APPENDIX E

Evaluation Matrix for Final Screening of Improvement Options

Appendix E
Summary Evaluation of Refined Improvement Alternatives

Alternative	Traffic Operations	Critical Traffic Backups: Location (available storage)	Critical Traffic Backups: Estimated Queue	Systemwide Considerations	Right-of-Way Impacts	Property Access Impacts	Environmental Issues	Cost Estimates
I-5 @ Dike Road								
3B-Roundabouts at 3 intersections	Schurman – LOS A SB Ramps- LOS A NB Ramps- LOS A	Schurman: WB (350 ft) NB (>1,000 ft) EB (>1,000 ft) SB Ramps: SB (1,650 ft) EBT (350 ft) EBR (170 ft) NB Ramps: WB (550 ft) NB (700+ ft)	80 ft 100 ft 40 ft 120 ft 110 ft 100 ft 40 ft 80 ft	With Scott Crossing - 44% reduction in E/W traffic on Dike Road from 2025 no build	SW and SE quadrants of intersection may have substantial ROW takes. Small frontage takes on south side of Dike for EBRT at SB Ramps.	Wal-Mart may add a north leg to Schurman intersection for site access. No negative impact on traffic operations.	Potential impacts to wetlands in SW quadrant of interchange.	NB & SB Ramps = Wal-Mart mitigation Schurman = $2,400,000
4B1-No-Build (stop signs)	Schurman- LOS C SB Ramps- LOS F NB Ramps- LOS F	Schurman: NB (>1,000) SB Ramps: SB (1,650 ft) NB Ramps: NB (1,100 ft)	120 ft 770 ft 490 ft	With Scott Crossing - 44% reduction in E/W traffic on Dike Road from 2025 no build	None	None	None	None
4B2-Signals w/o widening	Schurman- LOS E SB Ramps- LOS D NB Ramps- LOS B	Schurman: EBT (>1,000 ft) SB Ramps: SB (1,650 ft) EBT (350 ft) WBT (600 ft) NB Ramps: NB (1,100 ft) EB (600 ft)	1,030 ft 1,372 ft **450 ft** **740 ft** **1,480 ft** **760 ft**	With Scott Crossing - 44% reduction in E/W traffic on Dike Road from 2025 no build	None	None	None	N/A
4B3-Signals with widening	Schurman- LOS C SB Ramps- LOS B NB Ramps- LOS B	Schurman: EBT (>1,000 ft) WBT (350 ft) SB Ramps: SB (1,650 ft) EBT (350 ft) WBT (600 ft) NB Ramps: NB (1,100 ft) EB (600 ft)	280 ft 160 ft 240 ft **380 ft** 200 ft 170 ft 340 ft	With Scott Crossing - 44% reduction in E/W traffic on Dike Road from 2025 no build	Minimal frontage ROW needed at both ends of the project	No access changes	Potential impacts to wetlands and may need to address haz mat at identified site. Impacts expected to be minor.	$33,300,000
5-Signals with widening, partial access at Schurman	Schurman- LOS B SB Ramps- LOS B NB Ramps- LOS B	Schurman: EBT (>1,000 ft) WBT (600 ft) SB Ramps: SB (1,650 ft) EBT (350 ft) WBL (250 ft) NB Ramps: NB (1,100 ft) EBT (630 ft)	210 ft 140 ft 220 ft **370 ft** 150 ft 210 ft 310 ft	With Scott Crossing - 44% reduction in E/W traffic on Dike Road from 2025 no build	Minimal frontage ROW needed at both ends of the project	Change in Shurman/ Dike Road access	Potential impacts to wetlands and may need to address haz mat at identified site. Impacts expected to be minor.	$33,500,000
I-5 @SR 503								
2B-Multi-lane roundabouts Realign NB off and CC Street, Buckeye stop-control with restricted movements	Buckeye- LOS C SB Ramp/Pacific- LOS B NB Ramp/Atlantic- LOS B	Buckeye: EBLR (210 ft) WBR (200 ft) NBL (50 ft) SB Ramps: SBTL (>1,000) EBTL (280 ft) WB (330 ft) NB Ramps WBTL (250 ft) NB Ramp (1200 ft) NB CC (>500 ft) EB (310 ft)	120 ft 80 ft Nom. 530 ft 200 ft 60 ft 230 ft 520 ft 130 ft 60 ft	Limits access to Lakeshore to right – n/right out at Goerig. With Scott Crossing - 30% reduction from 2025 no build	Mostly within WSDOT or City ROW. Flaring Goerig south of Buckeye may require small ROW take on south side. Slight take from NE corner of gas station on Atlantic.		May impact some identified haz mat sites. Area largely built out. Needs further review.	$3,400,000
3B-Major widening with signals	Buckeye- LOS B SB Ramp/Pacific- LOS C NB Ramp/Atlantic- LOS C 'A' Street- LOS C	Buckeye: NBTR (200 ft) SBT (300 ft) EBL (200 ft) SB Ramps: SBTL (290 ft) SBL (290 ft) EBT (280 ft) WBT (320 ft) NB Ramps: NBT (400 ft) NBL (1,200 ft) NBR (150 ft) EBT (320 ft)	**290 ft** 220 ft 110 ft **390 ft** **330 ft** **320 ft** **510 ft** **960 ft** **1,300 ft** **630 ft** **360 ft**	With Scott Crossing - 30% reduction on SR 503 from 2025 no build	Mostly within WSDOT or City ROW. Frontage ROW takes between Pacific Ave and Buckeye and also along A Street	CC Street access to SR 503 is closed. Access now via A Street	May impact some identified haz mat sites. Area largely built out. Needs further review.	$29,900,000

Alternative	Traffic Operations	Critical Traffic Backups		Systemwide Considerations	Right-of-Way Impacts	Property Access Impacts	Environmental Issues	Cost Estimates
		Location (available storage)	Estimated Queue					
		EBL 320 ft) WBTR (350 ft) 'A' Street: EBT (370 ft) EBR (380 ft) WBT (>1,000 ft) WBL (500 ft) NBL (260 ft)	**350 ft** **530 ft** **390 ft** **530 ft** 1,560 ft **1,500 ft** **760 ft**					
5-One-way couplet, Buckeye To A Street, all intersections signalized	Buckeye- LOS B Pacific @ 503 WB- LOS B Atlantic @ 503 WB- LOS B I-5 SB @ 503 EB- LOS B I-5 NB @ 503 EB- LOS B 503 @ CC St- LOS A	Buckeye: NBTR (200 ft) Pacific/503: SBTR (400 ft) WBT (200 ft) WBL (200 ft) Atlantic:/503 NT (110 ft) SB I-5/503 EBT (270 ft) SBTR (110 ft) SBL (110 ft) NB I-5/503 EBT (220 ft) NBR (400 ft) 503/CC EBT (490 ft) NB (500 ft)	**540 ft** 160 ft **240 ft** 100 ft **480 ft** 170 ft **260 ft** **180 ft** 180 ft 340 ft Nom. Nom.	With Scott Crossing - 30% reduction from 2025 no build.	Much w/in WSDOT or city ROW. Minor take from gas station at Atlantic, larger take from gas station east of CC St. Cuts through existing park-and-ride lot/visitors center. Frontage takes on Goerig south of Buckeye for Buckeye signal and tapers, and minor frontage takes elsewhere.		May impact some identified haz mat sites. Area largely built out. Needs further review.	$20,600,000
<u>Scott Avenue Crossing</u> 4D-Under I-5, over railroad	Scott @ I-5 SB- LOS C Scott @ I-5 NB- LOS C	SB I-5/Scott WBT (140 ft) WBL (140 ft) SB (1,000 ft) NB I-5Scott EBT (210 ft) EBL (120 ft) NBTR (270 ft) NBL (140 ft)	180 ft 180 ft **850 ft** **160 ft** **150 ft** **>500 ft** **200 ft**	2025 PM peak crossing volume = 1,625 two-way Reduces need for improvements at I/5/SR 503 Enhanced emergency vehicle access	Frontage ROW takes along majority of Scott Ave.	Change in access for 3 parcels. Loss of access for 3 parcels (landlocked).	No natural resource impacts anticipated, may need to address identified haz mat sites, if ROW acquisition is necessary.	$47,300,000
4E-Over I-5 & railroad	Scott @ I-5 SB- LOS C Scott @ I-5 NB- LOS C	SB I-5/Scott WBT (140 ft) WBL (140 ft) SB (1,000 ft) NB I-5Scott EBT (210 ft) EBL (120 ft) NBTR (270 ft) NBL (140 ft)	180 ft 180 ft **850 ft** **160 ft** **150 ft** **>500 ft** **200 ft**	2025 PM peak crossing volume = 1,625 two-way Reduces need for improvements at I/5/SR 503 Enhanced emergency vehicle access	Frontage ROW takes along majority of Scott Ave.	Change in Access for 9 Parcels. Loss of access for 8 parcels (landlocked).	No natural resource impacts anticipated, may need to address identified haz mat sites, if ROW acquisition is necessary.	$49,300,000
Pekin Road Connection Option 1 – Under Scott to Port Way	N/A	N/A	N/A	N/A	ROW needed across 7 Parcels for Pekin Road extension to Port Way. Some frontage ROW takes along Scott Ave.	Change in access for 7 parcels. Loss of access for 1 parcel (landlocked).	No environmental resources identified in new ROW, may need to address identified haz mat sites.	$7,300,000
Pekin Road Connection Option 2 – Realigned for direct connection to Scott	N/A	N/A	N/A	N/A	ROW needed across 4 parcels for re-aligned Pekin Road. Some frontage ROW takes along Scott Ave.	Change in access for 4 parcels. Loss of access for 4 parcels (landlocked).	Identified wetland to the west of new Pekin alignment, needs delineation but likely not impacted.	$7,200,000
<u>SR 503 to East</u> 1-TWLTL with signals at Scott and Goerig	Scott- LOS B Goerig - LOS B			Safety enhancement for SR 503 corridor	Frontage ROW Needed along majority of SR 503 on both sides. Entire parcel take at Goerig	No or very minimal access changes	May require wetland buffering, further study of potential haz mat site, and floodplain permitting.	Widening: $6,300,000 Intersections: $5,200,000
3B-TWLTL with signal at Scott, restricted NBL at Goerig	Scott- LOS C Goerig - LOS B			Safety enhancement for SR 503 corridor	Frontage ROW Needed along majority of SR 503 on both sides.	Change in Goerig/SR 503 access	May require wetland buffering, further study of potential haz mat site, and floodplain permitting.	Widening: $6,300,000 Intersections: $3,800,000
Interim widening along SR 503 to add two-way left turn lane from Hillshire to Gun Club	N/A	N/A	N/A	N/A	Entire improvement to be within existing WSDOT right-of-way	None	None anticipated	$800,000

Traffic operations –LOS and average delay at intersections
Systemwide considerations – highlights volume reduction associated with completion of Scott crossing
Property access impacts – general impacts on property access (e.g. loss of access for a specific number of parcels, changes in access for a specific number of parcels etc.)
Cost Estimates – Cost estimate totals per option including right-of-way acquisition.

Traffic backup- 95th percentile queues for critical movements (e.g, ramps and legs between intersections)
Right-of-way impacts – general ROW needs associated with the option
Environmental issues – Key issues that will need to be addressed during design and/or construction

APPENDIX F

I-5 at Dike Road - Intersection Traffic Operations Analysis Worksheets

2025 PM Peak Hour VISSIM Operations Summary

Queuing 95th Percentile

PM Peak Hour				Runs							
Intersection	App.	Mov.		1	2	3	4	5	6	7	Average
Schurman	EB		1	34	58	34	42	41	34	47	41
	SB		9	28	42	46	39	43	42	44	41
	WB		2	62	93	61	99	68	59	96	77
	NB		3	114	71	122	77	140	84	81	98
SB Ramps	SB		4	81	101	147	122	149	95	139	119
	EB	T	5	128	73	170	112	82	82	86	105
	EB	R	8	63	100	81	145	98	74	96	94
NB Ramps	NB		6	57	91	62	116	87	66	46	75
	WB		7	39	42	40	55	21	53	29	40

Delay max 15 min.

PM Peak				Runs											
	Movement		#	1	2	3	4	5	6	7	Average	LOS	Volume	Wt. Avg. Int.	
Schurman	EB	L	1	2.5	0.4	1.2	6.7	0.9	0.4	2.4	2.1	A	5		**2.2 A**
		T	2	2.0	2.8	1.7	2.7	2.9	2.1	2.4	2.4	A	165	2.3	
		R	3	1.9	1.9	1.3	2.1	3.4	1.2	2.4	2.0	A	25		
	SB	R	4	1.9	1.1	0.6	0.1	0.3	8.8	4.1	2.4	A	5		
		T	5	1.9	1.6	2.1	1.7	2.5	1.8	1.5	1.9	A	35	1.7	
		L	6	1.4	2.4	1.6	1.5	1.4	1.6	1.8	1.7	A	125		
	WB	R	7	0.8	1.0	1.5	1.1	1.2	0.9	1.0	1.1	A	148		
		T	8	0.7	1.0	0.9	1.1	1.4	1.2	1.2	1.1	A	62	1.1	
		L	9	0.9	1.2	1.4	1.4	1.5	1.3	1.0	1.2	A	135		
	NB	R	10	2.6	2.9	2.9	3.9	3.1	2.3	4.2	3.1	A	390		
		T	11	3.7	4.1	4.3	2.9	4.3	2.5	3.0	3.5	A	33	3.2	
		L	12	3.6	3.4	2.5	6.8	2.2	2.4	5.4	3.8	A	22		
SB Ramps	SB	R	13	3.7	3.6	4.5	3.7	7.4	4.1	3.6	4.4	A	80		**4.7 A**
		T	14	3.5	1.1	23.2	6.7	11.6	3.3	5.3	7.8	A	5	4.0	
		L	15	3.2	3.8	4.3	3.1	4.1	3.5	4.2	3.7	A	240		
	EB	R	16	3.5	3.7	4.2	4.2	4.0	2.6	3.4	3.7	A	285	5.1	
		T	17	3.9	4.4	9.9	5.3	7.9	5.1	6.2	6.1	A	410		
NB Ramps	WB	R	18	5.7	6.1	8.0	5.0	5.9	5.9	4.8	5.9	A	120	4.2	**5.0 A**
		T	19	3.3	3.6	4.0	2.8	3.9	3.9	3.0	3.5	A	280		
	NB	R	20	7.2	7.5	7.2	12.3	11.9	7.2	8.9	8.9	A	115		
		T	21	7.2	0.8	0.8	7.2	0.0	9.9	0.0	3.7	A	5	6.2	
		L	22	3.7	3.8	4.1	5.4	4.7	4.0	4.5	4.3	A	160		

2025 PM Peak Hour VISSIM Operations Summary

Queuing 95th Percentile

PM Peak Hour				Runs							
Intersection	App.	Mov.		1	2	3	4	5	6	7	Average
Schurman	EB		1	43	54	45	77	65	67	65	59
	WB		2	79	40	90	30	64	51	42	57
	NB		3	119	148	126	117	169	113	135	132
SB Ramps	SB		4	248	101	297	161	134	134	118	170
	EB	T	5	310	212	337	230	292	147	240	253
NB Ramps	NB		6	109	117	226	158	216	214	268	187
	WB		7	197	227	159	173	276	198	133	195
	EB	R	8	100	72	112	167	65	76	115	101
	SB		9	38	55	30	44	49	59	58	48

Delay max 15 min.

PM Peak				Runs									Orig.			
	Movement			1	2	3	4	5	6	7	Average	LOS	Volume	Wt. Avg.	App.	Int.
Schurman	EB	L	1	0.5	0.7	2.5	3.6	2.6	0.8	9.8	2.9	A	5			**3.6 A**
		T	2	2.9	3.0	3.7	3.5	3.1	3.1	3.7	3.3	A	165	3.2	A	
		R	3	3.1	2.8	3.0	2.5	2.5	3.2	3.0	2.9	A	25			
	SB	R	4	3.4	4.7	6.9	2.5	0.4	4.9	1.6	3.5	A	5			
		T	5	2.4	2.6	1.6	3.0	3.5	3.1	1.1	2.5	A	35	2.7	A	
		L	6	2.1	2.9	3.9	2.6	2.3	3.0	2.1	2.7	A	125			
	WB	R	7	1.0	1.0	1.4	1.1	1.0	1.1	1.2	1.1	A	148			
		T	8	1.5	1.1	1.9	1.6	1.2	1.2	1.2	1.4	A	62	1.3	A	
		L	9	1.3	1.1	1.5	1.2	1.5	1.4	1.4	1.3	A	135			
	NB	R	10	4.8	5.4	6.3	5.1	6.3	5.8	6.4	5.7	A	390			
		T	11	7.3	9.1	3.6	5.8	8.8	6.4	8.8	7.1	A	33	5.8	A	
		L	12	3.7	5.3	8.2	9.4	4.6	5.7	4.0	5.8	A	22			
SB Ramps	SB	R	13	6.2	6.1	12.9	7.7	7.0	5.8	7.0	7.5	A	80			**9.0 A**
		T	14	9.5	4.0	29.5	4.7	8.8	5.1	2.1	9.1	A	5	7.2	A	
		L	15	7.7	5.7	13.2	5.6	6.1	5.9	5.6	7.1	A	240			
	EB	R	16	6.5	5.3	6.6	6.3	6.2	4.4	6.3	5.9	A	285	9.8	A	
		T	17	12.0	13.8	16.4	9.6	13.8	8.7	13.0	12.5	A	410			
NB Ramps	WB	R	18	8.4	10.7	9.4	8.3	10.4	10.1	10.7	9.7	A	120	7.4	A	**10.5 B**
		T	19	5.6	6.4	6.4	5.2	6.6	6.9	7.9	6.4	A	280			
	NB	R	20	15.2	20.5	19.1	21.3	26.4	13.9	11.6	18.3	A	115			
		T	21	37.6	4.6	3.3	8.4	4.3	18.1	0.0	10.9	A	5	14.8	B	
		L	22	10.2	14.9	10.8	17.9	14.7	12.6	6.0	12.4	A	160			

2: Dike Access Rd & Walmart Driveway

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	20	305	45	135	210	50	55	50	390	0	0	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	332	49	147	228	54	60	54	424	0	0	22
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)									4			
Median type								None			None	
Median storage veh)												
Upstream signal (ft)					1217							
pX, platoon unblocked												
vC, conflicting volume	283			380			943	976	356	1188	973	255
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	283			380			943	976	356	1188	973	255
tC, single (s)	4.1			4.4			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.4			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			86			71	74	38	100	100	97
cM capacity (veh/h)	1280			1054			205	213	681	44	213	783

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1
Volume Total	402	147	283	538	22
Volume Left	22	147	0	60	0
Volume Right	49	0	54	424	22
cSH	1280	1054	1700	865	783
Volume to Capacity	0.02	0.14	0.17	0.62	0.03
Queue Length 95th (ft)	1	12	0	111	2
Control Delay (s)	0.6	9.0	0.0	23.4	9.7
Lane LOS	A	A		C	A
Approach Delay (s)	0.6	3.1		23.4	9.7
Approach LOS				C	A

Intersection Summary				
Average Delay		10.3		
Intersection Capacity Utilization		50.7%	ICU Level of Service	A
Analysis Period (min)		15		

3: Dike Access Rd & I-5 SB Ramps

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	410	285	175	265	0	0	0	0	240	5	80
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	446	310	190	288	0	0	0	0	261	5	87
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)					758							
pX, platoon unblocked												
vC, conflicting volume	288			755			1359	1269	601	1269	1424	288
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	288			755			1359	1269	601	1269	1424	288
tC, single (s)	4.1			4.2			7.1	6.5	6.2	7.2	6.6	6.3
tC, 2 stage (s)												
tF (s)	2.2			2.3			3.5	4.0	3.3	3.6	4.1	3.4
p0 queue free %	100			77			100	100	100	0	95	88
cM capacity (veh/h)	1263			820			88	130	504	114	100	730

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	755	478	353
Volume Left	0	190	261
Volume Right	310	0	87
cSH	1700	820	144
Volume to Capacity	0.44	0.23	2.46
Queue Length 95th (ft)	0	22	763
Control Delay (s)	0.0	6.1	726.2
Lane LOS		A	F
Approach Delay (s)	0.0	6.1	726.2
Approach LOS			F

Intersection Summary			
Average Delay	163.5		
Intersection Capacity Utilization	91.0%	ICU Level of Service	F
Analysis Period (min)	15		

4: Dike Access Rd & I-5 NB Ramps

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	150	495	0	0	280	120	160	0	115	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	163	538	0	0	304	130	174	0	125	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	435			538			1234	1299	538	1359	1234	370
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	435			538			1234	1299	538	1359	1234	370
tC, single (s)	4.2			4.1			7.2	6.6	6.3	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.6	4.1	3.4	3.5	4.0	3.3
p0 queue free %	85			100			0	100	76	100	100	100
cM capacity (veh/h)	1089			1015			130	131	524	86	152	681

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	701	435	299
Volume Left	163	0	174
Volume Right	0	130	125
cSH	1089	1700	189
Volume to Capacity	0.15	0.26	1.58
Queue Length 95th (ft)	13	0	487
Control Delay (s)	3.6	0.0	329.5
Lane LOS	A		F
Approach Delay (s)	3.6	0.0	329.5
Approach LOS			F

Intersection Summary			
Average Delay	70.4		
Intersection Capacity Utilization	82.3%	ICU Level of Service	E
Analysis Period (min)	15		

2: Dike Access Rd & Walmart Driveway

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor		1.00		1.00	1.00			1.00	1.00		1.00	
Frt		0.98		1.00	0.97			1.00	0.85		0.97	
Flt Protected		1.00		0.95	1.00			0.97	1.00		0.98	
Satd. Flow (prot)		1810		1421	1510			1787	1538		1768	
Flt Permitted		0.97		0.95	1.00			0.82	1.00		0.82	
Satd. Flow (perm)		1770		1421	1510			1513	1538		1481	
Volume (vph)	20	305	45	135	210	50	55	50	390	50	30	20
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	332	49	147	228	54	60	54	424	54	33	22
RTOR Reduction (vph)	0	5	0	0	6	0	0	0	289	0	6	0
Lane Group Flow (vph)	0	398	0	147	276	0	0	114	135	0	103	0
Heavy Vehicles (%)	2%	3%	3%	27%	27%	2%	5%	2%	5%	2%	2%	2%
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)		60.0		7.0	71.0			37.0	37.0		27.5	
Effective Green, g (s)		60.0		7.0	71.0			37.0	37.0		27.5	
Actuated g/C Ratio		0.52		0.06	0.61			0.32	0.32		0.24	
Clearance Time (s)		4.0		4.0	4.0			4.0	4.0		4.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		916		86	924			496	491		351	
v/s Ratio Prot				c0.10	0.18			0.01				
v/s Ratio Perm		c0.22						0.06	c0.09		0.07	
v/c Ratio		0.43		1.71	0.30			0.23	0.28		0.29	
Uniform Delay, d1		17.4		54.5	10.7			29.0	29.5		36.3	
Progression Factor		1.00		0.87	0.76			1.00	1.00		1.00	
Incremental Delay, d2		0.3		362.8	0.2			0.2	1.4		0.5	
Delay (s)		17.8		410.1	8.3			29.3	30.9		36.7	
Level of Service		B		F	A			C	C		D	
Approach Delay (s)		17.8			146.0			30.5			36.7	
Approach LOS		B			F			C			D	

Intersection Summary			
HCM Average Control Delay	61.0	HCM Level of Service	E
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	116.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	59.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

3: Dike Access Rd & I-5 SB Ramps

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0						4.0	
Lane Util. Factor		1.00			1.00						1.00	
Frt		0.94			1.00						0.97	
Flt Protected		1.00			0.98						0.96	
Satd. Flow (prot)		1726			1694						1596	
Flt Permitted		1.00			0.48						0.96	
Satd. Flow (perm)		1726			820						1596	
Volume (vph)	0	410	285	175	265	0	0	0	0	240	5	80
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	446	310	190	288	0	0	0	0	261	5	87
RTOR Reduction (vph)	0	15	0	0	0	0	0	0	0	0	10	0
Lane Group Flow (vph)	0	742	0	0	478	0	0	0	0	0	343	0
Heavy Vehicles (%)	4%	4%	4%	10%	10%	10%	0%	0%	0%	11%	11%	11%
Turn Type				Prot						Prot		
Protected Phases		4		3	8					1	6	
Permitted Phases												
Actuated Green, G (s)		87.0			87.0						21.0	
Effective Green, g (s)		87.0			87.0						21.0	
Actuated g/C Ratio		0.75			0.75						0.18	
Clearance Time (s)		4.0			4.0						4.0	
Vehicle Extension (s)		3.0			3.0						3.0	
Lane Grp Cap (vph)		1295			615						289	
v/s Ratio Prot		0.43									c0.22	
v/s Ratio Perm					c0.58							
v/c Ratio		0.57			0.78						1.19	
Uniform Delay, d1		6.4			8.7						47.5	
Progression Factor		0.91			1.00						1.00	
Incremental Delay, d2		0.1			5.5						113.6	
Delay (s)		5.8			14.2						161.1	
Level of Service		A			B						F	
Approach Delay (s)		5.8			14.2			0.0			161.1	
Approach LOS		A			B			A			F	

Intersection Summary			
HCM Average Control Delay	42.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	116.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	91.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

4: Dike Access Rd & I-5 NB Ramps

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0				
Lane Util. Factor		1.00			1.00			1.00				
Frt		1.00			0.96			0.94				
Flt Protected		0.99			1.00			0.97				
Satd. Flow (prot)		1723			1736			1555				
Flt Permitted		0.78			1.00			0.97				
Satd. Flow (perm)		1359			1736			1555				
Volume (vph)	150	495	0	0	280	120	160	0	115	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	163	538	0	0	304	130	174	0	125	0	0	0
RTOR Reduction (vph)	0	0	0	0	19	0	0	45	0	0	0	0
Lane Group Flow (vph)	0	701	0	0	415	0	0	254	0	0	0	0
Heavy Vehicles (%)	9%	9%	9%	5%	5%	5%	12%	12%	12%	0%	0%	0%
Turn Type	Prot						Prot					
Protected Phases	7	4			8		5	2				
Permitted Phases												
Actuated Green, G (s)		33.0			33.0			17.0				
Effective Green, g (s)		33.0			33.0			17.0				
Actuated g/C Ratio		0.57			0.57			0.29				
Clearance Time (s)		4.0			4.0			4.0				
Vehicle Extension (s)		3.0			3.0			3.0				
Lane Grp Cap (vph)		773			988			456				
v/s Ratio Prot					0.24			c0.16				
v/s Ratio Perm		c0.52										
v/c Ratio		0.91			0.42			0.56				
Uniform Delay, d1		11.1			7.1			17.3				
Progression Factor		1.00			1.00			1.00				
Incremental Delay, d2		9.0			0.3			1.5				
Delay (s)		20.1			7.4			18.8				
Level of Service		C			A			B				
Approach Delay (s)		20.1			7.4			18.8			0.0	
Approach LOS		C			A			B			A	

Intersection Summary			
HCM Average Control Delay	16.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	58.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	82.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Intersection: 1: Dike Access Rd & Robinson Rd

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	106	6	55	652
Average Queue (ft)	18	0	19	173
95th Queue (ft)	73	4	52	523
Link Distance (ft)	1355	825	1085	999
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Dike Access Rd & Walmart Driveway

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LTR	L	TR	LT	R	LTR
Maximum Queue (ft)	841	117	195	4527	145	456
Average Queue (ft)	670	52	81	3262	129	404
95th Queue (ft)	1030	102	152	5763	141	553
Link Distance (ft)	825		392	4493		448
Upstream Blk Time (%)	0.24			0.42		0.81
Queuing Penalty (veh)	89			0		0
Storage Bay Dist (ft)		400			100	
Storage Blk Time (%)				0.06	0.90	
Queuing Penalty (veh)				24	102	

Intersection: 3: Dike Access Rd & I-5 SB Ramps

Movement	EB	WB	SB
Directions Served	TR	LT	LTR
Maximum Queue (ft)	452	745	1240
Average Queue (ft)	411	724	1184
95th Queue (ft)	447	739	1372
Link Distance (ft)	392	711	1206
Upstream Blk Time (%)	0.62	0.70	0.73
Queuing Penalty (veh)	505	336	0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: Dike Access Rd & I-5 NB Ramps

Movement	EB	WB	B53	NB
Directions Served	LT	TR	T	LR
Maximum Queue (ft)	753	748	1695	1184
Average Queue (ft)	727	736	1447	984
95th Queue (ft)	761	777	2225	1475
Link Distance (ft)	711	673	1670	1150
Upstream Blk Time (%)	0.53	0.92	0.69	0.55
Queuing Penalty (veh)	378	0	0	0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 53: Bend

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Nework Summary

Network wide Queuing Penalty: 1433

2: Dike Access Rd & Walmart Driveway

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.97		1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1809		1421	1510		1719	1863	1538	1770	1751	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	1809		1421	1510		1719	1863	1538	1770	1751	
Volume (vph)	20	305	45	135	210	50	55	50	390	50	30	20
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	332	49	147	228	54	60	54	424	54	33	22
RTOR Reduction (vph)	0	7	0	0	8	0	0	0	348	0	20	0
Lane Group Flow (vph)	22	374	0	147	274	0	60	54	76	54	35	0
Heavy Vehicles (%)	2%	3%	3%	27%	27%	2%	5%	2%	5%	2%	2%	2%
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)	3.0	21.7		16.1	34.8		10.1	12.5	12.5	3.7	6.1	
Effective Green, g (s)	3.0	21.7		16.1	34.8		10.1	12.5	12.5	3.7	6.1	
Actuated g/C Ratio	0.04	0.31		0.23	0.50		0.14	0.18	0.18	0.05	0.09	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	76	561		327	751		248	333	275	94	153	
v/s Ratio Prot	0.01	c0.21		c0.10	0.18		0.03	0.03		c0.03	0.02	
v/s Ratio Perm									c0.05			
v/c Ratio	0.29	0.67		0.45	0.36		0.24	0.16	0.28	0.57	0.23	
Uniform Delay, d1	32.5	21.0		23.1	10.8		26.6	24.3	24.8	32.4	29.8	
Progression Factor	1.00	1.00		0.87	0.69		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.1	3.0		1.0	0.3		0.5	1.0	2.5	8.2	0.8	
Delay (s)	34.6	24.0		21.1	7.8		27.1	25.4	27.3	40.6	30.5	
Level of Service	C	C		C	A		C	C	C	D	C	
Approach Delay (s)		24.6			12.3			27.1			35.5	
Approach LOS		C			B			C			D	

Intersection Summary			
HCM Average Control Delay	22.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	56.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

3: Dike Access Rd & I-5 SB Ramps

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0					4.0	4.0	
Lane Util. Factor		1.00	1.00	1.00	1.00					1.00	1.00	
Frt		1.00	0.85	1.00	1.00					1.00	0.86	
Flt Protected		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (prot)		1827	1553	1641	1727					1626	1469	
Flt Permitted		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (perm)		1827	1553	1641	1727					1626	1469	
Volume (vph)	0	410	285	175	265	0	0	0	0	240	5	80
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	446	310	190	288	0	0	0	0	261	5	87
RTOR Reduction (vph)	0	0	211	0	0	0	0	0	0	0	58	0
Lane Group Flow (vph)	0	446	99	190	288	0	0	0	0	261	34	0
Heavy Vehicles (%)	4%	4%	4%	10%	10%	10%	0%	0%	0%	11%	11%	11%
Turn Type			Perm	Prot						Prot		
Protected Phases		4		3	8					1	6	
Permitted Phases			4									
Actuated Green, G (s)		22.3	22.3	12.0	38.3					23.7	23.7	
Effective Green, g (s)		22.3	22.3	12.0	38.3					23.7	23.7	
Actuated g/C Ratio		0.32	0.32	0.17	0.55					0.34	0.34	
Clearance Time (s)		4.0	4.0	4.0	4.0					4.0	4.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		582	495	281	945					551	497	
v/s Ratio Prot		c0.24		c0.12	0.17					c0.16	0.02	
v/s Ratio Perm			0.06									
v/c Ratio		0.77	0.20	0.68	0.30					0.47	0.07	
Uniform Delay, d1		21.5	17.4	27.2	8.6					18.2	15.7	
Progression Factor		0.74	0.43	0.90	0.38					1.00	1.00	
Incremental Delay, d2		4.7	0.2	5.8	0.2					0.6	0.3	
Delay (s)		20.7	7.6	30.2	3.4					18.9	15.9	
Level of Service		C	A	C	A					B	B	
Approach Delay (s)		15.3			14.1			0.0			18.1	
Approach LOS		B			B			A			B	

Intersection Summary			
HCM Average Control Delay	15.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	54.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

4: Dike Access Rd & I-5 NB Ramps

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0				
Lane Util. Factor	1.00	1.00			1.00	1.00	1.00	1.00				
Frt	1.00	1.00			1.00	0.85	1.00	0.85				
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00				
Satd. Flow (prot)	1656	1743			1810	1538	1612	1442				
Flt Permitted	0.95	1.00			1.00	1.00	0.95	1.00				
Satd. Flow (perm)	1656	1743			1810	1538	1612	1442				
Volume (vph)	150	495	0	0	280	120	160	0	115	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	163	538	0	0	304	130	174	0	125	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	89	0	78	0	0	0	0
Lane Group Flow (vph)	163	538	0	0	304	41	174	47	0	0	0	0
Heavy Vehicles (%)	9%	9%	9%	5%	5%	5%	12%	12%	12%	0%	0%	0%
Turn Type	Prot					Perm	Prot					
Protected Phases	7	4			8		5	2				
Permitted Phases						8						
Actuated Green, G (s)	9.6	35.8			22.2	22.2	26.2	26.2				
Effective Green, g (s)	9.6	35.8			22.2	22.2	26.2	26.2				
Actuated g/C Ratio	0.14	0.51			0.32	0.32	0.37	0.37				
Clearance Time (s)	4.0	4.0			4.0	4.0	4.0	4.0				
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0				
Lane Grp Cap (vph)	227	891			574	488	603	540				
v/s Ratio Prot	c0.10	c0.31			0.17		c0.11	0.03				
v/s Ratio Perm						0.03						
v/c Ratio	0.72	0.60			0.53	0.08	0.29	0.09				
Uniform Delay, d1	28.9	12.1			19.6	16.8	15.4	14.2				
Progression Factor	0.95	0.42			1.00	1.00	1.00	1.00				
Incremental Delay, d2	7.9	0.9			0.9	0.1	0.3	0.3				
Delay (s)	35.2	6.0			20.5	16.8	15.6	14.5				
Level of Service	D	A			C	B	B	B				
Approach Delay (s)		12.8			19.4			15.1			0.0	
Approach LOS		B			B			B			A	

Intersection Summary			
HCM Average Control Delay	15.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	54.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

1: Dike Access Rd & Robinson Rd Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.0	0.2	0.0	0.7	0.9
Delay / Veh (s)	0.8	2.7	5.4	8.3	5.0
St Del/Veh (s)	0.1	0.2	4.6	5.2	2.5
Total Stops	0	1	20	283	304
Travel Time (hr)	0.8	1.9	0.2	2.6	5.4
Avg Speed (mph)	29	23	22	21	23
Vehicles Entered	86	264	20	284	654
Vehicles Exited	85	263	20	282	650
Hourly Exit Rate	85	263	20	282	650
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

2: Dike Access Rd & Walmart Driveway Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	2.9	44.2	3.7	0.8	51.7
Delay / Veh (s)	26.1	445.7	25.4	24.8	132.0
St Del/Veh (s)	20.6	442.3	9.9	23.2	123.6
Total Stops	343	230	367	100	1040
Travel Time (hr)	5.5	45.4	19.3	1.2	71.3
Avg Speed (mph)	12	10	23	8	19
Vehicles Entered	410	360	540	113	1423
Vehicles Exited	403	355	524	113	1395
Hourly Exit Rate	403	355	524	113	1395
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	75	0	0	75

3: Dike Access Rd & I-5 SB Ramps Performance by approach

Approach	EB	WB	SB	All
Total Delay (hr)	3.3	2.3	2.4	7.9
Delay / Veh (s)	14.8	16.9	25.4	17.6
St Del/Veh (s)	10.2	12.5	22.0	13.4
Total Stops	515	256	263	1034
Travel Time (hr)	6.1	4.7	5.2	16.0
Avg Speed (mph)	11	14	16	13
Vehicles Entered	799	483	344	1626
Vehicles Exited	793	480	339	1612
Hourly Exit Rate	793	480	339	1612
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

4: Dike Access Rd & I-5 NB Ramps Performance by approach

Approach	EB	WB	NB	All
Total Delay (hr)	3.1	1.9	1.5	6.5
Delay / Veh (s)	15.1	15.5	19.0	16.0
St Del/Veh (s)	9.7	10.9	16.6	11.4
Total Stops	370	294	209	873
Travel Time (hr)	6.7	4.1	3.8	14.6
Avg Speed (mph)	15	15	17	16
Vehicles Entered	730	442	288	1460
Vehicles Exited	722	436	285	1443
Hourly Exit Rate	722	436	285	1443
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

Total Network Performance

Total Delay (hr)	70.2
Delay / Veh (s)	115.5
St Del/Veh (s)	98.1
Total Stops	3251
Travel Time (hr)	140.9
Avg Speed (mph)	20
Vehicles Entered	2234
Vehicles Exited	2140
Hourly Exit Rate	2140
Denied Entry Before	0
Denied Entry After	75

2: Dike Access Rd & Walmart Driveway

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0				4.0			4.0
Lane Util. Factor		1.00		1.00	1.00				1.00			1.00
Frt		0.98		1.00	0.97				0.86			0.86
Flt Protected		1.00		0.95	1.00				1.00			1.00
Satd. Flow (prot)		1813		1421	1510				1565			1611
Flt Permitted		1.00		0.95	1.00				1.00			1.00
Satd. Flow (perm)		1813		1421	1510				1565			1611
Volume (vph)	0	305	45	135	210	50	0	0	400	0	0	50
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	332	49	147	228	54	0	0	435	0	0	54
RTOR Reduction (vph)	0	9	0	0	16	0	0	0	281	0	0	35
Lane Group Flow (vph)	0	372	0	147	266	0	0	0	154	0	0	19
Heavy Vehicles (%)	2%	3%	3%	27%	27%	2%	5%	2%	5%	2%	2%	2%
Turn Type				Prot					custom			custom
Protected Phases		4		3	8							
Permitted Phases									2			6
Actuated Green, G (s)		17.3		9.4	30.7				21.3			21.3
Effective Green, g (s)		17.3		9.4	30.7				21.3			21.3
Actuated g/C Ratio		0.29		0.16	0.51				0.36			0.36
Clearance Time (s)		4.0		4.0	4.0				4.0			4.0
Vehicle Extension (s)		3.0		3.0	3.0				3.0			3.0
Lane Grp Cap (vph)		523		223	773				556			572
v/s Ratio Prot		c0.21		c0.10	0.19							
v/s Ratio Perm									0.28			0.03
v/c Ratio		0.71		0.66	0.34				0.28			0.03
Uniform Delay, d1		19.1		23.8	8.7				13.8			12.6
Progression Factor		1.00		0.95	0.45				1.00			1.00
Incremental Delay, d2		4.5		6.8	0.3				1.2			0.0
Delay (s)		23.6		29.3	4.2				15.1			12.7
Level of Service		C		C	A				B			B
Approach Delay (s)		23.6			12.8			15.1			12.7	
Approach LOS		C			B			B			B	

Intersection Summary			
HCM Average Control Delay	16.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	50.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

3: Dike Access Rd & I-5 SB Ramps

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0					4.0	4.0	
Lane Util. Factor		1.00	1.00	1.00	1.00					1.00	1.00	
Frt		1.00	0.85	1.00	1.00					1.00	0.86	
Flt Protected		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (prot)		1827	1553	1641	1727					1626	1469	
Flt Permitted		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (perm)		1827	1553	1641	1727					1626	1469	
Volume (vph)	0	410	285	175	265	0	0	0	0	240	5	80
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	446	310	190	288	0	0	0	0	261	5	87
RTOR Reduction (vph)	0	0	210	0	0	0	0	0	0	0	61	0
Lane Group Flow (vph)	0	446	100	190	288	0	0	0	0	261	31	0
Heavy Vehicles (%)	4%	4%	4%	10%	10%	10%	0%	0%	0%	11%	11%	11%
Turn Type			Perm	Prot						Prot		
Protected Phases		4		3	8					1	6	
Permitted Phases			4									
Actuated Green, G (s)		19.4	19.4	10.6	34.0					18.0	18.0	
Effective Green, g (s)		19.4	19.4	10.6	34.0					18.0	18.0	
Actuated g/C Ratio		0.32	0.32	0.18	0.57					0.30	0.30	
Clearance Time (s)		4.0	4.0	4.0	4.0					4.0	4.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		591	502	290	979					488	441	
v/s Ratio Prot		c0.24		c0.12	0.17					c0.16	0.06	
v/s Ratio Perm			0.20									
v/c Ratio		0.75	0.20	0.66	0.29					0.53	0.07	
Uniform Delay, d1		18.2	14.7	23.0	6.8					17.5	15.0	
Progression Factor		0.75	0.42	0.62	1.49					1.00	1.00	
Incremental Delay, d2		4.8	0.2	4.8	0.2					1.1	0.3	
Delay (s)		18.3	6.4	19.0	10.2					18.6	15.3	
Level of Service		B	A	B	B					B	B	
Approach Delay (s)		13.4			13.7			0.0			17.8	
Approach LOS		B			B			A			B	

Intersection Summary			
HCM Average Control Delay	14.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	54.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

4: Dike Access Rd & I-5 NB Ramps

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0				
Lane Util. Factor	1.00	1.00			1.00	1.00	1.00	1.00				
Frt	1.00	1.00			1.00	0.85	1.00	0.85				
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00				
Satd. Flow (prot)	1656	1743			1810	1538	1612	1442				
Flt Permitted	0.95	1.00			1.00	1.00	0.95	1.00				
Satd. Flow (perm)	1656	1743			1810	1538	1612	1442				
Volume (vph)	150	495	0	0	280	120	160	0	115	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	163	538	0	0	304	130	174	0	125	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	93	0	84	0	0	0	0
Lane Group Flow (vph)	163	538	0	0	304	37	174	41	0	0	0	0
Heavy Vehicles (%)	9%	9%	9%	5%	5%	5%	12%	12%	12%	0%	0%	0%
Turn Type	Prot					Perm	Prot					
Protected Phases	7	4			8		5	2				
Permitted Phases						8						
Actuated Green, G (s)	11.2	32.1			16.9	16.9	19.9	19.9				
Effective Green, g (s)	11.2	32.1			16.9	16.9	19.9	19.9				
Actuated g/C Ratio	0.19	0.54			0.28	0.28	0.33	0.33				
Clearance Time (s)	4.0	4.0			4.0	4.0	4.0	4.0				
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0				
Lane Grp Cap (vph)	309	933			510	433	535	478				
v/s Ratio Prot	0.10	c0.31			0.17		c0.11	0.09				
v/s Ratio Perm						0.08						
v/c Ratio	0.53	0.58			0.60	0.08	0.33	0.09				
Uniform Delay, d1	22.0	9.4			18.6	15.9	15.0	13.8				
Progression Factor	0.72	0.46			1.00	1.00	1.00	1.00				
Incremental Delay, d2	1.3	0.7			1.9	0.1	0.4	0.4				
Delay (s)	17.2	5.0			20.5	15.9	15.4	14.2				
Level of Service	B	A			C	B	B	B				
Approach Delay (s)		7.9			19.1			14.9			0.0	
Approach LOS		A			B			B			A	

Intersection Summary			
HCM Average Control Delay	12.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	54.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection: 1: Dike Access Rd & Robinson Rd

Movement	WB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	10	50	114
Average Queue (ft)	1	16	59
95th Queue (ft)	10	46	96
Link Distance (ft)	825	1085	999
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: Dike Access Rd & Walmart Driveway

Movement	EB	WB	WB	NB	SB
Directions Served	TR	L	TR	R	R
Maximum Queue (ft)	274	191	170	266	54
Average Queue (ft)	111	85	70	115	21
95th Queue (ft)	209	155	139	202	47
Link Distance (ft)	825		396	4493	448
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		400			
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 3: Dike Access Rd & I-5 SB Ramps

Movement	EB	EB	WB	WB	SB	SB
Directions Served	T	R	L	T	L	TR
Maximum Queue (ft)	404	180	192	177	251	81
Average Queue (ft)	199	92	89	66	125	38
95th Queue (ft)	365	188	152	137	214	71
Link Distance (ft)	396			714		1206
Upstream Blk Time (%)	1					
Queuing Penalty (veh)	9					
Storage Bay Dist (ft)		150	300		800	
Storage Blk Time (%)	9	0				
Queuing Penalty (veh)	29	0				

Intersection: 4: Dike Access Rd & I-5 NB Ramps

Movement	EB	EB	WB	WB	NB	NB
Directions Served	L	T	T	R	L	TR
Maximum Queue (ft)	231	392	253	111	263	120
Average Queue (ft)	77	156	116	35	93	44
95th Queue (ft)	157	305	205	78	188	89
Link Distance (ft)		714	667			1144
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	300			150	800	
Storage Blk Time (%)		1	3			
Queuing Penalty (veh)		1	4			

Nework Summary

Network wide Queuing Penalty: 44