110	0
7:26 AM	1125	1125	0
7:27 AM	1148	1145	0
7:28 AM	1164	1164	0
7:29 AM	1177	1177	0
7:30 AM	1205	1197	0
7:31 AM	1226	1217	0
7:32 AM	1246	1237	0
7:33 AM	1268	1257	0
7:34 AM	1292	1277	0
7:35 AM	1319	1297	0
7:36 AM	1345	1317	0
7:37 AM	1365	1337	0
7:38 AM	1388	1357	0
7:39 AM	1407	1377	0
7:40 AM	1421	1397	0
7:41 AM	1444	1417	0
7:42 AM	1466	1437	0
7:43 AM	1495	1457	0
7:44 AM	1513	1477	0
7:45 AM	1531	1497	0
7:46 AM	1557	1517	0
7:47 AM	1580	1537	63
7:48 AM	1605	1557	195
7:49 AM	1631	1577	351
7:50 AM	1659	1597	532
7:51 AM	1682	1617	615
7:52 AM	1707	1637	747
7:53 AM	1734	1657	903
7:54 AM	1753	1677	889
7:55 AM	1769	1697	778
7:56 AM	1789	1717	789
7:57 AM	1805	1737	678
7:58 AM	1823	1757	640
7:59 AM	1832	1777	358
8:00 AM	1855	1797	442
8:01 AM	1870	1817	306
8:02 AM	1884	1837	171
8:03 AM	1897	1857	0
8:04 AM	1911	1877	0
8:05 AM	1936	1897	0
8:06 AM	1950	1917	0
8:07 AM	1968	1937	0
8:08 AM	1987	1957	0
8:09 AM	2009	1977	0
8:10 AM	2026	1997	0
8:11 AM	2043	2017	0
8:12 AM	2067	2037	0
8:13 AM	2076	2057	0
8:14 AM	2096	2077	0
8:15 AM	2108	2097	0
8:16 AM	2123	2117	0
8:17 AM	2142	2137	0
8:18 AM	2160	2157	0
8:19 AM	2172	2172	0
8:20 AM	2190	2190	0
8:21 AM	2200	2200	0
8:22 AM	2215	2215	0
8:23 AM	2228	2228	0
8:24 AM	2238	2238	0
8:25 AM	2246	2246	0
8:26 AM	2261	2261	0
8:27 AM	2280	2280	0
8:28 AM	2295	2295	0
8:29 AM	2308	2308	0
8:30 AM	2323	2323	0
8:31 AM	2340	2340	0
8:32 AM	2354	2354	0
8:33 AM	2363	2363	0
8:34 AM	2377	2377	0
8:35 AM	2390	2390	0
8:36 AM	2405	2405	0
8:37 AM	2419	2419	0
8:38 AM	2436	2436	0
8:39 AM	2449	2449	0
8:40 AM	2466	2466	0
8:41 AM	2480	2480	0
8:42 AM	2492	2492	0
8:43 AM	2506	2506	0
8:44 AM	2523	2523	0
8:45 AM	2528	2528	0
8:46 AM	2541	2541	0
8:47 AM	2557	2557	0
8:48 AM	2570	2570	0
8:49 AM	2584	2584	0
8:50 AM	2596	2596	0
8:51 AM	2608	2608	0
8:52 AM	2617	2617	0
8:53 AM	2628	2628	0
8:54 AM	2645	2645	0
8:55 AM	2657	2657	0
8:56 AM	2668	2668	0
8:57 AM	2677	2677	0
8:58 AM	2694	2694	0
8:59 AM	2707	2707	0
			0

PEAK HOUR I-90 EB

EB 195

2026 PM w/ BK Project w/ SR195 IMP

PM Adjustment factor 0.923

PM k30 factor (R103) 1.14

Storage Length	1000	**No. of Storage Lanes**	1	Ramp Meter Rate	800	**2-lane retrofit (use shoulder) alternate release** Max rate = 1400	

Time	**2021 PM Volume**	**Adjusted Volume**	**Vehicles released**	**Vehicles in queue**	**Queue length**	**Exceed Storage**
3:00 PM	13	12	12	0	0	0
3:01 PM	7	6	6	0	0	0
3:02 PM	13	12	12	0	0	0
3:03 PM	9	8	8	0	0	0
3:04 PM	11	10	10	0	0	0
3:05 PM	9	8	8	0	0	0
3:06 PM	12	11	11	0	0	0
3:07 PM	6	5	5	0	0	0
3:08 PM	6	5	5	0	0	0
3:09 PM	18	16	13	3	76	0
3:10 PM	6	5	8	0	0	0
3:11 PM	10	9	9	0	0	0
3:12 PM	8	7	7	0	0	0
3:13 PM	4	4	4	0	0	0
3:14 PM	11	10	10	0	0	0
3:15 PM	12	11	11	0	0	0
3:16 PM	8	7	7	0	0	0
3:17 PM	11	10	10	0	0	0
3:18 PM	14	13	13	0	0	0
3:19 PM	16	14	13	1	25	0
3:20 PM	11	10	11	0	0	0
3:21 PM	6	5	5	0	0	0
3:22 PM	10	9	9	0	0	0
3:23 PM	8	7	7	0	0	0
3:24 PM	8	7	7	0	0	0
3:25 PM	13	12	12	0	0	0
3:26 PM	4	4	4	0	0	0
3:27 PM	4	4	4	0	0	0
3:28 PM	16	14	13	1	25	0
3:29 PM	14	13	13	1	24	0
3:30 PM	10	9	10	0	0	0
3:31 PM	10	9	9	0	0	0
3:32 PM	9	8	8	0	0	0
3:33 PM	11	10	10	0	0	0
3:34 PM	9	8	8	0	0	0
3:35 PM	18	16	13	3	76	0
3:36 PM	17	15	13	5	127	0
3:37 PM	16	14	13	6	152	0
3:38 PM	7	6	12	0	0	0
3:39 PM	12	11	11	0	0	0
3:40 PM	10	9	9	0	0	0
3:41 PM	7	6	6	0	0	0
3:42 PM	9	8	8	0	0	0
3:43 PM	8	7	7	0	0	0
3:44 PM	13	12	12	0	0	0
3:45 PM	10	9	9	0	0	0
3:46 PM	9	8	8	0	0	0
3:47 PM	16	14	13	1	25	0
3:48 PM	23	21	13	9	229	0
3:49 PM	9	8	13	4	100	0
3:50 PM	13	12	13	3	74	0
3:51 PM	10	9	12	0	0	0
3:52 PM	11	10	10	0	0	0
3:53 PM	7	6	6	0	0	0
3:54 PM	2	2	2	0	0	0
3:55 PM	10	9	9	0	0	0
3:56 PM	13	12	12	0	0	0
3:57 PM	7	6	6	0	0	0
3:58 PM	18	16	13	3	76	0
3:59 PM	10	9	12	0	0	0
4:00 PM	9	8	8	0	0	0
4:01 PM	11	10	10	0	0	0
4:02 PM	13	12	12	0	0	0
4:03 PM	11	10	10	0	0	0
4:04 PM	12	11	11	0	0	0
4:05 PM	14	13	13	0	0	0
4:06 PM	10	9	9	0	0	0
4:07 PM	13	12	12	0	0	0
4:08 PM	6	5	5	0	0	0
4:09 PM	9	8	8	0	0	0
4:10 PM	8	7	7	0	0	0
4:11 PM	11	10	10	0	0	0
4:12 PM	9	8	8	0	0	0
4:13 PM	10	9	9	0	0	0
4:14 PM	10	9	9	0	0	0
4:15 PM	12	11	11	0	0	0
4:16 PM	14	13	13	0	0	0
4:17 PM	8	7	7	0	0	0
4:18 PM	11	10	10	0	0	0
4:19 PM	8	7	7	0	0	0
4:20 PM	13	12	12	0	0	0
4:21 PM	4	4	4	0	0	0
4:22 PM	11	10	10	0	0	0
4:23 PM	7	6	6	0	0	0
4:24 PM	10	9	9	0	0	0
4:25 PM	6	5	5	0	0	0
4:26 PM	3	3	3	0	0	0
4:27 PM	14	13	13	0	0	0
4:28 PM	3	3	3	0	0	0
4:29 PM	12	11	11	0	0	0
4:30 PM	9	8	8	0	0	0
4:31 PM	9	8	8	0	0	0
4:32 PM	8	7	7	0	0	0
4:33 PM	8	7	7	0	0	0
4:34 PM	7	6	6	0	0	0
4:35 PM	9	8	8	0	0	0
4:36 PM	6	5	5	0	0	0
4:37 PM	12	11	11	0	0	0
4:38 PM	11	10	10	0	0	0
4:39 PM	18	16	13	3	76	0
4:40 PM	8	7	10	0	0	0
4:41 PM	11	10	10	0	0	0
4:42 PM	14	13	13	0	0	0
4:43 PM	3	3	3	0	0	0
4:44 PM	11	10	10	0	0	0
4:45 PM	6	5	5	0	0	0
4:46 PM	6	5	5	0	0	0
4:47 PM	10	9	9	0	0	0
4:48 PM	13	12	12	0	0	0
4:49 PM	14	13	13	0	0	0
4:50 PM	27	25	13	11	281	0
4:51 PM	11	10	13	8	203	0
4:52 PM	11	10	13	5	126	0
4:53 PM	8	7	12	0	0	0
4:54 PM	7	6	6	0	0	0
4:55 PM	1	1	1	0	0	0
4:56 PM	8	7	7	0	0	0
4:57 PM	10	9	9	0	0	0
4:58 PM	8	7	7	0	0	0
4:59 PM	10	9	9	0	0	0
5:00 PM	12	11	11	0	0	0
5:01 PM	21	19	13	6	153	0
5:02 PM	13	12	13	5	127	0
5:03 PM	8	7	12	0	0	0
5:04 PM	7	6	6	0	0	0
5:05 PM	7	6	6	0	0	0
5:06 PM	6	5	5	0	0	0
5:07 PM	9	8	8	0	0	0
5:08 PM	7	6	6	0	0	0
5:09 PM	8	7	7	0	0	0
5:10 PM	13	12	12	0	0	0
5:11 PM	20	18	13	5	127	0
5:12 PM	11	10	13	2	50	0
5:13 PM	12	11	13	0	0	0
5:14 PM	11	10	10	0	0	0
5:15 PM	8	7	7	0	0	0
5:16 PM	11	10	10	0	0	0
5:17 PM	7	6	6	0	0	0
5:18 PM	16	14	13	1	25	0
5:19 PM	11	10	11	0	0	0
5:20 PM	8	7	7	0	0	0
5:21 PM	10	9	9	0	0	0
5:22 PM	10	9	9	0	0	0
5:23 PM	6	5	5	0	0	0
5:24 PM	7	6	6	0	0	0
5:25 PM	8	7	7	0	0	0
5:26 PM	7	6	6	0	0	0
5:27 PM	9	8	8	0	0	0
5:28 PM	10	9	9	0	0	0
5:29 PM	6	5	5	0	0	0
5:30 PM	19	17	13	4	102	0
5:31 PM	7	6	10	0	0	0
5:32 PM	8	7	7	0	0	0
5:33 PM	12	11	11	0	0	0
5:34 PM	11	10	10	0	0	0
5:35 PM	10	9	9	0	0	0
5:36 PM	14	13	13	0	0	0
5:37 PM	8	7	7	0	0	0
5:38 PM	8	7	7	0	0	0
5:39 PM	9	8	8	0	0	0
5:40 PM	12	11	11	0	0	0
5:41 PM	10	9	9	0	0	0
5:42 PM	4	4	4	0	0	0
5:43 PM	9	8	8	0	0	0
5:44 PM	9	8	8	0	0	0
5:45 PM	10	9	9	0	0	0
5:46 PM	10	9	9	0	0	0
5:47 PM	16	14	13	1	25	0
5:48 PM	13	12	13	0	0	0
5:49 PM	12	11	11	0	0	0
5:50 PM	12	11	11	0	0	0
5:51 PM	10	9	9	0	0	0
5:52 PM	10	9	9	0	0	0
5:53 PM	11	10	10	0	0	0
5:54 PM	11	10	10	0	0	0
5:55 PM	10	9	9	0	0	0
5:56 PM	11	10	10	0	0	0
5:57 PM	14	13	13	0	0	0
5:58 PM	14	13	13	0	0	0
5:59 PM	10	9	9	0	0	0
3:16-4:16	643	594		9		

EB 195

Time	Cumulative	Cumulative	Excessive Queue Length
3:00 PM	12	12	0
3:01 PM	18	18	0
3:02 PM	31	31	0
3:03 PM	39	39	0
3:04 PM	49	49	0
3:05 PM	57	57	0
3:06 PM	69	69	0
3:07 PM	74	74	0
3:08 PM	79	79	0
3:09 PM	95	92	0
3:10 PM	100	100	0
3:11 PM	110	110	0
3:12 PM	117	117	0
3:13 PM	121	121	0
3:14 PM	131	131	0
3:15 PM	142	142	0
3:16 PM	149	149	0
3:17 PM	160	160	0
3:18 PM	173	173	0
3:19 PM	187	186	0
3:20 PM	198	198	0
3:21 PM	203	203	0
3:22 PM	212	212	0
3:23 PM	219	219	0
3:24 PM	226	226	0
3:25 PM	239	239	0
3:26 PM	243	243	0
3:27 PM	247	247	0
3:28 PM	261	260	0
3:29 PM	274	273	0
3:30 PM	284	284	0
3:31 PM	293	293	0
3:32 PM	301	301	0
3:33 PM	311	311	0
3:34 PM	319	319	0
3:35 PM	336	333	0
3:36 PM	351	346	0
3:37 PM	365	359	0
3:38 PM	372	372	0
3:39 PM	383	383	0
3:40 PM	392	392	0
3:41 PM	398	398	0
3:42 PM	406	406	0
3:43 PM	414	414	0
3:44 PM	426	426	0
3:45 PM	435	435	0
3:46 PM	443	443	0
3:47 PM	458	457	0
3:48 PM	479	470	0
3:49 PM	487	483	0
3:50 PM	500	497	0
3:51 PM	509	509	0
3:52 PM	519	519	0
3:53 PM	525	525	0
3:54 PM	527	527	0
3:55 PM	536	536	0
3:56 PM	549	549	0
3:57 PM	555	555	0
3:58 PM	571	568	0
3:59 PM	580	580	0
4:00 PM	589	589	0
4:01 PM	599	599	0
4:02 PM	611	611	0
4:03 PM	621	621	0
4:04 PM	633	633	0
4:05 PM	646	646	0
4:06 PM	655	655	0
4:07 PM	667	667	0
4:08 PM	673	673	0
4:09 PM	681	681	0
4:10 PM	688	688	0
4:11 PM	698	698	0
4:12 PM	706	706	0
4:13 PM	716	716	0
4:14 PM	725	725	0
4:15 PM	736	736	0
4:16 PM	749	749	0
4:17 PM	756	756	0
4:18 PM	767	767	0
4:19 PM	774	774	0
4:20 PM	786	786	0
4:21 PM	790	790	0
4:22 PM	800	800	0
4:23 PM	807	807	0
4:24 PM	816	816	0
4:25 PM	821	821	0
4:26 PM	824	824	0
4:27 PM	837	837	0
4:28 PM	840	840	0
4:29 PM	852	852	0
4:30 PM	860	860	0
4:31 PM	868	868	0
4:32 PM	875	875	0
4:33 PM	882	882	0
4:34 PM	888	888	0
4:35 PM	897	897	0
4:36 PM	902	902	0
4:37 PM	913	913	0
4:38 PM	923	923	0
4:39 PM	940	937	0
4:40 PM	947	947	0
4:41 PM	957	957	0
4:42 PM	970	970	0
4:43 PM	973	973	0
4:44 PM	984	984	0
4:45 PM	989	989	0
4:46 PM	994	994	0
4:47 PM	1003	1003	0
4:48 PM	1015	1015	0
4:49 PM	1029	1029	0
4:50 PM	1053	1042	0
4:51 PM	1064	1055	0
4:52 PM	1074	1069	0
4:53 PM	1081	1081	0
4:54 PM	1087	1087	0
4:55 PM	1088	1088	0
4:56 PM	1095	1095	0
4:57 PM	1104	1104	0
4:58 PM	1112	1112	0
4:59 PM	1121	1121	0
5:00 PM	1132	1132	0
5:01 PM	1152	1145	0
5:02 PM	1164	1159	0
5:03 PM	1171	1171	0
5:04 PM	1177	1177	0
5:05 PM	1183	1183	0
5:06 PM	1188	1188	0
5:07 PM	1197	1197	0
5:08 PM	1203	1203	0
5:09 PM	1210	1210	0
5:10 PM	1222	1222	0
5:11 PM	1241	1236	0
5:12 PM	1251	1249	0
5:13 PM	1262	1262	0
5:14 PM	1272	1272	0
5:15 PM	1280	1280	0
5:16 PM	1290	1290	0
5:17 PM	1296	1296	0
5:18 PM	1310	1309	0
5:19 PM	1320	1320	0
5:20 PM	1328	1328	0
5:21 PM	1337	1337	0
5:22 PM	1346	1346	0
5:23 PM	1351	1351	0
5:24 PM	1357	1357	0
5:25 PM	1364	1364	0
5:26 PM	1371	1371	0
5:27 PM	1379	1379	0
5:28 PM	1388	1388	0
5:29 PM	1393	1393	0
5:30 PM	1411	1406	0
5:31 PM	1417	1417	0
5:32 PM	1424	1424	0
5:33 PM	1435	1435	0
5:34 PM	1445	1445	0
5:35 PM	1455	1455	0
5:36 PM	1468	1468	0
5:37 PM	1475	1475	0
5:38 PM	1482	1482	0
5:39 PM	1490	1490	0
5:40 PM	1502	1502	0
5:41 PM	1511	1511	0
5:42 PM	1515	1515	0
5:43 PM	1523	1523	0
5:44 PM	1531	1531	0
5:45 PM	1541	1541	0
5:46 PM	1550	1550	0
5:47 PM	1564	1563	0
5:48 PM	1576	1576	0
5:49 PM	1588	1588	0
5:50 PM	1599	1599	0
5:51 PM	1608	1608	0
5:52 PM	1617	1617	0
5:53 PM	1628	1628	0
5:54 PM	1638	1638	0
5:55 PM	1647	1647	0
5:56 PM	1657	1657	0
5:57 PM	1671	1671	0
5:58 PM	1684	1684	0
5:59 PM	1693	1693	0

PEAK HOUR I-90 EB

THE TIME PERIOD WITH QUEUE BEYOND THE STORAGE AFTER I-90 EB PEAK HOUR

EB 195

2026 PM w/ BK Project w/ SR195 IMP (500vph)

PM Adjustment factor 0.923

PM k30 factor (R103) 1.14

Storage Length	1000	**No. of Storage Lanes**	1	Ramp Meter Rate	500	2-lane retrofit (use shoulder) alternate release Max rate = 1400

Time	2021 PM Volume	Adjusted Volume	Vehicles released	Vehicles in queue	Queue length	Exceed Storage
3:00 PM	13	12	8	4	99	0
3:01 PM	7	6	8	2	44	0
3:02 PM	13	12	8	6	143	0
3:03 PM	9	8	8	6	139	0
3:04 PM	11	10	8	7	187	0
3:05 PM	9	8	8	7	183	0
3:06 PM	12	11	8	10	256	0
3:07 PM	6	5	8	7	176	0
3:08 PM	6	5	8	4	95	0
3:09 PM	18	16	8	12	297	0
3:10 PM	6	5	8	9	216	0
3:11 PM	10	9	8	10	238	0
3:12 PM	8	7	8	8	209	0
3:13 PM	4	4	8	4	103	0
3:14 PM	11	10	8	6	151	0
3:15 PM	12	11	8	9	224	0
3:16 PM	8	7	8	8	194	0
3:17 PM	11	10	8	10	242	0
3:18 PM	14	13	8	15	366	0
3:19 PM	16	14	8	21	516	0
3:20 PM	11	10	8	23	564	0
3:21 PM	6	5	8	19	484	0
3:22 PM	10	9	8	20	505	0
3:23 PM	8	7	8	19	476	0
3:24 PM	8	7	8	18	447	0
3:25 PM	13	12	8	22	546	0
3:26 PM	4	4	8	18	440	0
3:27 PM	4	4	8	13	334	0
3:28 PM	16	14	8	19	484	0
3:29 PM	14	13	8	24	608	0
3:30 PM	10	9	8	25	630	0
3:31 PM	10	9	8	26	652	0
3:32 PM	9	8	8	26	649	0
3:33 PM	11	10	8	28	696	0
3:34 PM	9	8	8	28	692	0
3:35 PM	18	16	8	36	894	0
3:36 PM	17	15	8	43	1069	69
3:37 PM	16	14	8	49	1219	219
3:38 PM	7	6	8	47	1164	164
3:39 PM	12	11	8	49	1237	237
3:40 PM	10	9	8	50	1259	259
3:41 PM	7	6	8	48	1205	205
3:42 PM	9	8	8	48	1201	201
3:43 PM	8	7	8	47	1172	172
3:44 PM	13	12	8	51	1271	271
3:45 PM	10	9	8	52	1292	292
3:46 PM	9	8	8	52	1289	289
3:47 PM	16	14	8	58	1439	439
3:48 PM	23	21	8	71	1768	768
3:49 PM	9	8	8	71	1764	764
3:50 PM	13	12	8	75	1863	863
3:51 PM	10	9	8	75	1885	885
3:52 PM	11	10	8	77	1933	933
3:53 PM	7	6	8	75	1878	878
3:54 PM	2	2	8	69	1721	721
3:55 PM	10	9	8	70	1743	743
3:56 PM	13	12	8	74	1841	841
3:57 PM	7	6	8	71	1787	787
3:58 PM	18	16	8	80	1988	988
3:59 PM	10	9	8	80	2010	1010
4:00 PM	9	8	8	80	2006	1006
4:01 PM	11	10	8	82	2054	1054
4:02 PM	13	12	8	86	2152	1152
4:03 PM	11	10	8	88	2200	1200
4:04 PM	12	11	8	91	2273	1273
4:05 PM	14	13	8	96	2397	1397
4:06 PM	10	9	8	97	2419	1419
4:07 PM	13	12	8	101	2518	1518
4:08 PM	6	5	8	98	2438	1438
4:09 PM	9	8	8	97	2434	1434
4:10 PM	8	7	8	96	2405	1405
4:11 PM	11	10	8	98	2452	1452
4:12 PM	9	8	8	98	2449	1449
4:13 PM	10	9	8	99	2471	1471
4:14 PM	10	9	8	100	2493	1493
4:15 PM	12	11	8	103	2566	1566
4:16 PM	14	13	8	108	2690	1690
4:17 PM	8	7	8	106	2661	1661
4:18 PM	11	10	8	108	2709	1709
4:19 PM	8	7	8	107	2680	1680
4:20 PM	13	12	8	111	2778	1778
4:21 PM	4	4	8	107	2672	1672
4:22 PM	11	10	8	109	2720	1720
4:23 PM	7	6	8	107	2665	1665
4:24 PM	10	9	8	107	2687	1687
4:25 PM	6	5	8	104	2607	1607
4:26 PM	3	3	8	99	2475	1475
4:27 PM	14	13	8	104	2599	1599
4:28 PM	3	3	8	99	2468	1468
4:29 PM	12	11	8	102	2541	1541
4:30 PM	9	8	8	101	2537	1537
4:31 PM	9	8	8	101	2534	1534
4:32 PM	8	7	8	100	2505	1505
4:33 PM	8	7	8	99	2475	1475
4:34 PM	7	6	8	97	2421	1421
4:35 PM	9	8	8	97	2417	1417
4:36 PM	6	5	8	93	2337	1337
4:37 PM	12	11	8	96	2410	1410
4:38 PM	11	10	8	98	2457	1457
4:39 PM	18	16	8	106	2658	1658
4:40 PM	8	7	8	105	2629	1629
4:41 PM	11	10	8	107	2677	1677
4:42 PM	14	13	8	112	2801	1801
4:43 PM	3	3	8	107	2670	1670
4:44 PM	11	10	8	109	2717	1717
4:45 PM	6	5	8	105	2637	1637
4:46 PM	6	5	8	102	2556	1556
4:47 PM	10	9	8	103	2578	1578
4:48 PM	13	12	8	107	2677	1677
4:49 PM	14	13	8	112	2801	1801
4:50 PM	27	25	8	128	3207	2207
4:51 PM	11	10	8	130	3255	2255
4:52 PM	11	10	8	132	3302	2302
4:53 PM	8	7	8	131	3273	2273
4:54 PM	7	6	8	129	3218	2218
4:55 PM	1	1	8	121	3036	2036
4:56 PM	8	7	8	120	3006	2006
4:57 PM	10	9	8	121	3028	2028
4:58 PM	8	7	8	120	2999	1999
4:59 PM	10	9	8	121	3021	2021
5:00 PM	12	11	8	124	3094	2094
5:01 PM	21	19	8	135	3372	2372
5:02 PM	13	12	8	139	3471	2471
5:03 PM	8	7	8	138	3442	2442
5:04 PM	7	6	8	135	3387	2387
5:05 PM	7	6	8	133	3332	2332
5:06 PM	6	5	8	130	3252	2252
5:07 PM	9	8	8	130	3248	2248
5:08 PM	7	6	8	128	3193	2193
5:09 PM	8	7	8	127	3164	2164
5:10 PM	13	12	8	131	3263	2263
5:11 PM	20	18	8	141	3515	2515
5:12 PM	11	10	8	143	3563	2563
5:13 PM	12	11	8	145	3636	2636
5:14 PM	11	10	8	147	3684	2684
5:15 PM	8	7	8	146	3654	2654
5:16 PM	11	10	8	148	3702	2702
5:17 PM	7	6	8	146	3647	2647
5:18 PM	16	14	8	152	3797	2797
5:19 PM	11	10	8	154	3845	2845
5:20 PM	8	7	8	153	3815	2815
5:21 PM	10	9	8	153	3837	2837
5:22 PM	10	9	8	154	3859	2859
5:23 PM	6	5	8	151	3779	2779
5:24 PM	7	6	8	149	3724	2724
5:25 PM	8	7	8	148	3695	2695
5:26 PM	7	6	8	146	3640	2640
5:27 PM	9	8	8	145	3637	2637
5:28 PM	10	9	8	146	3659	2659
5:29 PM	6	5	8	143	3578	2578
5:30 PM	19	17	8	152	3805	2805
5:31 PM	7	6	8	150	3750	2750
5:32 PM	8	7	8	149	3721	2721
5:33 PM	12	11	8	152	3794	2794
5:34 PM	11	10	8	154	3842	2842
5:35 PM	10	9	8	155	3864	2864
5:36 PM	14	13	8	160	3988	2988
5:37 PM	8	7	8	158	3959	2959
5:38 PM	8	7	8	157	3930	2930
5:39 PM	9	8	8	157	3926	2926
5:40 PM	12	11	8	160	3999	2999
5:41 PM	10	9	8	161	4021	3021
5:42 PM	4	4	8	157	3915	2915
5:43 PM	9	8	8	156	3912	2912
5:44 PM	9	8	8	156	3908	2908
5:45 PM	10	9	8	157	3930	2930
5:46 PM	10	9	8	158	3952	2952
5:47 PM	16	14	8	164	4102	3102
5:48 PM	13	12	8	168	4201	3201
5:49 PM	12	11	8	171	4274	3274
5:50 PM	12	11	8	174	4347	3347
5:51 PM	10	9	8	175	4369	3369
5:52 PM	10	9	8	176	4391	3391
5:53 PM	11	10	8	178	4438	3438
5:54 PM	11	10	8	179	4486	3486
5:55 PM	10	9	8	180	4508	3508
5:56 PM	11	10	8	182	4555	3555
5:57 PM	14	13	8	187	4680	3680
5:58 PM	14	13	8	192	4804	3804
5:59 PM	10	9	8	193	4826	3826
3:16-4:16	643	594		103		

EB 195

Time	Cumulative 2021 PM Volume	Cumulative Adjusted Volume	Excessive Queue Length
3:00 PM	12	8	0
3:01 PM	18	17	0
3:02 PM	31	25	0
3:03 PM	39	33	0
3:04 PM	49	42	0
3:05 PM	57	50	0
3:06 PM	69	58	0
3:07 PM	74	67	0
3:08 PM	79	75	0
3:09 PM	95	83	0
3:10 PM	100	92	0
3:11 PM	110	100	0
3:12 PM	117	108	0
3:13 PM	121	117	0
3:14 PM	131	125	0
3:15 PM	142	133	0
3:16 PM	149	142	0
3:17 PM	160	150	0
3:18 PM	173	158	0
3:19 PM	187	167	0
3:20 PM	198	175	0
3:21 PM	203	183	0
3:22 PM	212	192	0
3:23 PM	219	200	0
3:24 PM	226	208	0
3:25 PM	239	217	0
3:26 PM	243	225	0
3:27 PM	247	233	0
3:28 PM	261	242	0
3:29 PM	274	250	0
3:30 PM	284	258	0
3:31 PM	293	267	0
3:32 PM	301	275	0
3:33 PM	311	283	0
3:34 PM	319	292	0
3:35 PM	336	300	0
3:36 PM	351	308	69
3:37 PM	365	317	219
3:38 PM	372	325	164
3:39 PM	383	333	237
3:40 PM	392	342	259
3:41 PM	398	350	205
3:42 PM	406	358	201
3:43 PM	414	367	172
3:44 PM	426	375	271
3:45 PM	435	383	292
3:46 PM	443	392	289
3:47 PM	458	400	439
3:48 PM	479	408	768
3:49 PM	487	417	764
3:50 PM	500	425	863
3:51 PM	509	433	885
3:52 PM	519	442	933
3:53 PM	525	450	878
3:54 PM	527	458	721
3:55 PM	536	467	743
3:56 PM	549	475	841
3:57 PM	555	483	787
3:58 PM	571	492	988
3:59 PM	580	500	1010
4:00 PM	589	508	1006
4:01 PM	599	517	1054
4:02 PM	611	525	1152
4:03 PM	621	533	1200
4:04 PM	633	542	1273
4:05 PM	646	550	1397
4:06 PM	655	558	1419
4:07 PM	667	567	1518
4:08 PM	673	575	1438
4:09 PM	681	583	1434
4:10 PM	688	592	1405
4:11 PM	698	600	1452
4:12 PM	706	608	1449
4:13 PM	716	617	1471
4:14 PM	725	625	1493
4:15 PM	736	633	1566
4:16 PM	749	642	1690
4:17 PM	756	650	1661
4:18 PM	767	658	1709
4:19 PM	774	667	1680
4:20 PM	786	675	1778
4:21 PM	790	683	1672
4:22 PM	800	692	1720
4:23 PM	807	700	1665
4:24 PM	816	708	1687
4:25 PM	821	717	1607
4:26 PM	824	725	1475
4:27 PM	837	733	1599
4:28 PM	840	742	1468
4:29 PM	852	750	1541
4:30 PM	860	758	1537
4:31 PM	868	767	1534
4:32 PM	875	775	1505
4:33 PM	882	783	1475
4:34 PM	888	792	1421
4:35 PM	897	800	1417
4:36 PM	902	808	1337
4:37 PM	913	817	1410
4:38 PM	923	825	1457
4:39 PM	940	833	1658
4:40 PM	947	842	1629
4:41 PM	957	850	1677
4:42 PM	970	858	1801
4:43 PM	973	867	1670
4:44 PM	984	875	1717
4:45 PM	989	883	1637
4:46 PM	994	892	1556
4:47 PM	1003	900	1578
4:48 PM	1015	908	1677
4:49 PM	1029	917	1801
4:50 PM	1053	925	2207
4:51 PM	1064	933	2255
4:52 PM	1074	942	2302
4:53 PM	1081	950	2273
4:54 PM	1087	958	2218
4:55 PM	1088	967	2036
4:56 PM	1095	975	2006
4:57 PM	1104	983	2028
4:58 PM	1112	992	1999
4:59 PM	1121	1000	2021
5:00 PM	1132	1008	2094
5:01 PM	1152	1017	2372
5:02 PM	1164	1025	2471
5:03 PM	1171	1033	2442
5:04 PM	1177	1042	2387
5:05 PM	1183	1050	2332
5:06 PM	1188	1058	2252
5:07 PM	1197	1067	2248
5:08 PM	1203	1075	2193
5:09 PM	1210	1083	2164
5:10 PM	1222	1092	2263
5:11 PM	1241	1100	2515
5:12 PM	1251	1108	2563
5:13 PM	1262	1117	2636
5:14 PM	1272	1125	2684
5:15 PM	1280	1133	2654
5:16 PM	1290	1142	2702
5:17 PM	1296	1150	2647
5:18 PM	1310	1158	2797
5:19 PM	1320	1167	2845
5:20 PM	1328	1175	2815
5:21 PM	1337	1183	2837
5:22 PM	1346	1192	2859
5:23 PM	1351	1200	2779
5:24 PM	1357	1208	2724
5:25 PM	1364	1217	2695
5:26 PM	1371	1225	2640
5:27 PM	1379	1233	2637
5:28 PM	1388	1242	2659
5:29 PM	1393	1250	2578
5:30 PM	1411	1258	2805
5:31 PM	1417	1267	2750
5:32 PM	1424	1275	2721
5:33 PM	1435	1283	2794
5:34 PM	1445	1292	2842
5:35 PM	1455	1300	2864
5:36 PM	1468	1308	2988
5:37 PM	1475	1317	2959
5:38 PM	1482	1325	2930
5:39 PM	1490	1333	2926
5:40 PM	1502	1342	2999
5:41 PM	1511	1350	3021
5:42 PM	1515	1358	2915
5:43 PM	1523	1367	2912
5:44 PM	1531	1375	2908
5:45 PM	1541	1383	2930
5:46 PM	1550	1392	2952
5:47 PM	1564	1400	3102
5:48 PM	1576	1408	3201
5:49 PM	1588	1417	3274
5:50 PM	1599	1425	3347
5:51 PM	1608	1433	3369
5:52 PM	1617	1442	3391
5:53 PM	1628	1450	3438
5:54 PM	1638	1458	3486
5:55 PM	1647	1467	3508
5:56 PM	1657	1475	3555
5:57 PM	1671	1483	3680
5:58 PM	1684	1492	3804
5:59 PM	1693	1500	3826

EB 195

		2026 AM with Project	**AM Adjustment factor**	1.215	AM k30 factor (R103)	1.15	
Storage Length	1000	**No. of Storage Lanes**	1	Ramp Meter Rate	1200	2-lane retrofit (use shoulder) alternate release Max rate = 1400	

Time	2021 AM Volume	Adjusted Volume	Vehicles released	Vehicles in queue	Queue length	Exceed Storage
6:00 AM	4	5	5	0	0	0
6:01 AM	5	6	6	0	0	0
6:02 AM	1	1	1	0	0	0
6:03 AM	2	3	3	0	0	0
6:04 AM	5	6	6	0	0	0
6:05 AM	4	5	5	0	0	0
6:06 AM	7	9	9	0	0	0
6:07 AM	5	6	6	0	0	0
6:08 AM	4	5	5	0	0	0
6:09 AM	5	6	6	0	0	0
6:10 AM	7	9	9	0	0	0
6:11 AM	6	8	8	0	0	0
6:12 AM	10	12	12	0	0	0
6:13 AM	6	8	8	0	0	0
6:14 AM	5	6	6	0	0	0
6:15 AM	6	8	8	0	0	0
6:16 AM	5	6	6	0	0	0
6:17 AM	6	8	8	0	0	0
6:18 AM	4	5	5	0	0	0
6:19 AM	11	13	13	0	0	0
6:20 AM	13	15	15	0	0	0
6:21 AM	14	17	17	0	0	0
6:22 AM	8	10	10	0	0	0
6:23 AM	13	15	15	0	0	0
6:24 AM	16	19	19	0	0	0
6:25 AM	18	22	20	2	48	0
6:26 AM	6	8	10	0	0	0
6:27 AM	12	14	14	0	0	0
6:28 AM	7	9	9	0	0	0
6:29 AM	13	15	15	0	0	0
6:30 AM	10	12	12	0	0	0
6:31 AM	16	19	19	0	0	0
6:32 AM	16	19	19	0	0	0
6:33 AM	6	8	8	0	0	0
6:34 AM	12	14	14	0	0	0
6:35 AM	12	14	14	0	0	0
6:36 AM	11	13	13	0	0	0
6:37 AM	13	15	15	0	0	0
6:38 AM	13	15	15	0	0	0
6:39 AM	15	18	18	0	0	0
6:40 AM	8	10	10	0	0	0
6:41 AM	22	27	20	7	177	0
6:42 AM	17	21	20	8	194	0
6:43 AM	22	27	20	15	371	0
6:44 AM	28	34	20	28	710	0
6:45 AM	22	27	20	35	887	0
6:46 AM	24	30	20	45	1129	129
6:47 AM	20	25	20	50	1242	242
6:48 AM	21	26	20	55	1387	387
6:49 AM	24	30	20	65	1629	629
6:50 AM	17	21	20	66	1645	645
6:51 AM	23	28	20	74	1855	855
6:52 AM	22	27	20	81	2032	1032
6:53 AM	18	22	20	83	2081	1081
6:54 AM	14	17	20	80	2000	1000
6:55 AM	17	21	20	81	2016	1016
6:56 AM	19	23	20	84	2097	1097
6:57 AM	13	15	20	79	1984	984
6:58 AM	13	15	20	75	1871	871
6:59 AM	17	21	20	75	1887	887
7:00 AM	16	19	20	75	1871	871
7:01 AM	16	19	20	74	1855	855
7:02 AM	7	9	20	63	1581	581
7:03 AM	23	28	20	72	1790	790
7:04 AM	12	14	20	66	1645	645
7:05 AM	17	21	20	66	1661	661
7:06 AM	6	8	20	54	1355	355
7:07 AM	19	23	20	57	1436	436
7:08 AM	21	26	20	63	1581	581
7:09 AM	15	18	20	61	1532	532
7:10 AM	12	14	20	55	1387	387
7:11 AM	17	21	20	56	1403	403
7:12 AM	24	30	20	66	1645	645
7:13 AM	23	28	20	74	1855	855
7:14 AM	19	23	20	77	1936	936
7:15 AM	21	26	20	83	2081	1081
7:16 AM	15	18	20	81	2032	1032
7:17 AM	23	28	20	90	2242	1242
7:18 AM	17	21	20	90	2258	1258
7:19 AM	23	28	20	99	2468	1468
7:20 AM	23	28	20	107	2678	1678
7:21 AM	25	31	20	118	2952	1952
7:22 AM	23	28	20	126	3161	2161
7:23 AM	18	22	20	128	3210	2210
7:24 AM	20	25	20	133	3323	2323
7:25 AM	16	19	20	132	3307	2307
7:26 AM	16	19	20	132	3290	2290
7:27 AM	25	31	20	143	3565	2565
7:28 AM	17	21	20	143	3581	2581
7:29 AM	15	18	20	141	3532	2532
7:30 AM	30	36	20	157	3936	2936
7:31 AM	23	28	20	166	4145	3145
7:32 AM	22	27	20	173	4323	3323
7:33 AM	23	28	20	181	4532	3532
7:34 AM	27	32	20	194	4839	3839
7:35 AM	30	36	20	210	5242	4242
7:36 AM	28	34	20	223	5581	4581
7:37 AM	22	27	20	230	5758	4758
7:38 AM	25	31	20	241	6032	5032
7:39 AM	20	25	20	246	6145	5145
7:40 AM	16	19	20	245	6129	5129
7:41 AM	24	30	20	255	6371	5371
7:42 AM	24	30	20	265	6613	5613
7:43 AM	32	39	20	283	7081	6081
7:44 AM	19	23	20	286	7162	6162
7:45 AM	20	25	20	291	7274	6274
7:46 AM	28	34	20	305	7613	6613
7:47 AM	25	31	20	315	7887	6887
7:48 AM	28	34	20	329	8226	7226
7:49 AM	29	35	20	344	8597	7597
7:50 AM	30	36	20	360	9000	8000
7:51 AM	25	31	20	371	9274	8274
7:52 AM	28	34	20	385	9613	8613
7:53 AM	29	35	20	399	9984	8984
7:54 AM	21	26	20	405	10129	9129
7:55 AM	17	21	20	406	10145	9145
7:56 AM	22	27	20	413	10323	9323
7:57 AM	17	21	20	414	10339	9339
7:58 AM	20	25	20	418	10452	9452
7:59 AM	10	12	20	410	10242	9242
8:00 AM	25	31	20	421	10516	9516
8:01 AM	16	19	20	420	10500	9500
8:02 AM	16	19	20	419	10484	9484
8:03 AM	14	17	20	416	10404	9404
8:04 AM	16	19	20	415	10387	9387
8:05 AM	27	32	20	428	10694	9694
8:06 AM	16	19	20	427	10678	9678
8:07 AM	19	23	20	430	10758	9758
8:08 AM	21	26	20	436	10904	9904
8:09 AM	23	28	20	445	11113	10113
8:10 AM	19	23	20	448	11194	10194
8:11 AM	18	22	20	450	11242	10242
8:12 AM	27	32	20	462	11549	10549
8:13 AM	10	12	20	454	11339	10339
8:14 AM	22	27	20	461	11516	10516
8:15 AM	13	15	20	456	11404	10404
8:16 AM	17	21	20	457	11420	10420
8:17 AM	20	25	20	461	11533	10533
8:18 AM	20	25	20	466	11646	10646
8:19 AM	13	15	20	461	11533	10533
8:20 AM	19	23	20	465	11613	10613
8:21 AM	12	14	20	459	11468	10468
8:22 AM	16	19	20	458	11452	10452
8:23 AM	15	18	20	456	11404	10404
8:24 AM	11	13	20	449	11226	10226
8:25 AM	8	10	20	439	10984	9984
8:26 AM	17	21	20	440	11000	10000
8:27 AM	20	25	20	445	11113	10113
8:28 AM	16	19	20	444	11097	10097
8:29 AM	15	18	20	442	11049	10049
8:30 AM	16	19	20	441	11033	10033
8:31 AM	19	23	20	445	11113	10113
8:32 AM	15	18	20	443	11065	10065
8:33 AM	10	12	20	434	10855	9855
8:34 AM	16	19	20	434	10839	9839
8:35 AM	14	17	20	430	10758	9758
8:36 AM	17	21	20	431	10775	9775
8:37 AM	15	18	20	429	10726	9726
8:38 AM	18	22	20	431	10775	9775
8:39 AM	15	18	20	429	10726	9726
8:40 AM	18	22	20	431	10775	9775
8:41 AM	16	19	20	430	10758	9758
8:42 AM	13	15	20	426	10646	9646
8:43 AM	16	19	20	425	10629	9629
8:44 AM	18	22	20	427	10678	9678
8:45 AM	5	6	20	414	10339	9339
8:46 AM	14	17	20	410	10258	9258
8:47 AM	18	22	20	412	10307	9307
8:48 AM	14	17	20	409	10226	9226
8:49 AM	16	19	20	408	10210	9210
8:50 AM	13	15	20	404	10097	9097
8:51 AM	13	15	20	399	9984	8984
8:52 AM	11	13	20	392	9807	8807
8:53 AM	12	14	20	386	9662	8662
8:54 AM	18	22	20	388	9710	8710
8:55 AM	14	17	20	385	9629	8629
8:56 AM	12	14	20	379	9484	8484
8:57 AM	10	12	20	371	9275	8275
8:58 AM	19	23	20	374	9355	8355
8:59 AM	14	17	20	371	9275	8275
7:10 - 8:10	1303	1583				

PEAK HOUR I-90 EB

THE TIME PERIOD WITH QUEUE BEYOND THE STORAGE AFTER I-90 EB PEAK HOUR

EB 195

Time	Cumulative	Cumulative	Excessive Queue Length
6:00 AM	5	5	0
6:01 AM	12	12	0
6:02 AM	13	13	0
6:03 AM	15	15	0
6:04 AM	22	22	0
6:05 AM	27	27	0
6:06 AM	36	36	0
6:07 AM	43	43	0
6:08 AM	48	48	0
6:09 AM	54	54	0
6:10 AM	63	63	0
6:11 AM	71	71	0
6:12 AM	83	83	0
6:13 AM	90	90	0
6:14 AM	97	97	0
6:15 AM	105	105	0
6:16 AM	111	111	0
6:17 AM	119	119	0
6:18 AM	124	124	0
6:19 AM	137	137	0
6:20 AM	152	152	0
6:21 AM	169	169	0
6:22 AM	179	179	0
6:23 AM	195	195	0
6:24 AM	214	214	0
6:25 AM	236	234	0
6:26 AM	244	244	0
6:27 AM	258	258	0
6:28 AM	267	267	0
6:29 AM	283	283	0
6:30 AM	294	294	0
6:31 AM	314	314	0
6:32 AM	333	333	0
6:33 AM	341	341	0
6:34 AM	355	355	0
6:35 AM	369	369	0
6:36 AM	382	382	0
6:37 AM	397	397	0
6:38 AM	413	413	0
6:39 AM	431	431	0
6:40 AM	441	441	0
6:41 AM	468	461	0
6:42 AM	489	481	0
6:43 AM	516	501	0
6:44 AM	550	521	0
6:45 AM	577	541	0
6:46 AM	606	561	129
6:47 AM	631	581	242
6:48 AM	657	601	387
6:49 AM	686	621	629
6:50 AM	707	641	645
6:51 AM	735	661	855
6:52 AM	763	681	1032
6:53 AM	785	701	1081
6:54 AM	801	721	1000
6:55 AM	822	741	1016
6:56 AM	845	761	1097
6:57 AM	861	781	984
6:58 AM	876	801	871
6:59 AM	897	821	887
7:00 AM	916	841	871
7:01 AM	935	861	855
7:02 AM	945	881	581
7:03 AM	973	901	790
7:04 AM	987	921	645
7:05 AM	1008	941	661
7:06 AM	1015	961	355
7:07 AM	1039	981	436
7:08 AM	1065	1001	581
7:09 AM	1083	1021	532
7:10 AM	1097	1041	387
7:11 AM	1117	1061	403
7:12 AM	1147	1081	645
7:13 AM	1175	1101	855
7:14 AM	1199	1121	936
7:15 AM	1225	1141	1081
7:16 AM	1243	1161	1032
7:17 AM	1271	1181	1242
7:18 AM	1292	1201	1258
7:19 AM	1320	1221	1468
7:20 AM	1348	1241	1678
7:21 AM	1379	1261	1952
7:22 AM	1408	1281	2161
7:23 AM	1430	1301	2210
7:24 AM	1454	1321	2323
7:25 AM	1474	1341	2307
7:26 AM	1493	1361	2290
7:27 AM	1524	1381	2565
7:28 AM	1545	1401	2581
7:29 AM	1563	1421	2532
7:30 AM	1599	1441	2936
7:31 AM	1627	1461	3145
7:32 AM	1654	1481	3323
7:33 AM	1683	1501	3532
7:34 AM	1715	1521	3839
7:35 AM	1751	1541	4242
7:36 AM	1785	1561	4581
7:37 AM	1812	1581	4758
7:38 AM	1843	1601	5032
7:39 AM	1867	1621	5145
7:40 AM	1886	1641	5129
7:41 AM	1916	1661	5371
7:42 AM	1946	1681	5613
7:43 AM	1985	1701	6081
7:44 AM	2008	1721	6162
7:45 AM	2032	1741	6274
7:46 AM	2066	1761	6613
7:47 AM	2097	1781	6887
7:48 AM	2130	1801	7226
7:49 AM	2165	1821	7597
7:50 AM	2201	1841	8000
7:51 AM	2232	1861	8274
7:52 AM	2266	1881	8613
7:53 AM	2301	1901	8984
7:54 AM	2326	1921	9129
7:55 AM	2347	1941	9145
7:56 AM	2374	1961	9323
7:57 AM	2395	1981	9339
7:58 AM	2419	2001	9452
7:59 AM	2431	2021	9242
8:00 AM	2462	2041	9516
8:01 AM	2481	2061	9500
8:02 AM	2501	2081	9484
8:03 AM	2517	2101	9404
8:04 AM	2537	2121	9387
8:05 AM	2569	2141	9694
8:06 AM	2588	2161	9678
8:07 AM	2612	2181	9758
8:08 AM	2637	2201	9904
8:09 AM	2666	2221	10113
8:10 AM	2689	2241	10194
8:11 AM	2711	2261	10242
8:12 AM	2743	2281	10549
8:13 AM	2755	2301	10339
8:14 AM	2782	2321	10516
8:15 AM	2797	2341	10404
8:16 AM	2818	2361	10420
8:17 AM	2843	2381	10533
8:18 AM	2867	2401	10646
8:19 AM	2883	2421	10533
8:20 AM	2906	2441	10613
8:21 AM	2920	2461	10468
8:22 AM	2939	2481	10452
8:23 AM	2957	2501	10404
8:24 AM	2970	2521	10226
8:25 AM	2981	2541	9984
8:26 AM	3001	2561	10000
8:27 AM	3026	2581	10113
8:28 AM	3045	2601	10097
8:29 AM	3063	2621	10049
8:30 AM	3083	2641	10033
8:31 AM	3106	2661	10113
8:32 AM	3124	2681	10065
8:33 AM	3136	2701	9855
8:34 AM	3155	2721	9839
8:35 AM	3172	2741	9758
8:36 AM	3192	2761	9775
8:37 AM	3210	2781	9726
8:38 AM	3232	2801	9775
8:39 AM	3250	2821	9726
8:40 AM	3272	2841	9775
8:41 AM	3292	2861	9758
8:42 AM	3307	2881	9646
8:43 AM	3326	2901	9629
8:44 AM	3348	2921	9678
8:45 AM	3355	2941	9339
8:46 AM	3372	2961	9258
8:47 AM	3394	2981	9307
8:48 AM	3410	3001	9226
8:49 AM	3430	3021	9210
8:50 AM	3445	3041	9097
8:51 AM	3461	3061	8984
8:52 AM	3474	3081	8807
8:53 AM	3488	3101	8662
8:54 AM	3510	3121	8710
8:55 AM	3526	3141	8629
8:56 AM	3541	3161	8484
8:57 AM	3552	3181	8275
8:58 AM	3576	3201	8355
8:59 AM	3592	3221	8275

PEAK HOUR I-90 EB

EB 195

		2026 PM with Project	**PM Adjustment factor**	1.186	PM k30 factor (R103)	1.14		
Storage Length	1000	**No. of Storage Lanes**	1	Ramp Meter Rate	800	**2-lane retrofit (use shoulder) alternate release Max rate = 1400**		

Time	**2021 PM Volume**	**Adjusted Volume**	**Vehicles released**	**Vehicles in queue**	**Queue length**	**Exceed Storage**
3:00 PM	13	16	13	2	61	0
3:01 PM	7	8	10	0	0	0
3:02 PM	13	16	13	2	61	0
3:03 PM	9	11	13	0	0	0
3:04 PM	11	13	13	0	0	0
3:05 PM	9	11	11	0	0	0
3:06 PM	12	14	13	1	28	0
3:07 PM	6	7	8	0	0	0
3:08 PM	6	7	7	0	0	0
3:09 PM	18	21	13	8	193	0
3:10 PM	6	7	13	1	24	0
3:11 PM	10	12	13	0	0	0
3:12 PM	8	9	9	0	0	0
3:13 PM	4	5	5	0	0	0
3:14 PM	11	13	13	0	0	0
3:15 PM	12	14	13	1	28	0
3:16 PM	8	9	10	0	0	0
3:17 PM	11	13	13	0	0	0
3:18 PM	14	17	13	4	94	0
3:19 PM	16	18	13	9	221	0
3:20 PM	11	13	13	9	217	0
3:21 PM	6	7	13	2	48	0
3:22 PM	10	12	13	0	10	0
3:23 PM	8	9	10	0	0	0
3:24 PM	8	9	9	0	0	0
3:25 PM	13	16	13	2	61	0
3:26 PM	4	5	8	0	0	0
3:27 PM	4	5	5	0	0	0
3:28 PM	16	18	13	5	127	0
3:29 PM	14	17	13	9	221	0
3:30 PM	10	12	13	7	184	0
3:31 PM	10	12	13	6	146	0
3:32 PM	9	11	13	3	76	0
3:33 PM	11	13	13	3	72	0
3:34 PM	9	11	13	0	1	0
3:35 PM	18	21	13	8	194	0
3:36 PM	17	20	13	14	354	0
3:37 PM	16	18	13	19	481	0
3:38 PM	7	8	13	14	345	0
3:39 PM	12	14	13	15	373	0
3:40 PM	10	12	13	13	336	0
3:41 PM	7	8	13	8	200	0
3:42 PM	9	11	13	5	130	0
3:43 PM	8	9	13	1	26	0
3:44 PM	13	16	13	4	88	0
3:45 PM	10	12	13	2	50	0
3:46 PM	9	11	13	0	0	0
3:47 PM	16	18	13	5	127	0
3:48 PM	23	28	13	19	484	0
3:49 PM	9	11	13	17	414	0
3:50 PM	13	16	13	19	475	0
3:51 PM	10	12	13	18	438	0
3:52 PM	11	13	13	17	433	0
3:53 PM	7	8	13	12	297	0
3:54 PM	2	3	13	1	30	0
3:55 PM	10	12	13	0	0	0
3:56 PM	13	16	13	2	61	0
3:57 PM	7	8	10	0	0	0
3:58 PM	18	21	13	8	193	0
3:59 PM	10	12	13	6	155	0
4:00 PM	9	11	13	3	85	0
4:01 PM	11	13	13	3	81	0
4:02 PM	13	16	13	6	142	0
4:03 PM	11	13	13	5	137	0
4:04 PM	12	14	13	7	166	0
4:05 PM	14	17	13	10	260	0
4:06 PM	10	12	13	9	222	0
4:07 PM	13	16	13	11	284	0
4:08 PM	6	7	13	5	115	0
4:09 PM	9	11	13	2	44	0
4:10 PM	8	9	11	0	0	0
4:11 PM	11	13	13	0	0	0
4:12 PM	9	11	11	0	0	0
4:13 PM	10	12	12	0	0	0
4:14 PM	10	12	12	0	0	0
4:15 PM	12	14	13	1	28	0
4:16 PM	14	17	13	5	122	0
4:17 PM	8	9	13	1	19	0
4:18 PM	11	13	13	1	15	0
4:19 PM	8	9	10	0	0	0
4:20 PM	13	16	13	2	61	0
4:21 PM	4	5	8	0	0	0
4:22 PM	11	13	13	0	0	0
4:23 PM	7	8	8	0	0	0
4:24 PM	10	12	12	0	0	0
4:25 PM	6	7	7	0	0	0
4:26 PM	3	4	4	0	0	0
4:27 PM	14	17	13	4	94	0
4:28 PM	3	4	8	0	0	0
4:29 PM	12	14	13	1	28	0
4:30 PM	9	11	12	0	0	0
4:31 PM	9	11	11	0	0	0
4:32 PM	8	9	9	0	0	0
4:33 PM	8	9	9	0	0	0
4:34 PM	7	8	8	0	0	0
4:35 PM	9	11	11	0	0	0
4:36 PM	6	7	7	0	0	0
4:37 PM	12	14	13	1	28	0
4:38 PM	11	13	13	1	24	0
4:39 PM	18	21	13	9	217	0
4:40 PM	8	9	13	5	113	0
4:41 PM	11	13	13	4	109	0
4:42 PM	14	17	13	8	203	0
4:43 PM	3	4	12	0	0	0
4:44 PM	11	13	13	0	0	0
4:45 PM	6	7	7	0	0	0
4:46 PM	6	7	7	0	0	0
4:47 PM	10	12	12	0	0	0
4:48 PM	13	16	13	2	61	0
4:49 PM	14	17	13	6	155	0
4:50 PM	27	32	13	24	611	0
4:51 PM	11	13	13	24	607	0
4:52 PM	11	13	13	24	602	0
4:53 PM	8	9	13	20	499	0
4:54 PM	7	8	13	15	363	0
4:55 PM	1	1	13	3	63	0
4:56 PM	8	9	12	0	0	0
4:57 PM	10	12	12	0	0	0
4:58 PM	8	9	9	0	0	0
4:59 PM	10	12	12	0	0	0
5:00 PM	12	14	13	1	28	0
5:01 PM	21	25	13	13	320	0
5:02 PM	13	16	13	15	381	0
5:03 PM	8	9	13	11	278	0
5:04 PM	7	8	13	6	142	0
5:05 PM	7	8	13	0	6	0
5:06 PM	6	7	7	0	0	0
5:07 PM	9	11	11	0	0	0
5:08 PM	7	8	8	0	0	0
5:09 PM	8	9	9	0	0	0
5:10 PM	13	16	13	2	61	0
5:11 PM	20	24	13	13	320	0
5:12 PM	11	13	13	13	315	0
5:13 PM	12	14	13	14	344	0
5:14 PM	11	13	13	14	339	0
5:15 PM	8	9	13	9	236	0
5:16 PM	11	13	13	9	231	0
5:17 PM	7	8	13	4	95	0
5:18 PM	16	18	13	9	222	0
5:19 PM	11	13	13	9	218	0
5:20 PM	8	9	13	5	115	0
5:21 PM	10	12	13	3	77	0
5:22 PM	10	12	13	2	40	0
5:23 PM	6	7	8	0	0	0
5:24 PM	7	8	8	0	0	0
5:25 PM	8	9	9	0	0	0
5:26 PM	7	8	8	0	0	0
5:27 PM	9	11	11	0	0	0
5:28 PM	10	12	12	0	0	0
5:29 PM	6	7	7	0	0	0
5:30 PM	19	22	13	9	226	0
5:31 PM	7	8	13	4	90	0
5:32 PM	8	9	13	0	0	0
5:33 PM	12	14	13	1	28	0
5:34 PM	11	13	13	1	24	0
5:35 PM	10	12	13	0	0	0
5:36 PM	14	17	13	4	94	0
5:37 PM	8	9	13	0	0	0
5:38 PM	8	9	9	0	0	0
5:39 PM	9	11	11	0	0	0
5:40 PM	12	14	13	1	28	0
5:41 PM	10	12	13	0	0	0
5:42 PM	4	5	5	0	0	0
5:43 PM	9	11	11	0	0	0
5:44 PM	9	11	11	0	0	0
5:45 PM	10	12	12	0	0	0
5:46 PM	10	12	12	0	0	0
5:47 PM	16	18	13	5	127	0
5:48 PM	13	16	13	8	188	0
5:49 PM	12	14	13	9	217	0
5:50 PM	12	14	13	10	245	0
5:51 PM	10	12	13	8	208	0
5:52 PM	10	12	13	7	170	0
5:53 PM	11	13	13	7	166	0
5:54 PM	11	13	13	6	161	0
5:55 PM	10	12	13	5	124	0
5:56 PM	11	13	13	5	119	0
5:57 PM	14	17	13	9	213	0
5:58 PM	14	17	13	12	308	0
5:59 PM	10	12	13	11	270	0
3:16-4:16	643	763				

EB 195

Time	Cumulative	Cumulative	Excessive Queue Length
3:00 PM	16	13	0
3:01 PM	24	24	0
3:02 PM	39	37	0
3:03 PM	50	50	0
3:04 PM	63	63	0
3:05 PM	74	74	0
3:06 PM	88	87	0
3:07 PM	95	95	0
3:08 PM	101	101	0
3:09 PM	122	115	0
3:10 PM	129	128	0
3:11 PM	141	141	0
3:12 PM	150	150	0
3:13 PM	155	155	0
3:14 PM	168	168	0
3:15 PM	183	182	0
3:16 PM	192	192	0
3:17 PM	205	205	0
3:18 PM	222	219	0
3:19 PM	241	232	0
3:20 PM	254	245	0
3:21 PM	260	259	0
3:22 PM	272	272	0
3:23 PM	281	281	0
3:24 PM	291	291	0
3:25 PM	306	304	0
3:26 PM	312	312	0
3:27 PM	317	317	0
3:28 PM	335	330	0
3:29 PM	352	344	0
3:30 PM	364	357	0
3:31 PM	376	370	0
3:32 PM	387	384	0
3:33 PM	400	397	0
3:34 PM	410	410	0
3:35 PM	431	424	0
3:36 PM	451	437	0
3:37 PM	470	450	0
3:38 PM	477	464	0
3:39 PM	492	477	0
3:40 PM	504	490	0
3:41 PM	512	504	0
3:42 PM	522	517	0
3:43 PM	531	530	0
3:44 PM	547	544	0
3:45 PM	559	557	0
3:46 PM	570	570	0
3:47 PM	588	583	0
3:48 PM	616	596	0
3:49 PM	626	610	0
3:50 PM	642	623	0
3:51 PM	654	636	0
3:52 PM	667	650	0
3:53 PM	675	663	0
3:54 PM	677	676	0
3:55 PM	689	689	0
3:56 PM	705	703	0
3:57 PM	713	713	0
3:58 PM	734	726	0
3:59 PM	746	740	0
4:00 PM	756	753	0
4:01 PM	769	766	0
4:02 PM	785	780	0
4:03 PM	798	793	0
4:04 PM	813	806	0
4:05 PM	830	820	0
4:06 PM	842	833	0
4:07 PM	858	846	0
4:08 PM	864	860	0
4:09 PM	875	873	0
4:10 PM	884	884	0
4:11 PM	897	897	0
4:12 PM	908	908	0
4:13 PM	919	919	0
4:14 PM	931	931	0
4:15 PM	946	945	0
4:16 PM	963	958	0
4:17 PM	972	971	0
4:18 PM	985	985	0
4:19 PM	994	994	0
4:20 PM	1010	1008	0
4:21 PM	1015	1015	0
4:22 PM	1029	1029	0
4:23 PM	1036	1036	0
4:24 PM	1048	1048	0
4:25 PM	1055	1055	0
4:26 PM	1059	1059	0
4:27 PM	1076	1072	0
4:28 PM	1080	1080	0
4:29 PM	1094	1093	0
4:30 PM	1105	1105	0
4:31 PM	1115	1115	0
4:32 PM	1125	1125	0
4:33 PM	1134	1134	0
4:34 PM	1142	1142	0
4:35 PM	1152	1152	0
4:36 PM	1159	1159	0
4:37 PM	1173	1172	0
4:38 PM	1186	1185	0
4:39 PM	1207	1199	0
4:40 PM	1217	1212	0
4:41 PM	1230	1225	0
4:42 PM	1247	1239	0
4:43 PM	1251	1251	0
4:44 PM	1264	1264	0
4:45 PM	1271	1271	0
4:46 PM	1277	1277	0
4:47 PM	1289	1289	0
4:48 PM	1305	1302	0
4:49 PM	1322	1316	0
4:50 PM	1353	1329	0
4:51 PM	1367	1342	0
4:52 PM	1380	1356	0
4:53 PM	1389	1369	0
4:54 PM	1397	1382	0
4:55 PM	1398	1396	0
4:56 PM	1407	1407	0
4:57 PM	1419	1419	0
4:58 PM	1428	1428	0
4:59 PM	1440	1440	0
5:00 PM	1455	1454	0
5:01 PM	1480	1467	0
5:02 PM	1495	1480	0
5:03 PM	1505	1494	0
5:04 PM	1513	1507	0
5:05 PM	1520	1520	0
5:06 PM	1527	1527	0
5:07 PM	1538	1538	0
5:08 PM	1545	1545	0
5:09 PM	1555	1555	0
5:10 PM	1570	1568	0
5:11 PM	1594	1581	0
5:12 PM	1607	1595	0
5:13 PM	1622	1608	0
5:14 PM	1635	1621	0
5:15 PM	1644	1635	0
5:16 PM	1657	1648	0
5:17 PM	1665	1661	0
5:18 PM	1684	1675	0
5:19 PM	1697	1688	0
5:20 PM	1706	1701	0
5:21 PM	1718	1715	0
5:22 PM	1730	1728	0
5:23 PM	1736	1736	0
5:24 PM	1744	1744	0
5:25 PM	1753	1753	0
5:26 PM	1761	1761	0
5:27 PM	1772	1772	0
5:28 PM	1784	1784	0
5:29 PM	1790	1790	0
5:30 PM	1812	1803	0
5:31 PM	1820	1817	0
5:32 PM	1830	1830	0
5:33 PM	1844	1843	0
5:34 PM	1857	1856	0
5:35 PM	1869	1869	0
5:36 PM	1886	1882	0
5:37 PM	1895	1895	0
5:38 PM	1905	1905	0
5:39 PM	1915	1915	0
5:40 PM	1930	1928	0
5:41 PM	1941	1941	0
5:42 PM	1947	1947	0
5:43 PM	1957	1957	0
5:44 PM	1968	1968	0
5:45 PM	1979	1979	0
5:46 PM	1991	1991	0
5:47 PM	2010	2005	0
5:48 PM	2026	2018	0
5:49 PM	2040	2031	0
5:50 PM	2054	2045	0
5:51 PM	2066	2058	0
5:52 PM	2078	2071	0
5:53 PM	2091	2085	0
5:54 PM	2104	2098	0
5:55 PM	2116	2111	0
5:56 PM	2129	2125	0
5:57 PM	2147	2138	0
5:58 PM	2164	2151	0
5:59 PM	2175	2165	0

PEAK HOUR I-90 EB

THE TIME PERIOD WITH QUEUE BEYOND THE STORAGE AFTER I-90 EB PEAK HOUR

EB 195

2026 PM with Project (500 vph)

PM Adjustment factor 1.186

PM k30 factor (R103) 1.14

Storage Length	No. of Storage Lanes	Ramp Meter Rate	2-lane retrofit (use shoulder) alternate release Max rate = 1400
1000	1	500	

Time	2021 PM Volume	Adjusted Volume	Vehicles released	Vehicles in queue	Queue length	Exceed Storage
3:00 PM	13	16	8	7	186	0
3:01 PM	7	8	8	7	175	0
3:02 PM	13	16	8	14	361	0
3:03 PM	9	11	8	17	416	0
3:04 PM	11	13	8	21	537	0
3:05 PM	9	11	8	24	591	0
3:06 PM	12	14	8	30	745	0
3:07 PM	6	7	8	28	701	0
3:08 PM	6	7	8	26	657	0
3:09 PM	18	21	8	39	975	0
3:10 PM	6	7	8	37	931	0
3:11 PM	10	12	8	41	1018	18
3:12 PM	8	9	8	42	1040	40
3:13 PM	4	5	8	39	963	0
3:14 PM	11	13	8	43	1084	84
3:15 PM	12	14	8	49	1237	237
3:16 PM	8	9	8	50	1259	259
3:17 PM	11	13	8	55	1380	380
3:18 PM	14	17	8	64	1599	599
3:19 PM	16	18	8	74	1851	851
3:20 PM	11	13	8	79	1971	971
3:21 PM	6	7	8	77	1927	927
3:22 PM	10	12	8	81	2015	1015
3:23 PM	8	9	8	81	2037	1037
3:24 PM	8	9	8	82	2059	1059
3:25 PM	13	16	8	90	2245	1245
3:26 PM	4	5	8	87	2168	1168
3:27 PM	4	5	8	84	2091	1091
3:28 PM	16	18	8	94	2343	1343
3:29 PM	14	17	8	102	2562	1562
3:30 PM	10	12	8	106	2650	1650
3:31 PM	10	12	8	110	2738	1738
3:32 PM	9	11	8	112	2792	1792
3:33 PM	11	13	8	117	2913	1913
3:34 PM	9	11	8	119	2967	1967
3:35 PM	18	21	8	131	3285	2285
3:36 PM	17	20	8	143	3570	2570
3:37 PM	16	18	8	153	3822	2822
3:38 PM	7	8	8	152	3811	2811
3:39 PM	12	14	8	159	3964	2964
3:40 PM	10	12	8	162	4052	3052
3:41 PM	7	8	8	162	4041	3041
3:42 PM	9	11	8	164	4096	3096
3:43 PM	8	9	8	165	4118	3118
3:44 PM	13	16	8	172	4304	3304
3:45 PM	10	12	8	176	4391	3391
3:46 PM	9	11	8	178	4446	3446
3:47 PM	16	18	8	188	4698	3698
3:48 PM	23	28	8	207	5180	4180
3:49 PM	9	11	8	209	5235	4235
3:50 PM	13	16	8	217	5421	4421
3:51 PM	10	12	8	220	5509	4509
3:52 PM	11	13	8	225	5629	4629
3:53 PM	7	8	8	225	5618	4618
3:54 PM	2	3	8	219	5476	4476
3:55 PM	10	12	8	223	5563	4563
3:56 PM	13	16	8	230	5750	4750
3:57 PM	7	8	8	230	5739	4739
3:58 PM	18	21	8	242	6056	5056
3:59 PM	10	12	8	246	6144	5144
4:00 PM	9	11	8	248	6199	5199
4:01 PM	11	13	8	253	6319	5319
4:02 PM	13	16	8	260	6505	5505
4:03 PM	11	13	8	265	6626	5626
4:04 PM	12	14	8	271	6779	5779
4:05 PM	14	17	8	280	6998	5998
4:06 PM	10	12	8	283	7086	6086
4:07 PM	13	16	8	291	7272	6272
4:08 PM	6	7	8	289	7228	6228
4:09 PM	9	11	8	291	7283	6283
4:10 PM	8	9	8	292	7305	6305
4:11 PM	11	13	8	297	7425	6425
4:12 PM	9	11	8	299	7480	6480
4:13 PM	10	12	8	303	7568	6568
4:14 PM	10	12	8	306	7655	6655
4:15 PM	12	14	8	312	7809	6809
4:16 PM	14	17	8	321	8028	7028
4:17 PM	8	9	8	322	8050	7050
4:18 PM	11	13	8	327	8170	7170
4:19 PM	8	9	8	328	8192	7192
4:20 PM	13	16	8	335	8378	7378
4:21 PM	4	5	8	332	8301	7301
4:22 PM	11	13	8	337	8422	7422
4:23 PM	7	8	8	336	8411	7411
4:24 PM	10	12	8	340	8499	7499
4:25 PM	6	7	8	338	8455	7455
4:26 PM	3	4	8	334	8345	7345
4:27 PM	14	17	8	343	8564	7564
4:28 PM	3	4	8	338	8454	7454
4:29 PM	12	14	8	344	8608	7608
4:30 PM	9	11	8	346	8662	7662
4:31 PM	9	11	8	349	8717	7717
4:32 PM	8	9	8	350	8739	7739
4:33 PM	8	9	8	350	8761	7761
4:34 PM	7	8	8	350	8750	7750
4:35 PM	9	11	8	352	8805	7805
4:36 PM	6	7	8	350	8761	7761
4:37 PM	12	14	8	357	8914	7914
4:38 PM	11	13	8	361	9034	8034
4:39 PM	18	21	8	374	9352	8352
4:40 PM	8	9	8	375	9374	8374
4:41 PM	11	13	8	380	9495	8495
4:42 PM	14	17	8	389	9714	8714
4:43 PM	3	4	8	384	9604	8604
4:44 PM	11	13	8	389	9724	8724
4:45 PM	6	7	8	387	9681	8681
4:46 PM	6	7	8	385	9637	8637
4:47 PM	10	12	8	389	9724	8724
4:48 PM	13	16	8	396	9910	8910
4:49 PM	14	17	8	405	10130	9130
4:50 PM	27	32	8	428	10710	9710
4:51 PM	11	13	8	433	10831	9831
4:52 PM	11	13	8	438	10951	9951
4:53 PM	8	9	8	439	10973	9973
4:54 PM	7	8	8	438	10962	9962
4:55 PM	1	1	8	431	10787	9787
4:56 PM	8	9	8	432	10809	9809
4:57 PM	10	12	8	436	10896	9896
4:58 PM	8	9	8	437	10918	9918
4:59 PM	10	12	8	440	11006	10006
5:00 PM	12	14	8	446	11159	10159
5:01 PM	21	25	8	463	11575	10575
5:02 PM	13	16	8	470	11762	10762
5:03 PM	8	9	8	471	11784	10784
5:04 PM	7	8	8	471	11772	10772
5:05 PM	7	8	8	470	11761	10761
5:06 PM	6	7	8	469	11717	10717
5:07 PM	9	11	8	471	11772	10772
5:08 PM	7	8	8	470	11761	10761
5:09 PM	8	9	8	471	11783	10783
5:10 PM	13	16	8	479	11969	10969
5:11 PM	20	24	8	494	12353	11353
5:12 PM	11	13	8	499	12473	11473
5:13 PM	12	14	8	505	12627	11627
5:14 PM	11	13	8	510	12747	11747
5:15 PM	8	9	8	511	12769	11769
5:16 PM	11	13	8	516	12889	11889
5:17 PM	7	8	8	515	12878	11878
5:18 PM	16	18	8	525	13130	12130
5:19 PM	11	13	8	530	13251	12251
5:20 PM	8	9	8	531	13273	12273
5:21 PM	10	12	8	534	13360	12360
5:22 PM	10	12	8	538	13448	12448
5:23 PM	6	7	8	536	13404	12404
5:24 PM	7	8	8	536	13393	12393
5:25 PM	8	9	8	537	13415	12415
5:26 PM	7	8	8	536	13404	12404
5:27 PM	9	11	8	538	13459	12459
5:28 PM	10	12	8	542	13546	12546
5:29 PM	6	7	8	540	13502	12502
5:30 PM	19	22	8	554	13853	12853
5:31 PM	7	8	8	554	13842	12842
5:32 PM	8	9	8	555	13864	12864
5:33 PM	12	14	8	561	14017	13017
5:34 PM	11	13	8	566	14138	13138
5:35 PM	10	12	8	569	14225	13225
5:36 PM	14	17	8	578	14444	13444
5:37 PM	8	9	8	579	14466	13466
5:38 PM	8	9	8	580	14488	13488
5:39 PM	9	11	8	582	14543	13543
5:40 PM	12	14	8	588	14696	13696
5:41 PM	10	12	8	591	14784	13784
5:42 PM	4	5	8	588	14707	13707
5:43 PM	9	11	8	590	14762	13762
5:44 PM	9	11	8	593	14816	13816
5:45 PM	10	12	8	596	14904	13904
5:46 PM	10	12	8	600	14991	13991
5:47 PM	16	18	8	610	15243	14243
5:48 PM	13	16	8	617	15430	14430
5:49 PM	12	14	8	623	15583	14583
5:50 PM	12	14	8	629	15736	14736
5:51 PM	10	12	8	633	15824	14824
5:52 PM	10	12	8	636	15912	14912
5:53 PM	11	13	8	641	16032	15032
5:54 PM	11	13	8	646	16153	15153
5:55 PM	10	12	8	650	16240	15240
5:56 PM	11	13	8	654	16361	15361
5:57 PM	14	17	8	663	16580	15580
5:58 PM	14	17	8	672	16799	15799
5:59 PM	10	12	8	675	16887	15887
3:16-4:16	643	763				

EB 195

Time	Cumulative	Cumulative	Excessive Queue Length
3:00 PM	16	8	0
3:01 PM	24	17	0
3:02 PM	39	25	0
3:03 PM	50	33	0
3:04 PM	63	42	0
3:05 PM	74	50	0
3:06 PM	88	58	0
3:07 PM	95	67	0
3:08 PM	101	75	0
3:09 PM	122	83	0
3:10 PM	129	92	0
3:11 PM	141	100	18
3:12 PM	150	108	40
3:13 PM	155	117	0
3:14 PM	168	125	84
3:15 PM	183	133	237
3:16 PM	192	142	259
3:17 PM	205	150	380
3:18 PM	222	158	599
3:19 PM	241	167	851
3:20 PM	254	175	971
3:21 PM	260	183	927
3:22 PM	272	192	1015
3:23 PM	281	200	1037
3:24 PM	291	208	1059
3:25 PM	306	217	1245
3:26 PM	312	225	1168
3:27 PM	317	233	1091
3:28 PM	335	242	1343
3:29 PM	352	250	1562
3:30 PM	364	258	1650
3:31 PM	376	267	1738
3:32 PM	387	275	1792
3:33 PM	400	283	1913
3:34 PM	410	292	1967
3:35 PM	431	300	2285
3:36 PM	451	308	2570
3:37 PM	470	317	2822
3:38 PM	477	325	2811
3:39 PM	492	333	2964
3:40 PM	504	342	3052
3:41 PM	512	350	3041
3:42 PM	522	358	3096
3:43 PM	531	367	3118
3:44 PM	547	375	3304
3:45 PM	559	383	3391
3:46 PM	570	392	3446
3:47 PM	588	400	3698
3:48 PM	616	408	4180
3:49 PM	626	417	4235
3:50 PM	642	425	4421
3:51 PM	654	433	4509
3:52 PM	667	442	4629
3:53 PM	675	450	4618
3:54 PM	677	458	4476
3:55 PM	689	467	4563
3:56 PM	705	475	4750
3:57 PM	713	483	4739
3:58 PM	734	492	5056
3:59 PM	746	500	5144
4:00 PM	756	508	5199
4:01 PM	769	517	5319
4:02 PM	785	525	5505
4:03 PM	798	533	5626
4:04 PM	813	542	5779
4:05 PM	830	550	5998
4:06 PM	842	558	6086
4:07 PM	858	567	6272
4:08 PM	864	575	6228
4:09 PM	875	583	6283
4:10 PM	884	592	6305
4:11 PM	897	600	6425
4:12 PM	908	608	6480
4:13 PM	919	617	6568
4:14 PM	931	625	6655
4:15 PM	946	633	6809
4:16 PM	963	642	7028
4:17 PM	972	650	7050
4:18 PM	985	658	7170
4:19 PM	994	667	7192
4:20 PM	1010	675	7378
4:21 PM	1015	683	7301
4:22 PM	1029	692	7422
4:23 PM	1036	700	7411
4:24 PM	1048	708	7499
4:25 PM	1055	717	7455
4:26 PM	1059	725	7345
4:27 PM	1076	733	7564
4:28 PM	1080	742	7454
4:29 PM	1094	750	7608
4:30 PM	1105	758	7662
4:31 PM	1115	767	7717
4:32 PM	1125	775	7739
4:33 PM	1134	783	7761
4:34 PM	1142	792	7750
4:35 PM	1152	800	7805
4:36 PM	1159	808	7761
4:37 PM	1173	817	7914
4:38 PM	1186	825	8034
4:39 PM	1207	833	8352
4:40 PM	1217	842	8374
4:41 PM	1230	850	8495
4:42 PM	1247	858	8714
4:43 PM	1251	867	8604
4:44 PM	1264	875	8724
4:45 PM	1271	883	8681
4:46 PM	1277	892	8637
4:47 PM	1289	900	8724
4:48 PM	1305	908	8910
4:49 PM	1322	917	9130
4:50 PM	1353	925	9710
4:51 PM	1367	933	9831
4:52 PM	1380	942	9951
4:53 PM	1389	950	9973
4:54 PM	1397	958	9962
4:55 PM	1398	967	9787
4:56 PM	1407	975	9809
4:57 PM	1419	983	9896
4:58 PM	1428	992	9918
4:59 PM	1440	1000	10006
5:00 PM	1455	1008	10159
5:01 PM	1480	1017	10575
5:02 PM	1495	1025	10762
5:03 PM	1505	1033	10784
5:04 PM	1513	1042	10772
5:05 PM	1520	1050	10761
5:06 PM	1527	1058	10717
5:07 PM	1538	1067	10772
5:08 PM	1545	1075	10761
5:09 PM	1555	1083	10783
5:10 PM	1570	1092	10969
5:11 PM	1594	1100	11353
5:12 PM	1607	1108	11473
5:13 PM	1622	1117	11627
5:14 PM	1635	1125	11747
5:15 PM	1644	1133	11769
5:16 PM	1657	1142	11889
5:17 PM	1665	1150	11878
5:18 PM	1684	1158	12130
5:19 PM	1697	1167	12251
5:20 PM	1706	1175	12273
5:21 PM	1718	1183	12360
5:22 PM	1730	1192	12448
5:23 PM	1736	1200	12404
5:24 PM	1744	1208	12393
5:25 PM	1753	1217	12415
5:26 PM	1761	1225	12404
5:27 PM	1772	1233	12459
5:28 PM	1784	1242	12546
5:29 PM	1790	1250	12502
5:30 PM	1812	1258	12853
5:31 PM	1820	1267	12842
5:32 PM	1830	1275	12864
5:33 PM	1844	1283	13017
5:34 PM	1857	1292	13138
5:35 PM	1869	1300	13225
5:36 PM	1886	1308	13444
5:37 PM	1895	1317	13466
5:38 PM	1905	1325	13488
5:39 PM	1915	1333	13543
5:40 PM	1930	1342	13696
5:41 PM	1941	1350	13784
5:42 PM	1947	1358	13707
5:43 PM	1957	1367	13762
5:44 PM	1968	1375	13816
5:45 PM	1979	1383	13904
5:46 PM	1991	1392	13991
5:47 PM	2010	1400	14243
5:48 PM	2026	1408	14430
5:49 PM	2040	1417	14583
5:50 PM	2054	1425	14736
5:51 PM	2066	1433	14824
5:52 PM	2078	1442	14912
5:53 PM	2091	1450	15032
5:54 PM	2104	1458	15153
5:55 PM	2116	1467	15240
5:56 PM	2129	1475	15361
5:57 PM	2147	1483	15580
5:58 PM	2164	1492	15799
5:59 PM	2175	1500	15887

EB 195

2026 AM w/ Project w/ SR195 IMP

AM Adjustment factor 0.9225

AM k30 factor (R103) 1.15

Storage Length 1000

No. of Storage Lanes 1

Ramp Meter Rate 1200

2-lane retrofit (use shoulder) alternate release
Max rate = 1400

EB 195

Time	2021 AM Volume	Adjusted Volume	Vehicles released	Vehicles in queue	Queue length	Exceed Storage
6:00 AM	4	4	4	0	0	0
6:01 AM	5	5	5	0	0	0
6:02 AM	1	1	1	0	0	0
6:03 AM	2	2	2	0	0	0
6:04 AM	5	5	5	0	0	0
6:05 AM	4	4	4	0	0	0
6:06 AM	7	7	7	0	0	0
6:07 AM	5	5	5	0	0	0
6:08 AM	4	4	4	0	0	0
6:09 AM	5	5	5	0	0	0
6:10 AM	7	7	7	0	0	0
6:11 AM	6	6	6	0	0	0
6:12 AM	10	9	9	0	0	0
6:13 AM	6	6	6	0	0	0
6:14 AM	5	5	5	0	0	0
6:15 AM	6	6	6	0	0	0
6:16 AM	5	5	5	0	0	0
6:17 AM	6	6	6	0	0	0
6:18 AM	4	4	4	0	0	0
6:19 AM	11	10	10	0	0	0
6:20 AM	13	12	12	0	0	0
6:21 AM	14	13	13	0	0	0
6:22 AM	8	8	8	0	0	0
6:23 AM	13	12	12	0	0	0
6:24 AM	16	15	15	0	0	0
6:25 AM	18	17	17	0	0	0
6:26 AM	6	6	6	0	0	0
6:27 AM	12	11	11	0	0	0
6:28 AM	7	7	7	0	0	0
6:29 AM	13	12	12	0	0	0
6:30 AM	10	9	9	0	0	0
6:31 AM	16	15	15	0	0	0
6:32 AM	16	15	15	0	0	0
6:33 AM	6	6	6	0	0	0
6:34 AM	12	11	11	0	0	0
6:35 AM	12	11	11	0	0	0
6:36 AM	11	10	10	0	0	0
6:37 AM	13	12	12	0	0	0
6:38 AM	13	12	12	0	0	0
6:39 AM	15	14	14	0	0	0
6:40 AM	8	8	8	0	0	0
6:41 AM	22	21	20	1	14	0
6:42 AM	17	16	16	0	0	0
6:43 AM	22	21	20	1	14	0
6:44 AM	28	25	20	6	151	0
6:45 AM	22	21	20	7	165	0
6:46 AM	24	23	20	9	229	0
6:47 AM	20	19	20	8	194	0
6:48 AM	21	20	20	7	184	0
6:49 AM	24	23	20	10	247	0
6:50 AM	17	16	20	6	139	0
6:51 AM	23	22	20	7	178	0
6:52 AM	22	21	20	8	192	0
6:53 AM	18	17	20	4	109	0
6:54 AM	14	13	17	0	0	0
6:55 AM	17	16	16	0	0	0
6:56 AM	19	18	18	0	0	0
6:57 AM	13	12	12	0	0	0
6:58 AM	13	12	12	0	0	0
6:59 AM	17	16	16	0	0	0
7:00 AM	16	15	15	0	0	0
7:01 AM	16	15	15	0	0	0
7:02 AM	7	7	7	0	0	0
7:03 AM	23	22	20	2	39	0
7:04 AM	12	11	12	0	0	0
7:05 AM	17	16	16	0	0	0
7:06 AM	6	6	6	0	0	0
7:07 AM	19	18	18	0	0	0
7:08 AM	21	20	20	0	0	0
7:09 AM	15	14	14	0	0	0
7:10 AM	12	11	11	0	0	0
7:11 AM	17	16	16	0	0	0
7:12 AM	24	23	20	3	63	0
7:13 AM	23	22	20	4	102	0
7:14 AM	19	18	20	2	43	0
7:15 AM	21	20	20	1	33	0
7:16 AM	15	14	15	0	0	0
7:17 AM	23	22	20	2	39	0
7:18 AM	17	16	17	0	0	0
7:19 AM	23	22	20	2	39	0
7:20 AM	23	22	20	3	78	0
7:21 AM	25	24	20	7	165	0
7:22 AM	23	22	20	8	204	0
7:23 AM	18	17	20	5	121	0
7:24 AM	20	19	20	3	86	0
7:25 AM	16	15	18	0	0	0
7:26 AM	16	15	15	0	0	0
7:27 AM	25	24	20	4	88	0
7:28 AM	17	16	19	0	0	0
7:29 AM	15	14	14	0	0	0
7:30 AM	30	27	20	7	186	0
7:31 AM	23	22	20	9	225	0
7:32 AM	22	21	20	10	239	0
7:33 AM	23	22	20	11	278	0
7:34 AM	27	24	20	16	390	0
7:35 AM	30	27	20	23	576	0
7:36 AM	28	25	20	29	713	0
7:37 AM	22	21	20	29	727	0
7:38 AM	25	24	20	33	815	0
7:39 AM	20	19	20	31	780	0
7:40 AM	16	15	20	26	648	0
7:41 AM	24	23	20	28	711	0
7:42 AM	24	23	20	31	774	0
7:43 AM	32	29	20	40	1009	9
7:44 AM	19	18	20	38	950	0
7:45 AM	20	19	20	37	915	0
7:46 AM	28	25	20	42	1052	52
7:47 AM	25	24	20	46	1140	140
7:48 AM	28	25	20	51	1277	277
7:49 AM	29	26	20	58	1438	438
7:50 AM	30	27	20	65	1624	624
7:51 AM	25	24	20	68	1712	712
7:52 AM	28	25	20	74	1848	848
7:53 AM	29	26	20	80	2010	1010
7:54 AM	21	20	20	80	1999	999
7:55 AM	17	16	20	76	1891	891
7:56 AM	22	21	20	76	1906	906
7:57 AM	17	16	20	72	1798	798
7:58 AM	20	19	20	71	1763	763
7:59 AM	10	9	20	59	1483	483
8:00 AM	25	24	20	63	1571	571
8:01 AM	16	15	20	58	1439	439
8:02 AM	16	15	20	52	1306	306
8:03 AM	14	13	20	45	1124	124
8:04 AM	16	15	20	40	992	0
8:05 AM	27	24	20	44	1104	104
8:06 AM	16	15	20	39	971	0
8:07 AM	19	18	20	36	912	0
8:08 AM	21	20	20	36	902	0
8:09 AM	23	22	20	38	941	0
8:10 AM	19	18	20	35	882	0
8:11 AM	18	17	20	32	798	0
8:12 AM	27	24	20	36	911	0
8:13 AM	10	9	20	25	631	0
8:14 AM	22	21	20	26	645	0
8:15 AM	13	12	20	18	439	0
8:16 AM	17	16	20	13	331	0
8:17 AM	20	19	20	12	296	0
8:18 AM	20	19	20	10	262	0
8:19 AM	13	12	20	2	56	0
8:20 AM	19	18	20	0	0	0
8:21 AM	12	11	11	0	0	0
8:22 AM	16	15	15	0	0	0
8:23 AM	15	14	14	0	0	0
8:24 AM	11	10	10	0	0	0
8:25 AM	8	8	8	0	0	0
8:26 AM	17	16	16	0	0	0
8:27 AM	20	19	19	0	0	0
8:28 AM	16	15	15	0	0	0
8:29 AM	15	14	14	0	0	0
8:30 AM	16	15	15	0	0	0
8:31 AM	19	18	18	0	0	0
8:32 AM	15	14	14	0	0	0
8:33 AM	10	9	9	0	0	0
8:34 AM	16	15	15	0	0	0
8:35 AM	14	13	13	0	0	0
8:36 AM	17	16	16	0	0	0
8:37 AM	15	14	14	0	0	0
8:38 AM	18	17	17	0	0	0
8:39 AM	15	14	14	0	0	0
8:40 AM	18	17	17	0	0	0
8:41 AM	16	15	15	0	0	0
8:42 AM	13	12	12	0	0	0
8:43 AM	16	15	15	0	0	0
8:44 AM	18	17	17	0	0	0
8:45 AM	5	5	5	0	0	0
8:46 AM	14	13	13	0	0	0
8:47 AM	18	17	17	0	0	0
8:48 AM	14	13	13	0	0	0
8:49 AM	16	15	15	0	0	0
8:50 AM	13	12	12	0	0	0
8:51 AM	13	12	12	0	0	0
8:52 AM	11	10	10	0	0	0
8:53 AM	12	11	11	0	0	0
8:54 AM	18	17	17	0	0	0
8:55 AM	14	13	13	0	0	0
8:56 AM	12	11	11	0	0	0
8:57 AM	10	9	9	0	0	0
8:58 AM	19	18	18	0	0	0
8:59 AM	14	13	13	0	0	0
7:10 - 8:10	1303	1202				

PEAK HOUR I-90 EB

THE TIME PERIOD WITH QUEUE BEYOND THE STORAGE AFTER I-90 EB PEAK HOUR

EB 195

Time	Cumulative	Cumulative	Excessive Queue Length
6:00 AM	4	4	0
6:01 AM	9	9	0
6:02 AM	10	10	0
6:03 AM	12	12	0
6:04 AM	17	17	0
6:05 AM	21	21	0
6:06 AM	27	27	0
6:07 AM	32	32	0
6:08 AM	36	36	0
6:09 AM	41	41	0
6:10 AM	48	48	0
6:11 AM	54	54	0
6:12 AM	63	63	0
6:13 AM	69	69	0
6:14 AM	73	73	0
6:15 AM	79	79	0
6:16 AM	84	84	0
6:17 AM	90	90	0
6:18 AM	94	94	0
6:19 AM	104	104	0
6:20 AM	116	116	0
6:21 AM	128	128	0
6:22 AM	136	136	0
6:23 AM	148	148	0
6:24 AM	163	163	0
6:25 AM	179	179	0
6:26 AM	185	185	0
6:27 AM	196	196	0
6:28 AM	203	203	0
6:29 AM	215	215	0
6:30 AM	223	223	0
6:31 AM	238	238	0
6:32 AM	253	253	0
6:33 AM	259	259	0
6:34 AM	269	269	0
6:35 AM	280	280	0
6:36 AM	290	290	0
6:37 AM	302	302	0
6:38 AM	314	314	0
6:39 AM	327	327	0
6:40 AM	335	335	0
6:41 AM	356	355	0
6:42 AM	371	371	0
6:43 AM	392	391	0
6:44 AM	417	411	0
6:45 AM	438	431	0
6:46 AM	460	451	0
6:47 AM	479	471	0
6:48 AM	499	491	0
6:49 AM	521	511	0
6:50 AM	537	531	0
6:51 AM	558	551	0
6:52 AM	579	571	0
6:53 AM	596	591	0
6:54 AM	608	608	0
6:55 AM	624	624	0
6:56 AM	642	642	0
6:57 AM	653	653	0
6:58 AM	665	665	0
6:59 AM	681	681	0
7:00 AM	696	696	0
7:01 AM	710	710	0
7:02 AM	717	717	0
7:03 AM	739	737	0
7:04 AM	749	749	0
7:05 AM	765	765	0
7:06 AM	771	771	0
7:07 AM	789	789	0
7:08 AM	808	808	0
7:09 AM	822	822	0
7:10 AM	833	833	0
7:11 AM	848	848	0
7:12 AM	871	868	0
7:13 AM	893	888	0
7:14 AM	910	908	0
7:15 AM	930	928	0
7:16 AM	943	943	0
7:17 AM	965	963	0
7:18 AM	981	981	0
7:19 AM	1002	1001	0
7:20 AM	1024	1021	0
7:21 AM	1047	1041	0
7:22 AM	1069	1061	0
7:23 AM	1086	1081	0
7:24 AM	1104	1101	0
7:25 AM	1119	1119	0
7:26 AM	1134	1134	0
7:27 AM	1157	1154	0
7:28 AM	1173	1173	0
7:29 AM	1186	1186	0
7:30 AM	1214	1206	0
7:31 AM	1235	1226	0
7:32 AM	1256	1246	0
7:33 AM	1278	1266	0
7:34 AM	1302	1286	0
7:35 AM	1329	1306	0
7:36 AM	1355	1326	0
7:37 AM	1375	1346	0
7:38 AM	1399	1366	0
7:39 AM	1418	1386	0
7:40 AM	1432	1406	0
7:41 AM	1455	1426	0
7:42 AM	1477	1446	0
7:43 AM	1507	1466	9
7:44 AM	1524	1486	0
7:45 AM	1543	1506	0
7:46 AM	1568	1526	52
7:47 AM	1592	1546	140
7:48 AM	1617	1566	277
7:49 AM	1644	1586	438
7:50 AM	1671	1606	624
7:51 AM	1695	1626	712
7:52 AM	1720	1646	848
7:53 AM	1747	1666	1010
7:54 AM	1766	1686	999
7:55 AM	1782	1706	891
7:56 AM	1803	1726	906
7:57 AM	1818	1746	798
7:58 AM	1837	1766	763
7:59 AM	1846	1786	483
8:00 AM	1869	1806	571
8:01 AM	1884	1826	439
8:02 AM	1899	1846	306
8:03 AM	1911	1866	124
8:04 AM	1926	1886	0
8:05 AM	1951	1906	104
8:06 AM	1965	1926	0
8:07 AM	1983	1946	0
8:08 AM	2002	1966	0
8:09 AM	2024	1986	0
8:10 AM	2042	2006	0
8:11 AM	2058	2026	0
8:12 AM	2083	2046	0
8:13 AM	2092	2066	0
8:14 AM	2112	2086	0
8:15 AM	2124	2106	0
8:16 AM	2140	2126	0
8:17 AM	2158	2146	0
8:18 AM	2177	2166	0
8:19 AM	2189	2186	0
8:20 AM	2206	2206	0
8:21 AM	2217	2217	0
8:22 AM	2232	2232	0
8:23 AM	2245	2245	0
8:24 AM	2255	2255	0
8:25 AM	2263	2263	0
8:26 AM	2279	2279	0
8:27 AM	2297	2297	0
8:28 AM	2312	2312	0
8:29 AM	2326	2326	0
8:30 AM	2340	2340	0
8:31 AM	2358	2358	0
8:32 AM	2372	2372	0
8:33 AM	2381	2381	0
8:34 AM	2395	2395	0
8:35 AM	2408	2408	0
8:36 AM	2424	2424	0
8:37 AM	2437	2437	0
8:38 AM	2454	2454	0
8:39 AM	2468	2468	0
8:40 AM	2485	2485	0
8:41 AM	2499	2499	0
8:42 AM	2511	2511	0
8:43 AM	2526	2526	0
8:44 AM	2542	2542	0
8:45 AM	2547	2547	0
8:46 AM	2560	2560	0
8:47 AM	2577	2577	0
8:48 AM	2589	2589	0
8:49 AM	2604	2604	0
8:50 AM	2616	2616	0
8:51 AM	2628	2628	0
8:52 AM	2637	2637	0
8:53 AM	2648	2648	0
8:54 AM	2665	2665	0
8:55 AM	2678	2678	0
8:56 AM	2688	2688	0
8:57 AM	2697	2697	0
8:58 AM	2715	2715	0
8:59 AM	2727	2727	0

PEAK HOUR I-90 EB

EB 195

		2026 PM w/ Project w/ SR195 IMP	**PM Adjustment factor**	0.93	PM k30 factor (R103)	1.14	
Storage Length	1000	**No. of Storage Lanes**	1	Ramp Meter Rate	800	**2-lane retrofit (use shoulder) alternate release Max rate = 1400**	
Time	**2021 PM Volume**	**Adjusted Volume**	**Vehicles released**	**Vehicles in queue**	**Queue length**	**Exceed Storage**	
3:00 PM	13	12	12	0	0	0	
3:01 PM	7	6	6	0	0	0	
3:02 PM	13	12	12	0	0	0	
3:03 PM	9	8	8	0	0	0	
3:04 PM	11	10	10	0	0	0	
3:05 PM	9	8	8	0	0	0	
3:06 PM	12	11	11	0	0	0	
3:07 PM	6	5	5	0	0	0	
3:08 PM	6	5	5	0	0	0	
3:09 PM	18	17	13	3	79	0	
3:10 PM	6	5	8	0	0	0	
3:11 PM	10	9	9	0	0	0	
3:12 PM	8	7	7	0	0	0	
3:13 PM	4	4	4	0	0	0	
3:14 PM	11	10	10	0	0	0	
3:15 PM	12	11	11	0	0	0	
3:16 PM	8	7	7	0	0	0	
3:17 PM	11	10	10	0	0	0	
3:18 PM	14	13	13	0	2	0	
3:19 PM	16	14	13	1	30	0	
3:20 PM	11	10	11	0	0	0	
3:21 PM	6	5	5	0	0	0	
3:22 PM	10	9	9	0	0	0	
3:23 PM	8	7	7	0	0	0	
3:24 PM	8	7	7	0	0	0	
3:25 PM	13	12	12	0	0	0	
3:26 PM	4	4	4	0	0	0	
3:27 PM	4	4	4	0	0	0	
3:28 PM	16	14	13	1	28	0	
3:29 PM	14	13	13	1	30	0	
3:30 PM	10	9	10	0	0	0	
3:31 PM	10	9	9	0	0	0	
3:32 PM	9	8	8	0	0	0	
3:33 PM	11	10	10	0	0	0	
3:34 PM	9	8	8	0	0	0	
3:35 PM	18	17	13	3	79	0	
3:36 PM	17	15	13	5	133	0	
3:37 PM	16	14	13	6	160	0	
3:38 PM	7	6	13	0	0	0	
3:39 PM	12	11	11	0	0	0	
3:40 PM	10	9	9	0	0	0	
3:41 PM	7	6	6	0	0	0	
3:42 PM	9	8	8	0	0	0	
3:43 PM	8	7	7	0	0	0	
3:44 PM	13	12	12	0	0	0	
3:45 PM	10	9	9	0	0	0	
3:46 PM	9	8	8	0	0	0	
3:47 PM	16	14	13	1	28	0	
3:48 PM	23	22	13	9	236	0	
3:49 PM	9	8	13	4	109	0	
3:50 PM	13	12	13	3	85	0	
3:51 PM	10	9	13	0	0	0	
3:52 PM	11	10	10	0	0	0	
3:53 PM	7	6	6	0	0	0	
3:54 PM	2	2	2	0	0	0	
3:55 PM	10	9	9	0	0	0	
3:56 PM	13	12	12	0	0	0	
3:57 PM	7	6	6	0	0	0	
3:58 PM	18	17	13	3	79	0	
3:59 PM	10	9	12	0	0	0	
4:00 PM	9	8	8	0	0	0	
4:01 PM	11	10	10	0	0	0	
4:02 PM	13	12	12	0	0	0	
4:03 PM	11	10	10	0	0	0	
4:04 PM	12	11	11	0	0	0	
4:05 PM	14	13	13	0	2	0	
4:06 PM	10	9	9	0	0	0	
4:07 PM	13	12	12	0	0	0	
4:08 PM	6	5	5	0	0	0	
4:09 PM	9	8	8	0	0	0	
4:10 PM	8	7	7	0	0	0	
4:11 PM	11	10	10	0	0	0	
4:12 PM	9	8	8	0	0	0	
4:13 PM	10	9	9	0	0	0	
4:14 PM	10	9	9	0	0	0	
4:15 PM	12	11	11	0	0	0	
4:16 PM	14	13	13	0	2	0	
4:17 PM	8	7	7	0	0	0	
4:18 PM	11	10	10	0	0	0	
4:19 PM	8	7	7	0	0	0	
4:20 PM	13	12	12	0	0	0	
4:21 PM	4	4	4	0	0	0	
4:22 PM	11	10	10	0	0	0	
4:23 PM	7	6	6	0	0	0	
4:24 PM	10	9	9	0	0	0	
4:25 PM	6	5	5	0	0	0	
4:26 PM	3	3	3	0	0	0	
4:27 PM	14	13	13	0	2	0	
4:28 PM	3	3	3	0	0	0	
4:29 PM	12	11	11	0	0	0	
4:30 PM	9	8	8	0	0	0	
4:31 PM	9	8	8	0	0	0	
4:32 PM	8	7	7	0	0	0	
4:33 PM	8	7	7	0	0	0	
4:34 PM	7	6	6	0	0	0	
4:35 PM	9	8	8	0	0	0	
4:36 PM	6	5	5	0	0	0	
4:37 PM	12	11	11	0	0	0	
4:38 PM	11	10	10	0	0	0	
4:39 PM	18	17	13	3	79	0	
4:40 PM	8	7	10	0	0	0	
4:41 PM	11	10	10	0	0	0	
4:42 PM	14	13	13	0	2	0	
4:43 PM	3	3	3	0	0	0	
4:44 PM	11	10	10	0	0	0	
4:45 PM	6	5	5	0	0	0	
4:46 PM	6	5	5	0	0	0	
4:47 PM	10	9	9	0	0	0	
4:48 PM	13	12	12	0	0	0	
4:49 PM	14	13	13	0	2	0	
4:50 PM	27	25	13	11	287	0	
4:51 PM	11	10	13	8	212	0	
4:52 PM	11	10	13	5	136	0	
4:53 PM	8	7	13	0	0	0	
4:54 PM	7	6	6	0	0	0	
4:55 PM	1	1	1	0	0	0	
4:56 PM	8	7	7	0	0	0	
4:57 PM	10	9	9	0	0	0	
4:58 PM	8	7	7	0	0	0	
4:59 PM	10	9	9	0	0	0	
5:00 PM	12	11	11	0	0	0	
5:01 PM	21	20	13	6	157	0	
5:02 PM	13	12	13	5	133	0	
5:03 PM	8	7	13	0	0	0	
5:04 PM	7	6	6	0	0	0	
5:05 PM	7	6	6	0	0	0	
5:06 PM	6	5	5	0	0	0	
5:07 PM	9	8	8	0	0	0	
5:08 PM	7	6	6	0	0	0	
5:09 PM	8	7	7	0	0	0	
5:10 PM	13	12	12	0	0	0	
5:11 PM	20	19	13	5	131	0	
5:12 PM	11	10	13	2	55	0	
5:13 PM	12	11	13	0	6	0	
5:14 PM	11	10	11	0	0	0	
5:15 PM	8	7	7	0	0	0	
5:16 PM	11	10	10	0	0	0	
5:17 PM	7	6	6	0	0	0	
5:18 PM	16	14	13	1	28	0	
5:19 PM	11	10	11	0	0	0	
5:20 PM	8	7	7	0	0	0	
5:21 PM	10	9	9	0	0	0	
5:22 PM	10	9	9	0	0	0	
5:23 PM	6	5	5	0	0	0	
5:24 PM	7	6	6	0	0	0	
5:25 PM	8	7	7	0	0	0	
5:26 PM	7	6	6	0	0	0	
5:27 PM	9	8	8	0	0	0	
5:28 PM	10	9	9	0	0	0	
5:29 PM	6	5	5	0	0	0	
5:30 PM	19	18	13	4	105	0	
5:31 PM	7	6	10	0	0	0	
5:32 PM	8	7	7	0	0	0	
5:33 PM	12	11	11	0	0	0	
5:34 PM	11	10	10	0	0	0	
5:35 PM	10	9	9	0	0	0	
5:36 PM	14	13	13	0	2	0	
5:37 PM	8	7	7	0	0	0	
5:38 PM	8	7	7	0	0	0	
5:39 PM	9	8	8	0	0	0	
5:40 PM	12	11	11	0	0	0	
5:41 PM	10	9	9	0	0	0	
5:42 PM	4	4	4	0	0	0	
5:43 PM	9	8	8	0	0	0	
5:44 PM	9	8	8	0	0	0	
5:45 PM	10	9	9	0	0	0	
5:46 PM	10	9	9	0	0	0	
5:47 PM	16	14	13	1	28	0	
5:48 PM	13	12	13	0	4	0	
5:49 PM	12	11	11	0	0	0	
5:50 PM	12	11	11	0	0	0	
5:51 PM	10	9	9	0	0	0	
5:52 PM	10	9	9	0	0	0	
5:53 PM	11	10	10	0	0	0	
5:54 PM	11	10	10	0	0	0	
5:55 PM	10	9	9	0	0	0	
5:56 PM	11	10	10	0	0	0	
5:57 PM	14	13	13	0	2	0	
5:58 PM	14	13	13	0	4	0	
5:59 PM	10	9	9	0	0	0	
3:16-4:16	643	598					

EB 195

Time	Cumulative	Cumulative	Excessive Queue Length
3:00 PM	12	12	0
3:01 PM	19	19	0
3:02 PM	31	31	0
3:03 PM	39	39	0
3:04 PM	50	50	0
3:05 PM	58	58	0
3:06 PM	69	69	0
3:07 PM	74	74	0
3:08 PM	79	79	0
3:09 PM	96	93	0
3:10 PM	101	101	0
3:11 PM	110	110	0
3:12 PM	118	118	0
3:13 PM	122	122	0
3:14 PM	132	132	0
3:15 PM	143	143	0
3:16 PM	151	151	0
3:17 PM	161	161	0
3:18 PM	174	174	0
3:19 PM	189	188	0
3:20 PM	199	199	0
3:21 PM	204	204	0
3:22 PM	213	213	0
3:23 PM	221	221	0
3:24 PM	228	228	0
3:25 PM	240	240	0
3:26 PM	244	244	0
3:27 PM	249	249	0
3:28 PM	263	262	0
3:29 PM	276	275	0
3:30 PM	286	286	0
3:31 PM	295	295	0
3:32 PM	303	303	0
3:33 PM	314	314	0
3:34 PM	322	322	0
3:35 PM	338	335	0
3:36 PM	354	348	0
3:37 PM	368	362	0
3:38 PM	374	374	0
3:39 PM	386	386	0
3:40 PM	395	395	0
3:41 PM	401	401	0
3:42 PM	409	409	0
3:43 PM	417	417	0
3:44 PM	429	429	0
3:45 PM	438	438	0
3:46 PM	447	447	0
3:47 PM	461	460	0
3:48 PM	483	473	0
3:49 PM	491	487	0
3:50 PM	503	500	0
3:51 PM	513	513	0
3:52 PM	523	523	0
3:53 PM	529	529	0
3:54 PM	531	531	0
3:55 PM	540	540	0
3:56 PM	553	553	0
3:57 PM	559	559	0
3:58 PM	576	572	0
3:59 PM	585	585	0
4:00 PM	593	593	0
4:01 PM	603	603	0
4:02 PM	616	616	0
4:03 PM	626	626	0
4:04 PM	637	637	0
4:05 PM	651	651	0
4:06 PM	660	660	0
4:07 PM	672	672	0
4:08 PM	678	678	0
4:09 PM	686	686	0
4:10 PM	693	693	0
4:11 PM	703	703	0
4:12 PM	712	712	0
4:13 PM	721	721	0
4:14 PM	730	730	0
4:15 PM	742	742	0
4:16 PM	755	755	0
4:17 PM	762	762	0
4:18 PM	772	772	0
4:19 PM	780	780	0
4:20 PM	792	792	0
4:21 PM	796	796	0
4:22 PM	807	807	0
4:23 PM	813	813	0
4:24 PM	822	822	0
4:25 PM	827	827	0
4:26 PM	830	830	0
4:27 PM	844	844	0
4:28 PM	847	847	0
4:29 PM	858	858	0
4:30 PM	866	866	0
4:31 PM	875	875	0
4:32 PM	882	882	0
4:33 PM	889	889	0
4:34 PM	895	895	0
4:35 PM	903	903	0
4:36 PM	909	909	0
4:37 PM	920	920	0
4:38 PM	930	930	0
4:39 PM	947	944	0
4:40 PM	954	954	0
4:41 PM	964	964	0
4:42 PM	978	978	0
4:43 PM	981	981	0
4:44 PM	991	991	0
4:45 PM	996	996	0
4:46 PM	1001	1001	0
4:47 PM	1011	1011	0
4:48 PM	1023	1023	0
4:49 PM	1037	1036	0
4:50 PM	1061	1050	0
4:51 PM	1072	1063	0
4:52 PM	1082	1076	0
4:53 PM	1089	1089	0
4:54 PM	1095	1095	0
4:55 PM	1096	1096	0
4:56 PM	1104	1104	0
4:57 PM	1113	1113	0
4:58 PM	1120	1120	0
4:59 PM	1129	1129	0
5:00 PM	1141	1141	0
5:01 PM	1160	1154	0
5:02 PM	1173	1167	0
5:03 PM	1180	1180	0
5:04 PM	1186	1186	0
5:05 PM	1192	1192	0
5:06 PM	1197	1197	0
5:07 PM	1206	1206	0
5:08 PM	1212	1212	0
5:09 PM	1219	1219	0
5:10 PM	1231	1231	0
5:11 PM	1250	1245	0
5:12 PM	1260	1258	0
5:13 PM	1272	1271	0
5:14 PM	1282	1282	0
5:15 PM	1289	1289	0
5:16 PM	1300	1300	0
5:17 PM	1306	1306	0
5:18 PM	1320	1319	0
5:19 PM	1330	1330	0
5:20 PM	1338	1338	0
5:21 PM	1347	1347	0
5:22 PM	1356	1356	0
5:23 PM	1361	1361	0
5:24 PM	1368	1368	0
5:25 PM	1375	1375	0
5:26 PM	1381	1381	0
5:27 PM	1389	1389	0
5:28 PM	1399	1399	0
5:29 PM	1404	1404	0
5:30 PM	1421	1417	0
5:31 PM	1427	1427	0
5:32 PM	1435	1435	0
5:33 PM	1446	1446	0
5:34 PM	1456	1456	0
5:35 PM	1466	1466	0
5:36 PM	1479	1479	0
5:37 PM	1486	1486	0
5:38 PM	1493	1493	0
5:39 PM	1502	1502	0
5:40 PM	1513	1513	0
5:41 PM	1522	1522	0
5:42 PM	1526	1526	0
5:43 PM	1535	1535	0
5:44 PM	1543	1543	0
5:45 PM	1552	1552	0
5:46 PM	1561	1561	0
5:47 PM	1576	1575	0
5:48 PM	1588	1588	0
5:49 PM	1600	1600	0
5:50 PM	1611	1611	0
5:51 PM	1620	1620	0
5:52 PM	1630	1630	0
5:53 PM	1640	1640	0
5:54 PM	1650	1650	0
5:55 PM	1659	1659	0
5:56 PM	1670	1670	0
5:57 PM	1683	1683	0
5:58 PM	1697	1696	0
5:59 PM	1706	1706	0

PEAK HOUR I-90 EB

THE TIME PERIOD WITH QUEUE BEYOND THE STORAGE AFTER I-90 EB PEAK HOUR

EB 195

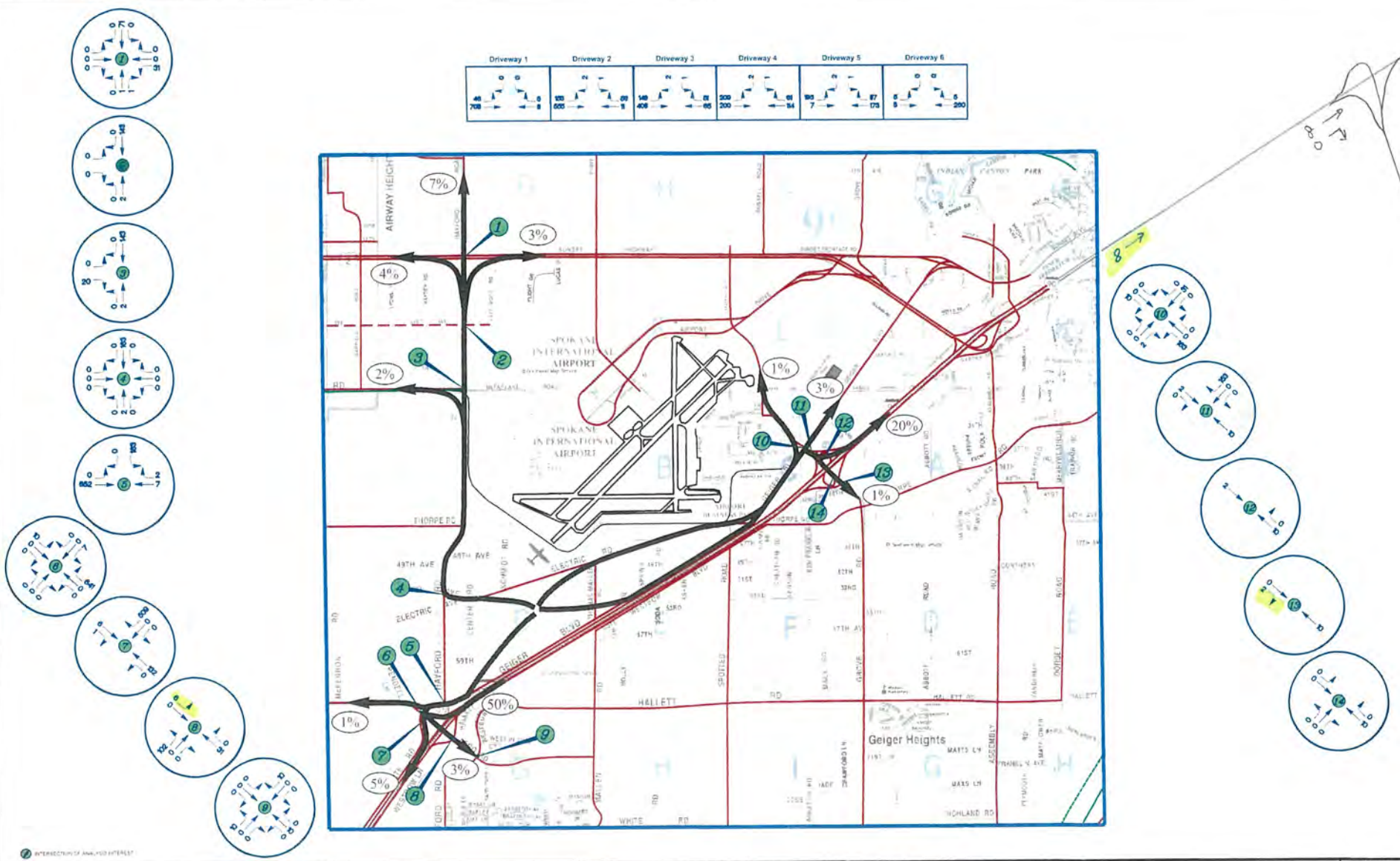
2026 PM w/ Project w/ SR195 IMP(500 vph)

			PM Adjustment factor	0.93	PM k30 factor (R103)	1.14	
Storage Length	1000	**No. of Lanes**	1	Ramp Meter Rate	500	2-lane retrofit (use shoulder) alternate release Max rate = 1400	

Time	2021 PM Volume	Adjusted Volume	Vehicles released	Vehicles in queue	Queue length	Exceed Storage
3:00 PM	13	12	8	4	101	0
3:01 PM	7	6	8	2	47	0
3:02 PM	13	12	8	6	149	0
3:03 PM	9	8	8	6	146	0
3:04 PM	11	10	8	8	196	0
3:05 PM	9	8	8	8	194	0
3:06 PM	12	11	8	11	269	0
3:07 PM	6	5	8	8	190	0
3:08 PM	6	5	8	4	110	0
3:09 PM	18	17	8	13	315	0
3:10 PM	6	5	8	9	235	0
3:11 PM	10	9	8	10	259	0
3:12 PM	8	7	8	9	231	0
3:13 PM	4	4	8	5	126	0
3:14 PM	11	10	8	7	175	0
3:15 PM	12	11	8	10	251	0
3:16 PM	8	7	8	9	223	0
3:17 PM	11	10	8	11	272	0
3:18 PM	14	13	8	16	399	0
3:19 PM	16	14	8	22	552	0
3:20 PM	11	10	8	24	601	0
3:21 PM	6	5	8	21	522	0
3:22 PM	10	9	8	22	546	0
3:23 PM	8	7	8	21	518	0
3:24 PM	8	7	8	20	490	0
3:25 PM	13	12	8	24	591	0
3:26 PM	4	4	8	19	486	0
3:27 PM	4	4	8	15	381	0
3:28 PM	16	14	8	21	533	0
3:29 PM	14	13	8	26	660	0
3:30 PM	10	9	8	27	684	0
3:31 PM	10	9	8	28	708	0
3:32 PM	9	8	8	28	706	0
3:33 PM	11	10	8	30	755	0
3:34 PM	9	8	8	30	753	0
3:35 PM	18	17	8	38	957	0
3:36 PM	17	15	8	45	1136	136
3:37 PM	16	14	8	52	1288	288
3:38 PM	7	6	8	49	1235	235
3:39 PM	12	11	8	52	1310	310
3:40 PM	10	9	8	53	1334	334
3:41 PM	7	6	8	51	1280	280
3:42 PM	9	8	8	51	1278	278
3:43 PM	8	7	8	50	1250	250
3:44 PM	13	12	8	54	1351	351
3:45 PM	10	9	8	55	1375	375
3:46 PM	9	8	8	55	1373	373
3:47 PM	16	14	8	61	1526	526
3:48 PM	23	22	8	74	1859	859
3:49 PM	9	8	8	74	1857	857
3:50 PM	13	12	8	78	1958	958
3:51 PM	10	9	8	79	1981	981
3:52 PM	11	10	8	81	2031	1031
3:53 PM	7	6	8	79	1977	977
3:54 PM	2	2	8	73	1821	821
3:55 PM	10	9	8	74	1844	844
3:56 PM	13	12	8	78	1945	945
3:57 PM	7	6	8	76	1892	892
3:58 PM	18	17	8	84	2096	1096
3:59 PM	10	9	8	85	2120	1120
4:00 PM	9	8	8	85	2118	1118
4:01 PM	11	10	8	87	2167	1167
4:02 PM	13	12	8	91	2268	1268
4:03 PM	11	10	8	93	2318	1318
4:04 PM	12	11	8	96	2393	1393
4:05 PM	14	13	8	101	2520	1520
4:06 PM	10	9	8	102	2544	1544
4:07 PM	13	12	8	106	2645	1645
4:08 PM	6	5	8	103	2565	1565
4:09 PM	9	8	8	103	2563	1563
4:10 PM	8	7	8	101	2535	1535
4:11 PM	11	10	8	103	2585	1585
4:12 PM	9	8	8	103	2583	1583
4:13 PM	10	9	8	104	2607	1607
4:14 PM	10	9	8	105	2630	1630
4:15 PM	12	11	8	108	2706	1706
4:16 PM	14	13	8	113	2832	1832
4:17 PM	8	7	8	112	2805	1805
4:18 PM	11	10	8	114	2854	1854
4:19 PM	8	7	8	113	2826	1826
4:20 PM	13	12	8	117	2927	1927
4:21 PM	4	4	8	113	2822	1822
4:22 PM	11	10	8	115	2872	1872
4:23 PM	7	6	8	113	2818	1818
4:24 PM	10	9	8	114	2842	1842
4:25 PM	6	5	8	110	2762	1762
4:26 PM	3	3	8	105	2631	1631
4:27 PM	14	13	8	110	2758	1758
4:28 PM	3	3	8	105	2627	1627
4:29 PM	12	11	8	108	2702	1702
4:30 PM	9	8	8	108	2700	1700
4:31 PM	9	8	8	108	2698	1698
4:32 PM	8	7	8	107	2671	1671
4:33 PM	8	7	8	106	2643	1643
4:34 PM	7	6	8	104	2589	1589
4:35 PM	9	8	8	103	2587	1587
4:36 PM	6	5	8	100	2508	1508
4:37 PM	12	11	8	103	2583	1583
4:38 PM	11	10	8	105	2632	1632
4:39 PM	18	17	8	113	2837	1837
4:40 PM	8	7	8	112	2809	1809
4:41 PM	11	10	8	114	2858	1858
4:42 PM	14	13	8	119	2985	1985
4:43 PM	3	3	8	114	2854	1854
4:44 PM	11	10	8	116	2904	1904
4:45 PM	6	5	8	113	2824	1824
4:46 PM	6	5	8	110	2745	1745
4:47 PM	10	9	8	111	2769	1769
4:48 PM	13	12	8	115	2870	1870
4:49 PM	14	13	8	120	2997	1997
4:50 PM	27	25	8	136	3407	2407
4:51 PM	11	10	8	138	3457	2457
4:52 PM	11	10	8	140	3506	2506
4:53 PM	8	7	8	139	3478	2478
4:54 PM	7	6	8	137	3425	2425
4:55 PM	1	1	8	130	3242	2242
4:56 PM	8	7	8	129	3214	2214
4:57 PM	10	9	8	130	3238	2238
4:58 PM	8	7	8	128	3210	2210
4:59 PM	10	9	8	129	3234	2234
5:00 PM	12	11	8	132	3309	2309
5:01 PM	21	20	8	144	3591	2591
5:02 PM	13	12	8	148	3692	2692
5:03 PM	8	7	8	147	3664	2664
5:04 PM	7	6	8	144	3610	2610
5:05 PM	7	6	8	142	3557	2557
5:06 PM	6	5	8	139	3477	2477
5:07 PM	9	8	8	139	3475	2475
5:08 PM	7	6	8	137	3421	2421
5:09 PM	8	7	8	136	3394	2394
5:10 PM	13	12	8	140	3495	2495
5:11 PM	20	19	8	150	3751	2751
5:12 PM	11	10	8	152	3800	2800
5:13 PM	12	11	8	155	3875	2875
5:14 PM	11	10	8	157	3925	2925
5:15 PM	8	7	8	156	3897	2897
5:16 PM	11	10	8	158	3946	2946
5:17 PM	7	6	8	156	3893	2893
5:18 PM	16	14	8	162	4046	3046
5:19 PM	11	10	8	164	4095	3095
5:20 PM	8	7	8	163	4067	3067
5:21 PM	10	9	8	164	4091	3091
5:22 PM	10	9	8	165	4115	3115
5:23 PM	6	5	8	161	4035	3035
5:24 PM	7	6	8	159	3982	2982
5:25 PM	8	7	8	158	3954	2954
5:26 PM	7	6	8	156	3900	2900
5:27 PM	9	8	8	156	3898	2898
5:28 PM	10	9	8	157	3922	2922
5:29 PM	6	5	8	154	3842	2842
5:30 PM	19	18	8	163	4072	3072
5:31 PM	7	6	8	161	4019	3019
5:32 PM	8	7	8	160	3991	2991
5:33 PM	12	11	8	163	4066	3066
5:34 PM	11	10	8	165	4116	3116
5:35 PM	10	9	8	166	4139	3139
5:36 PM	14	13	8	171	4266	3266
5:37 PM	8	7	8	170	4238	3238
5:38 PM	8	7	8	168	4211	3211
5:39 PM	9	8	8	168	4209	3209
5:40 PM	12	11	8	171	4284	3284
5:41 PM	10	9	8	172	4308	3308
5:42 PM	4	4	8	168	4202	3202
5:43 PM	9	8	8	168	4200	3200
5:44 PM	9	8	8	168	4198	3198
5:45 PM	10	9	8	169	4222	3222
5:46 PM	10	9	8	170	4246	3246
5:47 PM	16	14	8	176	4398	3398
5:48 PM	13	12	8	180	4499	3499
5:49 PM	12	11	8	183	4575	3575
5:50 PM	12	11	8	186	4650	3650
5:51 PM	10	9	8	187	4674	3674
5:52 PM	10	9	8	188	4697	3697
5:53 PM	11	10	8	190	4747	3747
5:54 PM	11	10	8	192	4796	3796
5:55 PM	10	9	8	193	4820	3820
5:56 PM	11	10	8	195	4870	3870
5:57 PM	14	13	8	200	4997	3997
5:58 PM	14	13	8	205	5123	4123
5:59 PM	10	9	8	206	5147	4147
3:16-4:16	643	598				

EB 195

Time	Cumulative Volume	Cumulative Adjusted Volume	Excessive Queue Length
3:00 PM	12	8	0
3:01 PM	19	17	0
3:02 PM	31	25	0
3:03 PM	39	33	0
3:04 PM	50	42	0
3:05 PM	58	50	0
3:06 PM	69	58	0
3:07 PM	74	67	0
3:08 PM	79	75	0
3:09 PM	96	83	0
3:10 PM	101	92	0
3:11 PM	110	100	0
3:12 PM	118	108	0
3:13 PM	122	117	0
3:14 PM	132	125	0
3:15 PM	143	133	0
3:16 PM	151	142	0
3:17 PM	161	150	0
3:18 PM	174	158	0
3:19 PM	189	167	0
3:20 PM	199	175	0
3:21 PM	204	183	0
3:22 PM	213	192	0
3:23 PM	221	200	0
3:24 PM	228	208	0
3:25 PM	240	217	0
3:26 PM	244	225	0
3:27 PM	249	233	0
3:28 PM	263	242	0
3:29 PM	276	250	0
3:30 PM	286	258	0
3:31 PM	295	267	0
3:32 PM	303	275	0
3:33 PM	314	283	0
3:34 PM	322	292	0
3:35 PM	338	300	0
3:36 PM	354	308	136
3:37 PM	368	317	288
3:38 PM	374	325	235
3:39 PM	386	333	310
3:40 PM	395	342	334
3:41 PM	401	350	280
3:42 PM	409	358	278
3:43 PM	417	367	250
3:44 PM	429	375	351
3:45 PM	438	383	375
3:46 PM	447	392	373
3:47 PM	461	400	526
3:48 PM	483	408	859
3:49 PM	491	417	857
3:50 PM	503	425	958
3:51 PM	513	433	981
3:52 PM	523	442	1031
3:53 PM	529	450	977
3:54 PM	531	458	821
3:55 PM	540	467	844
3:56 PM	553	475	945
3:57 PM	559	483	892
3:58 PM	576	492	1096
3:59 PM	585	500	1120
4:00 PM	593	508	1118
4:01 PM	603	517	1167
4:02 PM	616	525	1268
4:03 PM	626	533	1318
4:04 PM	637	542	1393
4:05 PM	651	550	1520
4:06 PM	660	558	1544
4:07 PM	672	567	1645
4:08 PM	678	575	1565
4:09 PM	686	583	1563
4:10 PM	693	592	1535
4:11 PM	703	600	1585
4:12 PM	712	608	1583
4:13 PM	721	617	1607
4:14 PM	730	625	1630
4:15 PM	742	633	1706
4:16 PM	755	642	1832
4:17 PM	762	650	1805
4:18 PM	772	658	1854
4:19 PM	780	667	1826
4:20 PM	792	675	1927
4:21 PM	796	683	1822
4:22 PM	807	692	1872
4:23 PM	813	700	1818
4:24 PM	822	708	1842
4:25 PM	827	717	1762
4:26 PM	830	725	1631
4:27 PM	844	733	1758
4:28 PM	847	742	1627
4:29 PM	858	750	1702
4:30 PM	866	758	1700
4:31 PM	875	767	1698
4:32 PM	882	775	1671
4:33 PM	889	783	1643
4:34 PM	895	792	1589
4:35 PM	903	800	1587
4:36 PM	909	808	1508
4:37 PM	920	817	1583
4:38 PM	930	825	1632
4:39 PM	947	833	1837
4:40 PM	954	842	1809
4:41 PM	964	850	1858
4:42 PM	978	858	1985
4:43 PM	981	867	1854
4:44 PM	991	875	1904
4:45 PM	996	883	1824
4:46 PM	1001	892	1745
4:47 PM	1011	900	1769
4:48 PM	1023	908	1870
4:49 PM	1037	917	1997
4:50 PM	1061	925	2407
4:51 PM	1072	933	2457
4:52 PM	1082	942	2506
4:53 PM	1089	950	2478
4:54 PM	1095	958	2425
4:55 PM	1096	967	2242
4:56 PM	1104	975	2214
4:57 PM	1113	983	2238
4:58 PM	1120	992	2210
4:59 PM	1129	1000	2234
5:00 PM	1141	1008	2309
5:01 PM	1160	1017	2591
5:02 PM	1173	1025	2692
5:03 PM	1180	1033	2664
5:04 PM	1186	1042	2610
5:05 PM	1192	1050	2557
5:06 PM	1197	1058	2477
5:07 PM	1206	1067	2475
5:08 PM	1212	1075	2421
5:09 PM	1219	1083	2394
5:10 PM	1231	1092	2495
5:11 PM	1250	1100	2751
5:12 PM	1260	1108	2800
5:13 PM	1272	1117	2875
5:14 PM	1282	1125	2925
5:15 PM	1289	1133	2897
5:16 PM	1300	1142	2946
5:17 PM	1306	1150	2893
5:18 PM	1320	1158	3046
5:19 PM	1330	1167	3095
5:20 PM	1338	1175	3067
5:21 PM	1347	1183	3091
5:22 PM	1356	1192	3115
5:23 PM	1361	1200	3035
5:24 PM	1368	1208	2982
5:25 PM	1375	1217	2954
5:26 PM	1381	1225	2900
5:27 PM	1389	1233	2898
5:28 PM	1399	1242	2922
5:29 PM	1404	1250	2842
5:30 PM	1421	1258	3072
5:31 PM	1427	1267	3019
5:32 PM	1435	1275	2991
5:33 PM	1446	1283	3066
5:34 PM	1456	1292	3116
5:35 PM	1466	1300	3139
5:36 PM	1479	1308	3266
5:37 PM	1486	1317	3238
5:38 PM	1493	1325	3211
5:39 PM	1502	1333	3209
5:40 PM	1513	1342	3284
5:41 PM	1522	1350	3308
5:42 PM	1526	1358	3202
5:43 PM	1535	1367	3200
5:44 PM	1543	1375	3198
5:45 PM	1552	1383	3222
5:46 PM	1561	1392	3246
5:47 PM	1576	1400	3398
5:48 PM	1588	1408	3499
5:49 PM	1600	1417	3575
5:50 PM	1611	1425	3650
5:51 PM	1620	1433	3674
5:52 PM	1630	1442	3697
5:53 PM	1640	1450	3747
5:54 PM	1650	1458	3796
5:55 PM	1659	1467	3820
5:56 PM	1670	1475	3870
5:57 PM	1683	1483	3997
5:58 PM	1697	1492	4123
5:59 PM	1706	1500	4147



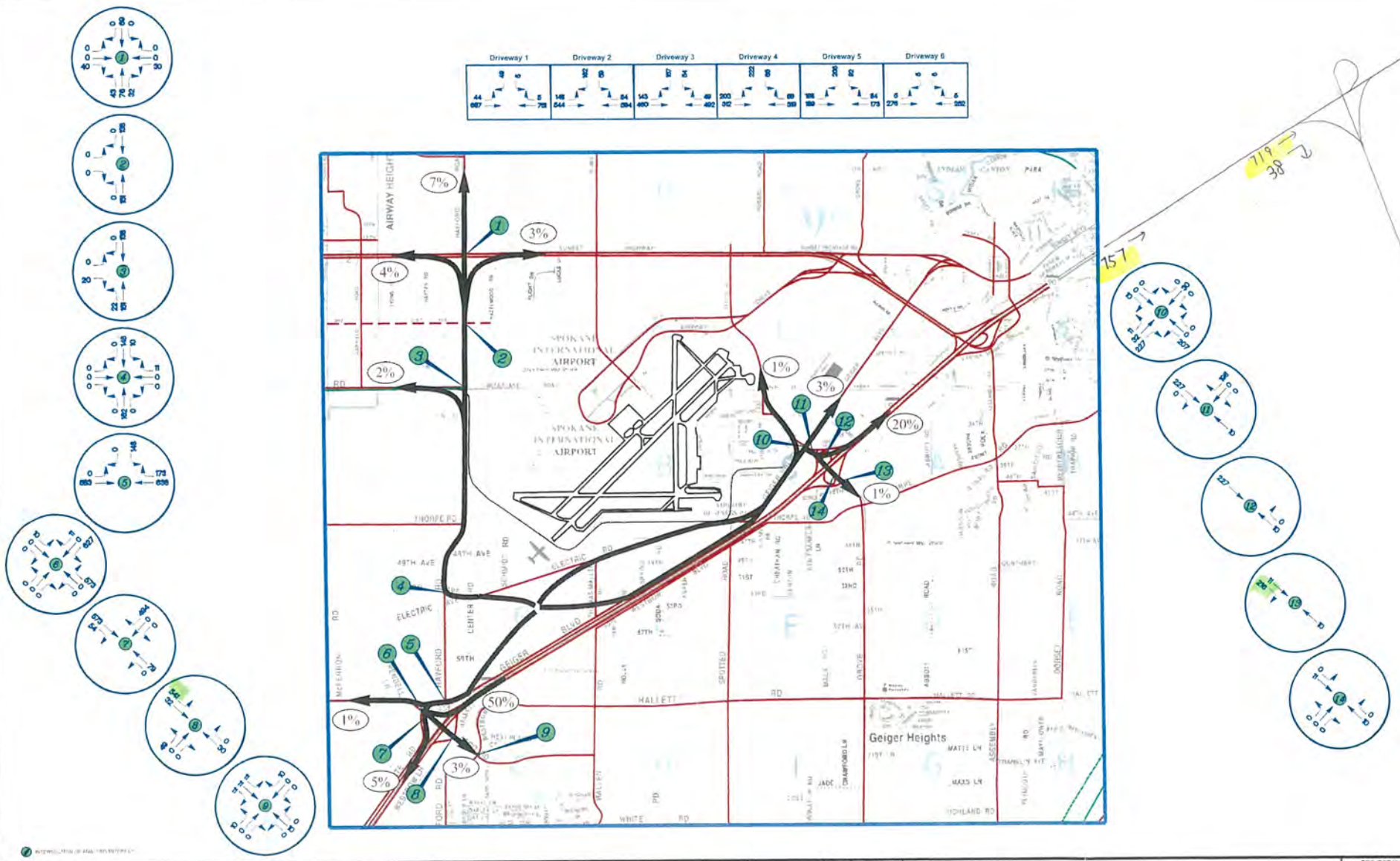
REVISIONS			
NO.	DESCRIPTION	DATE	BY

Morrison Maierle
engineers • surveyors • planners • scientists

DRAWN BY: MMM
DSGN. BY: MMM
APPR. BY: WDW
DATE: ###
QC. REVIEW BY: ###
DATE: ###

TRAMMEL - PROJECT ROSE DISTRIBUTION FACILITY
SPOKANE COUNTY WASHINGTON
PROJECT TRIP DISTRIBUTION AND ASSIGNMENT, TYPICAL EMPLOYMENT CONDITION
AM PEAK HOUR

PROJECT NUMBER 5148003.010
SHEET NUMBER #
DRAWING NUMBER F6



REVISIONS			
NO.	DESCRIPTION	DATE	BY

Morrison Maierle
engineers • surveyors • planners • scientists

DRAWN BY: MMM
DSGN. BY: MMM
APPR. BY: WDW
DATE: ###
QC REVIEW BY: ###
DATE: ###

TRAMMEL - PROJECT ROSE DISTRIBUTION FACILITY
SPOKANE COUNTY WASHINGTON
PROJECT TRIP DISTRIBUTION AND ASSIGNMENT, TYPICAL EMPLOYMENT CONDITION
PM PEAK HOUR

PROJECT NUMBER 5148003.010
SHEET NUMBER #
DRAWING NUMBER F7

16th Ave

Existing

PM: 22 ↑, 2 →, 138 ↓

AM: 54 ↑, 2 →, 50 ↓

Redirect ALL 22 go to I-90 assume 90% to EB ramp

∴ 20 Trips Route to Sunset Highway

∴ 53 Trips Route to Sunset Highway

Redirected

142 ↓ ↑ ↱ 22

6 from Thorpe

from IEW

Existing

-20 PM Trips

-53 AM

58 ↓ ↑ 6 ↱ 2

Thorpe

Existing

PM: 61 ↰ ↑ ↱ 89

AM: 3 ↰ 29 ↑ 11 ↱

Redirect

of the 596

86% continue past 16th ≈ 512

of the 512 volume

78% use EB Ramp ≈ 399

of the 399 volume

15% are anticipated to be redirected at Thorpe ≈ 60.

(584/678) (1057/1237) 93%

1282

1000

150

Redirected

61 ↰ ↑ 925 ↱ 821

58 ↰ ↑ 120 ↱ 267

Existing

-60 PM Trips

-27 from IEW

-150 Existing AM trips

-60 from IEW

Cheney Spokane — IEW

Existing

PM: ↑ 34

AM: 710 ↑

Redirect

of the 353

91% continue past Thorpe ≈ 321

of the 321

86% continue past 16th ≈ 276

of the 276 Volume

78% use the EB Ramp ≈ 215

of the 215 Volume

15% are anticipate to be redirected at Thorpe ≈ 32 ∴ 183

of the 183

15% are anticipated to be redirected at IEW ≈ 27 ∴ 156

719

90%

647

93%

602

470

71 ∴ 399

60 ∴ 339

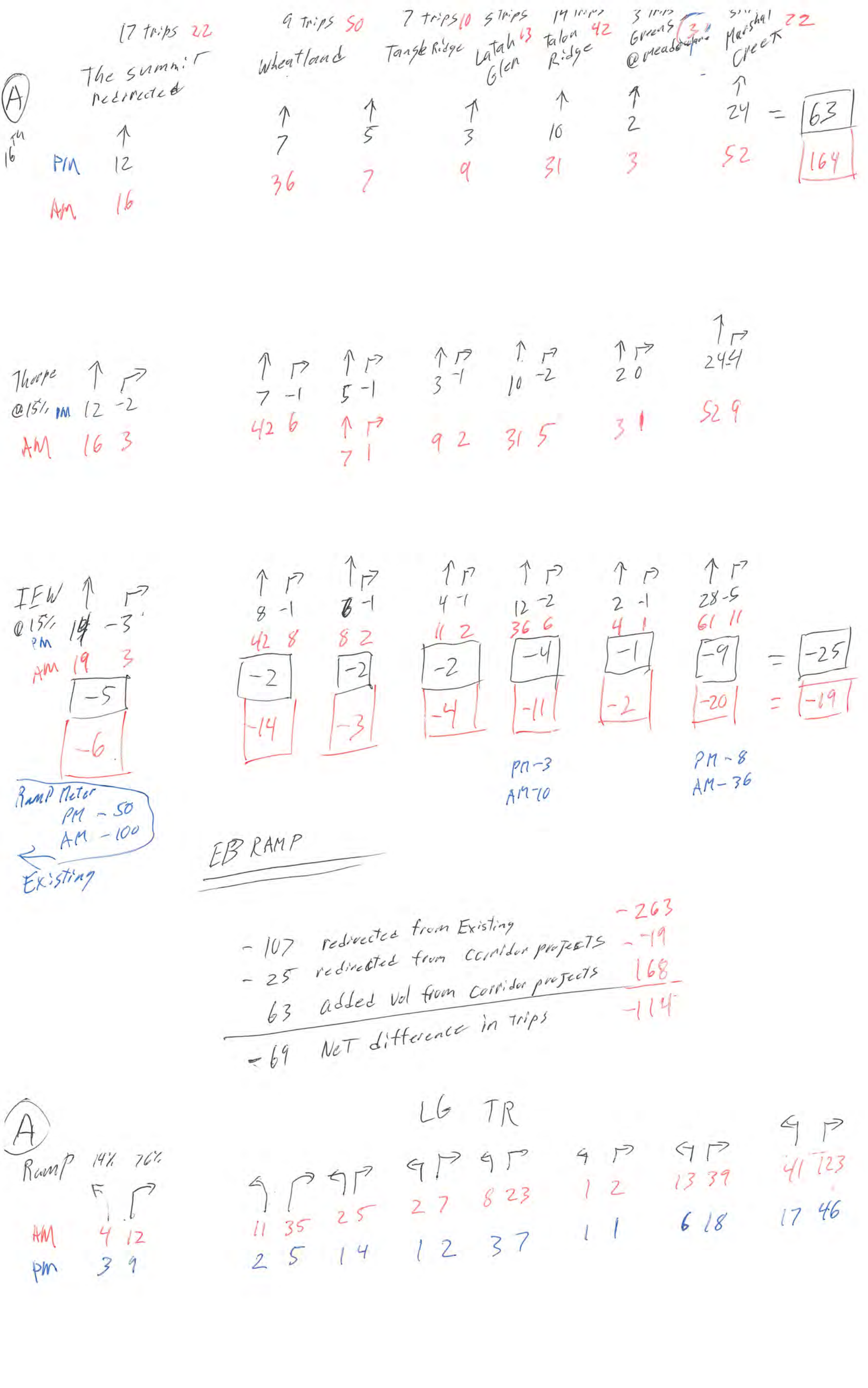
Existing

-27 PM Trips

-60 AM Trips

-107 Redirected from Existing

-263

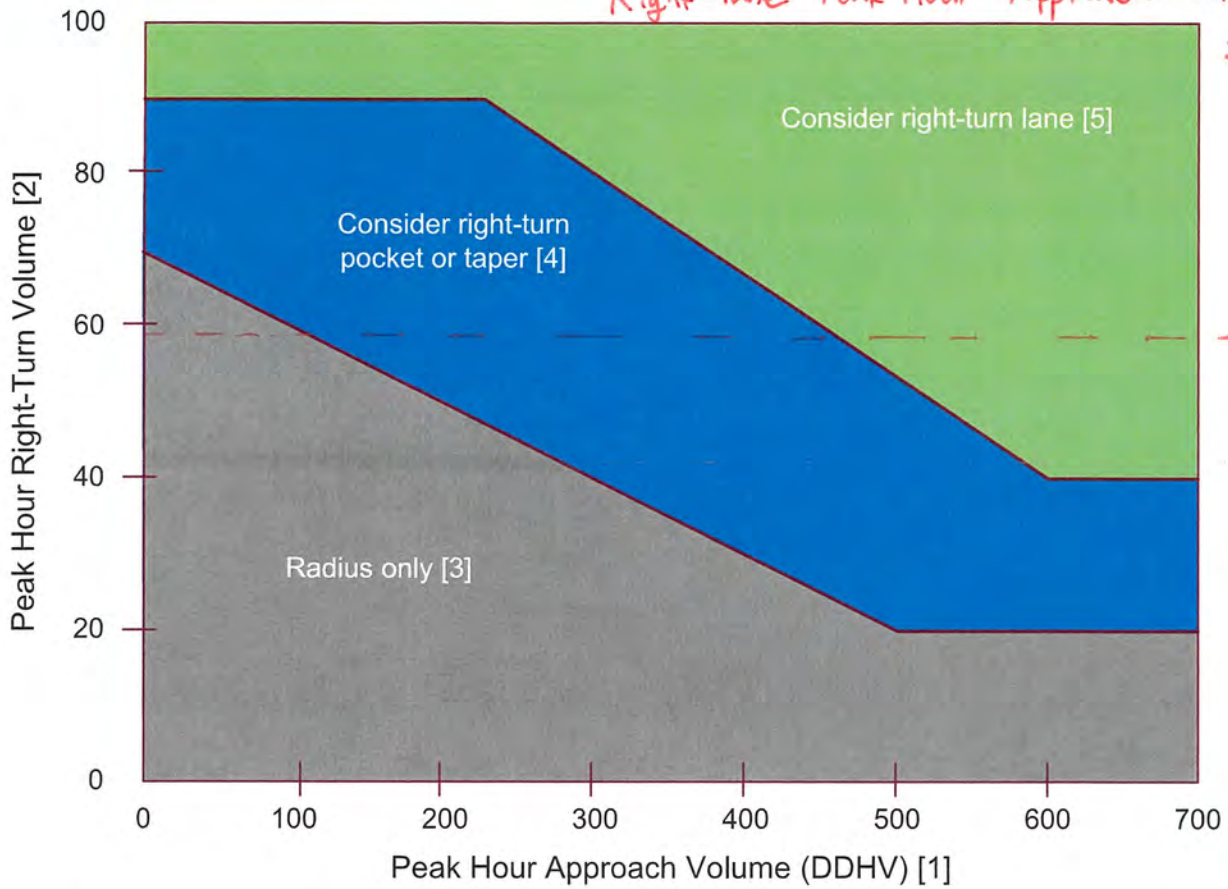

17 trips 22
The summit redirected
A
16th
PM 12
AM 16
9 trips 50
Wheatland
7 trips 10
Tarsk Ridge
5 trips
Latah Glen 63
14 trips
Talon Ridge 42
3 trips
Green's @ Meadowpine 3
Marshal Creek 22
7
5
3
10
2
24 = 63
36
7
9
31
3
52
164
Thorpe @15% PM 12 -2
AM 16 3
7 -1
42 6
5 -1
7 1
3 -1
9 2
10 -2
31 5
2 0
3 1
24 4
52 9
IEW @15% PM 19 -3
AM 19 3
-5
-6
Ramp Meter
PM - 50
AM - 100
Existing
8 -1
42 8
-2
-14
-1
8 2
-2
-3
4 -1
11 2
-2
-4
12 -2
36 6
-4
-11
PM -3
AM -10
2 -1
4 1
-1
-2
28 -5
61 11
-9
-20
PM -8
AM -36
= -25
= -19
EB RAMP
-107 redirected from Existing
-25 redirected from corridor projects
63 added vol from corridor projects
-69 NET difference in trips
-263
-19
168
-114
A
Ramp 14% 76%
AM 4 12
pm 3 9
LG TR
11 35
2 5
25
14
2 7
1 2
8 23
3 7
1 2
1 1
13 39
6 18
41 123
17 46

RIGHT TURN LANE WARRANT ANALYSIS

Inland Empire Way & US 195

Exhibit 1310-11 Right-Turn Lane Guidelines

SB Right-Turn Vol. ⇒ 59 vph
Right-lane Peak Hour Approach Vol. (DDHV) ⇒ 1,230 vph



Notes:

[1] For two-lane highways, use the peak hour DDHV (through + right-turn). For multilane, highways (posted speed 45 mph or above), use the right-lane peak hour approach volume (through + right-turn).

[2] When all three of the following conditions are met, reduce the right-turn DDHV by 20:

- The posted speed is 45 mph or below
- The right-turn volume is greater than 40 VPH
- The peak hour approach volume (DDHV) is less than 300 VPH

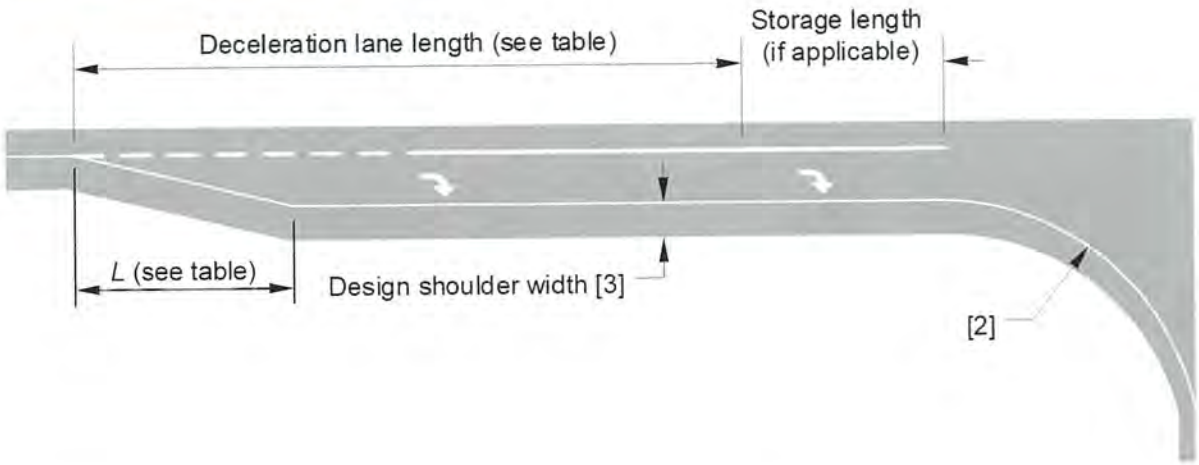
[3] For right-turn corner design, see Exhibit 1310-6.

[4] For right-turn pocket or taper design, see Exhibit 1310-12.

[5] For right-turn lane design, see Exhibit 1310-13.

An acceleration lane (see Exhibit 1310-14) is not as advantageous because entering drivers can wait for an opportunity to merge without disrupting through traffic. However, acceleration lanes for left-turning vehicles provide a benefit by allowing the turn to be made in two movements.

Exhibit 1310-13 Right-Turn Lane



Highway Design Speed (mph)	Deceleration Lane Length (ft)
30	160 [1]
35	220
40	275
45	350
50	425
55	515
60	605
65	715
70	820

Minimum Deceleration Lane Length (ft)

Posted Speed Limit	*L*
Below 40 mph	40 ft
40 mph or above	100 ft

Grade	Upgrade	Downgrade
3% to less than 5%	0.9	1.2
5% or more	0.8	1.35

Adjustment Multiplier for Grades 3% or Greater

Notes:

[1] When adjusting for grade, do not reduce the deceleration lane to less than 150 ft.

[2] For right-turn corner design, see Exhibit 1310-6.

[3] See 1310.03(6) and Chapter 1230.

General:

For pavement marking details, see the *Standard Plans* and the MUTCD.

LOS ANALYSIS AT 23RD AVE (THORPE RD) & IEW

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	130	1	13	24	6	15
Future Vol, veh/h	130	1	13	24	6	15
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	13	13	22	22
Mvmt Flow	148	1	15	27	7	17
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.2	7.8	7.4
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	35%	99%	0%
Vol Thru, %	65%	0%	29%
Vol Right, %	0%	1%	71%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	37	131	21
LT Vol	13	130	0
Through Vol	24	0	6
RT Vol	0	1	15
Lane Flow Rate	42	149	24
Geometry Grp	1	1	1
Degree of Util (X)	0.052	0.175	0.028
Departure Headway (Hd)	4.471	4.241	4.238
Convergence, Y/N	Yes	Yes	Yes
Cap	790	843	850
Service Time	2.563	2.283	2.238
HCM Lane V/C Ratio	0.053	0.177	0.028
HCM Control Delay	7.8	8.2	7.4
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.2	0.6	0.1

Intersection	
Intersection Delay, s/veh	7.5
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	62	15	15	18	32	40
Future Vol, veh/h	62	15	15	18	32	40
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	0	0	4	4	0	0
Mvmt Flow	71	17	17	21	37	46
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.7	7.5	7.2
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	45%	81%	0%
Vol Thru, %	55%	0%	44%
Vol Right, %	0%	19%	56%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	33	77	72
LT Vol	15	62	0
Through Vol	18	0	32
RT Vol	0	15	40
Lane Flow Rate	38	89	83
Geometry Grp	1	1	1
Degree of Util (X)	0.045	0.102	0.086
Departure Headway (Hd)	4.279	4.153	3.751
Convergence, Y/N	Yes	Yes	Yes
Cap	831	859	947
Service Time	2.336	2.197	1.806
HCM Lane V/C Ratio	0.046	0.104	0.088
HCM Control Delay	7.5	7.7	7.2
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.1	0.3	0.3

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	136	1	14	25	6	16
Future Vol, veh/h	136	1	14	25	6	16
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	13	13	22	22
Mvmt Flow	155	1	16	28	7	18
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.3	7.9	7.4
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	36%	99%	0%
Vol Thru, %	64%	0%	27%
Vol Right, %	0%	1%	73%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	39	137	22
LT Vol	14	136	0
Through Vol	25	0	6
RT Vol	0	1	16
Lane Flow Rate	44	156	25
Geometry Grp	1	1	1
Degree of Util (X)	0.055	0.184	0.03
Departure Headway (Hd)	4.485	4.247	4.25
Convergence, Y/N	Yes	Yes	Yes
Cap	786	841	848
Service Time	2.584	2.293	2.25
HCM Lane V/C Ratio	0.056	0.185	0.029
HCM Control Delay	7.9	8.3	7.4
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.2	0.7	0.1

Intersection	
Intersection Delay, s/veh	10.1
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	186	1	14	235	6	16
Future Vol, veh/h	186	1	14	235	6	16
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	13	13	22	22
Mvmt Flow	211	1	16	267	7	18
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	9.9	10.5	7.9
HCM LOS	A	B	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	6%	99%	0%
Vol Thru, %	94%	0%	27%
Vol Right, %	0%	1%	73%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	249	187	22
LT Vol	14	186	0
Through Vol	235	0	6
RT Vol	0	1	16
Lane Flow Rate	283	212	25
Geometry Grp	1	1	1
Degree of Util (X)	0.37	0.288	0.033
Departure Headway (Hd)	4.705	4.879	4.718
Convergence, Y/N	Yes	Yes	Yes
Cap	764	737	757
Service Time	2.733	2.91	2.759
HCM Lane V/C Ratio	0.37	0.288	0.033
HCM Control Delay	10.5	9.9	7.9
HCM Lane LOS	B	A	A
HCM 95th-tile Q	1.7	1.2	0.1

Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	186	1	14	235	6	16
Future Vol, veh/h	186	1	14	235	6	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	13	13	22	22
Mvmt Flow	211	1	16	267	7	18

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	315	16	25	0	-	0
Stage 1	16	-	-	-	-	-
Stage 2	299	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.23	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.317	-	-	-
Pot Cap-1 Maneuver	678	1063	1521	-	-	-
Stage 1	1007	-	-	-	-	-
Stage 2	752	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	670	1063	1521	-	-	-
Mov Cap-2 Maneuver	670	-	-	-	-	-
Stage 1	995	-	-	-	-	-
Stage 2	752	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.8	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1521	-	671	-	-
HCM Lane V/C Ratio	0.01	-	0.317	-	-
HCM Control Delay (s)	7.4	0	12.8	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	1.4	-	-

Intersection	
Intersection Delay, s/veh	7.5
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	65	16	16	18	34	42
Future Vol, veh/h	65	16	16	18	34	42
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	0	0	4	4	0	0
Mvmt Flow	75	18	18	21	39	48
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.7	7.6	7.2
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	47%	80%	0%
Vol Thru, %	53%	0%	45%
Vol Right, %	0%	20%	55%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	34	81	76
LT Vol	16	65	0
Through Vol	18	0	34
RT Vol	0	16	42
Lane Flow Rate	39	93	87
Geometry Grp	1	1	1
Degree of Util (X)	0.047	0.108	0.091
Departure Headway (Hd)	4.294	4.161	3.762
Convergence, Y/N	Yes	Yes	Yes
Cap	827	857	943
Service Time	2.356	2.209	1.822
HCM Lane V/C Ratio	0.047	0.109	0.092
HCM Control Delay	7.6	7.7	7.2
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.1	0.4	0.3

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	85	16	16	115	34	42
Future Vol, veh/h	85	16	16	115	34	42
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	0	0	4	4	0	0
Mvmt Flow	98	18	18	132	39	48
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.3	8.3	7.4
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	12%	84%	0%
Vol Thru, %	88%	0%	45%
Vol Right, %	0%	16%	55%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	131	101	76
LT Vol	16	85	0
Through Vol	115	0	34
RT Vol	0	16	42
Lane Flow Rate	151	116	87
Geometry Grp	1	1	1
Degree of Util (X)	0.183	0.145	0.097
Departure Headway (Hd)	4.365	4.493	4.004
Convergence, Y/N	Yes	Yes	Yes
Cap	827	800	897
Service Time	2.365	2.508	2.017
HCM Lane V/C Ratio	0.183	0.145	0.097
HCM Control Delay	8.3	8.3	7.4
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.7	0.5	0.3

Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	85	16	16	115	34	42
Future Vol, veh/h	85	16	16	115	34	42
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	0	4	4	0	0
Mvmt Flow	98	18	18	132	39	48

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	231	63	87	0	-	0
Stage 1	63	-	-	-	-	-
Stage 2	168	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.14	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.236	-	-	-
Pot Cap-1 Maneuver	762	1007	1496	-	-	-
Stage 1	965	-	-	-	-	-
Stage 2	867	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	752	1007	1496	-	-	-
Mov Cap-2 Maneuver	752	-	-	-	-	-
Stage 1	952	-	-	-	-	-
Stage 2	867	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.4	0.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1496	-	783	-	-
HCM Lane V/C Ratio	0.012	-	0.148	-	-
HCM Control Delay (s)	7.4	0	10.4	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.5	-	-

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	144	1	14	25	6	18
Future Vol, veh/h	144	1	14	25	6	18
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	13	13	22	22
Mvmt Flow	164	1	16	28	7	20
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.3	7.9	7.4
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	36%	99%	0%
Vol Thru, %	64%	0%	25%
Vol Right, %	0%	1%	75%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	39	145	24
LT Vol	14	144	0
Through Vol	25	0	6
RT Vol	0	1	18
Lane Flow Rate	44	165	27
Geometry Grp	1	1	1
Degree of Util (X)	0.057	0.195	0.032
Departure Headway (Hd)	4.607	4.251	4.259
Convergence, Y/N	Yes	Yes	Yes
Cap	782	839	845
Service Time	2.608	2.301	2.26
HCM Lane V/C Ratio	0.056	0.197	0.032
HCM Control Delay	7.9	8.3	7.4
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.2	0.7	0.1

Intersection	
Intersection Delay, s/veh	10.6
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	200	1	14	257	6	18
Future Vol, veh/h	200	1	14	257	6	18
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	13	13	22	22
Mvmt Flow	227	1	16	292	7	20
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	10.3	11	8
HCM LOS	B	B	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	5%	100%	0%
Vol Thru, %	95%	0%	25%
Vol Right, %	0%	0%	75%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	271	201	24
LT Vol	14	200	0
Through Vol	257	0	6
RT Vol	0	1	18
Lane Flow Rate	308	228	27
Geometry Grp	1	1	1
Degree of Util (X)	0.407	0.314	0.036
Departure Headway (Hd)	4.755	4.951	4.787
Convergence, Y/N	Yes	Yes	Yes
Cap	758	726	745
Service Time	2.787	2.987	2.836
HCM Lane V/C Ratio	0.406	0.314	0.036
HCM Control Delay	11	10.3	8
HCM Lane LOS	B	B	A
HCM 95th-tile Q	2	1.3	0.1

Intersection	
Int Delay, s/veh	5.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	200	1	14	257	6	18
Future Vol, veh/h	200	1	14	257	6	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	13	13	22	22
Mvmt Flow	227	1	16	292	7	20

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	341	17	27	0	-	0
Stage 1	17	-	-	-	-	-
Stage 2	324	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.23	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.317	-	-	-
Pot Cap-1 Maneuver	655	1062	1518	-	-	-
Stage 1	1006	-	-	-	-	-
Stage 2	733	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	646	1062	1518	-	-	-
Mov Cap-2 Maneuver	646	-	-	-	-	-
Stage 1	993	-	-	-	-	-
Stage 2	733	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.6	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1518	-	647	-	-
HCM Lane V/C Ratio	0.01	-	0.353	-	-
HCM Control Delay (s)	7.4	0	13.6	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	1.6	-	-

Intersection	
Intersection Delay, s/veh	7.5
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	70	16	16	18	34	50
Future Vol, veh/h	70	16	16	18	34	50
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	0	0	4	4	0	0
Mvmt Flow	80	18	18	21	39	57
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.8	7.6	7.2
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	47%	81%	0%
Vol Thru, %	53%	0%	40%
Vol Right, %	0%	19%	60%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	34	86	84
LT Vol	16	70	0
Through Vol	18	0	34
RT Vol	0	16	50
Lane Flow Rate	39	99	97
Geometry Grp	1	1	1
Degree of Util (X)	0.047	0.115	0.1
Departure Headway (Hd)	4.311	4.186	3.746
Convergence, Y/N	Yes	Yes	Yes
Cap	823	851	946
Service Time	2.378	2.235	1.81
HCM Lane V/C Ratio	0.047	0.116	0.103
HCM Control Delay	7.6	7.8	7.2
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.1	0.4	0.3

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	93	16	16	125	34	50
Future Vol, veh/h	93	16	16	125	34	50
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	101	17	17	136	37	54
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.4	8.3	7.5
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	11%	85%	0%
Vol Thru, %	89%	0%	40%
Vol Right, %	0%	15%	60%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	141	109	84
LT Vol	16	93	0
Through Vol	125	0	34
RT Vol	0	16	50
Lane Flow Rate	153	118	91
Geometry Grp	1	1	1
Degree of Util (X)	0.185	0.15	0.102
Departure Headway (Hd)	4.344	4.55	4.024
Convergence, Y/N	Yes	Yes	Yes
Cap	831	790	893
Service Time	2.344	2.565	2.037
HCM Lane V/C Ratio	0.184	0.149	0.102
HCM Control Delay	8.3	8.4	7.5
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.7	0.5	0.3

Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	93	16	16	125	34	50
Future Vol, veh/h	93	16	16	125	34	50
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	101	17	17	136	37	54

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	234	64	91	0	-	0
Stage 1	64	-	-	-	-	-
Stage 2	170	-	-	-	-	-
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	754	1000	1504	-	-	-
Stage 1	959	-	-	-	-	-
Stage 2	860	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	745	1000	1504	-	-	-
Mov Cap-2 Maneuver	745	-	-	-	-	-
Stage 1	947	-	-	-	-	-
Stage 2	860	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.5	0.8	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1504	-	774	-	-
HCM Lane V/C Ratio	0.012	-	0.153	-	-
HCM Control Delay (s)	7.4	0	10.5	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.5	-	-

Intersection	
Intersection Delay, s/veh	8.2
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	149	1	14	25	6	20
Future Vol, veh/h	149	1	14	25	6	20
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	13	13	22	22
Mvmt Flow	169	1	16	28	7	23
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.4	7.9	7.4
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	36%	99%	0%
Vol Thru, %	64%	0%	23%
Vol Right, %	0%	1%	77%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	39	150	26
LT Vol	14	149	0
Through Vol	25	0	6
RT Vol	0	1	20
Lane Flow Rate	44	170	30
Geometry Grp	1	1	1
Degree of Util (X)	0.057	0.201	0.035
Departure Headway (Hd)	4.622	4.255	4.26
Convergence, Y/N	Yes	Yes	Yes
Cap	780	839	845
Service Time	2.623	2.307	2.261
HCM Lane V/C Ratio	0.056	0.203	0.036
HCM Control Delay	7.9	8.4	7.4
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.2	0.7	0.1

Intersection	
Intersection Delay, s/veh	10.7
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	206	1	14	260	6	20
Future Vol, veh/h	206	1	14	260	6	20
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	13	13	22	22
Mvmt Flow	234	1	16	295	7	23
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	10.4	11.2	8
HCM LOS	B	B	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	5%	100%	0%
Vol Thru, %	95%	0%	23%
Vol Right, %	0%	0%	77%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	274	207	26
LT Vol	14	206	0
Through Vol	260	0	6
RT Vol	0	1	20
Lane Flow Rate	311	235	30
Geometry Grp	1	1	1
Degree of Util (X)	0.413	0.324	0.039
Departure Headway (Hd)	4.776	4.965	4.8
Convergence, Y/N	Yes	Yes	Yes
Cap	754	722	742
Service Time	2.81	3.004	2.851
HCM Lane V/C Ratio	0.412	0.325	0.04
HCM Control Delay	11.2	10.4	8
HCM Lane LOS	B	B	A
HCM 95th-tile Q	2	1.4	0.1

Intersection	
Int Delay, s/veh	5.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	206	1	14	260	6	20
Future Vol, veh/h	206	1	14	260	6	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	13	13	22	22
Mvmt Flow	234	1	16	295	7	23

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	346	19	30	0	-	0
Stage 1	19	-	-	-	-	-
Stage 2	327	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.23	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.317	-	-	-
Pot Cap-1 Maneuver	651	1059	1514	-	-	-
Stage 1	1004	-	-	-	-	-
Stage 2	731	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	643	1059	1514	-	-	-
Mov Cap-2 Maneuver	643	-	-	-	-	-
Stage 1	991	-	-	-	-	-
Stage 2	731	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.8	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1514	-	644	-	-
HCM Lane V/C Ratio	0.011	-	0.365	-	-
HCM Control Delay (s)	7.4	0	13.8	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	1.7	-	-

Intersection	
Intersection Delay, s/veh	7.6
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	75	16	16	18	34	59
Future Vol, veh/h	75	16	16	18	34	59
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	0	0	4	4	0	0
Mvmt Flow	86	18	18	21	39	68
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.9	7.6	7.3
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	47%	82%	0%
Vol Thru, %	53%	0%	37%
Vol Right, %	0%	18%	63%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	34	91	93
LT Vol	16	75	0
Through Vol	18	0	34
RT Vol	0	16	59
Lane Flow Rate	39	105	107
Geometry Grp	1	1	1
Degree of Util (X)	0.047	0.122	0.111
Departure Headway (Hd)	4.329	4.211	3.732
Convergence, Y/N	Yes	Yes	Yes
Cap	819	845	949
Service Time	2.401	2.265	1.8
HCM Lane V/C Ratio	0.048	0.124	0.113
HCM Control Delay	7.6	7.9	7.3
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.1	0.4	0.4

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	98	16	16	126	34	59
Future Vol, veh/h	98	16	16	126	34	59
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	0	0	4	4	0	0
Mvmt Flow	113	18	18	145	39	68
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.5	8.5	7.6
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	11%	86%	0%
Vol Thru, %	89%	0%	37%
Vol Right, %	0%	14%	63%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	142	114	93
LT Vol	16	98	0
Through Vol	126	0	34
RT Vol	0	16	59
Lane Flow Rate	163	131	107
Geometry Grp	1	1	1
Degree of Util (X)	0.2	0.167	0.119
Departure Headway (Hd)	4.414	4.578	4.013
Convergence, Y/N	Yes	Yes	Yes
Cap	816	785	896
Service Time	2.428	2.595	2.028
HCM Lane V/C Ratio	0.2	0.167	0.119
HCM Control Delay	8.5	8.5	7.6
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.7	0.6	0.4

Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	98	16	16	126	34	59
Future Vol, veh/h	98	16	16	126	34	59
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	0	4	4	0	0
Mvmt Flow	113	18	18	145	39	68

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	254	73	107	0	-	0
Stage 1	73	-	-	-	-	-
Stage 2	181	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.14	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.236	-	-	-
Pot Cap-1 Maneuver	739	995	1471	-	-	-
Stage 1	955	-	-	-	-	-
Stage 2	855	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	729	995	1471	-	-	-
Mov Cap-2 Maneuver	729	-	-	-	-	-
Stage 1	943	-	-	-	-	-
Stage 2	855	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.7	0.8	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1471	-	757	-	-
HCM Lane V/C Ratio	0.013	-	0.173	-	-
HCM Control Delay (s)	7.5	0	10.7	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.6	-	-

QUEUE ANALYSIS AT 16TH AVE & SR 195

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	120	2	2	15	574	1215	6	5	582	21
Future Vol, veh/h	0	0	120	2	2	15	574	1215	6	5	582	21
Conflicting Peds, #/hr	1	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Yield	Yield	Yield	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	300	-	25	300	-	25
Veh in Median Storage, #	-	0	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0	0	2	2	0	11	11
Mvmt Flow	0	0	133	2	2	17	638	1350	7	6	647	23

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	2962	3308	675	670	0	0	1357	0	0
Stage 1	2626	2626	-	-	-	-	-	-	-
Stage 2	336	682	-	-	-	-	-	-	-
Critical Hdwy	6.8	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	5.8	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.8	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	12	9	401	930	-	-	513	-	-
Stage 1	41	50	-	-	-	-	-	-	-
Stage 2	702	453	-	-	-	-	-	-	-
Platoon blocked, %					-	-		-	-
Mov Cap-1 Maneuver	4	0	401	930	-	-	513	-	-
Mov Cap-2 Maneuver	11	0	-	-	-	-	-	-	-
Stage 1	13	0	-	-	-	-	-	-	-
Stage 2	694	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	67.5	5.4	0.1
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	930	-	-	78	513	-	-
HCM Lane V/C Ratio	0.686	-	-	0.271	0.011	-	-
HCM Control Delay (s)	16.9	-	-	67.5	12.1	-	-
HCM Lane LOS	C	-	-	F	B	-	-
HCM 95th %tile Q(veh)	5.7	-	-	1	0	-	-

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	120	2	2	15	197	1592	6	5	582	21
Future Vol, veh/h	0	0	120	2	2	15	197	1592	6	5	582	21
Conflicting Peds, #/hr	1	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Yield	Yield	Yield	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	300	-	25	300	-	25
Veh in Median Storage, #	-	0	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0	0	2	2	0	11	11
Mvmt Flow	0	0	133	2	2	17	219	1769	7	6	647	23

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	2543	2889	885	670	0	0	1776	0	0
Stage 1	2207	2207	-	-	-	-	-	-	-
Stage 2	336	682	-	-	-	-	-	-	-
Critical Hdwy	6.8	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	5.8	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.8	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	23	16	292	930	-	-	355	-	-
Stage 1	71	83	-	-	-	-	-	-	-
Stage 2	702	453	-	-	-	-	-	-	-
Platoon blocked, %					-	-		-	-
Mov Cap-1 Maneuver	17	0	292	930	-	-	355	-	-
Mov Cap-2 Maneuver	47	0	-	-	-	-	-	-	-
Stage 1	54	0	-	-	-	-	-	-	-
Stage 2	690	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	27.5	1.1	0.1
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	930	-	-	181	355	-	-
HCM Lane V/C Ratio	0.235	-	-	0.117	0.016	-	-
HCM Control Delay (s)	10.1	-	-	27.5	15.3	-	-
HCM Lane LOS	B	-	-	D	C	-	-
HCM 95th %tile Q(veh)	0.9	-	-	0.4	0	-	-

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	0	0	177	4	2	16	329	487	13	24	1533	71
Future Vol, veh/h	0	0	177	4	2	16	329	487	13	24	1533	71
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Yield	Yield	Yield	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	300	-	25	300	-	25
Veh in Median Storage, #	-	0	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	5	5	5	0	7	7	5	1	1
Mvmt Flow	0	0	186	4	2	17	346	513	14	25	1614	75

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	2062	2944	257	1689	0	0	527	0	0
Stage 1	1205	1205	-	-	-	-	-	-	-
Stage 2	857	1739	-	-	-	-	-	-	-
Critical Hdwy	6.9	6.6	7	4.1	-	-	4.2	-	-
Critical Hdwy Stg 1	5.9	5.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.9	5.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.55	4.05	3.35	2.2	-	-	2.25	-	-
Pot Cap-1 Maneuver	46	14	733	383	-	-	1015	-	-
Stage 1	241	249	-	-	-	-	-	-	-
Stage 2	369	135	-	-	-	-	-	-	-
Platoon blocked, %					-	-		-	-
Mov Cap-1 Maneuver	~ 4	0	733	383	-	-	1015	-	-
Mov Cap-2 Maneuver	10	0	-	-	-	-	-	-	-
Stage 1	23	0	-	-	-	-	-	-	-
Stage 2	360	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	140.7	23.2	0.1
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	383	-	-	47	1015	-	-
HCM Lane V/C Ratio	0.904	-	-	0.493	0.025	-	-
HCM Control Delay (s)	58.3	-	-	140.7	8.6	-	-
HCM Lane LOS	F	-	-	F	A	-	-
HCM 95th %tile Q(veh)	9.3	-	-	1.8	0.1	-	-

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

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	177	4	2	16	165	651	13	24	1533	71
Future Vol, veh/h	0	0	177	4	2	16	165	651	13	24	1533	71
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Yield	Yield	Yield	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	300	-	25	300	-	25
Veh in Median Storage, #	-	0	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	5	5	5	0	7	7	5	1	1
Mvmt Flow	0	0	186	4	2	17	174	685	14	25	1614	75

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	1890	2772	343	1689	0	0	699	0	0
Stage 1	1033	1033	-	-	-	-	-	-	-
Stage 2	857	1739	-	-	-	-	-	-	-
Critical Hdwy	6.9	6.6	7	4.1	-	-	4.2	-	-
Critical Hdwy Stg 1	5.9	5.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.9	5.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.55	4.05	3.35	2.2	-	-	2.25	-	-
Pot Cap-1 Maneuver	60	18	644	383	-	-	874	-	-
Stage 1	297	301	-	-	-	-	-	-	-
Stage 2	369	135	-	-	-	-	-	-	-
Platoon blocked, %					-	-		-	-
Mov Cap-1 Maneuver	32	0	644	383	-	-	874	-	-
Mov Cap-2 Maneuver	93	0	-	-	-	-	-	-	-
Stage 1	162	0	-	-	-	-	-	-	-
Stage 2	358	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.2	4.4	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	383	-	-	295	874	-	-
HCM Lane V/C Ratio	0.453	-	-	0.079	0.029	-	-
HCM Control Delay (s)	22	-	-	18.2	9.2	-	-
HCM Lane LOS	C	-	-	C	A	-	-
HCM 95th %tile Q(veh)	2.3	-	-	0.3	0.1	-	-

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	121	2	2	15	590	1213	6	5	587	21
Future Vol, veh/h	0	0	121	2	2	15	590	1213	6	5	587	21
Conflicting Peds, #/hr	1	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Yield	Yield	Yield	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	300	-	25	300	-	25
Veh in Median Storage, #	-	0	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0	0	2	2	0	11	11
Mvmt Flow	0	0	134	2	2	17	656	1348	7	6	652	23

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	2998	3347	674	675	0	0	1355	0	0
Stage 1	2660	2660	-	-	-	-	-	-	-
Stage 2	338	687	-	-	-	-	-	-	-
Critical Hdwy	6.8	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	5.8	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.8	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	11	8	402	926	-	-	514	-	-
Stage 1	40	48	-	-	-	-	-	-	-
Stage 2	700	450	-	-	-	-	-	-	-
Platoon blocked, %					-	-		-	-
Mov Cap-1 Maneuver	3	0	402	926	-	-	514	-	-
Mov Cap-2 Maneuver	9	0	-	-	-	-	-	-	-
Stage 1	12	0	-	-	-	-	-	-	-
Stage 2	692	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	83.3	5.8	0.1
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	926	-	-	66	514	-	-
HCM Lane V/C Ratio	0.708	-	-	0.32	0.011	-	-
HCM Control Delay (s)	17.7	-	-	83.3	12.1	-	-
HCM Lane LOS	C	-	-	F	B	-	-
HCM 95th %tile Q(veh)	6.2	-	-	1.2	0	-	-

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	121	2	2	15	209	1594	6	5	587	21
Future Vol, veh/h	0	0	121	2	2	15	209	1594	6	5	587	21
Conflicting Peds, #/hr	1	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Yield	Yield	Yield	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	300	-	25	300	-	25
Veh in Median Storage, #	-	0	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0	0	2	2	0	11	11
Mvmt Flow	0	0	134	2	2	17	232	1771	7	6	652	23

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	2573	2922	886	675	0	0	1778	0	0
Stage 1	2235	2235	-	-	-	-	-	-	-
Stage 2	338	687	-	-	-	-	-	-	-
Critical Hdwy	6.8	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	5.8	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.8	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	22	16	292	926	-	-	354	-	-
Stage 1	69	80	-	-	-	-	-	-	-
Stage 2	700	450	-	-	-	-	-	-	-
Platoon blocked, %					-	-		-	-
Mov Cap-1 Maneuver	16	0	292	926	-	-	354	-	-
Mov Cap-2 Maneuver	45	0	-	-	-	-	-	-	-
Stage 1	52	0	-	-	-	-	-	-	-
Stage 2	688	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	28.1	1.2	0.1
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	926	-	-	177	354	-	-
HCM Lane V/C Ratio	0.251	-	-	0.119	0.016	-	-
HCM Control Delay (s)	10.2	-	-	28.1	15.3	-	-
HCM Lane LOS	B	-	-	D	C	-	-
HCM 95th %tile Q(veh)	1	-	-	0.4	0	-	-

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	0	0	181	4	2	16	337	493	13	24	1551	71
Future Vol, veh/h	0	0	181	4	2	16	337	493	13	24	1551	71
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Yield	Yield	Yield	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	300	-	25	300	-	25
Veh in Median Storage, #	-	0	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	5	5	5	0	7	7	5	1	1
Mvmt Flow	0	0	191	4	2	17	355	519	14	25	1633	75

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	2096	2987	260	1708	0	0	533	0	0
Stage 1	1229	1229	-	-	-	-	-	-	-
Stage 2	867	1758	-	-	-	-	-	-	-
Critical Hdwy	6.9	6.6	7	4.1	-	-	4.2	-	-
Critical Hdwy Stg 1	5.9	5.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.9	5.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.55	4.05	3.35	2.2	-	-	2.25	-	-
Pot Cap-1 Maneuver	43	13	730	377	-	-	1010	-	-
Stage 1	233	243	-	-	-	-	-	-	-
Stage 2	364	132	-	-	-	-	-	-	-
Platoon blocked, %					-	-		-	-
Mov Cap-1 Maneuver	~ 2	0	730	377	-	-	1010	-	-
Mov Cap-2 Maneuver	0	0	-	-	-	-	-	-	-
Stage 1	14	0	-	-	-	-	-	-	-
Stage 2	355	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.1	26.5	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	377	-	-	730	1010	-	-
HCM Lane V/C Ratio	0.941	-	-	0.032	0.025	-	-
HCM Control Delay (s)	66.2	-	-	10.1	8.7	-	-
HCM Lane LOS	F	-	-	B	A	-	-
HCM 95th %tile Q(veh)	10.2	-	-	0.1	0.1	-	-

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

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	181	4	2	16	172	658	13	24	1551	71
Future Vol, veh/h	0	0	181	4	2	16	172	658	13	24	1551	71
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Yield	Yield	Yield	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	300	-	25	300	-	25
Veh in Median Storage, #	-	0	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	5	5	5	0	7	7	5	1	1
Mvmt Flow	0	0	191	4	2	17	181	693	14	25	1633	75

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	1922	2813	347	1708	0	0	707	0	0
Stage 1	1055	1055	-	-	-	-	-	-	-
Stage 2	867	1758	-	-	-	-	-	-	-
Critical Hdwy	6.9	6.6	7	4.1	-	-	4.2	-	-
Critical Hdwy Stg 1	5.9	5.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.9	5.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.55	4.05	3.35	2.2	-	-	2.25	-	-
Pot Cap-1 Maneuver	57	17	640	377	-	-	868	-	-
Stage 1	290	294	-	-	-	-	-	-	-
Stage 2	364	132	-	-	-	-	-	-	-
Platoon blocked, %					-	-		-	-
Mov Cap-1 Maneuver	29	0	640	377	-	-	868	-	-
Mov Cap-2 Maneuver	87	0	-	-	-	-	-	-	-
Stage 1	151	0	-	-	-	-	-	-	-
Stage 2	353	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.9	4.7	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	377	-	-	282	868	-	-
HCM Lane V/C Ratio	0.48	-	-	0.082	0.029	-	-
HCM Control Delay (s)	23.1	-	-	18.9	9.3	-	-
HCM Lane LOS	C	-	-	C	A	-	-
HCM 95th %tile Q(veh)	2.5	-	-	0.3	0.1	-	-

EB 195

2026 AM w/ Project w/ 16th N-Left

AM Adjustment factor 0.85

AM k30 factor (R103) 1.15

Storage Length 1000

No. of Storage Lanes 1

Ramp Meter Rate 1200

2-lane retrofit (use shoulder) alternate release
Max rate = 1400

EB 195

Time	2021 AM Volume	Adjusted Volume	Vehicles released	Vehicles in queue	Queue length	Exceed Storage
6:00 AM	4	4	4	0	0	0
6:01 AM	5	5	5	0	0	0
6:02 AM	1	1	1	0	0	0
6:03 AM	2	2	2	0	0	0
6:04 AM	5	5	5	0	0	0
6:05 AM	4	4	4	0	0	0
6:06 AM	7	6	6	0	0	0
6:07 AM	5	5	5	0	0	0
6:08 AM	4	4	4	0	0	0
6:09 AM	5	5	5	0	0	0
6:10 AM	7	6	6	0	0	0
6:11 AM	6	5	5	0	0	0
6:12 AM	10	8	8	0	0	0
6:13 AM	6	5	5	0	0	0
6:14 AM	5	5	5	0	0	0
6:15 AM	6	5	5	0	0	0
6:16 AM	5	5	5	0	0	0
6:17 AM	6	5	5	0	0	0
6:18 AM	4	4	4	0	0	0
6:19 AM	11	9	9	0	0	0
6:20 AM	13	11	11	0	0	0
6:21 AM	14	12	12	0	0	0
6:22 AM	8	7	7	0	0	0
6:23 AM	13	11	11	0	0	0
6:24 AM	16	14	14	0	0	0
6:25 AM	18	15	15	0	0	0
6:26 AM	6	5	5	0	0	0
6:27 AM	12	10	10	0	0	0
6:28 AM	7	6	6	0	0	0
6:29 AM	13	11	11	0	0	0
6:30 AM	10	8	8	0	0	0
6:31 AM	16	14	14	0	0	0
6:32 AM	16	14	14	0	0	0
6:33 AM	6	5	5	0	0	0
6:34 AM	12	10	10	0	0	0
6:35 AM	12	10	10	0	0	0
6:36 AM	11	9	9	0	0	0
6:37 AM	13	11	11	0	0	0
6:38 AM	13	11	11	0	0	0
6:39 AM	15	13	13	0	0	0
6:40 AM	8	7	7	0	0	0
6:41 AM	22	19	19	0	0	0
6:42 AM	17	14	14	0	0	0
6:43 AM	22	19	19	0	0	0
6:44 AM	28	23	20	3	87	0
6:45 AM	22	19	20	2	61	0
6:46 AM	24	21	20	3	80	0
6:47 AM	20	17	20	0	9	0
6:48 AM	21	18	18	0	0	0
6:49 AM	24	21	20	1	19	0
6:50 AM	17	14	15	0	0	0
6:51 AM	23	20	20	0	0	0
6:52 AM	22	19	19	0	0	0
6:53 AM	18	15	15	0	0	0
6:54 AM	14	12	12	0	0	0
6:55 AM	17	14	14	0	0	0
6:56 AM	19	16	16	0	0	0
6:57 AM	13	11	11	0	0	0
6:58 AM	13	11	11	0	0	0
6:59 AM	17	14	14	0	0	0
7:00 AM	16	14	14	0	0	0
7:01 AM	16	14	14	0	0	0
7:02 AM	7	6	6	0	0	0
7:03 AM	23	20	20	0	0	0
7:04 AM	12	10	10	0	0	0
7:05 AM	17	14	14	0	0	0
7:06 AM	6	5	5	0	0	0
7:07 AM	19	16	16	0	0	0
7:08 AM	21	18	18	0	0	0
7:09 AM	15	13	13	0	0	0
7:10 AM	12	10	10	0	0	0
7:11 AM	17	14	14	0	0	0
7:12 AM	24	21	20	1	19	0
7:13 AM	23	20	20	1	16	0
7:14 AM	19	16	17	0	0	0
7:15 AM	21	18	18	0	0	0
7:16 AM	15	13	13	0	0	0
7:17 AM	23	20	20	0	0	0
7:18 AM	17	14	14	0	0	0
7:19 AM	23	20	20	0	0	0
7:20 AM	23	20	20	0	0	0
7:21 AM	25	22	20	2	42	0
7:22 AM	23	20	20	2	38	0
7:23 AM	18	15	17	0	0	0
7:24 AM	20	17	17	0	0	0
7:25 AM	16	14	14	0	0	0
7:26 AM	16	14	14	0	0	0
7:27 AM	25	22	20	2	42	0
7:28 AM	17	14	16	0	0	0
7:29 AM	15	13	13	0	0	0
7:30 AM	30	25	20	5	132	0
7:31 AM	23	20	20	5	128	0
7:32 AM	22	19	20	4	102	0
7:33 AM	23	20	20	4	99	0
7:34 AM	27	23	20	7	163	0
7:35 AM	30	25	20	12	295	0
7:36 AM	28	23	20	15	382	0
7:37 AM	22	19	20	14	356	0
7:38 AM	25	22	20	16	397	0
7:39 AM	20	17	20	13	326	0
7:40 AM	16	14	20	7	164	0
7:41 AM	24	21	20	7	183	0
7:42 AM	24	21	20	8	203	0
7:43 AM	32	27	20	15	380	0
7:44 AM	19	16	20	11	286	0
7:45 AM	20	17	20	9	215	0
7:46 AM	28	23	20	12	301	0
7:47 AM	25	22	20	14	343	0
7:48 AM	28	23	20	17	430	0
7:49 AM	29	24	20	22	539	0
7:50 AM	30	25	20	27	671	0
7:51 AM	25	22	20	29	713	0
7:52 AM	28	23	20	32	799	0
7:53 AM	29	24	20	36	909	0
7:54 AM	21	18	20	34	860	0
7:55 AM	17	14	20	29	721	0
7:56 AM	22	19	20	28	695	0
7:57 AM	17	14	20	22	556	0
7:58 AM	20	17	20	19	485	0
7:59 AM	10	8	20	8	188	0
8:00 AM	25	22	20	9	230	0
8:01 AM	16	14	20	3	68	0
8:02 AM	16	14	16	0	0	0
8:03 AM	14	12	12	0	0	0
8:04 AM	16	14	14	0	0	0
8:05 AM	27	23	20	3	64	0
8:06 AM	16	14	16	0	0	0
8:07 AM	19	16	16	0	0	0
8:08 AM	21	18	18	0	0	0
8:09 AM	23	20	20	0	0	0
8:10 AM	19	16	16	0	0	0
8:11 AM	18	15	15	0	0	0
8:12 AM	27	23	20	3	64	0
8:13 AM	10	8	11	0	0	0
8:14 AM	22	19	19	0	0	0
8:15 AM	13	11	11	0	0	0
8:16 AM	17	14	14	0	0	0
8:17 AM	20	17	17	0	0	0
8:18 AM	20	17	17	0	0	0
8:19 AM	13	11	11	0	0	0
8:20 AM	19	16	16	0	0	0
8:21 AM	12	10	10	0	0	0
8:22 AM	16	14	14	0	0	0
8:23 AM	15	13	13	0	0	0
8:24 AM	11	9	9	0	0	0
8:25 AM	8	7	7	0	0	0
8:26 AM	17	14	14	0	0	0
8:27 AM	20	17	17	0	0	0
8:28 AM	16	14	14	0	0	0
8:29 AM	15	13	13	0	0	0
8:30 AM	16	14	14	0	0	0
8:31 AM	19	16	16	0	0	0
8:32 AM	15	13	13	0	0	0
8:33 AM	10	8	8	0	0	0
8:34 AM	16	14	14	0	0	0
8:35 AM	14	12	12	0	0	0
8:36 AM	17	14	14	0	0	0
8:37 AM	15	13	13	0	0	0
8:38 AM	18	15	15	0	0	0
8:39 AM	15	13	13	0	0	0
8:40 AM	18	15	15	0	0	0
8:41 AM	16	14	14	0	0	0
8:42 AM	13	11	11	0	0	0
8:43 AM	16	14	14	0	0	0
8:44 AM	18	15	15	0	0	0
8:45 AM	5	5	5	0	0	0
8:46 AM	14	12	12	0	0	0
8:47 AM	18	15	15	0	0	0
8:48 AM	14	12	12	0	0	0
8:49 AM	16	14	14	0	0	0
8:50 AM	13	11	11	0	0	0
8:51 AM	13	11	11	0	0	0
8:52 AM	11	9	9	0	0	0
8:53 AM	12	10	10	0	0	0
8:54 AM	18	15	15	0	0	0
8:55 AM	14	12	12	0	0	0
8:56 AM	12	10	10	0	0	0
8:57 AM	10	8	8	0	0	0
8:58 AM	19	16	16	0	0	0
8:59 AM	14	12	12	0	0	0
7:10 - 8:10	1303	1108				

PEAK HOUR I-90 EB

THE TIME PERIOD WITH QUEUE BEYOND THE STORAGE AFTER I-90 EB PEAK HOUR

EB 195

Time	Cumulative	Cumulative	Excessive Queue Length
6:00 AM	4	4	0
6:01 AM	8	8	0
6:02 AM	9	9	0
6:03 AM	11	11	0
6:04 AM	15	15	0
6:05 AM	19	19	0
6:06 AM	25	25	0
6:07 AM	30	30	0
6:08 AM	33	33	0
6:09 AM	38	38	0
6:10 AM	44	44	0
6:11 AM	50	50	0
6:12 AM	58	58	0
6:13 AM	63	63	0
6:14 AM	68	68	0
6:15 AM	73	73	0
6:16 AM	78	78	0
6:17 AM	83	83	0
6:18 AM	87	87	0
6:19 AM	96	96	0
6:20 AM	107	107	0
6:21 AM	118	118	0
6:22 AM	125	125	0
6:23 AM	136	136	0
6:24 AM	150	150	0
6:25 AM	165	165	0
6:26 AM	171	171	0
6:27 AM	181	181	0
6:28 AM	187	187	0
6:29 AM	198	198	0
6:30 AM	206	206	0
6:31 AM	219	219	0
6:32 AM	233	233	0
6:33 AM	238	238	0
6:34 AM	248	248	0
6:35 AM	258	258	0
6:36 AM	267	267	0
6:37 AM	278	278	0
6:38 AM	289	289	0
6:39 AM	302	302	0
6:40 AM	309	309	0
6:41 AM	328	328	0
6:42 AM	342	342	0
6:43 AM	361	361	0
6:44 AM	385	381	0
6:45 AM	404	401	0
6:46 AM	424	421	0
6:47 AM	441	441	0
6:48 AM	459	459	0
6:49 AM	480	479	0
6:50 AM	495	495	0
6:51 AM	515	515	0
6:52 AM	533	533	0
6:53 AM	549	549	0
6:54 AM	561	561	0
6:55 AM	575	575	0
6:56 AM	591	591	0
6:57 AM	602	602	0
6:58 AM	613	613	0
6:59 AM	627	627	0
7:00 AM	641	641	0
7:01 AM	654	654	0
7:02 AM	661	661	0
7:03 AM	681	681	0
7:04 AM	691	691	0
7:05 AM	705	705	0
7:06 AM	710	710	0
7:07 AM	727	727	0
7:08 AM	745	745	0
7:09 AM	757	757	0
7:10 AM	767	767	0
7:11 AM	782	782	0
7:12 AM	803	802	0
7:13 AM	822	822	0
7:14 AM	839	839	0
7:15 AM	857	857	0
7:16 AM	869	869	0
7:17 AM	889	889	0
7:18 AM	904	904	0
7:19 AM	923	923	0
7:20 AM	943	943	0
7:21 AM	965	963	0
7:22 AM	985	983	0
7:23 AM	1000	1000	0
7:24 AM	1017	1017	0
7:25 AM	1031	1031	0
7:26 AM	1044	1044	0
7:27 AM	1066	1064	0
7:28 AM	1081	1081	0
7:29 AM	1093	1093	0
7:30 AM	1118	1113	0
7:31 AM	1138	1133	0
7:32 AM	1157	1153	0
7:33 AM	1177	1173	0
7:34 AM	1200	1193	0
7:35 AM	1225	1213	0
7:36 AM	1248	1233	0
7:37 AM	1267	1253	0
7:38 AM	1289	1273	0
7:39 AM	1306	1293	0
7:40 AM	1320	1313	0
7:41 AM	1341	1333	0
7:42 AM	1361	1353	0
7:43 AM	1388	1373	0
7:44 AM	1405	1393	0
7:45 AM	1422	1413	0
7:46 AM	1445	1433	0
7:47 AM	1467	1453	0
7:48 AM	1490	1473	0
7:49 AM	1515	1493	0
7:50 AM	1540	1513	0
7:51 AM	1562	1533	0
7:52 AM	1585	1553	0
7:53 AM	1610	1573	0
7:54 AM	1628	1593	0
7:55 AM	1642	1613	0
7:56 AM	1661	1633	0
7:57 AM	1675	1653	0
7:58 AM	1693	1673	0
7:59 AM	1701	1693	0
8:00 AM	1722	1713	0
8:01 AM	1736	1733	0
8:02 AM	1749	1749	0
8:03 AM	1761	1761	0
8:04 AM	1775	1775	0
8:05 AM	1797	1795	0
8:06 AM	1811	1811	0
8:07 AM	1827	1827	0
8:08 AM	1845	1845	0
8:09 AM	1865	1865	0
8:10 AM	1881	1881	0
8:11 AM	1897	1897	0
8:12 AM	1919	1917	0
8:13 AM	1927	1927	0
8:14 AM	1946	1946	0
8:15 AM	1957	1957	0
8:16 AM	1971	1971	0
8:17 AM	1989	1989	0
8:18 AM	2006	2006	0
8:19 AM	2017	2017	0
8:20 AM	2033	2033	0
8:21 AM	2043	2043	0
8:22 AM	2056	2056	0
8:23 AM	2069	2069	0
8:24 AM	2078	2078	0
8:25 AM	2085	2085	0
8:26 AM	2100	2100	0
8:27 AM	2117	2117	0
8:28 AM	2130	2130	0
8:29 AM	2143	2143	0
8:30 AM	2157	2157	0
8:31 AM	2173	2173	0
8:32 AM	2185	2185	0
8:33 AM	2194	2194	0
8:34 AM	2207	2207	0
8:35 AM	2219	2219	0
8:36 AM	2233	2233	0
8:37 AM	2246	2246	0
8:38 AM	2261	2261	0
8:39 AM	2274	2274	0
8:40 AM	2289	2289	0
8:41 AM	2303	2303	0
8:42 AM	2314	2314	0
8:43 AM	2327	2327	0
8:44 AM	2343	2343	0
8:45 AM	2347	2347	0
8:46 AM	2359	2359	0
8:47 AM	2374	2374	0
8:48 AM	2386	2386	0
8:49 AM	2399	2399	0
8:50 AM	2410	2410	0
8:51 AM	2421	2421	0
8:52 AM	2430	2430	0
8:53 AM	2440	2440	0
8:54 AM	2455	2455	0
8:55 AM	2467	2467	0
8:56 AM	2477	2477	0
8:57 AM	2485	2485	0
8:58 AM	2501	2501	0
8:59 AM	2513	2513	0

PEAK HOUR I-90 EB

THE TIME PERIOD WITH QUEUE BEYOND THE STORAGE AFTER I-90 EB PEAK HOUR

EB 195

2026 PM w/ Project w/ SR195 IMP(500 vph)

Storage Length	1000	No. of Storage Lanes	1	PM Adjustment factor	0.81	PM k30 factor (R103) 1.14
				Ramp Meter Rate	500	2-lane retrofit (use shoulder) alternate release Max rate = 1400

Time	2021 PM Volume	Adjusted Volume	Vehicles released	Vehicles in queue	Queue length	Exceed Storage
3:00 PM	13	11	8	2	61	0
3:01 PM	7	5	8	0	0	0
3:02 PM	13	11	8	2	61	0
3:03 PM	9	7	8	1	32	0
3:04 PM	11	9	8	2	49	0
3:05 PM	9	7	8	1	20	0
3:06 PM	12	10	8	2	59	0
3:07 PM	6	4	7	0	0	0
3:08 PM	6	4	4	0	0	0
3:09 PM	18	14	8	6	151	0
3:10 PM	6	4	8	2	55	0
3:11 PM	10	8	8	2	49	0
3:12 PM	8	6	8	0	0	0
3:13 PM	4	4	4	0	0	0
3:14 PM	11	9	8	1	16	0
3:15 PM	12	10	8	2	55	0
3:16 PM	8	6	8	0	4	0
3:17 PM	11	9	8	1	20	0
3:18 PM	14	12	8	4	104	0
3:19 PM	16	13	8	8	210	0
3:20 PM	11	9	8	9	226	0
3:21 PM	6	4	8	5	130	0
3:22 PM	10	8	8	5	124	0
3:23 PM	8	6	8	3	73	0
3:24 PM	8	6	8	1	21	0
3:25 PM	13	11	8	3	83	0
3:26 PM	4	4	7	0	0	0
3:27 PM	4	4	4	0	0	0
3:28 PM	16	13	8	4	106	0
3:29 PM	14	12	8	8	190	0
3:30 PM	10	8	8	7	183	0
3:31 PM	10	8	8	7	177	0
3:32 PM	9	7	8	6	149	0
3:33 PM	11	9	8	7	165	0
3:34 PM	9	7	8	5	136	0
3:35 PM	18	14	8	11	287	0
3:36 PM	17	13	8	17	416	0
3:37 PM	16	13	8	21	522	0
3:38 PM	7	5	8	18	448	0
3:39 PM	12	10	8	19	487	0
3:40 PM	10	8	8	19	481	0
3:41 PM	7	5	8	16	407	0
3:42 PM	9	7	8	15	378	0
3:43 PM	8	6	8	13	327	0
3:44 PM	13	11	8	16	388	0
3:45 PM	10	8	8	15	382	0
3:46 PM	9	7	8	14	353	0
3:47 PM	16	13	8	18	460	0
3:48 PM	23	19	8	29	723	0
3:49 PM	9	7	8	28	694	0
3:50 PM	13	11	8	30	755	0
3:51 PM	10	8	8	30	749	0
3:52 PM	11	9	8	31	765	0
3:53 PM	7	5	8	28	692	0
3:54 PM	2	2	8	21	528	0
3:55 PM	10	8	8	21	522	0
3:56 PM	13	11	8	23	583	0
3:57 PM	7	5	8	20	510	0
3:58 PM	18	14	8	26	661	0
3:59 PM	10	8	8	26	654	0
4:00 PM	9	7	8	25	626	0
4:01 PM	11	9	8	26	642	0
4:02 PM	13	11	8	28	703	0
4:03 PM	11	9	8	29	719	0
4:04 PM	12	10	8	30	758	0
4:05 PM	14	12	8	34	842	0
4:06 PM	10	8	8	33	835	0
4:07 PM	13	11	8	36	897	0
4:08 PM	6	4	8	32	801	0
4:09 PM	9	7	8	31	772	0
4:10 PM	8	6	8	29	721	0
4:11 PM	11	9	8	29	737	0
4:12 PM	9	7	8	28	708	0
4:13 PM	10	8	8	28	702	0
4:14 PM	10	8	8	28	696	0
4:15 PM	12	10	8	29	735	0
4:16 PM	14	12	8	33	818	0
4:17 PM	8	6	8	31	767	0
4:18 PM	11	9	8	31	783	0
4:19 PM	8	6	8	29	732	0
4:20 PM	13	11	8	32	793	0
4:21 PM	4	4	8	27	675	0
4:22 PM	11	9	8	28	691	0
4:23 PM	7	5	8	25	617	0
4:24 PM	10	8	8	24	611	0
4:25 PM	6	4	8	21	515	0
4:26 PM	3	3	8	15	374	0
4:27 PM	14	12	8	18	458	0
4:28 PM	3	3	8	13	317	0
4:29 PM	12	10	8	14	356	0
4:30 PM	9	7	8	13	327	0
4:31 PM	9	7	8	12	298	0
4:32 PM	8	6	8	10	247	0
4:33 PM	8	6	8	8	196	0
4:34 PM	7	5	8	5	122	0
4:35 PM	9	7	8	4	94	0
4:36 PM	6	4	8	0	0	0
4:37 PM	12	10	8	2	39	0
4:38 PM	11	9	8	2	55	0
4:39 PM	18	14	8	8	206	0
4:40 PM	8	6	8	6	155	0
4:41 PM	11	9	8	7	171	0
4:42 PM	14	12	8	10	255	0
4:43 PM	3	3	8	5	114	0
4:44 PM	11	9	8	5	130	0
4:45 PM	6	4	8	1	34	0
4:46 PM	6	4	6	0	0	0
4:47 PM	10	8	8	0	0	0
4:48 PM	13	11	8	2	61	0
4:49 PM	14	12	8	6	145	0
4:50 PM	27	22	8	19	475	0
4:51 PM	11	9	8	20	492	0
4:52 PM	11	9	8	20	508	0
4:53 PM	8	6	8	18	457	0
4:54 PM	7	5	8	15	383	0
4:55 PM	1	1	8	8	197	0
4:56 PM	8	6	8	6	146	0
4:57 PM	10	8	8	6	140	0
4:58 PM	8	6	8	4	89	0
4:59 PM	10	8	8	3	83	0
5:00 PM	12	10	8	5	121	0
5:01 PM	21	17	8	14	340	0
5:02 PM	13	11	8	16	401	0
5:03 PM	8	6	8	14	350	0
5:04 PM	7	5	8	11	276	0
5:05 PM	7	5	8	8	202	0
5:06 PM	6	4	8	4	106	0
5:07 PM	9	7	8	3	78	0
5:08 PM	7	5	8	0	4	0
5:09 PM	8	6	6	0	0	0
5:10 PM	13	11	8	2	61	0
5:11 PM	20	16	8	10	257	0
5:12 PM	11	9	8	11	273	0
5:13 PM	12	10	8	12	312	0
5:14 PM	11	9	8	13	328	0
5:15 PM	8	6	8	11	277	0
5:16 PM	11	9	8	12	293	0
5:17 PM	7	5	8	9	220	0
5:18 PM	16	13	8	13	326	0
5:19 PM	11	9	8	14	342	0
5:20 PM	8	6	8	12	291	0
5:21 PM	10	8	8	11	285	0
5:22 PM	10	8	8	11	278	0
5:23 PM	6	4	8	7	182	0
5:24 PM	7	5	8	4	109	0
5:25 PM	8	6	8	2	58	0
5:26 PM	7	5	8	0	0	0
5:27 PM	9	7	7	0	0	0
5:28 PM	10	8	8	0	0	0
5:29 PM	6	4	4	0	0	0
5:30 PM	19	15	8	7	173	0
5:31 PM	7	5	8	4	100	0
5:32 PM	8	6	8	2	49	0
5:33 PM	12	10	8	3	87	0
5:34 PM	11	9	8	4	104	0
5:35 PM	10	8	8	4	97	0
5:36 PM	14	12	8	7	181	0
5:37 PM	8	6	8	5	130	0
5:38 PM	8	6	8	3	79	0
5:39 PM	9	7	8	2	50	0
5:40 PM	12	10	8	4	89	0
5:41 PM	10	8	8	3	83	0
5:42 PM	4	4	7	0	0	0
5:43 PM	9	7	7	0	0	0
5:44 PM	9	7	7	0	0	0
5:45 PM	10	8	8	0	0	0
5:46 PM	10	8	8	0	0	0
5:47 PM	16	13	8	4	106	0
5:48 PM	13	11	8	7	167	0
5:49 PM	12	10	8	8	206	0
5:50 PM	12	10	8	10	245	0
5:51 PM	10	8	8	10	238	0
5:52 PM	10	8	8	9	232	0
5:53 PM	11	9	8	10	248	0
5:54 PM	11	9	8	11	265	0
5:55 PM	10	8	8	10	258	0
5:56 PM	11	9	8	11	275	0
5:57 PM	14	12	8	14	358	0
5:58 PM	14	12	8	18	442	0
5:59 PM	10	8	8	17	436	0
3:16-4:16	643	521				

EB 195

Time	Cumulative	Cumulative	Excessive Queue Length
3:00 PM	11	8	0
3:01 PM	16	16	0
3:02 PM	27	25	0
3:03 PM	34	33	0
3:04 PM	43	41	0
3:05 PM	50	50	0
3:06 PM	60	58	0
3:07 PM	65	65	0
3:08 PM	69	69	0
3:09 PM	84	78	0
3:10 PM	88	86	0
3:11 PM	96	94	0
3:12 PM	102	102	0
3:13 PM	106	106	0
3:14 PM	115	114	0
3:15 PM	125	123	0
3:16 PM	131	131	0
3:17 PM	140	139	0
3:18 PM	152	148	0
3:19 PM	164	156	0
3:20 PM	173	164	0
3:21 PM	178	173	0
3:22 PM	186	181	0
3:23 PM	192	189	0
3:24 PM	199	198	0
3:25 PM	209	206	0
3:26 PM	213	213	0
3:27 PM	216	216	0
3:28 PM	229	225	0
3:29 PM	241	233	0
3:30 PM	249	241	0
3:31 PM	257	250	0
3:32 PM	264	258	0
3:33 PM	273	266	0
3:34 PM	280	275	0
3:35 PM	295	283	0
3:36 PM	308	291	0
3:37 PM	321	300	0
3:38 PM	326	308	0
3:39 PM	336	316	0
3:40 PM	344	325	0
3:41 PM	349	333	0
3:42 PM	357	341	0
3:43 PM	363	350	0
3:44 PM	374	358	0
3:45 PM	382	366	0
3:46 PM	389	375	0
3:47 PM	402	383	0
3:48 PM	420	391	0
3:49 PM	428	400	0
3:50 PM	438	408	0
3:51 PM	446	416	0
3:52 PM	455	425	0
3:53 PM	461	433	0
3:54 PM	463	441	0
3:55 PM	471	450	0
3:56 PM	481	458	0
3:57 PM	487	466	0
3:58 PM	501	475	0
3:59 PM	509	483	0
4:00 PM	517	491	0
4:01 PM	525	500	0
4:02 PM	536	508	0
4:03 PM	545	516	0
4:04 PM	555	525	0
4:05 PM	567	533	0
4:06 PM	575	541	0
4:07 PM	586	550	0
4:08 PM	590	558	0
4:09 PM	597	566	0
4:10 PM	604	575	0
4:11 PM	613	583	0
4:12 PM	620	591	0
4:13 PM	628	600	0
4:14 PM	636	608	0
4:15 PM	646	616	0
4:16 PM	658	625	0
4:17 PM	664	633	0
4:18 PM	673	641	0
4:19 PM	679	650	0
4:20 PM	690	658	0
4:21 PM	693	666	0
4:22 PM	702	675	0
4:23 PM	708	683	0
4:24 PM	716	691	0
4:25 PM	720	700	0
4:26 PM	723	708	0
4:27 PM	735	716	0
4:28 PM	737	725	0
4:29 PM	747	733	0
4:30 PM	755	741	0
4:31 PM	762	750	0
4:32 PM	768	758	0
4:33 PM	774	766	0
4:34 PM	780	775	0
4:35 PM	787	783	0
4:36 PM	791	791	0
4:37 PM	801	800	0
4:38 PM	810	808	0
4:39 PM	825	816	0
4:40 PM	831	825	0
4:41 PM	840	833	0
4:42 PM	852	841	0
4:43 PM	854	850	0
4:44 PM	863	858	0
4:45 PM	868	866	0
4:46 PM	872	872	0
4:47 PM	880	880	0
4:48 PM	891	889	0
4:49 PM	903	897	0
4:50 PM	924	905	0
4:51 PM	933	914	0
4:52 PM	942	922	0
4:53 PM	949	930	0
4:54 PM	954	939	0
4:55 PM	955	947	0
4:56 PM	961	955	0
4:57 PM	969	964	0
4:58 PM	976	972	0
4:59 PM	984	980	0
5:00 PM	994	989	0
5:01 PM	1011	997	0
5:02 PM	1021	1005	0
5:03 PM	1028	1014	0
5:04 PM	1033	1022	0
5:05 PM	1038	1030	0
5:06 PM	1043	1039	0
5:07 PM	1050	1047	0
5:08 PM	1055	1055	0
5:09 PM	1062	1062	0
5:10 PM	1073	1070	0
5:11 PM	1089	1078	0
5:12 PM	1098	1087	0
5:13 PM	1108	1095	0
5:14 PM	1117	1103	0
5:15 PM	1123	1112	0
5:16 PM	1132	1120	0
5:17 PM	1137	1128	0
5:18 PM	1150	1137	0
5:19 PM	1159	1145	0
5:20 PM	1165	1153	0
5:21 PM	1173	1162	0
5:22 PM	1181	1170	0
5:23 PM	1186	1178	0
5:24 PM	1191	1187	0
5:25 PM	1197	1195	0
5:26 PM	1203	1203	0
5:27 PM	1210	1210	0
5:28 PM	1218	1218	0
5:29 PM	1223	1223	0
5:30 PM	1238	1231	0
5:31 PM	1243	1239	0
5:32 PM	1250	1248	0
5:33 PM	1259	1256	0
5:34 PM	1268	1264	0
5:35 PM	1276	1273	0
5:36 PM	1288	1281	0
5:37 PM	1294	1289	0
5:38 PM	1301	1298	0
5:39 PM	1308	1306	0
5:40 PM	1318	1314	0
5:41 PM	1326	1323	0
5:42 PM	1329	1329	0
5:43 PM	1337	1337	0
5:44 PM	1344	1344	0
5:45 PM	1352	1352	0
5:46 PM	1360	1360	0
5:47 PM	1373	1368	0
5:48 PM	1383	1377	0
5:49 PM	1393	1385	0
5:50 PM	1403	1393	0
5:51 PM	1411	1402	0
5:52 PM	1419	1410	0
5:53 PM	1428	1418	0
5:54 PM	1437	1427	0
5:55 PM	1445	1435	0
5:56 PM	1454	1443	0
5:57 PM	1466	1452	0
5:58 PM	1478	1460	0
5:59 PM	1486	1468	0