

APPENDIX J – HISTORICAL CRASH RATE ANALYSIS

I-75 Northbound

FLORIDA DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION STATISTICS OFFICE
 2022 HISTORICAL AADT REPORT

COUNTY: 36 - MARION

SITE: 0440 - ON I-75, 0.586 MI. S OF SR-40 (W/L)

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2022	90000	C	N 43500	§	46500	9.00	53.20	23.40
2021	72000	C	N 35000	§	37000	9.00	52.70	19.30
2020	91500	F	N 43000	§	48500	9.00	54.70	23.40
2019	97500	C	N 46000	§	51500	9.00	53.10	20.20
2018	76000	C	N 36500	§	39500	9.00	53.20	20.70
2017	78500	C	N 37500	§	41000	9.00	52.90	19.90
2016	74500	C	N 36500	§	38000	9.00	53.10	17.00
2015	59000	C	N 29500	§	29500	9.00	54.50	19.20
2014	60500	C	N 32500	§	28000	9.00	54.90	17.80
2013	69000	C	N 34500	§	34500	9.00	55.90	19.40
2012	60000	C	N 30000	§	30000	9.00	56.30	17.60
2011	65500	C	N 32000	§	33500	9.00	55.60	19.50
2010	71000	C	N 35500	§	35500	11.52	56.37	18.60
2009	67000	F	N 34500	§	32500	11.52	56.07	19.50
2008	69000	C	N 35500	§	33500	11.45	56.68	20.50
2007	84500	C	N 44000	§	40500	10.61	56.38	11.30

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
 § = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
 V = FIFTH YEAR ESTIMATE; S = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

Intersection or Segment	Segment
Segment	SR 200 to SR 40
Crash Rate Comparison Area	Statewide
Segment Area Type	Urban
Segment Length (mi) [1 if Intersection]	1.756

Statewide Crash Rates	
Interstate Urban	
Year	Average Crash Rate
2018	0.980
2019	0.956

Traffic Volumes			
Count Station	SR#		
Direction	Neighborhood		
2018	SR 500		
2019	46,000		

SR 200 to SR 40: Statewide Crash Rate Analysis									
Year	Number of Crashes	Average Daily Traffic (ADT)	Million Vehicle Miles (MYM)	Actual Crash Rate (ACTUAL)	Statewide Average Crash Rate (AVERAGE)	Critical Crash Rate (CRITICAL)	Safety Ratio	Calculated K	Confidence Level (CONLV)
2018	38	36,500	23.128	1.643	0.980	1.679	0.979	3.327	99.95%
2019	29	46,000	29.147	0.995	0.956	1.569	0.634	0.317	50.00%

L = 1.756 mi

ADT = Average Daily Traffic

MYM = Million Vehicle Miles = $(ADT * L * 365) / 1,000,000$

ACTUAL = Actual Crash Rate = No. of crashes in a year / MYM

AVERAGE = Statewide Average Crash Rate for similar segments

CRITICAL = Critical Crash Rate = $AVERAGE + K * SQRT(AVERAGE / MYM) + 1 / (2 * MYM)$

Area type is Urban, therefore, K = 3.291

Safety Ratio = ACTUAL / CRITICAL

Calculated K = $(ACTUAL - AVERAGE + 1 / (2 * MYM)) / (SQRT(AVERAGE / MYM))$

CONLV = Confidence Level: Percent probability that the crash rate is abnormally high for the study segment using the Statewide average as a base:

0.6740	50%
0.8416	75%
1.0360	80%
1.2816	85%
1.5449	90%
1.8600	95%
2.3263	97.5%
2.8758	99%
3.6070	99.5%
4.5907	99.75%
5.7905	99.9%
7.1900	99.95%
	99.99%

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 TRANSPORTATION STATISTICS OFFICE
 2022 HISTORICAL AADT REPORT

COUNTY: 36 - MARION

SITE: 0440 - ON I-75, 0.586 MI. S OF SR-40 (W/L)

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2022	90000	C	N 43500	§	46500	9.00	53.20	23.40
2021	72000	C	N 35000	§	37000	9.00	52.70	19.30
2020	91500	F	N 43000	§	48500	9.00	54.70	23.40
2019	97500	C	N 46000	§	51500	9.00	53.10	20.20
2018	76000	C	N 36500	§	39500	9.00	53.20	20.70
2017	78500	C	N 37500	§	41000	9.00	52.90	19.90
2016	74500	C	N 36500	§	38000	9.00	53.10	17.00
2015	59000	C	N 29500	§	29500	9.00	54.50	19.20
2014	60500	C	N 32500	§	28000	9.00	54.90	17.80
2013	69000	C	N 34500	§	34500	9.00	55.90	19.40
2012	60000	C	N 30000	§	30000	9.00	56.30	17.60
2011	65500	C	N 32000	§	33500	9.00	55.60	19.50
2010	71000	C	N 35500	§	35500	11.52	56.37	18.60
2009	67000	F	N 34500	§	32500	11.52	56.07	19.50
2008	69000	C	N 35500	§	33500	11.45	56.68	20.50
2007	84500	C	N 44000	§	40500	10.61	56.38	11.30

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 2022 HISTORICAL AADT REPORT

COUNTY: 36 - MARION

SITE: 0439 - ON I-75, 0.376 MI. S OF US-27 (W/L)

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2022	87500 C	N	44500	S	43000	9.00	53.20	17.10
2021	91000 C	N	46500	S	44500	9.00	52.70	14.40
2020	78000 F	N	38000	S	40000	9.00	54.70	21.90
2019	83000 C	N	40500	S	42500	9.00	53.10	21.90
2018	78500 C	N	41000	S	37500	9.00	53.20	25.40
2017	75000 C	N	42000	S	33000	9.00	52.90	21.80
2016	88500 C	N	46500	S	42000	9.00	53.10	20.70
2015	69500 C	N	38500	S	31000	9.00	54.50	25.10
2014	69000 C	N	37000	S	32000	9.00	54.90	21.20
2013	63500 C	N	33500	S	30000	9.00	55.90	22.60
2012	65000 C	N	34500	S	30500	9.00	56.30	22.20
2011	67500 C	N	36000	S	31500	9.00	55.60	21.90
2010	69000 C	N	35500	S	33500	11.52	56.37	20.90
2009	62000 F	N	31500	S	30500	11.52	56.07	18.80
2008	64000 C	N	32500	S	31500	11.45	56.68	22.90
2007	77500 C	N	40000	S	37500	10.61	56.38	21.20

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*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

Intersection or Segment	Segment
Segment	SR 40 Interchange Area
Crash Rate Comparison Area	Statewide
Segment Area Type	Urban
Segment Length (mi) [if Intersection]	0.204

Statewide Crash Rates	
Interstate Urban	
Year	Average Crash Rate
2018	0.980
2019	0.956

Traffic Volumes			
Count Station	SR40	SR459	
Direction	Northbound	Northbound	
2018	38,500	41,000	
2019	46,000	40,500	

SR 40 Interchange Area: Statewide Crash Rate Analysis									
Year	Number of Crashes	Average Daily Traffic (ADT)	Million Vehicle Miles (MYM)	Actual Crash Rate (ACTUAL)	Statewide Average Crash Rate (AVERAGE)	Critical Crash Rate (CRITICAL)	Safety Ratio	Calculated K	Confidence Level (CONLV)
2018	19	38,750	9.957	1.908	0.980	2.062	0.925	3.120	99.90%
2019	19	45,250	11.114	1.710	0.956	1.966	0.870	2.725	99.50%

L = 0.204 mi

ADT = Average Daily Traffic

MYM = Million Vehicle Miles = $ADT \times L \times 365 / 1,000,000$

ACTUAL = Actual Crash Rate = No. of crashes in a year / MYM

AVERAGE = Statewide Average Crash Rate for similar segments

CRITICAL = Critical Crash Rate = $AVERAGE + K \times SQRT(AVERAGE / MYM) + 1 / (2 \times MYM)$

Area type is Urban, therefore, K = 3.291

Safety Ratio = ACTUAL / CRITICAL

Calculated K = $(ACTUAL - AVERAGE + 1 / (2 \times MYM)) / SQRT(AVERAGE / MYM)$

CONLV - Confidence Level: Percent probability that the crash rate is abnormally high for the study segment using the Statewide average as a base:

0.6740	50%
0.8416	75%
1.0360	80%
1.2816	85%
1.6449	90%
1.9600	95%
2.3263	97.5%
2.5758	99%
2.8070	99.5%
3.0907	99.75%
3.2905	99.9%
3.7190	99.95%
	99.99%

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COUNTY: 36 - MARION

SITE: 0439 - ON I-75, 0.376 MI. S OF US-27 (W/L)

YEAR	AAOT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2022	87500 C	N	44500	S	43000	9.00	53.20	17.10
2021	91000 C	N	46500	S	44500	9.00	52.70	14.40
2020	78000 F	N	38000	S	40000	9.00	54.70	21.90
2019	83000 C	N	40500	S	42500	9.00	53.10	21.90
2018	78500 C	N	41000	S	37500	9.00	53.20	25.40
2017	75000 C	N	42000	S	33000	9.00	52.90	21.80
2016	88500 C	N	46500	S	42000	9.00	53.10	20.70
2015	69500 C	N	38500	S	31000	9.00	54.50	25.10
2014	69000 C	N	37000	S	32000	9.00	54.90	21.20
2013	63500 C	N	33500	S	30000	9.00	55.90	22.60
2012	65000 C	N	34500	S	30500	9.00	56.30	22.20
2011	67500 C	N	36000	S	31500	9.00	55.60	21.90
2010	69000 C	N	35500	S	33500	11.52	56.37	20.90
2009	62000 F	N	31500	S	30500	11.52	56.07	18.80
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2007	77500 C	N	40000	S	37500	10.61	56.38	21.20

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Intersection or Segment	Segment
Segment	SR 40 to US 27
Crash Rate Comparison Area	Statewide
Segment Area Type	Urban
Segment Length (mi) [1 if Intersection]	0.676

Statewide Crash Rates	
Interstate Urban	
Year	Average Crash Rate
2018	0.980
2019	0.956

Traffic Volumes			
Count Station	360499		
Direction	Northbound		
2018	41,000		
2019	40,500		

SR 40 to US 27: Statewide Crash Rate Analysis									
Year	Number of Crashes	Average Daily Traffic (ADT)	Million Vehicle Miles (MYM)	Actual Crash Rate (ACTUAL)	Statewide Average Crash Rate (AVERAGE)	Critical Crash Rate (CRITICAL)	Safety Ratio	Calculated K	Confidence Level (CONLV)
2018	0	41,000	10.110	0.791	0.980	2.054	0.385	-0.447	50.00%
2019	5	40,500	9.987	0.501	0.956	2.074	0.247	-1.309	50.00%

$$L = 0.676 \text{ mi}$$

ADT = Average Daily Traffic

MYM = Million Vehicle Miles = $(ADT * L * 365) / 1,000,000$

ACTUAL = Actual Crash Rate = No. of crashes in a year / MYM

AVERAGE = Statewide Average Crash Rate for similar segments

CRITICAL = Critical Crash Rate = $AVERAGE + K * SQRT(AVERAGE / MYM) + 1 / (2 * MYM)$
 Area type is Urban, therefore, $K = 3.291$

Safety Ratio = ACTUAL / CRITICAL

Calculated K = $(ACTUAL - AVERAGE + 1 / (2 * MYM)) / (SQRT(AVERAGE / MYM))$

CONLV - Confidence Level: Percent probability that the crash rate is abnormally high for the study segment using the Statewide average as a base:

0.6740	50%
0.8416	75%
1.0360	80%
1.2816	85%
1.6449	90%
1.9600	95%
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2.8070	99.5%
3.0907	99.75%
3.2905	99.9%
3.7190	99.95%
	99.99%

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2022	87500 C	N	44500	S 43000	9.00	53.20	17.10
2021	91000 C	N	46500	S 44500	9.00	52.70	14.40
2020	78000 F	N	38000	S 40000	9.00	54.70	21.90
2019	83000 C	N	40500	S 42500	9.00	53.10	21.90
2018	78500 C	N	41000	S 37500	9.00	53.20	25.40
2017	75000 C	N	42000	S 33000	9.00	52.90	21.80
2016	88500 C	N	46500	S 42000	9.00	53.10	20.70
2015	69500 C	N	38500	S 31000	9.00	54.50	25.10
2014	69000 C	N	37000	S 32000	9.00	54.90	21.20
2013	63500 C	N	33500	S 30000	9.00	55.90	22.60
2012	65000 C	N	34500	S 30500	9.00	56.30	22.20
2011	67500 C	N	36000	S 31500	9.00	55.60	21.90
2010	69000 C	N	35500	S 33500	11.52	56.37	20.90
2009	62000 F	N	31500	S 30500	11.52	56.07	18.80
2008	64000 C	N	32500	S 31500	11.45	56.68	22.90
2007	77500 C	N	40000	S 37500	10.61	56.38	21.20

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COUNTY: 36 - MARION

SITE: 0438 - ON I-75, 0.986 MI. N OF US-27 (RCLP)

YEAR	AAOT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2022	80500 C	N 41500	S 39000	9.00	53.20	30.80
2021	84500 C	N 44000	S 40500	9.00	52.70	26.30
2020	69500 F	N 36500	S 33000	9.00	54.70	27.70
2019	74000 C	N 39000	S 35000	9.00	53.10	27.70
2018	78500 C	N 40500	S 38000	9.00	53.20	26.30
2017	76000 C	N 34500	S 41500	9.00	52.90	27.10
2016	68000 E			9.00	53.10	17.00
2015	65500 S	N 31000	S 34500	9.00	54.50	24.20
2014	62500 F	N 29500	S 33000	9.00	54.90	24.20
2013	61500 C	N 29000	S 32500	9.00	55.90	24.20
2012	64000 F	N 32500	S 31500	9.00	56.30	23.90
2011	65000 C	N 33000	S 32000	9.00	55.60	23.90
2010	55500 S	N 29000	S 26500	11.52	56.37	26.30
2009	56500 F	N 29500	S 27000	11.52	56.07	26.30
2008	58500 C	N 30500	S 28000	11.45	56.68	26.30
2007	69000 C	N 37500	S 31500	10.61	56.38	18.90

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*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

Intersection or Segment	Segment
Segment	US 27 In interchange Area
Crash Rate Comparison Area	Statewide
Segment Area Type	Urban
Segment Length (mi) [1 if Intersection]	0.248

Statewide Crash Rates	
Interstate Urban	
Year	Average Crash Rate
2018	0.980
2019	0.956

Traffic Volumes			
Count Station	360439	360439	
Direction	Northbound	Northbound	
2018	41,000	40,500	
2019	40,500	39,000	

US 27 In interchange Area: Statewide Crash Rate Analysis									
Year	Number of Crashes	Average Daily Traffic (ADT)	Million Vehicle Miles (MYM)	Actual Crash Rate (ACTUAL)	Statewide Average Crash Rate (AVERAGE)	Critical Crash Rate (CRITICAL)	Safety Ratio	Calculated K	Confidence Level (CONLV)
2018	12	40,750	11.133	1.078	0.980	2.001	0.539	0.482	50.00%
2019	15	39,750	10.859	1.381	0.956	1.978	0.698	1.590	90.00%

L = 0.248 mi

ADT = Average Daily Traffic

MYM = Million Vehicle Miles = $ADT \times L \times 365 / 1,000,000$

ACTUAL = Actual Crash Rate = No. of crashes in a year / MYM

AVERAGE = Statewide Average Crash Rate for similar segments

CRITICAL = Critical Crash Rate = $AVERAGE + K \times SQRT(AVERAGE / MYM) + 1 / (2 \times MYM)$

Area type is Urban, therefore, K = 3.291

Safety Ratio = ACTUAL / CRITICAL

Calculated K = $(ACTUAL - AVERAGE + 1 / (2 \times MYM)) / SQRT(AVERAGE / MYM)$

CONLV - Confidence Level: Percent probability that the crash rate is abnormally high for the study segment using the Statewide average as a basis.

0.6740	50%
0.8416	75%
1.0360	80%
1.2816	85%
1.6449	90%
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COUNTY: 36 - MARION

SITE: 0438 - ON I-75, 0.986 MI. N OF US-27 (RCLP)

YEAR	AAOT		DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2022	80500 C	N	41500	S 39000	9.00	53.20	30.80
2021	84500 C	N	44000	S 40500	9.00	52.70	26.30
2020	69500 F	N	36500	S 33000	9.00	54.70	27.70
2019	74000 C	N	39000	S 35000	9.00	53.10	27.70
2018	78500 C	N	40500	S 38000	9.00	53.20	26.30
2017	76000 C	N	34500	S 41500	9.00	52.90	27.10
2016	68000 E				9.00	53.10	17.00
2015	65500 S	N	31000	S 34500	9.00	54.50	24.20
2014	62500 F	N	29500	S 33000	9.00	54.90	24.20
2013	61500 C	N	29000	S 32500	9.00	55.90	24.20
2012	64000 F	N	32500	S 31500	9.00	56.30	23.90
2011	65000 C	N	33000	S 32000	9.00	55.60	23.90
2010	55500 S	N	29000	S 26500	11.52	56.37	26.30
2009	56500 F	N	29500	S 27000	11.52	56.07	26.30
2008	58500 C	N	30500	S 28000	11.45	56.68	26.30
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Intersection or Segment	Segment
Segment	US 27 to SR 326
Crash Rate Comparison Area	Statewide
Segment Area Type	Urban
Segment Length (mi) [1 if Intersection]	3.536

Statewide Crash Rates	
Interstate Urban	
Year	Average Crash Rate
2018	0.980
2019	0.956

Traffic Volumes			
Count Station	360400		
Direction	Northbound		
2018	40,500		
2019	39,000		

US 27 to SR 326: Statewide Crash Rate Analysis									
Year	Number of Crashes	Average Daily Traffic (ADT)	Million Vehicle Miles (MYM)	Actual Crash Rate (ACTUAL)	Statewide Average Crash Rate (AVERAGE)	Critical Crash Rate (CRITICAL)	Safety Ratio	Calculated K	Confidence Level (CONLV)
2018	44	40,500	52.275	0.842	0.980	1.440	0.585	-0.939	50.00%
2019	43	39,000	50.337	0.854	0.956	1.419	0.602	-0.663	50.00%

L = 3.536 mi

ADT = Average Daily Traffic

MYM = Million Vehicle Miles = $(ADT * L * 365) / 1,000,000$

ACTUAL = Actual Crash Rate = No. of crashes in a year / MYM

AVERAGE = Statewide Average Crash Rate for similar segments

CRITICAL = Critical Crash Rate = $AVERAGE + K * SQRT(AVERAGE / MYM) + 1 / (2 * MYM)$

Area type is Urban, therefore, K = 3.291

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Calculated K = $(ACTUAL - AVERAGE + 1 / (2 * MYM)) / (SQRT(AVERAGE / MYM))$

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1.0360	80%
1.2816	85%
1.6449	90%
1.9600	95%
2.3263	97.5%
2.5758	99%
2.8070	99.5%
3.0907	99.75%
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	99.99%

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2021	84500 C	N	44000	S 40500	9.00	52.70	26.30
2020	69500 F	N	36500	S 33000	9.00	54.70	27.70
2019	74000 C	N	39000	S 35000	9.00	53.10	27.70
2018	78500 C	N	40500	S 38000	9.00	53.20	26.30
2017	76000 C	N	34500	S 41500	9.00	52.90	27.10
2016	68000 E				9.00	53.10	17.00
2015	65500 S	N	31000	S 34500	9.00	54.50	24.20
2014	62500 F	N	29500	S 33000	9.00	54.90	24.20
2013	61500 C	N	29000	S 32500	9.00	55.90	24.20
2012	64000 F	N	32500	S 31500	9.00	56.30	23.90
2011	65000 C	N	33000	S 32000	9.00	55.60	23.90
2010	55500 S	N	29000	S 26500	11.52	56.37	26.30
2009	56500 F	N	29500	S 27000	11.52	56.07	26.30
2008	58500 C	N	30500	S 28000	11.45	56.68	26.30
2007	69000 C	N	37500	S 31500	10.61	56.38	18.90

AAOT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
 V = FIFTH YEAR ESTIMATE; S = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION STATISTICS OFFICE
 2022 HISTORICAL AADT REPORT

COUNTY: 36 - MARION

SITE: 043T - ON I-75, 1.469 MI. N OF SR-326 (RVL)

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2022	68500 C	N 35000	S 33500	10.50	53.20	23.40
2021	62500 F	N 32000	S 30500	10.50	52.70	19.30
2020	61500 C	N 31500	S 30000	10.50	54.70	23.40
2019	66000 F	N 34500	S 31500	10.50	53.10	20.20
2018	64000 C	N 33500	S 30500	9.50	53.20	20.70
2017	56500 C	N 28500	S 28000	9.50	52.90	19.90
2016	50500 F	N 25000	S 25500	10.50	53.10	19.70
2015	47500 C	N 23500	S 24000	10.50	54.50	19.40
2014	50500 C	N 22500	S 28000	10.50	54.90	18.70
2013	52500 C	N 28000	S 24500	10.50	55.90	17.70
2012	55000 C	N 28500	S 26500	10.50	56.30	17.90
2011	51500 C	N 26500	S 25000	10.50	55.60	18.60
2010	51500 C	N 26000	S 25500	11.52	56.37	18.40
2009	52500 C	N 28000	S 24500	11.52	56.07	18.80
2008	50000 C	N 26000	S 24000	11.45	56.68	22.90
2007	56500 C	N 30000	S 26500	10.61	56.38	21.20

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
 V = FIFTH YEAR ESTIMATE; S = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

Intersection or Segment	Segment
Segment	SR 328 Interchange Area
Crash Rate Comparison Area	Statewide
Segment Area Type	Urban
Segment Length (mi) [1 if Intersection]	0.732

Statewide Crash Rates	
Interstate Urban	
Year	Average Crash Rate
2018	0.980
2019	0.956

Traffic Volumes			
Count Station	SR0400	SR0457	
Direction	Northbound	Northbound	
2018	40,500	33,500	
2019	39,000	34,500	

SR 328 Interchange Area: Statewide Crash Rate Analysis									
Year	Number of Crashes	Average Daily Traffic (ADT)	Million Vehicle Miles (MYM)	Actual Crash Rate (ACTUAL)	Statewide Average Crash Rate (AVERAGE)	Critical Crash Rate (CRITICAL)	Safety Ratio	Calculated K	Confidence Level (CONLV)
2018	7	37,000	9.884	0.708	0.980	2.067	0.343	-0.702	50.00%
2019	5	36,750	9.817	0.509	0.956	2.033	0.250	-1.267	50.00%

L = 0.732 mi

ADT = Average Daily Traffic

MYM = Million Vehicle Miles = $(ADT \times L \times 365) / 1,000,000$

ACTUAL = Actual Crash Rate = No. of crashes in a year / MYM

AVERAGE = Statewide Average Crash Rate for similar segments

CRITICAL = Critical Crash Rate = $AVERAGE + K \times SQRT(AVERAGE/MYM) + 1/2 \times MYM$

Area type is Urban, therefore, K = 3.291

Safety Ratio = ACTUAL / CRITICAL

Calculated K = $(ACTUAL - AVERAGE + 1/2 \times MYM) / (SQRT(AVERAGE/MYM))$

CONLV - Confidence Level: Percent probability that the crash rate is abnormally high for the study segment using the Statewide average as a base:

0.6740	50%
0.8416	75%
1.0360	80%
1.2816	85%
1.6449	90%
1.9600	95%
2.3263	97.5%
2.5758	99%
2.8070	99.5%
3.0907	99.75%
3.2905	99.9%
3.7190	99.95%
	99.99%

I-75 Southbound

FLORIDA DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION STATISTICS OFFICE
 2022 HISTORICAL AADT REPORT

COUNTY: 36 - MARION

SITE: 043T - ON I-75, 1.469 MI. N OF SR-326 (RVL)

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2022	68500 C	N	35000	§	33500	10.50	53.20	23.40
2021	62500 F	N	32000	§	30500	10.50	52.70	19.30
2020	61500 C	N	31500	§	30000	10.50	54.70	23.40
2019	66000 F	N	34500	§	31500	10.50	53.10	20.20
2018	64000 C	N	33500	§	30500	9.50	53.20	20.70
2017	56500 C	N	28500	§	28000	9.50	52.90	19.90
2016	50500 F	N	25000	§	25500	10.50	53.10	19.70
2015	47500 C	N	23500	§	24000	10.50	54.50	19.40
2014	50500 C	N	22500	§	28000	10.50	54.90	18.70
2013	52500 C	N	28000	§	24500	10.50	55.90	17.70
2012	55000 C	N	28500	§	26500	10.50	56.30	17.90
2011	51500 C	N	26500	§	25000	10.50	55.60	18.60
2010	51500 C	N	26000	§	25500	11.52	56.37	18.40
2009	52500 C	N	28000	§	24500	11.52	56.07	18.80
2008	50000 C	N	26000	§	24000	11.45	56.68	22.90
2007	56500 C	N	30000	§	26500	10.61	56.38	21.20

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
 § = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
 V = FIFTH YEAR ESTIMATE; S = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION STATISTICS OFFICE
 2022 HISTORICAL AADT REPORT

COUNTY: 36 - MARION

SITE: 0438 - ON I-75, 0.986 MI. N OF US-27 (RCLP)

YEAR	AAOT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2022	80500 C	N 41500	S 39000	9.00	53.20	30.80
2021	84500 C	N 44000	S 40500	9.00	52.70	26.30
2020	69500 F	N 36500	S 33000	9.00	54.70	27.70
2019	74000 C	N 39000	S 35000	9.00	53.10	27.70
2018	78500 C	N 40500	S 38000	9.00	53.20	26.30
2017	76000 C	N 34500	S 41500	9.00	52.90	27.10
2016	68000 E			9.00	53.10	17.00
2015	65500 S	N 31000	S 34500	9.00	54.50	24.20
2014	62500 F	N 29500	S 33000	9.00	54.90	24.20
2013	61500 C	N 29000	S 32500	9.00	55.90	24.20
2012	64000 F	N 32500	S 31500	9.00	56.30	23.90
2011	65000 C	N 33000	S 32000	9.00	55.60	23.90
2010	55500 S	N 29000	S 26500	11.52	56.37	26.30
2009	56500 F	N 29500	S 27000	11.52	56.07	26.30
2008	58500 C	N 30500	S 28000	11.45	56.68	26.30
2007	69000 C	N 37500	S 31500	10.61	56.38	18.90

AAOT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
 V = FIFTH YEAR ESTIMATE; S = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

Intersection or Segment	Segment
Segment	SR 526 Interchange Area
Crash Rate Comparison Area	Statewide
Segment Area Type	Urban
Segment Length (mi) (if Intersection)	0.865

Statewide Crash Rates	
Interstate Urban	
Year	Average Crash Rate
2018	0.980
2019	0.956

Traffic Volumes			
Count Station	360457	360458	
Direction	Southbound	Southbound	
2018	30,500	38,000	
2019	31,500	35,000	

SR 526 Interchange Area: Statewide Crash Rate Analysis										
Year	Number of Crashes	Average Daily Traffic (ADT)	Million Vehicle Miles (MVM)	Actual Crash Rate (ACTUAL)	Statewide Average Crash Rate (AVERAGE)	Critical Crash Rate (CRITICAL)	Safety Ratio	Calculated K	Confidence Level (ONLY)	
2018	24	34,250	10.811	2.220	0.980	2.012	0.95	1.101	4.273	99.99%
2019	21	33,250	10.496	2.001	0.956	1.996	0.95	1.002	3.622	99.95%

L = 0.865 mi

ADT = Average Daily Traffic

MVM = Million Vehicle Miles = (ADT * L * 365) / 1,000,000

ACTUAL = Actual Crash Rate = No. of crashes in a year / MVM

AVERAGE = Statewide Average Crash Rate for similar segments

CRITICAL = Critical Crash Rate = AVERAGE + K * SQRT(AVERAGE / MVM) + 1 / (2 * MVM)
 Area type = Urban, therefore, K = 3.291

Safety Ratio = ACTUAL / CRITICAL

Calculated K = (ACTUAL - AVERAGE + 1 / (2 * MVM)) / (SQRT(AVERAGE / MVM))

ONLY - Confidence Level: Percent probability that the crash rate is abnormally high for the study segment using the statewide average as a basis

0.6740	50%
0.8416	75%
1.0380	90%
1.2816	95%
1.5440	98%
1.9600	99%
2.3263	99.5%
2.5750	99.75%
2.8070	99.9%
3.0902	99.95%
3.2906	99.98%
3.7190	99.99%
	99.99%

FLORIDA DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION STATISTICS OFFICE
 2022 HISTORICAL AADT REPORT

COUNTY: 36 - MARION

SITE: 0438 - ON I-75, 0.986 MI. N OF US-27 (RCLP)

YEAR	AA DT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2022	80500 C	N 41500	S 39000	9.00	53.20	30.80
2021	84500 C	N 44000	S 40500	9.00	52.70	26.30
2020	69500 F	N 36500	S 33000	9.00	54.70	27.70
2019	74000 C	N 39000	S 35000	9.00	53.10	27.70
2018	78500 C	N 40500	S 38000	9.00	53.20	26.30
2017	76000 C	N 34500	S 41500	9.00	52.90	27.10
2016	68000 E			9.00	53.10	17.00
2015	65500 S	N 31000	S 34500	9.00	54.50	24.20
2014	62500 F	N 29500	S 33000	9.00	54.90	24.20
2013	61500 C	N 29000	S 32500	9.00	55.90	24.20
2012	64000 F	N 32500	S 31500	9.00	56.30	23.90
2011	65000 C	N 33000	S 32000	9.00	55.60	23.90
2010	55500 S	N 29000	S 26500	11.52	56.37	26.30
2009	56500 F	N 29500	S 27000	11.52	56.07	26.30
2008	58500 C	N 30500	S 28000	11.45	56.68	26.30
2007	69000 C	N 37500	S 31500	10.61	56.38	18.90

AA DT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
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*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

Intersection or Segment Segment
 Segment SR 326 to US 27
 Crash Rate Comparison Area Statewide
 Segment Area Type Urban
 Segment Length (mi) (if Intersection) 3.517

Statewide Crash Rates	
Intersection Urban	
Year	Average Crash Rate
2018	0.980
2019	0.956

Traffic Volumes			
Count Station	350459		
Direction	Southbound		
2018	38,000		
2019	35,000		

SR 326 to US 27: Statewide Crash Rate Analysis									
Year	Number of Crashes	Average Daily Traffic (ADT)	Million Vehicle Miles (MVM)	Actual Crash Rate (ACTUAL)	Statewide Average Crash Rate (AVERAGE)	Critical Crash Rate (CRITICAL)	Safety Ratio	Calculated K	Confidence Level (CONV)
2018	58	38,000	48.784	1.182	0.980	1.456	0.816	1.548	90.00%
2019	52	35,000	44.953	1.157	0.956	1.447	0.800	1.460	90.00%

$$L = 3.517 \text{ mi}$$

ADT – Average Daily Traffic

$$\text{MVM} = \text{Million Vehicle Miles} = (\text{ADT} * L * 365) / 1,000,000$$

$$\text{ACTUAL} = \text{Actual Crash Rate} = \text{No. of crashes in a year} / \text{MVM}$$

AVERAGE – Statewide Average Crash Rate for similar segments

$$\text{CRITICAL} = \text{Critical Crash Rate} = \text{AVERAGE} + K * (\text{SOR}) * (\text{AVERAGE} / \text{MVM}) + 1 / (2 * \text{MVM})$$

Area type is Urban, therefore, K = 3.791

$$\text{Safety Ratio} = \text{ACTUAL} / \text{CRITICAL}$$

$$\text{Calculated K} = (\text{ACTUAL} - \text{AVERAGE} + 1 / (2 * \text{MVM})) / (\text{SOR}) * (\text{AVERAGE} / \text{MVM})$$

CONV - Confidence Level: Percent probability that the crash rate is not a multiple higher for the study segment using the statewide average as a basis

0.6740	50%
0.8416	75%
1.0380	90%
1.2816	95%
1.5448	98%
1.8600	99%
2.3263	99.5%
2.8758	99.9%
3.6070	99.95%
4.6907	99.99%
6.2906	99.99%
8.7190	99.99%
	99.99%

FLORIDA DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION STATISTICS OFFICE
 2022 HISTORICAL AADT REPORT

COUNTY: 36 - MARION

SITE: 0438 - ON I-75, 0.986 MI. N OF US-27 (RCLP)

YEAR	AADT		DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2022	80500 C	N	41500	S 39000	9.00	53.20	30.80
2021	84500 C	N	44000	S 40500	9.00	52.70	26.30
2020	69500 F	N	36500	S 33000	9.00	54.70	27.70
2019	74000 C	N	39000	S 35000	9.00	53.10	27.70
2018	78500 C	N	40500	S 38000	9.00	53.20	26.30
2017	76000 C	N	34500	S 41500	9.00	52.90	27.10
2016	68000 E				9.00	53.10	17.00
2015	65500 S	N	31000	S 34500	9.00	54.50	24.20
2014	62500 F	N	29500	S 33000	9.00	54.90	24.20
2013	61500 C	N	29000	S 32500	9.00	55.90	24.20
2012	64000 F	N	32500	S 31500	9.00	56.30	23.90
2011	65000 C	N	33000	S 32000	9.00	55.60	23.90
2010	55500 S	N	29000	S 26500	11.52	56.37	26.30
2009	56500 F	N	29500	S 27000	11.52	56.07	26.30
2008	58500 C	N	30500	S 28000	11.45	56.68	26.30
2007	69000 C	N	37500	S 31500	10.61	56.38	18.90

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
 V = FIFTH YEAR ESTIMATE; S = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION STATISTICS OFFICE
 2022 HISTORICAL AADT REPORT

COUNTY: 36 - MARION

SITE: 0439 - ON I-75, 0.376 MI. S OF US-27 (W/L)

YEAR	AAOT		DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2022	87500 C	N	44500	S 43000	9.00	53.20	17.10
2021	91000 C	N	46500	S 44500	9.00	52.70	14.40
2020	78000 F	N	38000	S 40000	9.00	54.70	21.90
2019	83000 C	N	40500	S 42500	9.00	53.10	21.90
2018	78500 C	N	41000	S 37500	9.00	53.20	25.40
2017	75000 C	N	42000	S 33000	9.00	52.90	21.80
2016	88500 C	N	46500	S 42000	9.00	53.10	20.70
2015	69500 C	N	38500	S 31000	9.00	54.50	25.10
2014	69000 C	N	37000	S 32000	9.00	54.90	21.20
2013	63500 C	N	33500	S 30000	9.00	55.90	22.60
2012	65000 C	N	34500	S 30500	9.00	56.30	22.20
2011	67500 C	N	36000	S 31500	9.00	55.60	21.90
2010	69000 C	N	35500	S 33500	11.52	56.37	20.90
2009	62000 F	N	31500	S 30500	11.52	56.07	18.80
2008	64000 C	N	32500	S 31500	11.45	56.68	22.90
2007	77500 C	N	40000	S 37500	10.61	56.38	21.20

AAOT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
 V = FIFTH YEAR ESTIMATE; S = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

Intersection or Segment	Segment
Segment	US 27 Interchange Area
Crash Rate Comparison Area	Statewide
Segment Area Type	Urban
Segment Length (mi) (if Intersection)	0.743

Statewide Crash Rates	
Interstate Urban	
Year	Average Crash Rate
2018	0.980
2019	0.956

Traffic Volumes			
Count Station	360458	360459	
Direction	Southbound	Southbound	
2018	38,000	37,500	
2019	35,000	42,500	

US 27 Interchange Area: Statewide Crash Rate Analysis									
Year	Number of Crashes	Average Daily Traffic (ADT)	Million Vehicle Miles (MVM)	Actual Crash Rate (ACTUAL)	Statewide Average Crash Rate (AVERAGE)	Critical Crash Rate (CRITICAL)	Safety Ratio	Calculated K	Confidence Level (CONV)
2018	20	37,750	10,258	1.954	0.980	2.042	0.954	3.306	99.95%
2019	12	38,750	10,509	1.140	0.956	1.996	0.572	0.776	75.00%

$$L = 0.743 \text{ mi}$$

ADT – Average Daily Traffic

$$MVM = \text{Million Vehicle Miles} = (ADT * L * 365) / 1,000,000$$

$$ACTUAL = \text{Actual Crash Rate} = \text{No. of crashes in a year} / MVM$$

AVERAGE – Statewide Average Crash Rate for similar segments

$$CRITICAL = \text{Critical Crash Rate} = AVERAGE + K * (SOR) * (AVERAGE / MVM) + 1 / (2 * MVM)$$

Area type is Urban, therefore, K = 3.291

$$\text{Safety Ratio} = ACTUAL / CRITICAL$$

$$\text{Calculated K} = (ACTUAL - AVERAGE + 1 / (2 * MVM)) / (SOR) * (AVERAGE / MVM)$$

CONV - Confidence Level: Percent probability that the crash rate is not a multiple higher for the study segment using the statewide average as a basis

0.6740	50%
0.8416	75%
1.0380	90%
1.2816	95%
1.5440	98%
1.8600	99%
2.3265	99.5%
2.8758	99.9%
3.6070	99.95%
4.5902	99.99%
5.7906	99.99%
7.1920	99.99%
	99.99%

FLORIDA DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION STATISTICS OFFICE
 2022 HISTORICAL AADT REPORT

COUNTY: 36 - MARION

SITE: 0439 - ON I-75, 0.376 MI. S OF US-27 (W/L)

YEAR	AAOT		DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2022	87500 C	N	44500	§ 43000	9.00	53.20	17.10
2021	91000 C	N	46500	§ 44500	9.00	52.70	14.40
2020	78000 F	N	38000	§ 40000	9.00	54.70	21.90
2019	83000 C	N	40500	§ 42500	9.00	53.10	21.90
2018	78500 C	N	41000	§ 37500	9.00	53.20	25.40
2017	75000 C	N	42000	§ 33000	9.00	52.90	21.80
2016	88500 C	N	46500	§ 42000	9.00	53.10	20.70
2015	69500 C	N	38500	§ 31000	9.00	54.50	25.10
2014	69000 C	N	37000	§ 32000	9.00	54.90	21.20
2013	63500 C	N	33500	§ 30000	9.00	55.90	22.60
2012	65000 C	N	34500	§ 30500	9.00	56.30	22.20
2011	67500 C	N	36000	§ 31500	9.00	55.60	21.90
2010	69000 C	N	35500	§ 33500	11.52	56.37	20.90
2009	62000 F	N	31500	§ 30500	11.52	56.07	18.80
2008	64000 C	N	32500	§ 31500	11.45	56.68	22.90
2007	77500 C	N	40000	§ 37500	10.61	56.38	21.20

AAOT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
 § = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
 V = FIFTH YEAR ESTIMATE; S = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

Intersection or Segment Segment
 Segment US 271 @ SR 40
 Crash Rate Comparison Area Statewide
 Segment Area Type Urban
 Segment Length (mi) (if Intersection) 0.554

Statewide Crash Rates	
Intersection Urban	
Year	Average Crash Rate
2018	0.980
2019	0.956

Traffic Volumes			
Count Station	350459		
Direction	Southbound		
2018	37,500		
2019	42,500		

US 271 @ SR 40 Statewide Crash Rate Analysis									
Year	Number of Crashes	Average Daily Traffic (ADT)	Million Vehicle Miles (MVM)	Actual Crash Rate (ACTUAL)	Statewide Average Crash Rate (AVERAGE)	Critical Crash Rate (CRITICAL)	Safety Ratio	Calculated K	Confidence Level (CONV)
2018	8	37,500	2.002	0.980	0.980	2.115	0.466	-0.136	50.00%
2019	12	42,500	10.300	1.165	0.956	2.006	0.581	0.047	99.00%

$L = 0.554 \text{ mi}$

ADT – Average Daily Traffic

MVM – Million Vehicle Miles = $(ADT * L * 365) / 1,000,000$

ACTUAL – Actual Crash Rate = No. of crashes in a year / MVM

AVERAGE – Statewide Average Crash Rate for similar segments

CRITICAL – Critical Crash Rate = $AVERAGE + K * (SOR) * (AVERAGE / MVM) + 1 / (2 * MVM)$

Area type is Urban, therefore, $K = 3.791$

Safety Ratio = ACTUAL / CRITICAL

Calculated K = $(ACTUAL - AVERAGE + 1 / (2 * MVM)) / (SOR) * (AVERAGE / MVM)$

CONV - Confidence Level: Percent probability that the crash rate is not a multiple higher for the study segment using the statewide average as a basis

0.6740	50%
0.8416	75%
1.0380	90%
1.2816	95%
1.5440	97.5%
1.8000	99%
2.0760	99.5%
2.3760	99.75%
2.7000	99.9%
3.0600	99.95%
3.4800	99.99%
3.9600	99.995%
4.5000	99.999%

FLORIDA DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION STATISTICS OFFICE
 2022 HISTORICAL AADT REPORT

COUNTY: 36 - MARION

SITE: 0439 - ON I-75, 0.376 MI. S OF US-27 (W/L)

YEAR	AAOT		DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2022	87500 C	N	44500	§ 43000	9.00	53.20	17.10
2021	91000 C	N	46500	§ 44500	9.00	52.70	14.40
2020	78000 F	N	38000	§ 40000	9.00	54.70	21.90
2019	83000 C	N	40500	§ 42500	9.00	53.10	21.90
2018	78500 C	N	41000	§ 37500	9.00	53.20	25.40
2017	75000 C	N	42000	§ 33000	9.00	52.90	21.80
2016	88500 C	N	46500	§ 42000	9.00	53.10	20.70
2015	69500 C	N	38500	§ 31000	9.00	54.50	25.10
2014	69000 C	N	37000	§ 32000	9.00	54.90	21.20
2013	63500 C	N	33500	§ 30000	9.00	55.90	22.60
2012	65000 C	N	34500	§ 30500	9.00	56.30	22.20
2011	67500 C	N	36000	§ 31500	9.00	55.60	21.90
2010	69000 C	N	35500	§ 33500	11.52	56.37	20.90
2009	62000 F	N	31500	§ 30500	11.52	56.07	18.80
2008	64000 C	N	32500	§ 31500	11.45	56.68	22.90
2007	77500 C	N	40000	§ 37500	10.61	56.38	21.20

AAOT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
 § = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
 V = FIFTH YEAR ESTIMATE; S = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION STATISTICS OFFICE
 2022 HISTORICAL AADT REPORT

COUNTY: 36 - MARION

SITE: 0440 - ON I-75, 0.586 MI. S OF SR-40 (W/L)

YEAR	AADT		DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2022	90000 C	N	43500	S 46500	9.00	53.20	23.40
2021	72000 C	N	35000	S 37000	9.00	52.70	19.30
2020	91500 F	N	43000	S 48500	9.00	54.70	23.40
2019	97500 C	N	46000	S 51500	9.00	53.10	20.20
2018	76000 C	N	36500	S 39500	9.00	53.20	20.70
2017	78500 C	N	37500	S 41000	9.00	52.90	19.90
2016	74500 C	N	36500	S 38000	9.00	53.10	17.00
2015	59000 C	N	29500	S 29500	9.00	54.50	19.20
2014	60500 C	N	32500	S 28000	9.00	54.90	17.80
2013	69000 C	N	34500	S 34500	9.00	55.90	19.40
2012	60000 C	N	30000	S 30000	9.00	56.30	17.60
2011	65500 C	N	32000	S 33500	9.00	55.60	19.50
2010	71000 C	N	35500	S 35500	11.52	56.37	18.60
2009	67000 F	N	34500	S 32500	11.52	56.07	19.50
2008	69000 C	N	35500	S 33500	11.45	56.68	20.50
2007	84500 C	N	44000	S 40500	10.61	56.38	11.30

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
 V = FIFTH YEAR ESTIMATE; S = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

Intersection or Segment: Segment
 Segment: SR 40 Interchange Area
 Crash Rate Comparison Area: Statewide
 Segment Area Type: Urban
 Segment Length (mi) (if Intersection): 0.733

Statewide Crash Rates	
Interstate Urban	
Year	Average Crash Rate
2018	0.980
2019	0.956

Traffic Volumes			
Count Station	360459	360460	
Direction	Southbound	Southbound	
2018	37,500	39,500	
2019	42,500	51,500	

SR 40 Interchange Area: Statewide Crash Rate Analysis									
Year	Number of Crashes	Average Daily Traffic (ADT)	Million Vehicle Miles (MVM)	Actual Crash Rate (ACTUAL)	Statewide Average Crash Rate (AVERAGE)	Critical Crash Rate (CRITICAL)	Safety Ratio	Calculated K	Confidence Level (CONV)
2018	12	39,500	10.305	1.144	0.980	2.046	0.562	2.959	99.75%
2019	12	47,000	12.981	0.924	0.956	1.907	0.501	0.138	50.00%

$$L = 0.733 \text{ mi}$$

ADT – Average Daily Traffic

$$\text{MVM} = \text{Million Vehicle Miles} = (\text{ADT} \times L \times 365) / 1,000,000$$

$$\text{ACTUAL} = \text{Actual Crash Rate} = \text{No. of crashes in a year} / \text{MVM}$$

AVERAGE – Statewide Average Crash Rate for similar segments

$$\text{CRITICAL} = \text{Critical Crash Rate} = \text{AVERAGE} + K \times (\text{SOR}) (\text{AVERAGE} / \text{MVM}) + 1 / (2 \times \text{MVM})$$

Area type is Urban, therefore, K = 3.291

$$\text{Safety Ratio} = \text{ACTUAL} / \text{CRITICAL}$$

$$\text{Calculated K} = (\text{ACTUAL} - \text{AVERAGE} + 1 / (2 \times \text{MVM})) / (\text{SOR}) (\text{AVERAGE} / \text{MVM})$$

CONV – Confidence Level: Percent probability that the crash rate is not a multiple higher for the study segment using the statewide average as a basis

0.6740	50%
0.8416	75%
1.0380	90%
1.2816	95%
1.6440	98%
1.9600	99%
2.3265	99.5%
2.5758	99.75%
2.8070	99.9%
3.0907	99.95%
3.2906	99.98%
3.7190	99.99%
	99.99%

FLORIDA DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION STATISTICS OFFICE
 2022 HISTORICAL AADT REPORT

COUNTY: 36 - MARION

SITE: 0440 - ON I-75, 0.586 MI. S OF SR-40 (W/L)

YEAR	AADT		DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2022	90000 C	N	43500	S 46500	9.00	53.20	23.40
2021	72000 C	N	35000	S 37000	9.00	52.70	19.30
2020	91500 F	N	43000	S 48500	9.00	54.70	23.40
2019	97500 C	N	46000	S 51500	9.00	53.10	20.20
2018	76000 C	N	36500	S 39500	9.00	53.20	20.70
2017	78500 C	N	37500	S 41000	9.00	52.90	19.90
2016	74500 C	N	36500	S 38000	9.00	53.10	17.00
2015	59000 C	N	29500	S 29500	9.00	54.50	19.20
2014	60500 C	N	32500	S 28000	9.00	54.90	17.80
2013	69000 C	N	34500	S 34500	9.00	55.90	19.40
2012	60000 C	N	30000	S 30000	9.00	56.30	17.60
2011	65500 C	N	32000	S 33500	9.00	55.60	19.50
2010	71000 C	N	35500	S 35500	11.52	56.37	18.60
2009	67000 F	N	34500	S 32500	11.52	56.07	19.50
2008	69000 C	N	35500	S 33500	11.45	56.68	20.50
2007	84500 C	N	44000	S 40500	10.61	56.38	11.30

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
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*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

Intersection or Segment	Segment
Segment	SR 40 to SR 200
Crash Rate Comparison Area	Statewide
Segment Area Type	Urban
Segment Length (mi) (if Intersection)	1.591

Statewide Crash Rates	
Intersection Urban	
Year	Average Crash Rate
2018	0.980
2019	0.956

Traffic Volumes			
Count Station	SE0440		
Direction	Southbound		
2018	39,500		
2019	51,500		

SR 40 cod R 200: Statewide Crash Rate Analysis									
Year	Number of Crashes	Average Daily Traffic (ADT)	Million Vehicle Miles (MYM)	Actual Crash Rate (ACTUAL)	Statewide Average Crash Rate (AVERAGE)	Critical Crash Rate (CRITICAL)	Safety Ratio	Calculated K	Confidence Level (CONLV)
2018	27	39,500	24.256	0.908	0.980	1.562	0.546	-0.256	50.00%
2019	26	51,500	31.899	0.825	0.956	1.544	0.553	-0.677	50.00%

$L = 1.591 \text{ mi}$
 $ADT = \text{Average Daily Traffic}$
 $MYM = \text{Million Vehicle Miles} = (ADT * L * 365) / 1,000,000$
 $ACTUAL = \text{Actual Crash Rate} = \text{No. of crashes in a year} / MYM$
 $AVERAGE = \text{Statewide Average Crash Rate for similar segments}$
 $CRITICAL = \text{Critical Crash Rate} = AVERAGE + K * (SOR) * (AVERAGE / MYM) + 1 / (2 * MYM)$
 $\text{Area type is Urban, therefore, } K = 3.791$
 $\text{Safety Ratio} = ACTUAL / CRITICAL$
 $\text{Calculated } K = (ACTUAL - AVERAGE + 1 / (2 * MYM)) / (SOR) * (AVERAGE / MYM)$
 $CONLV = \text{Confidence Level: Percent probability that the crash rate is not a multiple higher for the study segment using the statewide average as a basis}$

0.6740	50%
0.8416	75%
1.0380	90%
1.2816	95%
1.5440	98%
1.8600	99%
2.3265	99.5%
2.5758	99.9%
2.8070	99.95%
3.0907	99.975%
3.2906	99.99%
3.4190	99.995%
	99.999%

I-75 Ramp Terminals

FLORIDA DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION STATISTICS OFFICE
 2022 HISTORICAL AADT REPORT

COUNTY: 36 - MARION

SITE: 2012 - I-75, RAMP FROM I-75 NB TO SR-500 (US-27)

YEAR	AADT		DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2022	7900 C	N	7900	0	9.00	99.90	17.60
2021	6500 S		0	0	9.00	99.90	15.60
2020	6400 F		0	0	9.00	99.90	11.50
2019	6800 C	N	6800	0	9.00	99.90	15.70
2018	7400 S		0	0	9.00	99.90	8.70
2017	7300 F		0	0	9.00	99.90	9.80
2016	6900 C	N	6900	0	9.00	99.90	10.30
2015	5900 C	N	5900	0	9.00	99.90	11.60
2014	5900 C	N	5900		9.00	99.90	8.50
2013	5900 C	N	5900	0	9.00	99.90	6.10
2012	5500 C	N	5500	0	9.00	99.90	6.40
2011	5600 C	N	5600	0	9.00	99.90	10.20
2010	5600 C	N	5600	0	11.52	99.99	9.80
2009	5700 C	N	5700	0	11.52	99.99	9.70
2008	5600 C	N	5600	0	11.45	99.99	11.30
2007	6800 C	N	6800	0	10.61	99.99	11.90

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
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*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION STATISTICS OFFICE
 2022 HISTORICAL AADT REPORT

COUNTY: 36 - MARION

SITE: 0459 - ON US-27, 0.574 MI. NW OF I-75 (RCLP)

YEAR	AADT		DIRECTION 1		DIRECTION 2		*K FACTOR	D FACTOR	T FACTOR
2022	21500	F	E	10000	W	11500	9.00	55.10	14.00
2021	21500	C	E	10000	W	11500	9.00	53.20	14.00
2020	21000	F	E	10500	W	10500	9.00	53.40	15.70
2019	21000	C	E	10500	W	10500	9.00	53.80	15.70
2018	22000	C	E	10500	W	11500	9.00	54.30	11.70
2017	20700	C	E	9700	W	11000	9.00	55.50	15.90
2016	20200	C	E	9700	W	10500	9.00	56.10	11.10
2015	18700	F	E	8700	W	10000	9.00	56.30	11.60
2014	18000	C	E	8400	W	9600	9.00	56.80	8.50
2013	16800	C	E	7800	W	9000	9.00	56.70	6.10
2012	16600	C	E	7900	W	8700	9.00	56.70	6.40
2011	17400	C	E	8800	W	8600	9.00	56.00	10.20
2010	16900	C	E	8000	W	8900	10.14	57.07	12.60
2009	17500	C	E	8400	W	9100	10.04	59.21	12.60
2008	25000	C	E	12500	W	12500	9.73	57.40	12.60
2007	28000	C	E	14000	W	14000	9.71	57.95	13.40

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
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*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION STATISTICS OFFICE
 2022 HISTORICAL AADT REPORT

COUNTY: 36 - MARION

SITE: 0033 - ON US-27, 0.188MI. N OF 30TH AVE. (UCLP)

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2022	21000 S	E 10000	W 11000	9.00	55.10	7.80
2021	21000 F	E 10000	W 11000	9.00	53.20	7.80
2020	21000 C	E 10000	W 11000	9.00	53.40	7.80
2019	22500 F	E 11000	W 11500	9.00	53.80	8.70
2018	22500 C	E 11000	W 11500	9.00	54.30	8.70
2017	21500 C	E 10500	W 11000	9.00	55.50	9.80
2016	21000 C	E 10500	W 10500	9.00	56.10	10.30
2015	22000 F	E 11000	W 11000	9.00	56.30	8.50
2014	21000 C	E 10500	W 10500	9.00	56.80	8.50
2013	19900 C	E 9900	W 10000	9.00	56.70	6.10
2012	19600 C	E 9800	W 9800	9.00	56.70	6.40
2011	19900 C	E 9900	W 10000	9.00	56.00	10.20
2010	21000 C	E 10500	W 10500	10.14	57.07	9.80
2009	22000 C	E 11000	W 11000	10.04	59.21	9.70
2008	22000 C	E 11000	W 11000	9.73	57.40	10.00
2007	25000 C	E 12500	W 12500	9.71	57.95	10.50

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
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 V = FIFTH YEAR ESTIMATE; G = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

Intersection or Segment	Intersection
Intersection	US 27 Northbound Ramp Terminal
Crash Rate Comparison Area	Statewide
Intersection Area Type	Urban
Segment Length (m) (1 if Intersection)	1,000

Statewide Crash Rates	
Urban Ramp, 3-Legged	
Year	Average Crash Rate
2018	1.455
2019	1.293

Traffic Volumes			
Count Station	38012	38049	38033
Direction	Northbound	Both	Both
2018	7,400	27,000	22,500
2019	6,800	21,000	22,500

US 27 Northbound Ramp Terminal: Statewide Crash Rate Analysis									
Year	Number of Crashes	Average Daily Traffic (ADT)	Million Entering Vehicles (MEV)	Actual Crash Rate (ACTUAL)	Statewide Average Crash Rate (AVERAGE)	Critical Crash Rate (CRITICAL)	Safety Ratio	Calculated K	Confidence Level (CONV)
2018	12	51,900	18,944	0.633	1.455	2.395	0.265	-2.868	50.00%
2019	13	50,300	18,360	0.708	1.293	2.193	0.323	-2.100	50.00%

L = Not applicable
 DE V – Daily Entering Vehicles
 ME V – Million Entering Vehicles = (DE V * 365) / 1,000,000
 ACTUAL – Actual Crash Rate = No. of crashes in a year / ME V
 AVERAGE – Statewide Average Crash Rate for similar intersections
 CRITICAL – Critical Crash Rate = AVERAGE + K * SQRT(AVERAGE / ME V) + 1 / (2 * ME V)
 Area type is Urban, therefore, K = 3.291
 Safety Ratio = ACTUAL / CRITICAL
 Calculated K = (ACTUAL - AVERAGE + 1 / (2 * ME V)) / (SQRT(AVERAGE / ME V))
 CONV - Confidence Level: Percent probability that the crash rate is abnormally high for the study intersection using the Statewide average as a basis

0.6740	50%
0.8416	75%
1.0360	80%
1.2816	85%
1.6449	90%
1.9600	95%
2.3263	97.5%
2.5758	99%
2.8070	99.5%
3.0902	99.75%
3.2905	99.9%
3.7190	99.95%
	99.99%

FLORIDA DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION STATISTICS OFFICE
 2022 HISTORICAL AADT REPORT

COUNTY: 36 - MARION

SITE: 2014 - I-75, RAMP FROM I-75 SB TO SR-500 (US-27)

YEAR	AADT		DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2022	2400 C	S	2400	0	9.00	99.90	11.60
2021	2200 S		0	0	9.00	99.90	15.60
2020	2200 F		0	0	9.00	99.90	11.50
2019	2300 C	S	2300	0	9.00	99.90	15.70
2018	2500 S		0	0	9.00	99.90	8.70
2017	2500 F		0	0	9.00	99.90	9.80
2016	2400 C	S	2400	0	9.00	99.90	10.30
2015	2100 C	S	2100	0	9.00	99.90	11.60
2014	2400 C	S	2400		9.00	99.90	8.50
2013	2500 C	S	2500	0	9.00	99.90	6.10
2012	2200 C	S	2200	0	9.00	99.90	6.40
2011	2200 C	S	2200	0	9.00	99.90	10.20
2010	2200 C	S	2200	0	11.52	99.99	9.80
2009	2400 C	S	2400	0	11.52	99.99	9.70
2008	2400 C	S	2400	0	11.45	99.99	11.30
2007	2600 C	S	2600	0	10.61	99.99	11.90

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
 V = FIFTH YEAR ESTIMATE; S = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION STATISTICS OFFICE
 2022 HISTORICAL AADT REPORT

COUNTY: 36 - MARION

SITE: 0459 - ON US-27, 0.574 MI. NW OF I-75 (RCLP)

YEAR	AADT		DIRECTION 1		DIRECTION 2		*K FACTOR	D FACTOR	T FACTOR
2022	21500	F	E	10000	W	11500	9.00	55.10	14.00
2021	21500	C	E	10000	W	11500	9.00	53.20	14.00
2020	21000	F	E	10500	W	10500	9.00	53.40	15.70
2019	21000	C	E	10500	W	10500	9.00	53.80	15.70
2018	22000	C	E	10500	W	11500	9.00	54.30	11.70
2017	20700	C	E	9700	W	11000	9.00	55.50	15.90
2016	20200	C	E	9700	W	10500	9.00	56.10	11.10
2015	18700	F	E	8700	W	10000	9.00	56.30	11.60
2014	18000	C	E	8400	W	9600	9.00	56.80	8.50
2013	16800	C	E	7800	W	9000	9.00	56.70	6.10
2012	16600	C	E	7900	W	8700	9.00	56.70	6.40
2011	17400	C	E	8800	W	8600	9.00	56.00	10.20
2010	16900	C	E	8000	W	8900	10.14	57.07	12.60
2009	17500	C	E	8400	W	9100	10.04	59.21	12.60
2008	25000	C	E	12500	W	12500	9.73	57.40	12.60
2007	28000	C	E	14000	W	14000	9.71	57.95	13.40

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
 V = FIFTH YEAR ESTIMATE; S = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION STATISTICS OFFICE
 2022 HISTORICAL AADT REPORT

COUNTY: 36 - MARION

SITE: 0033 - ON US-27, 0.188MI. N OF 30TH AVE. (UCLP)

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2022	21000 S	E 10000	W 11000	9.00	55.10	7.80
2021	21000 F	E 10000	W 11000	9.00	53.20	7.80
2020	21000 C	E 10000	W 11000	9.00	53.40	7.80
2019	22500 F	E 11000	W 11500	9.00	53.80	8.70
2018	22500 C	E 11000	W 11500	9.00	54.30	8.70
2017	21500 C	E 10500	W 11000	9.00	55.50	9.80
2016	21000 C	E 10500	W 10500	9.00	56.10	10.30
2015	22000 F	E 11000	W 11000	9.00	56.30	8.50
2014	21000 C	E 10500	W 10500	9.00	56.80	8.50
2013	19900 C	E 9900	W 10000	9.00	56.70	6.10
2012	19600 C	E 9800	W 9800	9.00	56.70	6.40
2011	19900 C	E 9900	W 10000	9.00	56.00	10.20
2010	21000 C	E 10500	W 10500	10.14	57.07	9.80
2009	22000 C	E 11000	W 11000	10.04	59.21	9.70
2008	22000 C	E 11000	W 11000	9.73	57.40	10.00
2007	25000 C	E 12500	W 12500	9.71	57.95	10.50

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
 V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

Intersection or Segment	Intersection
Intersection	US 27 Southbound Ramp Terminal
Crash Rate Comparison Area	Statewide
Intersection Area Type	Urban
Segment Length (mi) (1 if Intersection)	1.000

Statewide Crash Rates	
Urban Ramp, 3-Legged	
Year	Average Crash Rate
2018	1.455
2019	1.293

Traffic Volumes			
Count Station	38014	38049	38033
Direction	Southbound	Both	Both
2018	2,500	22,000	22,500
2019	2,300	21,000	22,500

US 27 Southbound Ramp Terminal: Statewide Crash Rate Analysis									
Year	Number of Crashes	Average Daily Traffic (ADT)	Million Entering Vehicles (MEV)	Actual Crash Rate (ACTUAL)	Statewide Average Crash Rate (AVERAGE)	Critical Crash Rate (CRITICAL)	Safety Ratio	Calculated K	Confidence Level (CONV)
2018	20	42,000	1.7155	1.166	1.455	2.442	0.477	-0.821	50.00%
2019	13	45,000	1.6717	0.778	1.293	2.238	0.348	-1.744	50.00%

L = Not applicable

DEV - Daily Entering Vehicles

MEV - Million Entering Vehicles = (DEV * 365) / 1,000,000

ACTUAL - Actual Crash Rate = No. of crashes in a year / MEV

AVERAGE - Statewide Average Crash Rate for similar intersections

CRITICAL - Critical Crash Rate = AVERAGE + K * SQRT(AVERAGE/MEV) + 1 / (2 * MEV)

Area type is Urban, therefore, K = 3.291

Safety Ratio = ACTUAL / CRITICAL

Calculated K = (ACTUAL - AVERAGE + 1 / (2 * MEV)) / (SQRT(AVERAGE/MEV))

CONV - Confidence Level: Percent probability that the crash rate is abnormally high for the study intersection using the Statewide average as a basis

0.6740	50%
0.8416	75%
1.0360	80%
1.2816	85%
1.6449	90%
1.9600	95%
2.3263	97.5%
2.5758	99%
2.8070	99.5%
3.0902	99.75%
3.2905	99.9%
3.7190	99.95%
	99.99%

**APPENDIX K – FINAL SUBAREA MODEL VALIDATION
REPORT**



Financial Project Identification (FPID) 443 623-1-22-01 ETDM No. 14370
and FPID 443 624-1-22-01 ETDM No.14385

May 2020



SUBAREA MODEL VALIDATION REPORT

From Florida's Turnpike to County Road 234
Florida Department of Transportation District Five

The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by HXXI pursuant to 28 U.S.C. § 427 and a Memorandum of Understanding dated December 14, 2016 and executed by FHWA and HXXI.

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APPENDIX D FUTURE YEAR (2045) MODEL PLOTS

1. BACKGROUND

Kittelson & Associates, Inc. (KAI) was retained by the Florida Department of Transportation (FDOT) District Five (D5) to develop the future traffic forecasts for the Interstate 75 (I-75) PD&E studies (FM# 443623-1-22-01 and 443624-1-22-01). The project limits along I-75 are between Florida's Turnpike and County Road (C.R.) 234 and traverse three counties (Sumter, Marion, and Alachua) in Central Florida. The latest Turnpike State Model (TSM) used for the I-75 Alternative Corridor Evaluation (ACE) project was calibrated by Florida's Turnpike Enterprise to year 2015 conditions and was received by the project team (dated 03/12/2019). The calibrated TSM was validated at a subarea level and will be used to support future travel demand forecasting. This report summarizes the subarea model validation and future year model development.

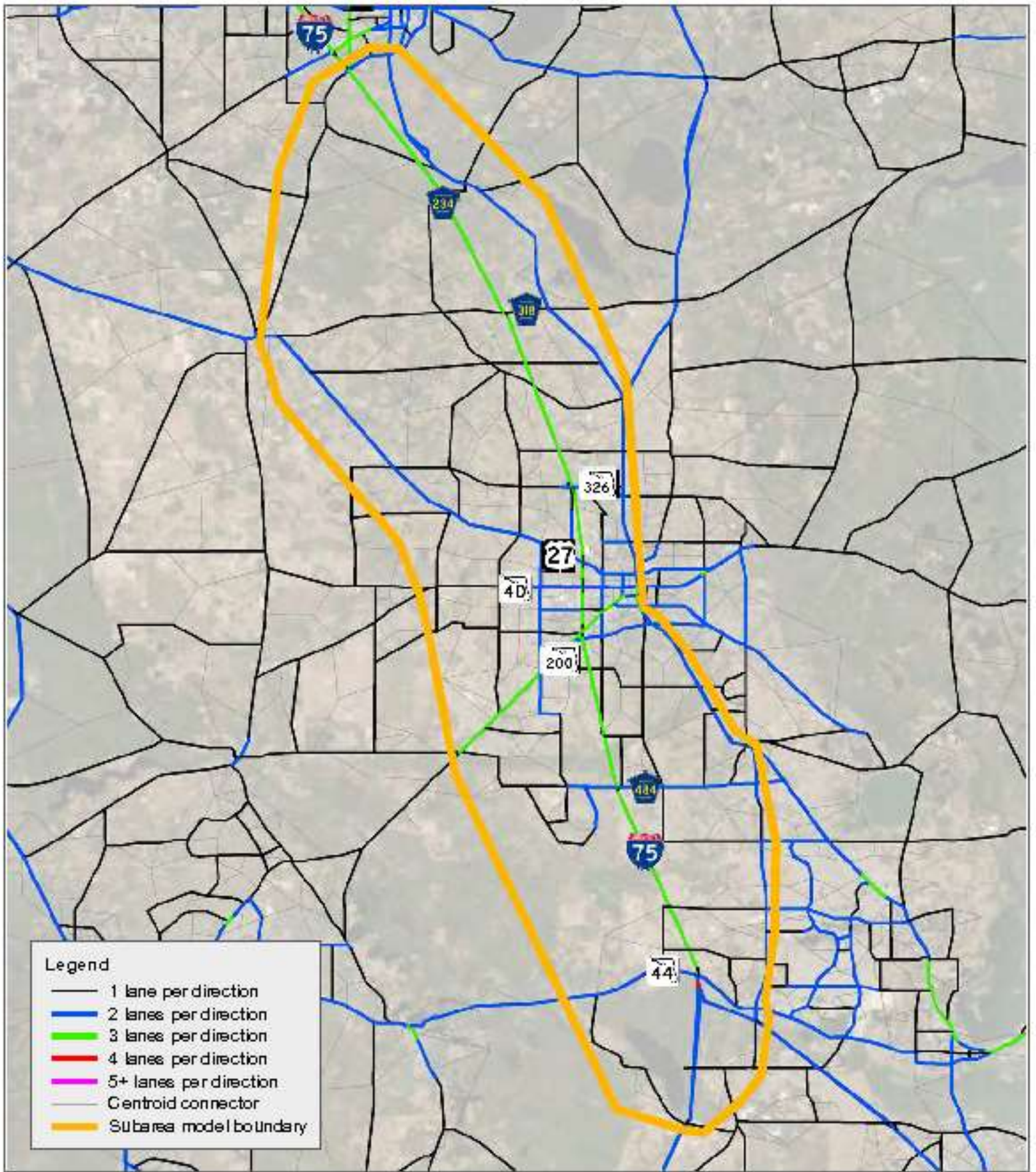
2. SUBAREA MODEL VALIDATION

2.1. SUBAREA MODEL BOUNDARY

The study segments included 44 miles of freeway sections on I-75 from Florida's Turnpike to C.R. 234, as shown in **Figure 1**. The subarea model boundary was selected to include the major facilities in the vicinity of the study segments as well as the next adjacent interchange to the study endpoints. The boundary generally includes the area bounded by I-75 & C.R. 470 interchange to the south, I-75 & State Road (S.R.) 331 interchange to the north, United State Road (U.S.) 27 to the west, and S.R. 35 to the east.

2.2. SUBAREA MODEL COUNTS

As part of the TSM 2015 calibration, 2015 traffic counts were compiled and updated in the model using both FDOT's telemetered traffic monitoring site (TTMS) and portable traffic monitoring site (PTMS) count sites. The count data on the I-75 corridor from the Georgia state line to I-275 was also reviewed and balanced for year 2015. Details can be found in the "Turnpike State Model 2015 Validation Report, June 2018" (included in **Appendix A**). Therefore, those previously developed 2015 counts were used in the I-75 PD&E subarea model validation process.



2.3. SUBAREA MODEL ADJUSTMENT

The transportation network near the study interchanges and study intersections was reviewed based on 2015 Google aerial imagery. The roadway segment along Northwest 27th Avenue between S.R. 40 and U.S. 27 was added and the centroid connectors of Traffic Analysis Zone (TAZ) 3672 were adjusted accordingly to reflect the actual network connection. **Figure 2** shows the model network comparison near S.R. 40 and U.S. 27 between the off-the-shelf model (left image) and updated model (right image).

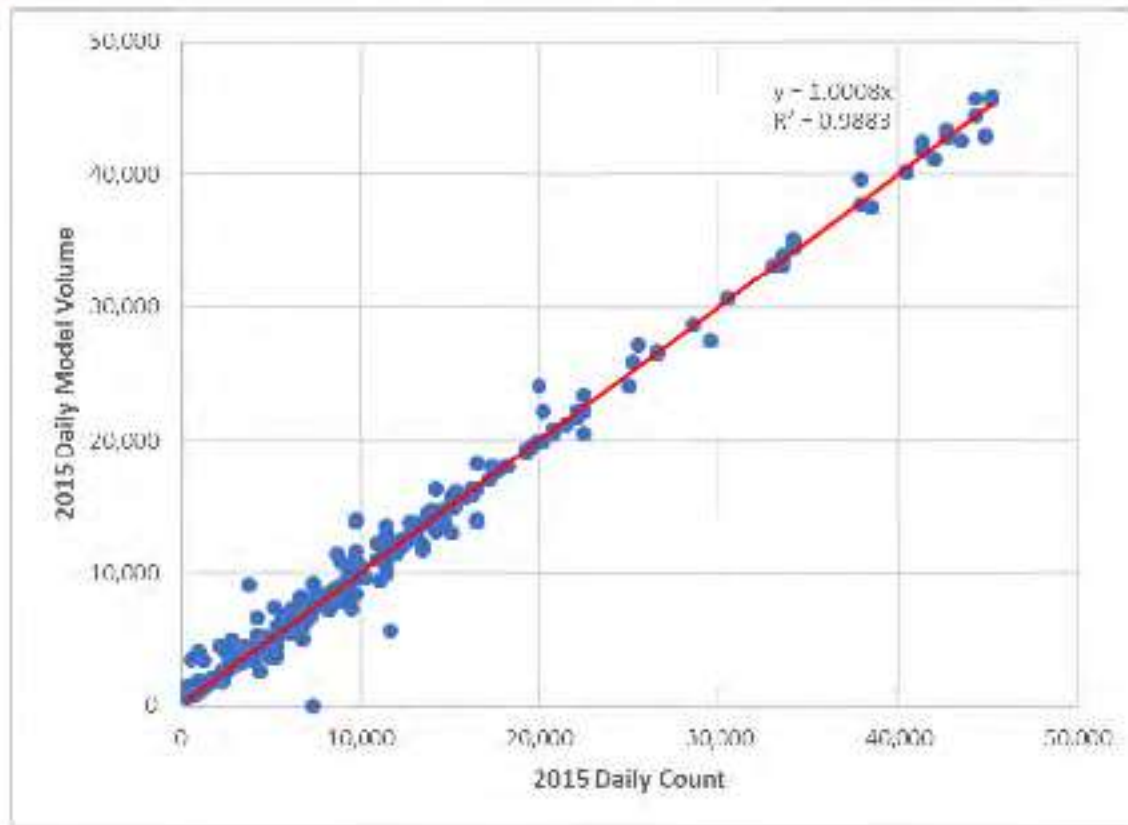
Figure 2: Base Year (2015) Model Network Adjustment



2.4. SUBAREA MODEL VALIDATION

Figure 3 shows the base year (2015) volume-to-count (VC) comparisons of the 342 traffic count locations within the subarea. The coefficient of determination (R^2) value was 0.99 at the end of the final assignment, which indicates the model is closely approximating the counts. Typical model validation efforts have R^2 values from 0.85 to 0.90.

Figure 3: Base Year (2015) Volume-to-Count Comparisons



Percent root mean square error (RMSE%) was also calculated between the 2015 model volumes and counts. The results were compared with the standards outlined in Table 2-11 of the FSUTMS-Cube Model Calibration and Validation Standards. **Table 1** shows the RMSE% on the daily level. The subarea model's RMSE% for all the volume groups are better than FSUTMS's preferable standards.

Table 1: RMSE% by Daily Volume Group of the Calibrated Subarea Model

Group	Volume Range (Vehicles/day)	FSU TMS Standards		# of Counts	RMSE%
		Acceptable	Preferable		
1	Less than 5,000	100%	45%	95	32%
2	5,000 - 9,999	45%	35%	115	16%
3	10,000 - 14,999	35%	27%	64	8%
4	15,000 - 19,999	30%	25%	23	6%
5	20,000 - 29,999	27%	15%	19	6%
6	30,000 - 49,999	25%	15%	26	2%
7	50,000 - 59,999	20%	10%	0	N/A
8	More than 60,000	19%	10%	0	N/A
Total		45%	35%	342	10%

The VC ratios of all facility types also meet the criteria on the daily level, as shown in **Table 2**. The VC ratio statistics for all facilities meet the criteria.

Table 2: VC Ratios by Facility Type of the Calibrated Subarea Model

Facility Type	# of Counts	Criteria	Count	Volume	V/C Diff%	Meets Criteria
Freeway	26	+/- 7%	926,900	925,612	-0.14%	YES
Arterial	192	+/- 15%	1,975,654	1,984,298	0.44%	YES
Collector	83	+/- 25%	693,300	689,956	-0.48%	YES
All	342	+/- 5%	3,802,054	3,827,410	0.67%	YES

2.5. I-75 CORRIDOR STATISTICS

Table 3 shows how the subarea model performs along I-75 PD&E project study segments and the adjacent mainline segments. All directional volumes on the mainline within the study limits are within ± 4 percent of the observed 2015 counts.

Table 3: I-75 Mainline Daily Volume versus Count

I-75 Mainline Segments		Northbound			Southbound			Both Directions		
From	To	Volume	Count	VC Ratio	Volume	Count	VC Ratio	Volume	Count	VC Ratio
South of S.R. 91		20,537	22,500	0.91	23,429	22,500	1.04	43,966	45,000	0.98
S.R. 91	S.R. 44	42,749	42,700	1.00	43,329	42,700	1.01	86,078	85,400	1.01
S.R. 44	C.R. 484	41,744	41,350	1.01	42,416	41,350	1.03	84,160	82,700	1.02
C.R. 484	S.R. 200	44,461	44,300	1.00	45,676	44,300	1.03	90,137	88,600	1.02
S.R. 200	S.R. 40	45,865	45,200	1.01	45,602	45,200	1.01	91,467	90,400	1.01
S.R. 40	U.S. 27	42,871	44,800	0.96	42,784	44,800	0.96	85,655	89,600	0.96
U.S. 27	S.R. 326	40,085	40,450	0.99	40,229	40,450	0.99	80,314	80,900	0.99
S.R. 326	C.R. 318	34,919	34,150	1.02	35,137	34,150	1.03	70,056	68,300	1.03
C.R. 318	C.R. 234	34,819	34,200	1.02	34,571	34,200	1.01	69,390	68,400	1.01
North of C.R. 234		33,952	33,600	1.01	33,939	33,600	1.01	67,891	67,200	1.01

A manual review of all the ramp volumes within the I-75 PD&E study limits is also conducted. Among all the 37 count locations on the ramp, 51% (19) locations have volume within ± 10 percent of the count, 84% (31) locations have volume within ± 25 percent of the count.

Based on the statistics discussed above, the subarea meets the RMSE% and VC ratio criteria at the daily level and the study corridor shows a close match to the counts. Therefore, the subarea model is considered validated and could be used to support the study area volume forecast. The model volumes for the base year model within the subarea are plotted and can be found in **Appendix B**.

3. FUTURE YEAR MODEL DEVELOPMENT

3.1. FUTURE YEAR MODEL ADJUSTMENTS

To support the opening year (2030) and design year (2050) traffic analysis and forecasts, a future year (2045) subarea model was developed based on the TSM 2045 scenario. Two future model scenarios, No Build and Build, were developed. The following assumptions were made for the No Build and Build scenarios:

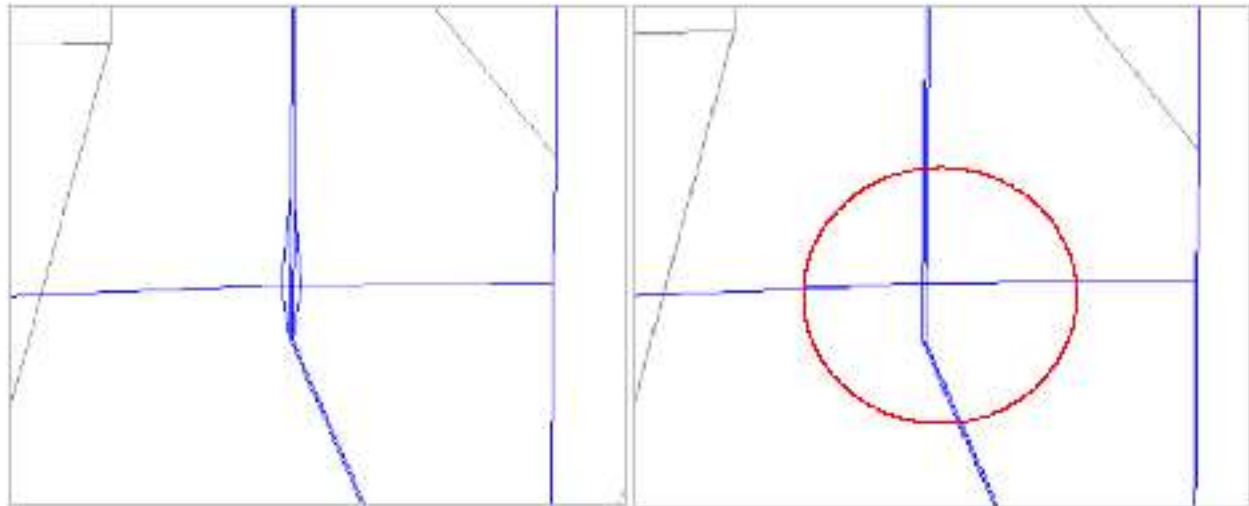
- No Build scenario assumes the I-75 study segment has 3 lanes per direction;
- Build scenario assumes the I-75 study segment has 4 lanes per direction; and
- The Automated, Connected, Electric, and Shared vehicles (ACES) scenario and Multi-use Corridors of Regional Economic Significance (M-CORES) scenario were not included in the future year evaluation as the Project Team was instructed to not include them as part of scope development.

It is also anticipated FDOT resources will run the Express Lanes Time of Day (ELToD) model for potential express lane scenarios and evaluations.

Reviews were conducted along the I-75 study corridor for the future year. Network modifications made for the base year (2015) were applied in the future year (2045) scenarios. The 2045 TSM included two new interchanges along I-75 within the study limits at SW 95th Street and at NW 49th Street. A review of the FDOT Five Year Work Program (2020-2025) indicated that there is no current funding for the proposed interchange at I-75/SW 95th Street. The Ocala-Marion TPO 2045 Long Range Transportation Plan (LRTP) is currently under development and is not expected to be approved until the end of 2020.

Per discussions with FDOT (including the District Interchange Review Coordinator) and the Project Teams, it was decided to remove the interchange of I-75 and SW 95th Street from the 2045 TSM. The written confirmation of this decision is included in **Appendix C**. **Figure 4** shows the model network comparison at Southwest 95th Street between the off-the-shelf scenario (left image) and the adjusted model scenario (right image). The model volumes for the 2045 models are included in **Appendix D**.

Figure 4: Future Year (2045) Model Update at SW 95th Street



3.2. FUTURE YEAR I-75 CORRIDOR STATISTICS

Table 4 summarizes the subarea model volumes along the study segments and the adjacent mainline segments in the base year and two future year scenarios. All directional mainline volumes within the study limits in the 2045 Build scenario are higher than 2045 No Build scenario and base year model.

Table 4: I-75 Mainline Daily Volume Comparison

I-75 Mainline Segments		Northbound			Southbound			Both Directions		
From	To	2015	2045 No Build	2045 Build	2015	2045 No Build	2045 Build	2015	2045 No Build	2045 Build
South of S.R. 91		20,537	35,133	37,308	23,429	34,361	36,568	43,966	69,494	73,876
S.R. 91	S.R. 44	42,749	54,123	57,557	43,329	54,695	58,692	86,078	108,818	116,249
S.R. 44	CR. 484	41,744	62,898	67,268	42,416	63,010	67,560	84,160	125,908	134,828
CR. 484	S.R. 200	44,461	63,952	70,774	45,676	64,353	71,071	90,137	128,305	141,845
S.R. 200	S.R. 40	45,865	61,913	70,369	45,602	60,880	69,273	91,467	122,793	133,642
S.R. 40	U.S. 27	42,871	63,977	70,095	42,784	62,880	70,118	85,655	126,857	140,213
U.S. 27	NW 49th Ave	40,085	57,960	63,202	40,229	56,750	62,238	80,314	114,710	125,440
NW 49th Ave	S.R. 320	40,085	60,788	66,207	40,229	58,897	64,391	80,314	119,685	130,598
S.R. 320	CR. 318	34,919	53,000	56,424	35,137	53,274	57,429	70,056	106,274	113,853
CR. 318	CR. 234	34,819	51,837	55,181	34,571	52,137	54,815	69,390	103,974	109,996
North of CR. 234		33,952	49,106	51,047	33,939	49,247	50,889	67,891	98,353	101,936

4. SUMMARY

The base year (2015) subarea model meets the RMSE and VC ratio criteria and therefore is a validated base year subarea model. The future year (2045) subarea models were developed and adjusted with appropriate assumptions and can be used to estimate model growth rates for use in establishing daily model growth rates to support the development of Design Traffic volume forecasts in support of the Project Traffic Analysis Report (PTAR).

**APPENDIX A TURNPIKE STATE MODEL 2015
VALIDATION REPORT, JUNE 2018**

June 2018

Turnpike State Model 2015 Validation Report

DRAFT



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The Florida Department of Transportation (FDOT) initiated the Future Corridors planning process to envision and plan the future of Florida's major statewide transportation corridors over the next 50 years. The Future Corridors initiative is a long-term, large-scale approach for planning major transportation corridors in the context of environmental stewardship, both maximizing the use of existing corridors and developing new corridors. Corridors are planned and developed through a structured process emphasizing early and ongoing coordination with local, state, and federal planning and resource agencies and the public.

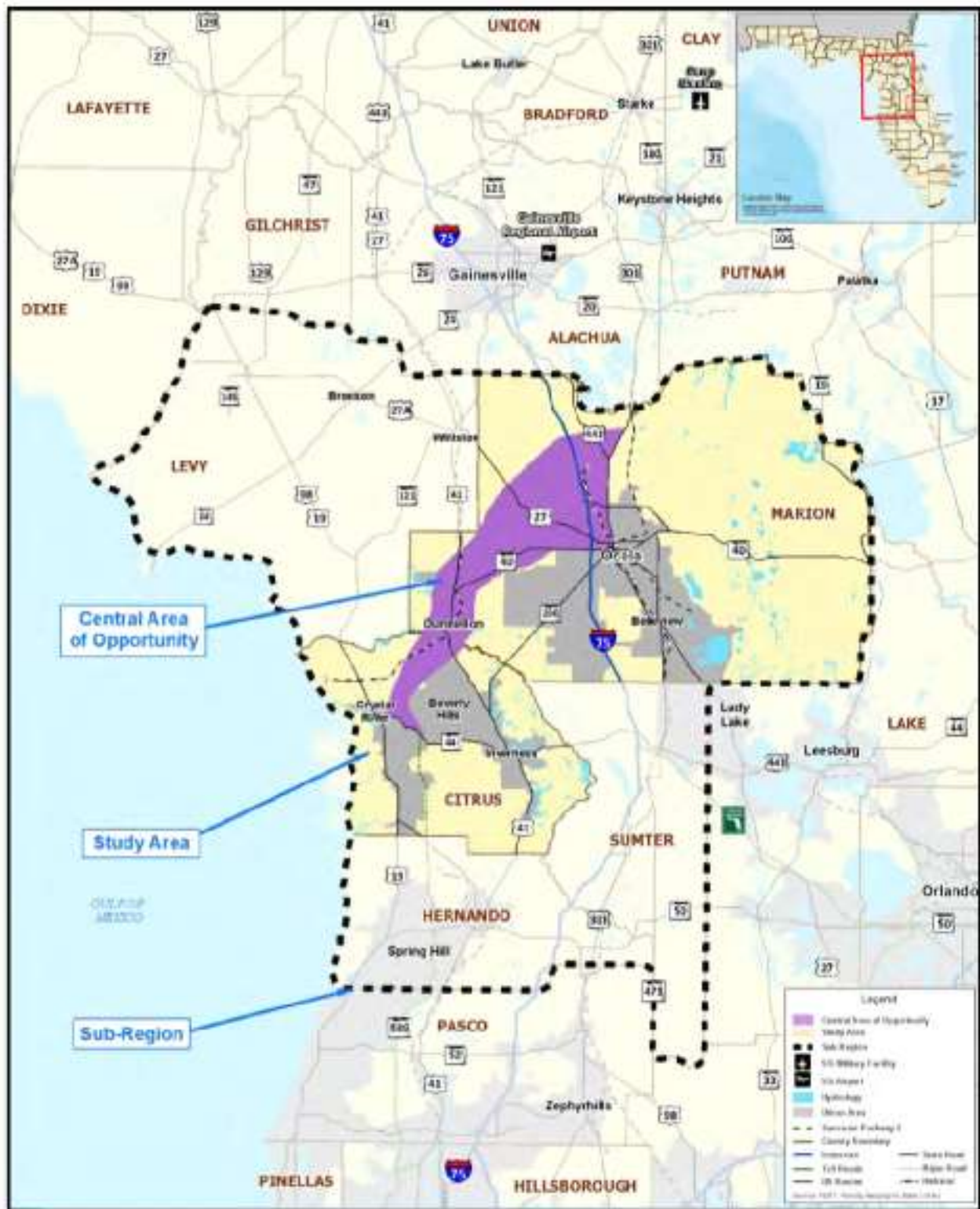
FDOT completed a Concept Study in 2013 to assess mobility needs in a 19-county area from Tampa to Northeast Florida. The Concept Study identified steps to continue corridor planning activities in the study area. One of the recommendations from the Concept Study directed FDOT to conduct a more detailed evaluation study to assess the feasibility of developing a new multimodal transportation corridor between the northern portion of the Tampa Bay region and I-75. The Concept Study also recommended this corridor be considered in the context of a long-term vision of improving connectivity between Tampa Bay and Northeast Florida. This new corridor evaluation is considered a long-term opportunity that could provide relief to I-75 and enhance regional connectivity. This option requires detailed evaluation studies, followed by a Project Development and Environment (PD&E) study.

A relief corridor to the west of I-75 would bypass existing congested areas and/or provide a more direct connection from western Tampa Bay to Ocala, Gainesville, and other parts of north Florida. A potential "area of opportunity" for this new corridor has been developed, running from the northern terminus of the Suncoast Parkway at S.R. 44 in Citrus County to I-75 in Marion County, as shown in Figure 1. The broader five-county sub-region is also shown. It covers parts of three FDOT districts (Districts Two, Five, and Seven).

Potential alternatives of the I-75 Alternative Corridor Evaluation (ACE) project would begin at the programmed extension of the Suncoast Parkway (S.R. 589) at S.R. 44 in Citrus County. The extension of the Suncoast Parkway from U.S. 98 to S.R. 44 is estimated to be completed and open to traffic by 2021. This project is known as the Coastal Connector, Florida's next generation corridor. The length of the Coastal Connector is estimated to be over 40 miles.

To assist in the long-range forecasting of traffic in this extensive corridor that traverses three FDOT Districts, the Turnpike State Model (TSM) is the travel demand model used for this multi-regional area.

Figure 1
I-75 ACE Sub-Region Area and Central Area of Opportunity



The TSM was developed as a unique, statewide database model derived from readily available and accessible data on households, employment, parcel data, surveys of highway travel, traffic counts, and highway system attributes. The model was created with an expectation that it could be easily kept current through periodic updates as future versions of the various database elements became available. The model was also developed as a means to provide long-range travel demand forecasting for proposed inter-regional highway projects, as well as a means to address the need for planning-level traffic and revenue forecasts to evaluate the feasibility of potential inter-regional toll projects. A new statewide modeling perspective was required to accomplish this as project boundaries often extended beyond the study areas of available regional travel demand models.

The TSM incorporates several other features that were innovative departures from traditional modeling practice established under the auspices of the Florida Standard Urban Transportation Model Structure (FSUTMS), regularly employed by Florida's Metropolitan Planning Organizations/Transportation Planning Organizations (MPOs/TPOs) and district offices of FDOT. The innovative features included the expanded statewide perspective for travel simulation modeling, integration of a land use model component, a database structure for managing and integrating the various datasets, and the use of Matrix Estimation (ME) to simplify the model structure while vastly improving model simulation accuracy.

2.1 DATABASE UPDATE FOR THE 2015 TSM

By 2017, the model had been in service for more than a decade having last been calibrated to 2014 conditions. In preparation for forecasting future year traffic for the Coastal Connector, efforts were made to recalibrate the TSM to 2015 conditions to update the model to include the recent and continued traffic growth throughout the state.

As provided by the original design of the TSM data elements, most of the data updates were obtained from 2015 versions of the same datasets that were utilized in the development of the preceding model validation efforts. The 2015 data sources and their contents are listed below:

- Bureau of Economic and Business Research (BEBR) for population and household data
- U.S. Census, Bureau of Economic Analysis (BEA) for employment data
- Florida Geographic Data Library (FGDL) for data related to urban boundaries, generalized land use patterns, Development of Regional Impacts (DRI), etc.
- Florida Department of Revenue (FDOR) for statewide property appraiser parcel data on a county-by-county basis
- Institute of Transportation Engineers (ITE) 8th Edition – Trip Rates
- FDOT Roadway Characteristics Inventory (RCI) data
- FDOT 2015 Florida Traffic Information data for 2015 traffic count data
- Citrus, Hernando, Lake, Marion, and Sumter Counties local count data

2.1.1 Zonal Database

The following zonal data elements were reviewed and processed to account for the growth that had occurred from 2014 to 2015:

- Acreages by land use category (total, available, and vacant land by residential and non-residential parcels, developed land by residential and non-residential parcels, underutilized land by residential and non-residential parcels, agricultural land and undevelopable land)
- Area type definitions of the Traffic Analysis Zones (TAZs) according to whether they were contained within an MPO/TPO, county or town boundary, or within an urban growth boundary
- Other database categories included DRI housing, DRI employment, distance to the coast, and zonal travel times (zone-to-zone travel skims)

2.1.2 Population, Dwelling Unit, and Employment Totals

Comparison of the TSM calibration datasets for 2014 and 2015 shows that growth in Florida's population, households and employment has been steady across each of the FDOT Districts. The growth in each district is shown in Table 1.

Table 1
Population, Household, and Employment Comparison (2014 and 2015)

District	2014			2015			Annual Growth		
	Population	HH	Emp	Population	HH	Emp	Population	HH	Emp
1	2,757,100	1,137,800	1,334,800	2,805,435	1,157,500	1,358,400	1.8%	1.7%	1.8%
2	2,014,400	780,200	1,107,900	2,046,535	791,900	1,126,200	1.6%	1.5%	1.7%
3	1,407,100	546,100	749,500	1,421,092	550,800	757,000	1.0%	0.9%	1.0%
4	3,736,500	1,499,800	2,092,400	3,786,921	1,517,500	2,120,300	1.3%	1.2%	1.3%
5	3,874,400	1,517,900	2,031,200	3,950,618	1,547,800	2,070,000	2.0%	2.0%	1.9%
6	2,687,700	935,700	1,607,500	2,728,140	947,300	1,631,500	1.5%	1.2%	1.5%
7	3,030,300	1,252,100	1,604,600	3,076,442	1,272,600	1,629,500	1.5%	1.6%	1.6%
State	19,507,500	7,669,600	10,527,900	19,815,183	7,785,400	10,692,900	1.6%	1.5%	1.6%

Source: Bureau of Economic and Business Research (BEBR), Publication 174 and the Bureau of Economic Analysis (BEA), U.S. Dept. of Commerce
 HH – Household
 Emp – Employment

The population in Florida grew from 19.5 million in 2014 to 19.8 million in 2015, an annual increase of 1.6 percent. Dwelling unit growth reflects a similar pace as population with annual growth of 1.5 percent. For the same period, employment grew from 10.5 million in 2014 to 10.7 million in 2015, an annual increase of 1.6 percent. Over this time frame District Five experienced the highest growth in each of the categories. District Three had the lowest growth in each of the three categories.

2.1.3 Traffic Zone Splits and Centroid Connections

For the 2015 calibration effort, 635 additional zones were added to the TSM. The 2015 TSM TAZ count increased in each FDOT district. Table 2 shows a comparison of the zone structure between the 2014 and 2015 models to show the overall zonal refinement and the net gain on a district-by-district basis. There were 226 zones added in District Five, 120 zones added to District Seven, and 102 zones added to District One.

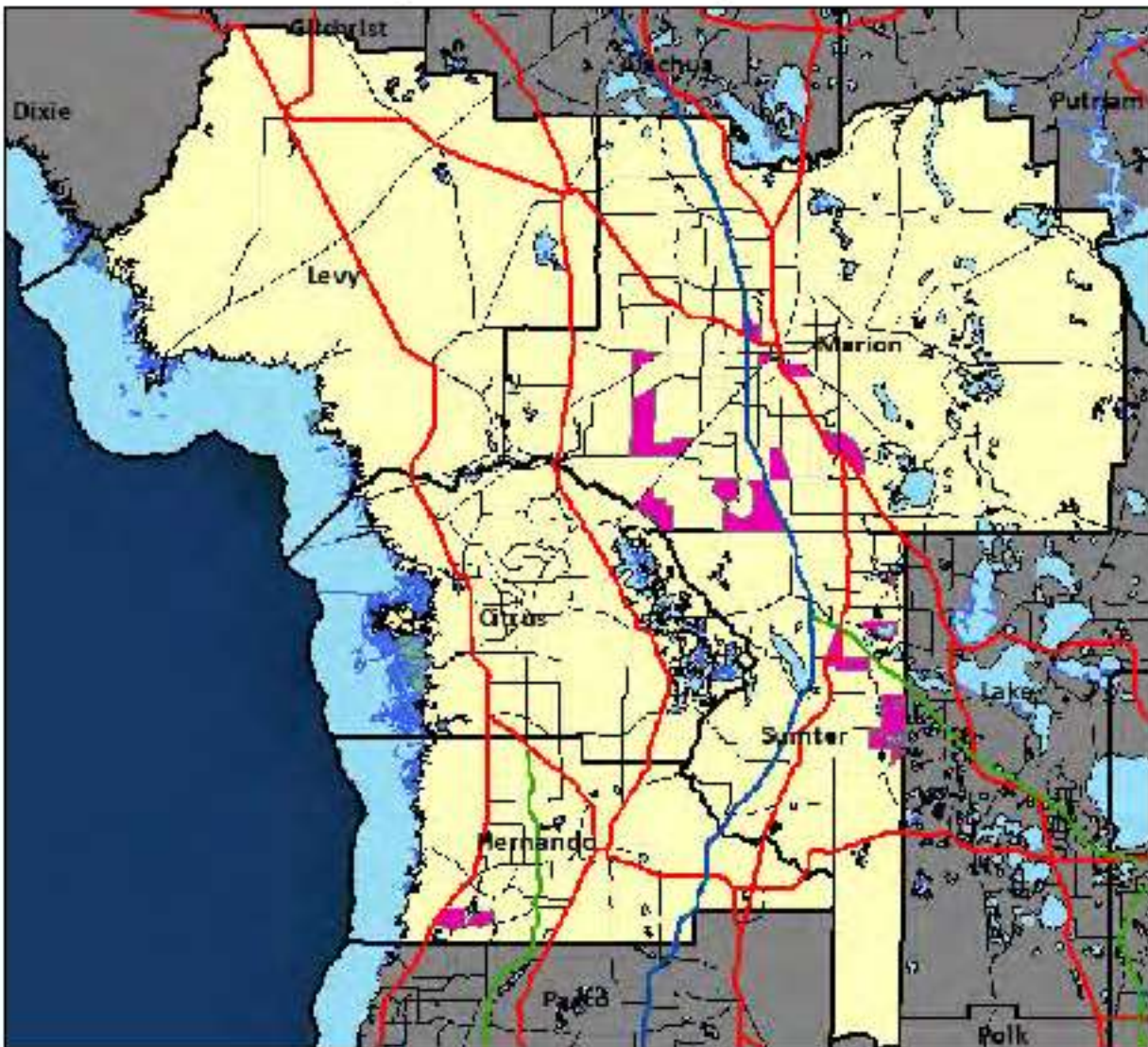
Table 2
TSM Zone Split Summary

District or Area	TSM Zones		Additional Zones
	2014	2015	
1	737	839	102
2	859	909	50
3	582	598	16
4	885	955	70
5	1,171	1,397	226
6	759	810	51
7	796	916	120
External	37	37	0
State	5,826	6,461	635

The number of zones in 2015 increased by approximately ten percent compared to 2014. The purpose of adding zones to the TSM was to refine the zonal loadings of those zones that had 40,000 or more daily trips loading onto the horizon year network. In the sub-region area, there were some zone splits in Marion, Sumter, and Hernando Counties, as shown in Figure 2. There were 16 zone additions in Marion County, 7 in Sumter County, and 2 in Hernando County.

Zone centroid loadings were added in the areas where new zone splits occurred in order to connect the new zones to the network. The goal of these zone splits is to keep traffic volumes from exceeding the normal capacity of the local roads. The daily capacity on an individual centroid connector is set at 10,000 trips.

Figure 2
Zone Splits in the I-75 ACE Sub-Region Area



2.1.4 Network Database Updates

Another major component of the database update dealt with the roadway transportation network. Thanks to the original model design, most of the updates were readily handled by reviewing the 2015 future network and identifying which of those Work Program Improvements had been made. Additional review of the historical Work Program data was made to ensure all the capacity improvements and new roads and interchanges that had occurred since the 2014 update were included. The updates consisted of roadway link additions, changes to the number of lanes and reconciling the TSM network speeds to the newest RCI database within the sub-region counties. Speed updates for new roads were based on posted speeds.

A second category of network updates was required as result of the zonal splits described above. Roads were added to the network which created many of the additional zones in the 2015 TSM update. Capacity updates were based on the changes to the number of lanes from 2014 to 2015.

2.1.5 Traffic Count Updates

The traffic count updates were collected from state and local sources. For 2015, the total number of counts increased by over 1,000 from those in the 2014 database, thereby raising the statewide count inventory from 17,866 to 18,928 and increasing the network count coverage from 14.1% to 14.2%. The count coverage is measured in terms of links with counts compared to total links in the network. Ten percent coverage is the target, and the statewide percentage exceeds the target, as do each of the districts. Table 3 shows TSM count coverage by FDOT District.

Table 3
TSM Traffic Count Updates

District	Traffic Counts		2015 Coverage	Additional Counts
	2014	2015		
1	2,425	2,525	13.4%	100
2	2,709	2,873	15.6%	164
3	2,324	2,346	18.4%	22
4	3,481	3,552	17.4%	71
5	3,394	3,833	12.6%	439
6	1,549	1,557	11.8%	8
7	1,984	2,242	11.8%	258
Total	17,866	18,928		1,062
Overall Coverage	14.1%	14.2%		

Count data was compiled for the I-75 corridor from the Georgia state line to I-275 for both the mainline and ramps interchange. This data included both the telemetered (TTMS) and portable (PTMS) count sites on I-75. The TTMS sites are continuously counted data for every day of the year and represent the actual AADT. The PTMS sites represent data that is typically collected for 1 to 3 days of the year, usually Tuesday, Wednesday, and/or Thursday and then seasonally adjusted to represent AADT.

As the data for the I-75 corridor was reviewed, discrepancies were noted on many mainline segments, where the profile, created by adding and subtracting the volumes entering and exiting the interstate from the ramps, was significantly different from the PTMS mainline volumes. Further analysis of the TTMS data revealed that the peak travel on the I-75 corridor typically occurred on the weekend, not the weekdays when the PTMS data is typically collected. Additional counts were conducted on the ramps and confirmed that the PTMS ramp counts appeared to be more accurate than the PTMS mainline volumes. Based on this data, a smoothed, balanced profile was developed by holding the TTMS data points as accurate, and by making small adjustments to the entering and exiting ramp volumes to create

balanced mainline volumes between the TTMS data sites on the mainline. This balanced profile based on the TTMS data and the ramp counts was then used as the existing year profile for I-75. The time frame of the I-75 counts corresponds to FY 2016 (July 2015 to June 2016). This time period for counts on I-75 is the same for all Turnpike facilities. All other counts in the database are for calendar year 2015.

2.2 ASSEMBLY AND TESTING OF THE 2015 TSM

The 2015 TSM was assembled from the various 2015 data updates comprised of zonal data (population, dwelling units, and employment), the land use attributes (developable versus undevelopable, vacant versus underutilized or developed, and accessibility to other zones in terms of travel times) and the network attributes (numbers of lanes, speeds, and traffic counts).

To reiterate a few of the key attributes of the 2015 TSM, the zonal structure has been refined and is comprised of 6,461 zones. Land use data for these zones was built from the “bottom up” procedure of assembling the property appraiser parcel data from every county in Florida to give a good level of land use accuracy. The transportation network database updates included new roadway links and their attributes and new network components needed to accommodate the increased number of traffic zones. Total mileage of the resulting network database is summarized in Table 4 in terms of statewide lane miles to show the additions that were made between 2014 and 2015 in the TSM.

Table 4
TSM Lane-mile Updates by District

District	Lane Miles		Additional Lane Miles
	2014	2015	
1	11,044	11,336	292
2	11,831	12,049	218
3	8,738	8,789	51
4	10,794	11,007	213
5	14,930	15,490	560
6	5,318	5,390	72
7	8,391	8,833	442
Total	71,046	72,894	1,848

The TSM calibration process used an iterative procedure known as ME to calibrate a base year 2015 trip table that produces the optimum fit between observed data (i.e., traffic counts) and model simulated results when that trip table is assigned to the transportation network. The two major calibration components were the observed 2015 traffic count database, which consisted of 18,928 counts, and a seed trip table.

The ME procedure requires a seed table to begin the process of iterative refinements. In the 2015 calibration, the seed table consisted of the previous 2014 calibrated trip table for daily zone-to-zone vehicle trips. With the 2015 zonal boundary and network updates and the 2015 traffic counts updates, the ME process was performed.

3.1 MATRIX ESTIMATION: 2015 TRIP TABLE CALIBRATION

In the 2015 calibration process, the ME process started with the initial assignment of the seed trip table and was followed by a series of ME iterations which refine the zone-to-zone table with the goal of improving the fit between observed traffic counts and assigned link volumes. The ME process accomplishes this by assigning trips to the network paths, totaling the resulting trips on all links that have traffic counts, and comparing the model simulated totals to the observed traffic counts. It then adjusts the modeled zone-to-zone traffic volumes up or down according to the count comparison results and reassigns the adjustments to refine the model simulated trips. The basic technique is an iterative process.

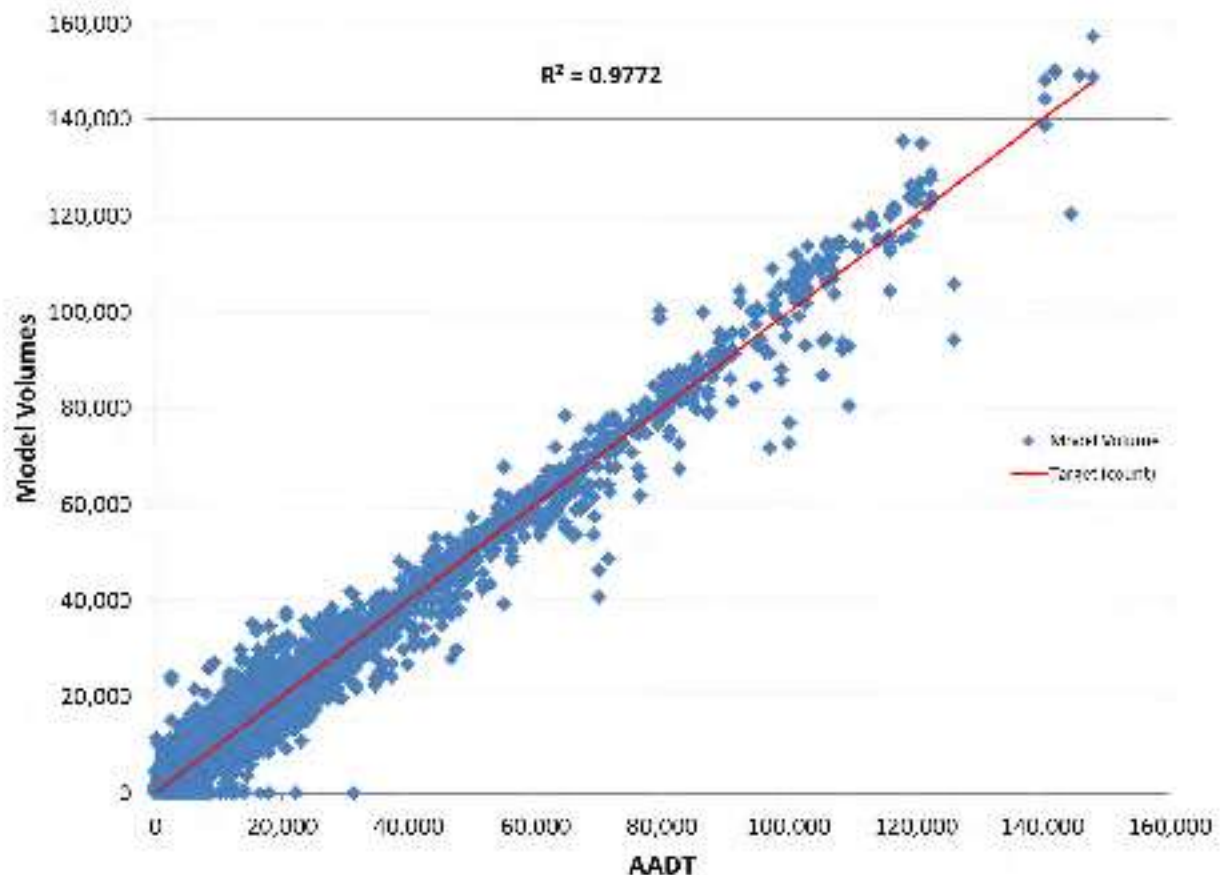
After the initial traffic assignment, there were five iterations of ME followed by a second traffic assignment, then five more iterations of ME, etc. After each assignment, a running check of the Root Mean Squared Error (RMSE) was compiled. The RMSE represents the sample standard deviation of the differences between the modeled volumes and traffic counts. After completion of the ME iterations on the 2015 statewide zone-to-zone trip table the percent RMSE had been reduced to 17.10 percent, which fell well below the standard of 32 percent recommended for FSUTMS model calibration. The TSM calibration clearly benefitted from having a seed table based on the previous 2014 ME calibration effort.

3.2 TSM 2015 CALIBRATION RESULTS

3.2.1 Volume-to-Count Comparisons

Figure 3 shows the 2015 TSM volume-to-count comparisons of the 18,928 traffic count locations that were observed at the end of the calibration process. In the hypothetical situation where all model volumes match the counts, the coefficient of determination (R^2) would equal 1.0. The closer to 1.0 for the R^2 value, the better the model is replicating existing counts. For the 2015 TSM calibration effort, the R^2 value was 0.98 at the end of the final assignment. The R^2 value of 0.98 shows the model is closely approximating the counts a vast majority of the time. Typical model validation efforts have R^2 values from 0.85 to 0.90.

Figure 3
2015 TSM Volume-to-Count Comparisons

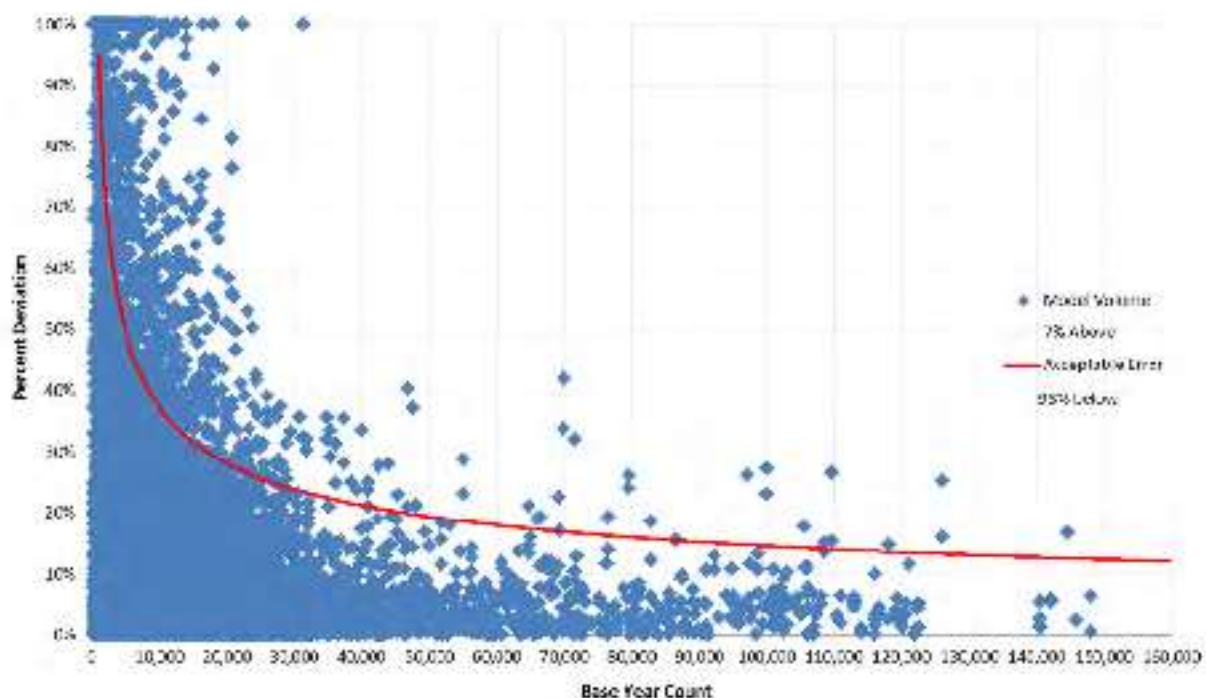


3.2.2 TSM 2015 Calibration Results: Maximum Desirable Deviation

The percent deviation of assigned volumes-to-counts provides a different perspective of model accuracy. It was developed as an indicator for maximum volume to count deviation when using model results to determine lane requirements. Documentation of Maximum Desirable Deviation is presented in the National Cooperative Highway Research Program (NCHRP) Report 255, Highway Traffic Data for Urbanized Area Project Planning and Design, Transportation Research Board, December 1982. The report states that the measure is "Based on the assumption that the maximum traffic assignment deviation should not result in a design deviation of more than one highway travel lane. Therefore, the acceptable deviation is higher on low volume roads where a large percentage deviation will not have major design implications."

After the final iteration of the TSM calibration, the instances where the 2015 model volumes are above the curve (red line) of acceptable error is approximately seven percent of the 18,928 counts. Figure 4 shows the calibration scatterplot results.

Figure 4
Model Volume Deviation from Count

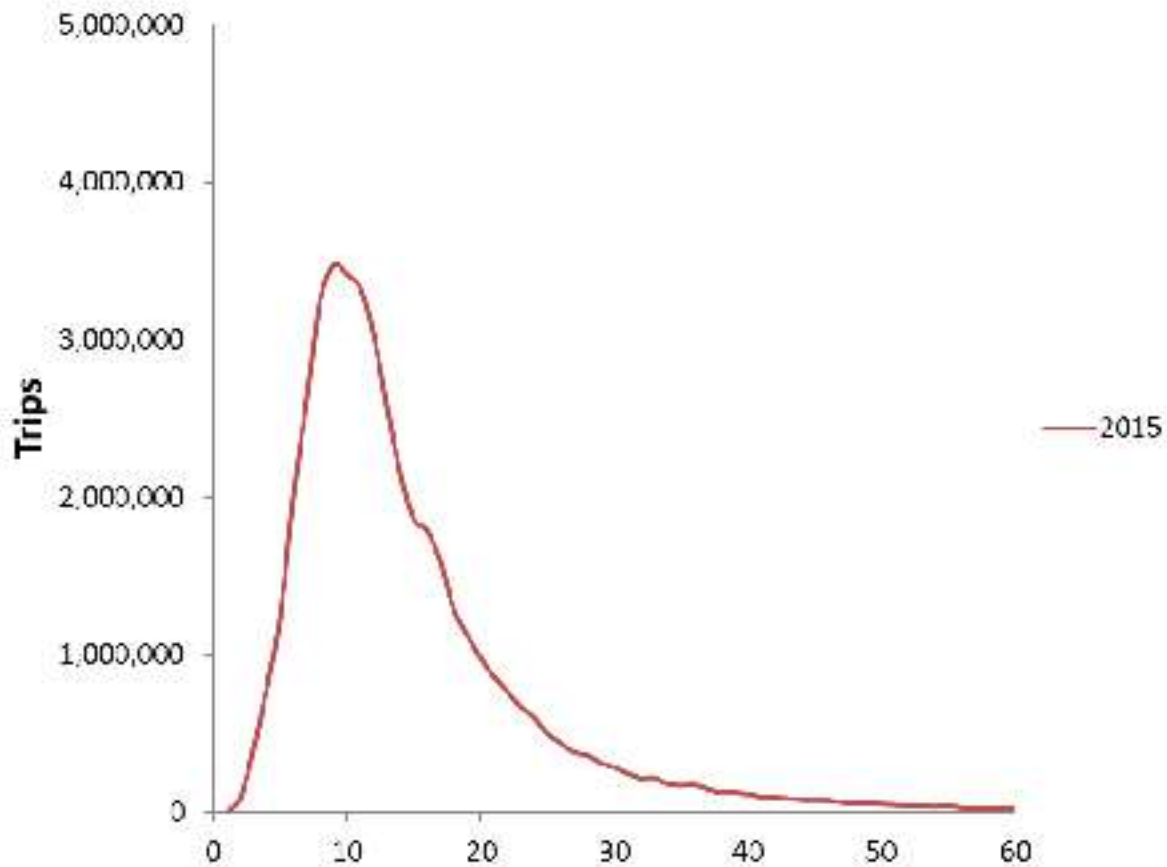


3.2.3 TSM 2015 Calibration Results: Trip Length Characteristics

In the original TSM model calibration, the seed trip table required as an input to the Matrix Estimation procedure was developed from available data acquired by the National Household Transportation Survey (NHTS) and the U.S. Census Bureau's Journey-to-Work Survey. The Matrix Estimation process has since been refined from the original seed table to optimize the fit between model results and traffic counts, creating the trip length distribution for the 2015 calibration effort as shown in Figure 5. The TSM average trip length was 16 minutes.

These statistics are overall state averages across all trip types (home-based work, home-based other and non-home-based trips). While the typical frame of reference is for the work commute which can be greater than 20 minutes on average, the other trip types such as non-home-based trips are shorter than the 14-minute average and account for a larger share of overall trip types.

Figure 5
Trip Length in Minutes (without Intrazonals)



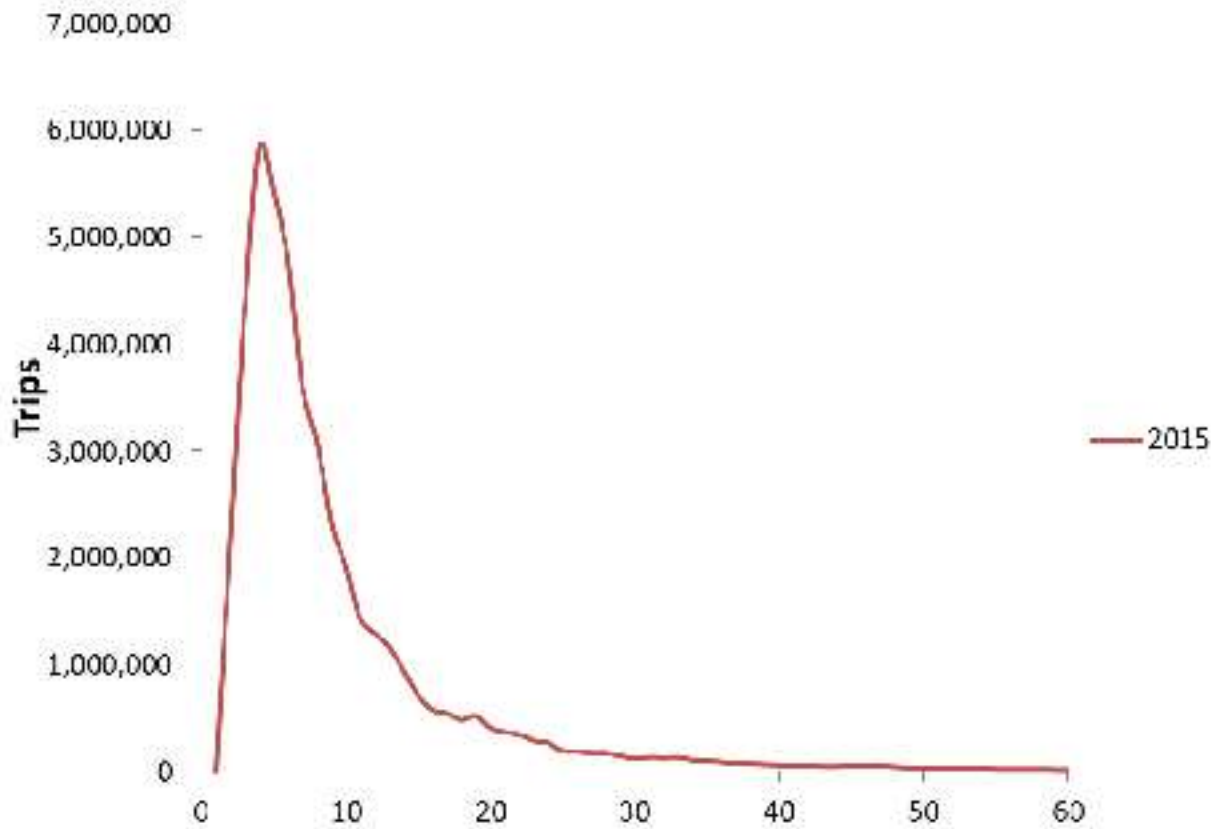
Minutes

Time	Trip Length			Percentage	
	Total Trips	Trip-Hours	Avg. Min.	<= 50 min	>50 min
2015	46,158,084	12,254,095	15.9	97.2 %	2.8%

Trip length is also measured in miles. As shown in Figure 6, the 2015 average trip length was 10.5 miles.

The 2015 percentage of trips greater than 50 miles is 2.2 percent. This compares favorably with the National Household Travel Survey (NHTS) from the Florida resident sample which had a survey value of 2.4 percent for trips greater than 50 miles in length.

Figure 6
 Trip Length in Miles (without Intrazonals)



Miles

Distance	Trip Length			Percentage	
	Total Trips	Trip-Miles	Avg. Miles	<= 50 min	>50 min
2015	46,158,084	8,078,309	10.5	97.8%	2.2%

3.2.4 TSM 2015 Calibration Results: Model Results by Volume Group

Table 5 shows how the accuracy of the TSM calibration varies over 12 traffic volume groups. The overall TSM volume-to-count ratio is 1.0 and the overall RMSE is 17.1 with both indicators showing the TSM is performing well at the state level.

Table 5
2015 TSM Results by Volume Group

Volume Group	Volume	2015 AADT	Number of Counts	Vol/Count	RMSE	RMSE Limits Lower Upper	Count
100 – 5,000	16,178,324	15,209,995	5,760	1.06	45.2	45 – 55	30.4%
5,001 – 10,000	34,676,385	34,071,134	4,633	1.02	22.6	35 – 45	24.5%
10,001 – 20,000	76,532,412	76,123,661	5,288	1.01	15.2	27 – 35	27.9%
20,001 – 30,000	49,975,015	50,104,832	2,110	1.00	10.6	24 – 27	11.1%
30,001 – 40,000	15,882,164	15,944,992	470	1.00	9.5	22 – 24	2.5%
40,001 – 50,000	8,419,398	8,504,794	191	0.99	9.3	20 – 22	1.0%
50,001 – 60,000	6,502,081	6,466,302	117	1.01	6.4	18 – 20	0.6%
60,001 – 70,000	6,483,125	6,657,752	102	0.97	9.3	17 – 18	0.5%
70,001 – 80,000	4,383,913	4,379,542	59	1.00	8.5	16 – 17	0.3%
80,001 – 90,000	5,603,894	5,563,667	66	1.01	5.7	15 – 16	0.3%
90,001 – 100,000	3,618,960	3,618,000	38	1.00	7.6	14 – 15	0.2%
100,001 – 400,000	10,697,483	10,650,450	94	1.00	8.3	5 – 14	0.5%
Grand Total	238,953,154	237,295,121	18,928	1.01	17.1	32 – 39	100.0%

With in Acceptable RMSE Limits
Better than Acceptable RMSE Limits

Two volume groups are within acceptable RMSE limits and the other ten are better than the acceptable RMSE results. The volume group of 100 to 5,000 is the category with the largest share of the counts, and together with the third volume group of 10,001 to 20,000, account for more than half of the total number of counts.

3.2.5 TSM 2015 Calibration Results: Results by District by Volume Group

The calibration results in Table 6 show the distribution of the TSM accuracy across the seven FDOT districts by volume group. All seven districts have a volume-to-count ratio of 1.0.

Districts One, Two, Three, Five, and Seven had all volume groups better than acceptable RMSE limits. The volume group from 100 to 5,000 in Districts Four and Six had RMSEs above the acceptable limits. Also, in Districts Four and Six, the 100,001 to 400,000 volume group was within the acceptable limits. The highest RMSE of 63.267 was in the volume group from 100 to 5,000 in District Four. The lowest RMSE of 3.214 was in the volume group from 50,001 to 60,000 in District One.

For Districts Two, Five, and Seven, which are the districts of the sub-region counties, all RMSE volume groups have good validation results. The overall RMSE of District Two is 15.5, District Five is 15.0, and District Seven is 15.6.

Table 6
2015 TSM Results by District by Volume Group

District	Volume Group	Volume	2015 AADT	Number of Counts	Vol/Count	RMSE
One	District Total	27,681,912	27,361,773	2,525	1.012	11.146
	100 – 5,000	2,517,807	2,341,643	845	1.075	43.684
	5,001 – 10,000	4,494,274	4,443,836	611	1.011	15.125
	10,001 – 20,000	10,121,020	10,105,990	700	1.001	8.459
	20,001 – 30,000	6,712,322	6,718,948	283	0.999	4.696
	30,001 – 40,000	1,280,538	1,259,436	36	1.017	4.805
	40,001 – 50,000	1,480,373	1,438,696	32	1.029	4.661
	50,001 – 60,000	691,547	676,224	12	1.023	3.214
	60,001 – 70,000	384,031	377,000	6	1.019	4.655
Two	District Total	27,817,694	27,475,536	2,873	1.012	15.526
	100 – 5,000	3,341,197	3,137,146	1,290	1.065	39.510
	5,001 – 10,000	5,032,721	4,978,404	704	1.011	17.396
	10,001 – 20,000	7,377,427	7,315,794	525	1.008	13.226
	20,001 – 30,000	4,620,469	4,623,526	190	0.999	8.349
	30,001 – 40,000	2,405,139	2,412,214	72	0.997	7.839
	40,001 – 50,000	1,207,872	1,227,712	28	0.984	7.351
	50,001 – 60,000	2,368,963	2,331,600	42	1.016	7.026
	60,001 – 70,000	1,307,884	1,294,140	20	1.011	3.591
	70,001 – 80,000	156,022	155,000	2	1.007	5.908
Three	District Total	17,877,630	17,733,037	2,346	1.008	19.598
	100 – 5,000	2,625,455	2,481,358	1,088	1.058	37.341
	5,001 – 10,000	4,272,653	4,222,682	571	1.012	22.644
	10,001 – 20,000	7,910,614	7,897,839	559	1.002	13.973
	20,001 – 30,000	2,608,932	2,674,702	114	0.975	9.175
	30,001 – 40,000	459,976	456,456	14	1.008	6.629
Four	District Total	56,689,536	56,128,114	3,552	1.010	15.721
	100 – 5,000	2,106,000	1,900,692	607	1.108	63.267
	5,001 – 10,000	6,427,893	6,243,326	839	1.030	26.821
	10,001 – 20,000	18,523,590	18,641,024	1,266	0.994	13.950
	20,001 – 30,000	14,579,197	14,590,822	617	0.999	12.360
	30,001 – 40,000	2,921,659	2,937,498	86	0.995	8.199
	40,001 – 50,000	1,097,722	1,113,950	25	0.985	9.645
	50,001 – 60,000	644,615	641,804	12	1.004	6.176
	60,001 – 70,000	859,852	912,450	14	0.942	11.484
	70,001 – 80,000	312,174	302,500	4	1.032	6.041
	80,001 – 90,000	1,221,108	1,160,098	14	1.053	7.858
	90,001 – 100,000	824,590	778,500	8	1.059	6.874
	100,001 – 400,000	7,171,136	6,905,450	60	1.038	5.891

Above Acceptable RMSE Limits

Within Acceptable RMSE Limits

Better than Acceptable RMSE Limits

Table 6 (continued)
2015 TSM Results by District by Volume Group

District	Volume Group	Volume	2015 AADT	Number of Counts	Vol/Count	RMSE
Five	District Total	45,716,702	45,506,771	3,833	1.005	14.965
	100 – 5,000	3,331,378	3,173,864	1,166	1.050	40.304
	5,001 – 10,000	7,356,653	7,283,392	994	1.010	18.129
	10,001 – 20,000	15,485,874	15,473,684	1,087	1.001	12.708
	20,001 – 30,000	8,802,752	8,766,804	371	1.004	10.109
	30,001 – 40,000	3,219,820	3,270,256	95	0.985	10.733
	40,001 – 50,000	2,081,632	2,100,700	48	0.991	9.619
	50,001 – 60,000	757,342	773,708	14	0.979	8.103
	60,001 – 70,000	1,081,565	1,119,200	17	0.966	7.793
	70,001 – 80,000	521,935	517,994	7	1.008	5.642
	80,001 – 90,000	2,109,881	2,081,769	24	1.014	3.847
90,001 – 100,000	967,870	945,400	10	1.024	3.814	
Six	District Total	30,665,164	30,687,106	1,557	0.999	20.879
	100 – 5,000	647,314	610,950	192	1.060	56.216
	5,001 – 10,000	2,913,401	2,839,146	367	1.026	30.817
	10,001 – 20,000	8,346,521	8,048,794	548	1.037	23.748
	20,001 – 30,000	5,321,378	5,274,122	223	1.009	13.675
	30,001 – 40,000	2,294,879	2,310,380	69	0.993	16.293
	40,001 – 50,000	1,570,196	1,646,136	36	0.954	13.337
	50,001 – 60,000	1,146,518	1,158,966	21	0.989	7.357
	60,001 – 70,000	1,271,618	1,366,664	21	0.930	16.013
	70,001 – 80,000	2,076,454	2,072,548	28	1.002	11.437
	80,001 – 90,000	662,613	675,800	8	0.980	6.602
	90,001 – 100,000	1,090,896	1,141,600	12	0.956	11.323
100,001 – 400,000	3,323,376	3,542,000	32	0.938	11.951	
Seven	District Total	32,504,516	32,402,784	2,242	1.003	15.628
	100 – 5,000	1,609,173	1,564,342	572	1.029	37.436
	5,001 – 10,000	4,178,790	4,060,348	547	1.029	27.238
	10,001 – 20,000	8,767,366	8,640,536	603	1.015	19.755
	20,001 – 30,000	7,329,965	7,455,908	312	0.983	10.533
	30,001 – 40,000	3,300,153	3,298,752	98	1.000	4.744
	40,001 – 50,000	981,603	977,600	22	1.004	8.009
	50,001 – 60,000	893,096	884,000	16	1.010	4.558
	60,001 – 70,000	1,578,175	1,588,298	24	0.994	5.033
	70,001 – 80,000	1,317,328	1,331,500	18	0.989	4.637
	80,001 – 90,000	1,610,292	1,646,000	20	0.978	6.108
	90,001 – 100,000	735,604	752,500	8	0.978	6.387
	100,001 – 400,000	2,02,971	203,000	2	1.000	3.307
State	All Groups	238,953,154	237,295,121	18,928	1.007	17.097

Above Acceptable RMSE Limits

Within Acceptable RMSE Limits

Better than Acceptable RMSE Limits

3.2.6 TSM 2015 Calibration Results: AirSage-to-Model Comparison

The 2015 TSM volumes were compared to AirSage data. AirSage collects and analyzes real-time mobile signals, GPS positions, and other location data that is useful for modeling and forecasting population movement. Table 7 shows the AirSage-TSM comparison for selected sub-regions and counties. Except for the Tampa Bay to Withlacoochee, AirSage shows higher movement between the selected sub-regions than TSM.

Table 7
2015 AirSage-to-Model Comparison

Sub-Region/County	AirSage	TSM
Tampa Bay to Withlacoochee	4.80%	5.22%
Withlacoochee to Northeast	0.96%	0.39%
Northeast to Tampa Bay	0.55%	0.35%
Citrus to Marion County	8.03%	12.48%
Citrus to Hernando County	5.83%	2.79%
Hernando to Marion County	0.55%	0.27%

3.2.7 TSM 2015 Calibration Results: Results by County

Table 8 provides a review of the TSM performance by county. Of the 67 counties in Florida, 52 of them had volume-to-count ratios within ± 5 percent, and 59 of them had RMSEs better than the acceptable limits. The RMSEs for Glades, Calhoun, Liberty, and Taylor counties fell within acceptable limits. Holmes, Jefferson, Madison, and Nassau counties were above the acceptable RMSE limits. Dixie County had the best RMSE at 4.022. For the five sub-region counties, Hernando had the lowest RMSE of 10.112, and Levy had the highest at 15.335.

Table 8
2015 TSM Results by County

District	County	Volume	2015 AADT	Number of Counts	Volume/Count	RMSE
One	Charlotte	1,601,464	1,581,974	158	1.012	9.943
	Collier	2,940,859	2,925,502	225	1.005	9.037
	DeSoto	293,221	281,528	62	1.042	18.526
	Glades	61,100	53,922	26	1.133	34.871
	Hardee	198,133	195,000	44	1.016	10.742
	Hendry	256,968	246,006	48	1.045	11.802
	Highlands	586,834	562,764	92	1.043	21.169
	Lee	6,934,255	6,891,452	493	1.006	9.728
	Manatee	3,391,313	3,379,952	276	1.003	8.234
	Okeechobee	380,769	355,750	73	1.070	28.845
	Polk	7,066,827	6,957,443	728	1.016	14.663
Sarasota	3,970,169	3,930,480	300	1.010	6.573	

Above Acceptable RMSE Limits
Within Acceptable RMSE Limits
Better than Acceptable RMSE Limits

Table 8 (continued)
2015 TSM Results by County

District	County	Volume	2015 AADT	Number of Counts	Volume/Count	RMSE
Two	Alachua	4,144,049	4,111,102	482	1.008	10.698
	Baker	293,678	270,776	60	1.085	27.188
	Bradford	333,422	326,968	74	1.020	10.061
	Clay	1,290,267	1,285,644	126	1.004	9.222
	Columbia	1,047,425	1,018,404	168	1.028	17.228
	Dixie	65,940	64,616	20	1.020	4.022
	Duval	15,864,268	15,752,248	995	1.007	13.120
	Gilchrist	96,886	92,700	38	1.045	11.920
	Hamilton	267,197	259,412	68	1.030	22.977
	Lafayette	38,179	38,988	26	0.979	8.614
	Levy	286,652	280,122	98	1.023	15.335
	Madison	304,986	252,572	88	1.208	50.170
	Nassau	557,977	532,234	84	1.048	42.008
	Putnam	561,490	565,250	118	0.993	10.202
	Saint Johns	1,974,436	1,974,872	206	1.000	10.582
	Suwannee	337,052	316,082	90	1.066	24.524
	Taylor	236,253	219,746	74	1.075	37.993
Union	117,537	113,800	58	1.033	16.754	
Three	Bay	2,815,680	2,866,352	341	0.982	17.782
	Calhoun	114,082	103,650	60	1.101	38.306
	Escambia	4,543,399	4,484,020	432	1.013	12.506
	Franklin	68,981	65,370	34	1.055	21.975
	Gadsden	511,310	477,520	130	1.071	30.423
	Gulf	96,905	92,538	38	1.047	16.160
	Holmes	170,012	143,350	60	1.186	51.183
	Jackson	646,389	602,012	164	1.074	22.487
	Jefferson	230,844	192,650	68	1.198	56.106
	Leon	3,705,266	3,703,151	319	1.001	13.532
	Liberty	62,097	54,236	30	1.145	37.219
	Okaloosa	2,451,124	2,526,702	220	0.970	24.813
	Santa Rosa	1,382,784	1,362,568	188	1.015	14.077
	Wakulla	164,212	157,060	62	1.046	27.754
	Walton	657,972	659,946	116	0.997	26.227
Washington	256,573	241,912	84	1.061	22.757	
Four	Broward	30,638,540	30,407,188	1,636	1.008	16.047
	Indian River	1,585,904	1,564,550	213	1.014	15.716
	Martin	1,893,318	1,799,804	202	1.052	27.029
	Palm Beach	19,899,799	19,742,158	1,209	1.008	12.541
	Saint Lucie	2,671,975	2,614,414	292	1.022	19.158

Above Acceptable RMSE Limits

Within Acceptable RMSE Limits

Better than Acceptable RMSE Limits

Table 8 (continued)
2015 TSM Results by County

District	County	Volume	2015 AADT	Number of Counts	Volume/Count	RMSE
Five	Brevard	5,430,674	5,381,062	488	1.009	11.238
	Flagler	600,957	585,114	77	1.027	11.239
	Lake	2,728,401	2,700,684	294	1.010	10.314
	Marion	3,864,775	3,826,324	564	1.010	11.690
	Orange	18,343,401	18,334,125	1,033	1.001	15.242
	Osceola	3,874,288	3,783,518	290	1.024	16.351
	Seminole	4,319,275	4,346,914	350	0.994	9.445
	Sumter	1,488,262	1,463,400	230	1.017	11.529
	Volusia	5,066,669	5,085,630	507	0.996	15.379
Six	Miami-Dade	30,075,310	30,103,440	1,507	0.999	20.912
	Monroe	589,854	583,666	50	1.011	10.198
Seven	Citrus	1,379,903	1,362,294	248	1.013	13.155
	Hernando	1,358,615	1,361,782	216	0.998	10.112
	Hillsborough	17,078,761	16,962,468	938	1.007	16.449
	Pasco	3,629,351	3,636,590	324	0.998	7.468
	Pinellas	9,057,886	9,079,650	516	0.998	13.009
State	Grand Total	238,953,154	237,295,121	18,928	1.007	17.097

Above Acceptable RMSE Limits

Within Acceptable RMSE Limits

Better than Acceptable RMSE Limits

3.2.8 TSM 2015 Calibration Results: Results by Volume Groups In the Sub-Region

Table 9 shows how the model performed in the five-county sub-region by volume group. All volume groups have RMSEs that are better than the acceptable limits. Three volume-to-count ratios were greater than three percent.

Table 9
Model Results by Sub-Region Counties by Volume Group

County	Volume Group	Volume	2015 AADT	Number of Counts	Vol/Count	RMSE
Hernando	County Total	1,358,615	1,361,782	216	0.998	10.112
	100 – 5,000	264,187	266,734	106	0.990	22.475
	5,001 – 10,000	449,599	452,198	62	0.994	7.632
	10,001 – 20,000	603,637	601,850	46	1.003	6.726
	20,001 – 30,000	41,192	41,000	2	1.005	1.160
Sumter	County Total	1,488,262	1,463,400	230	1.017	11.529
	100 – 5,000	309,470	292,900	130	1.057	23.010
	5,001 – 10,000	456,508	450,100	60	1.014	12.359
	10,001 – 20,000	292,820	296,600	24	0.987	7.991
	20,001 – 30,000	259,220	255,700	12	1.014	5.244
	30,001 – 40,000	170,244	168,100	4	1.013	1.782
Citrus	County Total	1,379,903	1,362,294	248	1.013	13.155
	100 – 5,000	376,775	359,552	142	1.048	28.433
	5,001 – 10,000	486,018	482,622	68	1.007	7.976
	10,001 – 20,000	517,110	520,120	38	0.994	7.047
Lewy	County Total	286,652	280,122	98	1.023	15.335
	100 – 5,000	187,086	178,214	82	1.050	19.355
	5,001 – 10,000	99,566	101,908	16	0.977	8.411
Marion	County Total	3,864,775	3,826,324	564	1.010	11.690
	100 – 5,000	763,271	745,950	294	1.023	22.763
	5,001 – 10,000	1,155,192	1,137,150	155	1.016	14.203
	10,001 – 20,000	1,327,253	1,330,024	97	0.998	6.797
	20,001 – 30,000	127,136	127,000	6	1.001	1.331
	30,001 – 40,000	139,446	136,700	4	1.020	2.441
	40,001 – 50,000	352,477	349,500	8	1.009	1.570

 Better than Acceptable RMSE Limits

3.2.9 TSM 2015 Calibration Results: Results by Sub-Region Corridors

Table 10 shows how the model performed along the major corridors in the area. The major corridors within the sub-region include I-75, U.S. 19/98, U.S. 41, U.S. 301, S.R. 40, S.R. 200, S.R. 44, and S.R. 326. All but six locations are within ± 10 percent of the observed 2015 count, and 38 out of the 48 locations are within ± 5 percent, and with many of those locations, the TSM is within a few hundred of the 2015 count.

Table 10
Model Results by Major Corridors

Facility	Location Description	2015 AADT	2015 Volume	Vol./Count
I-75	North of S.R. 326	68,300	70,100	1.03
	South of S.R. 326	80,900	80,400	0.99
	North of Turnpike	85,400	86,100	1.01
	South of Turnpike	45,000	44,000	0.98
	North of I-275	134,000	135,200	1.01
	South of I-275	76,000	78,400	1.03
U.S. 98	North of S.R. 44	24,000	23,900	1.00
	South of S.R. 44	25,500	25,300	0.99
	West of Suncoast Parkway	6,700	6,800	1.01
	East of Suncoast Parkway	3,400	3,400	1.00
	North of U.S. 19	18,944	19,100	1.01
	West of I-75	16,900	17,300	1.02
U.S. 19	South of U.S. 98	10,900	10,500	0.96
U.S. 41	North of S.R. 40	10,300	10,300	1.00
	South of S.R. 40	19,100	21,900	1.15
	North of S.R. 200	6,800	7,800	1.15
	South of S.R. 200	17,000	16,200	0.95
	North of U.S. 44	30,000	30,100	1.00
	South of U.S. 44	14,700	14,600	0.99
	North of U.S. 98	8,649	8,000	0.92
	South of U.S. 98	22,500	22,600	1.00
	North of I-275	27,500	28,000	1.02
	South of I-275	18,000	15,700	0.87
U.S. 301	North of U.S. 441	13,400	16,400	1.22
	South of U.S. 441	24,500	24,800	1.01
	North of NW 77 th Street	27,504	27,700	1.01
	South of S.R. 326	17,000	17,400	1.02
	North of Turnpike	14,000	13,800	0.99
	South of Turnpike	9,600	9,600	1.00

Table 10 (continued)
Model Results by Major Corridors

Facility	Location Description	2015 AADT	2015 Volume	Vol / Count
S.R. 40	East of U.S. 41	7,900	7,800	0.99
	West of I-75	28,500	28,400	1.00
	East of U.S. 301	25,500	25,400	1.00
	East of S.R. 326	12,800	12,900	1.01
	West of S.R. 326	16,400	16,300	0.99
S.R. 200	East of U.S. 41	9,600	8,400	0.88
	East of I-75	38,500	38,500	1.00
	West of I-75	43,500	43,600	1.00
	West of U.S. 301	27,500	27,600	1.00
S.R. 44	East of U.S. 98	28,000	28,100	1.00
	East of U.S. 41	27,500	27,500	1.00
	West of U.S. 41	14,500	13,400	0.92
	East of I-75	8,700	11,500	1.32
	West of I-75	15,000	16,500	1.10
	West of U.S. 27	18,900	18,200	0.96
S.R. 326	East of I-75	7,000	7,200	1.03
	West of I-75	19,500	19,600	1.01
	East of U.S. 301	10,800	10,200	0.94
	West of U.S. 301	11,700	11,800	1.01

The TSM update and recalibration brought the previous TSM database and calibration up to the most recent time frame possible in order to capture the recent traffic growth experienced throughout the state. Additionally, the successive calibrations of 2004, 2010 and 2014 have built upon each other to provide very sound model results with the model being well calibrated and ready for use in forecasting efforts.

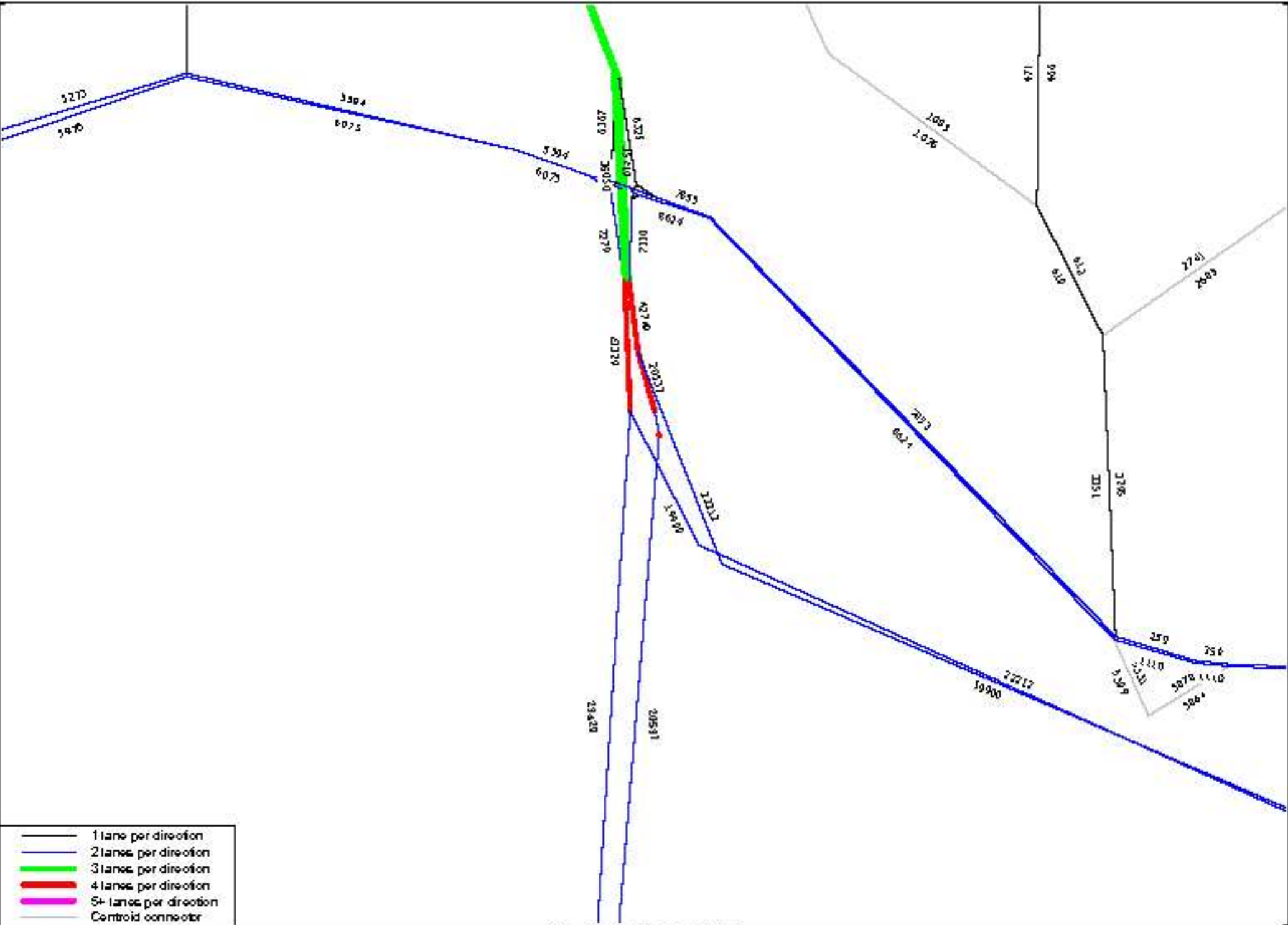
Table 11 summarizes the TSM changes from 2014 to 2015 in statewide demographics, network attributes, trip length attributes, and simulation accuracy based on comparisons of travel model results and observed traffic count data.

Table 11
TSM Statistics 2014 versus 2015

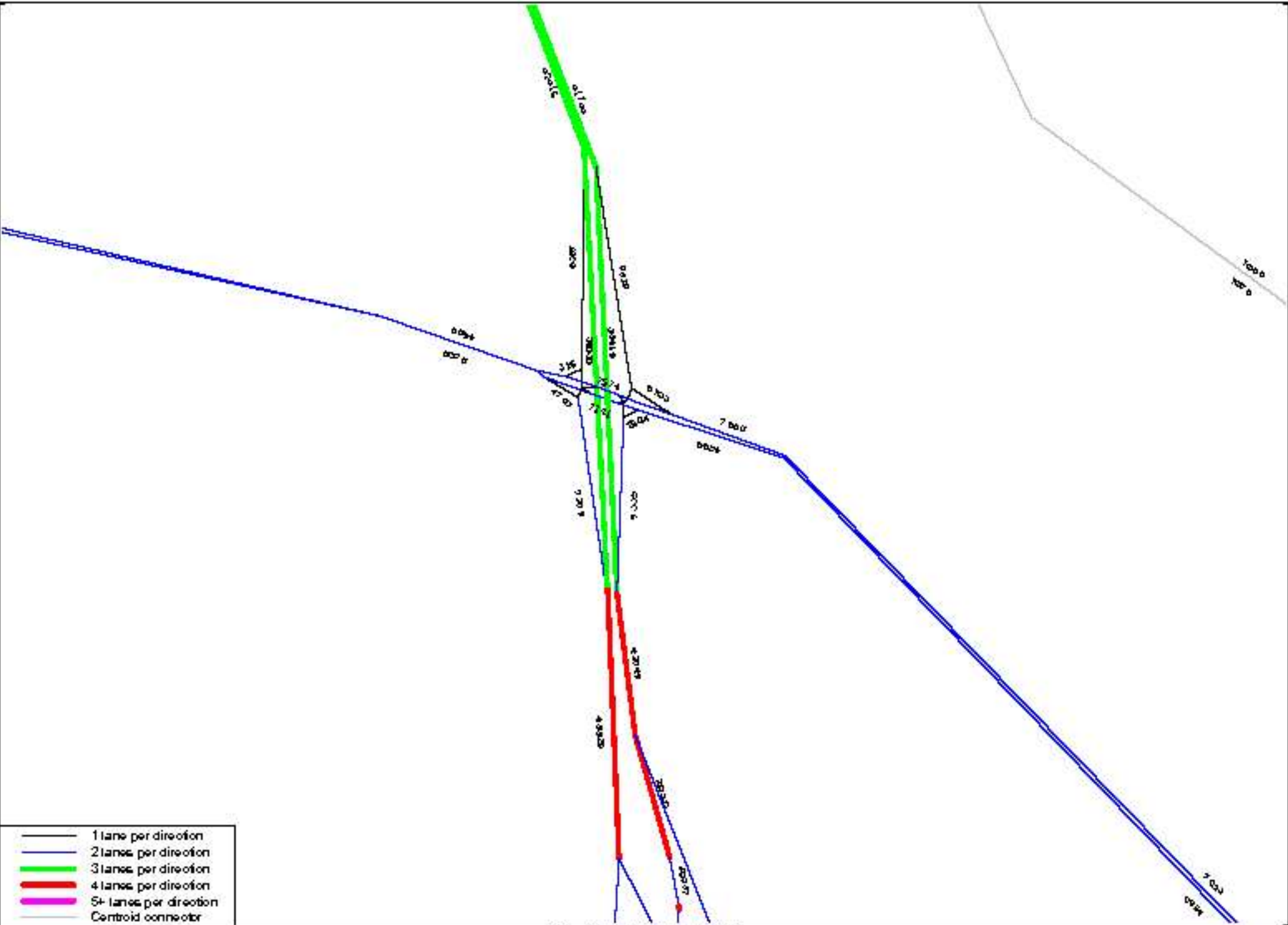
Variable	TSM Statistics		Change
	2014	2015	
Total Population	19,507,500	19,815,200	307,700
Total Employment	10,527,900	10,692,900	165,000
Number of Zones	5,826	6,461	635
Lane-miles	71,046	72,894	1,848
Traffic Counts	17,866	18,928	1,062
Network Count Coverage	14.1%	14.2%	0.1%
Average Trip Length (miles)	9.4	10.5	1.1
Average Trip Length (minutes)	14.9	15.9	1.0
Volume-to-Count Ratio	1.005	1.007	0.002
RMSE	11.318	17.097	5.779

Note that the network links shown above do not include the TAZ centroid connector links. These links represent all the local roads within the TAZ boundaries and because they are representative links, they are not considered in the model statistics. Additionally, the total daily trips do not include intra-zonal trips.

APPENDIX B BASE YEAR (2015) MODEL PLOTS

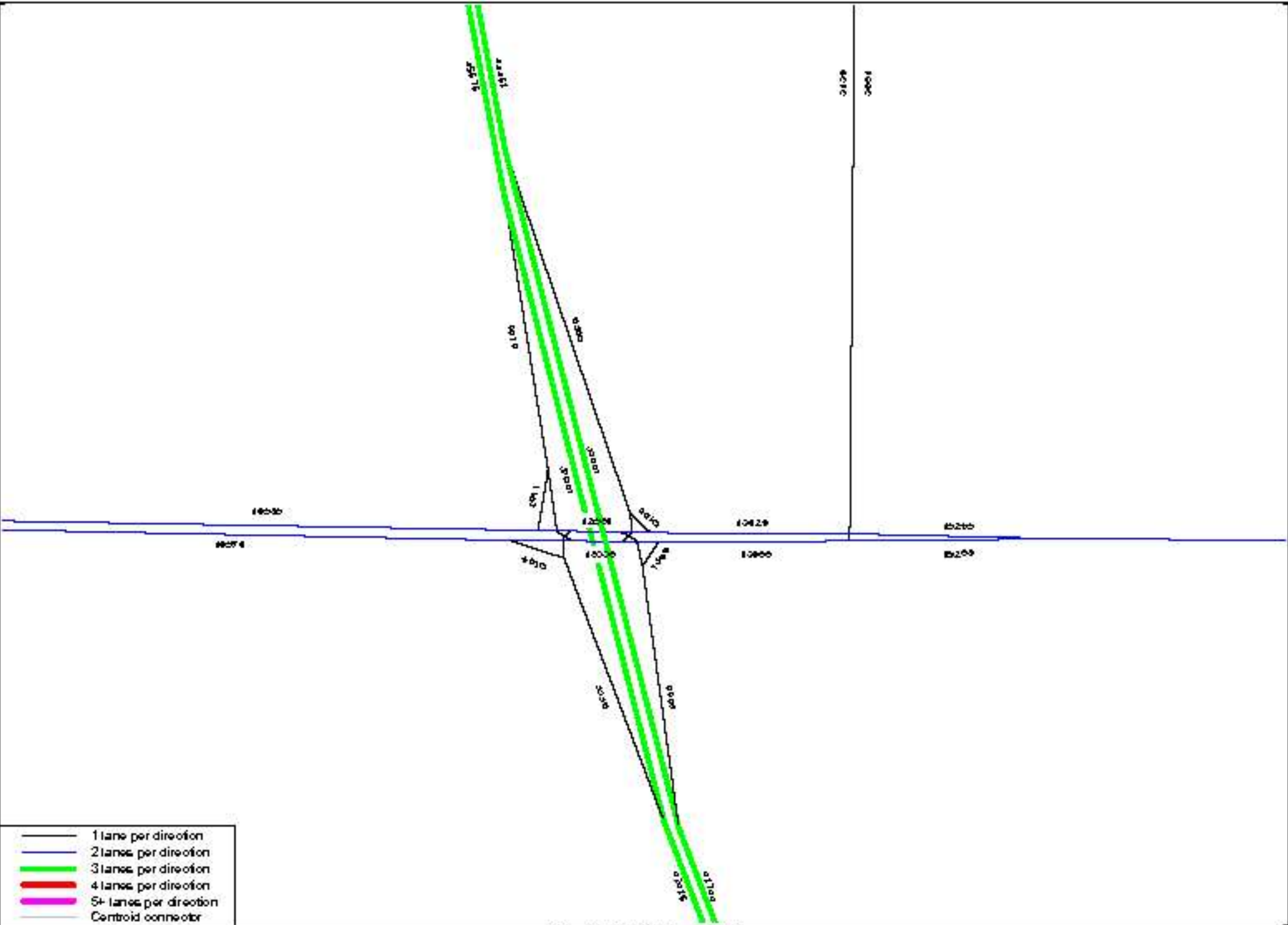


Turquoise Statewide Model 2015
 Model Plot: Florida Turnpike / SR91 Interchange

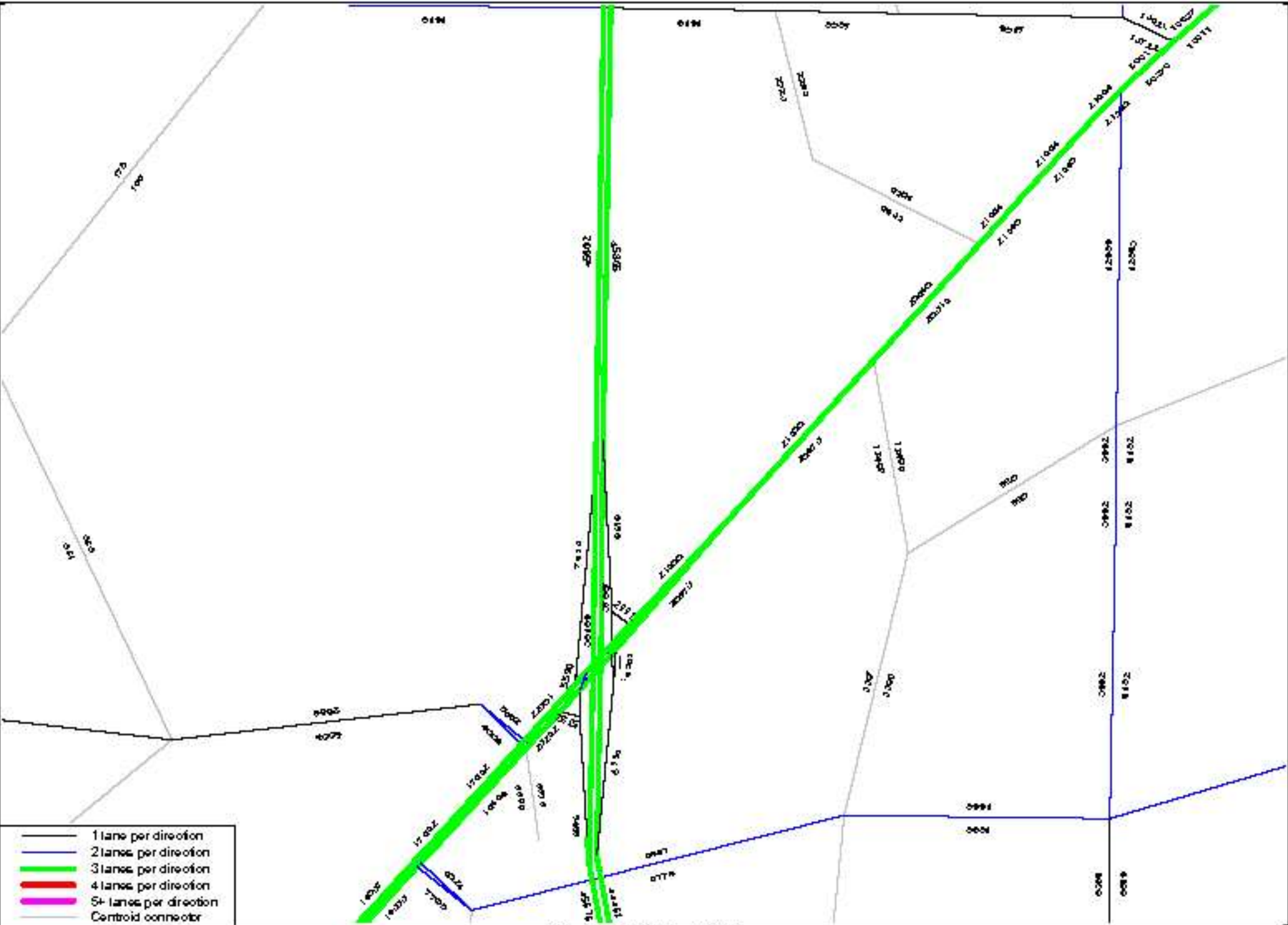


- 1 lane per direction
- 2 lanes per direction
- 3 lanes per direction
- 4 lanes per direction
- 5+ lanes per direction
- Centroid connector

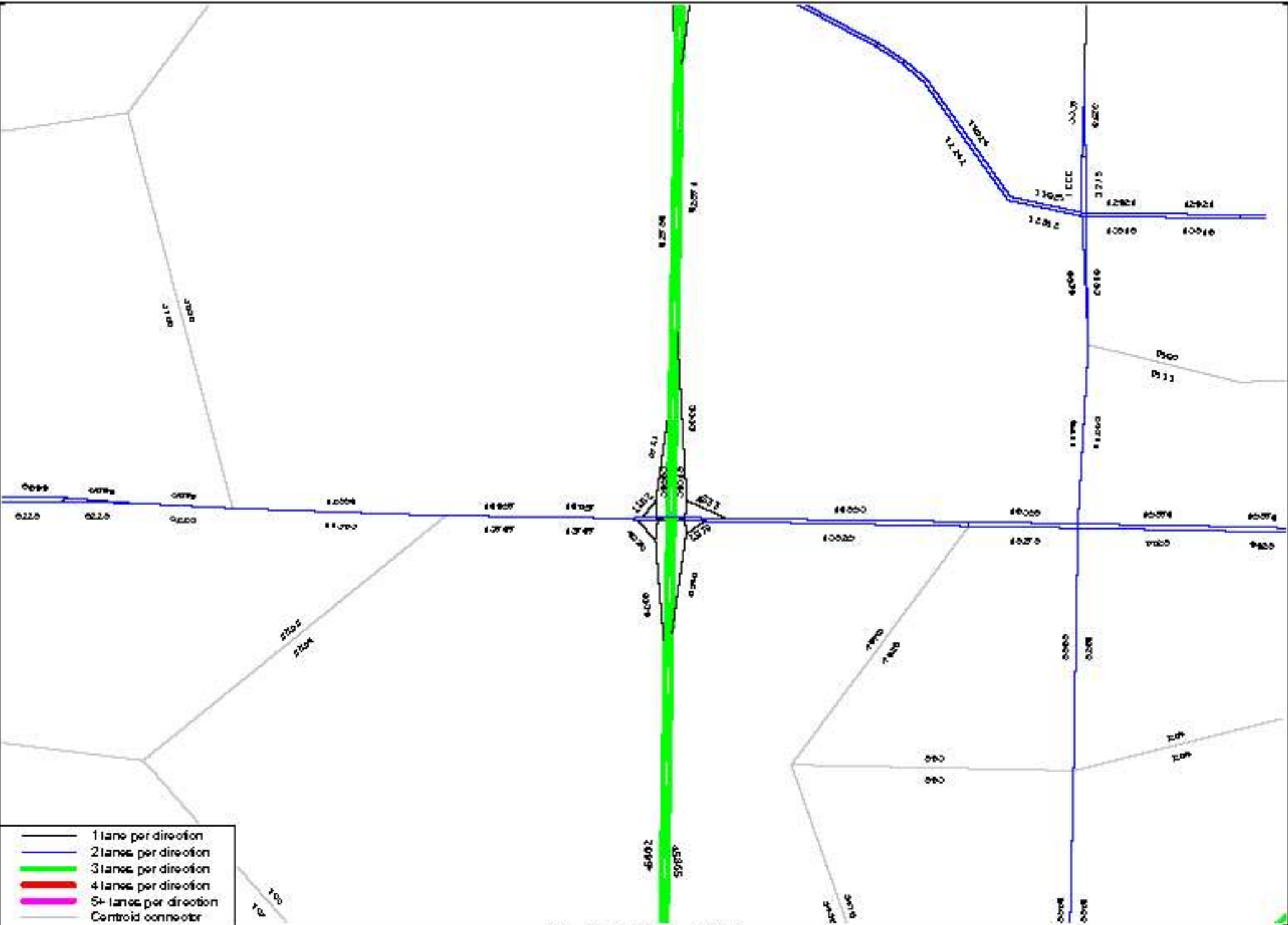
Turpike Statewide Model 2015
 Model Plot SR 44 Interchange
 K-42



Turpike Statewide Model 2015
 Model Rot - CR 424 Interchange
 K-43

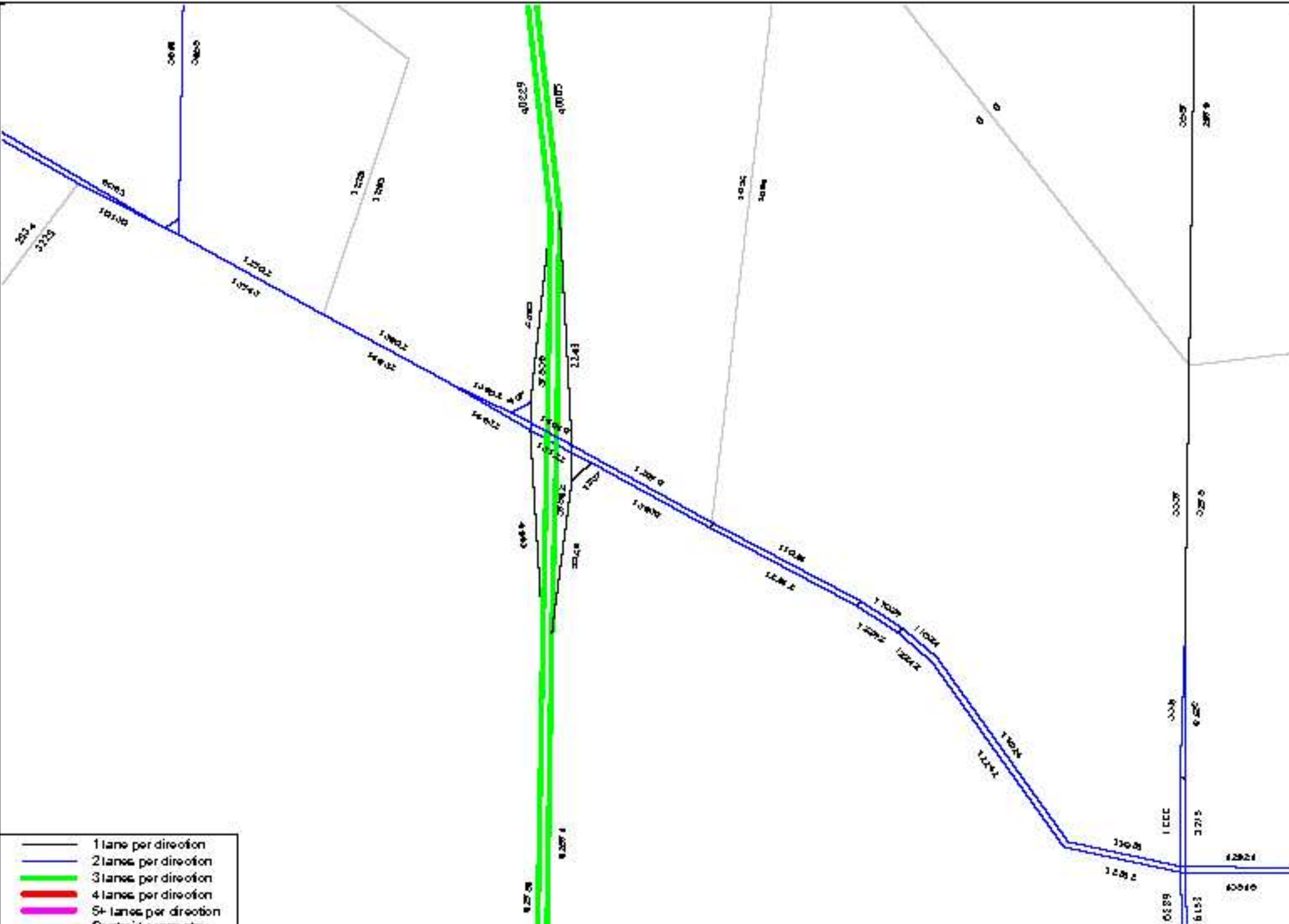


Turpike Statewide Model 2015
 Model Plot - SR 290 Interchange

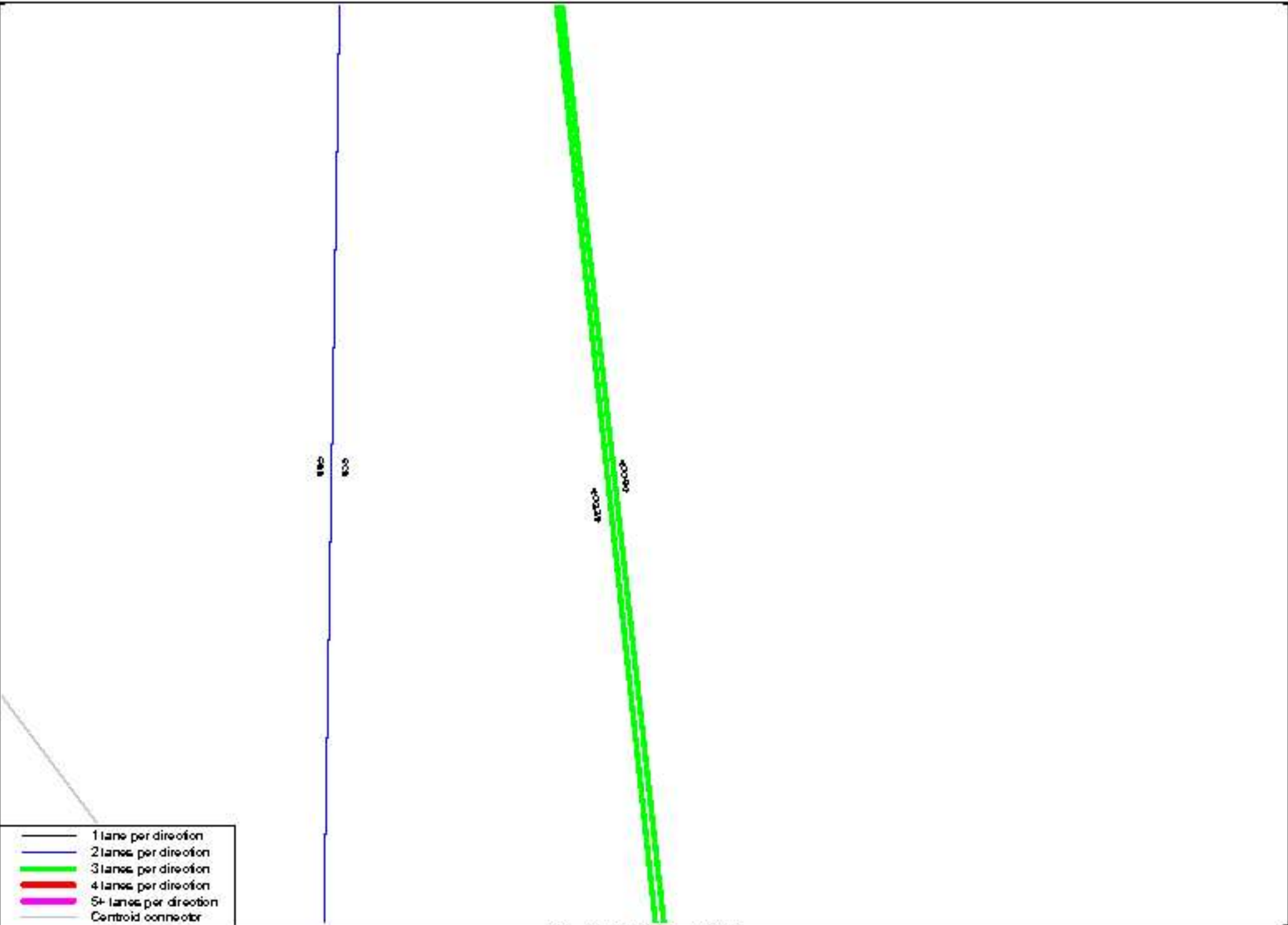


- 1 lane per direction
- 2 lanes per direction
- 3 lanes per direction
- 4 lanes per direction
- 5+ lanes per direction
- Centroid connector

Turmpike Statewide Model 2015
 Model Plot SR 40 Interchange



Turpike Statewide Model 2015
 Model Plot US 27 Interchange
 K-40

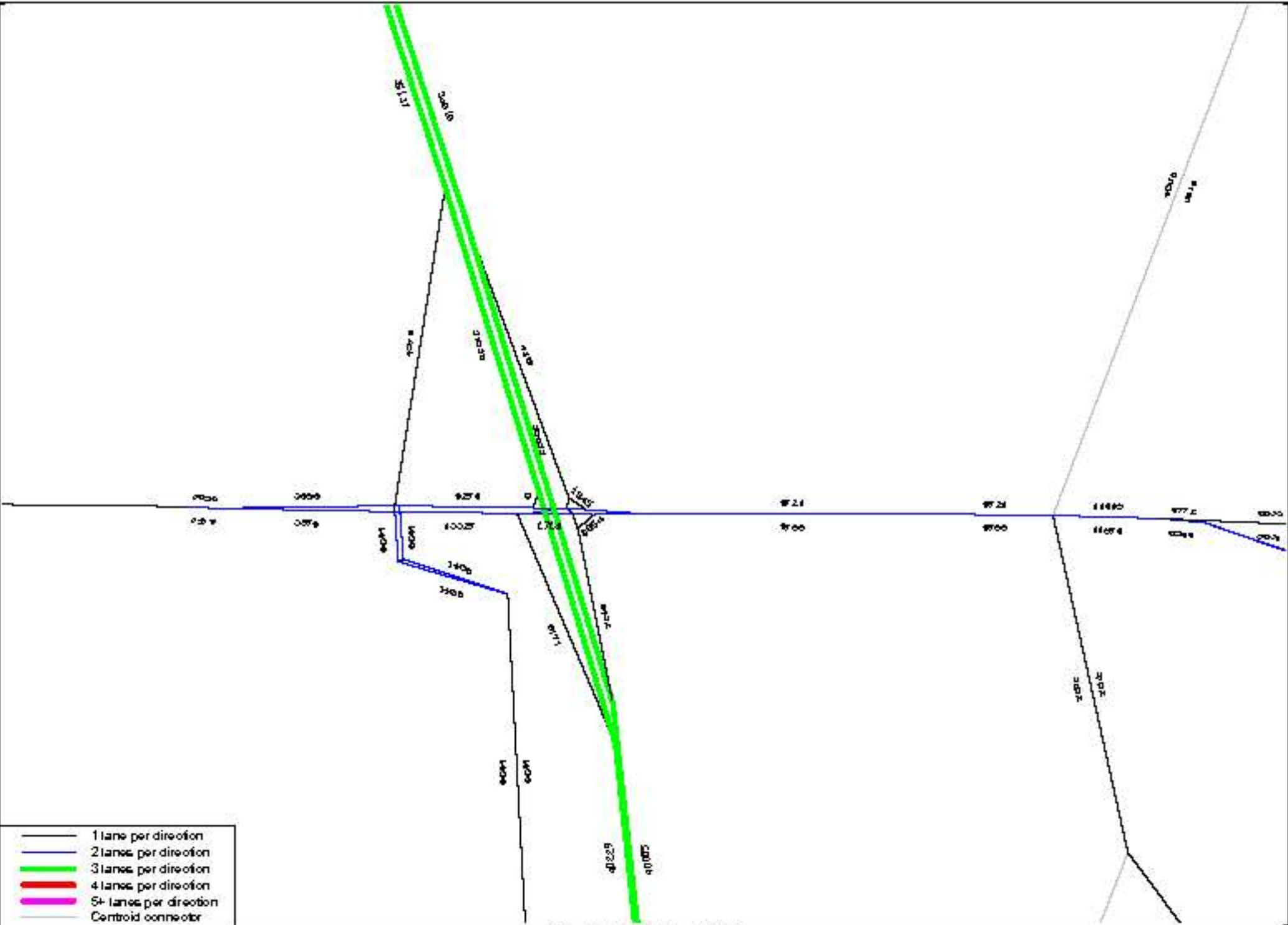


1100
1200

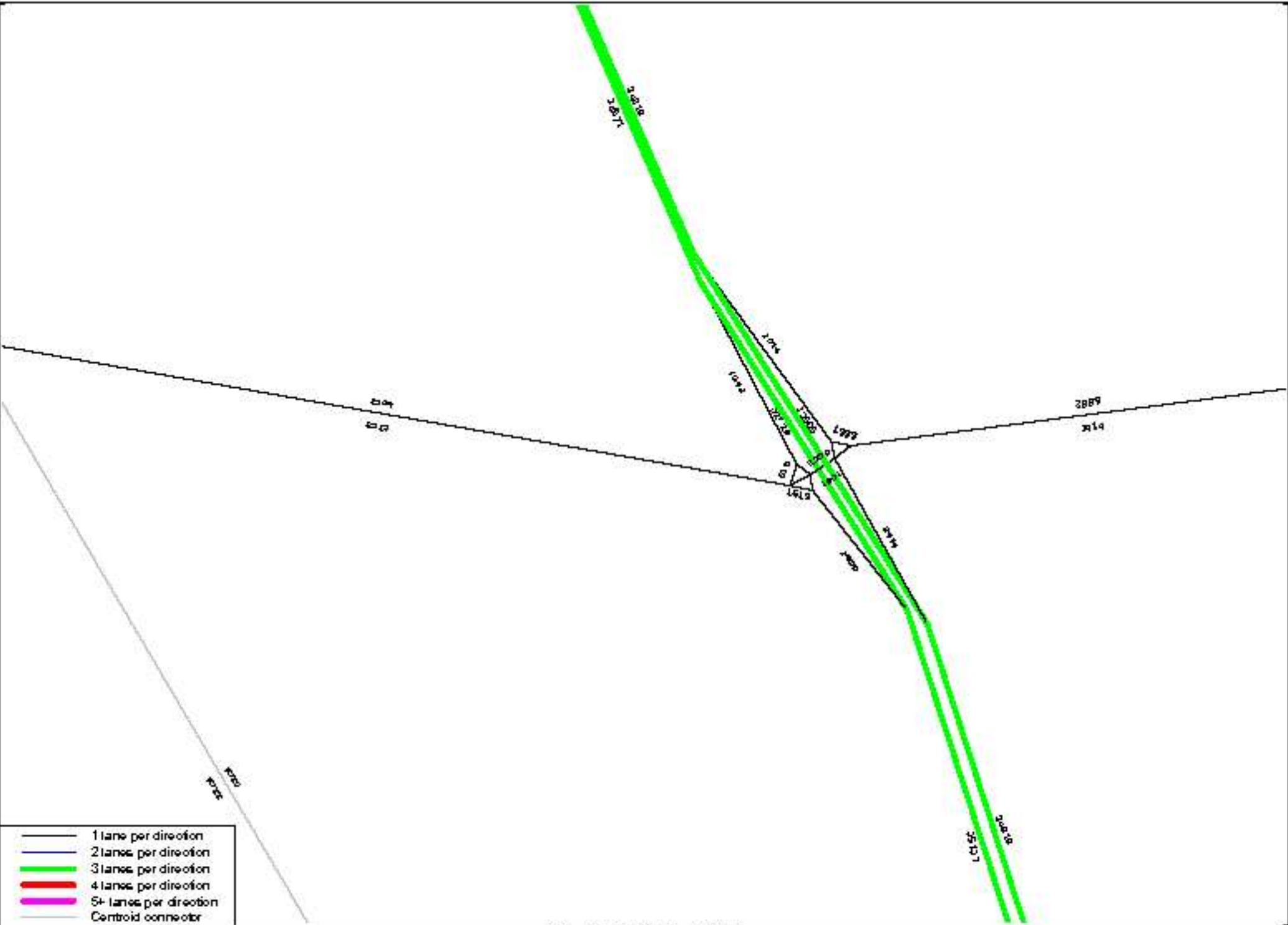
1100
1200

- 1 lane per direction
- 2 lanes per direction
- 3 lanes per direction
- 4 lanes per direction
- 5+ lanes per direction
- Centroid connector

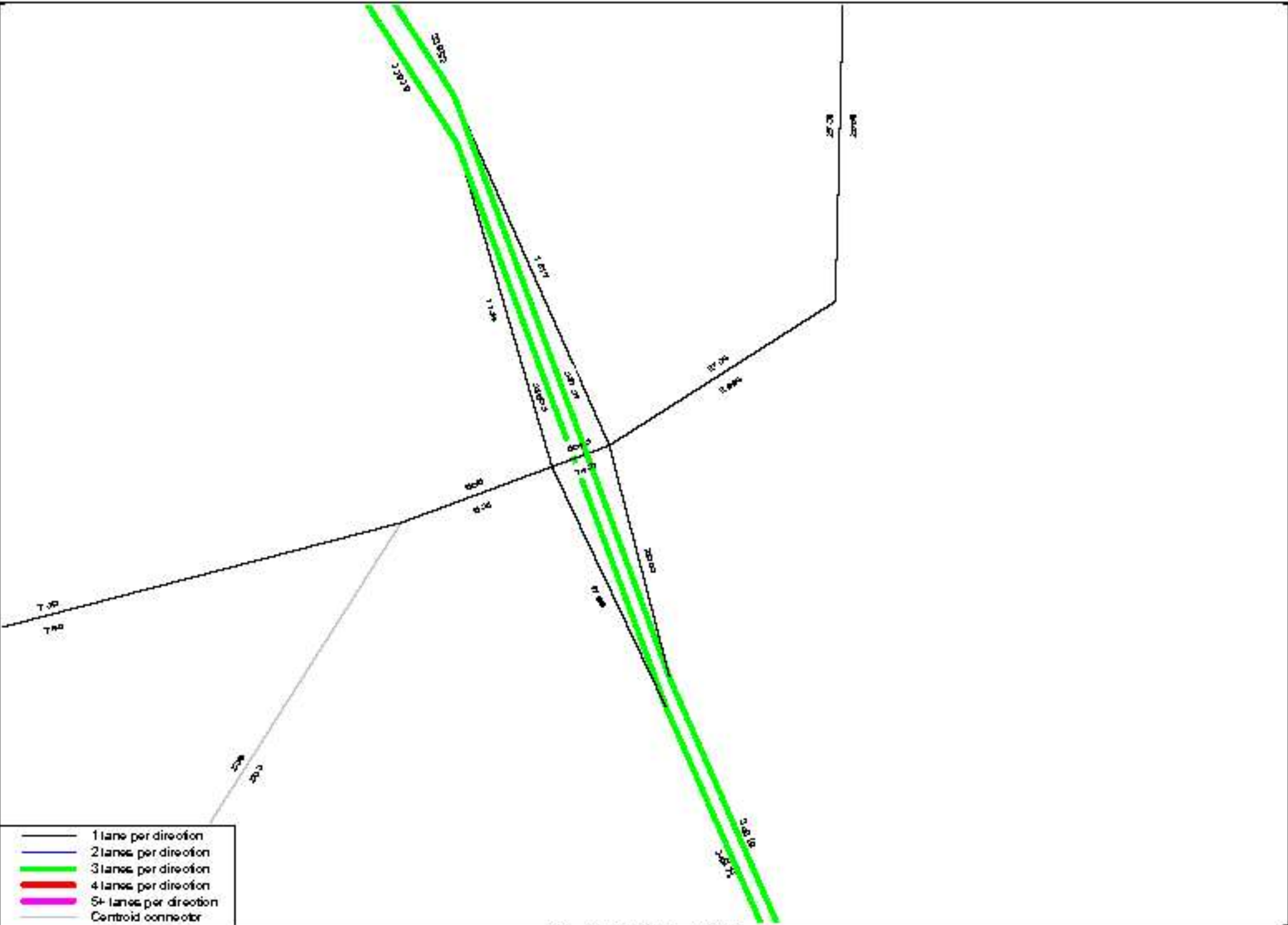
Turmpike Statewide Model 2015
Model Rpt - NY 44th Ave
R-47



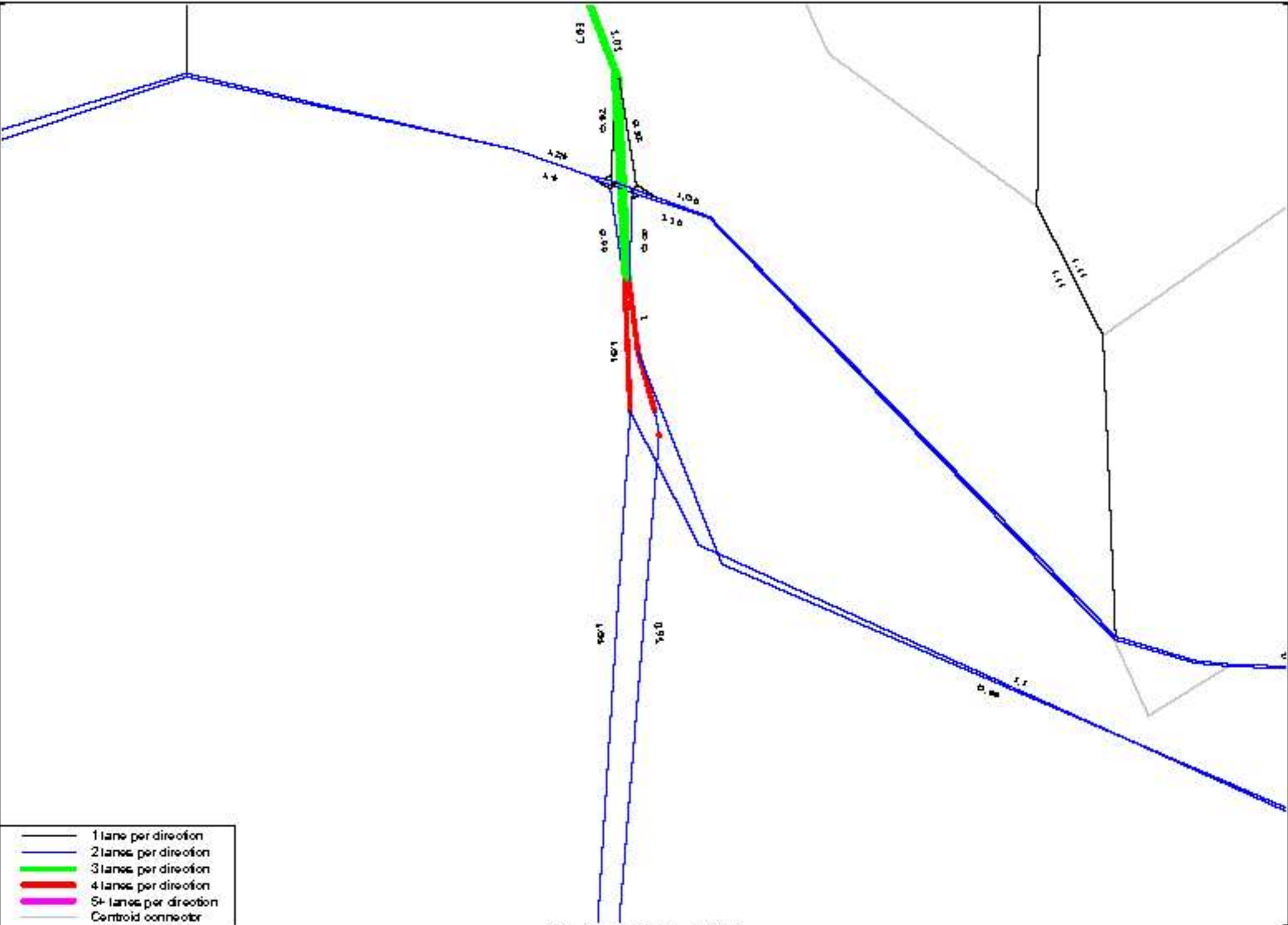
Turquoise Statewide Model 2015
 Model Plot - SR 328 Interchange
 K-48



Tennessee Turnpike Statewide Model 2015
 Model Plot - CR 318 Interchange

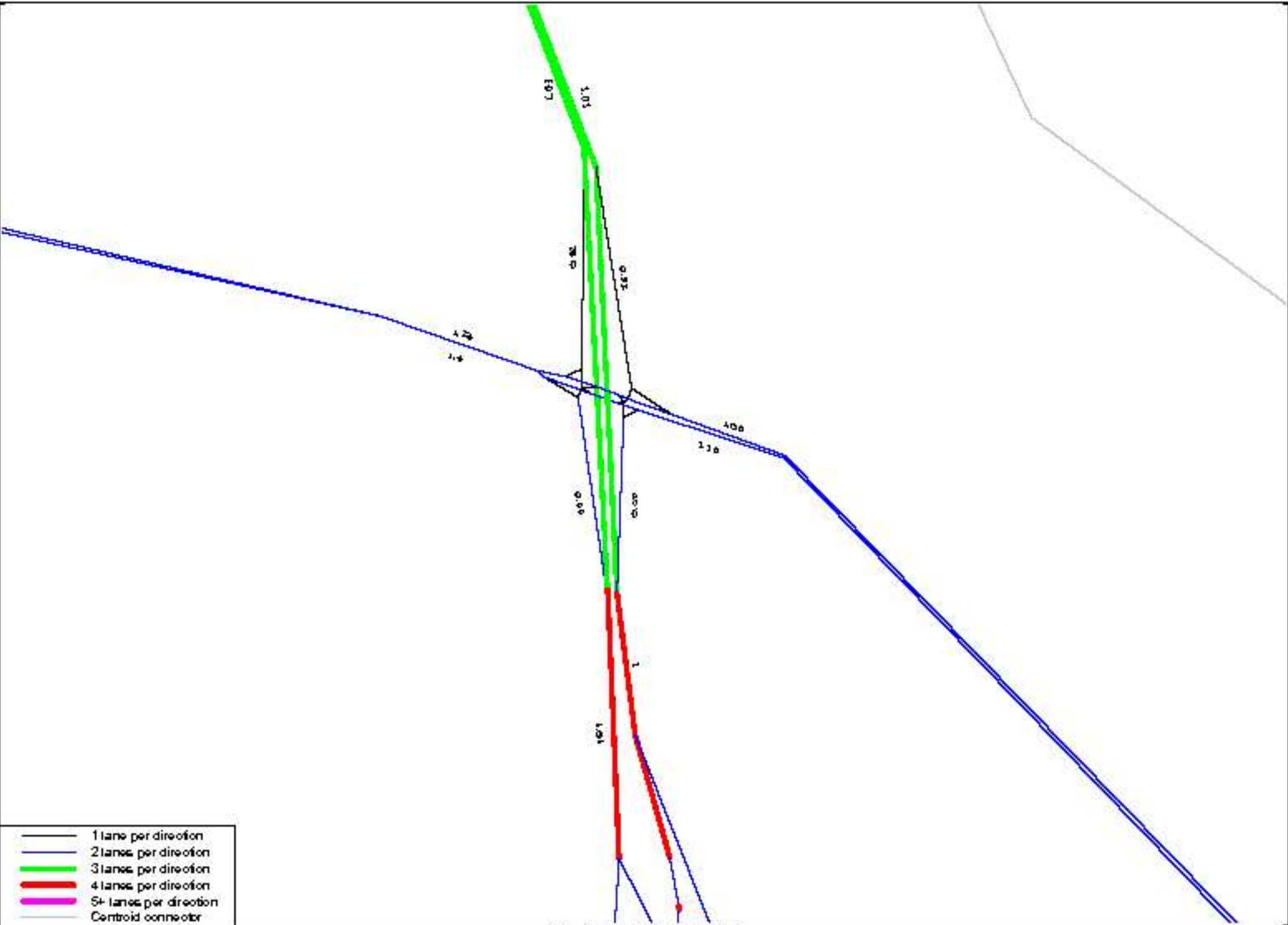


Tennessee Turnpike Statewide Model 2015
 Model Plot - CR 234 Interchange
 K-50

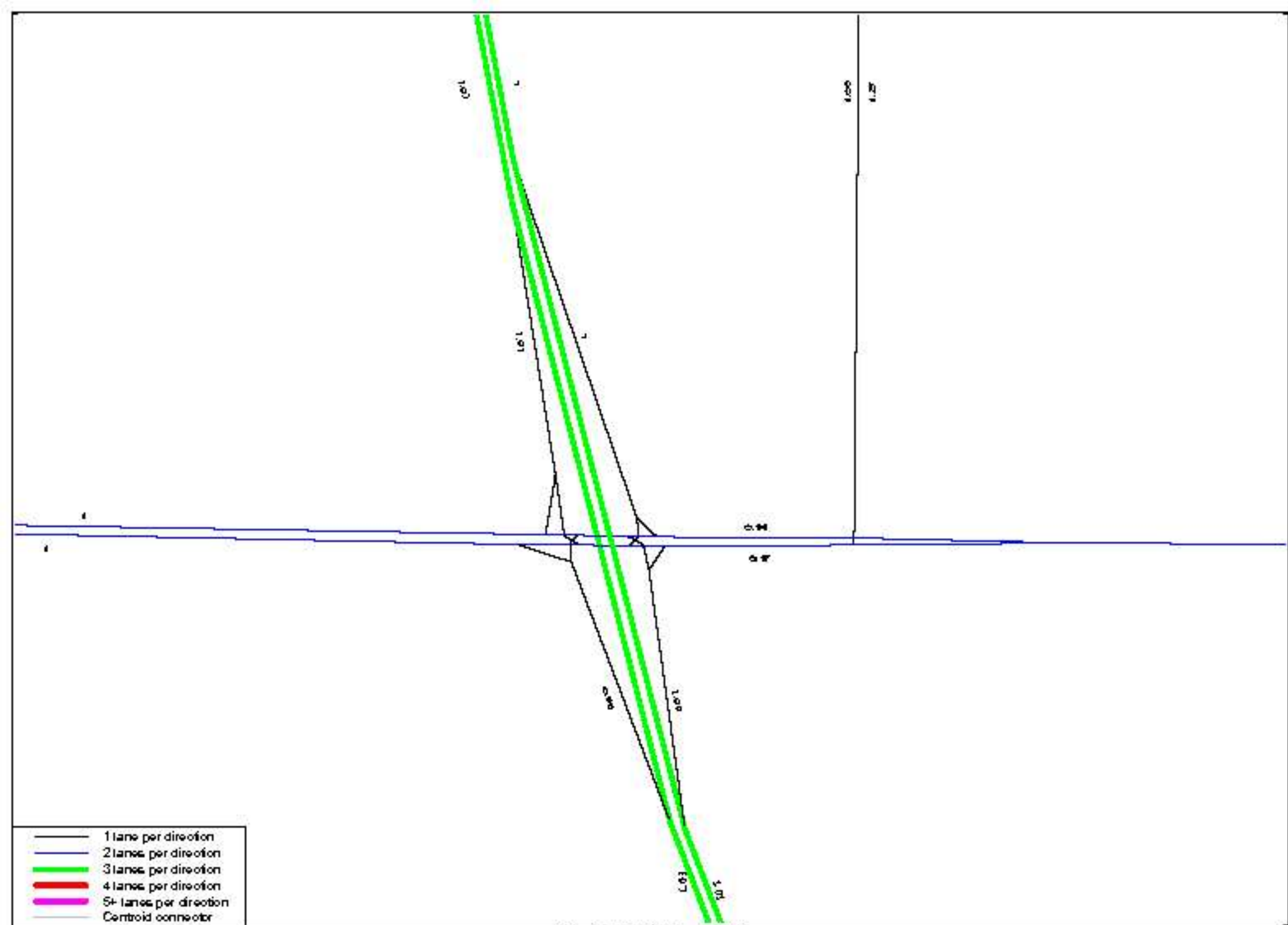


- 1 lane per direction
- 2 lanes per direction
- 3 lanes per direction
- 4 lanes per direction
- 5+ lanes per direction
- Centroid connector

Turnpike Statewide Model 2015
 Model Plot (VC Ratio) - Road 1601 / SR 91 Interchange

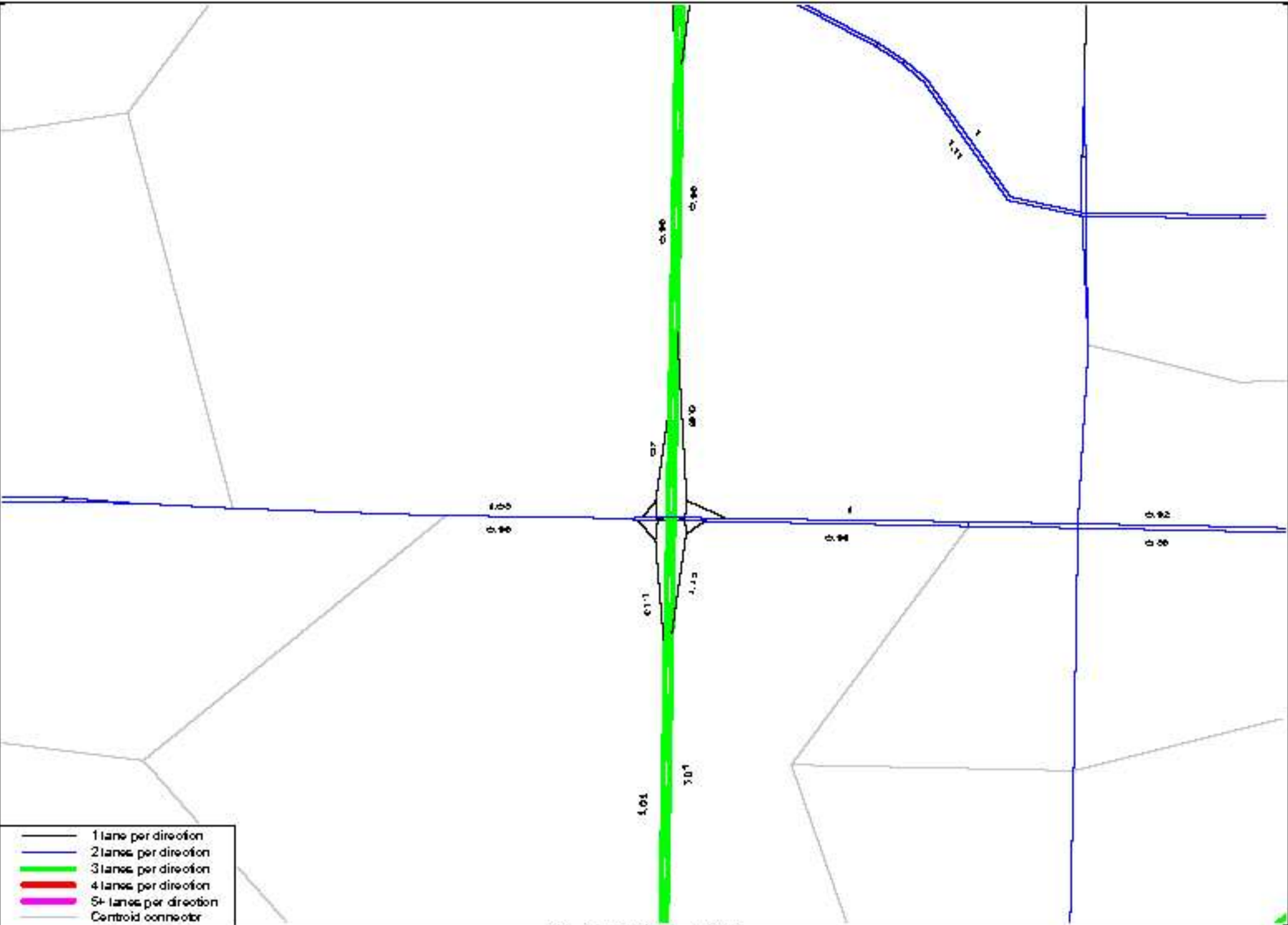


Turnpike Statewide Model 2015
 Model Plot (VC Ratio) SR 44 Interchange
 K = 52



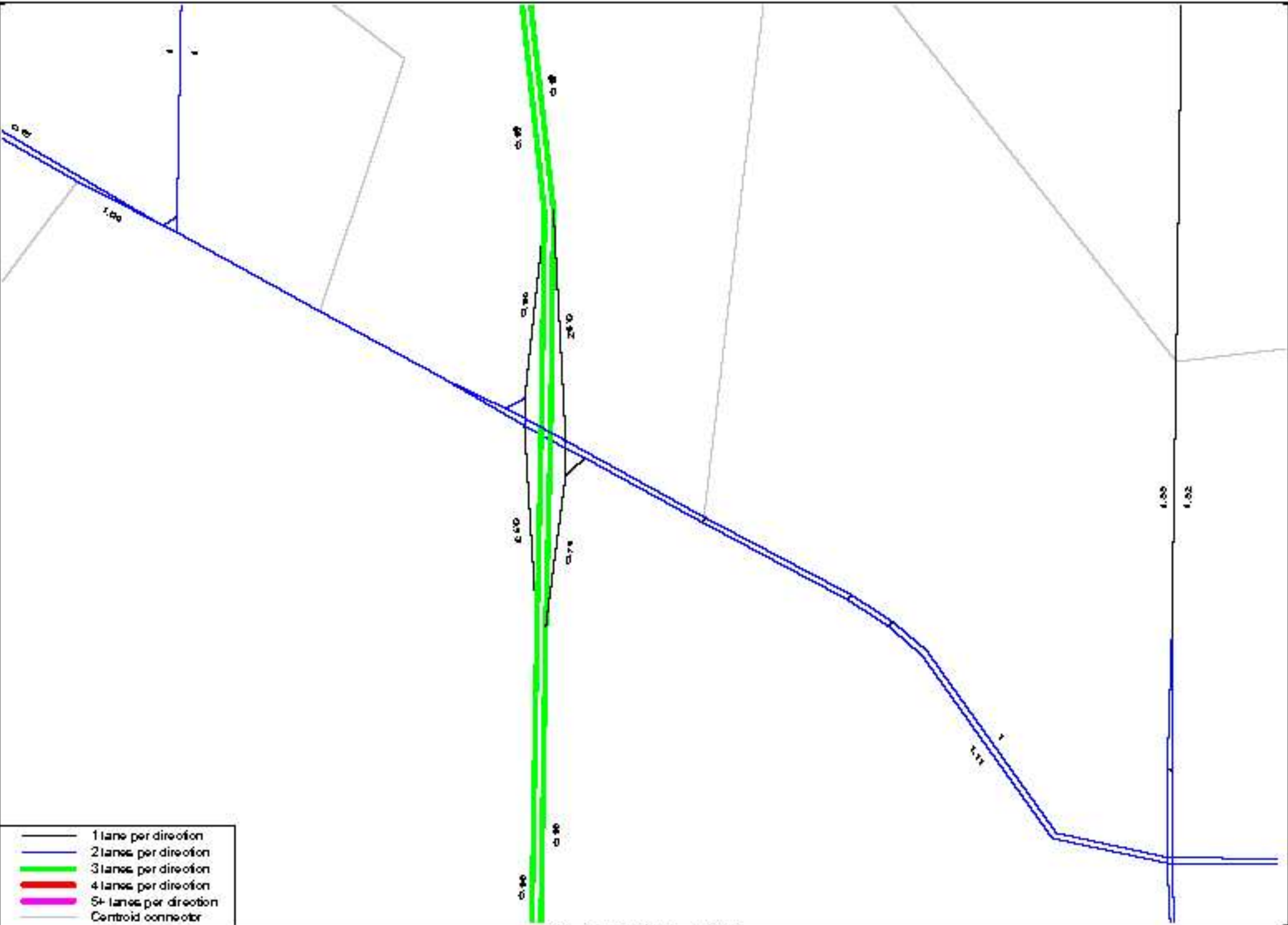
- 1 lane per direction
- 2 lanes per direction
- 3 lanes per direction
- 4 lanes per direction
- 5+ lanes per direction
- Centroid connector

Turmpike Statewide Model 2015
 Model Rot(V/C Ratio) - 6R 484 Interchange
 K-53



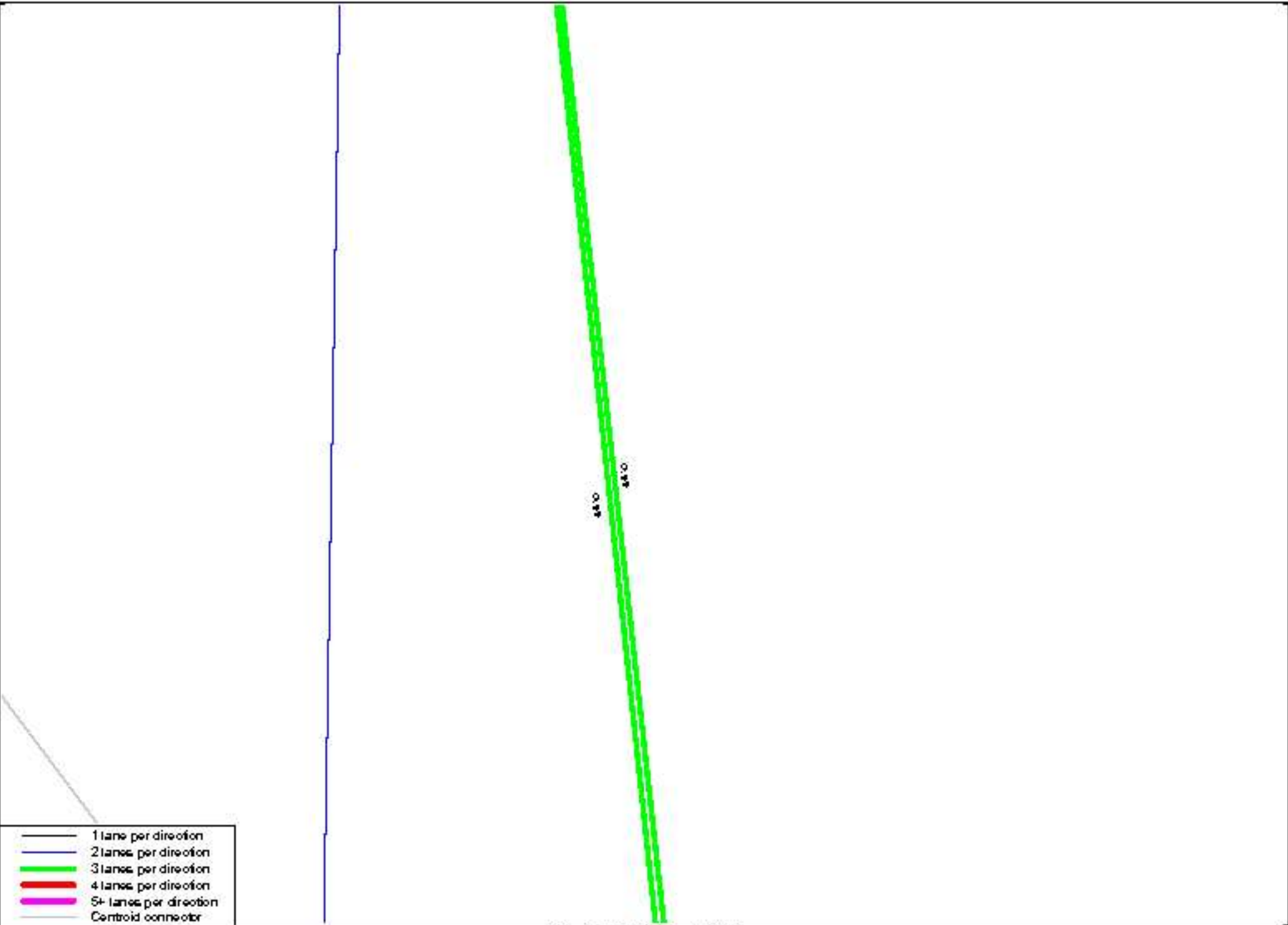
- 1 lane per direction
- 2 lanes per direction
- 3 lanes per direction
- 4 lanes per direction
- 5+ lanes per direction
- Centroid connector

Turnpike Statewide Model 2015
 Model Plot (VC Ratio) - SR 40 Interchange
 K-55



- 1 lane per direction
- 2 lanes per direction
- 3 lanes per direction
- 4 lanes per direction
- 5+ lanes per direction
- Centroid connector

Turpike Statewide Model 2015
 Model Plot (VC Ratio) - I-5 S 27 Interchange
 K-55



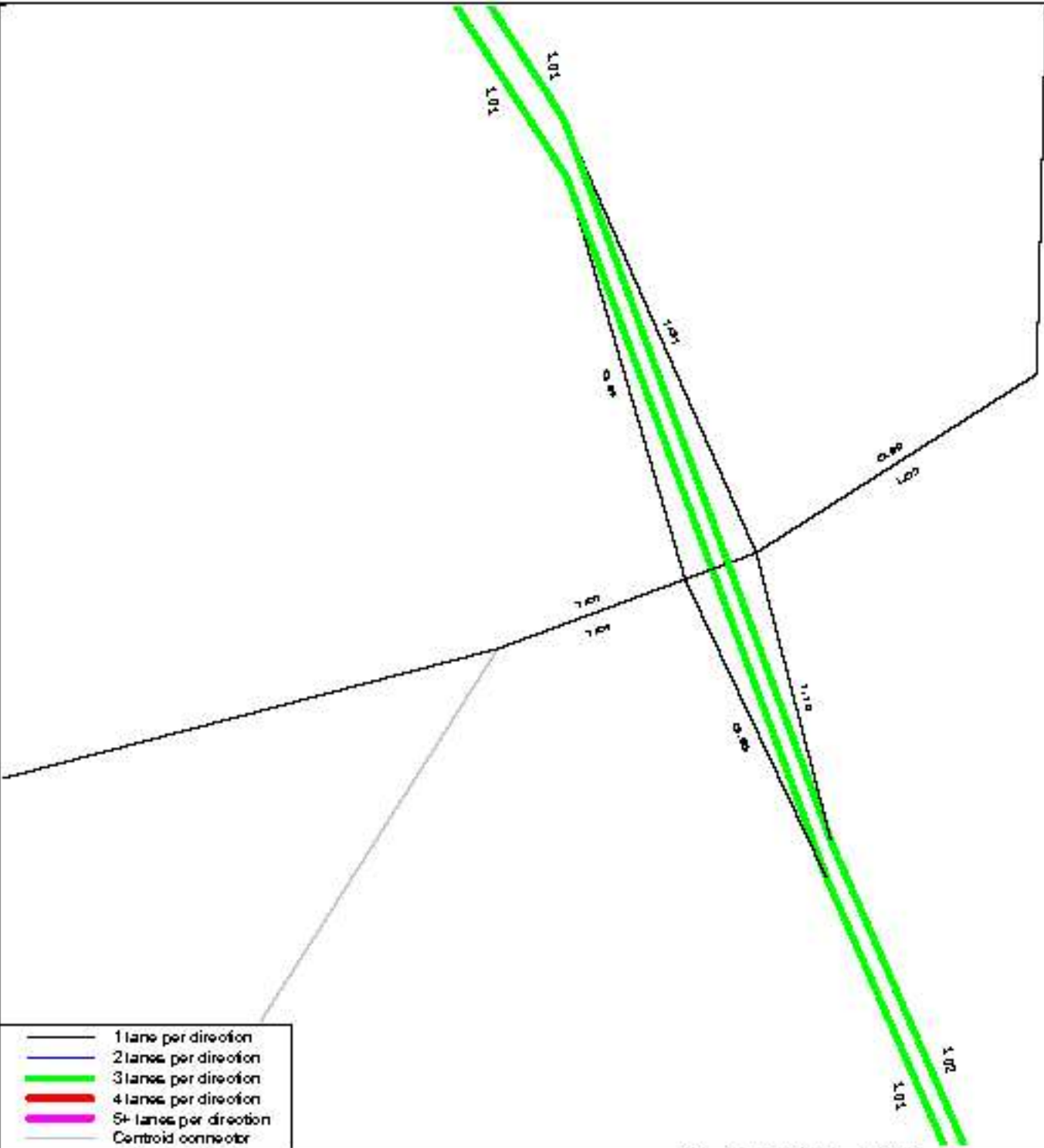
Turnpike Statewide Model 2015
Model Plot (VG Rating) NW 44th Ave
K = 57



Turmpike Statewide Model 2015
 Model Plot (VC Ratio) SR 328 Interchange
 K 58



Turpike Statewide Model 2015
 Model Rot(V/C Ratio) - SR 318 Interchange
 K-59



- 1 lane per direction
- 2 lanes per direction
- 3 lanes per direction
- 4 lanes per direction
- 5+ lanes per direction
- Centroid connector

Turmpike Statewide Model 2015
 Model Rot(VC Ratio)-SR 234 Interchange
 K-60

**APPENDIX C DOCUMENTATION FOR REMOVAL OF SW
95TH STREET INTERCHANGE**

Michael Eagle

From: Bove, Ralph <ralph.bove@volkert.com>
Sent: Wednesday, March 11, 2020 1:36 PM
To: Karl Passetti; Michael Eagle
Subject: FW: I-75 PD&E - Turnpike Statewide Model (I-75 at SW 95 Street)

FYI

I'm going to request the IJR and FDOT letter referenced below.

Ralph S. Bove, Jr.
[Volkert, Inc.](#)
Vice President
PD&E Group Leader-FL Region

Cell: (321) 297-6812
Direct: (321) 274-4777

From: Grubert, Heather <Heather.Grubert@dot.state.fl.us>
Sent: Wednesday, March 11, 2020 7:19 AM
To: Bove, Ralph <ralph.bove@volkert.com>; Schnell, Steven <Steve.Schnell@hdrinc.com>
Cc: McGehee, Mary <Mary.McGehee@dot.state.fl.us>
Subject: FW: I-75 PD&E - Turnpike Statewide Model (I-75 at SW 95 Street)

Please see below regarding the SW 95th Street Interchange.

Heather Grubert, P.E.

Project Development Engineer
State of Florida Department of Transportation – D5
719 South Woodland Blvd.
Deland, Florida 32720
(386) 943-5540
Email: Heather.Grubert@dot.state.fl.us

From: Pamulapati, Suraj <Suraj.Pamulapati@dot.state.fl.us>
Sent: Tuesday, March 10, 2020 6:06 PM
To: Grubert, Heather <Heather.Grubert@dot.state.fl.us>; McGehee, Mary <Mary.McGehee@dot.state.fl.us>
Cc: Snyder, Karen <Karen.Snyder@dot.state.fl.us>; Smith, Kellie <Kellie.Smith@dot.state.fl.us>; Learned, Jason <Jason.Learned@dot.state.fl.us>
Subject: RE: I-75 PD&E - Turnpike Statewide Model (I-75 at SW 95 Street)

<https://goo.gl/maps/a65MZYpt5NaLZNnT9>

Good afternoon Heather and Mary,

We concur that the I-75 at SW 95th Street interchange (currently in the LRTP) should be removed from the traffic demand modeling effort for this subject project for the following reasons:

- This will help in identifying a complete set of improvements needed at SR 200 and CR 484 interchanges with I-75 as a conservative case
- Prior IJR report review showed interchange was not justified and hence not approved per the Department's letter dated July 16, 2015.
- Close proximity to the existing weigh station located to the north
- Environmental comments identified from the previous study

Thank You

-Suraj

Suraj Pamulapati, PE, PTOE
Interchange and Traffic Engineering Supervisor
FDOT PLEMO
719 S. Woodland Blvd., M.S. # 501
DeLand, Florida 32720
Phone: 386-943-5378 (Office)



From: Grubert, Heather <Heather.Grubert@dot.state.fl.us>
Sent: Thursday, February 13, 2020 10:16 AM
To: Pamulapati, Suraj <Suraj.Pamulapati@dot.state.fl.us>
Cc: Snyder, Karen <Karen.Snyder@dot.state.fl.us>
Subject: FW: I-75 PD&E - Turnpike Statewide Model (I-75 at SW 95 Street)

Do you agree that the SW 95th Street should be removed from the model?

Heather Grubert, P.E.

Project Development Engineer
State of Florida Department of Transportation – D5
719 South Woodland Blvd.
DeLand, Florida 32720
(386) 943-5540
Email: Heather.Grubert@dot.state.fl.us

From: Bove, Ralph <ralph.bove@volkert.com>
Sent: Wednesday, February 05, 2020 1:56 PM
To: Grubert, Heather <Heather.Grubert@dot.state.fl.us>
Cc: McGehee, Mary <Mary.McGehee@dot.state.fl.us>; Schnell, Steven <Steve.Schnell@hdrinc.com>; Passetti, Karl <kpassetti@kittelson.com>; Michael Eagle <m eagle@kittelson.com>
Subject: FW: I-75 PD&E - Turnpike Statewide Model (I-75 at SW 95 Street)

EXTERNAL SENDER: Use caution with links and attachments.

Heather,

As we discussed (and as noted in the e-mail below) Kittelson is finalizing their review of the Turnpike Statewide Model (TSM) for use in the I-75 PD&E Study. They have noted the TSM includes two new interchanges in

Marion County: SW 95th Street and NW 49th Street. Of these, only the NW 49th Street interchange was to be included in the I-75 study.

Based on the e-mail below, it appears the SW 95th Street Interchange is still listed in the Ocala-Marion TPO 2040 LRTP and the PD&E Study is still showing up on the FDOT Work Program for FY 2020. We believe this project is no longer being considered by either the TPO or FDOT; therefore, we are seeking concurrence that the proposed I-75/SW 95th Street interchange in Marion County *should not* be considered in the I-75 PD&E Study.

Kittelson is reaching out to the TPO regarding the project status in terms of the 2045 LRTP update and we would like to confirm the same with FDOT Work Program. It may be possible that amendments have been made to the current LRTP and/or Work Program that just haven't caught up in the system.

Please let us know if you have any questions or if you need any additional information to coordinate with Work Program.

Thanks.

Ralph

Ralph S. Bove, Jr.
Volkert, Inc.
Vice President
PD&E Group Leader-FL Region

Cell: (321) 297-6812
Direct: (321) 274-4777

From: Michael Eagle <meagle@kittelson.com>
Sent: Wednesday, February 5, 2020 9:54 AM
To: Bove, Ralph <ralph.bove@volkert.com>; Schnell, Steven <Steve.Schnell@hdrinc.com>
Cc: Karl Passetti <kpassetti@kittelson.com>; Kirwan, Brian <brian.kirwan@volkert.com>
Subject: I-75 PD&E - Turnpike Statewide Model (I-75 at SW 95 Street)

Good morning Ralph,

We are wrapping up our review of the Turnpike Statewide Model (TSM) base year validation, future year scenarios, and model growth rates. As part of our review, we noticed the horizon year (2045) model includes two new interchanges at SW 95th Street and NW 49th Street. Through our scope development and negotiations, we included the new interchange at NW 49th Street; however, we didn't include the new interchange at SW 95th Street. A quick look in the 5-year Work Program shows funding in FY 2020 for a PD&E/EMO Study (FM# 429582-1) at the SW 95th Street interchange. The 2040 Ocala/Marion TPO LRTP lists the interchange with funding for Preliminary Engineering and Construction between 2031-2040 through four different funding sources (Federal Transportation Management Area, State Transportation Regional Incentive Program, County Impact Fees – East District, and County Impact Fees – West District).

Can we get confirmation from the group that we ~~do~~ *do not* need to include the SW 95th Street interchange in the TSM, traffic projections, traffic analyses, etc.? If this is the case, we will need to remove the interchange from the model, rerun, and summarize new growth rates over the next week so that we can keep the rest of the schedule moving forward.

Please let us know if you would like to discuss. We will leave it up to you on who you'd like to distribute this to at FDOT.

Thanks!

Michael Eagle, PE

Senior Engineer

[Kittelson & Associates, Inc.](#)

Transportation Engineering / Planning

225 East Robinson Street, Suite 355

Orlando, Florida 32801

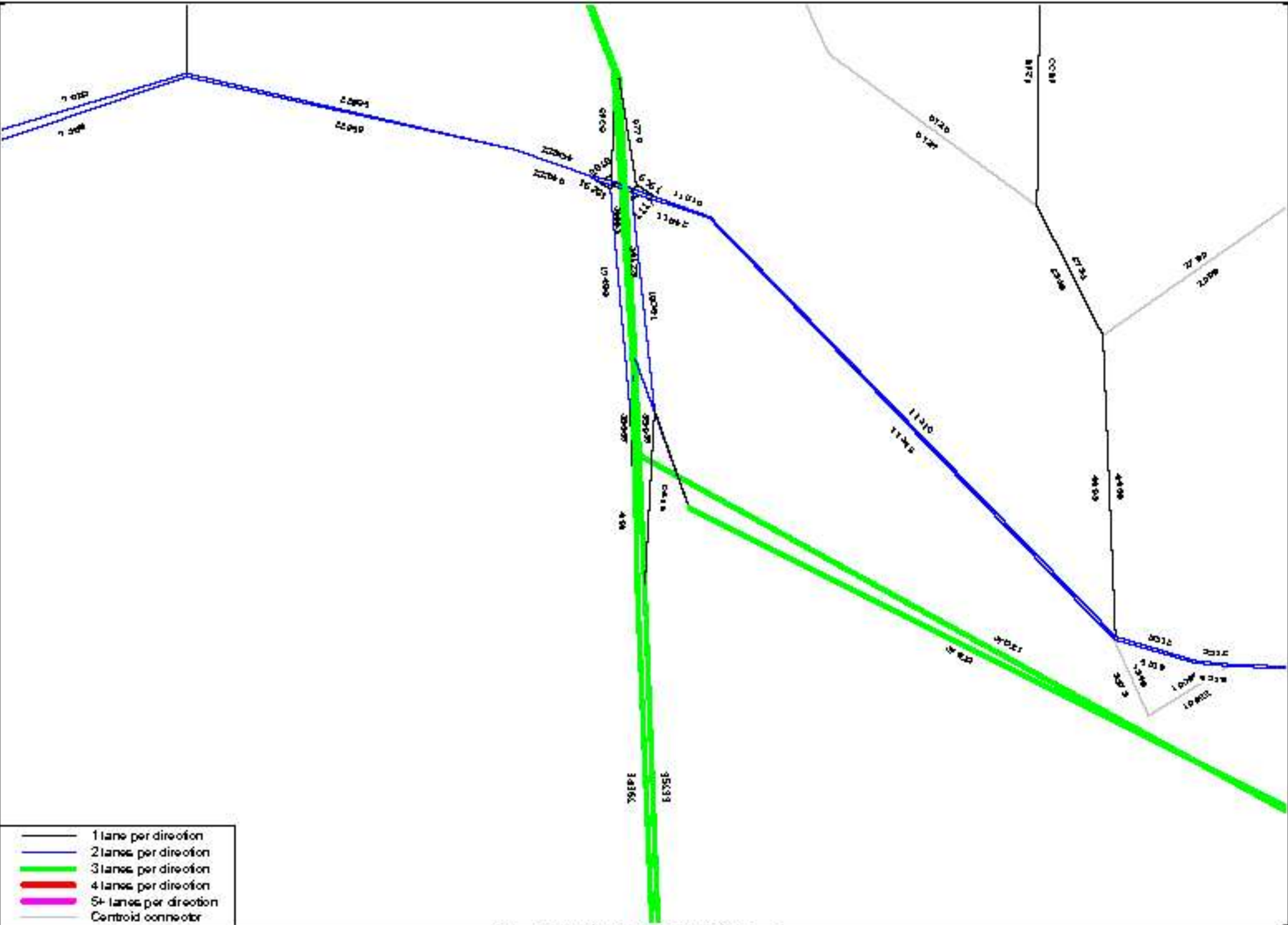
407.540.0555

407.373.1119 (direct)

541.292.2406 (cell)

[Streetwise](#) [Twitter](#) [Facebook](#)

APPENDIX D FUTURE YEAR (2045) MODEL PLOTS

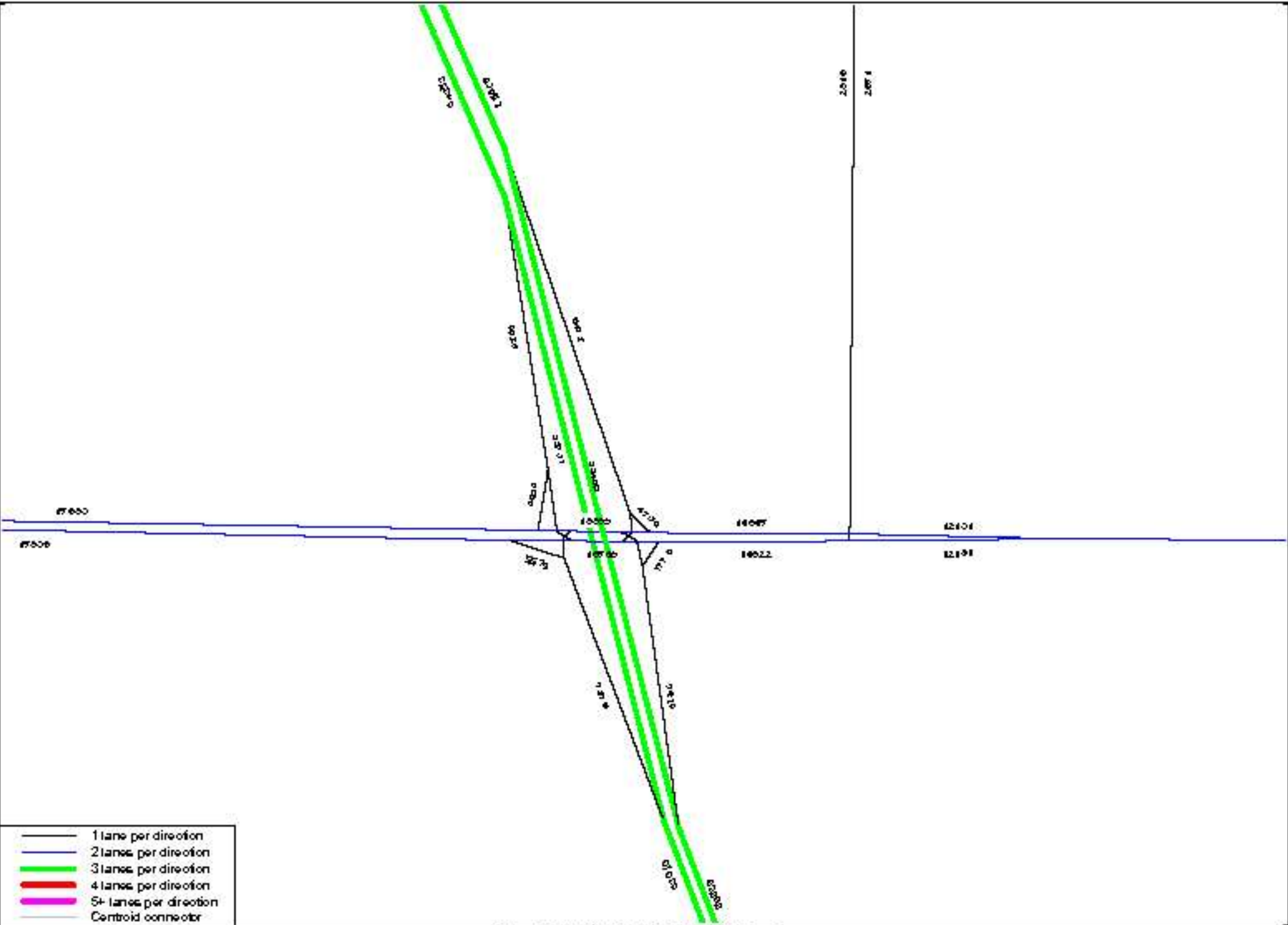


- 1 lane per direction
- 2 lanes per direction
- 3 lanes per direction
- 4 lanes per direction
- 5+ lanes per direction
- Centroid connector

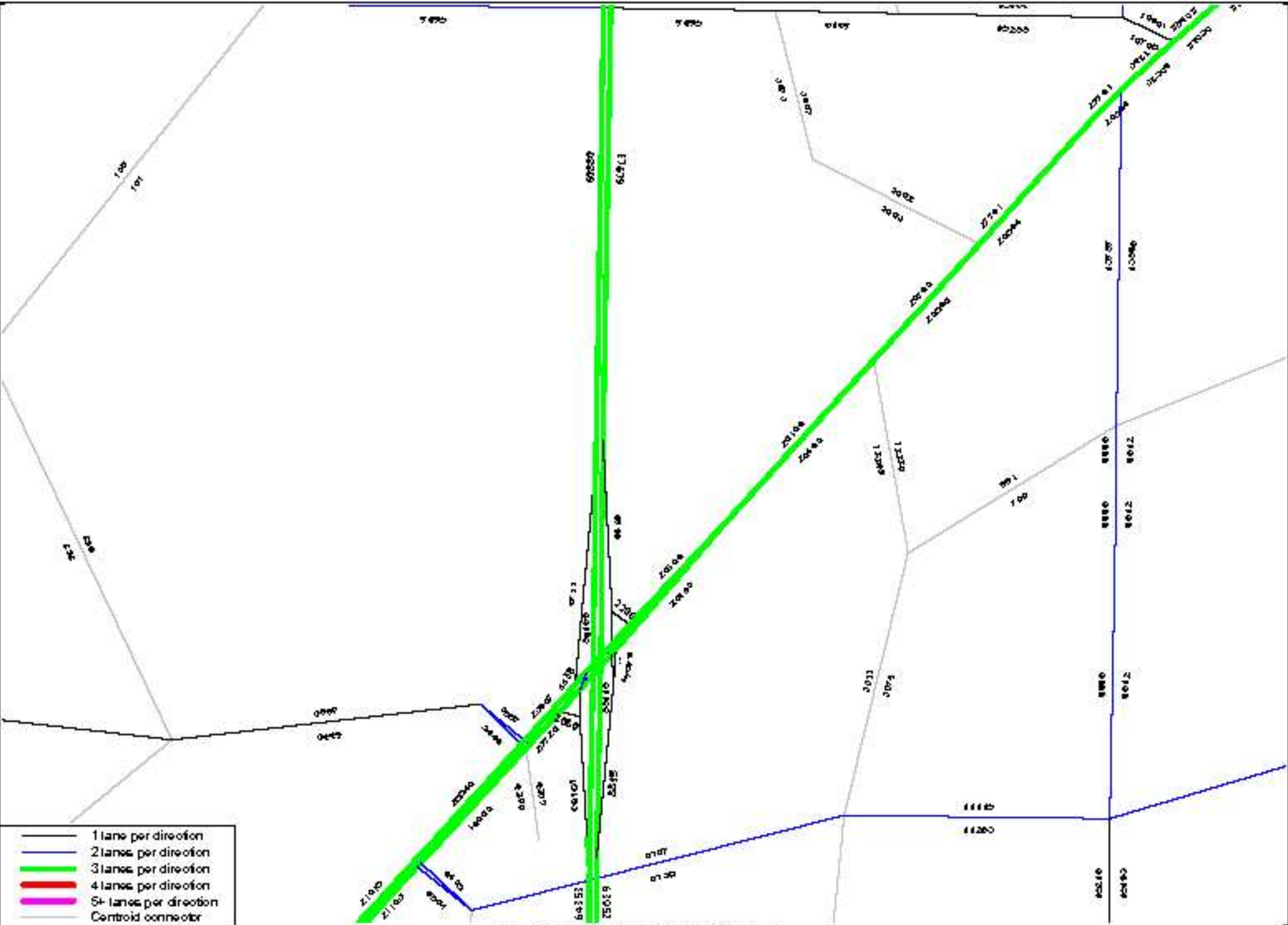
Turpike Statewide Model 2045 No Build Scenario
 Model Rot- Florida Turpike / SR91 Interchange



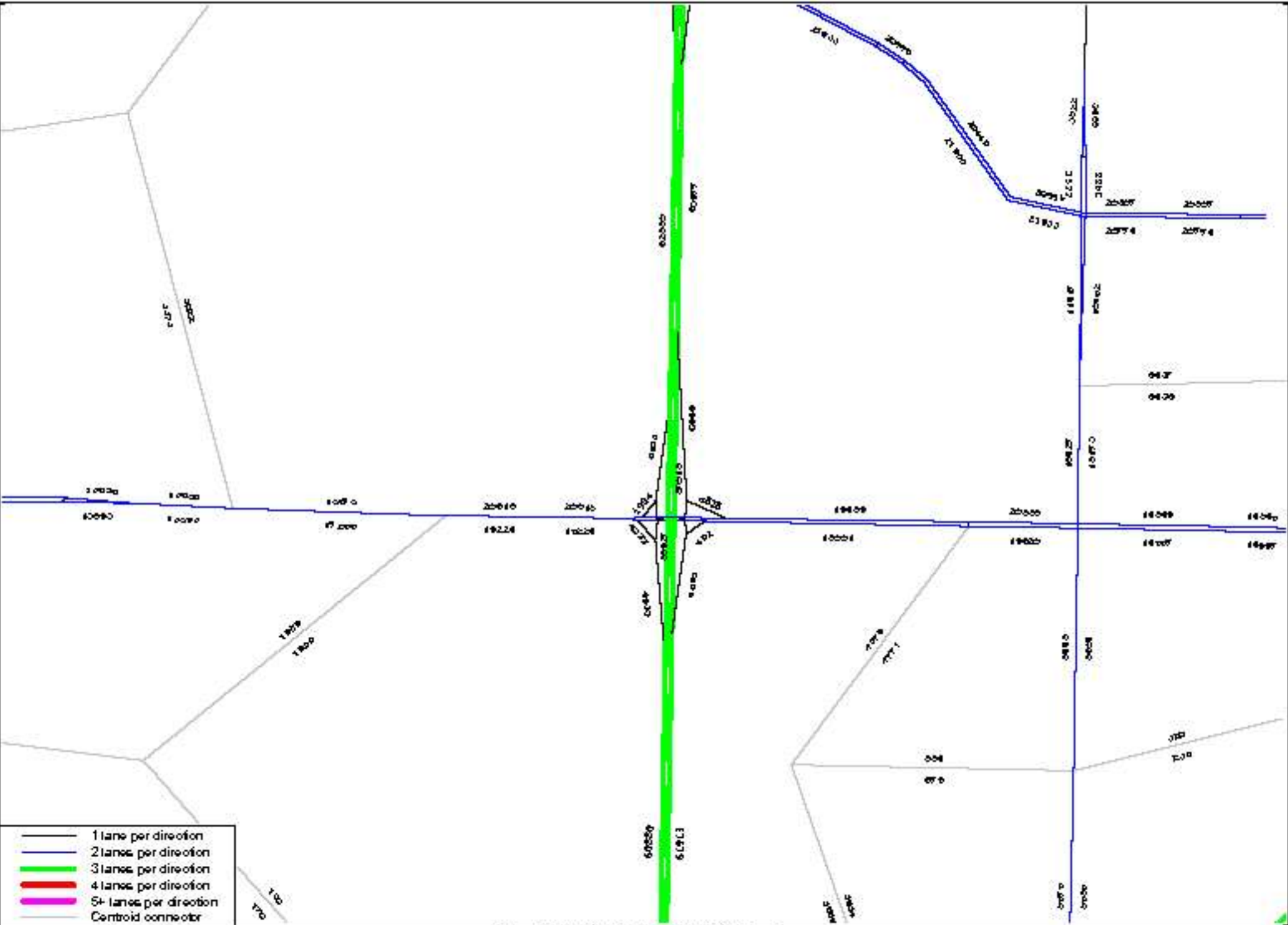
Turmpike Statewide Model 2045 No Build Scenario
 Model Plot SR 44 Interchange



Turpike Statewide Model 2045 No Build Scenario
 Model Rot - CR 486 Interchange
 K-89

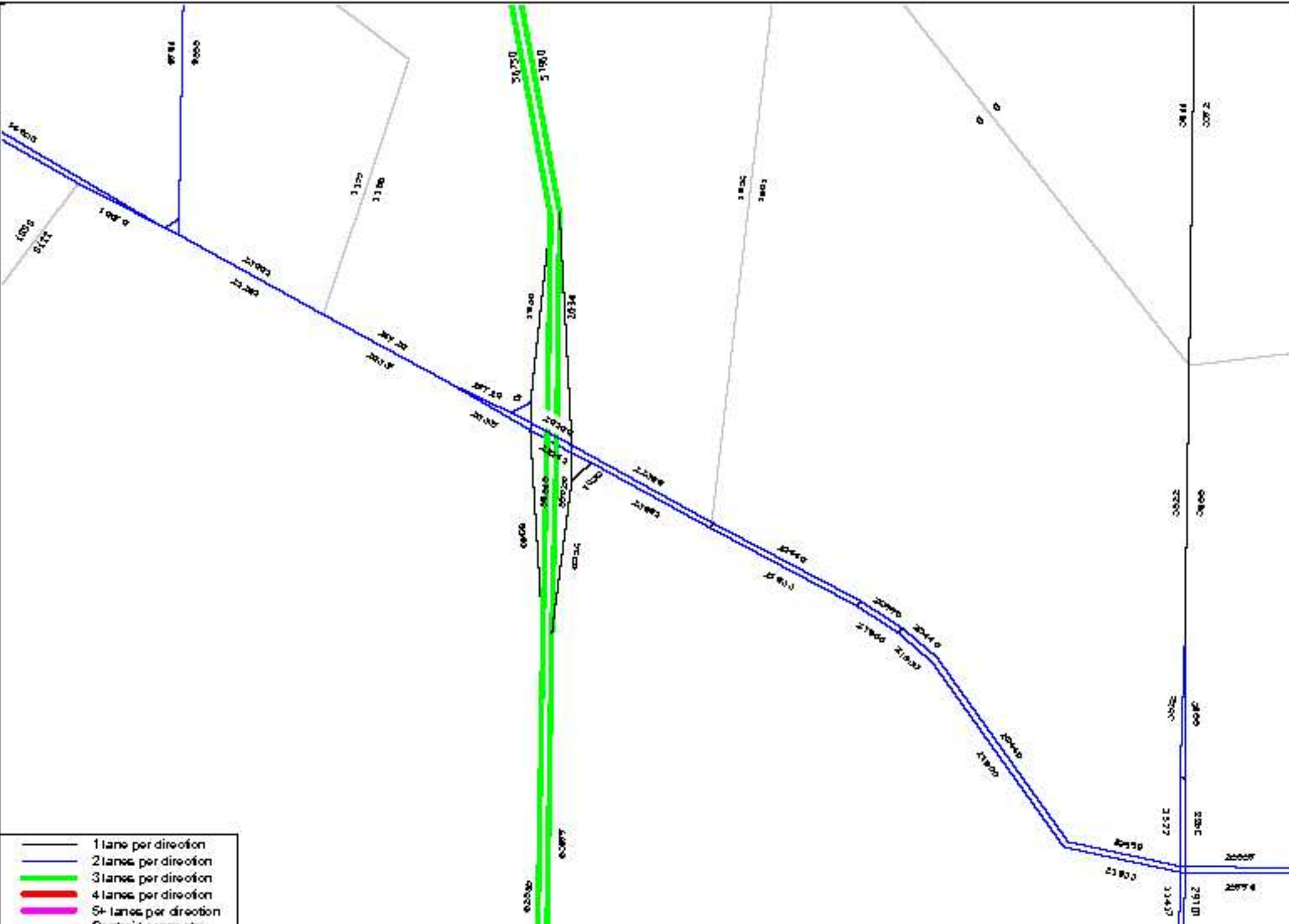


Turpike Statewide Model 2045 No Build Scenario
 Model Rot- SR 290 Interchange
 K-70

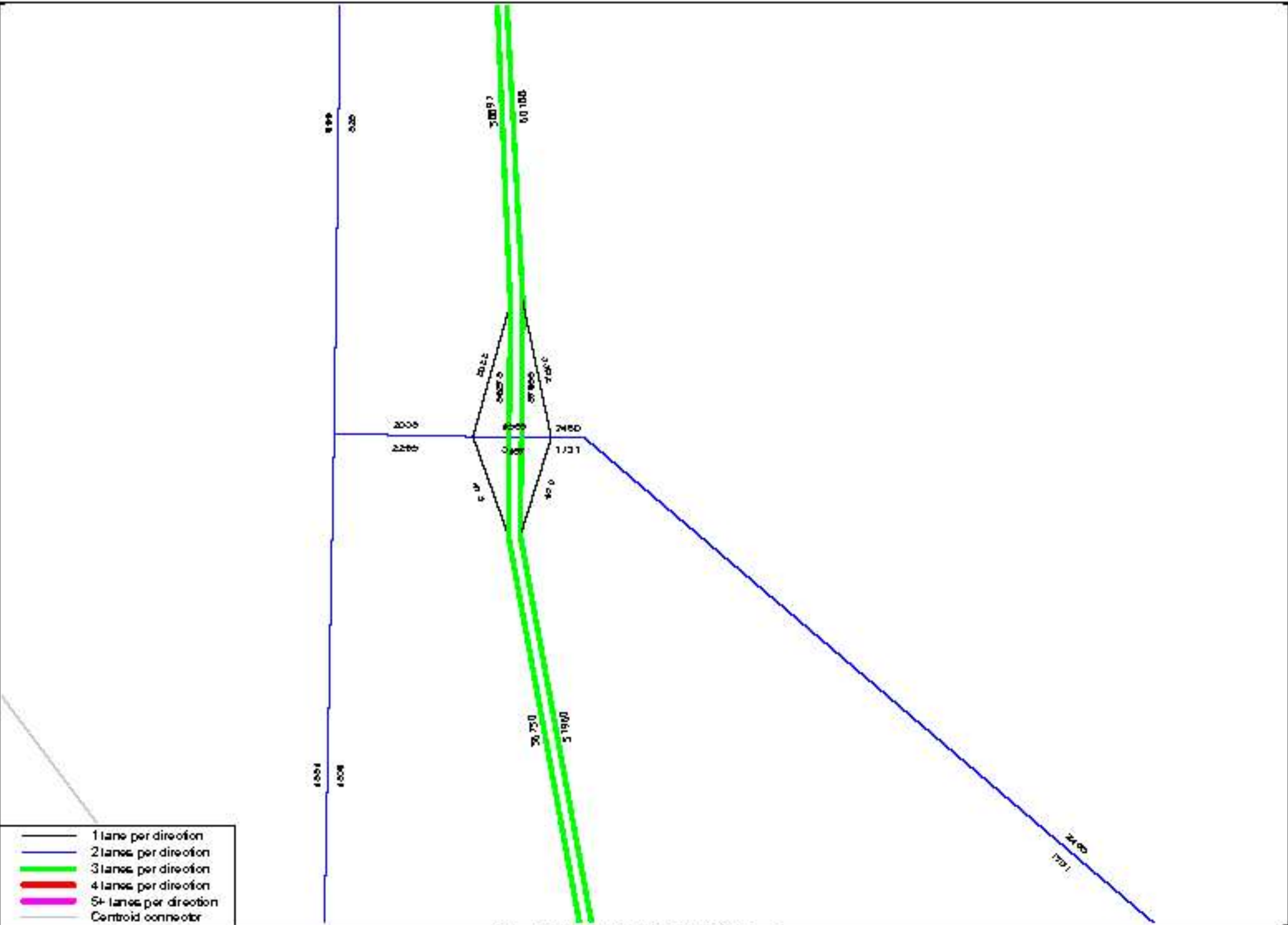


- 1 lane per direction
- 2 lanes per direction
- 3 lanes per direction
- 4 lanes per direction
- 5+ lanes per direction
- Centroid connector

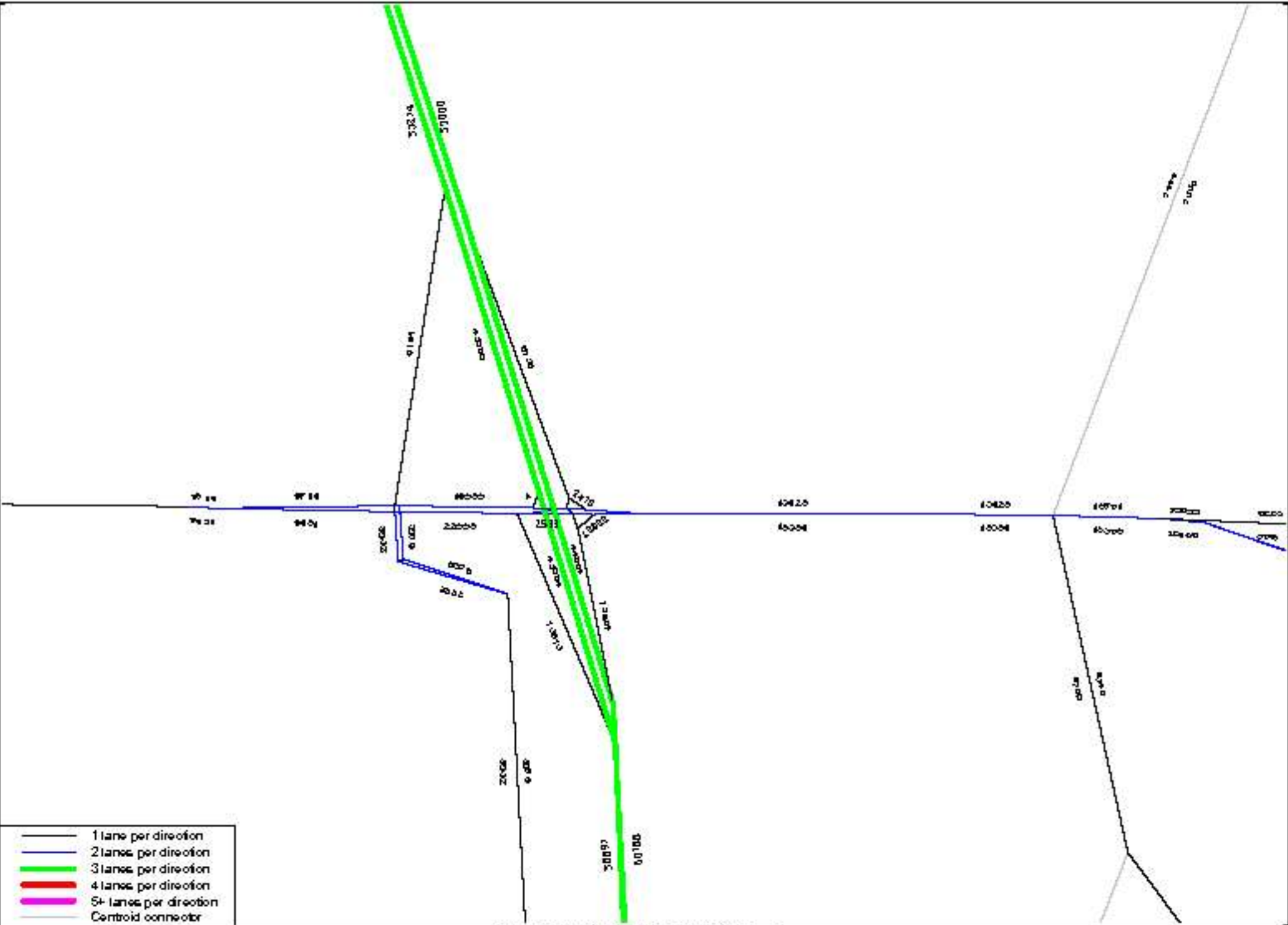
Turnpike Statewide Model 2045 No Build Scenario
 Model Plot SR 48 Interchange



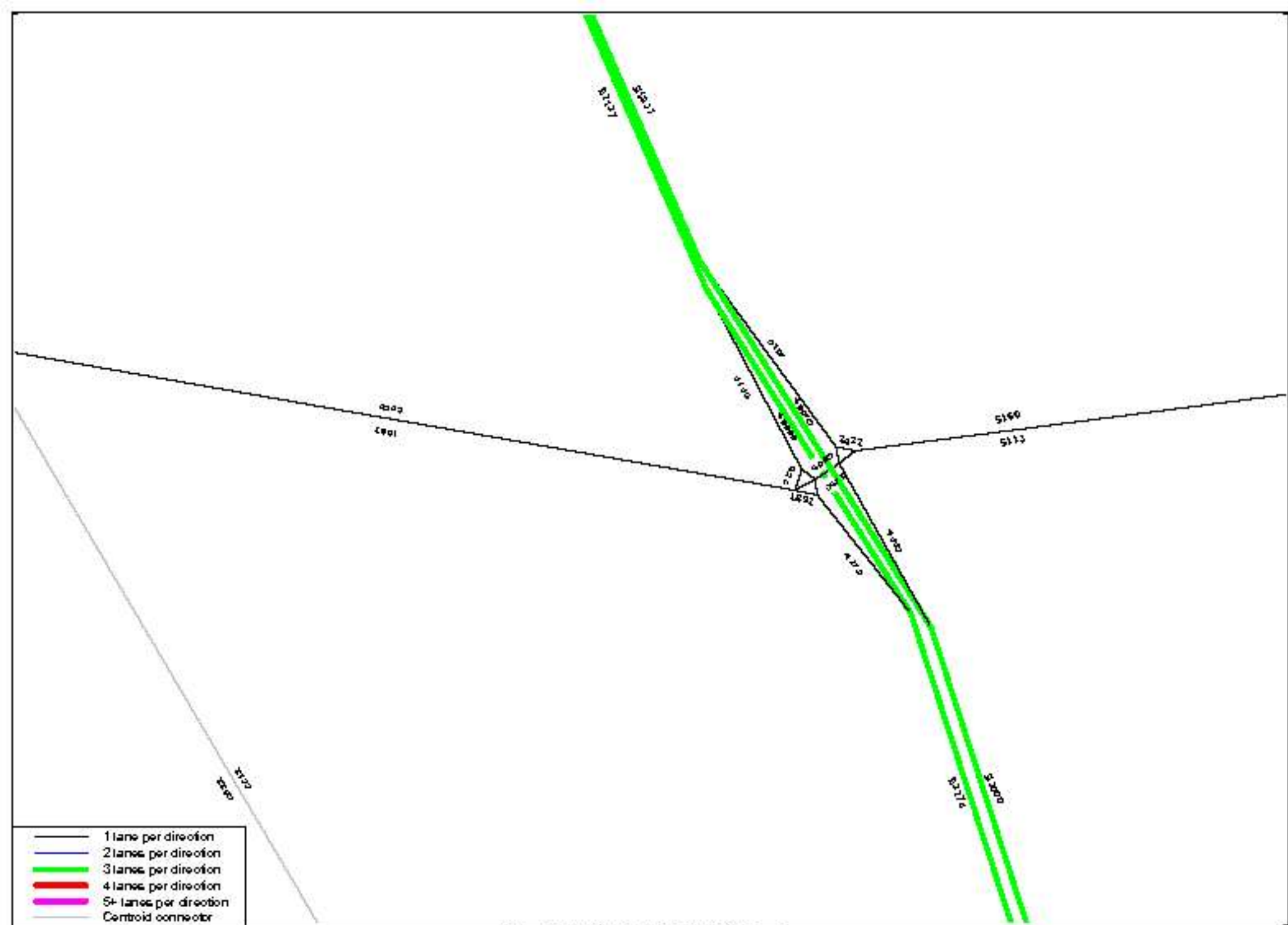
Turmpike Statewide Model 2045 No Build Scenario
 Model Plot US 27 Interchange
 K=72



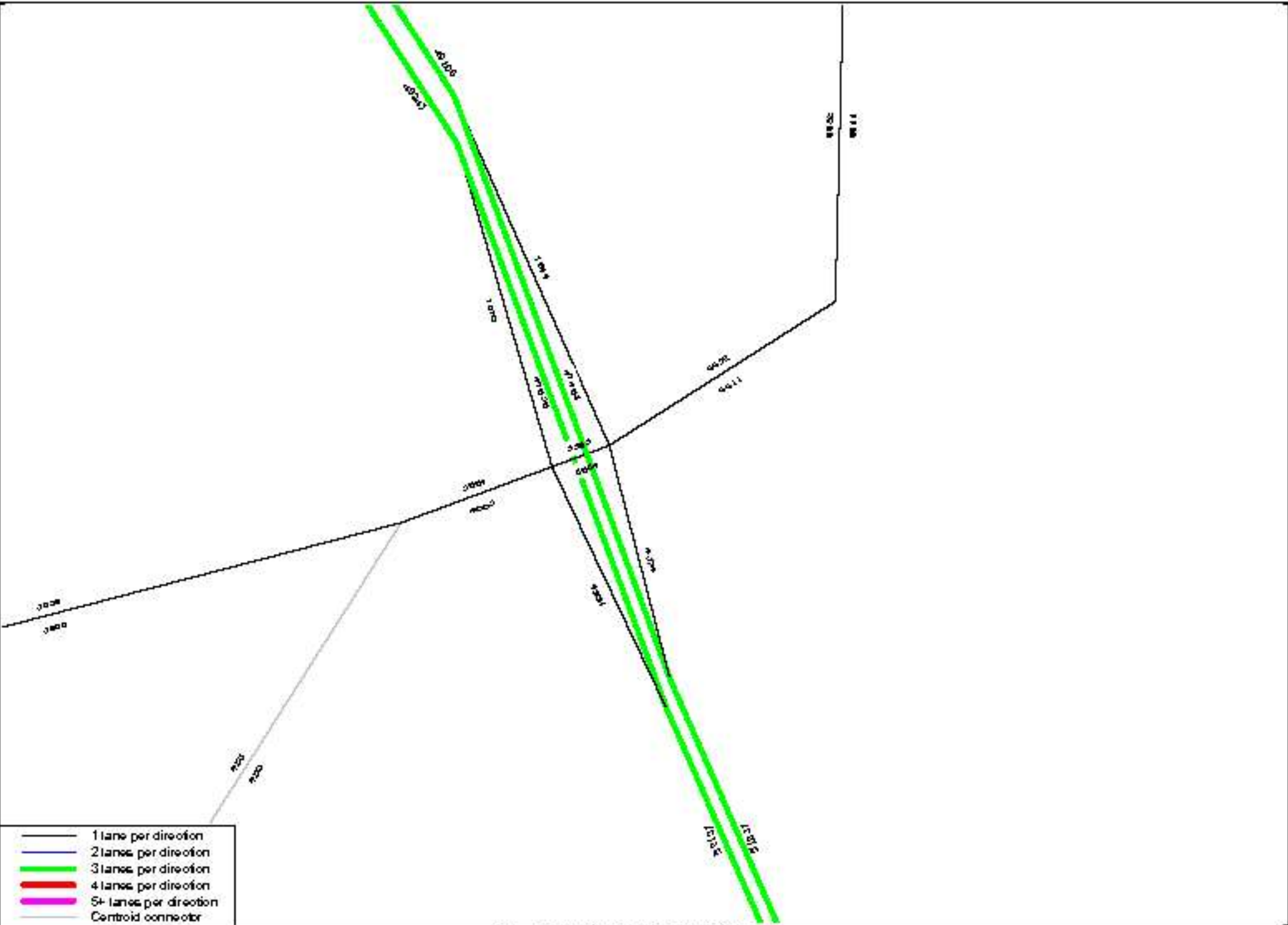
Turmpike Statewide Model 2045 No Build Scenario
 Model Plot: NW 49th Avenue Interchange
 R = 75



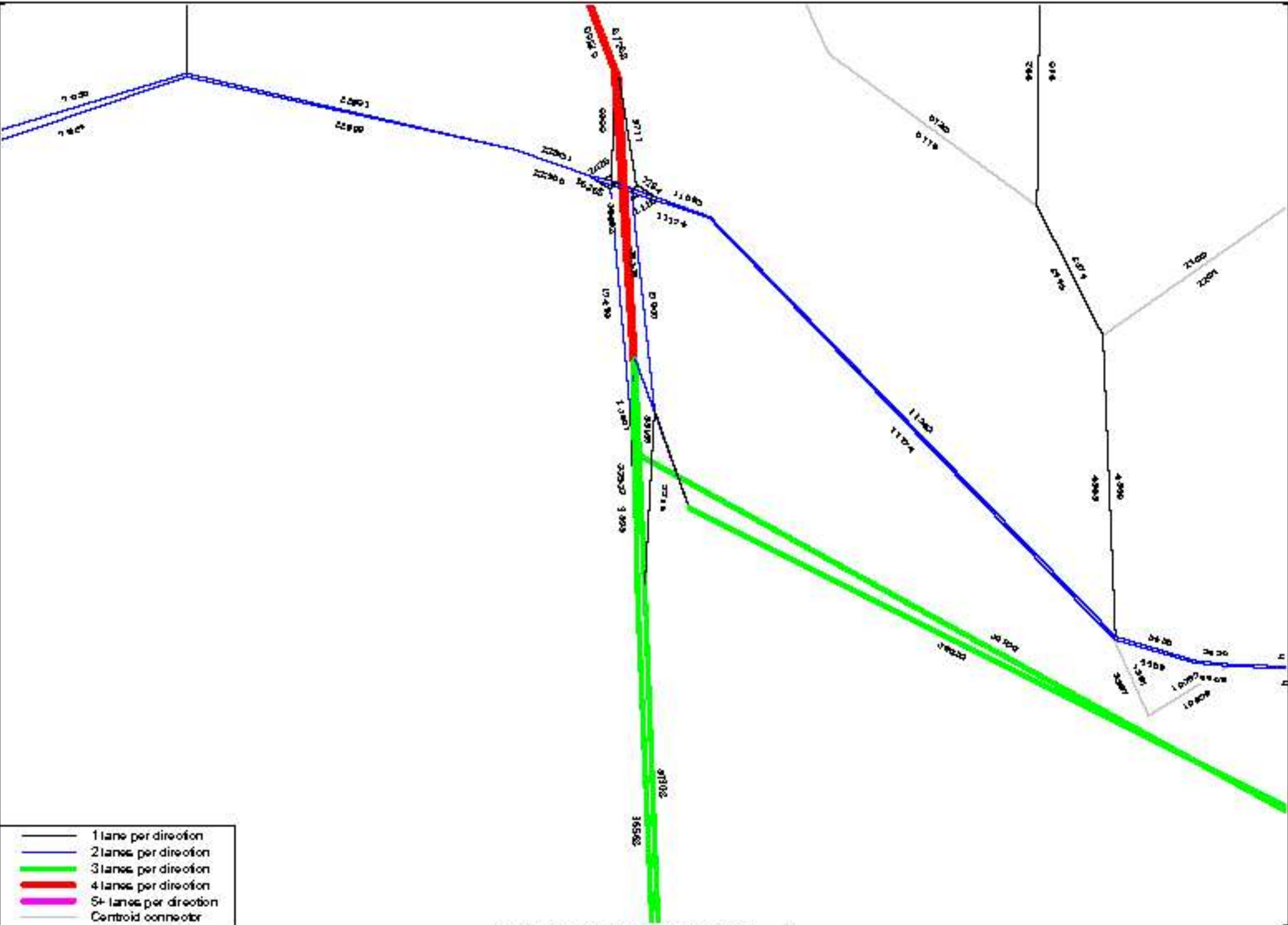
Turpike Statewide Model 2045 No Build Scenario
 Model Plot - SR 396 Interchange
 K-74



Turpike Statewide Model 2045 No Build Scenario
 Model Plot - CR 348 Interchange
 K-75



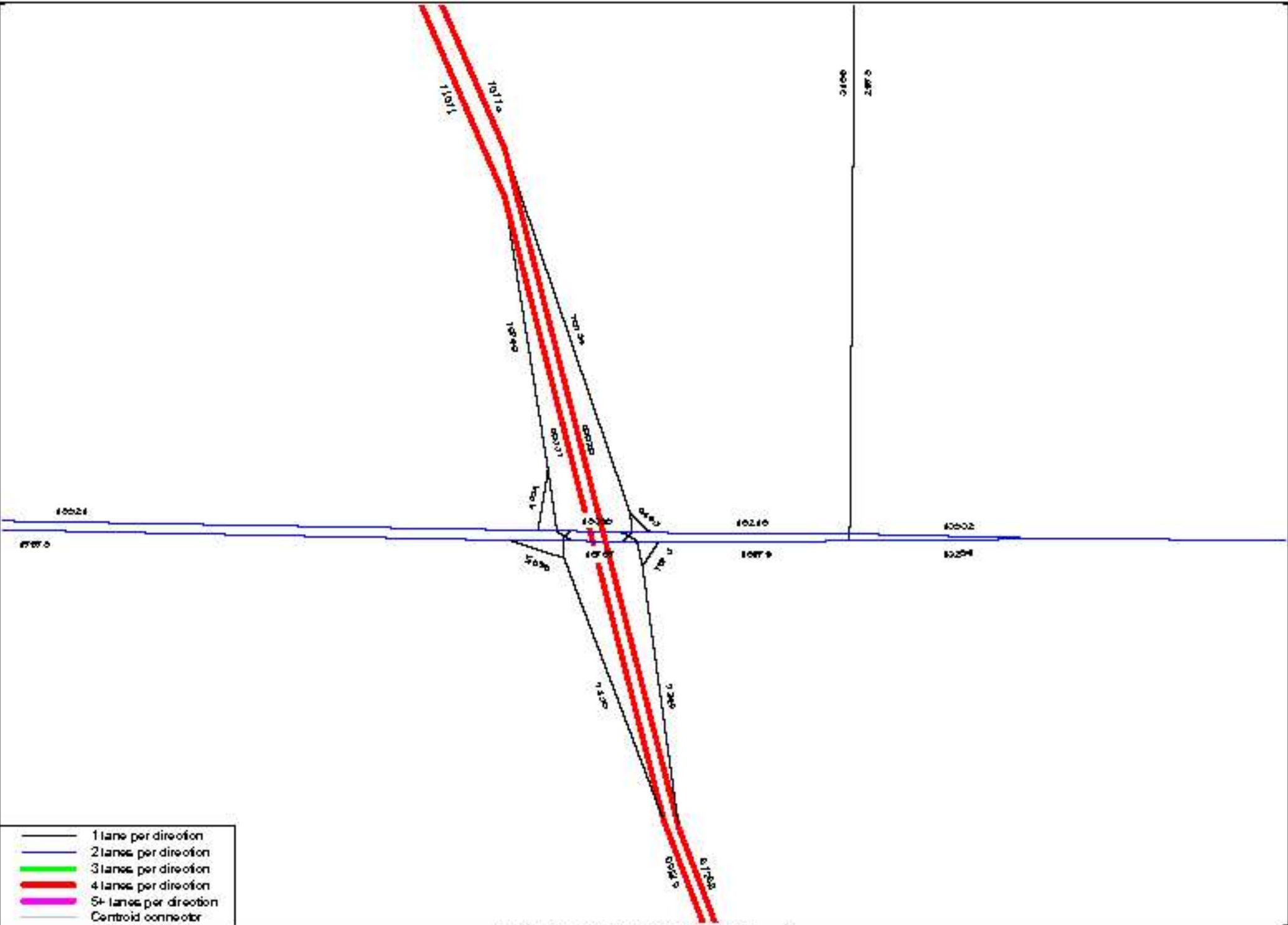
Turpike Statewide Model 2045 No Build Scenario
 Model Plot - CR 294 Interchange
 K-76



Tumpike Statewide Model 2045 Build-Out Scenario
 Model Rot- Florida Turnpike / SR91 Interchange

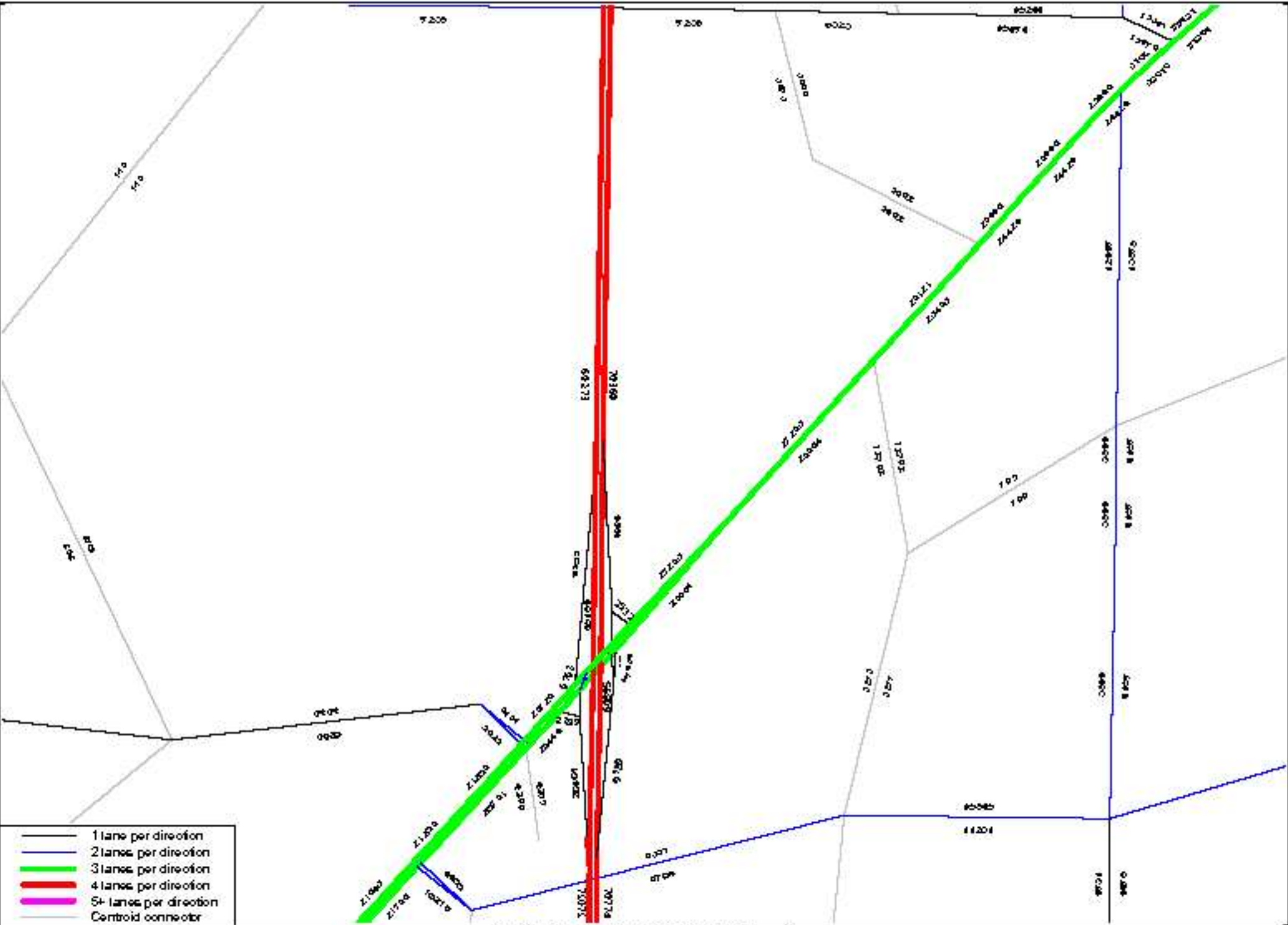


Tulipike Statewide Model 2045 Build-Out Scenario
 Model Plot SR 4 Interchange

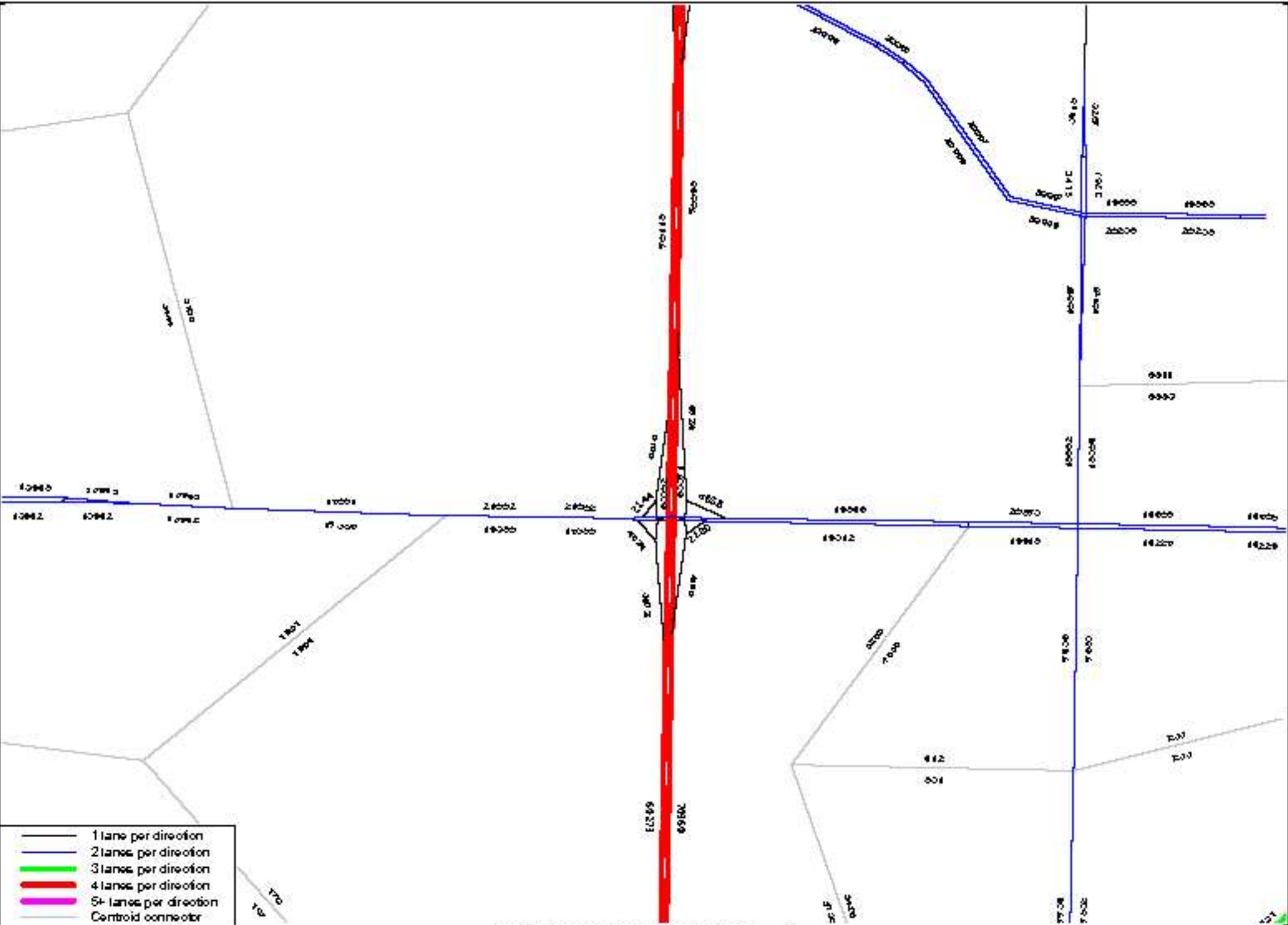


- 1 lane per direction
- 2 lanes per direction
- 3 lanes per direction
- 4 lanes per direction
- 5+ lanes per direction
- Centroid connector

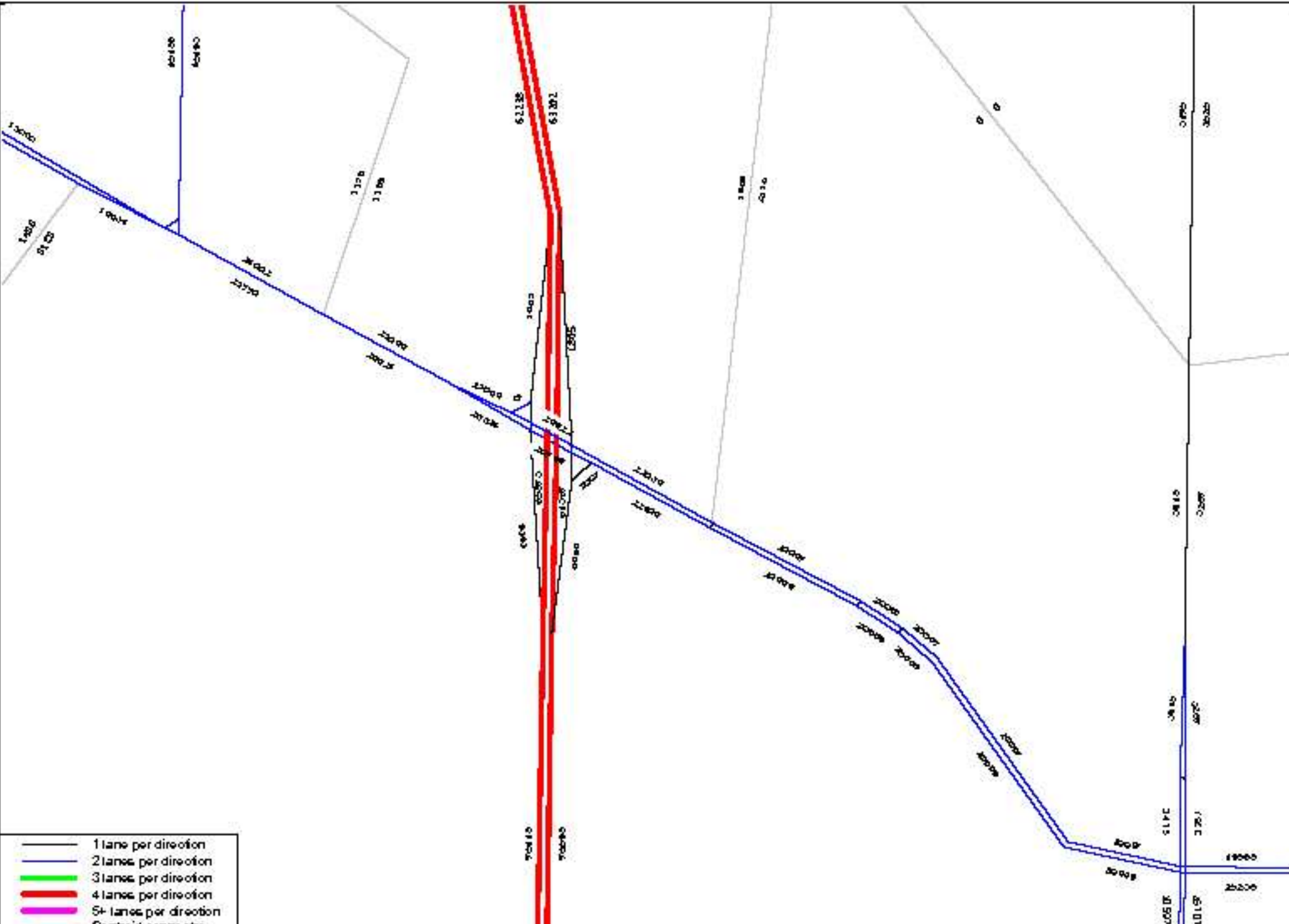
Tulipike Statewide Model 2045 Build-Out Scenario
 Model Plot - CR 424 Interchange



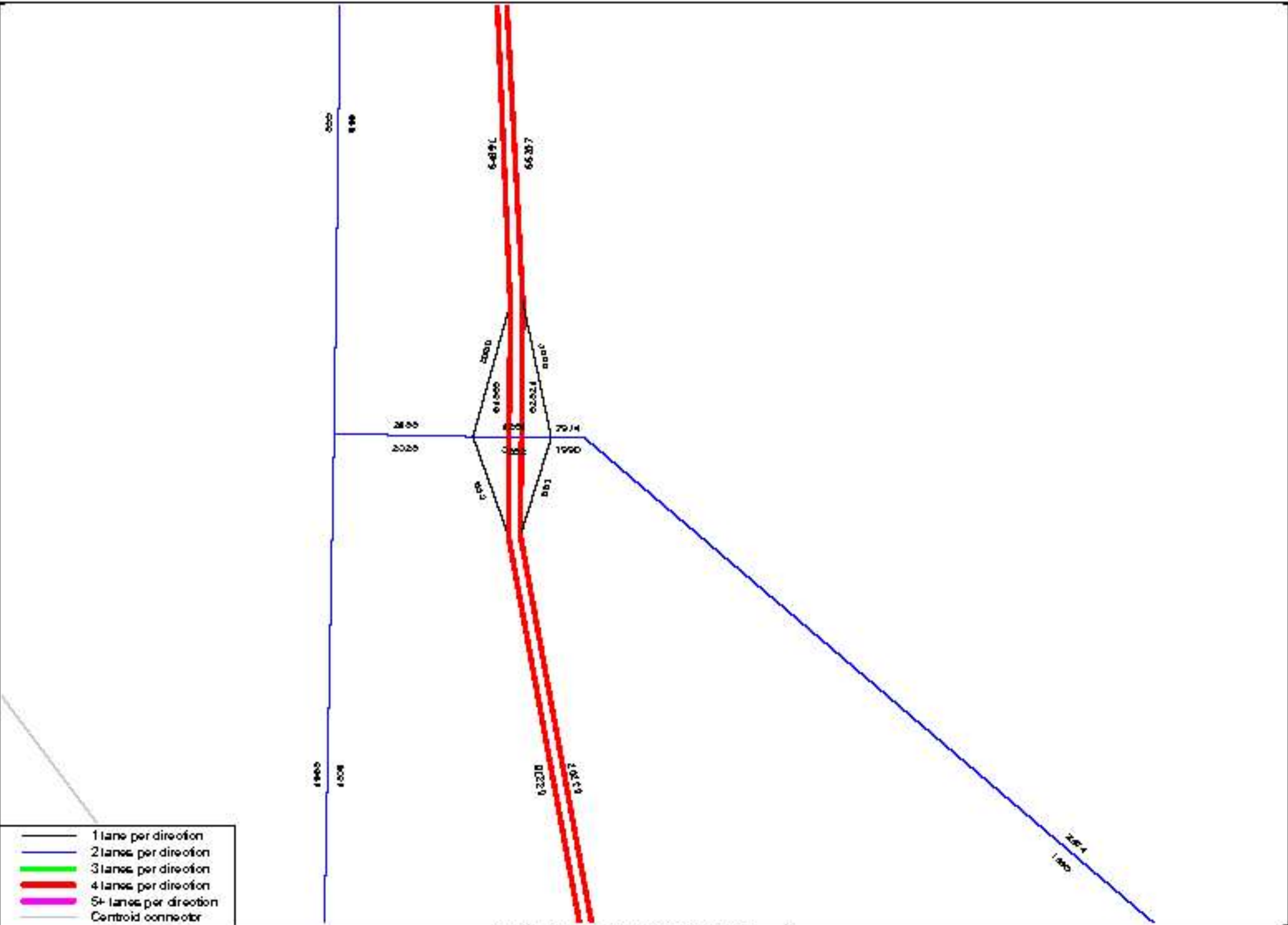
Tulipike Statewide Model 2045 Build-Out Scenario
 Model Plot - SR 200 Interchange



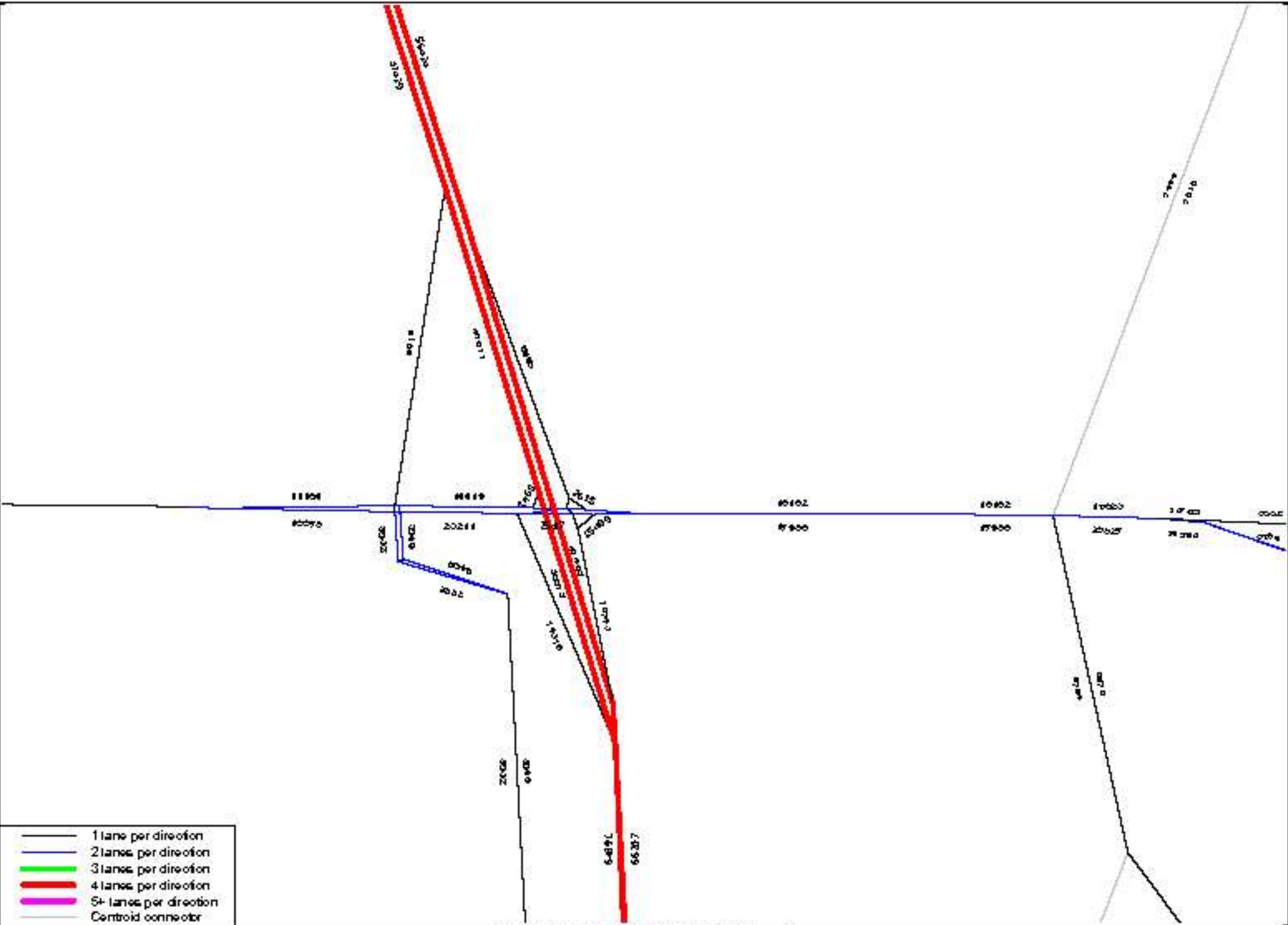
Tulipike Statewide Model 2045 Build-Out Scenario
 Model Plot SR 40 Interchange



Tulipike Statewide Model 2045 Build-Out Scenario
 Model Plot US 27 Interchange

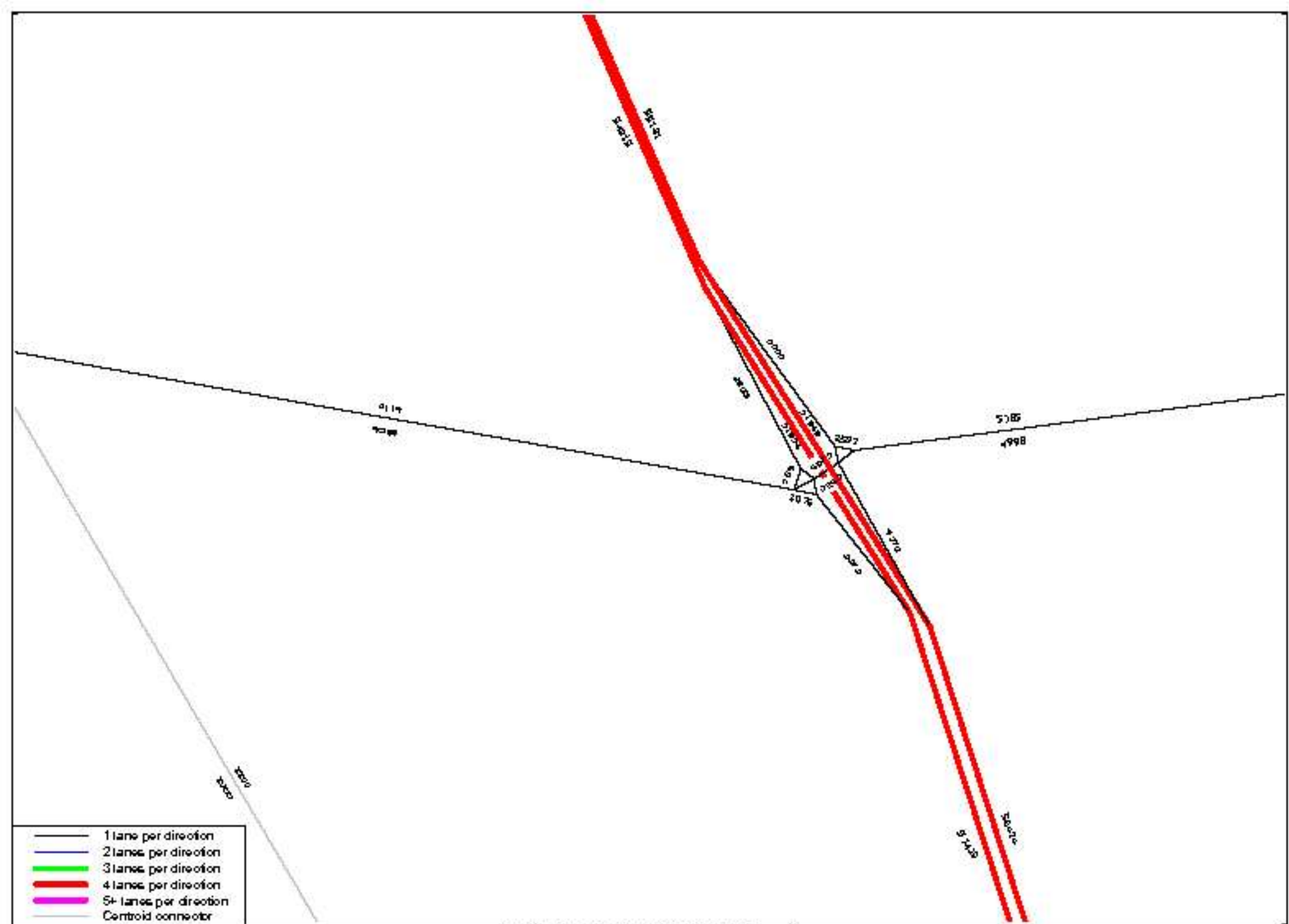


Tumpike Statewide Model 2045 Build-Out Scenario
 Model Plot: NW 49th Avenue Interchange

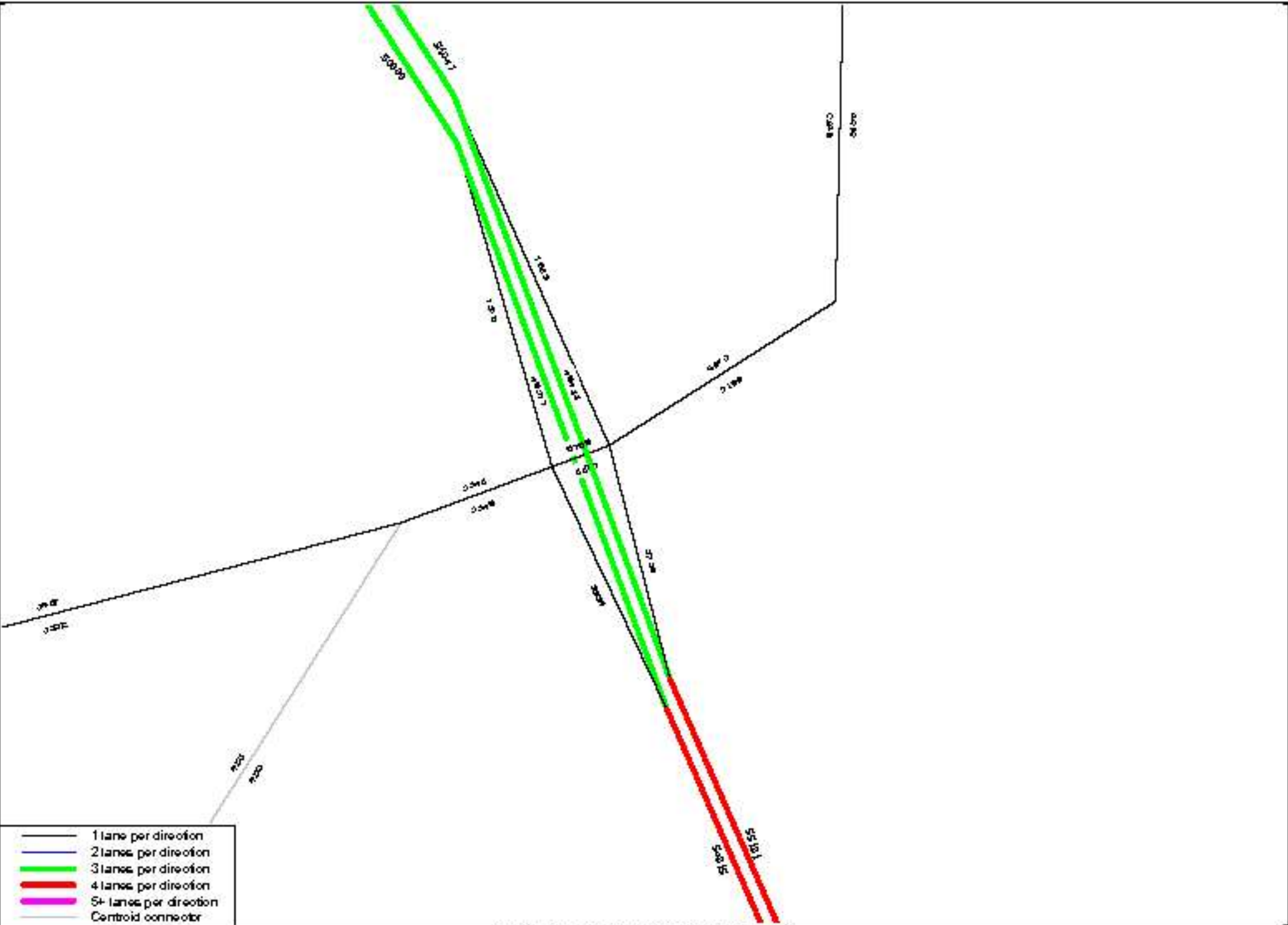


- 1 lane per direction
- 2 lanes per direction
- 3 lanes per direction
- 4 lanes per direction
- 5+ lanes per direction
- Centroid connector

Tulipike Statewide Model 2045 Build-Out Scenario
 Model Rot-SR 325 Interchange
 K-84



Tulipike Statewide Model 2045 Build-Out Scenario
 Model Plot - CR 318 Interchange



- 1 lane per direction
- 2 lanes per direction
- 3 lanes per direction
- 4 lanes per direction
- 5+ lanes per direction
- Centroid connector

Tulipke Statewide Model 2045 Build-Out Scenario
 Model Plot - CR 224 Interchange
 K-86



Project Manager

Mary McGehee

(386) 943-5063

mary.mcgehee@dot.state.fl.us

**APPENDIX L – DESIGN TRAFFIC FACTOR
DOCUMENTATION**

Highest 200-hour Reports

FLORIDA DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION STATISTICS OFFICE
 200 HIGHEST HOUR REPORT - REPORT TYPE: ALL
 YEAR 2019

COUNTY : 36 - MARION
 SITE: 0317
 DESCRIPTION: I-75, 0.23 MI N OF WILLIAMS RD/SW 66TH ST O/P, MAR
 LOCATION: 36210000 MILEPOST 12.16
 ADPT: 97157

VALID DATA
 HOURS 8424
 DAYS 351
 WEEKS 52
 MONTHS 12

POSITION	-----COUNTS-----					-----COLLECTION-----			"D" FACTOR	"K" FACTOR
	TOTAL COUNT	LOW DIR	LOW COUNT	HIGH DIR	HIGH COUNT	DAY	DATE	HOUR		
1	9932	S	4954	N	4978	SAT	12/21/19	12	50.12	10.22
2	9715	S	4659	N	5056	SAT	12/21/19	11	52.04	10.00
3	9510	N	4598	S	4912	SAT	03/16/19	16	51.65	9.79
4	9495	N	4304	S	5191	SUN	12/01/19	11	54.67	9.77
5	9473	N	4573	S	4900	SAT	03/30/19	11	51.73	9.75
6	9326	N	4240	S	5086	FRI	03/22/19	16	54.54	9.60
7	9320	S	4605	N	4715	SUN	01/06/19	15	50.59	9.59
8	9237	N	4445	S	4792	FRI	03/29/19	15	51.88	9.51
9	9223	N	4572	S	4651	SAT	03/23/19	11	50.43	9.49
10	9210	N	4281	S	4929	SUN	07/21/19	15	53.52	9.48
11	9198	S	4297	N	4901	SUN	12/01/19	10	53.28	9.47
12	9195	N	4361	S	4834	FRI	03/15/19	16	52.57	9.46
13	9194	N	4525	S	4669	SUN	06/23/19	15	50.78	9.46
14	9167	N	4416	S	4751	SAT	06/29/19	14	51.83	9.44
15	9147	N	4381	S	4766	FRI	03/29/19	16	52.10	9.41
16	9139	N	4360	S	4779	SUN	07/28/19	15	52.29	9.41
17	9133	N	4280	S	4853	FRI	03/22/19	17	53.14	9.40
18	9088	S	4532	N	4556	SUN	03/24/19	14	50.13	9.35
19	9080	N	4525	S	4555	SAT	11/23/19	12	50.17	9.35
20	9064	N	4478	S	4586	SUN	01/06/19	16	50.60	9.33
21	9064	S	4441	N	4623	FRI	06/28/19	15	51.00	9.33
22	9038	S	4364	N	4674	FRI	05/03/19	15	51.71	9.30
23	9036	S	4489	N	4547	SAT	03/16/19	13	50.32	9.30
24	9032	N	4077	S	4955	SAT	03/23/19	14	54.86	9.30
25	9032	S	4492	N	4540	SAT	12/21/19	13	50.27	9.30
26	9019	N	4450	S	4569	FRI	03/15/19	14	50.66	9.28
27	9014	N	4252	S	4762	FRI	05/24/19	17	52.83	9.28
28	9013	N	4349	S	4664	SUN	07/07/19	14	51.75	9.28
29	9001	N	4334	S	4667	SUN	03/31/19	13	51.85	9.26
30	8999	N	4205	S	4794	FRI	03/29/19	18	53.27	9.26
31	8996	S	4408	N	4588	SUN	06/30/19	15	51.00	9.26
32	8995	N	4196	S	4799	FRI	03/22/19	15	53.35	9.26
33	8989	N	4194	S	4795	SUN	03/31/19	14	53.34	9.25
34	8962	S	4370	N	4592	SUN	03/24/19	13	51.24	9.22
35	8958	N	4473	S	4485	FRI	03/29/19	14	50.07	9.22
36	8955	S	4324	N	4631	FRI	11/29/19	15	51.71	9.22
37	8939	S	4433	N	4506	SUN	06/23/19	14	50.41	9.20
38	8933	N	4108	S	4825	FRI	05/24/19	15	54.01	9.19
39	8932	S	4432	N	4500	SUN	03/31/19	15	50.38	9.19
40	8919	S	4238	N	4681	SUN	01/06/19	14	52.48	9.18

DESIGN HOUR DATA

MEDIAN "D" = 52.5% (MEDIAN D FACTOR OF ALL 200 HIGHEST HOURS)
 STANDARD "K" = 9.0%

FLORIDA DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION STATISTICS OFFICE
 200 HIGHEST HOUR REPORT - REPORT TYPE: ALL
 YEAR 2019

COUNTY : 36 - MARION
 SITE: 0317
 DESCRIPTION: I-75, 0.23 MI N OF WILLIAMS RD/SW 66TH ST O/P, MAR
 LOCATION: 36210000 MILEPOST 12.16
 ADPT: 97157

VALID DATA
 HOURS 8424
 DAYS 351
 WEEKS 52
 MONTHS 12

POSITION	COUNTS					COLLECTION			"D" FACTOR	"K" FACTOR
	TOTAL COUNT	LOW DIR	LOW COUNT	HIGH DIR	HIGH COUNT	DAY	DATE	HOUR		
45	8899	S	4322	N	4577	WED	11/27/19	14	51.43	9.16
50	8822	S	4326	N	4496	WED	11/27/19	16	50.96	9.08
55	8789	N	4108	S	4681	SUN	03/24/19	16	53.26	9.05
60	8769	N	3815	S	4954	SUN	07/21/19	16	56.49	9.03
65	8741	N	4077	S	4664	FRI	07/19/19	16	53.36	9.00
70	8724	N	3899	S	4825	SUN	07/28/19	16	55.31	8.98
75	8703	S	4350	N	4353	FRI	03/15/19	13	50.02	8.96
80	8686	S	4077	N	4609	SUN	04/07/19	15	53.06	8.94
85	8662	S	4070	N	4592	SAT	03/16/19	12	53.01	8.92
90	8653	S	4295	N	4358	WED	11/27/19	17	50.36	8.91
95	8636	N	4303	S	4333	FRI	11/29/19	16	50.17	8.89
100	8632	S	4067	N	4565	FRI	03/01/19	11	52.88	8.88
105	8621	N	3699	S	4922	FRI	11/22/19	15	57.09	8.87
110	8596	N	3957	S	4639	SUN	02/17/19	15	53.97	8.85
115	8579	N	3786	S	4793	FRI	06/21/19	16	55.87	8.83
120	8557	S	4034	N	4523	FRI	05/03/19	14	52.86	8.81
125	8540	S	3927	N	4613	SAT	03/09/19	11	54.02	8.79
130	8524	N	3898	S	4626	SAT	03/30/19	12	54.27	8.77
135	8509	S	4145	N	4364	FRI	06/21/19	14	51.29	8.76
140	8486	S	4208	N	4278	SAT	03/23/19	15	50.41	8.73
145	8477	S	4204	N	4273	FRI	10/04/19	16	50.41	8.73
150	8467	S	4079	N	4388	SAT	07/13/19	13	51.82	8.71
155	8463	S	4161	N	4302	SUN	07/07/19	16	50.83	8.71
160	8445	N	3976	S	4469	SUN	03/17/19	14	52.92	8.69
165	8418	N	4115	S	4303	WED	01/02/19	16	51.12	8.66
170	8375	N	4144	S	4231	FRI	05/24/19	13	50.52	8.62
175	8363	N	4125	S	4238	FRI	10/11/19	16	50.68	8.61
180	8344	N	3962	S	4382	FRI	12/20/19	17	52.52	8.59
185	8323	N	3724	S	4599	FRI	05/24/19	14	55.26	8.57
190	8307	N	4007	S	4300	FRI	03/01/19	15	51.76	8.55
195	8290	N	3661	S	4629	FRI	10/18/19	16	55.84	8.53
200	8274	N	3762	S	4512	SUN	10/20/19	14	54.53	8.52

DESIGN HOUR DATA

MEDIAN "D" = 52.5% (MEDIAN D FACTOR OF ALL 200 HIGHEST HOURS)
 STANDARD "K" = 9.0%

FLORIDA DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION STATISTICS OFFICE
 200 HIGHEST HOUR REPORT - REPORT TYPE: ALL
 YEAR 2019

COUNTY : 26 - ALACHUA
 SITE: 9904
 DESCRIPTION: SR-93/1-75, 2 MI N OF WACAHOOA ROAD OP, ALACHUA CO.
 LOCATION: 26260000 MILEPOST 4.93
 ADPT: 70690

VALID DATA
 HOURS 8352
 DAYS 348
 WEEKS 53
 MONTHS 12

POSITION	COUNTS					COLLECTION			"D" FACTOR	"K" FACTOR
	TOTAL COUNT	LOW DIR	LOW COUNT	HIGH DIR	HIGH COUNT	DAY	DATE	HOUR		
1	8809	S	4054	N	4755	SAT	11/30/19	17	53.98	12.46
2	8383	S	3891	N	4492	SAT	11/30/19	16	53.58	11.86
3	8316	N	3807	S	4509	SUN	12/01/19	11	54.22	11.76
4	8154	N	3668	S	4486	SAT	12/28/19	14	55.02	11.53
5	8145	N	4051	S	4094	SAT	11/30/19	14	50.26	11.52
6	8139	N	3640	S	4499	SUN	12/29/19	13	55.28	11.51
7	8070	S	3771	N	4299	SUN	12/01/19	15	53.27	11.42
8	8014	N	3630	S	4384	SAT	03/16/19	16	54.70	11.34
9	8003	N	3751	S	4252	SUN	03/24/19	14	53.13	11.32
10	7984	S	3727	N	4257	SUN	07/28/19	15	53.32	11.29
11	7974	N	3699	S	4275	SAT	12/28/19	15	53.61	11.28
12	7945	S	3786	N	4159	SAT	11/30/19	15	52.35	11.24
13	7941	N	3599	S	4342	SAT	12/28/19	13	54.68	11.23
14	7903	N	3556	S	4347	SUN	03/31/19	15	55.00	11.18
15	7899	N	3628	S	4271	SUN	03/24/19	15	54.07	11.17
16	7884	N	3613	S	4271	SUN	12/29/19	14	54.17	11.15
17	7830	S	3803	N	4027	SUN	07/07/19	18	51.43	11.08
18	7826	N	3810	S	4016	SUN	07/07/19	14	51.32	11.07
19	7810	S	3472	N	4338	SUN	12/01/19	17	55.54	11.05
20	7802	N	3628	S	4174	SUN	03/31/19	16	53.50	11.04
21	7800	N	3436	S	4364	SUN	03/31/19	14	55.95	11.03
22	7786	N	3372	S	4414	SAT	12/21/19	13	56.69	11.01
23	7749	S	3714	N	4035	SAT	11/30/19	13	52.07	10.96
24	7712	N	3269	S	4443	FRI	12/27/19	13	57.61	10.91
25	7676	S	3664	N	4012	SUN	07/07/19	17	52.27	10.86
26	7675	S	3371	N	4304	SAT	11/30/19	19	56.08	10.86
27	7674	N	3679	S	3995	SUN	07/07/19	15	52.06	10.86
28	7673	N	3615	S	4058	SAT	12/28/19	12	52.89	10.85
29	7670	N	3655	S	4015	SAT	12/21/19	12	52.35	10.85
30	7633	N	3171	S	4462	SUN	12/01/19	13	58.46	10.80
31	7611	N	3644	S	3967	SAT	12/21/19	11	52.12	10.77
32	7606	N	3719	S	3887	FRI	12/27/19	16	51.10	10.76
33	7553	S	3607	N	3946	SUN	12/01/19	10	52.24	10.68
34	7501	N	3338	S	4163	SAT	03/23/19	12	55.50	10.61
35	7492	N	3615	S	3877	SUN	12/01/19	16	51.75	10.60
36	7491	S	3409	N	4082	SUN	07/07/19	19	54.49	10.60
37	7477	N	3559	S	3918	THU	12/26/19	14	52.40	10.58
38	7473	N	3538	S	3935	SAT	03/23/19	11	52.66	10.57
39	7468	N	3659	S	3809	SUN	06/23/19	15	51.00	10.56
40	7458	N	3061	S	4397	SAT	03/23/19	15	58.96	10.55

DESIGN HOUR DATA

MEDIAN "D" = 53.7% (MEDIAN D FACTOR OF ALL 200 HIGHEST HOURS)
 STANDARD "K" = 10.5%

FLORIDA DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION STATISTICS OFFICE
 200 HIGHEST HOUR REPORT - REPORT TYPE: ALL
 YEAR 2019

COUNTY : 26 - ALACHUA
 SITE: 9904
 DESCRIPTION: SR-93/1-75, 2 MI N OF WACAHOOA ROAD OP, ALACHUA CO.
 LOCATION: 26260000 MILEPOST 4.93
 ADPT: 70690

VALID DATA
 HOURS 8352
 DAYS 348
 WEEKS 53
 MONTHS 12

POSITION	COUNTS					COLLECTION			"D" FACTOR	"K" FACTOR
	TOTAL COUNT	LOW DIR	LOW COUNT	HIGH DIR	HIGH COUNT	DAY	DATE	HOUR		
45	7410	S	3309	N	4101	SAT	11/30/19	18	55.34	10.48
50	7367	N	3510	S	3857	SUN	03/24/19	17	52.36	10.42
55	7340	N	3283	S	4057	SUN	06/23/19	16	55.27	10.38
60	7287	N	3247	S	4040	SAT	03/23/19	14	55.44	10.31
65	7228	S	3549	N	3679	FRI	03/29/19	15	50.90	10.22
70	7188	S	3046	N	4142	TUE	01/01/19	16	57.62	10.17
75	7150	S	3506	N	3644	MON	12/30/19	13	50.97	10.11
80	7085	N	3038	S	4047	SUN	12/01/19	14	57.12	10.02
85	7060	N	3333	S	3727	SAT	11/23/19	12	52.79	9.99
90	7023	N	3299	S	3724	SAT	12/28/19	16	53.03	9.93
95	6981	N	3290	S	3691	WED	11/27/19	16	52.87	9.88
100	6954	N	3238	S	3716	SUN	03/31/19	17	53.44	9.84
105	6935	S	3453	N	3482	SAT	06/29/19	14	50.21	9.81
110	6913	N	3128	S	3785	SUN	07/14/19	15	54.75	9.78
115	6878	N	2909	S	3969	FRI	12/27/19	15	57.71	9.73
120	6856	N	2567	S	4289	SUN	10/06/19	15	62.56	9.70
125	6845	N	3272	S	3573	MON	12/30/19	14	52.20	9.68
130	6820	S	3107	N	3713	SUN	04/07/19	15	54.44	9.65
135	6801	N	3339	S	3462	SUN	11/24/19	13	50.90	9.62
140	6778	N	2852	S	3926	FRI	05/24/19	16	57.92	9.59
145	6760	N	2665	S	4095	SAT	11/23/19	14	60.58	9.56
150	6719	N	2596	S	4123	SUN	10/06/19	16	61.36	9.50
155	6678	S	3040	N	3638	SAT	07/20/19	12	54.48	9.45
160	6670	N	2872	S	3798	SUN	10/27/19	14	56.94	9.44
165	6648	N	2872	S	3776	SUN	07/21/19	17	56.80	9.40
170	6636	N	3033	S	3603	THU	12/26/19	12	54.29	9.39
175	6616	S	3023	N	3593	WED	01/02/19	15	54.31	9.36
180	6602	N	3056	S	3546	FRI	03/15/19	19	53.71	9.34
185	6586	S	2845	N	3741	SAT	07/06/19	12	56.80	9.32
190	6572	N	2798	S	3774	SUN	07/14/19	16	57.43	9.30
195	6548	S	3204	N	3344	SUN	06/09/19	14	51.07	9.26
200	6525	N	3060	S	3465	SAT	03/23/19	16	53.10	9.23

DESIGN HOUR DATA

MEDIAN "D" = 53.7% (MEDIAN D FACTOR OF ALL 200 HIGHEST HOURS)
 STANDARD "K" = 10.5%

D Factors

Weekend Midday Peak Hour - Recommended D Factor Squidity

Weekend Peak Hour Summary (1:00-2:00 PM)													Weekend Peak (1:00 to 2:00 PM)		
Roadway Segment	IMC				Thursday Day 6		Sunday Day 7		Avg Index (Weekly)				D-Factor Recommendation		Source?
	ND/SD	S20/W2	D	Direction	ND/SD	S20/W2	ND/SD	S20/W2	ND/SD	S20/W2	D	Direction	Recommended D-Factor		
													D	Direction	
SR 40 west of HWY 36th Ave	407	207	0.51	HS/FS	754	750	341	334	374	366	0.51	HS/FS	31.4%	HS/FS	IMC
I-75 Ramps IH both of SR 40	300	301	0.50	HS/FS	300	347	304	344	316	371	0.52	HS/FS	31.3%	HS/FS	Tube E, IMC
I-75 SB Off-Ramp I to SR 40	0	301	1.00	SB/WB	0	347	0	344	0	371	1.00	SB/WB			
I-75 NB On-Ramp I from SR 40	300	0	1.00	HS/FS	300	0	304	0	316	0	1.00	HS/FS			
I-75 Ramps IS both of SR 40	370	244	0.50	HS/FS	243	373	304	366	333	360	0.52	SB/WB	32.3%	SB/WB	Tube
I-75 SB On-Ramp I from SR 40	0	244	1.00	SB/WB	0	373	0	366	0	360	1.00	SB/WB			
I-75 NB Off-Ramp I to SR 40	370	0	1.00	HS/FS	243	0	304	0	333	0	1.00	HS/FS			
SR 40 east of I-75	1,001	467	0.52	HS/FS	447	414	767	807	647	667	0.51	SB/WB	32.4%	HS/FS	IMC
US 37 west of I-75	440	1,117	0.54	SB/WB	467	1,007	404	443	467	441	0.50	SB/WB	32.2%	SB/WB	Tube E, IMC
I-75 Ramps IH both of US 37	111	183	0.54	SB/WB	113	184	104	154	104	181	0.50	SB/WB	34.2%	SB/WB	Tube E, IMC
I-75 SB Off-Ramp I to US 37	0	183	1.00	SB/WB	0	184	0	154	0	181	1.00	SB/WB			
I-75 NB On-Ramp I from US 37	111	0	1.00	HS/FS	113	0	104	0	104	0	1.00	HS/FS			
I-75 Ramps IS both of US 37	514	553	0.52	SB/WB	404	544	401	540	454	553	0.52	SB/WB	32.3%	SB/WB	Tube E, IMC
I-75 SB On-Ramp I from US 37	0	553	1.00	SB/WB	0	544	0	540	0	553	1.00	SB/WB			
I-75 NB Off-Ramp I to US 37	514	0	1.00	HS/FS	404	0	401	0	454	0	1.00	HS/FS			
US 37 east of I-75	414	1,070	0.54	SB/WB	404	414	614	604	604	666	0.50	SB/WB	31.3%	SB/WB	Tube E, IMC
SR 324 west of HWY 44th Ave	346	300	0.50	SB/WB	336	301	316	343	317	337	0.51	SB/WB	30.6%	SB/WB	Tube
I-75 Ramps IH both of SR 324	144	300	0.54	SB/WB	140	343	304	336	300	317	0.51	SB/WB	30.4%	SB/WB	Tube E, IMC
I-75 SB Off-Ramp I to SR 324	0	300	1.00	SB/WB	0	343	0	336	0	317	1.00	SB/WB			
I-75 NB On-Ramp I from SR 324	144	0	1.00	HS/FS	140	0	304	0	300	0	1.00	HS/FS			
I-75 Ramps IS both of SR 324	321	771	0.52	SB/WB	326	734	750	823	774	760	0.50	SB/WB	32.7%	SB/WB	Tube E, IMC
I-75 SB On-Ramp I from SR 324	0	771	1.00	SB/WB	0	734	0	750	0	771	1.00	SB/WB			
I-75 NB On-Ramp I from SR 324	0	407	1.00	SB/WB	0	513	0	403	0	554	1.00	SB/WB			
I-75 NB Off-Ramp I to SR 324	321	0	1.00	HS/FS	326	0	750	0	774	0	1.00	HS/FS			
SR 324 west of HWY 36th Ave	440	1014	0.52	SB/WB	1046	761	401	444	1010	754	0.50	HS/FS	31.2%	SB/WB	IMC

T Factors

Schedule Segment		Time Cook							Recovery Schedule			
		Monday Day 1	Tuesday Day 2	Wednesday Day 3	Thursday Day 4	Friday Day 5	Saturday Day 6	Sunday Day 7	Weekday		Weekend	
		T	OH	T	OH	T	OH	T	OH	T	OH	
SP 40wed at H5 30k Ave	12/10/2018 - 0/1k/DDR	17.8%	0.0%	13.4%	13.3%	0.3%	8.3%	1.7%	0.7%	8.8%	1.8%	3.8%
1-15 Pump(Hulk) at SP 40												
1-15 SR De-Pump 1 at SP 40	12/12/2018 - 0/1k/DDR	20.8%	21.3%	22.2%	20.8%	8.2%	12.2%	13.8%	21.4%	10.1%	12.8%	8.2%
1-15 HR De-Pump 1 from SP 40	12/12/2018 - 0/1k/DDR	22.2%	24.8%	21.1%	23.4%	21.7%	12.8%	12.8%	22.8%	11.4%	12.8%	8.4%
1-15 Pump(S milk) at SP 40												
1-15 SR De-Pump 1 from SP 40	12/12/2018 - 0/1k/DDR	18.2%	8.7%	18.5%	18.5%	11.2%	10.1%	10.0%	8.4%	8.1%	10.1%	3.0%
1-15 HR De-Pump 1 at SP 40	12/10/2018 - 0/1k/DDR	21.5%	22.8%	22.5%	21.8%	21.0%	18.1%	12.4%	22.8%	11.4%	14.2%	1.1%
SP 40wed at 1-15	12/10/2018 - 0/1k/DDR	12.1%	0.0%	12.1%	12.2%	11.3%	1.8%	8.3%	0.8%	8.1%	1.1%	3.5%
US 21 wed at 1-15	12/04/2018 - 0/1k/DDR	18.5%	8.8%	12.1%	12.2%	11.4%	8.8%	8.0%	8.0%	1.0%	8.4%	4.2%
1-15 Pump(Hulk) at US 21												
1-15 SR De-Pump 1 at US 21	12/04/2018 - 0/1k/DDR	22.8%	22.8%	24.1%	22.2%	8.8%	14.1%	12.8%	22.8%	11.8%	14.2%	1.2%
1-15 HR De-Pump 1 from US 21	12/04/2018 - 0/1k/DDR	28.1%	28.2%	28.5%	21.2%	26.8%	20.2%	11.5%	28.4%	14.2%	18.8%	8.5%
1-15 Pump(S milk) at US 21												
1-15 SR De-Pump 1 from US 21	12/04/2018 - 0/1k/DDR	18.2%	8.4%	18.8%	18.2%	8.5%	11.8%	12.2%	8.8%	8.4%	11.8%	8.0%
1-15 HR De-Pump 1 at US 21	12/15/2018 - 0/1k/DDR	15.4%	8.8%	14.4%	12.2%	0.0%	8.8%	8.8%	8.8%	1.1%	8.2%	4.1%
US 21 wed at 1-15	12/04/2018 - 0/1k/DDR	12.1%	0.0%	12.0%	11.8%	8.3%	8.0%	8.8%	0.8%	8.1%	1.4%	3.1%
SP 32k wed at H5 Milk Ave	12/18/2018 - 0/2k/DDR	21.8%	20.8%	28.4%	28.8%	28.8%	20.2%	21.0%	28.8%	14.8%	20.8%	10.2%
1-15 Pump(Hulk) at SP 32k												
1-15 SR De-Pump 1 at SP 32k	12/12/2018 - 0/1k/DDR	28.1%	28.2%	28.5%	25.1%	20.8%	14.2%	21.0%	28.8%	12.4%	11.8%	8.8%
1-15 HR De-Pump 1 from SP 32k	12/04/2018 - 0/1k/DDR	22.1%	28.8%	28.1%	21.0%	28.0%	21.5%	15.1%	24.8%	11.2%	18.8%	8.2%
1-15 Pump(S milk) at SP 32k												
1-15 SR De-Pump 1 from SP 32k	12/04/2018 - 0/1k/DDR	22.8%	22.8%	25.0%	22.2%	20.8%	15.2%	11.8%	22.8%	11.8%	18.4%	8.2%
1-15 HR De-Pump 1 from SP 32k 11amp	12/04/2018 - 0/1k/DDR	28.0%	22.8%	22.2%	20.8%	24.2%	15.1%	18.1%	22.4%	18.2%	15.8%	8.0%
1-15 HR De-Pump 1 at SP 32k	12/18/2018 - 0/2k/DDR	21.5%	11.2%	1.3%	24.2%	8.4%	12.2%	11.5%	8.4%	8.2%	12.4%	8.2%
SP 32k wed at H5 Milk Ave	12/18/2018 - 0/2k/DDR	25.5%	22.8%	28.8%	21.0%	28.2%	11.8%	15.1%	21.8%	12.8%	18.4%	8.2%

**APPENDIX M – FDOT HISTORICAL AADT REPORTS
AND TREND ANALYSES**

Historical AADT Reports

FLORIDA DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION STATISTICS OFFICE
 2019 HISTORICAL AADT REPORT

COUNTY: 36 - MARION

SITE: 0440 - ON I-75, 0.586 MI. S OF SR-40 (W/L)

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2019	97500 C	N	46000	S	51500	9.00	53.10	20.20
2018	76000 C	N	36500	S	39500	9.00	53.20	20.70
2017	78500 C	N	37500	S	41000	9.00	52.90	19.90
2016	74500 C	N	36500	S	38000	9.00	53.10	17.00
2015	59000 C	N	29500	S	29500	9.00	54.50	19.20
2014	60500 C	N	32500	S	28000	9.00	54.90	17.80
2013	69000 C	N	34500	S	34500	9.00	55.90	19.40
2012	60000 C	N	30000	S	30000	9.00	56.30	17.60
2011	65500 C	N	32000	S	33500	9.00	55.60	19.50
2010	71000 C	N	35500	S	35500	11.52	56.37	18.60
2009	67000 F	N	34500	S	32500	11.52	56.07	19.50
2008	69000 C	N	35500	S	33500	11.45	56.68	20.50
2007	84500 C	N	44000	S	40500	10.61	56.38	11.30
2006	78500 C	N	38500	S	40000	10.68	54.78	16.90
2005	82000 C	N	41000	S	41000	10.90	54.40	22.10
2004	74500 C	N	39500	S	35000	10.50	57.70	17.40

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
 V = FIFTH YEAR ESTIMATE; S = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION STATISTICS OFFICE
 2019 HISTORICAL AADT REPORT

COUNTY: 36 - MARION

SITE: 0439 - ON I-75, 0.376 MI. S OF US-27 (W/L)

YEAR	AAOT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2019	83000 C	N	40500	S	42500	9.00	53.10	21.90
2018	78500 C	N	41000	S	37500	9.00	53.20	25.40
2017	75000 C	N	42000	S	33000	9.00	52.90	21.80
2016	88500 C	N	46500	S	42000	9.00	53.10	20.70
2015	69500 C	N	38500	S	31000	9.00	54.50	25.10
2014	69000 C	N	37000	S	32000	9.00	54.90	21.20
2013	63500 C	N	33500	S	30000	9.00	55.90	22.60
2012	65000 C	N	34500	S	30500	9.00	56.30	22.20
2011	67500 C	N	36000	S	31500	9.00	55.60	21.90
2010	69000 C	N	35500	S	33500	11.52	56.37	20.90
2009	62000 F	N	31500	S	30500	11.52	56.07	18.80
2008	64000 C	N	32500	S	31500	11.45	56.68	22.90
2007	77500 C	N	40000	S	37500	10.61	56.38	21.20
2006	73500 C	N	35500	S	38000	10.68	54.78	21.80
2005	73500 C	N	36000	S	37500	10.90	54.40	23.80
2004	73000 C	N	37500	S	35500	10.50	57.70	17.90

AAOT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
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 V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION STATISTICS OFFICE
 2019 HISTORICAL AADT REPORT

COUNTY: 36 - MARION

SITE: 0438 - ON I-75, 0.986 MI. N OF US-27 (RCLP)

YEAR	AA DT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2019	T4000 C	N 39000	S 35000	9.00	53.10	27.70
2018	T8500 C	N 40500	S 38000	9.00	53.20	26.30
2017	T6000 C	N 34500	S 41500	9.00	52.90	27.10
2016	68000 E			9.00	53.10	17.00
2015	65500 S	N 31000	S 34500	9.00	54.50	24.20
2014	62500 F	N 29500	S 33000	9.00	54.90	24.20
2013	61500 C	N 29000	S 32500	9.00	55.90	24.20
2012	64000 F	N 32500	S 31500	9.00	56.30	23.90
2011	65000 C	N 33000	S 32000	9.00	55.60	23.90
2010	55500 S	N 29000	S 26500	11.52	56.37	26.30
2009	56500 F	N 29500	S 27000	11.52	56.07	26.30
2008	58500 C	N 30500	S 28000	11.45	56.68	26.30
2007	69000 C	N 37500	S 31500	10.61	56.38	18.90
2006	T0000 C	N 35500	S 34500	10.68	54.78	26.10
2005	T0500 F	N 35500	S 35000	10.90	54.40	23.80
2004	68500 C	N 34500	S 34000	10.50	57.70	17.90

AA DT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
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 V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION STATISTICS OFFICE
 2019 HISTORICAL AADT REPORT

COUNTY: 36 - MARION

SITE: 043T - ON I-75, 1.469 MI. N OF SR-326 (RVL)

YEAR	AADT		DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2019	66000 F	N	34500	S 31500	10.50	53.10	20.20
2018	64000 C	N	33500	S 30500	9.50	53.20	20.70
2017	56500 C	N	28500	S 28000	9.50	52.90	19.90
2016	50500 F	N	25000	S 25500	10.50	53.10	19.70
2015	47500 C	N	23500	S 24000	10.50	54.50	19.40
2014	50500 C	N	22500	S 28000	10.50	54.90	18.70
2013	52500 C	N	28000	S 24500	10.50	55.90	17.70
2012	55000 C	N	28500	S 26500	10.50	56.30	17.90
2011	51500 C	N	26500	S 25000	10.50	55.60	18.60
2010	51500 C	N	26000	S 25500	11.52	56.37	18.40
2009	52500 C	N	28000	S 24500	11.52	56.07	18.80
2008	50000 C	N	26000	S 24000	11.45	56.68	22.90
2007	56500 C	N	30000	S 26500	10.61	56.38	21.20
2006	68000 C	N	31000	S 37000	10.68	54.78	21.80
2005	55500 C	N	26000	S 29500	10.90	54.40	23.80
2004	63000 C	N	30000	S 33000	10.50	57.70	17.90

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
 V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION STATISTICS OFFICE
 2018 HISTORICAL AADT REPORT

COUNTY: 36 - MARION

SITE: 2008 - I-75, RAMP FROM I-75 NB TO SR-40

YEAR	AADT	DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2018	6300 S		0	0	9.00	99.90	8.00
2017	6200 F		0	0	9.00	99.90	8.20
2016	5900 C	N	5900	0	9.00	99.90	8.20
2015	5700 C	N	5700	0	9.00	99.90	8.10
2014	5300 C	N	5300		9.00	99.90	7.20
2013	5200 C	N	5200	0	9.00	99.90	7.30
2012	4900 C	N	4900	0	9.00	99.90	7.10
2011	5300 C	N	5300	0	9.00	99.90	7.00
2010	5400 C	N	5400	0	11.52	99.99	8.50
2009	5100 C	N	5100	0	11.52	99.99	7.20
2008	5500 C	N	5500	0	11.45	99.99	7.60
2007	5800 C	N	5800	0	10.61	99.99	10.20
2006	6300 C	N	6300	0	10.68	99.99	10.60
2005	6000 C	N	6000		10.90	99.90	14.90
2004	5500 C	N	5500		10.50	99.90	8.80
2003	5500 C	N	5500		11.10	99.90	7.00

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
 V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION STATISTICS OFFICE
 2018 HISTORICAL AADT REPORT

COUNTY: 36 - MARION

SITE: 2009 - I-75, RAMP FROM SR-40 TO I-75 NB

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2018	5300 S	0	0	9.00	99.90	8.00
2017	5200 F	0	0	9.00	99.90	8.20
2016	4900 C	N 4900	0	9.00	99.90	8.20
2015	4500 C	N 4500	0	9.00	99.90	8.10
2014	4600 C	N 4600	0	9.00	99.90	7.20
2013	4700 C	N 4700	0	9.00	99.90	7.30
2012	4400 C	N 4400	0	9.00	99.90	7.10
2011	3400 C	N 3400	0	9.00	99.90	7.00
2010	4700 C	N 4700	0	11.52	99.99	8.50
2009	4500 C	N 4500	0	11.52	99.99	7.20
2008	4700 C	N 4700	0	11.45	99.99	7.60
2007	4700 C	N 4700	0	10.61	99.99	10.20
2006	5200 C	N 5200	0	10.68	99.99	10.60
2005	5200 C	N 5200	0	10.90	99.90	14.90
2004	4900 C	N 4900	0	10.50	99.90	8.80
2003	4600 C	N 4600	0	11.10	99.90	7.00

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
 V = FIFTH YEAR ESTIMATE; G = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION STATISTICS OFFICE
 2018 HISTORICAL AADT REPORT

COUNTY: 36 - MARION

SITE: 2010 - I-75, RAMP FROM I-75 SB TO SR-40

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2018	4900 S	0	0	9.00	99.90	8.00
2017	4800 F	0	0	9.00	99.90	8.20
2016	4600 C	S 4600	0	9.00	99.90	8.20
2015	4500 C	S 4500	0	9.00	99.90	8.10
2014	4200 C	S 4200	0	9.00	99.90	7.20
2013	4300 C	S 4300	0	9.00	99.90	7.30
2012	3800 C	S 3800	0	9.00	99.90	7.10
2011	4600 C	S 4600	0	9.00	99.90	7.00
2010	4400 C	S 4400	0	11.52	99.99	8.50
2009	4200 C	S 4200	0	11.52	99.99	7.20
2008	4200 C	S 4200	0	11.45	99.99	7.60
2007	4400 C	S 4400	0	10.61	99.99	10.20
2006	4500 C	S 4500	0	10.68	99.99	10.60
2005	4600 C	S 4600	0	10.90	99.90	14.90
2004	4800 C	S 4800	0	10.50	99.90	8.80
2003	4400 C	S 4400	0	11.10	99.90	7.00

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
 V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION STATISTICS OFFICE
 2018 HISTORICAL AADT REPORT

COUNTY: 36 - MARION

SITE: 2011 - I-75, RAMP FROM SR-40 TO I-75 SB

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2018	5900 S	0	0	9.00	99.90	8.00
2017	5800 F	0	0	9.00	99.90	8.20
2016	5500 C	S 5500	0	9.00	99.90	8.20
2015	5200 C	S 5200	0	9.00	99.90	8.10
2014	5000 C	S 5000	0	9.00	99.90	7.20
2013	5100 C	S 5100	0	9.00	99.90	7.30
2012	4700 C	S 4700	0	9.00	99.90	7.10
2011	5200 C	S 5200	0	9.00	99.90	7.00
2010	4700 C	S 4700	0	11.52	99.99	8.50
2009	4900 C	S 4900	0	11.52	99.99	7.20
2008	5100 C	S 5100	0	11.45	99.99	7.60
2007	5600 C	S 5600	0	10.61	99.99	10.20
2006	5900 C	S 5900	0	10.68	99.99	10.60
2005	4700 C	S 4700	0	10.90	99.90	14.90
2004	5300 C	S 5300	0	10.50	99.90	8.80
2003	5200 C	S 5200	0	11.10	99.90	7.00

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
 V = FIFTH YEAR ESTIMATE; S = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION STATISTICS OFFICE
 2018 HISTORICAL AADT REPORT

COUNTY: 36 - MARION

SITE: 04T6 - ON SR-40, 0.318 MI. W OF I-75 (RCLP)

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2018	31500	C	E 16000		W 15500	9.00	54.30	11.30
2017	28500	C	E 14500		W 14000	9.00	55.50	10.70
2016	30500	C	E 15500		W 15000	9.00	56.10	10.60
2015	28500	C	E 14500		W 14000	9.00	56.30	12.70
2014	26500	C	E 13500		W 13000	9.00	56.80	11.80
2013	25500	C	E 13000		W 12500	9.00	56.70	11.20
2012	24500	C	E 12500		W 12000	9.00	56.70	11.00
2011	25500	C	E 13000		W 12500	9.00	56.00	12.80
2010	25500	C	E 13000		W 12500	10.14	57.07	11.70
2009	26500	S	E 13500		W 13000	10.04	59.21	14.30
2008	27500	F	E 14000		W 13500	9.73	57.40	14.30
2007	28500	C	E 14500		W 14000	9.71	57.95	14.30
2006	29000	C	E 14500		W 14500	9.74	53.95	15.10
2005	28000	C	E 14000		W 14000	10.10	55.60	13.00
2004	26000	C	E 13000		W 13000	9.60	60.00	13.00
2003	22000	C	E		W	9.40	56.60	7.00

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
 V = FIFTH YEAR ESTIMATE; S = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION STATISTICS OFFICE
 2018 HISTORICAL AADT REPORT

COUNTY: 36 - MARION

SITE: 0032 - ON SR-40, 0.26 MI. W OF CR-500A (UCLP)

YEAR	AADT		DIRECTION 1		DIRECTION 2		*K FACTOR	D FACTOR	T FACTOR
2018	30000	C	E	15000	W	15000	9.00	54.30	12.20
2017	31500	C	E	16000	W	15500	9.00	55.50	9.30
2016	32500	C	E	16500	W	16000	9.00	56.10	10.70
2015	29500	C	E	15000	W	14500	9.00	56.30	11.60
2014	28000	C	E	14500	W	13500	9.00	56.80	11.80
2013	29500	C	E	15000	W	14500	9.00	56.70	9.10
2012	28500	C	E	14500	W	14000	9.00	56.70	7.70
2011	28500	C	E	14500	W	14000	9.00	56.00	8.00
2010	29500	C	E	15000	W	14500	10.14	57.07	7.90
2009	27500	C	E	14000	W	13500	10.04	59.21	7.30
2008	30500	C	E	15500	W	15000	9.73	57.40	8.00
2007	31500	C	E	15500	W	16000	9.71	57.95	8.90
2006	34000	C	E	17000	W	17000	9.74	53.95	9.00
2005	32500	C	E	16000	W	16500	10.10	55.60	6.40
2004	31500	C	E	16000	W	15500	9.60	60.00	6.40
2003	31500	C	E	16000	W	15500	9.40	56.60	7.20

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
 V = FIFTH YEAR ESTIMATE; S = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

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 2018 HISTORICAL AADT REPORT

COUNTY: 36 - MARION

SITE: 2012 - I-75, RAMP FROM I-75 NB TO SR-500 (US-27)

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2018	7400 S	0	0	9.00	99.90	8.70
2017	7300 F	0	0	9.00	99.90	9.80
2016	6900 C	N 6900	0	9.00	99.90	10.30
2015	5900 C	N 5900	0	9.00	99.90	11.60
2014	5900 C	N 5900	0	9.00	99.90	8.50
2013	5900 C	N 5900	0	9.00	99.90	6.10
2012	5500 C	N 5500	0	9.00	99.90	6.40
2011	5600 C	N 5600	0	9.00	99.90	10.20
2010	5600 C	N 5600	0	11.52	99.99	9.80
2009	5700 C	N 5700	0	11.52	99.99	9.70
2008	5600 C	N 5600	0	11.45	99.99	11.30
2007	6800 C	N 6800	0	10.61	99.99	11.90
2006	6200 C	N 6200	0	10.68	99.99	12.10
2005	5800 C	N 5800	0	10.90	99.90	14.90
2004	6300 C	N 6300	0	10.50	99.90	10.10
2003	5600 C	N 5600	0	11.10	99.90	10.70

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
 V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

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 2018 HISTORICAL AADT REPORT

COUNTY: 36 - MARION

SITE: 2013 - I-75, RAMP FROM SR-500 (US-27) TO I-75 NB

YEAR	AADT	DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2018	2200 S		0	0	9.00	99.90	8.70
2017	2200 F		0	0	9.00	99.90	9.80
2016	2100 C	N	2100	0	9.00	99.90	10.30
2015	2000 C	N	2000	0	9.00	99.90	11.60
2014	2000 C	N	2000		9.00	99.90	8.50
2013	2100 C	N	2100	0	9.00	99.90	6.10
2012	1800 C	N	1800	0	9.00	99.90	6.40
2011	1900 C	N	1900	0	9.00	99.90	10.20
2010	2100 C	N	2100	0	11.52	99.99	9.80
2009	1900 C	N	1900	0	11.52	99.99	9.70
2008	1900 C	N	1900	0	11.45	99.99	11.30
2007	2300 C	N	2300	0	10.61	99.99	11.90
2006	2400 C	N	2400	0	10.68	99.99	12.10
2005	2100 C	N	2100		10.90	99.90	14.90
2004	2400 C	N	2400		10.50	99.90	10.10
2003	2100 C	N	2100		11.10	99.90	10.70

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
 V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION STATISTICS OFFICE
 2018 HISTORICAL AADT REPORT

COUNTY: 36 - MARION

SITE: 2014 - I-75, RAMP FROM I-75 SB TO SR-500 (US-27)

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2018	2500 S	0	0	9.00	99.90	8.70
2017	2500 F	0	0	9.00	99.90	9.80
2016	2400 C	S 2400	0	9.00	99.90	10.30
2015	2100 C	S 2100	0	9.00	99.90	11.60
2014	2400 C	S 2400	0	9.00	99.90	8.50
2013	2500 C	S 2500	0	9.00	99.90	6.10
2012	2200 C	S 2200	0	9.00	99.90	6.40
2011	2200 C	S 2200	0	9.00	99.90	10.20
2010	2200 C	S 2200	0	11.52	99.99	9.80
2009	2400 C	S 2400	0	11.52	99.99	9.70
2008	2400 C	S 2400	0	11.45	99.99	11.30
2007	2600 C	S 2600	0	10.61	99.99	11.90
2006	2500 C	S 2500	0	10.68	99.99	12.10
2005	2900 C	S 2900	0	10.90	99.90	14.90
2004	2600 C	S 2600	0	10.50	99.90	10.10
2003	2500 C	S 2500	0	11.10	99.90	10.70

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
 V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

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 TRANSPORTATION STATISTICS OFFICE
 2018 HISTORICAL AADT REPORT

COUNTY: 36 - MARION

SITE: 2015 - I-75, RAMP FROM SR-500 (US-27) TO I-75 SB

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2018	7700 S	0	0	9.00	99.90	8.70
2017	7600 F	0	0	9.00	99.90	9.80
2016	7200 C	S 7200	0	9.00	99.90	10.30
2015	6300 C	S 6300	0	9.00	99.90	11.60
2014	6200 C	S 6200	0	9.00	99.90	8.50
2013	6000 C	S 6000	0	9.00	99.90	6.10
2012	5700 C	S 5700	0	9.00	99.90	6.40
2011	6100 C	S 6100	0	9.00	99.90	10.20
2010	5900 C	S 5900	0	11.52	99.99	9.80
2009	6100 C	S 6100	0	11.52	99.99	9.70
2008	6100 C	S 6100	0	11.45	99.99	11.30
2007	7300 C	S 7300	0	10.61	99.99	11.90
2006	6700 C	S 6700	0	10.68	99.99	12.10
2005	6800 C	S 6800	0	10.90	99.90	14.90
2004	6500 C	S 6500	0	10.50	99.90	10.10
2003	5800 C	S 5800	0	11.10	99.90	10.70

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
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 TRANSPORTATION STATISTICS OFFICE
 2018 HISTORICAL AADT REPORT

COUNTY: 36 - MARION

SITE: 0459 - ON US-27, 0.574 MI. NW OF I-75 (RCLP)

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2018	22000	C	E 10500		W 11500	9.00	54.30	11.70
2017	20700	C	E 9700		W 11000	9.00	55.50	15.90
2016	20200	C	E 9700		W 10500	9.00	56.10	11.10
2015	18700	F	E 8700		W 10000	9.00	56.30	11.60
2014	18000	C	E 8400		W 9600	9.00	56.80	8.50
2013	16800	C	E 7800		W 9000	9.00	56.70	6.10
2012	16600	C	E 7900		W 8700	9.00	56.70	6.40
2011	17400	C	E 8800		W 8600	9.00	56.00	10.20
2010	16900	C	E 8000		W 8900	10.14	57.07	12.60
2009	17500	C	E 8400		W 9100	10.04	59.21	12.60
2008	25000	C	E 12500		W 12500	9.73	57.40	12.60
2007	28000	C	E 14000		W 14000	9.71	57.95	13.40
2006	28000	C	E 14000		W 14000	9.74	53.95	13.00
2005	21000	C	E 10000		W 11000	10.10	55.60	10.30
2004	25000	C	E 12500		W 12500	9.60	60.00	10.30
2003	19200	C	E 9200		W 10000	9.40	56.60	10.70

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
 V = FIFTH YEAR ESTIMATE; S = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION STATISTICS OFFICE
 2018 HISTORICAL AADT REPORT

COUNTY: 36 - MARION

SITE: 0033 - ON US-27, 0.188MI. N OF 30TH AVE. (UCLP)

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2018	22500 C	E 11000	W 11500	9.00	54.30	8.70
2017	21500 C	E 10500	W 11000	9.00	55.50	9.80
2016	21000 C	E 10500	W 10500	9.00	56.10	10.30
2015	22000 F	E 11000	W 11000	9.00	56.30	8.50
2014	21000 C	E 10500	W 10500	9.00	56.80	8.50
2013	19900 C	E 9900	W 10000	9.00	56.70	6.10
2012	19600 C	E 9800	W 9800	9.00	56.70	6.40
2011	19900 C	E 9900	W 10000	9.00	56.00	10.20
2010	21000 C	E 10500	W 10500	10.14	57.07	9.80
2009	22000 C	E 11000	W 11000	10.04	59.21	9.70
2008	22000 C	E 11000	W 11000	9.73	57.40	10.00
2007	25000 C	E 12500	W 12500	9.71	57.95	10.50
2006	26000 C	E 13000	W 13000	9.74	53.95	11.10
2005	25000 C	E 12500	W 12500	10.10	55.60	9.90
2004	25000 C	E 12500	W 12500	9.60	60.00	9.90
2003	24000 C	E 12000	W 12000	9.40	56.60	10.70

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
 V = FIFTH YEAR ESTIMATE; S = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

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 TRANSPORTATION STATISTICS OFFICE
 2018 HISTORICAL AADT REPORT

COUNTY: 36 - MARION

SITE: 2016 - I-75, RAMP FROM I-75 NB TO SR-326

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2018	11000 S	0	0	9.00	99.90	2.10
2017	11000 F	0	0	9.00	99.90	4.30
2016	10500 C	N 10500	0	9.00	99.90	4.10
2015	10000 C	N 10000	0	9.00	99.90	8.10
2014	9900 C	N 9900	0	9.00	99.90	1.40
2013	9100 C	N 9100	0	9.00	99.90	12.70
2012	8700 C	N 8700	0	9.00	99.90	18.80
2011	9300 C	N 9300	0	9.00	99.90	13.40
2010	8100 C	N 8100	0	11.52	99.99	12.80
2009	9500 C	N 9500	0	11.52	99.99	5.80
2008	7200 C	N 7200	0	11.45	99.99	26.80
2007	10500 C	N 10500	0	10.61	99.99	28.30
2006	10500 C	N 10500	0	10.68	99.99	1.90
2005	14000 C	N 14000	0	10.90	99.90	14.90
2004	10500 C	N 10500	0	10.50	99.90	14.40
2003	8900 C	N 8900	0	11.10	99.90	16.10

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
 V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

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COUNTY: 36 - MARION

SITE: 2017 - I-75, RAMP FROM SR-326 TO I-75 NB

YEAR	AAOT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2018	3600 S	0	0	9.50	99.90	2.10
2017	3500 F	0	0	9.50	99.90	4.30
2016	3300 C	N 3300	0	9.50	99.90	4.10
2015	4500 C	N 4500	0	9.00	99.90	8.10
2014	4100 C	N 4100	0	9.00	99.90	7.40
2013	3800 C	N 3800	0	9.00	99.90	12.70
2012	4400 C	N 4400	0	9.00	99.90	18.80
2011	3800 C	N 3800	0	9.00	99.90	13.40
2010	4000 C	N 4000	0	11.52	99.99	12.80
2009	3700 C	N 3700	0	11.52	99.99	5.80
2008	3600 C	N 3600	0	11.45	99.99	26.80
2007	4000 C	N 4000	0	10.61	99.99	28.30
2006	4300 C	N 4300	0	10.68	99.99	1.90
2005	4600 C	N 4600	0	10.90	99.90	14.90
2004	4200 C	N 4200	0	10.50	99.90	14.40
2003	3900 C	N 3900	0	11.10	99.90	16.10

AAOT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
 V = FIFTH YEAR ESTIMATE; S = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

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 2018 HISTORICAL AADT REPORT

COUNTY: 36 - MARION

SITE: 2018 - I-75, RAMP FROM I-75 SB TO SR-326

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2018	4800 S	0	0	9.50	99.90	2.10
2017	4700 F	0	0	9.50	99.90	4.30
2016	4500 C	S 4500	0	9.50	99.90	4.10
2015	4100 C	S 4100	0	9.00	99.90	8.10
2014	4300 C	S 4300	0	9.00	99.90	7.40
2013	3600 C	S 3600	0	9.00	99.90	12.70
2012	3900 C	S 3900	0	9.00	99.90	18.80
2011	3200 C	S 3200	0	9.00	99.90	13.40
2010	3600 C	S 3600	0	11.52	99.99	12.80
2009	3500 C	S 3500	0	11.52	99.99	5.80
2008	3000 C	S 3000	0	11.45	99.99	26.80
2007	2900 C	S 2900	0	10.61	99.99	28.30
2006	4900 C	S 4900	0	10.68	99.99	1.90
2005	4500 C	S 4500	0	10.90	99.90	14.90
2004	3500 C	S 3500	0	10.50	99.90	14.40
2003	3500 C	S 3500	0	11.10	99.90	16.10

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
 V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION STATISTICS OFFICE
 2018 HISTORICAL AADT REPORT

COUNTY: 36 - MARION

SITE: 2019 - I-75, RAMP FROM SR-326 TO I-75 SB

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2018	4100 S	0	0	9.00	99.90	2.10
2017	4000 F	0	0	9.00	99.90	4.30
2016	3800 C	S 3800	0	9.00	99.90	4.10
2015	3400 C	S 3400	0	9.00	99.90	8.10
2014	3400 C	S 3400	0	9.00	99.90	1.40
2013	2900 C	S 2900	0	9.00	99.90	12.70
2012	2100 C	S 2100	0	9.00	99.90	18.80
2011	1900 C	S 1900	0	9.00	99.90	13.40
2010	2000 C	S 2000	0	11.52	99.99	12.80
2009	2000 C	S 2000	0	11.52	99.99	5.80
2008	1700 C	S 1700	0	11.45	99.99	26.80
2007	1800 C	S 1800	0	10.61	99.99	28.30
2006	1900 C	S 1900	0	10.68	99.99	1.90
2005	1900 C	S 1900	0	10.90	99.90	14.90
2004	1600 C	S 1600	0	10.50	99.90	14.40
2003	1500 C	S 1500	0	11.10	99.90	16.10

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
 V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION STATISTICS OFFICE
 2018 HISTORICAL AADT REPORT

COUNTY: 36 - MARION

SITE: 2024 - I-T5 SB, RAMP FROM SR-326 WB TO I-T5 SB

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2018	6600 S	0	0	9.50	99.90	2.10
2017	6500 F	0	0	9.50	99.90	4.30
2016	6200 C	S 6200	0	9.50	99.90	4.10
2015	6600 C	S 6600	0	9.00	99.90	8.10
2014	6800 C	S 6800	0	9.00	99.90	7.40
2013	6000 C	S 6000	0	9.00	99.90	12.70
2012	4900 C	S 4900	0	9.00	99.90	18.80
2011	6600 C	S 6600	0	9.00	99.90	13.40
2010	6600 C	S 6600	0	11.52	99.99	12.80
2009	7000 C	S 7000	0	11.52	99.99	5.80
2008	5900 C	S 5900	0	11.45	99.99	26.80
2007	6000 C	S 6000	0	10.61	99.99	28.30
2006	8100 C	S 8100	0	10.68	99.99	1.90
2005	7900 F	S	0	10.90	99.90	14.90
2004	7700 C	S 7700	0	10.50	57.70	14.40
2003	7600 C	S 7600	0	11.10	55.40	16.10

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
 V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION STATISTICS OFFICE
 2018 HISTORICAL AADT REPORT

COUNTY: 36 - MARION

SITE: 0465 - ON SR-326, 0.245 MI. E OF I-75 (RVL)

YEAR	AADT		DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2018	22000	C	E 11500	W 10500	9.00	54.30	2.10
2017	22500	C	E 12000	W 10500	9.00	55.50	4.30
2016	22000	C	E 11500	W 10500	9.00	56.10	4.10
2015	19500	C	E 10000	W 9500	9.00	56.30	8.10
2014	16800	C	E 8900	W 7900	9.00	56.80	7.40
2013	18800	C	E 9600	W 9200	9.00	56.70	12.70
2012	18300	C	E 9000	W 9300	9.00	56.70	18.80
2011	19200	C	E 9600	W 9600	9.00	56.00	13.40
2010	19100	C	E 9500	W 9600	10.14	57.07	12.80
2009	18900	C	E 9800	W 9100	10.04	59.21	5.80
2008	19800	C	E 10000	W 9800	9.73	57.40	26.80
2007	21000	C	E 10500	W 10500	9.71	57.95	28.30
2006	22500	C	E 11000	W 11500	9.74	53.95	1.90
2005	22500	C	E 11000	W 11500	10.10	55.60	4.80
2004	22500	C	E 11500	W 11000	9.60	60.00	14.40
2003	22000	C	E 11000	W 11000	9.40	56.60	16.10

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
 V = FIFTH YEAR ESTIMATE; S = SIXTH YEAR ESTIMATE; X = UNKNOWN

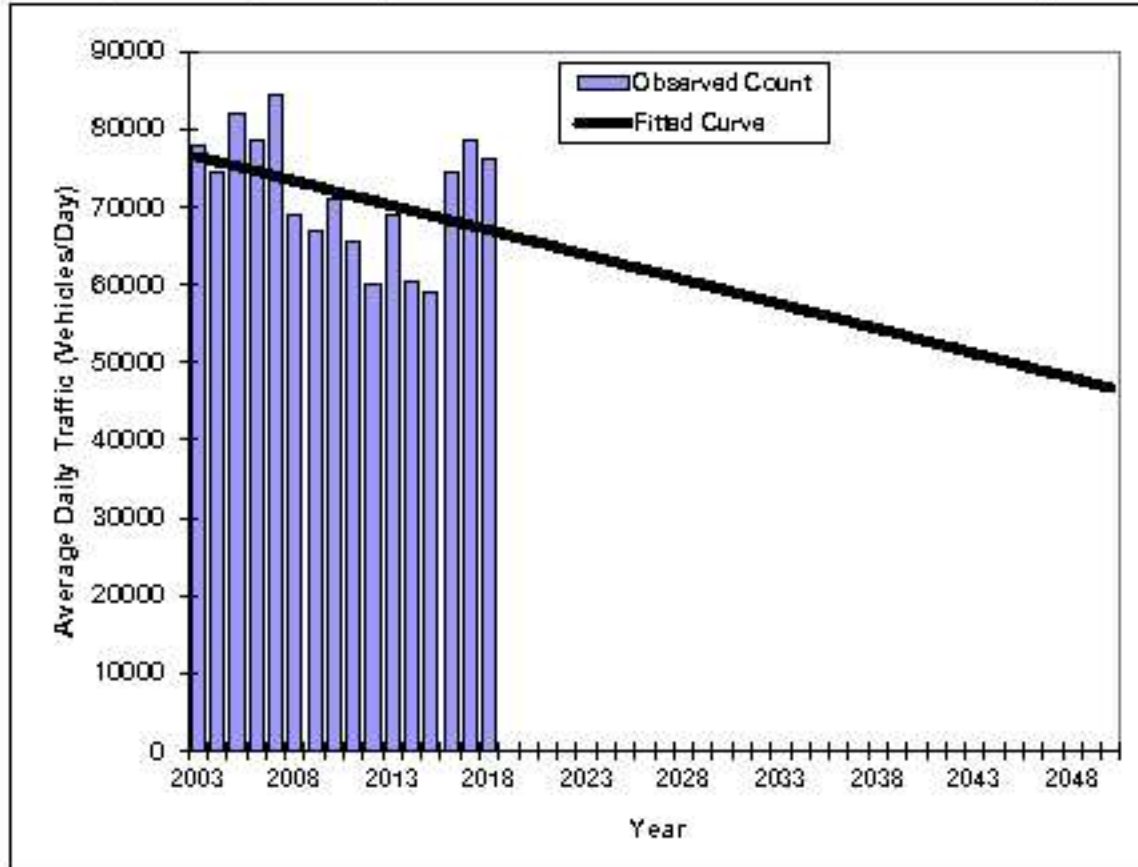
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

Historical Trends Analyses

Traffic Trends - V3.0
ON I-75, 0.586 MI. S OF SR-40 (UWL)

Fin#	0
Location	1

County:	Marion (36)
Station#:	0440
Highway:	I75



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2003	78000	76500
2004	74500	75800
2005	82000	75200
2006	78500	74600
2007	84500	73900
2008	69000	73300
2009	67000	72700
2010	71000	72000
2011	65500	71400
2012	60000	70800
2013	69000	70100
2014	60500	69500
2015	59000	68900
2016	74500	68200
2017	78500	67600
2018	76000	67000
2030 Opening Year Trend		
2030	N/A	59400
2040 Mid-Year Trend		
2040	N/A	53000
2050 Design Year Trend		
2050	N/A	46700
TRANPLAN Forecasts/Trends		

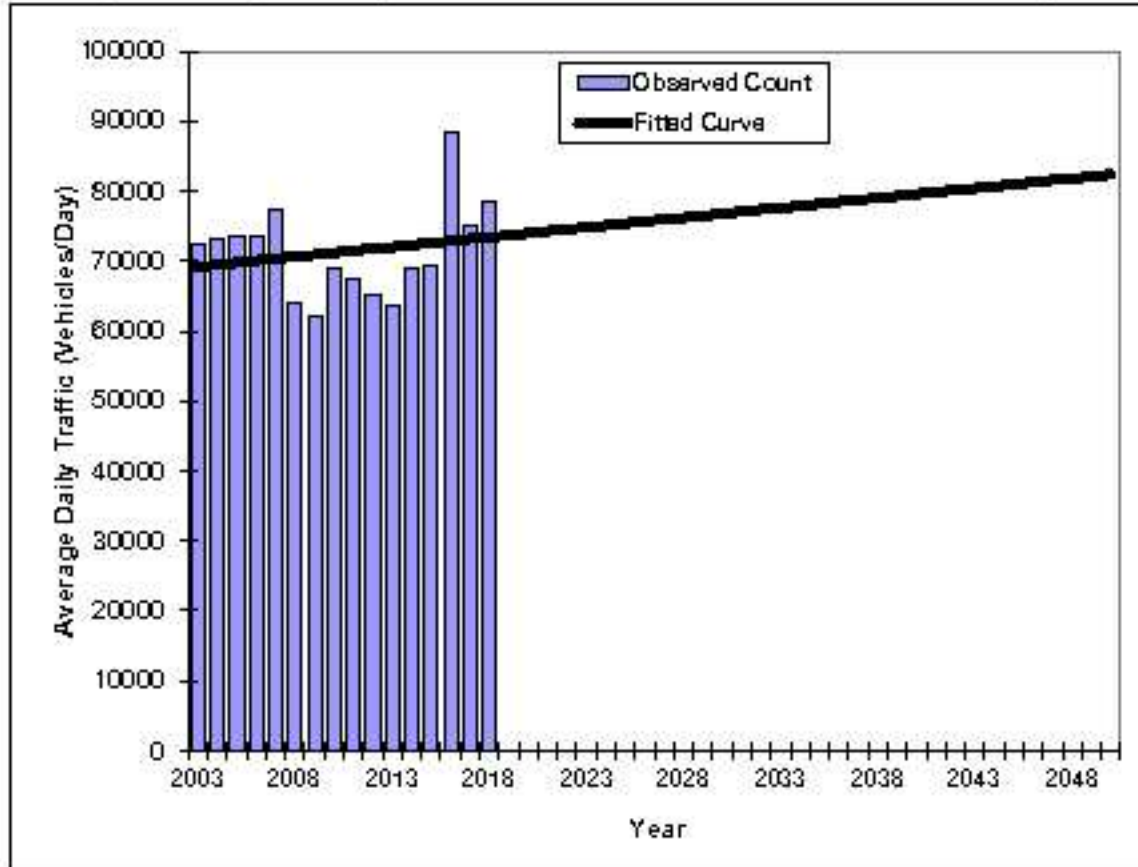
** Annual Trend Increase:	-633
Trend R-squared:	14.57%
Trend Annual Historic Growth Rate:	-0.83%
Trend Growth Rate (2018 to Design Year):	-0.95%
Printed:	7-May-20
Straight Line Growth Option	

*Axle-Adjusted

Traffic Trends - V3.0
ON I-75, 0.376 MILES OF US-27 (UWL)

Fin#	0
Location	1

County:	Marion (36)
Station#:	0439
Highway:	I75



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2003	72500	69200
2004	73000	69500
2005	73500	69800
2006	73500	70100
2007	77500	70400
2008	64000	70600
2009	62000	70900
2010	69000	71200
2011	67500	71500
2012	65000	71800
2013	63500	72000
2014	69000	72300
2015	69500	72600
2016	88500	72900
2017	75000	73200
2018	78500	73400

2030 Opening Year Trend		
2030	N/A	76800
2040 Mid-Year Trend		
2040	N/A	79600
2050 Design Year Trend		
2050	N/A	82400
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	280
Trend R-squared:	3.91%
Trend Annual Historic Growth Rate:	0.40%
Trend Growth Rate (2018 to Design Year):	0.38%
Printed:	7-May-20
Straight Line Growth Option	

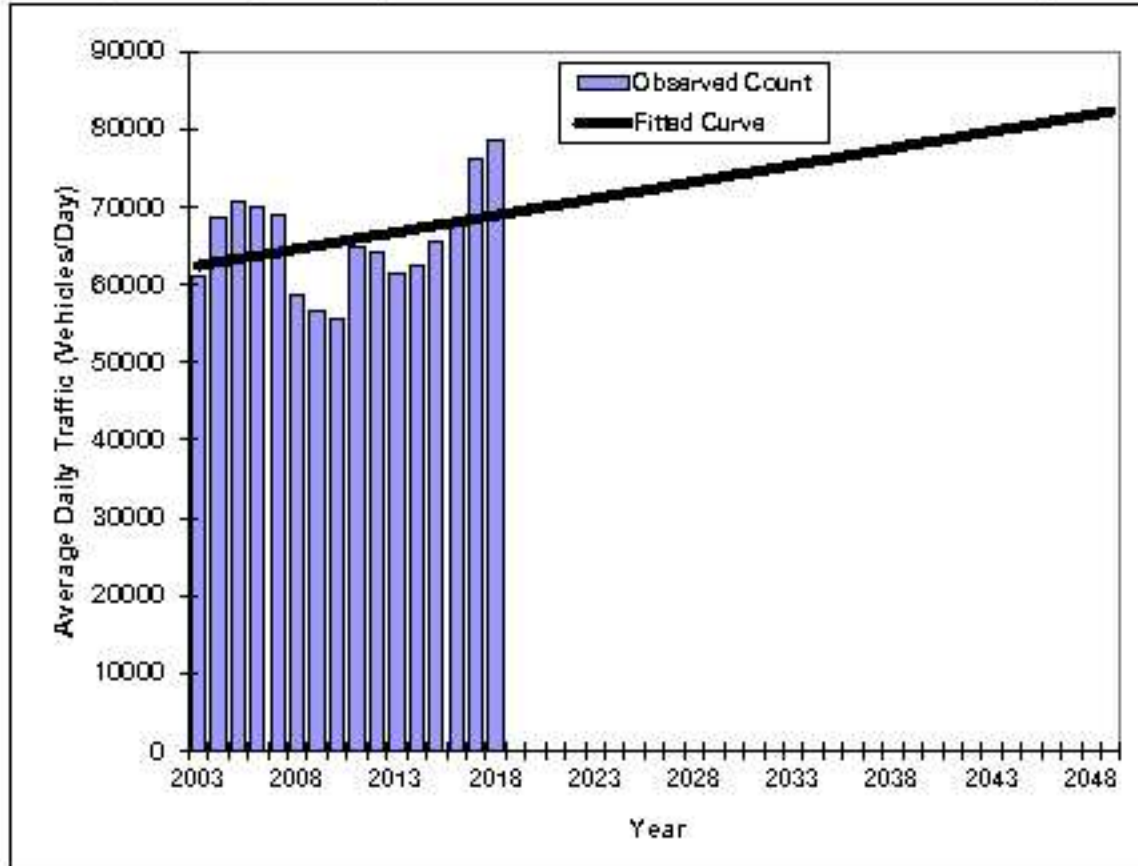
*Axis-Adjusted

Traffic Trends - V3.0

ON I-75, 0.986 MI. N OF US-27 (RCLP)

Fin#	0
Location	1

County:	Marion (36)
Station#:	0438
Highway:	I75



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2003	61000	62400
2004	68500	62900
2005	70500	63300
2006	70000	63700
2007	69000	64100
2008	58500	64600
2009	56500	65000
2010	55500	65400
2011	65000	65900
2012	64000	66300
2013	61500	66700
2014	62500	67200
2015	65500	67600
2016	68000	68000
2017	76000	68500
2018	78500	68900
2030 Opening Year Trend		
2030	N/A	74100
2040 Mid-Year Trend		
2040	N/A	78400
2049 Design Year Trend		
2049	N/A	82300
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	432
Trend R-squared:	10.06%
Trend Annual Historic Growth Rate:	0.69%
Trend Growth Rate (2018 to Design Year):	0.63%
Printed:	7-May-20
Straight Line Growth Option	

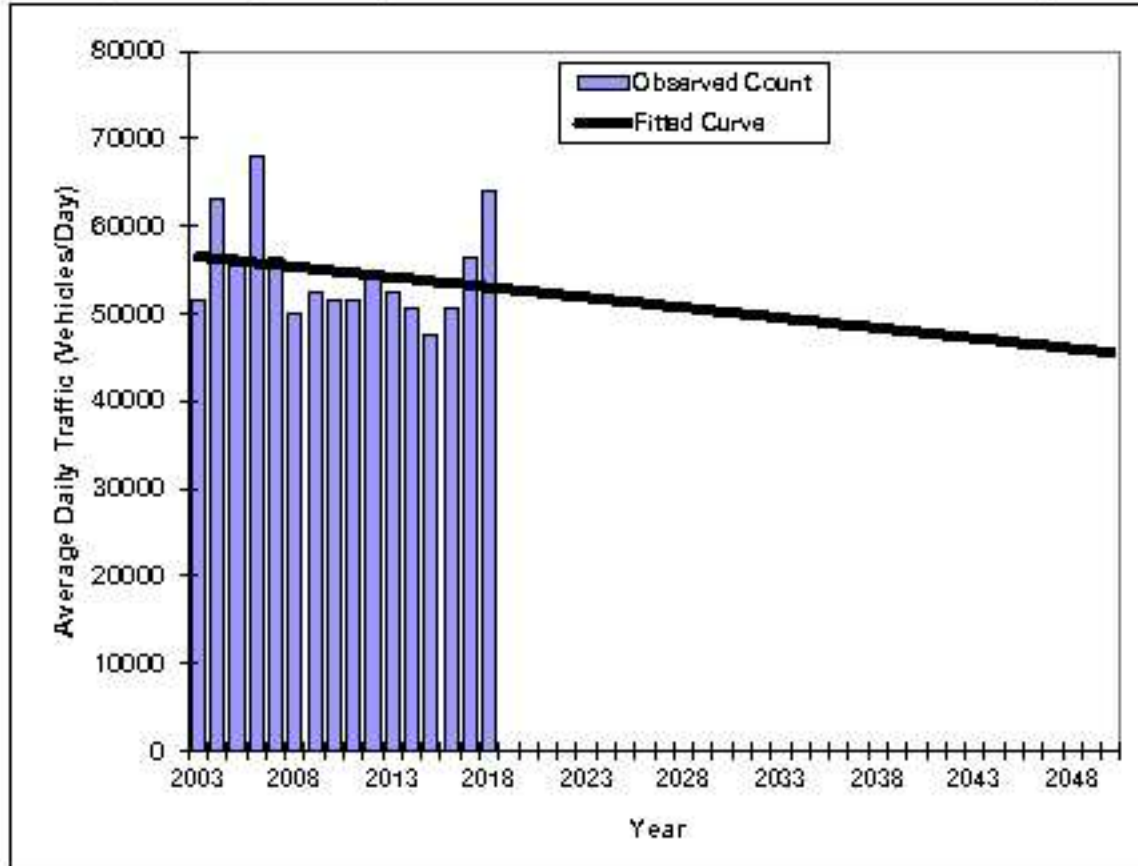
*Axle-Adjusted

Traffic Trends - V3.0

ON I-75, 1.469 MI. N OF SR-326 (RVL)

Fin#	0
Location	1

County:	Marion (36)
Station#:	0437
Highway:	I75



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2003	51500	56500
2004	63000	56300
2005	55500	56100
2006	68000	55800
2007	56500	55600
2008	50000	55400
2009	52500	55100
2010	51500	54900
2011	51500	54700
2012	55000	54400
2013	52500	54200
2014	50500	54000
2015	47500	53700
2016	50500	53500
2017	56500	53300
2018	64000	53000

2030 Opening Year Trend		
2030	N/A	50200
2040 Mid-Year Trend		
2040	N/A	47900
2050 Design Year Trend		
2050	N/A	45600
TRANPLAN Forecasts/Trends		

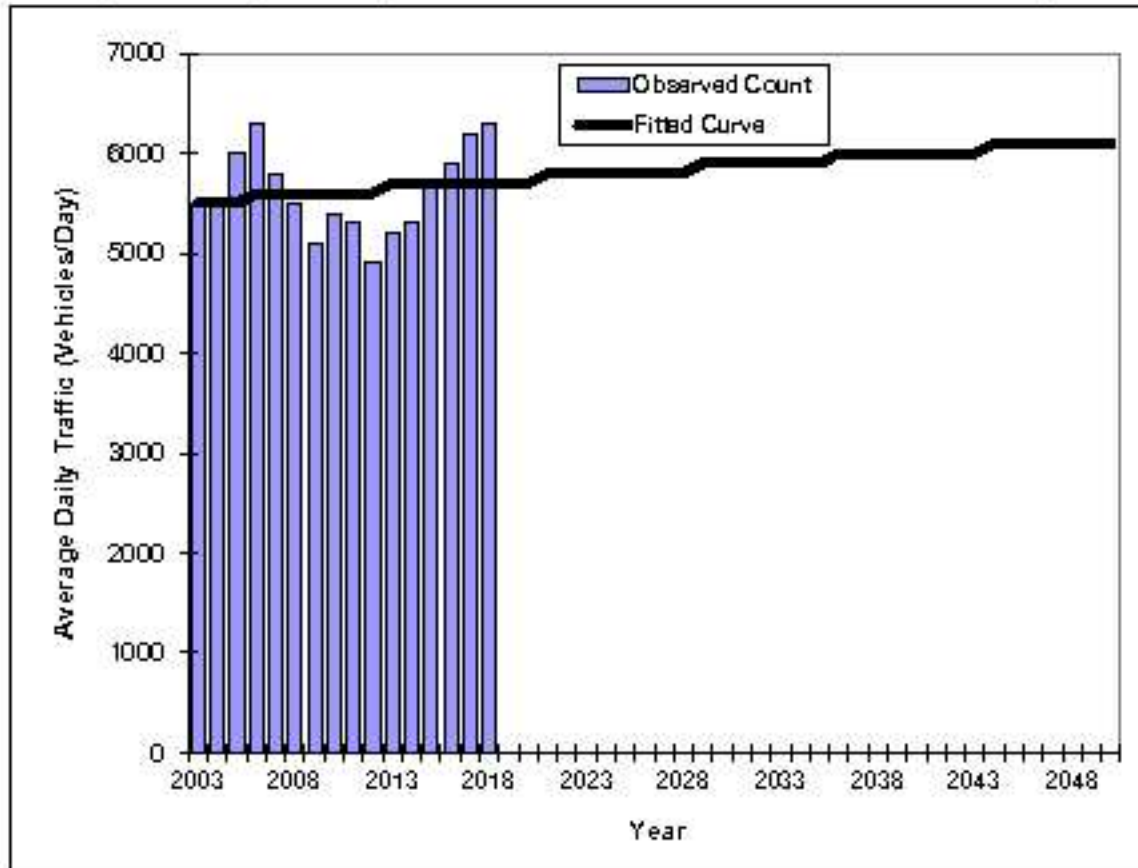
** Annual Trend Increase:	-233
Trend R-squared:	3.76%
Trend Annual Historic Growth Rate:	-0.41%
Trend Growth Rate (2018 to Design Year):	-0.44%
Printed:	7-May-20
Straight Line Growth Option	

*Axle-Adjusted

Traffic Trends - V3.0 I-75, RAMP FROM I-75 NB TO SR40

Fin#	0
Location	1

County:	Marion (36)
Station#:	2008
Highway:	I-75 Ramp



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2003	5500	5500
2004	5500	5500
2005	6000	5500
2006	6300	5600
2007	5800	5600
2008	5500	5600
2009	5100	5600
2010	5400	5600
2011	5300	5600
2012	4900	5600
2013	5200	5700
2014	5300	5700
2015	5700	5700
2016	5900	5700
2017	6200	5700
2018	6300	5700

2030 Opening Year Trend		
2030	N/A	5900
2040 Mid-Year Trend		
2040	N/A	6000
2050 Design Year Trend		
2050	N/A	6100
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	13
Trend R-squared:	2.09%
Trend Annual Historic Growth Rate:	0.24%
Trend Growth Rate (2018 to Design Year):	0.22%
Printed:	7-May-20
Straight Line Growth Option	

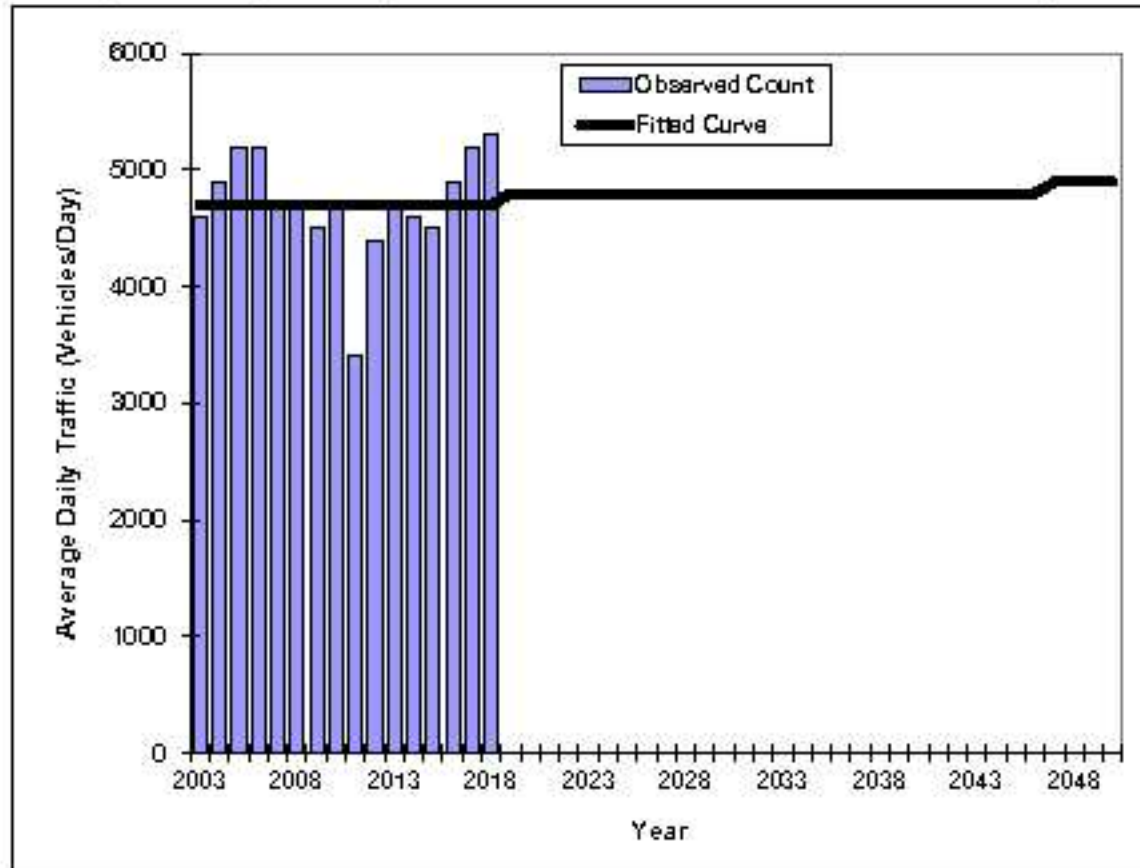
*Axle-Adjusted

Traffic Trends - V3.0

I-75, RAMP FROM SR-40 TO I-75 NB

Fin#	0
Location	1

County:	Marion (36)
Station#:	2009
Highway:	I-75 Ramp



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2003	4600	4700
2004	4900	4700
2005	5200	4700
2006	5200	4700
2007	4700	4700
2008	4700	4700
2009	4500	4700
2010	4700	4700
2011	3400	4700
2012	4400	4700
2013	4700	4700
2014	4600	4700
2015	4500	4700
2016	4900	4700
2017	5200	4700
2018	5300	4700

2030 Opening Year Trend		
2030	N/A	4800
2040 Mid-Year Trend		
2040	N/A	4800
2050 Design Year Trend		
2050	N/A	4900
TRANPLAN Forecasts/Trends		

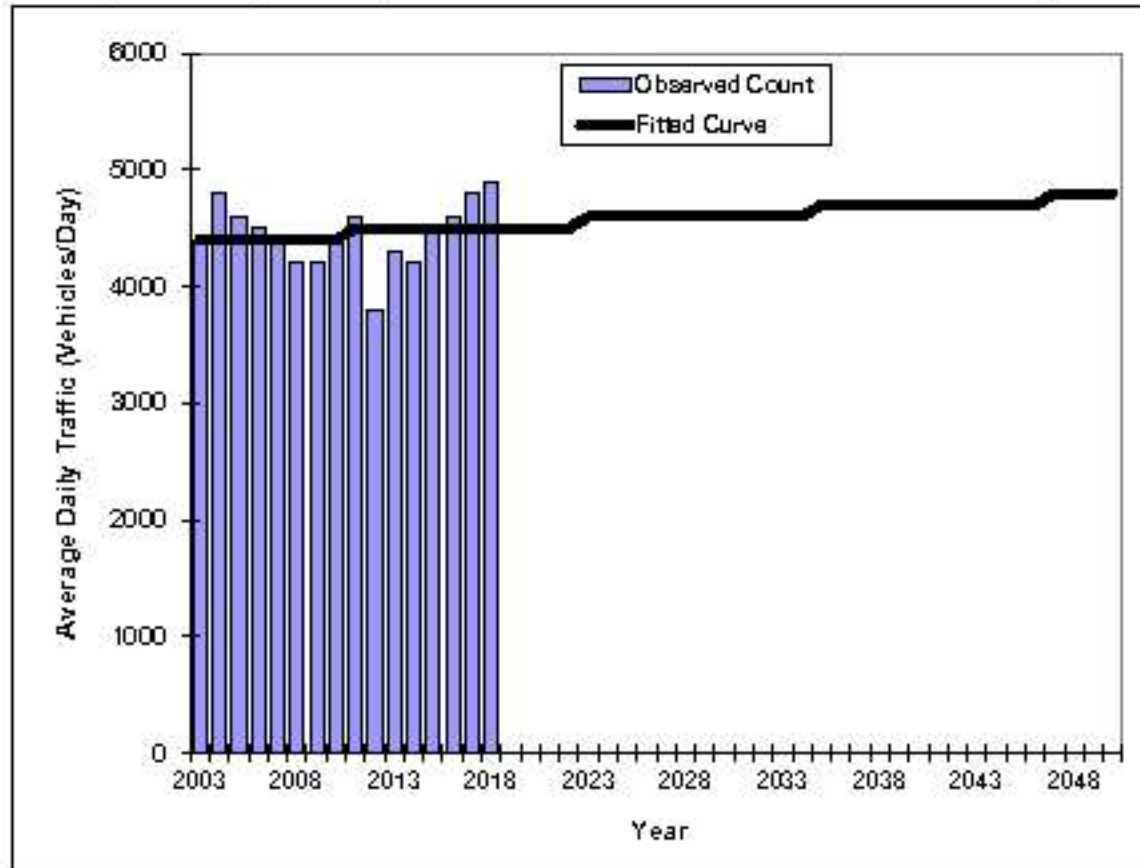
** Annual Trend Increase:	4
Trend R-squared:	0.15%
Trend Annual Historic Growth Rate:	0.00%
Trend Growth Rate (2018 to Design Year):	0.13%
Printed:	7-May-20
Straight Line Growth Option	

*Axle-Adjusted

Traffic Trends - V3.0 I-75, RAMP FROM I-75 SB TO SR-40

Fin#	0
Location	1

County:	Marion (36)
Station#:	2010
Highway:	I-75 Ramp



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2003	4400	4400
2004	4800	4400
2005	4600	4400
2006	4500	4400
2007	4400	4400
2008	4200	4400
2009	4200	4400
2010	4400	4400
2011	4600	4500
2012	3800	4500
2013	4300	4500
2014	4200	4500
2015	4500	4500
2016	4600	4500
2017	4800	4500
2018	4900	4500
2030 Opening Year Trend		
2030	N/A	4600
2040 Mid-Year Trend		
2040	N/A	4700
2050 Design Year Trend		
2050	N/A	4800
TRANPLAN Forecasts/Trends		

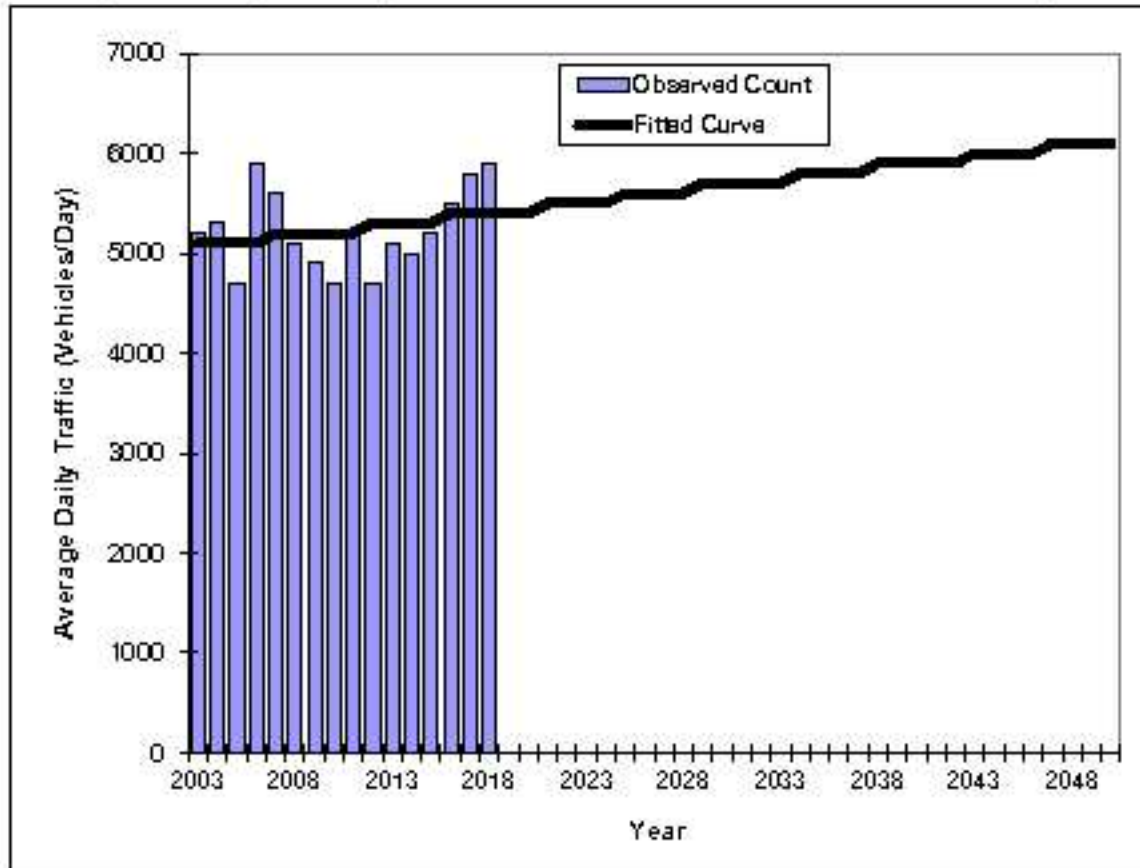
** Annual Trend Increase:	8
Trend R-squared:	1.99%
Trend Annual Historic Growth Rate:	0.15%
Trend Growth Rate (2018 to Design Year):	0.21%
Printed:	7-May-20
Straight Line Growth Option	

*Axle-Adjusted

Traffic Trends - V3.0 I-75, RAMP FROM SR-40 TO I-75 SB

FIN#	0
Location	1

County:	Marion (36)
Station#:	2011
Highway:	I-75 Ramp



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2003	5200	5100
2004	5300	5100
2005	4700	5100
2006	5900	5100
2007	5600	5200
2008	5100	5200
2009	4900	5200
2010	4700	5200
2011	5200	5200
2012	4700	5300
2013	5100	5300
2014	5000	5300
2015	5200	5300
2016	5500	5400
2017	5800	5400
2018	5900	5400
2030 Opening Year Trend		
2030	N/A	5700
2040 Mid-Year Trend		
2040	N/A	5900
2050 Design Year Trend		
2050	N/A	6100
TRANPLAN Forecasts/Trends		

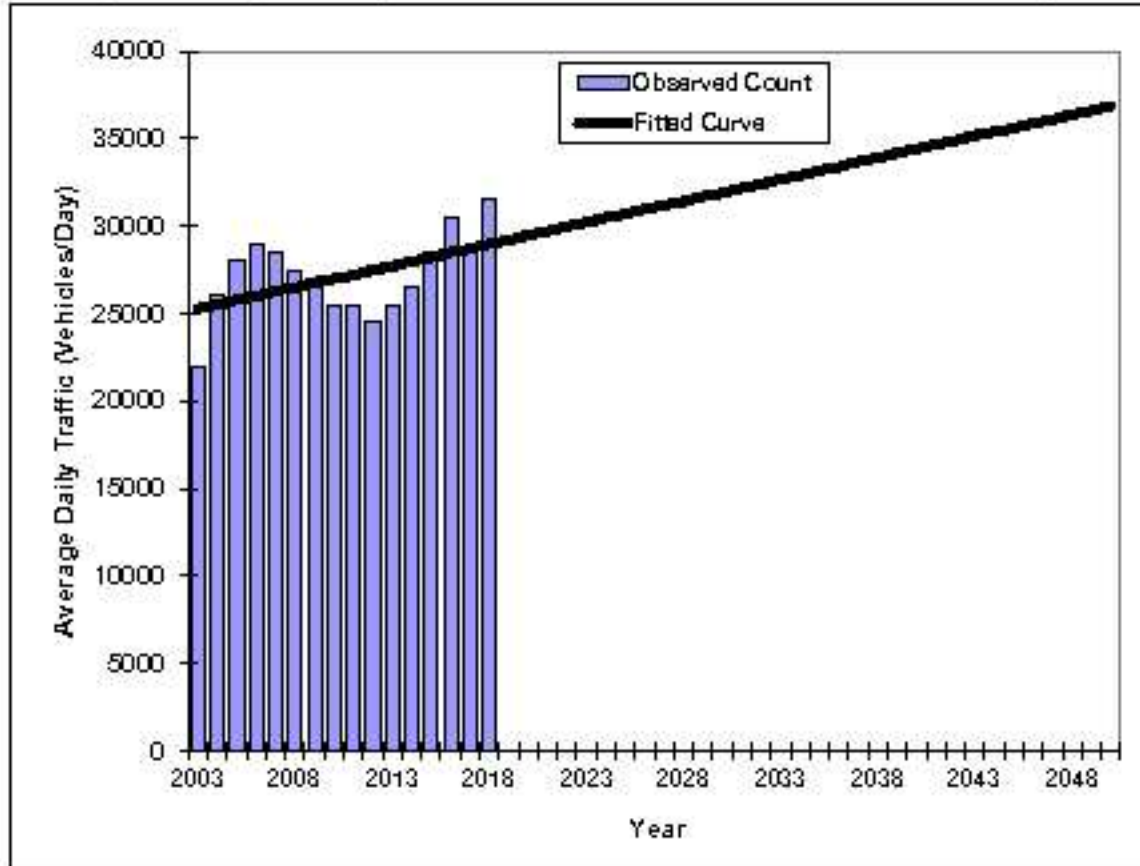
** Annual Trend Increase:	22
Trend R-squared:	6.86%
Trend Annual Historic Growth Rate:	0.39%
Trend Growth Rate (2018 to Design Year):	0.41%
Printed:	7-May-20
Straight Line Growth Option	

*Axle-Adjusted

Traffic Trends - V3.0
ON SR-40, 0.318 MI. W OF I-75 (RCLP)

Fin#	0
Location	1

County:	Marion (36)
Station#:	0476
Highway:	SR-40



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2003	22000	25300
2004	26000	25500
2005	28000	25800
2006	29000	26000
2007	28500	26300
2008	27500	26500
2009	26500	26800
2010	25500	27000
2011	25500	27200
2012	24500	27500
2013	25500	27700
2014	26500	28000
2015	28500	28200
2016	30500	28500
2017	28500	28700
2018	31500	29000

2030 Opening Year Trend		
2030	N/A	31900
2040 Mid-Year Trend		
2040	N/A	34400
2050 Design Year Trend		
2050	N/A	36900
TRANPLAN Forecasts/Trends		

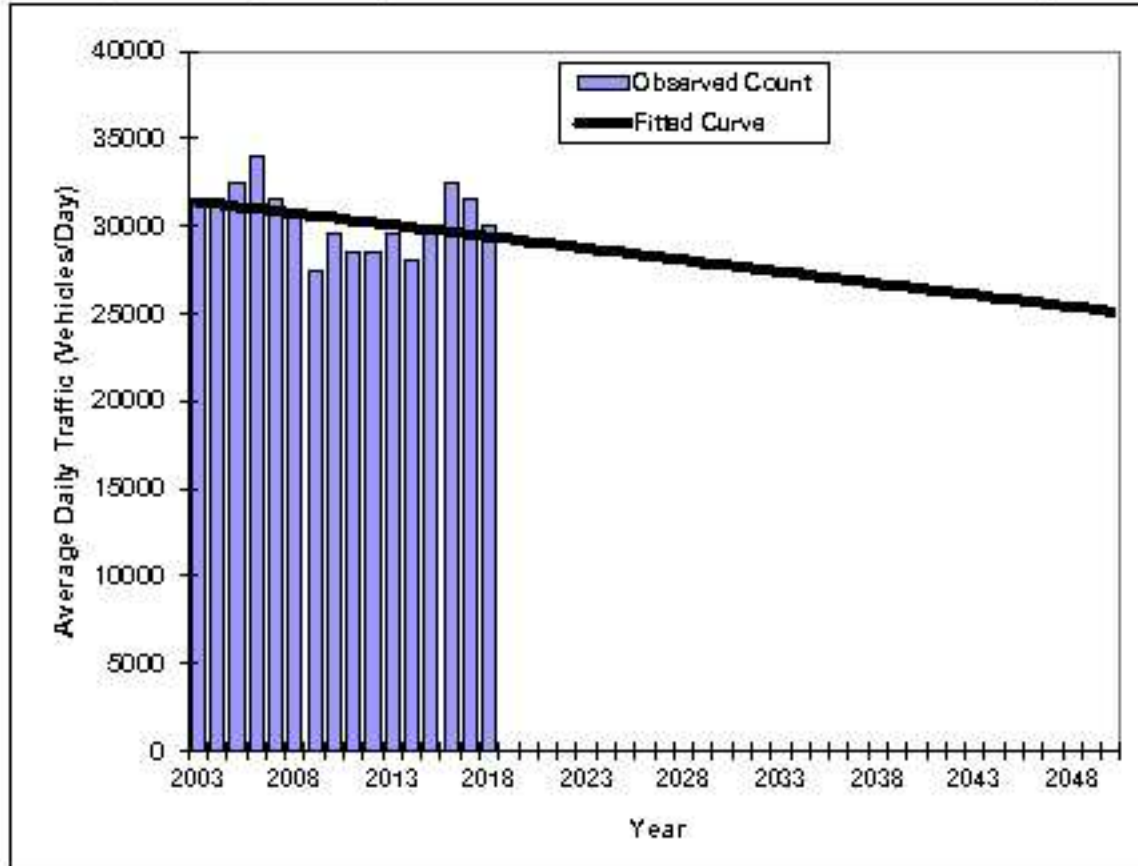
** Annual Trend Increase:	247
Trend R-squared:	24.76%
Trend Annual Historic Growth Rate:	0.97%
Trend Growth Rate (2018 to Design Year):	0.85%
Printed:	7-May-20
Straight Line Growth Option	

*Axle-Adjusted

Traffic Trends - V3.0
ON SR-40, 0.26 MI. W OF CR-500A (UCLP)

Fin#	0
Location	1

County:	Marion (36)
Station#:	0032
Highway:	SR-40



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2003	31500	31400
2004	31500	31300
2005	32500	31100
2006	34000	31000
2007	31500	30900
2008	30500	30700
2009	27500	30600
2010	29500	30500
2011	28500	30300
2012	28500	30200
2013	29500	30100
2014	28000	29900
2015	29500	29800
2016	32500	29700
2017	31500	29500
2018	30000	29400

2030 Opening Year Trend		
2030	N/A	27800
2040 Mid-Year Trend		
2040	N/A	26500
2050 Design Year Trend		
2050	N/A	25100
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	-133
Trend R-squared:	11.90%
Trend Annual Historic Growth Rate:	-0.42%
Trend Growth Rate (2018 to Design Year):	-0.46%
Printed:	7-May-20
Straight Line Growth Option	

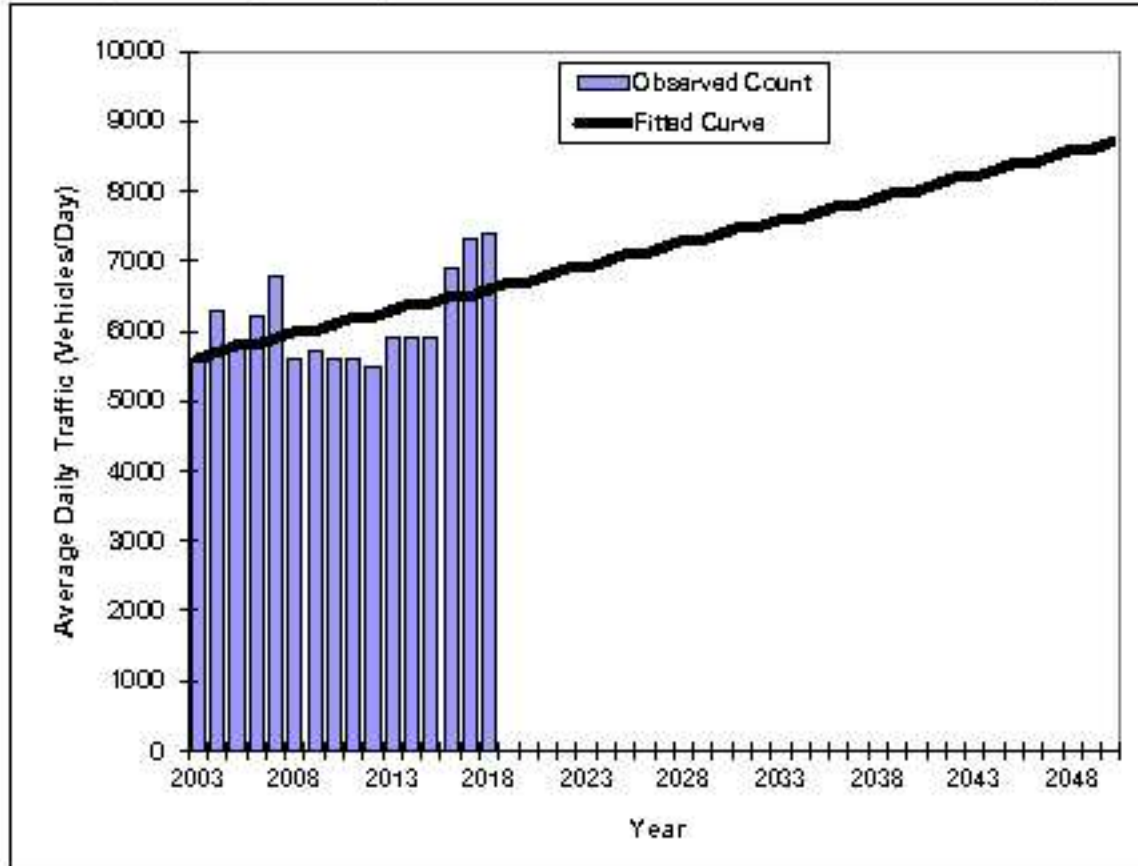
*Axle-Adjusted

Traffic Trends - V3.0

I-75, RAMP FROM I-75 NB TO SR-500 (US-27)

Fin#	0
Location	1

County:	Marion (36)
Station#:	2012
Highway:	I-75 Ramp



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2003	5600	5600
2004	6300	5700
2005	5800	5800
2006	6200	5800
2007	6800	5900
2008	5600	6000
2009	5700	6000
2010	5600	6100
2011	5600	6200
2012	5500	6200
2013	5900	6300
2014	5900	6400
2015	5900	6400
2016	6900	6500
2017	7300	6500
2018	7400	6600

2030 Opening Year Trend		
2030	N/A	7400
2040 Mid-Year Trend		
2040	N/A	8000
2050 Design Year Trend		
2050	N/A	8700
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	65
Trend R-squared:	23.61%
Trend Annual Historic Growth Rate:	1.19%
Trend Growth Rate (2018 to Design Year):	0.99%
Printed:	7-May-20
Straight Line Growth Option	

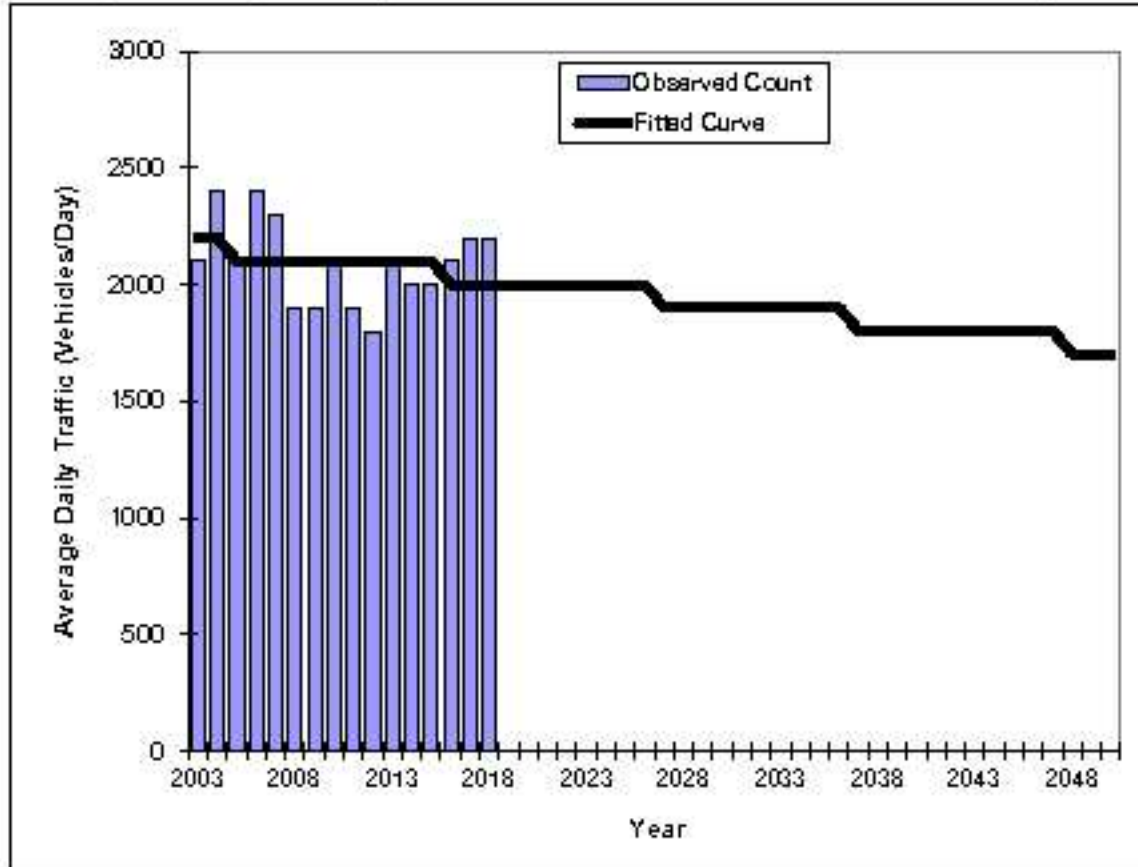
*Axle-Adjusted

Traffic Trends - V3.0

I-75, RAMP FROM SR-500 (US-27) TO I-75 NB

Fin#	0
Location	1

County:	Marion (36)
Station#:	2013
Highway:	I-75 Ramp



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2003	2100	2200
2004	2400	2200
2005	2100	2100
2006	2400	2100
2007	2300	2100
2008	1900	2100
2009	1900	2100
2010	2100	2100
2011	1900	2100
2012	1800	2100
2013	2100	2100
2014	2000	2100
2015	2000	2100
2016	2100	2000
2017	2200	2000
2018	2200	2000

2030 Opening Year Trend		
2030	N/A	1900
2040 Mid-Year Trend		
2040	N/A	1800
2050 Design Year Trend		
2050	N/A	1700
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	-9
Trend R-squared:	6.22%
Trend Annual Historic Growth Rate:	-0.61%
Trend Growth Rate (2018 to Design Year):	-0.47%
Printed:	7-May-20
Straight Line Growth Option	

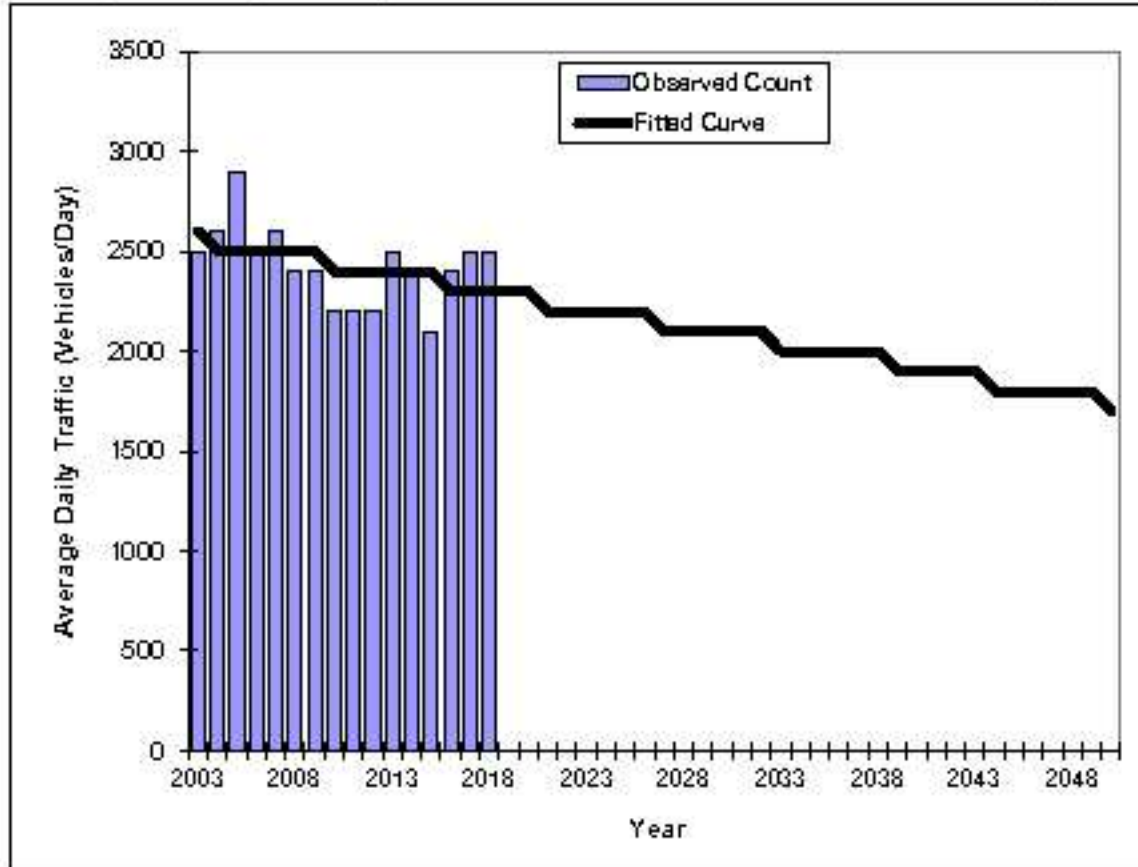
*Axle-Adjusted

Traffic Trends - V3.0

I-75, RAMP FROM I-75 SB TO SR-500 (US-27)

Fin#	0
Location	1

County:	Marion (36)
Station#:	2014
Highway:	I-75 Ramp



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2003	2500	2600
2004	2600	2500
2005	2900	2500
2006	2500	2500
2007	2600	2500
2008	2400	2500
2009	2400	2500
2010	2200	2400
2011	2200	2400
2012	2200	2400
2013	2500	2400
2014	2400	2400
2015	2100	2400
2016	2400	2300
2017	2500	2300
2018	2500	2300

2030 Opening Year Trend		
2030	N/A	2100
2040 Mid-Year Trend		
2040	N/A	1900
2050 Design Year Trend		
2050	N/A	1700
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	-18
Trend R-squared:	18.13%
Trend Annual Historic Growth Rate:	-0.77%
Trend Growth Rate (2018 to Design Year):	-0.82%
Printed:	7-May-20
Straight Line Growth Option	

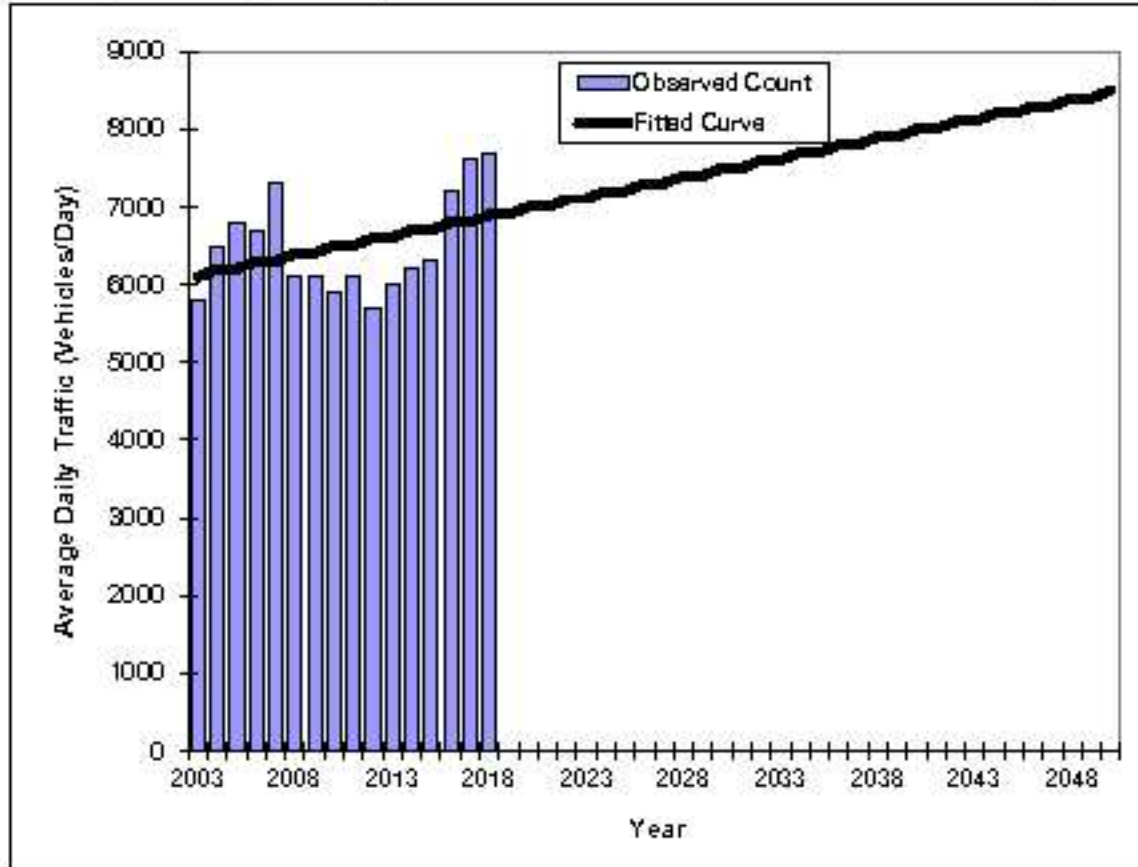
*Axle-Adjusted

Traffic Trends - V3.0

I-75, RAMP FROM SR-500 (US-27) TO I-75 SB

FIN#	0
Location	1

County:	Marion (36)
Station#:	2015
Highway:	I-75 Ramp



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2003	5800	6100
2004	6500	6200
2005	6800	6200
2006	6700	6300
2007	7300	6300
2008	6100	6400
2009	6100	6400
2010	5900	6500
2011	6100	6500
2012	5700	6600
2013	6000	6600
2014	6200	6700
2015	6300	6700
2016	7200	6800
2017	7600	6800
2018	7700	6900
2030 Opening Year Trend		
2030	N/A	7500
2040 Mid-Year Trend		
2040	N/A	8000
2050 Design Year Trend		
2050	N/A	8500
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	51
Trend R-squared:	13.90%
Trend Annual Historic Growth Rate:	0.87%
Trend Growth Rate (2018 to Design Year):	0.72%
Printed:	7-May-20
Straight Line Growth Option	

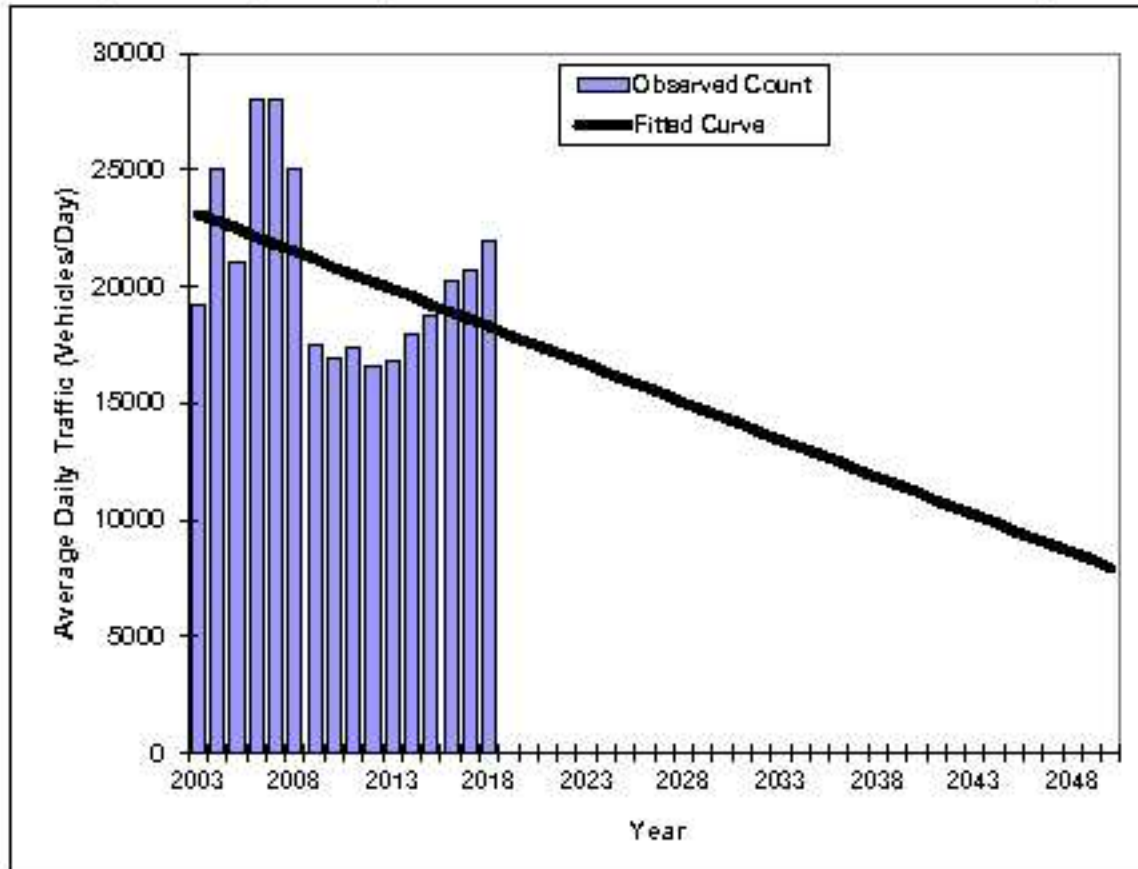
*Axle-Adjusted

Traffic Trends - V3.0

US-27, 0.574 MI. NW OF I-75 (RCLP) -- ON US-27, 0.574 MI. NW OF I-75 (RCLP)

Fin#	443623-1
Location	1

County:	Marion (36)
Station#:	0459
Highway:	ON US-27, 0.574 MI. NW OF I-75 (RCLP)



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2003	19200	23100
2004	25000	22800
2005	21000	22500
2006	28000	22100
2007	28000	21800
2008	25000	21500
2009	17500	21200
2010	16900	20800
2011	17400	20500
2012	16600	20200
2013	16800	19900
2014	18000	19600
2015	18700	19200
2016	20200	18900
2017	20700	18600
2018	22000	18300

2030 Opening Year Trend		
2030	N/A	14400
2040 Mid-Year Trend		
2040	N/A	11200
2050 Design Year Trend		
2050	N/A	7900
TRANPLAN Forecasts/Trends		

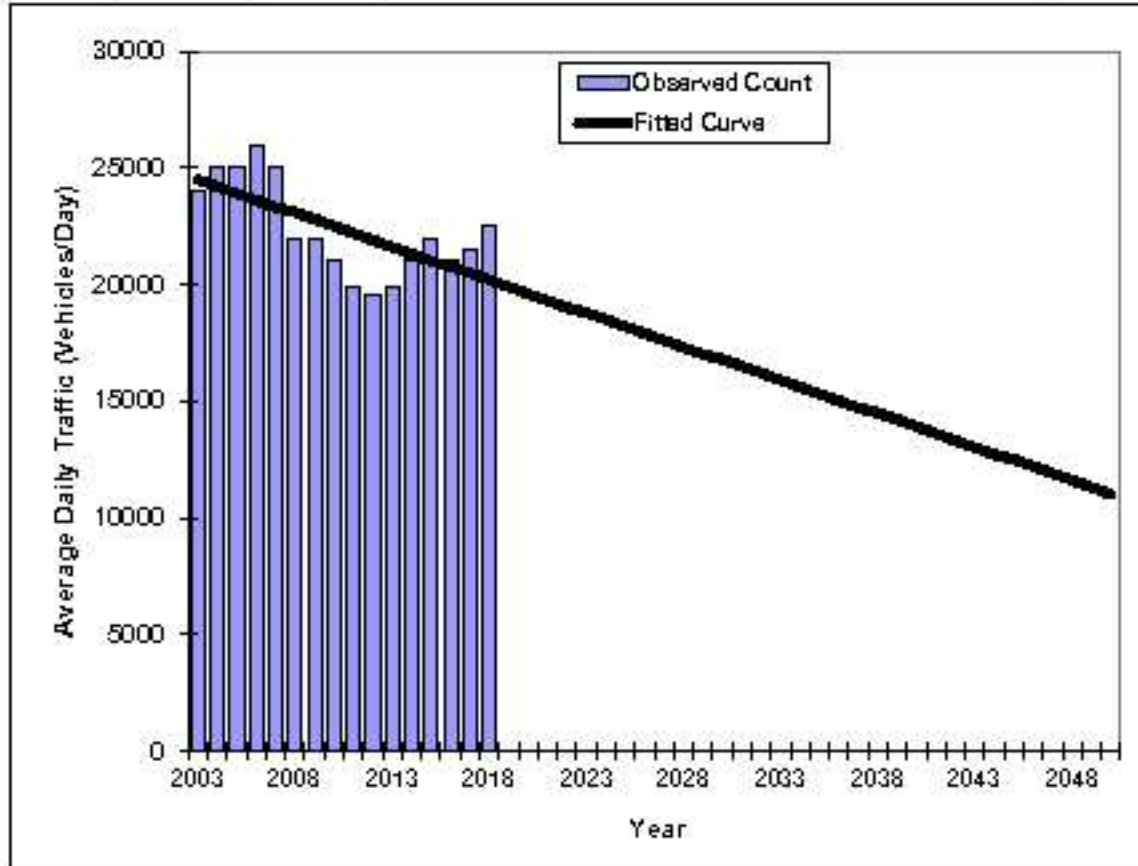
** Annual Trend Increase:	-32.3
Trend R-squared:	15.64%
Trend Annual Historic Growth Rate:	-1.39%
Trend Growth Rate (2018 to Design Year):	-1.78%
Printed:	1-Jan-20
Straight Line Growth Option	

*Axle-Adjusted

Traffic Trends - V3.0
ON US-27, 0.188MI. N OF 30TH AVE. (UCLP)

Fin#	0
Location	1

County:	Marion (36)
Station#:	0033
Highway:	US-27



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2003	24000	24500
2004	25000	24200
2005	25000	23900
2006	26000	23600
2007	25000	23300
2008	22000	23100
2009	22000	22800
2010	21000	22500
2011	19900	22200
2012	19600	21900
2013	19900	21600
2014	21000	21300
2015	22000	21000
2016	21000	20800
2017	21500	20500
2018	22500	20200

2030 Opening Year Trend		
2030	N/A	16800
2040 Mid-Year Trend		
2040	N/A	13900
2050 Design Year Trend		
2050	N/A	11000
TRANPLAN Forecasts/Trends		

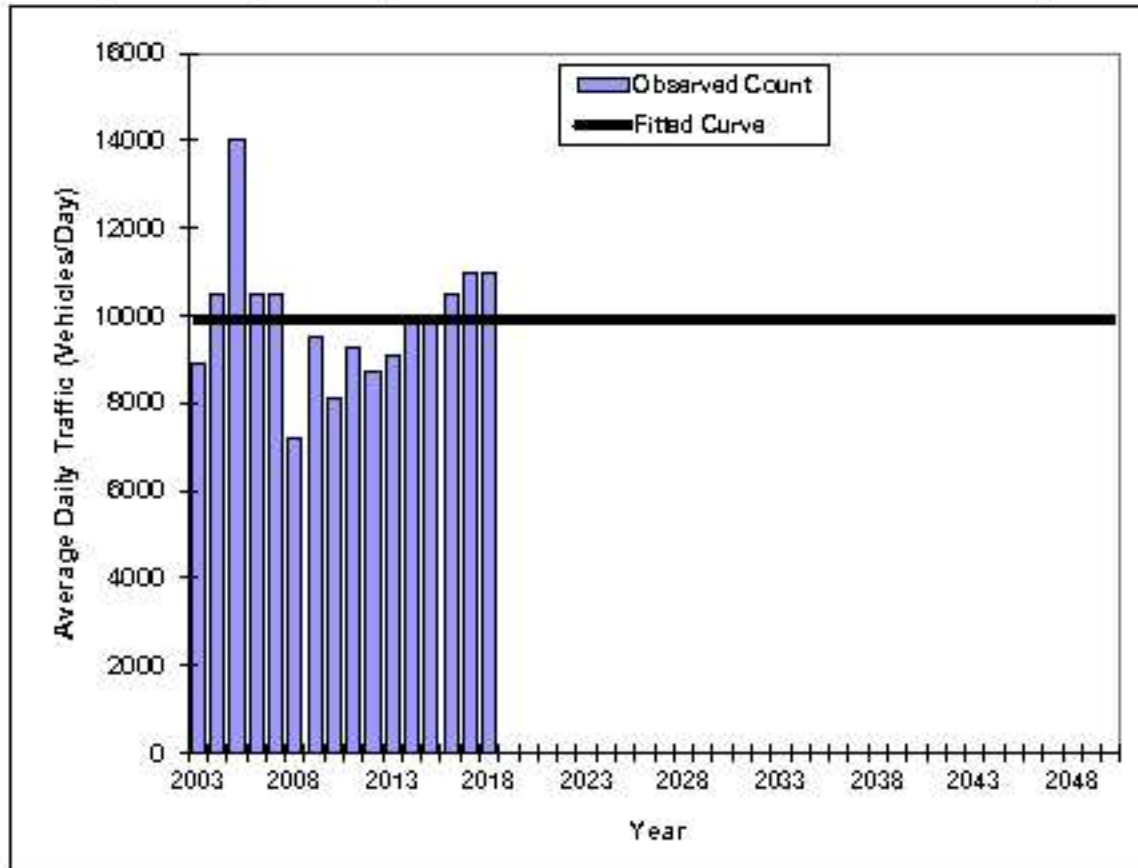
** Annual Trend Increase:	-286
Trend R-squared:	44.11%
Trend Annual Historic Growth Rate:	-1.17%
Trend Growth Rate (2018 to Design Year):	-1.42%
Printed:	7-May-20
Straight Line Growth Option	

*Axle-Adjusted

Traffic Trends - V3.0 I-75, RAMP FROM I-75 NB TO SR-326

Fin#	0
Location	1

County:	Marion (36)
Station#:	2016
Highway:	I-75 Ramp



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2003	8900	9900
2004	10500	9900
2005	14000	9900
2006	10500	9900
2007	10500	9900
2008	7200	9900
2009	9500	9900
2010	8100	9900
2011	9300	9900
2012	8700	9900
2013	9100	9900
2014	9900	9900
2015	10000	9900
2016	10500	9900
2017	11000	9900
2018	11000	9900
2030 Opening Year Trend		
2030	N/A	9900
2040 Mid-Year Trend		
2040	N/A	9900
2050 Design Year Trend		
2050	N/A	9900
TRANPLAN Forecasts/Trends		

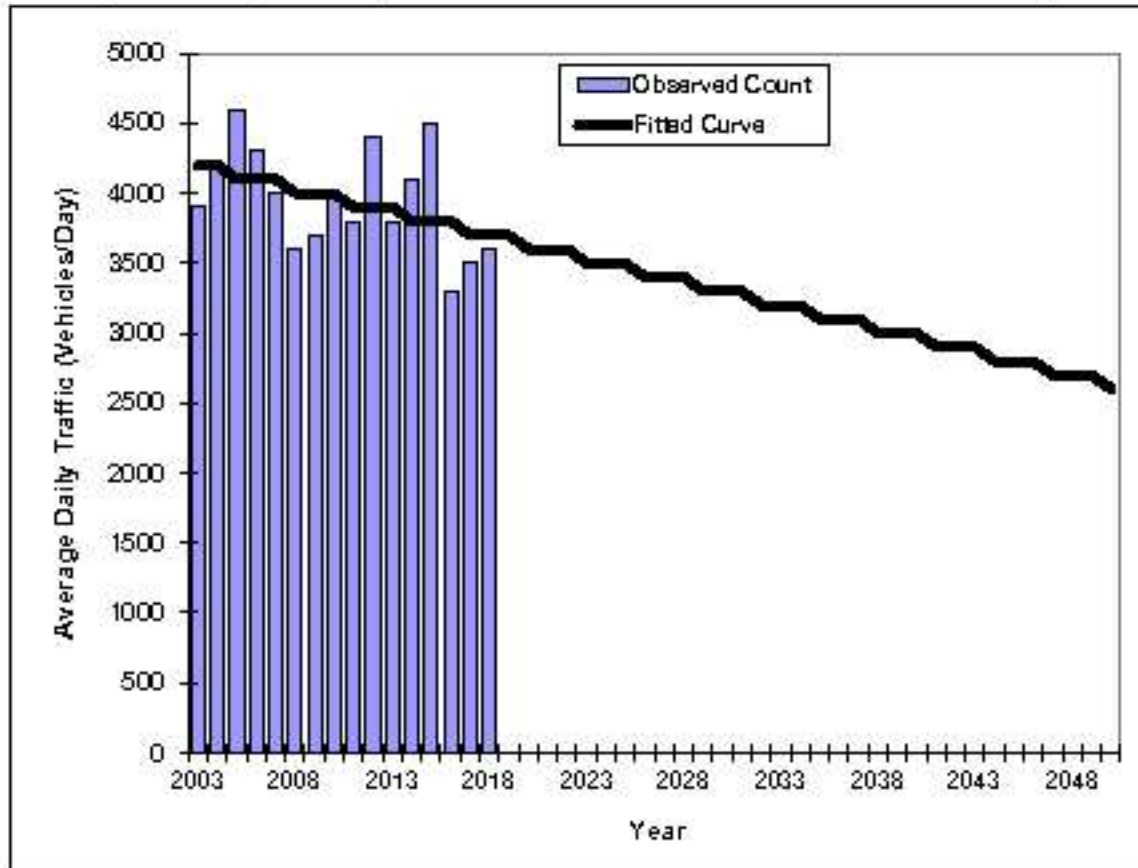
** Annual Trend Increase:	-1
Trend R-squared:	0.00%
Trend Annual Historic Growth Rate:	0.00%
Trend Growth Rate (2018 to Design Year):	0.00%
Printed:	7-May-20
Straight Line Growth Option	

*Axle-Adjusted

Traffic Trends - V3.0 I-75, RAMP FROM SR-326 TO I-75 NB

Fin#	0
Location	1

County:	Marion (36)
Station#:	2017
Highway:	I-75 Ramp



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2003	3900	4200
2004	4200	4200
2005	4600	4100
2006	4300	4100
2007	4000	4100
2008	3600	4000
2009	3700	4000
2010	4000	4000
2011	3800	3900
2012	4400	3900
2013	3800	3900
2014	4100	3800
2015	4500	3800
2016	3300	3800
2017	3500	3700
2018	3600	3700

2030 Opening Year Trend		
2030	N/A	3300
2040 Mid-Year Trend		
2040	N/A	3000
2050 Design Year Trend		
2050	N/A	2600
TRANPLAN Forecasts/Trends		

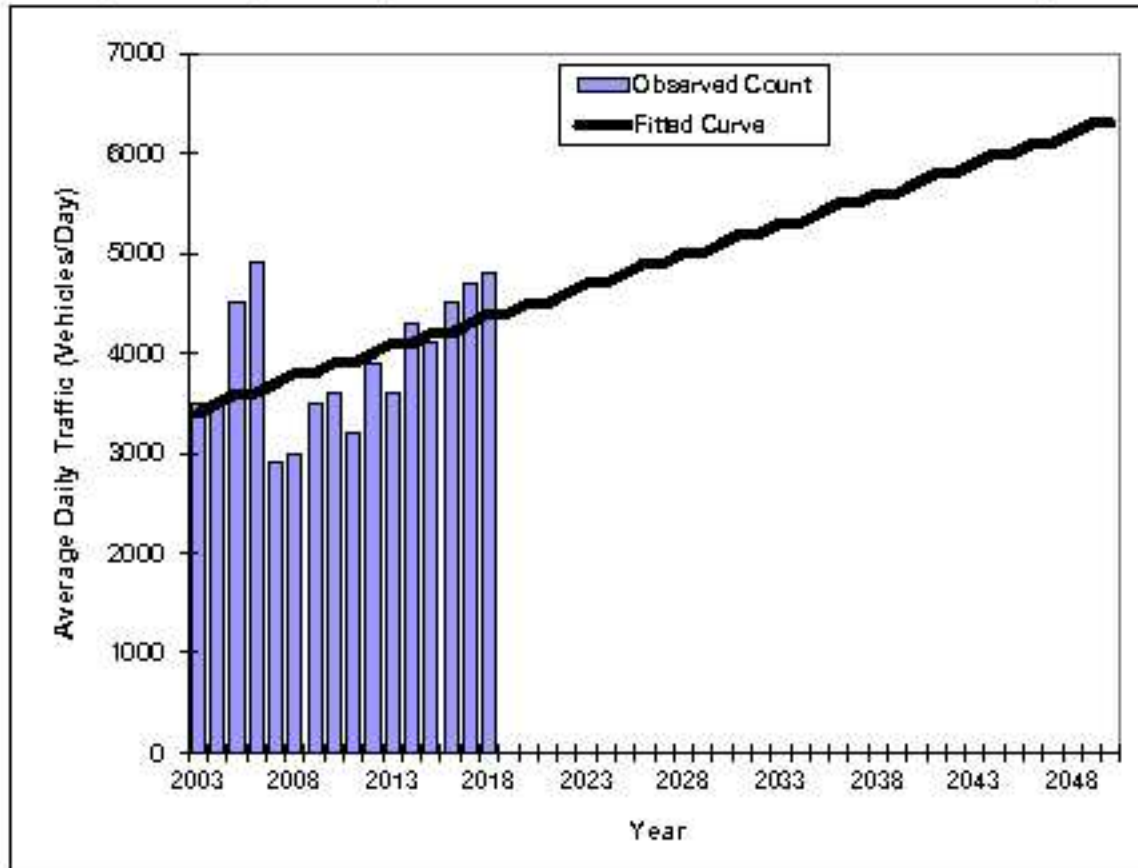
** Annual Trend Increase:	-33
Trend R-squared:	17.56%
Trend Annual Historic Growth Rate:	-0.79%
Trend Growth Rate (2018 to Design Year):	-0.93%
Printed:	7-May-20
Straight Line Growth Option	

*Axle-Adjusted

Traffic Trends - V3.0 I-75, RAMP FROM I-75 SB TO SR-326

FIN#	0
Location	1

County:	Marion (36)
Station#:	2018
Highway:	I-75 Ramp



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2003	3500	3400
2004	3500	3500
2005	4500	3600
2006	4900	3600
2007	2900	3700
2008	3000	3800
2009	3500	3800
2010	3600	3900
2011	3200	3900
2012	3900	4000
2013	3600	4100
2014	4300	4100
2015	4100	4200
2016	4500	4200
2017	4700	4300
2018	4800	4400
2030 Opening Year Trend		
2030	N/A	5100
2040 Mid-Year Trend		
2040	N/A	5700
2050 Design Year Trend		
2050	N/A	6300
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	61
Trend R-squared:	20.01%
Trend Annual Historic Growth Rate:	1.96%
Trend Growth Rate (2018 to Design Year):	1.35%
Printed:	7-May-20
Straight Line Growth Option	

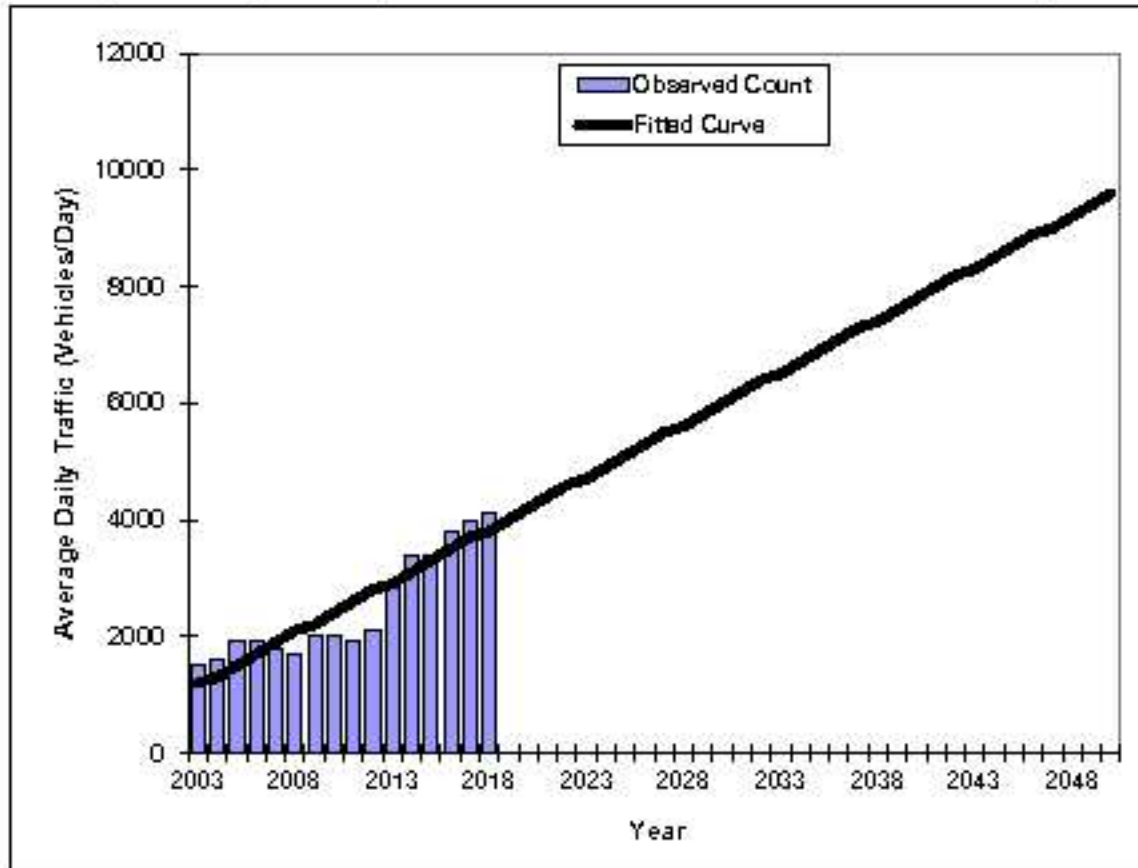
*Axle-Adjusted

Traffic Trends - V3.0

I-75, RAMP FROM SR-326 EB TO I-75

FIN#	0
Location	1

County:	Marion (36)
Station#:	2019
Highway:	I-75 Ramp



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2003	1500	1200
2004	1600	1300
2005	1900	1500
2006	1900	1700
2007	1800	1900
2008	1700	2100
2009	2000	2200
2010	2000	2400
2011	1900	2600
2012	2100	2800
2013	2900	2900
2014	3400	3100
2015	3400	3300
2016	3800	3500
2017	4000	3700
2018	4100	3800

2030 Opening Year Trend		
2030	N/A	6000
2040 Mid-Year Trend		
2040	N/A	7800
2050 Design Year Trend		
2050	N/A	9600
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	179
Trend R-squared:	84.45%
Trend Annual Historic Growth Rate:	14.44%
Trend Growth Rate (2018 to Design Year):	4.77%
Printed:	7-May-20
Straight Line Growth Option	

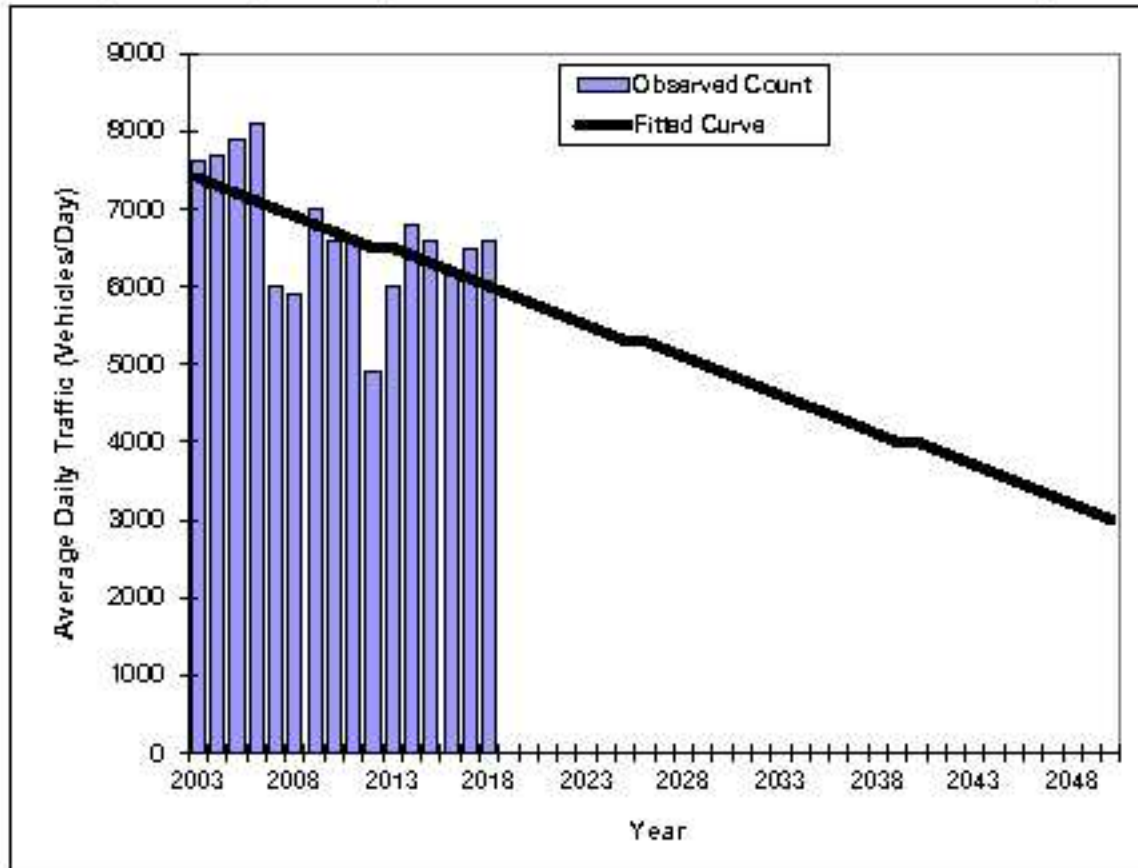
*Axle-Adjusted

Traffic Trends - V3.0

I-75 SB, RAMP FROM SR-326 WB TO I-75 SB

Fin#	0
Location	1

County:	Marion (36)
Station#:	2024
Highway:	I-75 Ramp



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2003	7600	7400
2004	7700	7300
2005	7900	7200
2006	8100	7100
2007	6000	7000
2008	5900	6900
2009	7000	6800
2010	6600	6700
2011	6600	6600
2012	4900	6500
2013	6000	6500
2014	6800	6400
2015	6600	6300
2016	6200	6200
2017	6500	6100
2018	6600	6000

2030 Opening Year Trend		
2030	N/A	4900
2040 Mid-Year Trend		
2040	N/A	4000
2050 Design Year Trend		
2050	N/A	3000
TRANPLAN Forecasts/Trends		

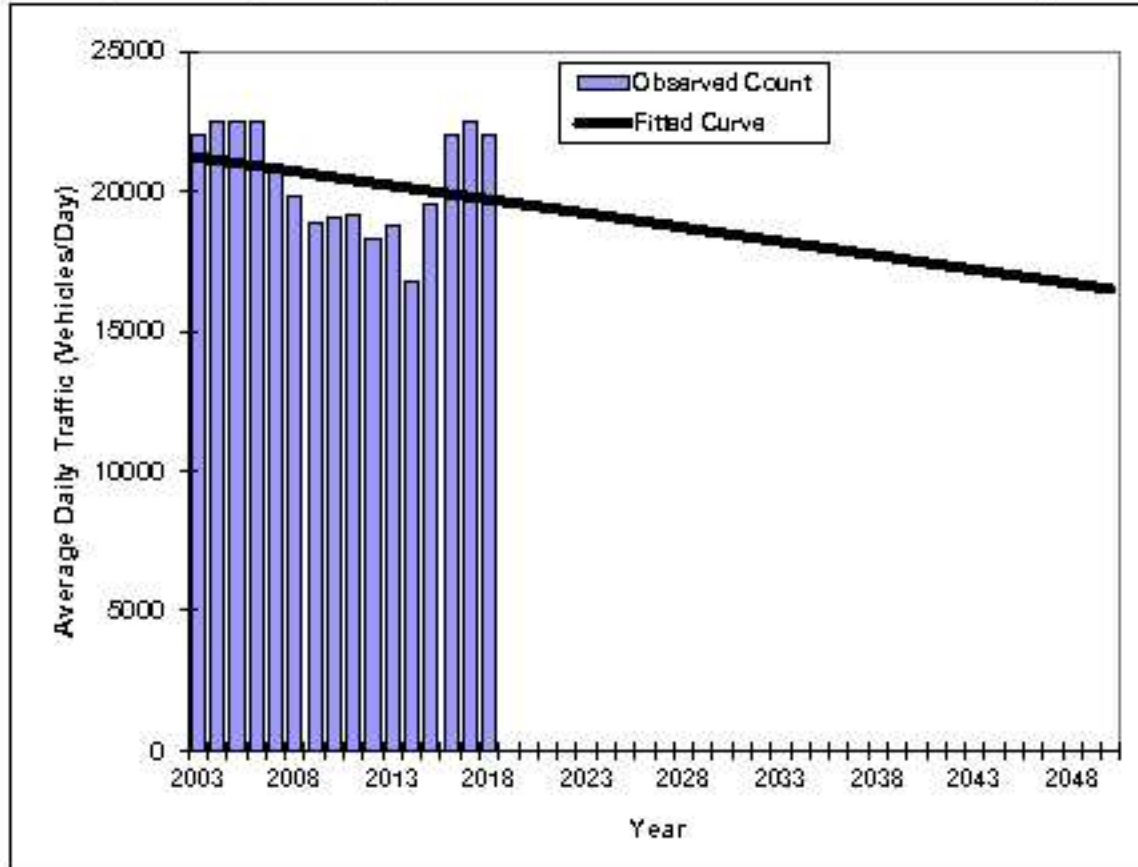
** Annual Trend Increase:	-93
Trend R-squared:	27.80%
Trend Annual Historic Growth Rate:	-1.26%
Trend Growth Rate (2018 to Design Year):	-1.56%
Printed:	7-May-20
Straight Line Growth Option	

*Axle-Adjusted

Traffic Trends - V3.0
ON SR-326, 0.245 MI. E OF I-75 (R/L)

Fin#	0
Location	1

County:	Marion (36)
Station#:	0465
Highway:	SR-326



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2003	22000	21200
2004	22500	21100
2005	22500	21000
2006	22500	20900
2007	21000	20800
2008	19800	20700
2009	18900	20600
2010	19100	20500
2011	19200	20400
2012	18300	20300
2013	18800	20200
2014	16800	20100
2015	19500	20000
2016	22000	19900
2017	22500	19800
2018	22000	19700

2030 Opening Year Trend		
2030	N/A	18500
2040 Mid-Year Trend		
2040	N/A	17500
2050 Design Year Trend		
2050	N/A	16500
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	-10.1
Trend R-squared:	6.64%
Trend Annual Historic Growth Rate:	-0.47%
Trend Growth Rate (2018 to Design Year):	-0.51%
Printed:	7-May-20
Straight Line Growth Option	

*Axle-Adjusted

APPENDIX N – BEBR POPULATION STUDY DATA

Projections of Florida Population by County, 2020–2045, with Estimates for 2019

Stefan Rayer, Population Program Director
Ying Wang, Research Demographer

The Bureau of Economic and Business Research (BEBR) has been making population projections for Florida and its counties since the 1970s. This report presents our most recent set of projections and describes the methodology used to construct those projections. To account for uncertainty regarding future population growth, we publish three series of projections. We believe the medium series is the most likely to provide accurate forecasts in most circumstances, but the low and high series provide an indication of the uncertainty surrounding the medium series. It should be noted that these projections refer solely to permanent residents of Florida; they do not include tourists or seasonal residents.

State projections

The starting point for the state-level projections was the April 1, 2010 census population count by age, sex, race, and Hispanic origin, as adjusted by the National Center for Health Statistics (NCHS) in the Vintage 2017 bridged race population estimates. Projections were made in one-year intervals using a cohort-component methodology in which births, deaths, and migration are projected separately for each age-sex cohort in Florida for non-Hispanic whites, non-Hispanic nonwhites, and Hispanics. We applied three different sets of assumptions to provide low, medium, and high series of projections. Although the

low and high series do not provide absolute bounds on future population change, they provide a reasonable range in which Florida's future population is likely to fall.

Survival rates were applied by single year of age, sex, race, and Hispanic origin to project future deaths in the population. These rates were based on Florida Life Tables for 2007–2013, using mortality data published by the Office of Vital Statistics in the Florida Department of Health. The survival rates were adjusted upward each year until 2044 to account for projected increases in life expectancy. These adjustments were based on projected increases in survival rates released by the U.S. Census Bureau. We used the same mortality assumptions for all three series of projections because there is less uncertainty regarding future changes in mortality rates than is true for migration and fertility rates.

Domestic migration rates by age and sex were based on Public Use Microdata Sample (PUMS) files from the 2005–2009 and 2013–2017 American Community Survey (ACS) 5-year estimates. We chose an average of those two sets of migration estimates because the recession of 2007–2009 had a substantial impact on migration patterns in Florida, affecting in- and out-migration in both time periods; in addition, projections based on more than one time period

**Projections of Florida Population by County,
2020–2045, with Estimates for 2019**

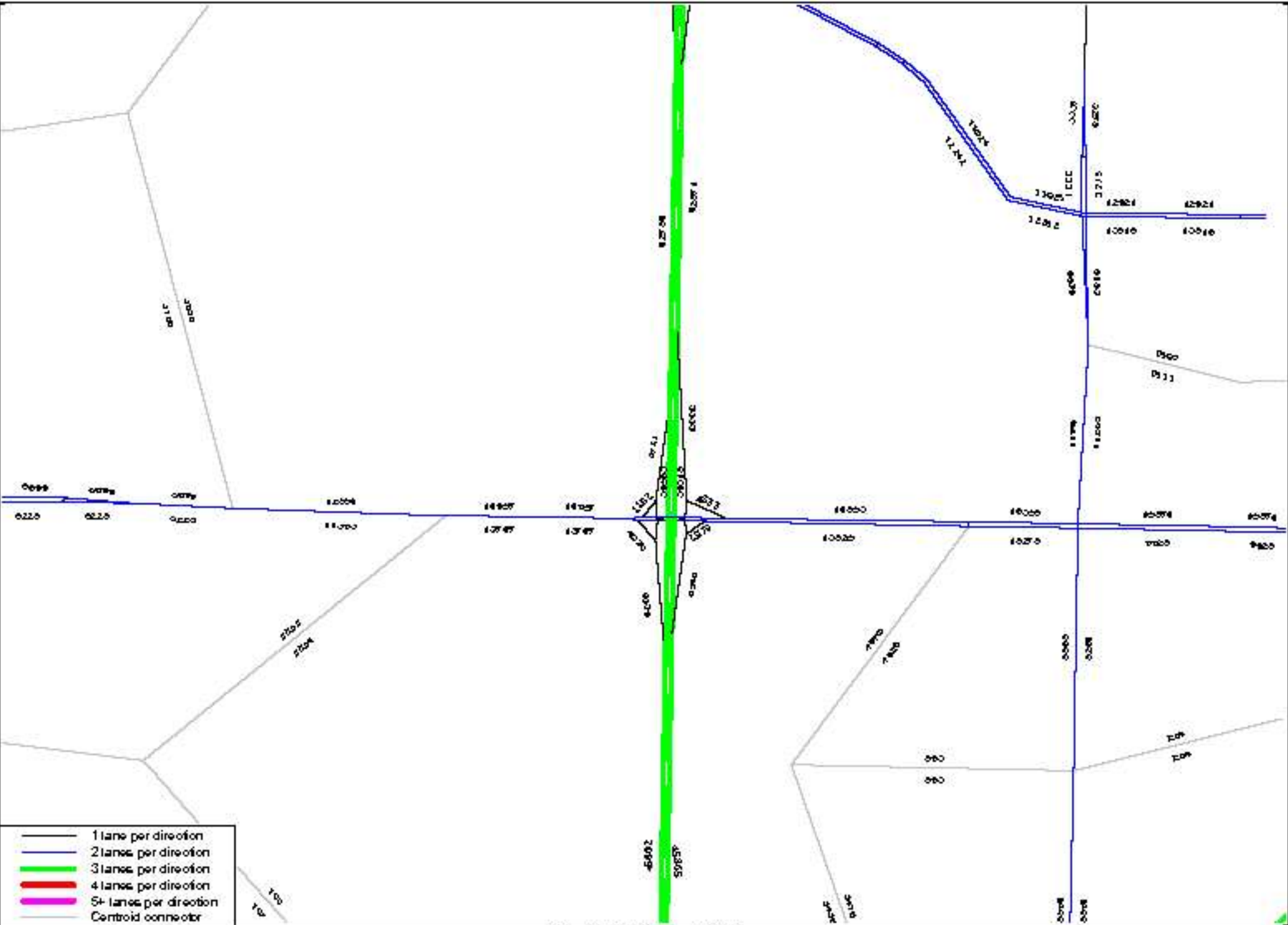
County and State	Estimates April 1, 2019	Projections, April 1					
		2020	2025	2030	2035	2040	2045
ALACHUA	267,306						
Low		258,900	262,300	264,300	265,100	264,500	262,300
Medium		269,800	281,500	291,600	300,200	307,400	313,300
High		280,500	299,400	318,000	334,300	348,800	361,400
BAKER	28,249						
Low		27,100	27,500	27,700	27,700	27,600	27,300
Medium		28,500	29,900	31,100	32,000	32,900	33,600
High		29,900	32,400	34,900	37,300	39,700	41,900
BAY	167,283						
Low		168,500	173,300	176,400	178,400	179,400	179,700
Medium		175,300	185,700	193,700	200,300	206,000	210,900
High		182,500	198,500	213,700	228,000	241,000	258,800
BRADFORD	28,682						
Low		27,400	26,900	26,300	25,600	24,900	24,300
Medium		28,200	29,200	29,500	29,800	30,000	30,300
High		30,200	31,700	33,100	34,500	35,900	37,200
BREVARD	594,469						
Low		577,900	584,000	603,000	608,300	610,400	612,200
Medium		602,400	637,600	665,000	687,900	707,400	726,000
High		626,000	678,100	725,700	766,900	805,100	843,700
BROWARD	1,919,644						
Low		1,852,500	1,899,500	1,917,100	1,924,900	1,923,700	1,920,500
Medium		1,941,200	2,039,000	2,115,200	2,179,100	2,233,900	2,285,100
High		2,017,700	2,168,500	2,307,300	2,426,900	2,527,300	2,646,600
CALHOUN	14,067						
Low		14,100	14,200	14,100	13,900	13,800	13,600
Medium		14,900	15,400	15,800	16,200	16,500	16,800
High		15,600	16,700	17,800	18,800	19,800	20,800
CHARLOTTE	181,770						
Low		175,300	181,500	185,200	187,200	188,200	188,900
Medium		184,700	198,100	208,700	217,400	225,200	232,500
High		193,800	213,800	232,500	250,200	266,900	284,600
CITRUS	147,744						
Low		143,300	146,600	149,000	150,300	150,800	150,900
Medium		149,400	157,100	163,600	168,900	173,400	177,300
High		155,300	168,000	180,400	192,100	202,600	213,100
CLAY	215,246						
Low		210,100	220,600	229,300	235,200	239,300	242,400
Medium		219,000	236,800	252,500	265,000	275,600	285,100
High		227,600	251,800	276,000	296,600	315,700	334,100
COLLIER	376,706						
Low		365,000	385,500	400,300	410,800	416,600	420,100
Medium		384,600	421,200	451,700	477,200	498,400	517,400
High		403,400	451,600	497,500	538,500	575,500	611,300
COLUMBIA	70,492						
Low		67,700	68,600	69,200	69,300	69,100	68,700
Medium		70,500	73,500	76,000	78,000	79,700	81,200
High		73,300	78,600	83,800	88,600	92,900	97,100
DESOTO	36,065						
Low		34,900	35,000	34,800	34,500	34,100	33,500
Medium		36,300	37,500	38,300	38,900	39,500	39,900
High		37,800	40,100	42,200	44,100	45,700	47,400
DIXIE	16,610						
Low		15,900	15,500	15,100	14,600	14,200	13,700
Medium		16,700	16,900	17,000	17,100	17,100	17,100
High		17,500	18,300	19,000	19,700	20,300	21,000

**Projections of Florida Population by County,
2020–2045, with Estimates for 2019 (continued)**

County and State	Estimates April 1, 2019	Projections, April 1					
		2020	2025	2030	2035	2040	2045
HOLMES	20,049						
Low		19,200	18,700	18,100	17,500	17,000	16,400
Medium		20,200	20,300	20,400	20,400	20,500	20,500
High		21,200	22,000	22,800	23,600	24,400	25,100
INDIAN RIVER	154,939						
Low		149,600	155,700	160,000	162,100	163,000	162,800
Medium		157,600	170,000	180,200	188,200	195,000	200,900
High		165,400	183,400	200,900	216,700	231,100	245,300
JACKSON	46,969						
Low		45,400	44,500	43,400	42,400	41,300	40,200
Medium		47,100	47,600	47,800	48,000	48,100	48,300
High		49,100	50,900	52,600	54,100	55,500	56,800
JEFFERSON	14,776						
Low		14,100	13,900	13,600	13,300	12,900	12,600
Medium		14,800	15,100	15,300	15,400	15,600	15,700
High		15,600	16,400	17,200	17,900	18,600	19,300
LAFAYETTE	8,482						
Low		8,300	8,400	8,400	8,400	8,300	8,200
Medium		8,700	9,100	9,400	9,700	9,900	10,100
High		9,100	9,900	10,600	11,300	11,900	12,600
LAKE	357,247						
Low		347,800	376,000	399,700	417,200	429,500	438,400
Medium		366,600	410,900	450,300	482,700	510,300	534,800
High		384,400	440,400	496,700	546,800	593,400	638,000
LEE	735,148						
Low		714,200	764,600	802,400	829,000	848,300	863,900
Medium		752,800	835,500	904,700	961,400	1,010,900	1,056,600
High		789,400	895,600	997,000	1,086,600	1,171,800	1,257,100
LEON	296,499						
Low		287,600	293,300	296,900	298,400	298,100	296,900
Medium		299,800	314,900	327,500	337,800	346,200	353,700
High		311,600	334,900	357,400	376,300	393,200	409,100
LEVY	41,330						
Low		39,900	39,900	39,700	39,300	38,800	38,200
Medium		41,600	42,700	43,600	44,300	44,900	45,500
High		43,200	45,700	48,000	50,200	52,100	54,000
LIBERTY	8,772						
Low		8,300	8,300	8,300	8,300	8,300	8,200
Medium		8,800	9,100	9,400	9,600	9,900	10,100
High		9,200	9,800	10,500	11,200	11,900	12,500
MADISON	19,570						
Low		18,300	17,900	17,500	17,000	16,600	16,100
Medium		19,200	19,500	19,700	19,800	20,000	20,100
High		20,200	21,100	22,000	23,000	23,800	24,700
MANATEE	327,414						
Low		375,600	397,700	413,500	425,400	435,600	442,900
Medium		395,800	434,600	466,500	493,800	519,200	542,200
High		415,100	465,900	513,800	557,600	601,800	644,500
MARION	360,421						
Low		351,000	365,200	376,500	383,700	388,000	389,700
Medium		365,900	392,100	414,800	432,800	447,900	460,800
High		380,300	416,900	453,100	483,700	511,700	537,000
MARTIN	158,568						
Low		152,400	155,400	156,800	157,100	156,700	155,800
Medium		160,600	169,500	176,900	182,900	188,200	193,000
High		168,500	183,000	196,900	210,000	222,200	234,700

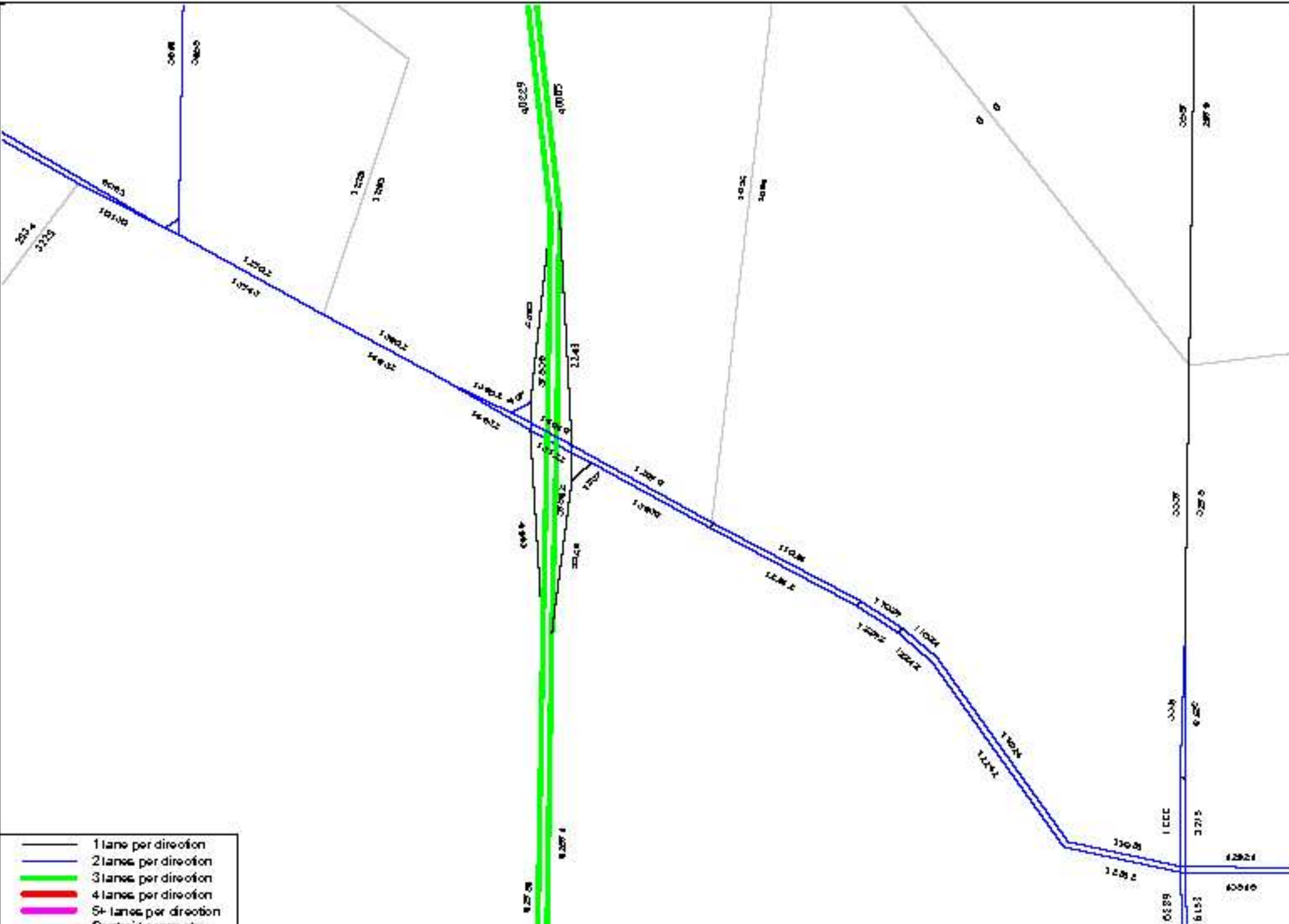
APPENDIX O – TURNPIKE STATEWIDE MODEL PLOTS

Base Year (2015)

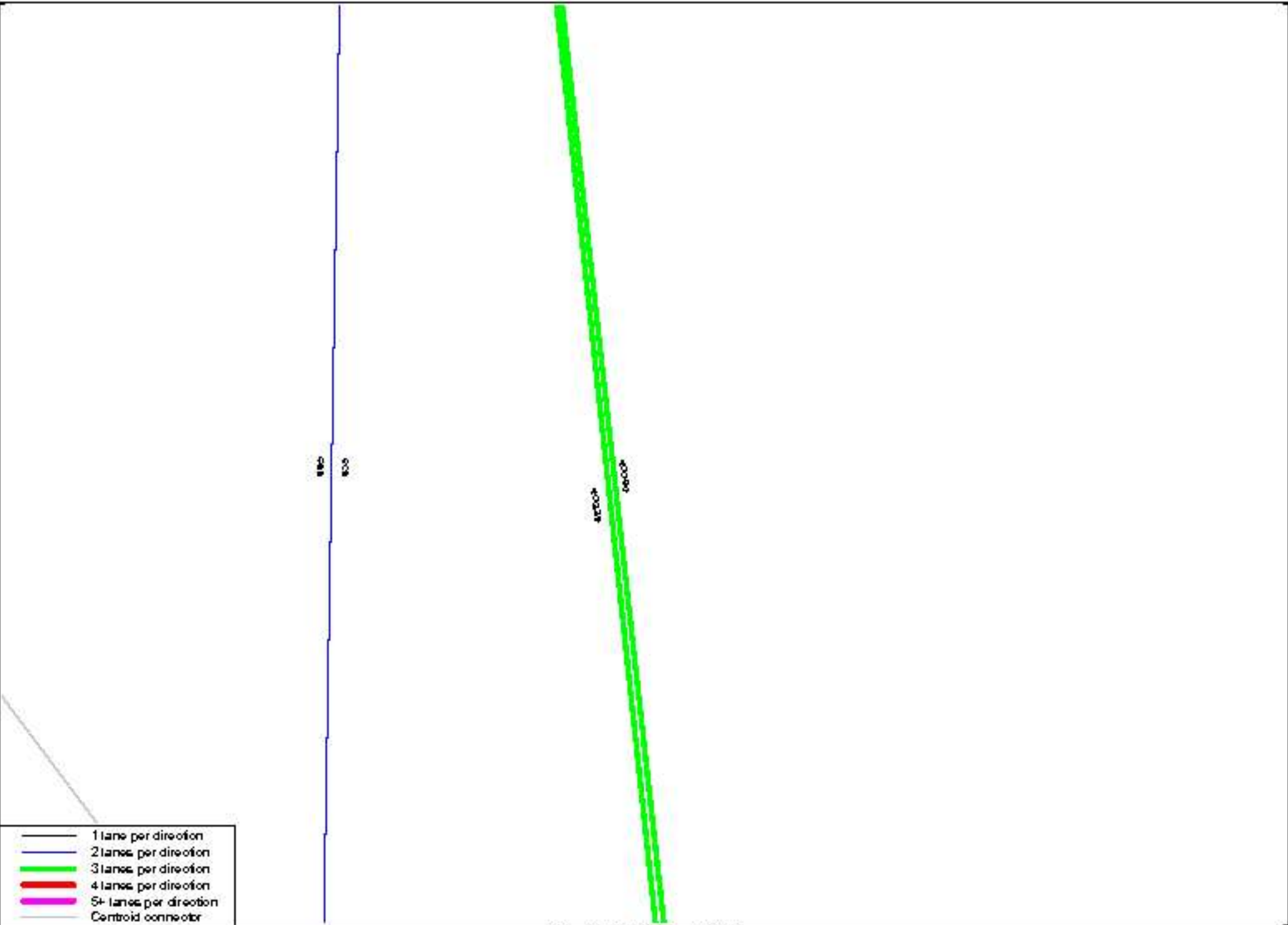


- 1 lane per direction
- 2 lanes per direction
- 3 lanes per direction
- 4 lanes per direction
- 5+ lanes per direction
- Centroid connector

Turmpike Statewide Model 2015
 Model Plot - SR 46 Interchange



Turmpike Statewide Model 2015
 Model Plot: IS_{23} Interchange

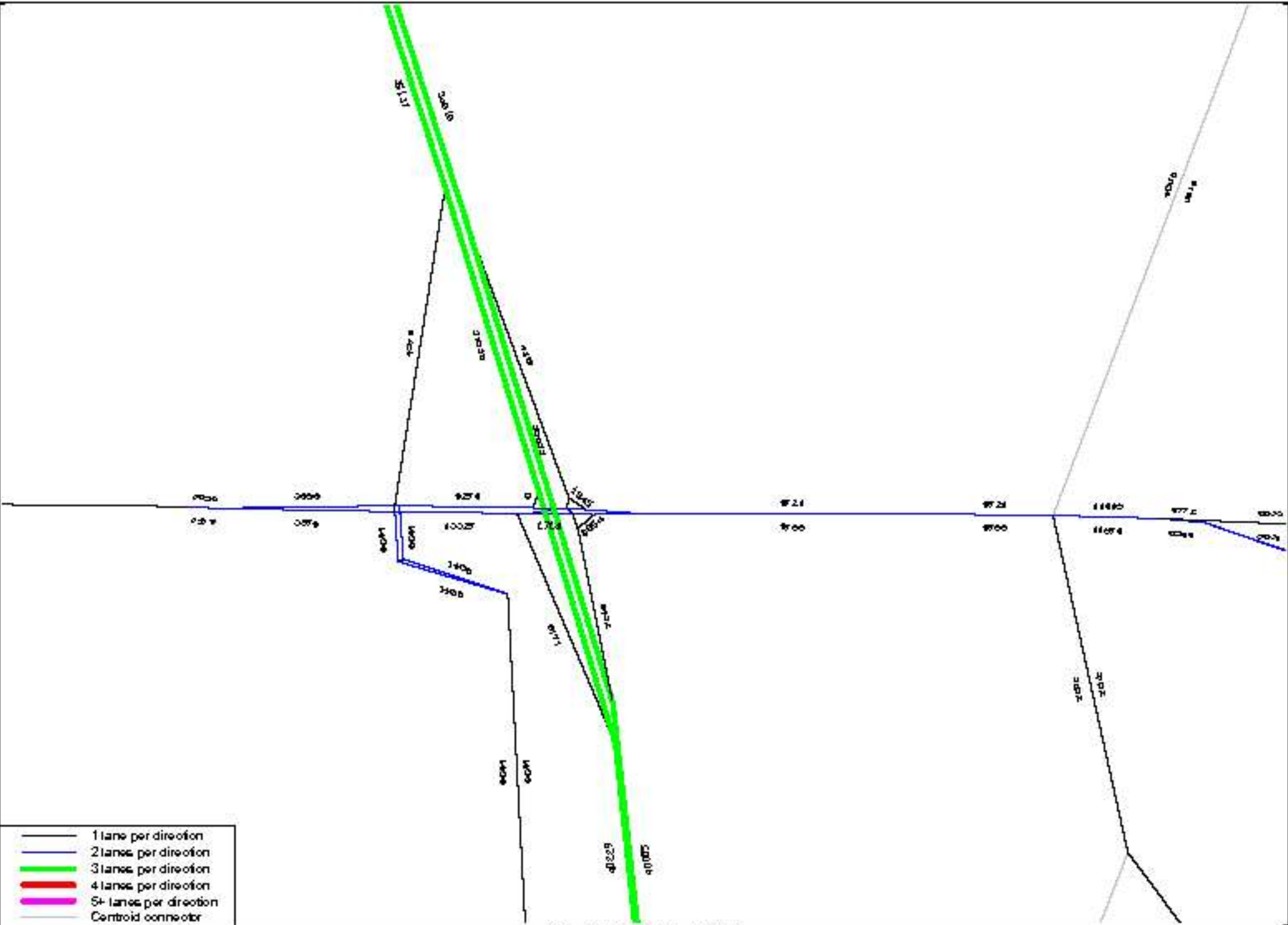


1100
1200

1100
1200

- 1 lane per direction
- 2 lanes per direction
- 3 lanes per direction
- 4 lanes per direction
- 5+ lanes per direction
- Centroid connector

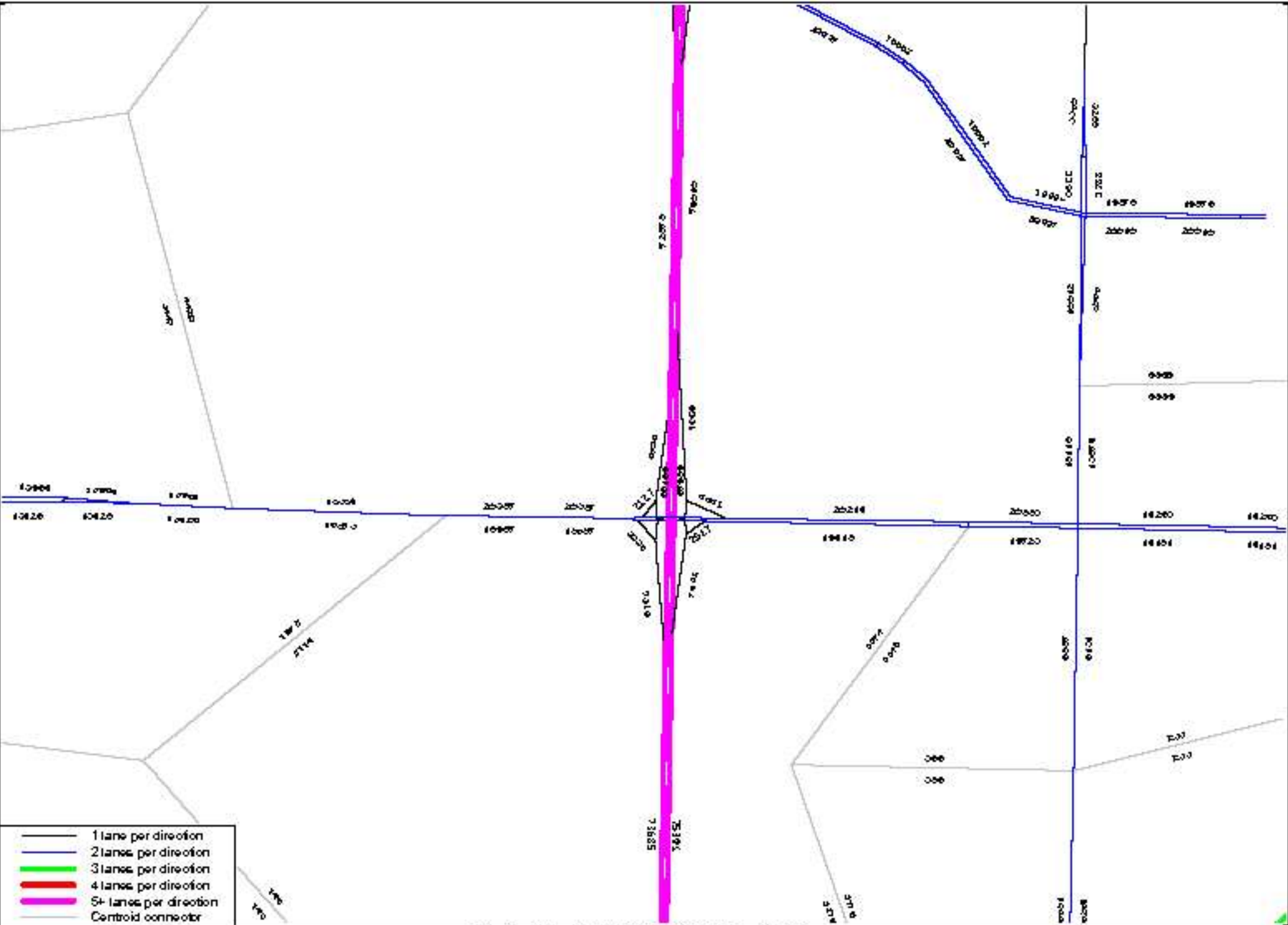
Turmpike Statewide Model 2015
Model File: NY_44th Ave



- 1 lane per direction
- 2 lanes per direction
- 3 lanes per direction
- 4 lanes per direction
- 5+ lanes per direction
- Centroid connector

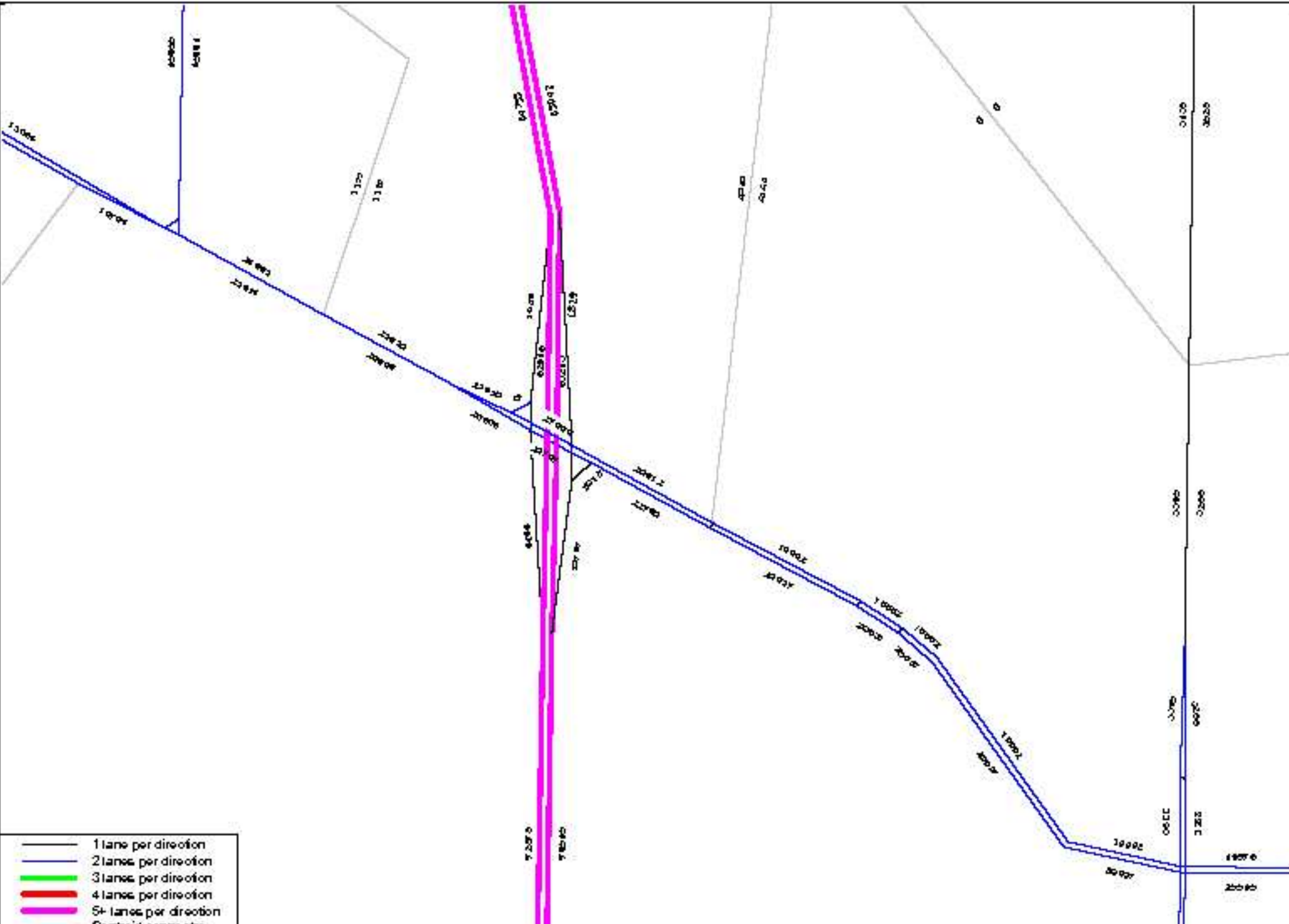
Turquoise Statewide Model 2015
 Model Plot- 5033 Interchange

Horizon Year (2045)



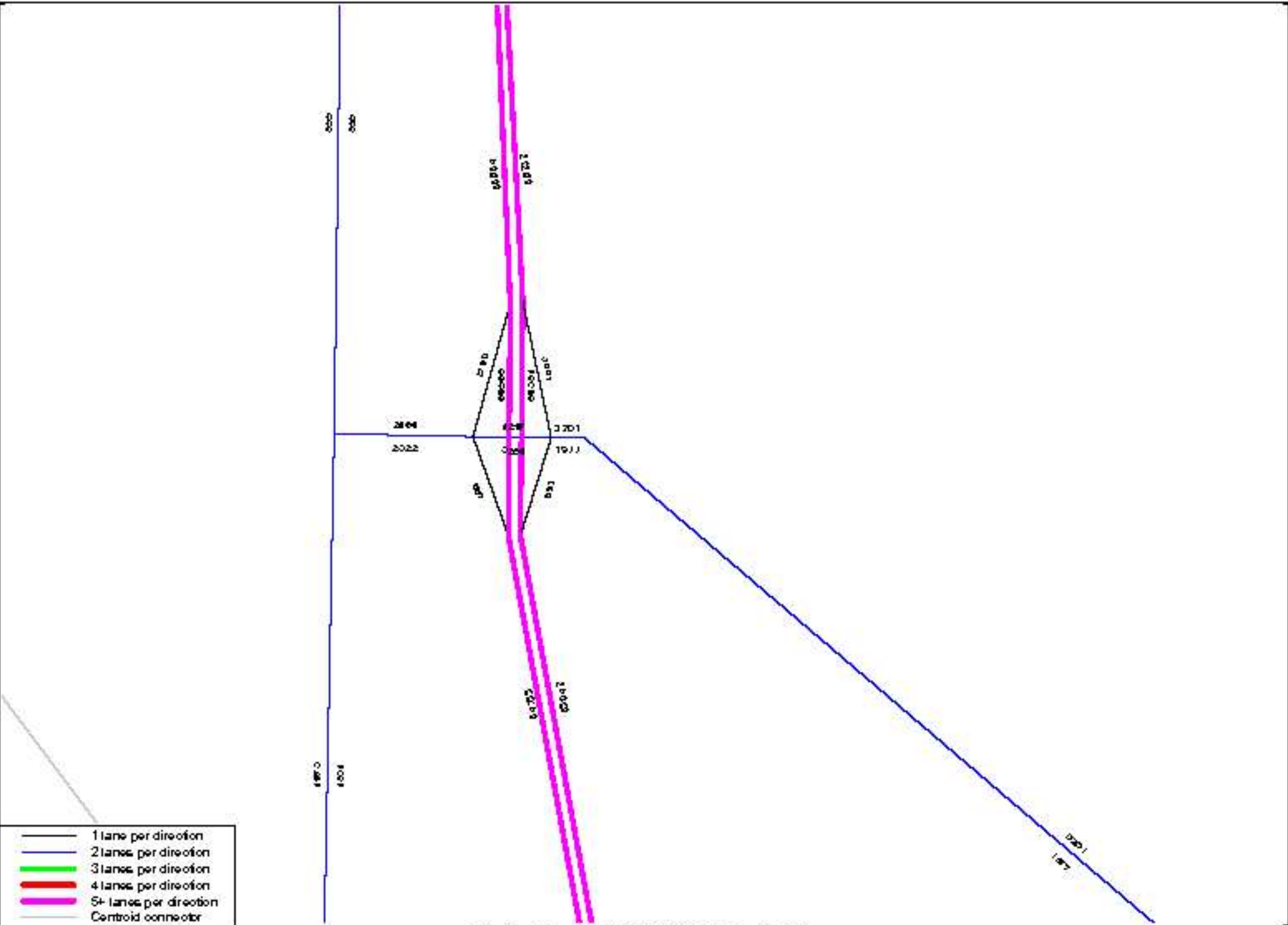
- 1 lane per direction
- 2 lanes per direction
- 3 lanes per direction
- 4 lanes per direction
- 5+ lanes per direction
- Centroid connector

Turpike Statewide Model 2045 Build-Out Scenario (10L)
 Model Plot- SR 48 Interchange

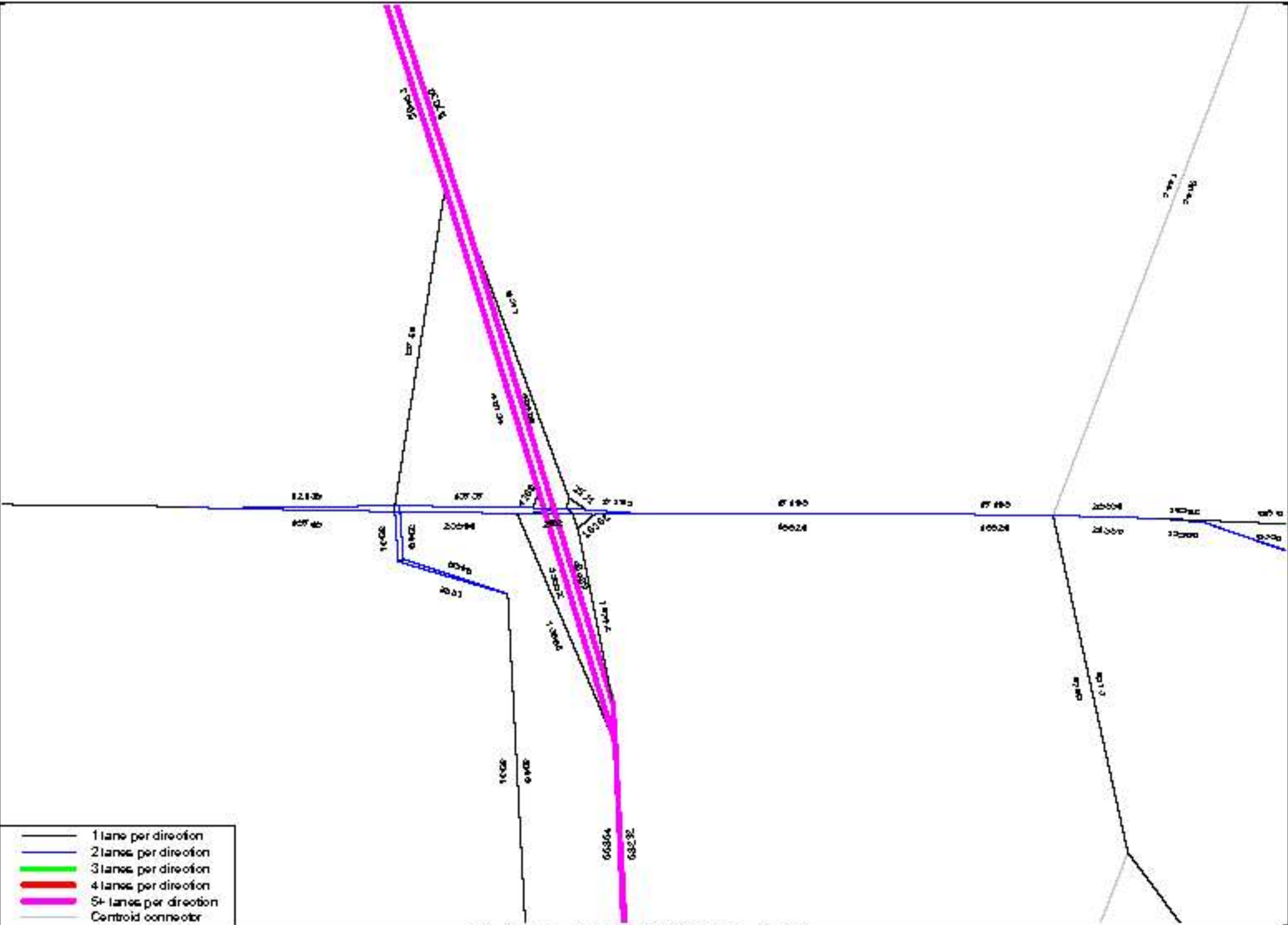


- 1 lane per direction
- 2 lanes per direction
- 3 lanes per direction
- 4 lanes per direction
- 5+ lanes per direction
- Centroid connector

Turpike Statewide Model 2045 Build-Out Scenario (10L)
 Model Plot - I-275 Interchange



Turpike Statewide Model 2045 Build-Out Scenario (10L)
 Model Plot: NW 48th Avenue Interchange



Turpike Statewide Model 2045 Build-Out Scenario (10L)
 Model Plot - SR 325 Interchange

**APPENDIX P – I-75 AT NW 49TH STREET IJR EXCERPTS
AND EXAMPLE CALCULATIONS**

3D @ Peak Hour Volumes from
Figure 3-1 and 3-14 in Approved LR

D-factors and Direction calculated from
3D43 peak hour volumes and used in the
1-75 Master Plan Design Italic

HW 48th St					AADT				On-Off	3D@1	3D@ DDHV - AM		3D@ DDHV - PM		D-Factor	D-Factor	Direction	
					3D25*	3D55*	3D@**	3D@			AM	PM	AM	PM				
HW 48th St	HW 44th St Ave	HW 44 Ave N of HW 48 Street	NH	N	6,300	10,300	12,600	1,900 ^{**}	300	20,000	487	815	831	693	31.3%	33.1%	SB, NB	EB, WB
		HW 44 Ave S of HW 48 Street	NH	S	7,800	6,700	9,700	1,550 ^{**}	90	18,000	491	831	733	874	33.3%	31.7%	SB, NB	EB, WB
		HW 48 Street W of HW 44 Avenue	NW	W	300	300	300	700 ^{**}	30	650	33	34	31	33	31.0%	31.8%	NE, SE	SW, NW
		HW 48 Street E of HW 44 Avenue	NE	E	14,800	17,800	21,300	2,150 ^{**}	300	22,000	853	920	920	853	30.8%	30.8%	NE, SE	SW, NW
HW 48th St	1-75	1-75 Ramps IH with HW 48th St	ID NH	N							351	415	415	351	34.2%	34.2%	NE, SE	SW, NW
		1-75 SB On-Ramp to HW 48th St	ID NH IH	N-Off	3,800	3,300	4,300	4,300	80	4,300								
		1-75 NB On-Ramp from HW 48th St	ID NH OU 1	N-Off	3,000	3,300	4,300	4,300	80	4,300								
		1-75 Ramps IS with HW 48th St	ID NS	S							746	820	820	746	34.2%	34.2%	SB, NB	EB, WB
		1-75 SB On-Ramp from HW 48th St	ID NS OU 1	S-Off	4,300	7,400	6,800	6,800	130	6,300								
		1-75 NB On-Ramp to HW 48th St	ID NS IH	S-Off	4,400	7,700	8,300	8,300	130	8,800								
		HW 48th St east of 1-75	ID NE	E	12,100	14,300	17,300	1,7,300	350	18,000	678	700	700	678	33.8%	33.8%	SB, NB	EB, WB
		HW 48th St west of 1-75	ID NW	W	14,800	17,800	21,300	2,1,300	300	22,000	853	920	920	853	30.8%	30.8%	NE, SE	SW, NW

*Hole - AADT is from Approved LR Table 3-7

**Back calculated 3D@ 360 is based on actual peak hour traffic projections in the LR



Table 5-7: Build AADT

Roadway	Segment	AADT			D
		2025	2035	2045	
I-75 Mainline	N of SR 326 Interchange	71,000	81,500	93,800	0.543
	N of Proposed Interchange	84,300	96,000	109,300	0.543
	N of US 27 Interchange	91,000	104,000	118,900	0.543
	S of US 27 Interchange	103,400	119,100	137,300	0.543
I-75 at US 27 Interchange	US 27 W of I-75	35,500	41,800	49,300	0.625
	US 27 E of I-75	34,700	43,200	53,800	0.617
	I-75 NB Off-Ramp	9,200	10,900	12,800	1.000
	I-75 NB On-Ramp	2,500	3,000	3,600	1.000
	I-75 SB Off-Ramp	3,200	3,700	4,300	1.000
	I-75 SB On-Ramp	8,900	10,900	13,500	1.000
US 27 at NW 44 Avenue	NW 44 Avenue N of US 27	9,700	10,800	12,000	0.525
	NW 44 Avenue S of US 27	700	1,300	2,500	0.632
	US 27 W of NW 44 Avenue	25,300	32,600	41,900	0.587
	US 27 E of NW 44 Avenue	34,800	39,900	45,900	0.597
US 27 at NW 35 Ave Rd	NW 35 Ave Rd N of US 27	10,100	14,800	21,600	0.535
	NW 35 Ave Rd S of US 27	1,500	1,500	1,600	0.650
	US 27 W of NW 35 Ave Rd	34,700	43,200	53,800	0.617
	US 27 E of NW 35 Ave Rd	29,600	36,500	45,100	0.641
NW 49 Street at NW 44 Avenue	NW 44 Ave N of NW 49 Street	8,300	10,300	12,800	0.650
	NW 44 Ave S of NW 49 Street	7,800	8,700	9,700	0.539
	NW 49 St W of NW 44 Avenue	200	200	200	0.636
	NW 49 St E of NW 44 Avenue	14,900	17,900	21,500	0.630
I-75 at NW 49 Street Interchange	NW 49 Street W of I-75	14,900	17,900	21,500	0.635
	NW 49 Street E of I-75 ¹¹	12,100	14,600	17,500	0.583
	I-75 NB Off-Ramp	6,400	7,700	9,200	1.000
	I-75 NB On-Ramp	3,000	3,600	4,300	1.000
	I-75 SB Off-Ramp	2,900	3,500	4,200	1.000
	I-75 SB On-Ramp	6,200	7,400	8,900	1.000
I-75 at SR 326 Interchange	SR 326 W of I-75	10,800	11,500	12,200	0.621
	SR 326 E of I-75	26,800	31,800	37,700	0.548
	I-75 NB Off-Ramp	12,300	14,200	16,300	1.000
	I-75 NB On-Ramp	4,300	6,100	8,600	1.000
	I-75 SB Off-Ramp	5,400	6,400	7,600	1.000
	I-75 SB On-Ramp	3,600	3,800	4,000	1.000
	I-75 SB Loop Ramp	7,100	9,000	11,400	1.000

New segment; ¹¹ AVG OF US 27 E of I-75 & SR 326 E of I-75

Build volumes at the interchange ramps adjacent to proposed NW 49th Street interchange reflect an increase, compared to No Build. Based on CFRPM select link runs, the predominant pattern to/from US 27 east of the interchange uses I-75 to access NW 44th Avenue, north of NW 49th Street to/from residential areas south of SR 326. To/from SR 326 east of the interchange uses I-75 to access NW 44th Avenue south of NW 49th Street; west of the interchange, SR 326 vehicular traffic uses I-75 to access the vicinity of Ocala 489. The corresponding CFRPM plots are provided in **Appendix G**.

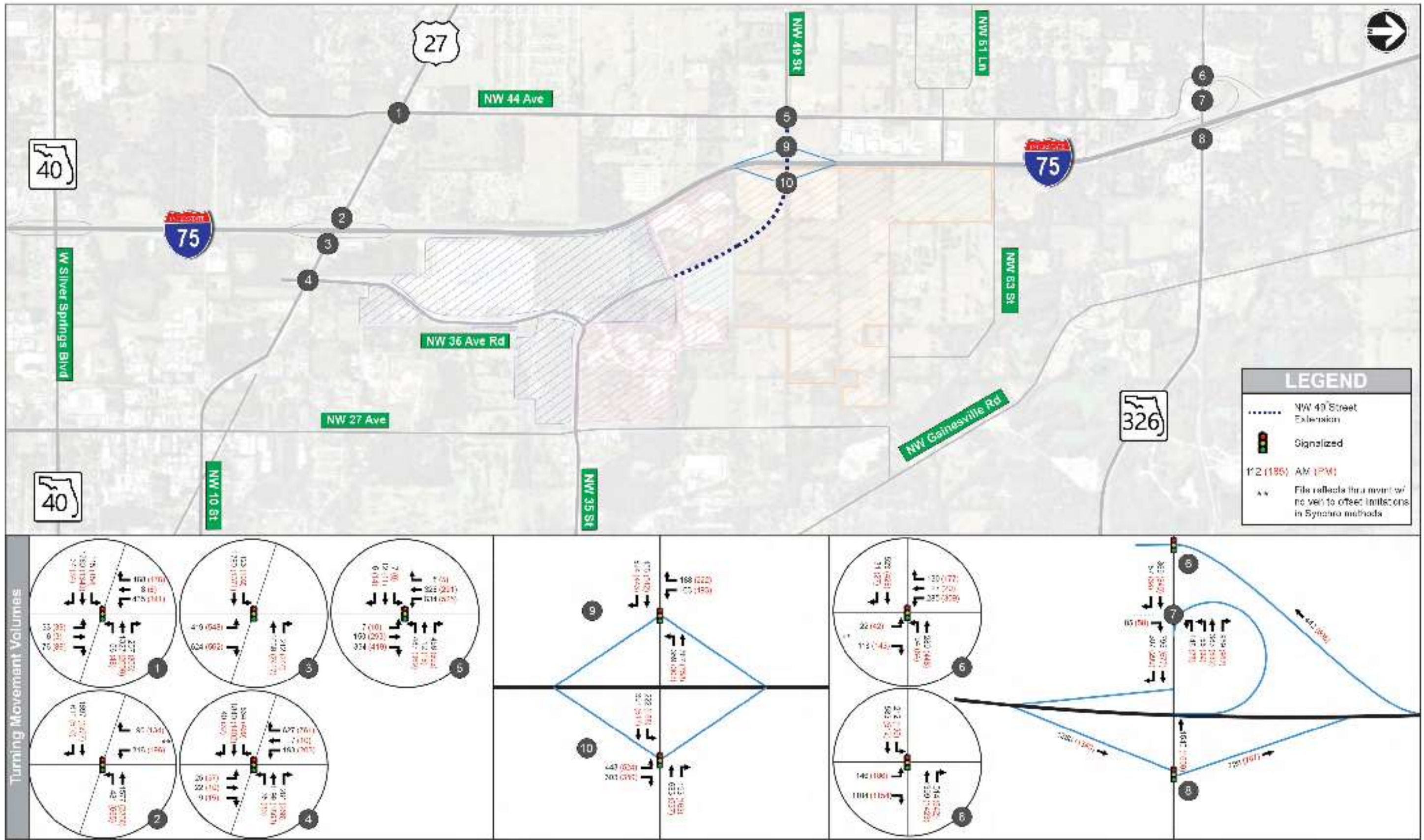


Figure 5-10: Build Diamond Intersection & Interchange Balanced Volumes (2045)

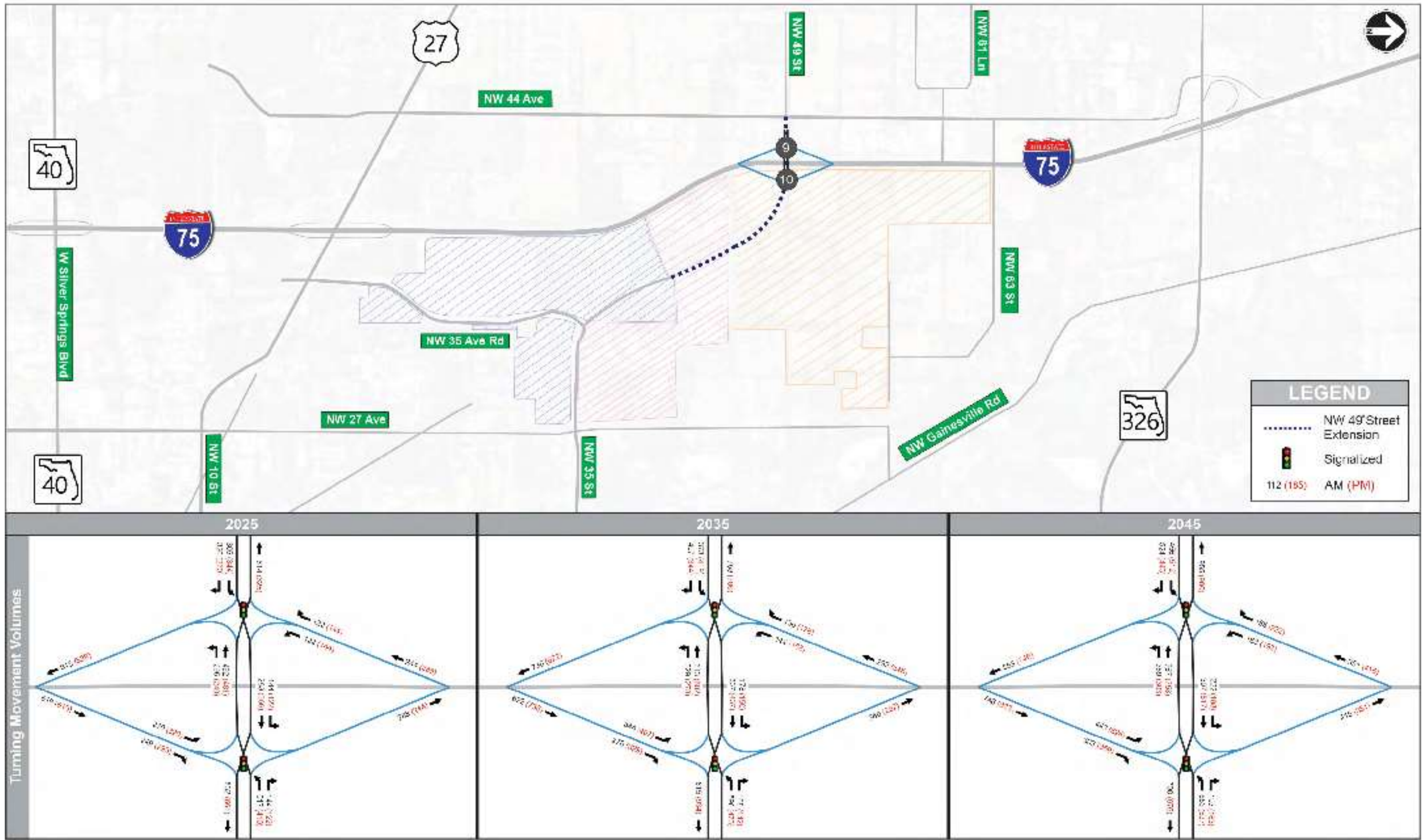


Figure 5-14: DDI Alternative Intersection & Interchange Balanced Volumes (2025/35/45)

**APPENDIX Q – FTE COORDINATION AND MASTER
PLAN 2050 VOLUMES**

Michael Eagle

From: Velasquez, Andrew <Andrew.Velasquez@dot.state.fl.us>
Sent: Friday, October 16, 2020 11:54 AM
To: Karl Passetti
Cc: McGehee, Mary; Pamulapati, Suraj; Bove, Ralph; Schnell, Steven; Michael Eagle; Scott, Carol
Subject: RE: I-75 PD&E (FM# 443623-1 & 443624-1) - Revised Draft 2050 Balanced AADTs
Attachments: I-75 PDE FTE Review.xlsx

Karl,

We reviewed the forecasts and offer some minor revisions as shown in the attached traffic profile. We noticed that growth rate for the to/from south ramps at SR 44 and CR 484 seemed low compared historical traffic or model projections. By increasing these ramps, then the I-75 mainline south of the Turnpike will be a little closer to the target value. Feel free to incorporate if you agree and thank you for allow us the opportunity to review.

I don't think we need a follow-up on these comments, but we would like to meet again once you have reached the next significant milestone.

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From: Karl Passetti <kpassetti@kittelson.com>
Sent: Thursday, October 8, 2020 11:24 AM
To: Velasquez, Andrew <Andrew.Velasquez@dot.state.fl.us>
Cc: McGehee, Mary <Mary.McGehee@dot.state.fl.us>; Pamulapati, Suraj <Suraj.Pamulapati@dot.state.fl.us>; Bove, Ralph <ralph.bove@volkert.com>; Schnell, Steven <steve.schnell@hdrinc.com>; Michael Eagle <meagle@kittelson.com>; Scott, Carol <Carol.Scott@dot.state.fl.us>
Subject: RE: I-75 PD&E (FM# 443623-1 & 443624-1) - Revised Draft 2050 Balanced AADTs

Andrew,

Thanks for the quick response.

The attached spreadsheet includes the raw model volumes (base year and horizon year), the model growth rates, and the historical growth rates for the study segments in the PD&E. Let us know if you'd like us to provide the model plots too.

Karl Passetti, P.E., PMP
Principal Engineer

[Kittelson & Associates, Inc.](#)
407.540.0555
407-373-1102 (direct)
407-758-9960 (mobile)

From: Velasquez, Andrew <Andrew.Velasquez@dot.state.fl.us>
Sent: Thursday, October 8, 2020 10:42 AM
To: Karl Passetti <kpassetti@kittelson.com>
Cc: McGehee, Mary <Mary.McGehee@dot.state.fl.us>; Pamulapati, Suraj <Suraj.Pamulapati@dot.state.fl.us>; Bove, Ralph <ralph.bove@volkert.com>; Schnell, Steven <steve.schnell@hdrinc.com>; Michael Eagle <meagle@kittelson.com>; Scott, Carol <Carol.Scott@dot.state.fl.us>
Subject: RE: I-75 PD&E (FM# 44 3623-1 & 443624-1) - Revised Draft 2050 Balanced AADTs

Karl,

Can you provide the raw model forecasts for the interchange ramps and mainline that you used as a starting point?

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From: Karl Passetti <kpassetti@kittelson.com>
Sent: Thursday, October 8, 2020 9:50 AM
To: Velasquez, Andrew <Andrew.Velasquez@dot.state.fl.us>; Mulandi, Jimmy <Jimmy.Mulandi@dot.state.fl.us>; Scott, Carol <Carol.Scott@dot.state.fl.us>
Cc: McGehee, Mary <Mary.McGehee@dot.state.fl.us>; Pamulapati, Suraj <Suraj.Pamulapati@dot.state.fl.us>; Bove, Ralph <ralph.bove@volkert.com>; Schnell, Steven <steve.schnell@hdrinc.com>; Michael Eagle <meagle@kittelson.com>
Subject: I-75 PD&E (FM# 44 3623-1 & 44 3624-1) - Revised Draft 2050 Balanced AADTs

EXTERNAL SENDER: Use caution with links and attachments.

Good morning Andrew,

Thanks for meeting with us on Tuesday. Your continued support and guidance is appreciated. Please see the attached PDF and spreadsheet including the updated 2050 I-75 mainline balancing efforts. The volumes in light blue in the PDF represent the locations where the AADTs were adjusted. The previous volumes presented at the September 25th meeting are also included for reference on the 2nd page of the PDF.

The following summarizes the key updates/findings:

- Site 360317 was anchored in both directions as discussed in our previous meeting.
- The Turnpike ramp volumes were adjusted so that there would be a minimum 1% linear growth rate long I-75 at Site 189920. This is consistent with the historical linear trends at this location.
 - The previous ramp volume provided by FTE was 96,900.
 - The adjusted volume we are proposing is 89,000. This represents approximately an 8% reduction for the 2050 projection.
 - We looked at the resulting 2050 projection using the TSM model growth rates and found that would be 82,000. This new projection of 89,000 is about halfway between the trends growth rate that you all applied and the TSM growth rate. This seems reasonable to us, but please let us know if you have any concerns.
- As you suggested, each of the ramps were revisited for reasonableness in the applied growth rates. The following ramps were adjusted based on this review. The adjustments to these ramps have helped close the gap at the northernmost telemetered station (Site 269904)
 - CR 484 ramps to the south of I-75
 - CR 484 ramps to the north of I-75
 - US 27 ramps to the north of I-75
 - SR 326 ramps to the north of I-75

Please take a look and let us know if you have any questions or comments. If needed we can schedule another 30 min meeting to discuss comments and any suggested revisions. At this point it feels like we are in general agreement on the overall profile and are in the fine-tuning stage of the process. We'd like to gain agreement on the profiles so that we can start development of the peak hour volumes next week. This will help us keep moving forward with our overall project schedule.

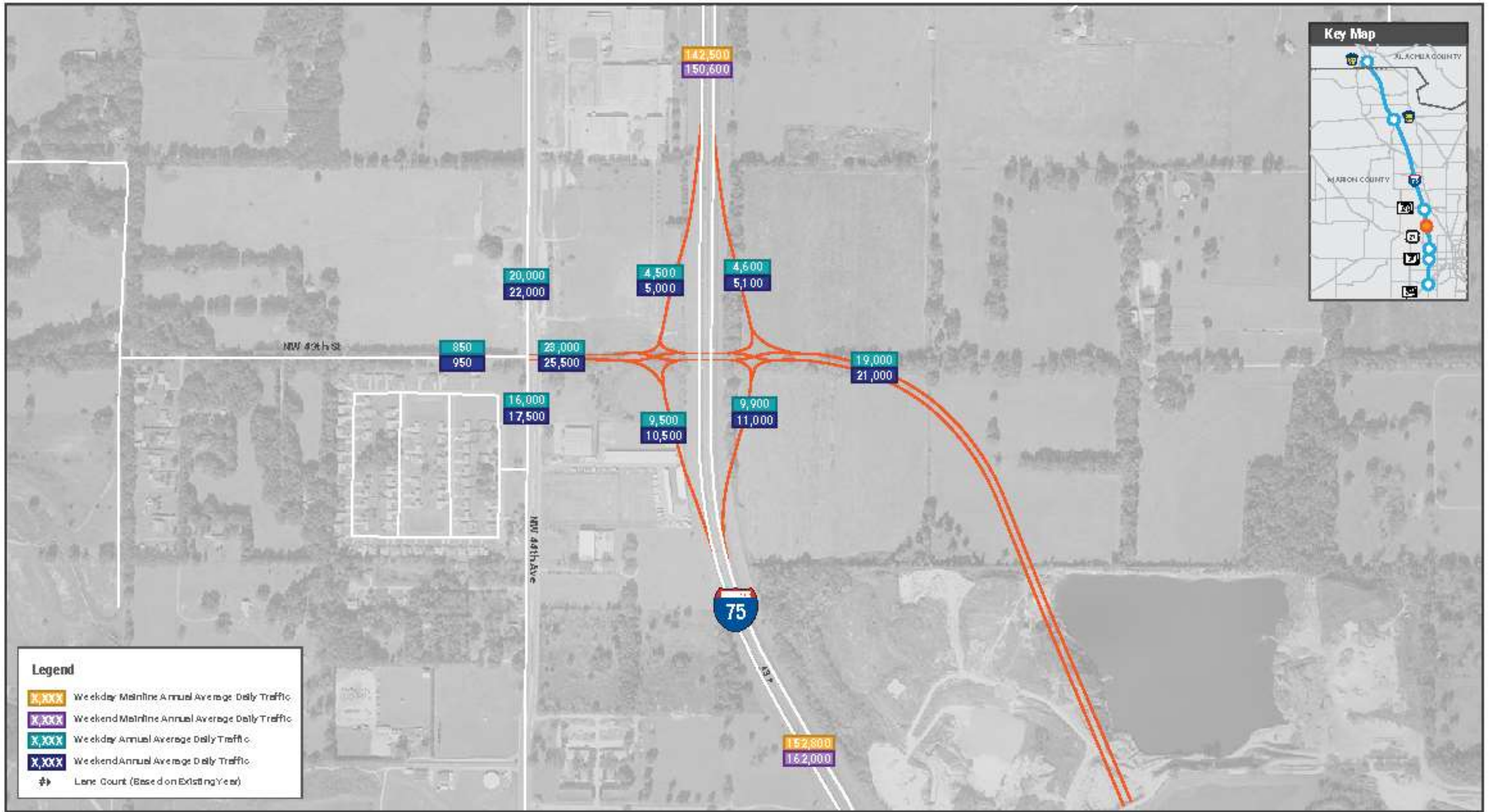
Thanks again for your time and support.

Karl Passetti, P.E., PMP
Principal Engineer

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407-758-9960 (mobile)

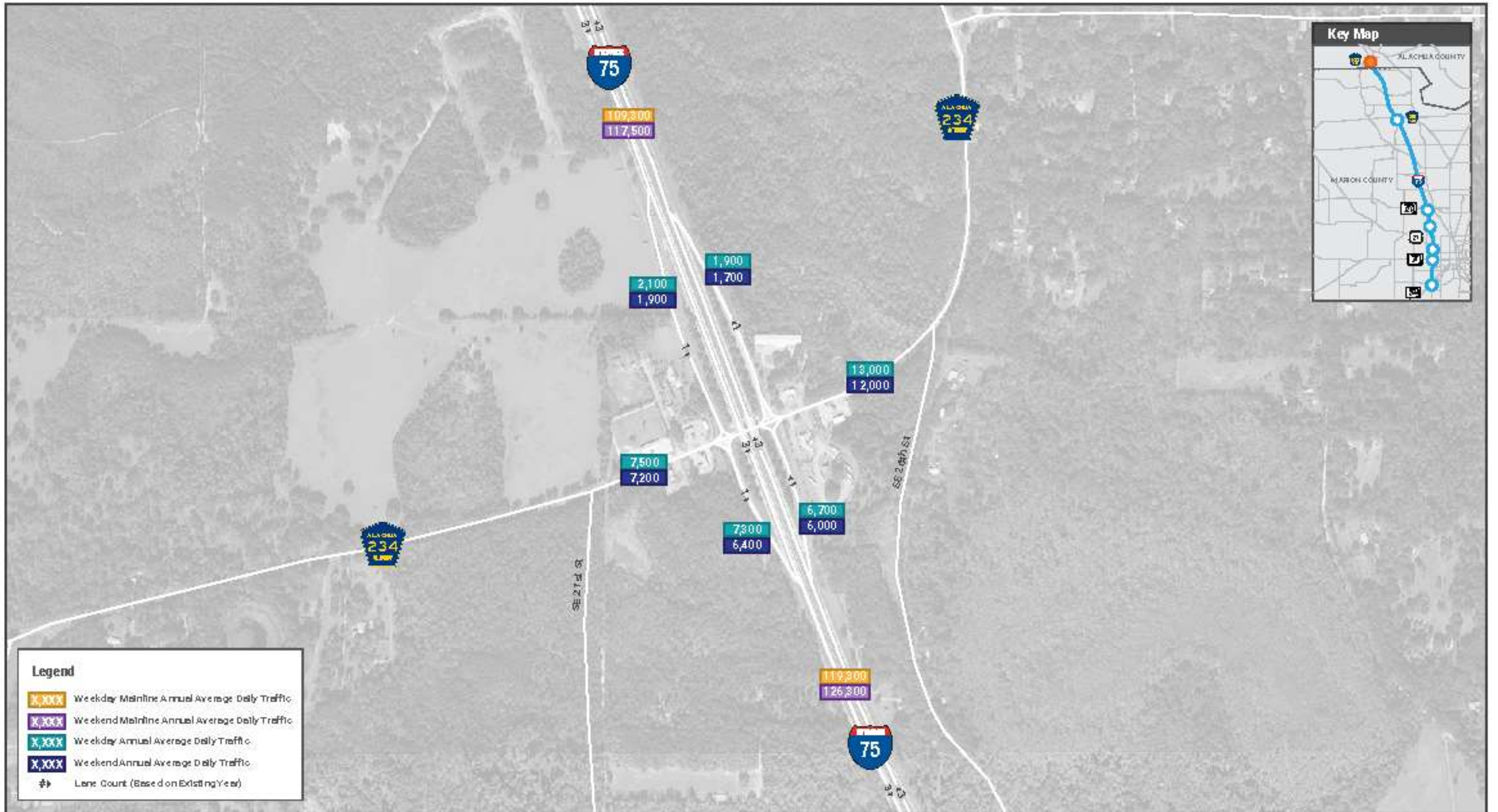


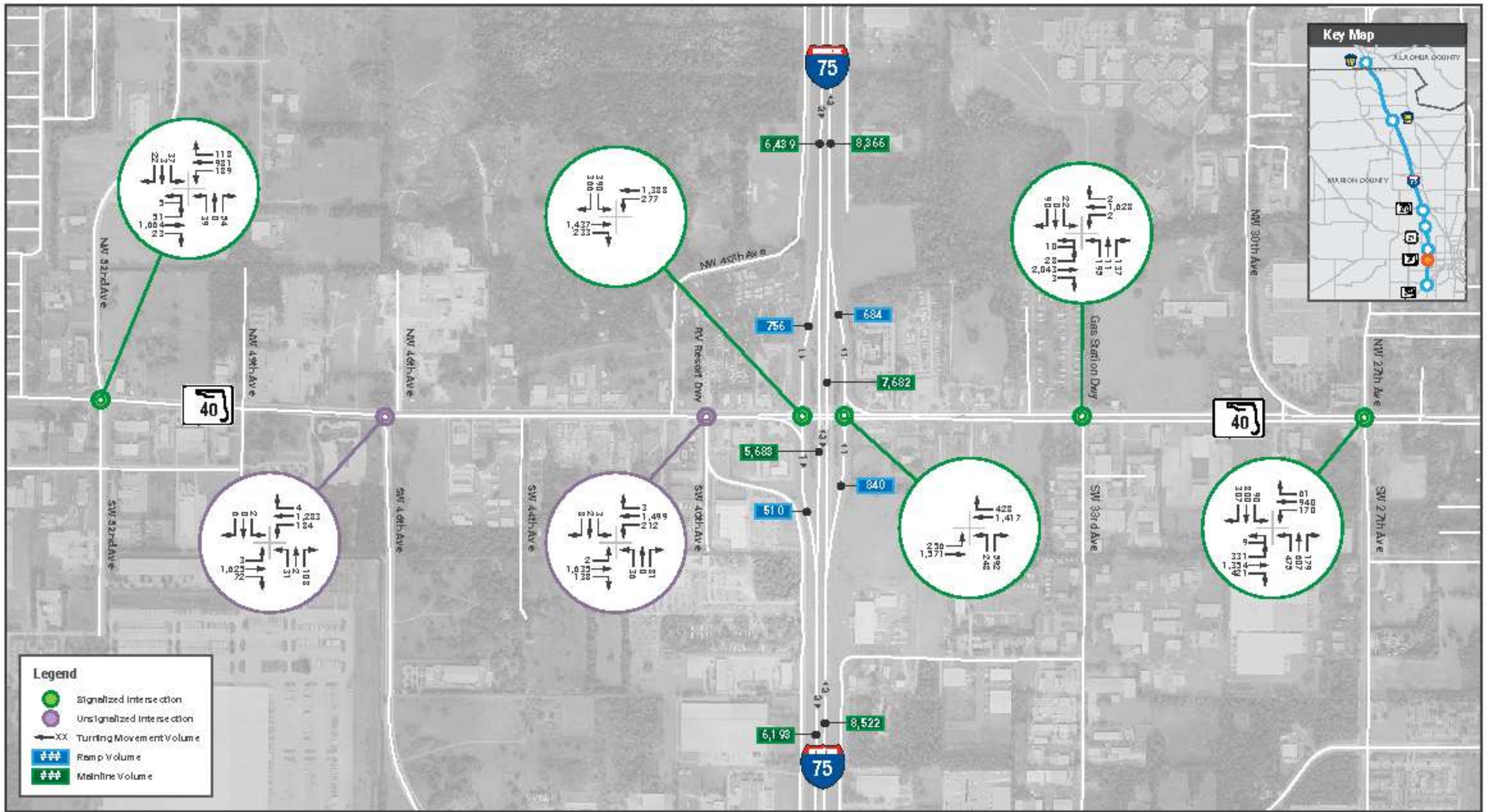


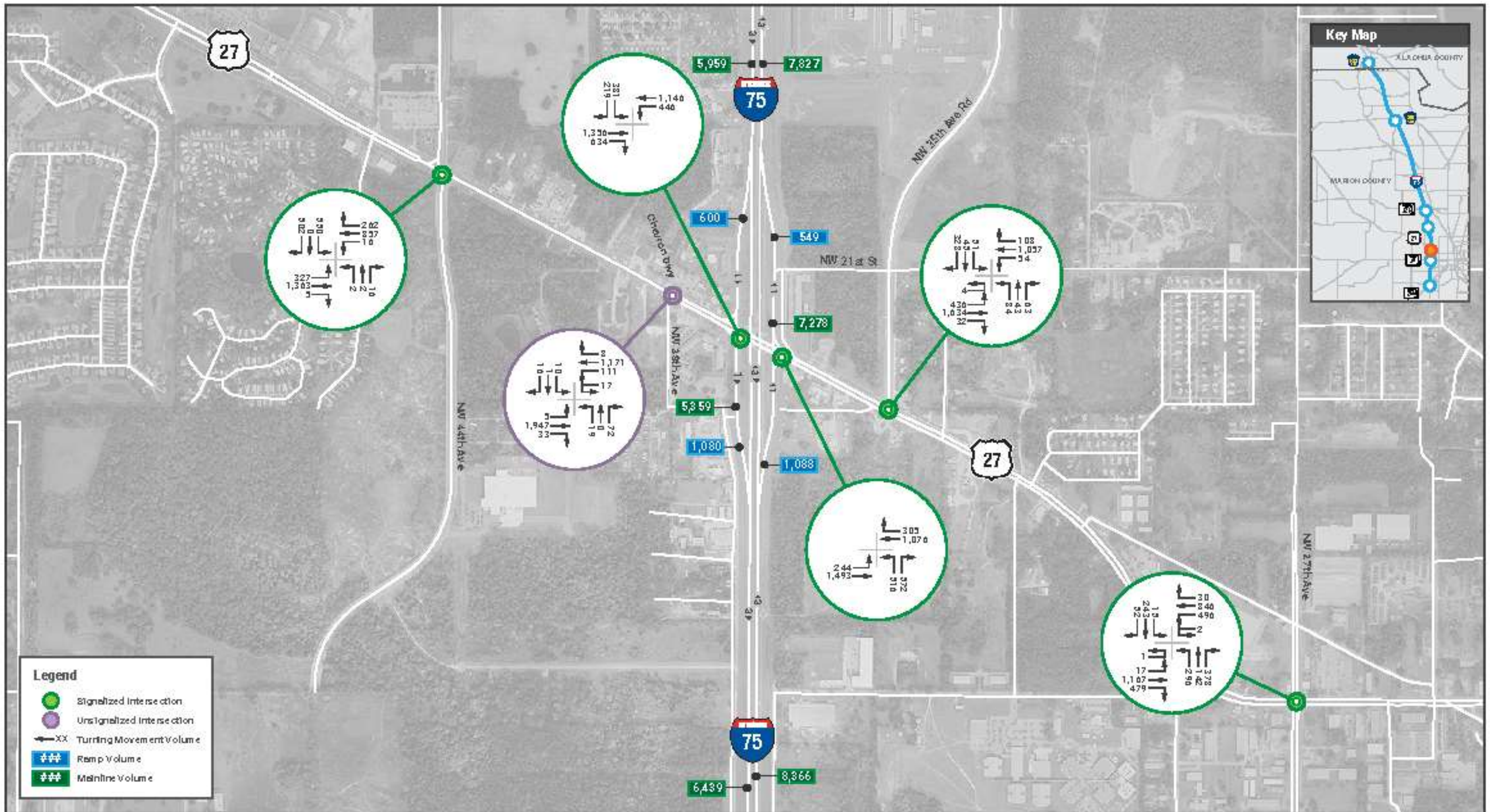


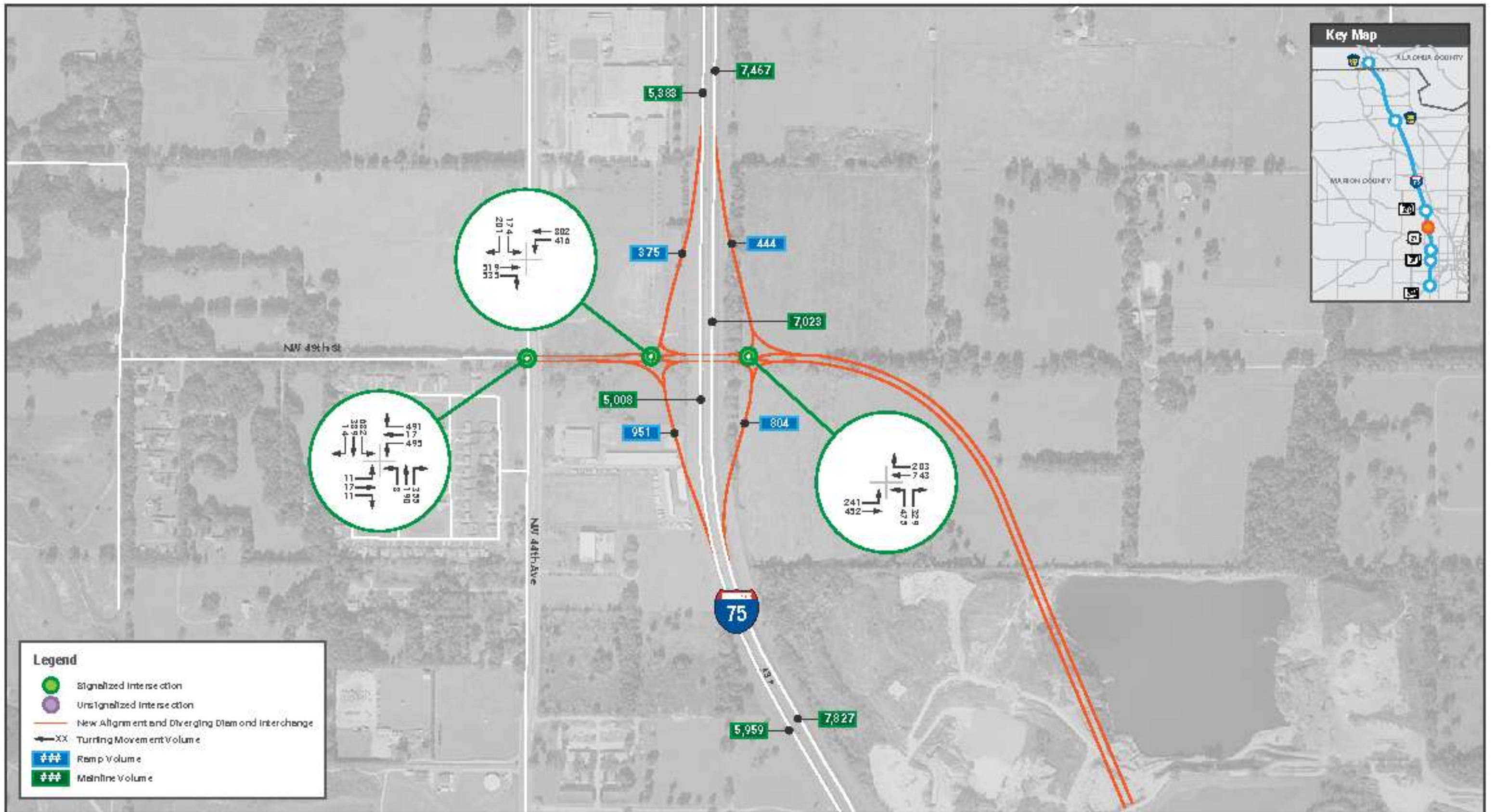


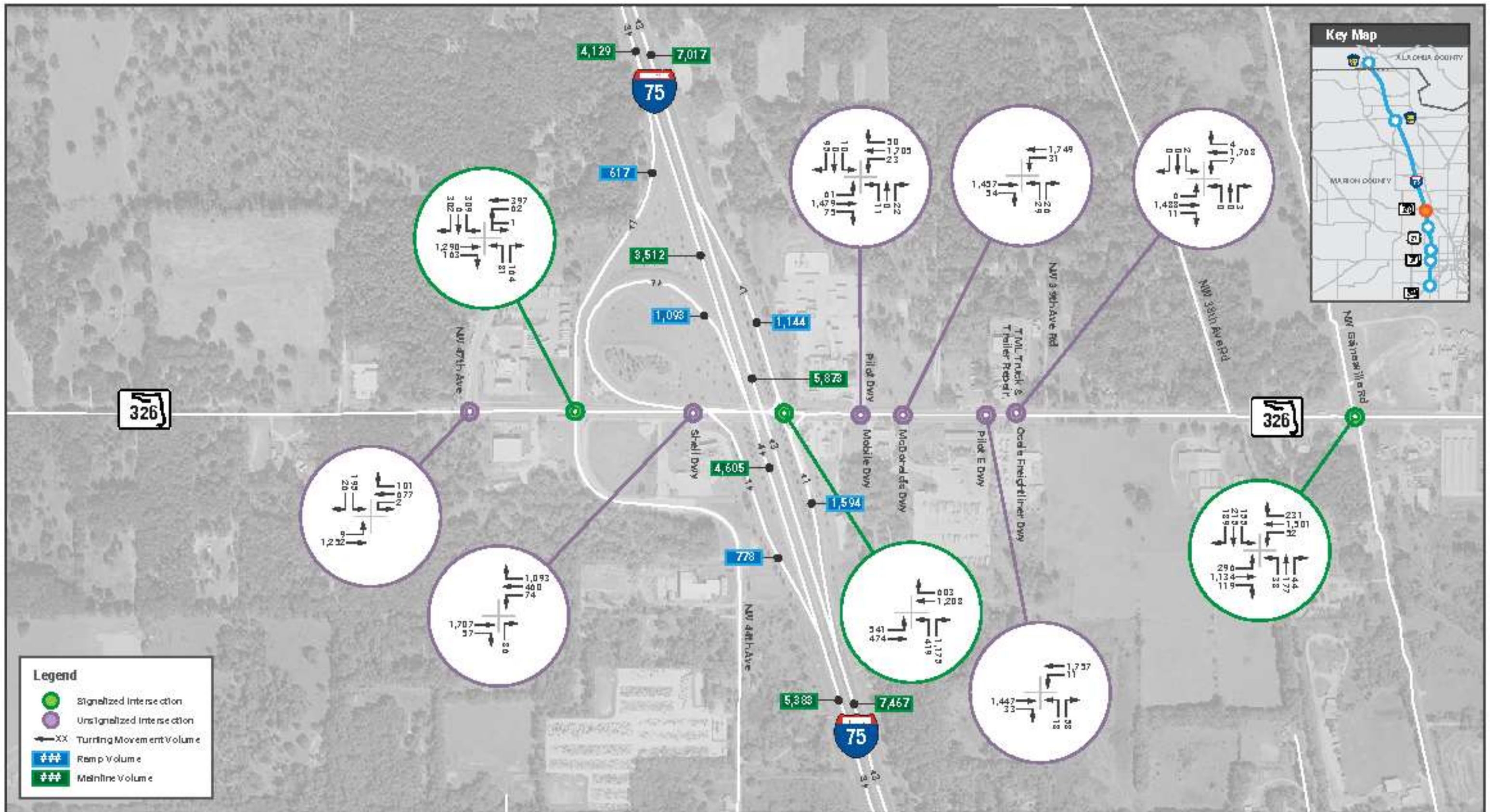


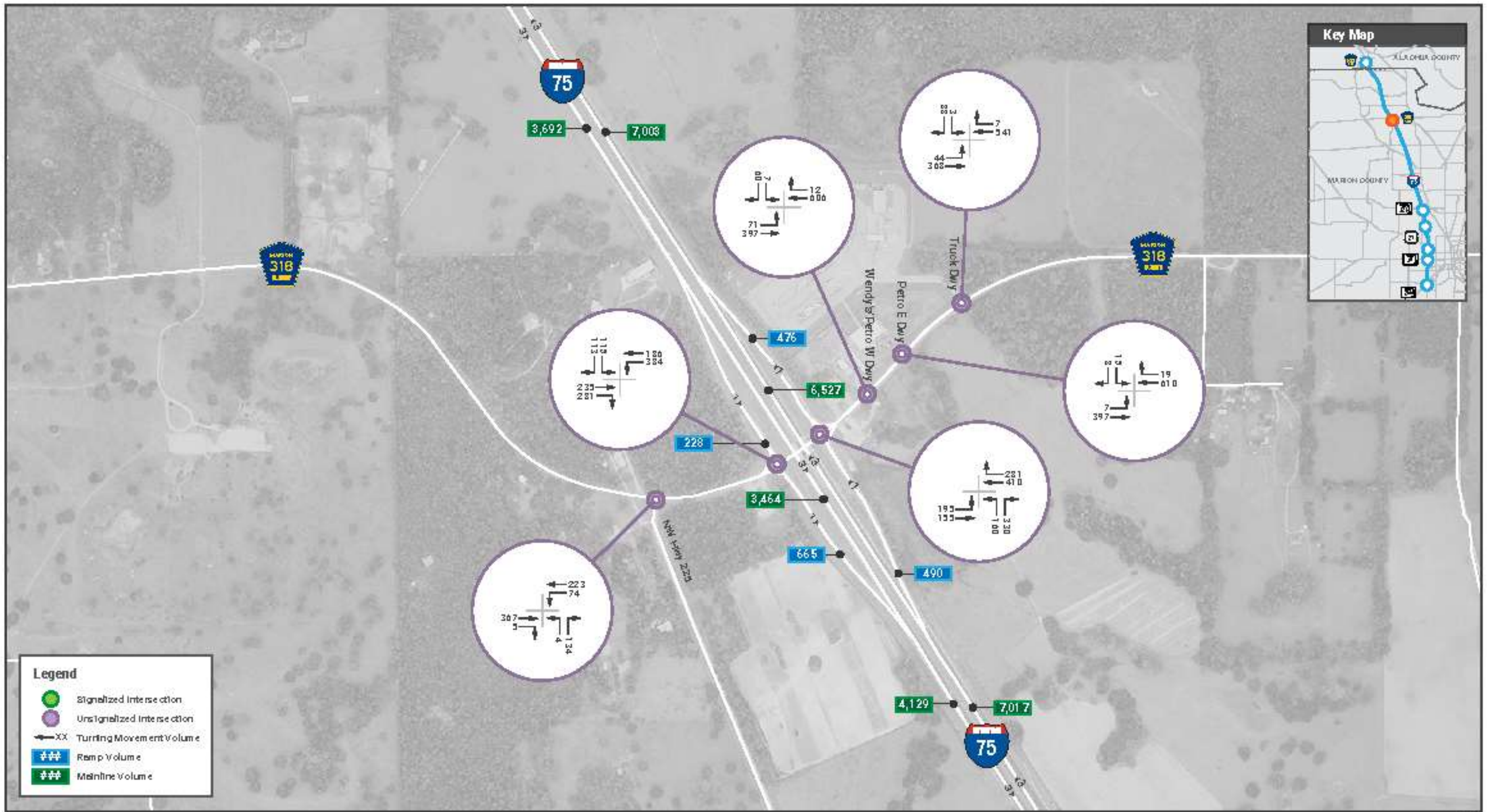


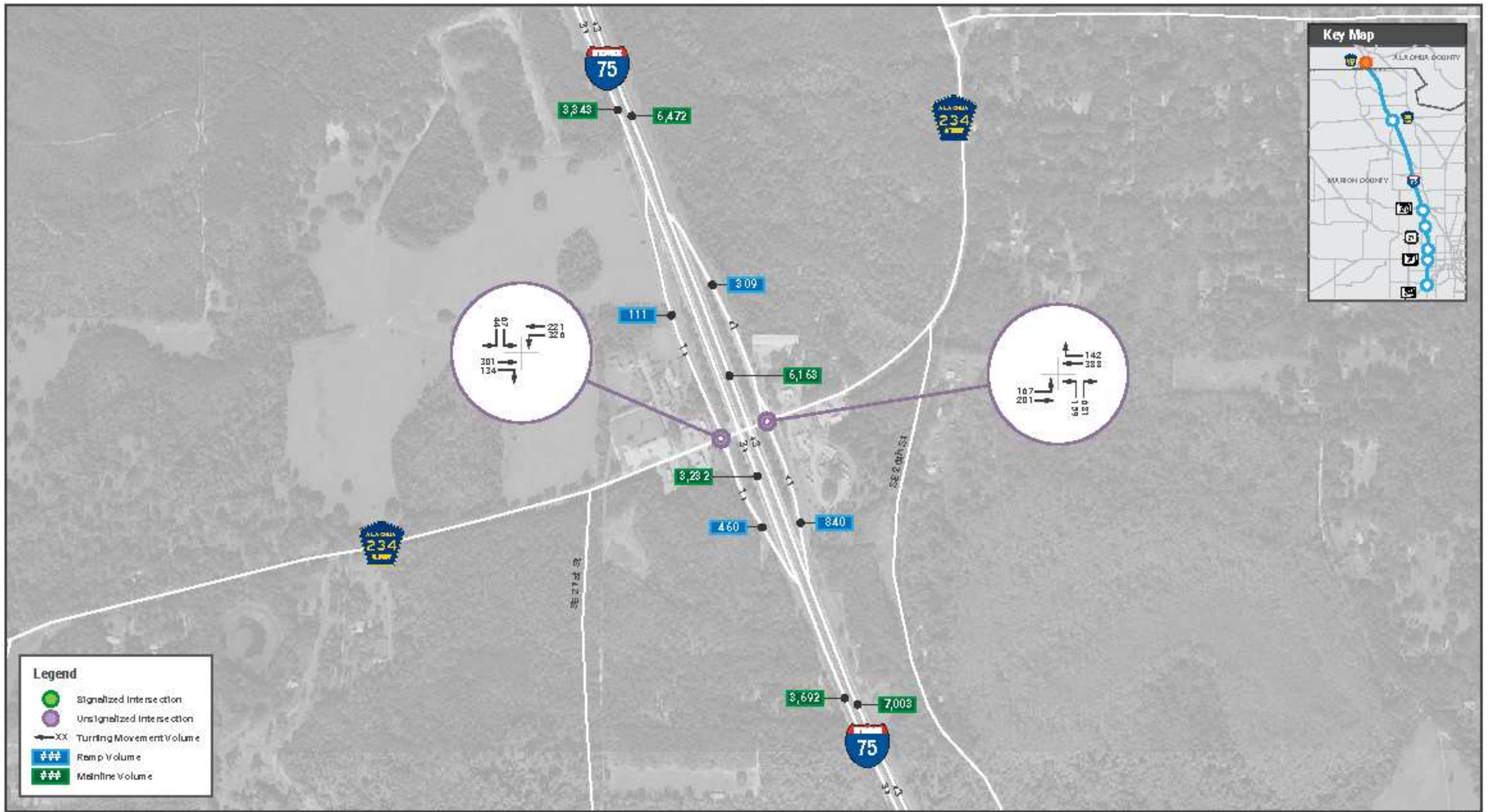


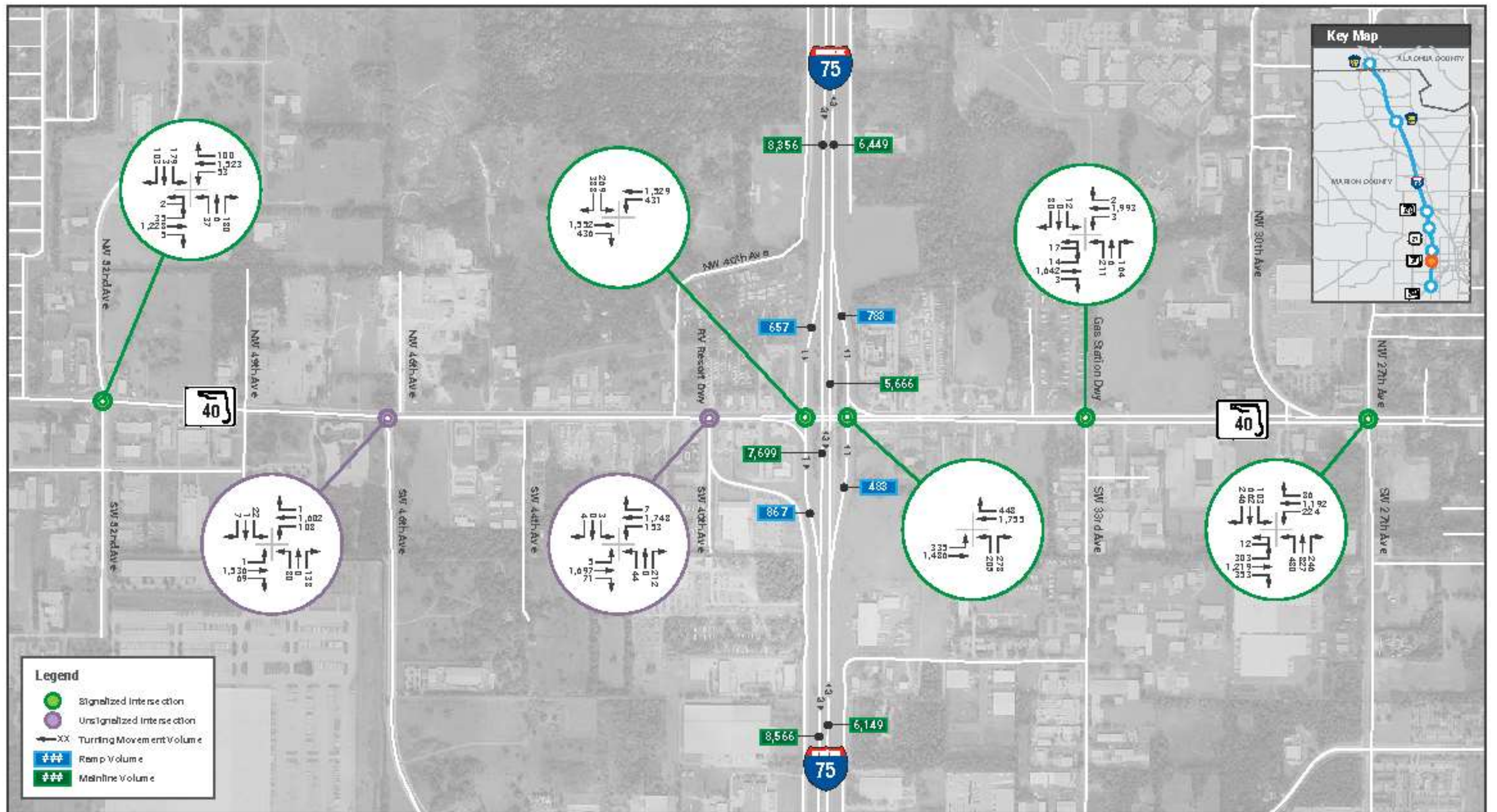


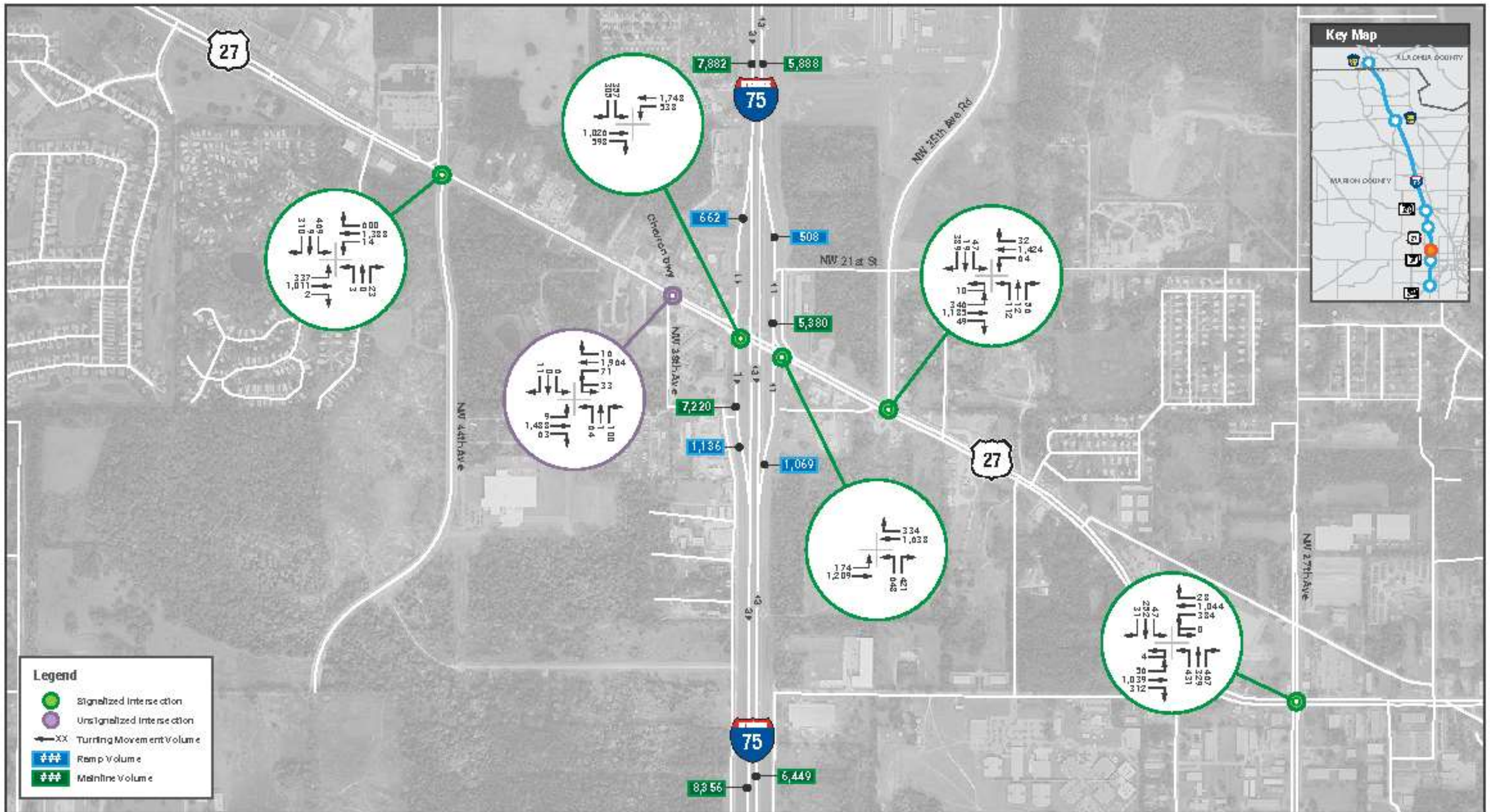


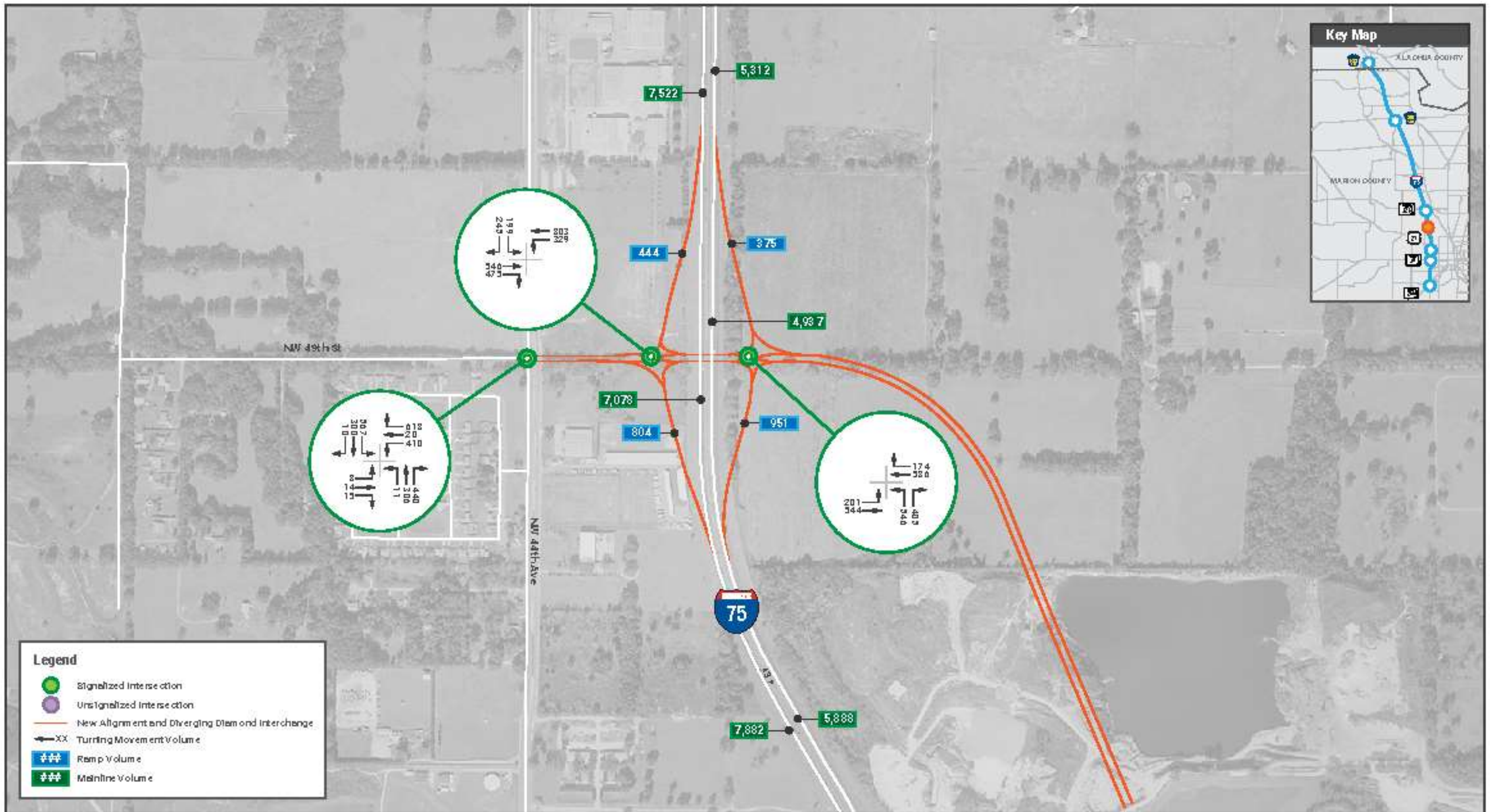


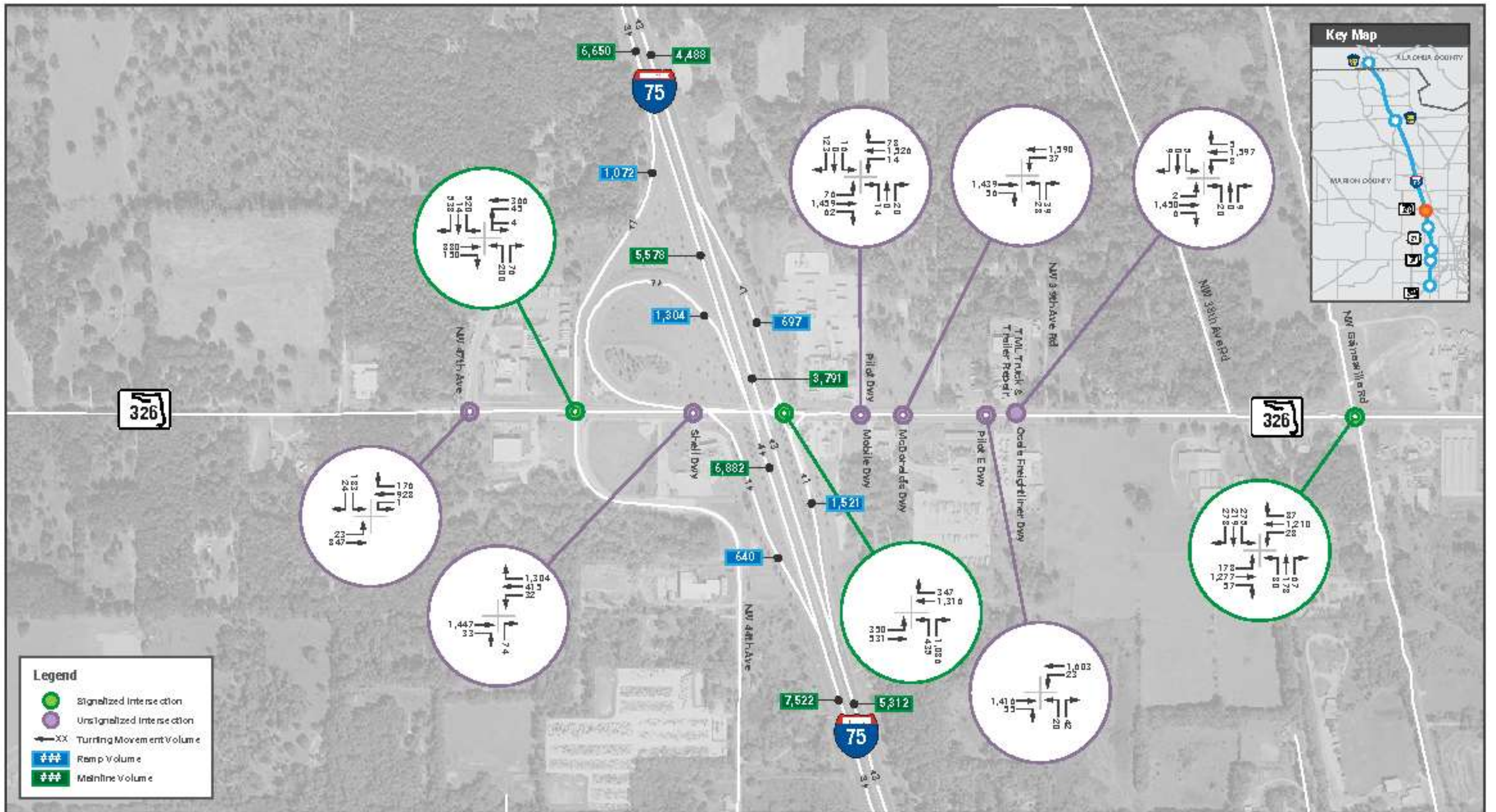


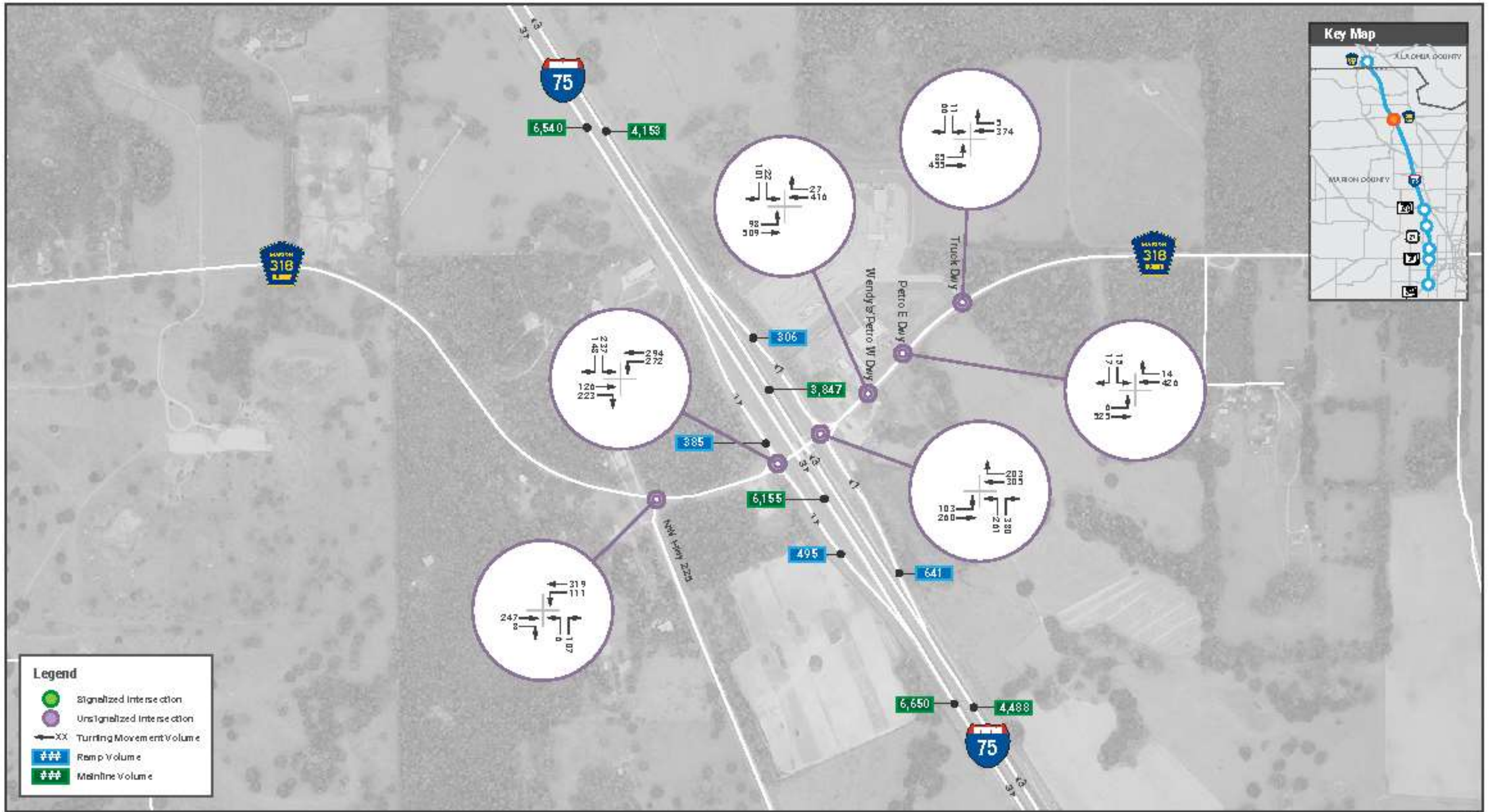


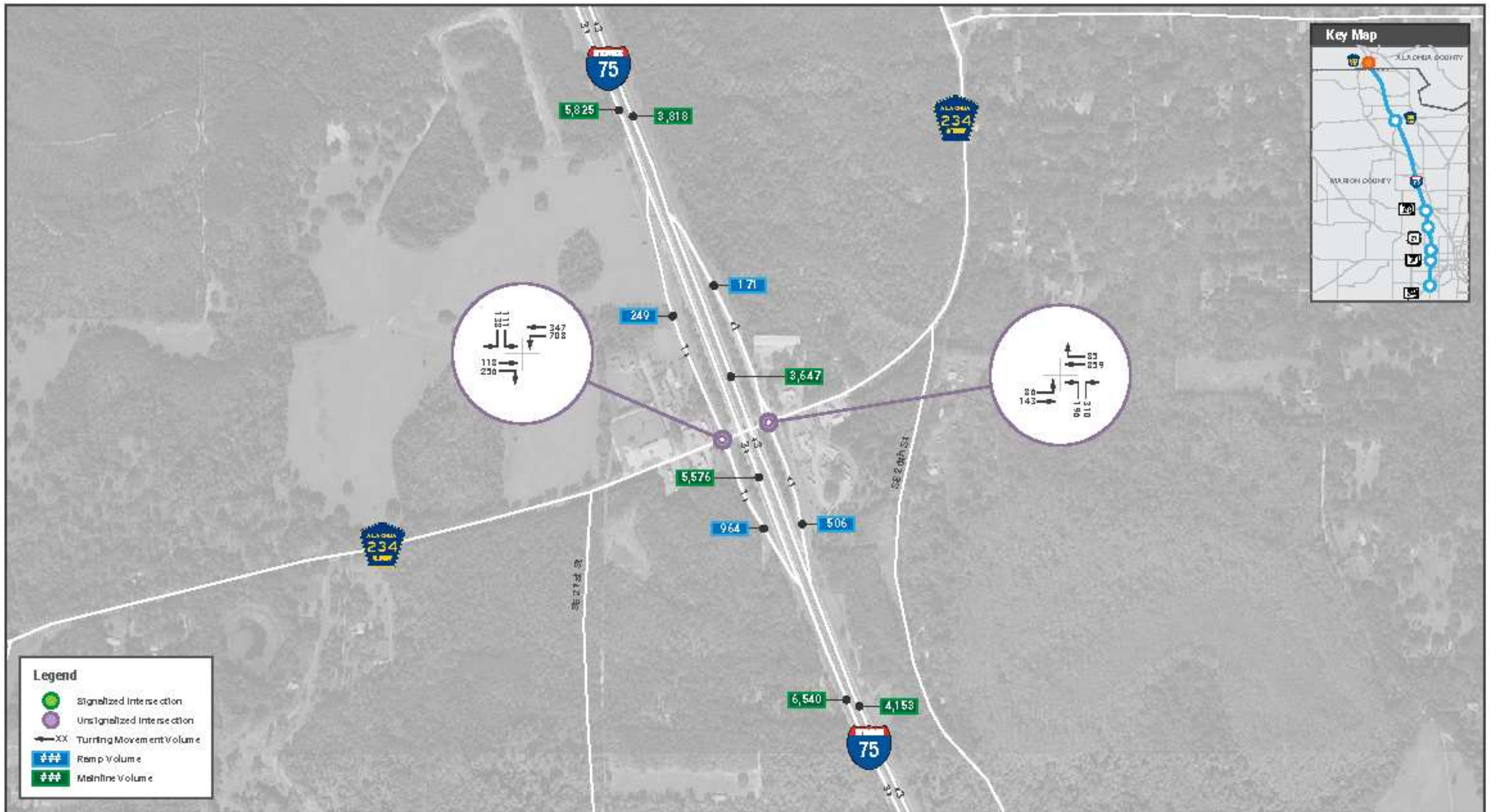


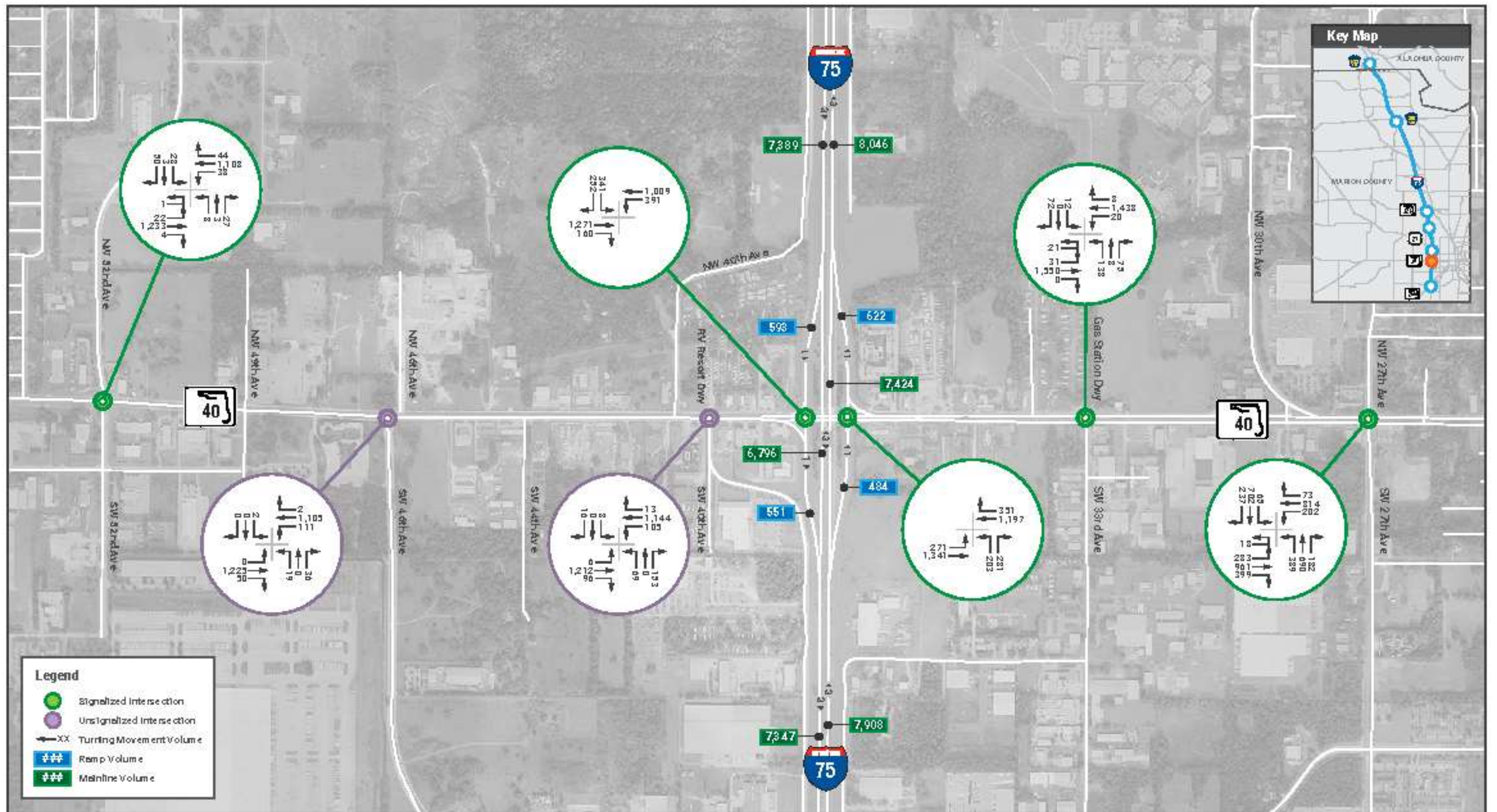


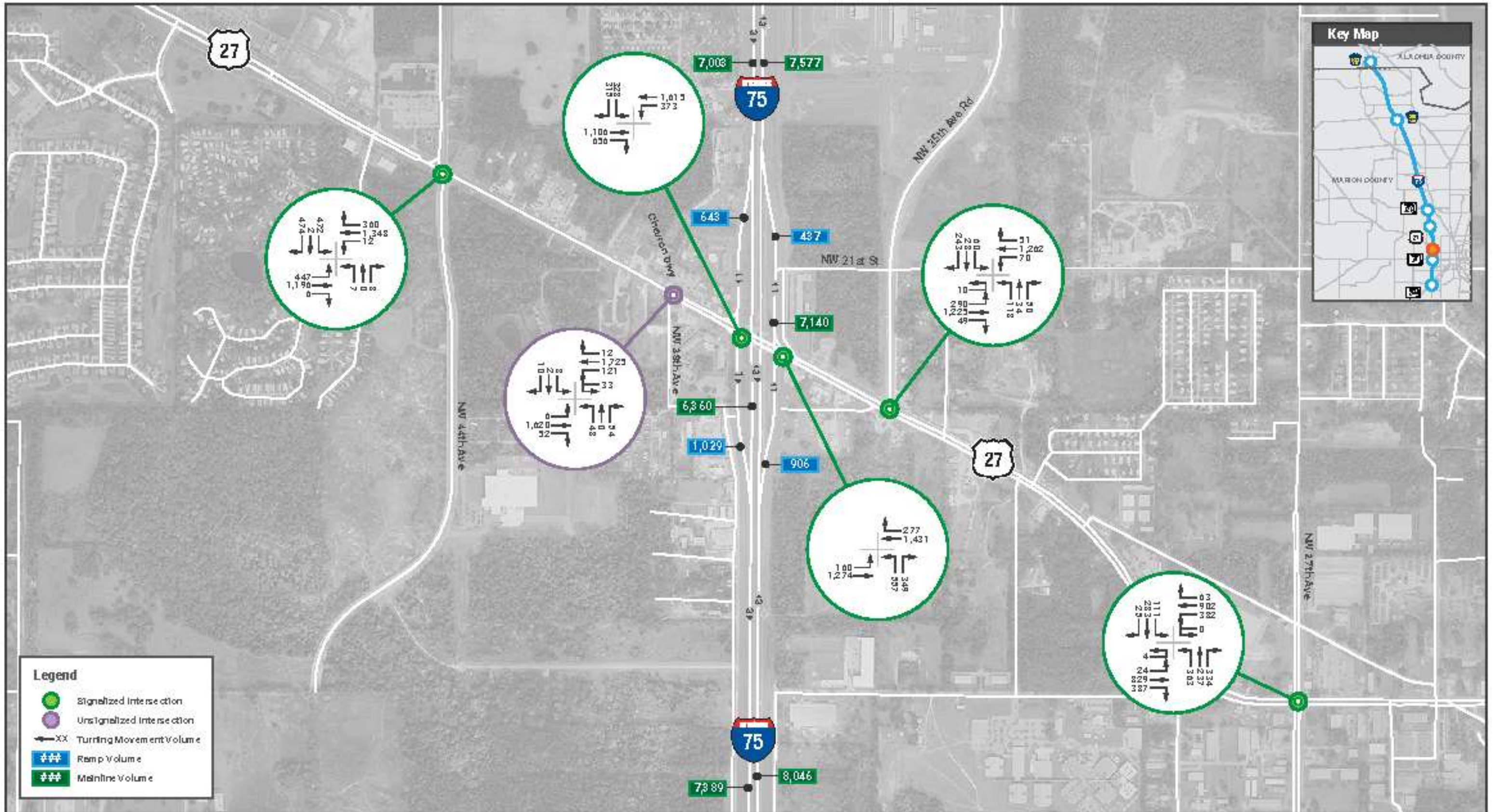


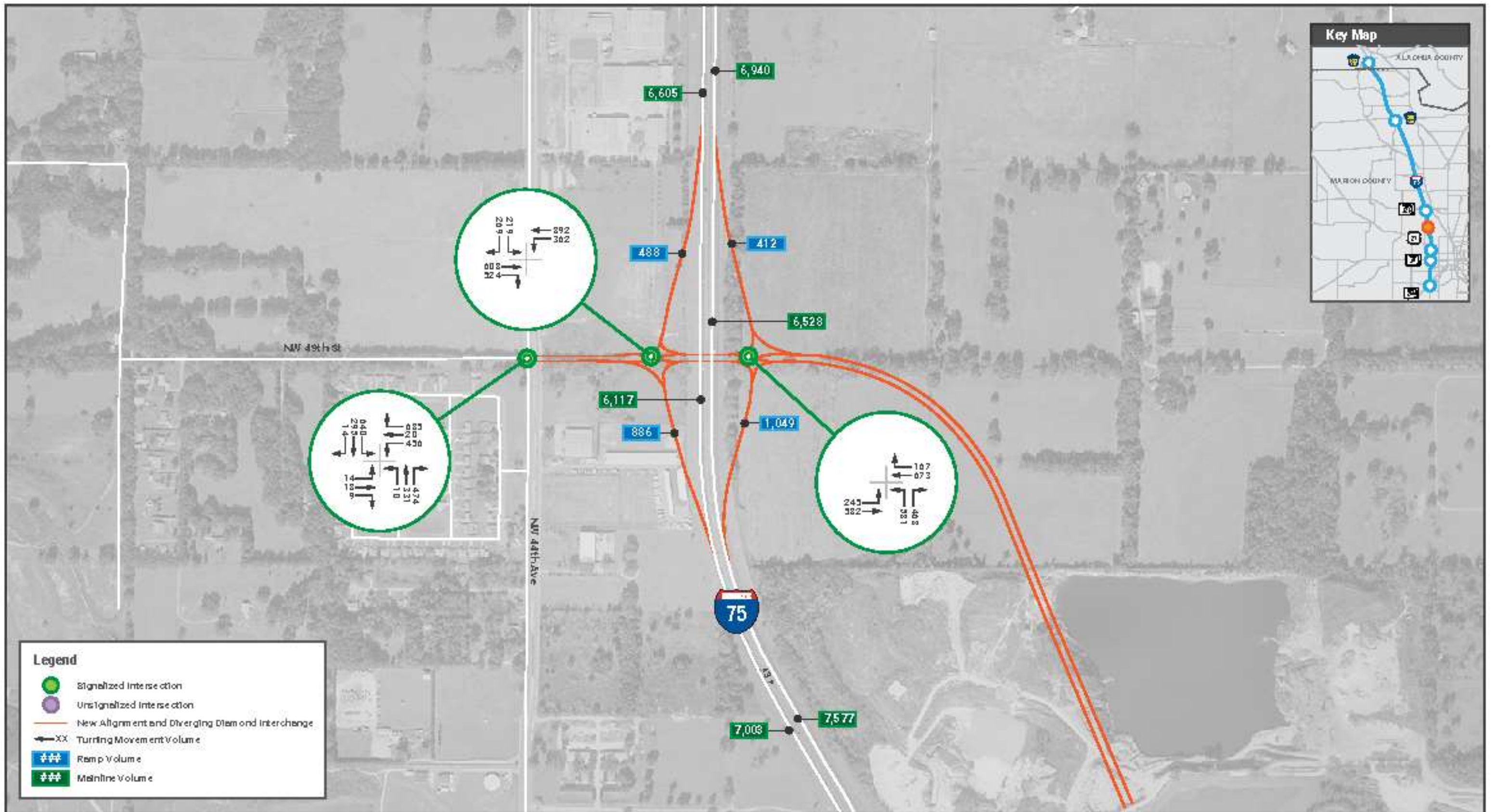


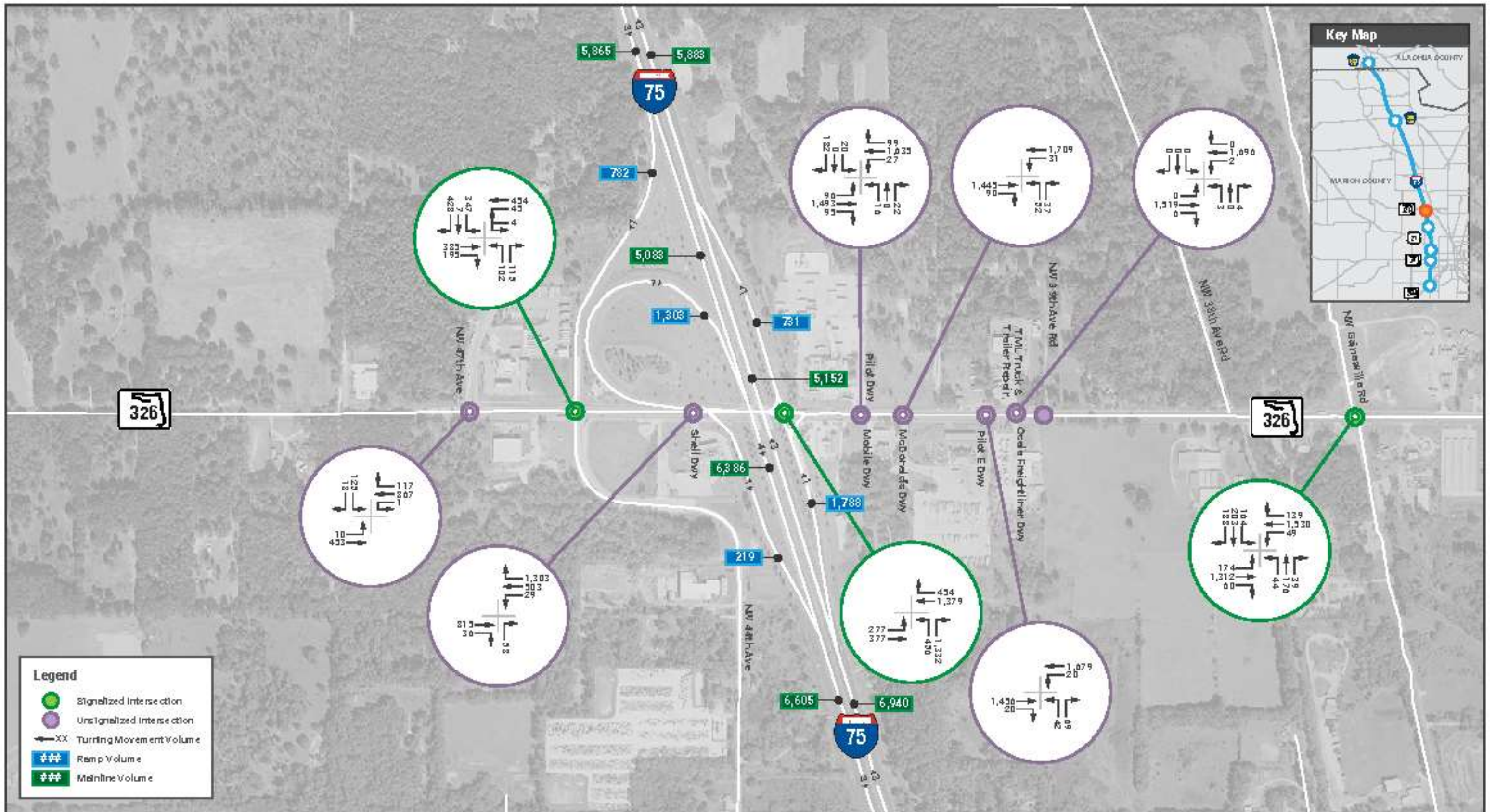


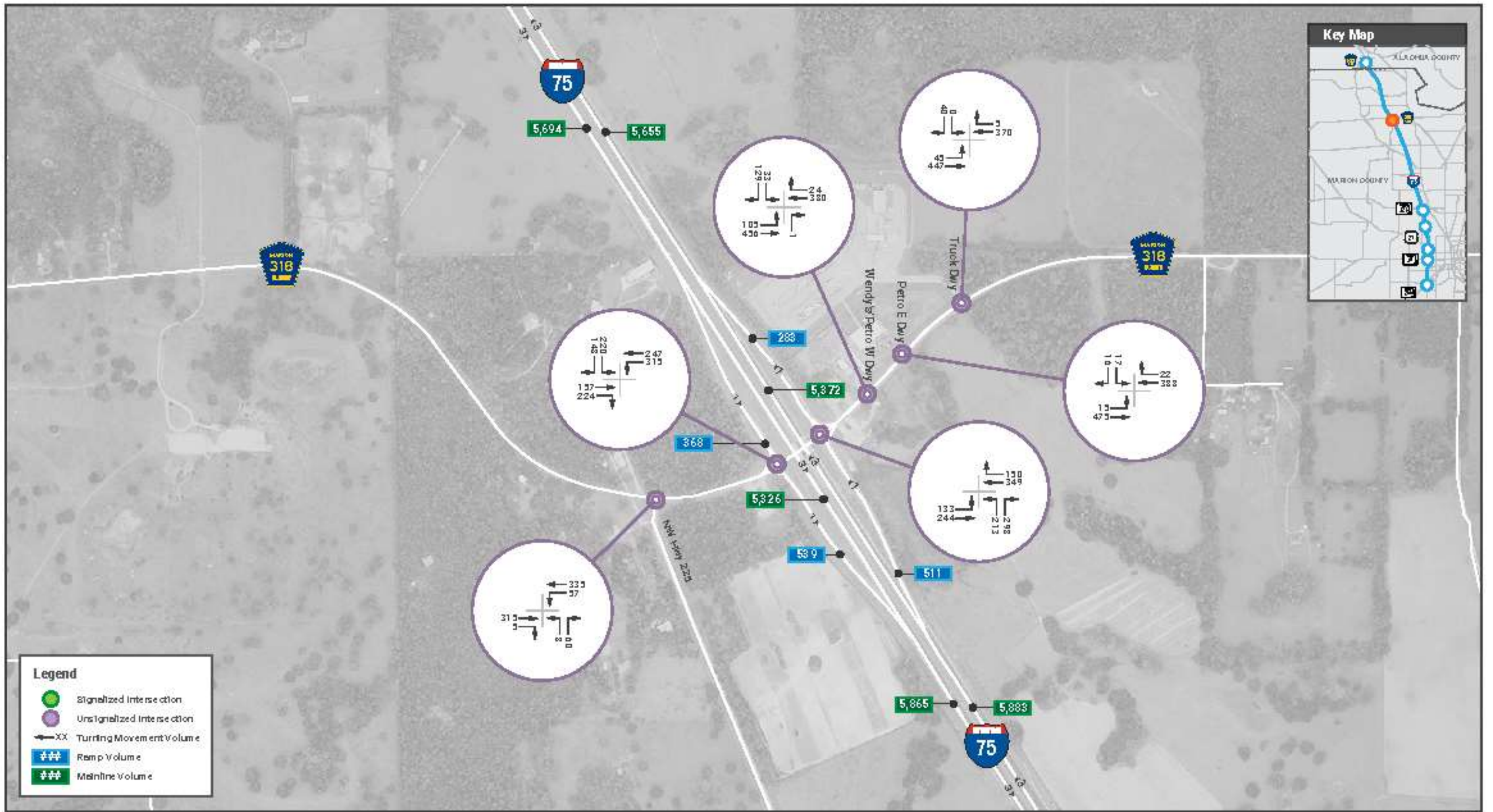


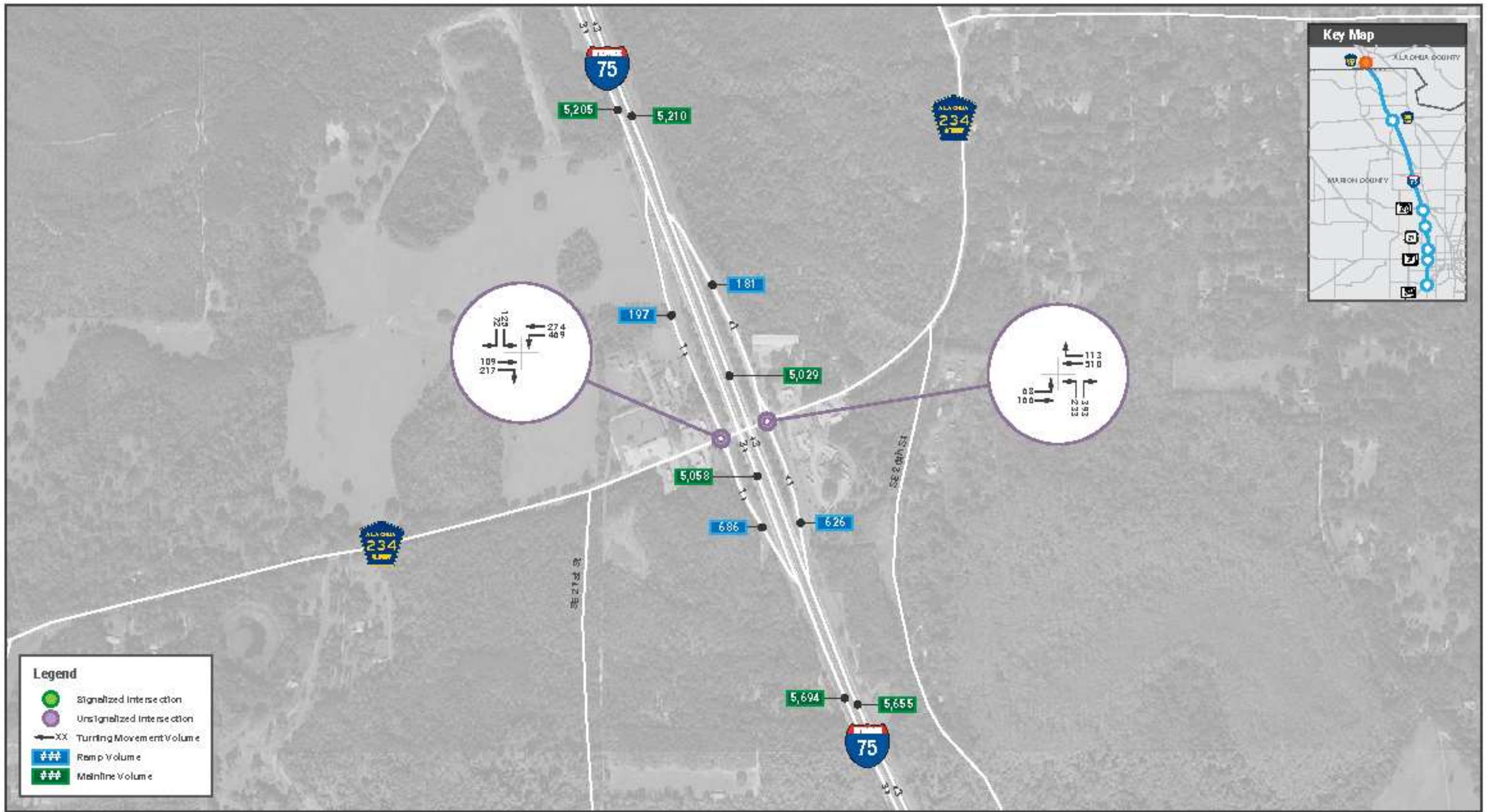












APPENDIX R – NCHRP REPORT 765 INPUTS/OUTPUTS

AM Peak Hour – 7:15 PM to 8:15 PM

NCHRP 765 Inputs

Existing (2019) AM Turning Movement Volumes

Node	EBL	EET	EBR	SBL	SBT	SBR	WBL	WBT	WBR	NBL	NBT	NBR	
SR40 at I-75	104	163	933	198	169	0	213	174	835	203	215	0	367
US 27 at I-75	105	44	957	330	140	0	42	238	597	102	132	0	411
SR 328 at I-75	106	71	152	133	84	0	31	513	236	184	60	0	537

Existing (2019) AM Approach/Departure Volumes

Node	Eastbound		Southbound		Westbound		Northbound		
	West Leg		North Leg		East Leg		South Leg		
	App	Dep	App	Dep	App	Dep	App	Dep	
SR40 at I-75	104	1300	1268	397	366	1212	1475	582	372
US 27 at I-75	105	1331	832	182	144	937	1508	604	613
SR 328 at I-75	106	356	327	115	255	933	773	597	652

2050AM Approach/Departure Volumes

Node	Eastbound		Southbound		Westbound		Northbound		
	West Leg		North Leg		East Leg		South Leg		
	App	Dep	App	Dep	App	Dep	App	Dep	
SR40 at I-75	104	1721	1673	756	694	1746	2253	940	510
US 27 at I-75	105	2264	1516	621	543	1430	2165	1125	1080
SR 328 at I-75	106	1153	776	611	1144	1332	1758	1534	1371

NCHRP 765 Outputs

2050AM Raw Turning Movement Volumes

Node	EBL	EET	EBR	SBL	SBT	SBR	WBL	WBT	WBR	NBL	NBT	NBR	
SR40 at I-75	104	256	1256	233	400	0	366	277	1065	423	243	0	608
US 27 at I-75	105	244	1212	734	331	0	213	346	730	305	516	0	572
SR 328 at I-75	106	531	15	773	352	0	342	1093	15	552	413	0	1331

PM Peak Hour – 4:30 PM to 5:30 PM

NCHRP 765 Inputs

Existing (2019) PM Turning Movement Volumes

SR40 at I-75
 US 27 at I-75
 SR 328 at I-75

Node	EBL	EET	EBR	SBL	SBT	SBR	WBL	WBT	WBR	NBL	NBT	NBR
104	167	954	324	127	0	216	268	1084	245	144	0	165
105	43	782	276	118	0	78	351	1028	118	338	0	232
106	50	32	121	165	0	76	665	250	137	83	0	544

Existing (2019) PM Approach/Departure Volumes

SR40 at I-75
 US 27 at I-75
 SR 328 at I-75

Node	Eastbound		Southbound		Westbound		Northbound	
	West Leg		North Leg		East Leg		South Leg	
	App	Dep	App	Dep	App	Dep	App	Dep
104	1445	1396	343	412	1547	1246	311	532
105	1101	1444	196	161	1497	1132	630	627
106	262	409	241	187	1052	301	627	736

2050 PM Approach/Departure Volumes

SR40 at I-75
 US 27 at I-75
 SR 328 at I-75

Node	Eastbound		Southbound		Westbound		Northbound	
	West Leg		North Leg		East Leg		South Leg	
	App	Dep	App	Dep	App	Dep	App	Dep
104	1333	1367	657	733	2113	1386	483	367
105	1623	2151	662	508	1965	1690	1069	1136
106	377	1058	1053	637	1453	1632	1521	1344

NCHRP 765 Outputs

2050 PM Raw Turning Movement Volumes

SR40 at I-75
 US 27 at I-75
 SR 328 at I-75

Node	EBL	EET	EBR	SBL	SBT	SBR	WBL	WBT	WBR	NBL	NBT	NBR
104	256	1256	233	400	0	366	277	1065	423	243	0	608
105	244	1212	734	331	0	213	346	730	305	516	0	572
106	531	15	773	352	0	342	1093	15	552	413	0	1331

Weekend Midday Peak Hour –1:00 PM to 2:00 PM

NCHRP 765 Inputs

Existing (2019) Weekend Midday Turning Movement Volumes

Node	EBL	EET	EBR	SBL	SBT	SBR	WBL	WBT	WBR	NBL	NBT	NBR
SR40 at I-75	137	899	155	131	0	170	210	589	169	157	0	213
US 27 at I-75	35	669	321	52	0	70	232	750	76	288	0	228
SR 328 at I-75	37	37	126	207	0	72	672	191	156	53	0	570

Existing (2019) Weekend Midday Approach/Departure Volumes

Node	Eastbound		Southbound		Westbound		Northbound	
	West Leg		North Leg		East Leg		South Leg	
	App	Dep	App	Dep	App	Dep	App	Dep
SR40 at I-75	391	916	301	305	967	1043	370	365
US 27 at I-75	1025	1108	162	111	1058	989	516	553
SR 328 at I-75	250	316	279	193	1018	804	623	737

2050 Weekend Midday Approach/Departure Volumes

Node	Eastbound		Southbound		Westbound		Northbound	
	West Leg		North Leg		East Leg		South Leg	
	App	Dep	App	Dep	App	Dep	App	Dep
SR40 at I-75	1299	1201	593	622	1557	1728	494	551
US 27 at I-75	1760	1930	643	437	1705	1625	906	1029
SR 328 at I-75	930	960	1114	731	1801	1709	2573	1072

NCHRP 765 Outputs

2050 Weekend Midday Raw Turning Movement Volumes

Node	EBL	EET	EBR	SBL	SBT	SBR	WBL	WBT	WBR	NBL	NBT	NBR
SR40 at I-75	136	1000	160	366	0	252	391	806	426	143	0	362
US 27 at I-75	160	946	656	328	0	315	373	1058	277	557	0	350
SR 328 at I-75	277	30	343	347	0	428	729	76	494	456	0	1332

APPENDIX S – 2030 NO-BUILD HCS OUTPUT REPORTS

I-75 North Section - Northbound

HCS Freeway Facilities Report

Project Information

Analyst	Kittelson & Associates	Date	11/6/2023
Agency	Florida Department of Transportation	Analysis Year	2030 No-Build Conditions
Jurisdiction	District Five	Time Analyzed	AM Weekday Peak Period
Facility Name	I-75 (Northbound)	Units	U.S. Customary
Project Description	I-75 PD&E North Auxillary Lanes		

Facility Global Input

Jam Density, pc/mi/ln	1900	Density at Capacity, pc/mi/ln	450
Queue Discharge Capacity Drop, %	7	Total Segments	19
Total Analysis Periods	12	Analysis Period Duration, min	15
Facility Length, mi	9.13		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-75 NB	4096	3
2	Basic	Basic	I-75 NB	1500	3
3	Diverge	Diverge	I-75 NB SR 40 Off Ramp	1500	3
4	Basic	Basic	I-75 NB	2890	3
5	Merge	Merge	I-75 NB SR 40 On Ramp	1500	3
6	Basic	Basic	I-75 NB	1294	3
7	Diverge	Diverge	I-75 NB US 27 Off Ramp	1500	3
8	Basic	Basic	I-75 NB	3054	3
9	Merge	Merge	I-75 NB US 27 On Ramp	1500	3
10	Basic	Basic	I-75 NB	4348	3
11	Diverge	Diverge	I-75 NB 49th St DDI Off Ramp	1500	3
12	Basic	Basic	I-75 NB	4841	3
13	Merge	Merge	I-75 NB 49th St DDI On Ramp	1500	3
14	Basic	Basic	I-75 NB	4399	3
15	Diverge	Diverge	I-75 NB SR 326 Off Ramp	1500	3
16	Basic	Basic	I-75 NB	2987	3
17	Merge	Merge	I-75 NB SR 326 On Ramp	1500	3
18	Basic	Basic	I-75 NB	1500	3
19	Basic	Basic	I-75 NB	5280	3

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.902	3520	6761	0.52	70.9	16.5	B
2	1.00	0.902	3956	6761	0.59	69.9	18.9	C

3	1 00	0 902	4677	6761	0 69	67 1	23 2	C
4	1 00	0 902	5343	6761	0 79	63 1	28 2	D
5	1 00	0 902	5033	6761	0 74	65 2	25 7	C
6	1 00	0 902	5098	6761	0 75	64 8	26 2	D
7	1 00	0 902	5810	6761	0 86	59 5	32 6	D
8	1 00	0 902	5629	6761	0 83	61 0	30 8	D
9	1 00	0 902	5565	6761	0 82	61 5	30 2	D
10	1 00	0 902	5493	6761	0 81	62 0	29 5	D
11	1 00	0 902	5359	6761	0 79	63 0	28 3	D
12	1 00	0 902	5105	6761	0 76	64 7	26 3	D

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio	Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1 00	0 902	3520		6761		0 52	70 9		16 5		B
2	1 00	0 902	3956		6761		0 59	69 9		18 9		C
3	1 00	0 902	4677		6761		0 69	67 1		23 2		C
4	1 00	0 902	5343		6761		0 79	63 1		28 2		D
5	1 00	0 902	5033		6761		0 74	65 2		25 7		C
6	1 00	0 902	5098		6761		0 75	64 8		26 2		D
7	1 00	0 902	5810		6761		0 86	59 5		32 6		D
8	1 00	0 902	5629		6761		0 83	61 0		30 8		D
9	1 00	0 902	5565		6761		0 82	61 5		30 2		D
10	1 00	0 902	5493		6761		0 81	62 0		29 5		D
11	1 00	0 902	5359		6761		0 79	63 0		28 3		D
12	1 00	0 902	5105		6761		0 76	64 7		26 3		D

Segment 3: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 902	0 898	3520	490	5918	1972	0 59	0 25	64 8	60 4	18 1	19 8	B
2	1 00	1 00	0 902	0 898	3956	550	5918	1972	0 67	0 28	64 7	60 2	20 4	22 0	C
3	1 00	1 00	0 902	0 898	4677	651	5918	1972	0 79	0 33	64 5	60 0	24 2	25 5	C
4	1 00	1 00	0 902	0 898	5343	744	5918	1972	0 90	0 38	64 2	59 7	27 7	28 5	D
5	1 00	1 00	0 902	0 898	5033	700	5918	1972	0 85	0 36	64 3	59 8	26 1	27 1	C
6	1 00	1 00	0 902	0 898	5098	709	5918	1972	0 86	0 36	64 3	59 8	26 4	27 4	C
7	1 00	1 00	0 902	0 898	5810	808	5918	1972	0 98	0 41	64 0	59 5	30 3	30 5	D
8	1 00	1 00	0 902	0 898	5629	783	5918	1972	0 95	0 40	64 1	59 6	29 3	29 7	D
9	1 00	1 00	0 902	0 898	5565	775	5918	1972	0 94	0 39	64 1	59 6	28 9	29 4	D
10	1 00	1 00	0 902	0 898	5493	765	5918	1972	0 93	0 39	64 2	59 7	28 5	29 1	D
11	1 00	1 00	0 902	0 898	5359	746	5918	1972	0 91	0 38	64 2	59 7	27 8	28 6	D
12	1 00	1 00	0 902	0 898	5105	710	5918	1972	0 86	0 36	64 3	59 8	26 5	27 5	C

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.902	3032	6761	0.45	71.0	14.2	B
2	1.00	0.902	3408	6761	0.50	71.0	16.0	B
3	1.00	0.902	4029	6761	0.60	69.7	19.3	C
4	1.00	0.902	4602	6761	0.68	67.5	22.7	C
5	1.00	0.902	4336	6761	0.64	68.7	21.0	C
6	1.00	0.902	4391	6761	0.65	68.4	21.4	C
7	1.00	0.902	5006	6761	0.74	65.3	25.6	C
8	1.00	0.902	4849	6761	0.72	66.2	24.4	C
9	1.00	0.902	4794	6761	0.71	66.5	24.0	C
10	1.00	0.902	4732	6761	0.70	66.9	23.6	C
11	1.00	0.902	4616	6761	0.68	67.4	22.8	C
12	1.00	0.902	4398	6761	0.65	68.4	21.4	C

Segment 5: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.902	0.898	3381	349	5918	1972	0.57	0.18	64.6	62.6	17.4	17.7	B
2	1.00	1.00	0.902	0.898	3799	391	5918	1972	0.64	0.20	64.3	62.3	19.7	19.8	B
3	1.00	1.00	0.902	0.898	4491	462	5918	1972	0.76	0.23	63.5	61.6	23.6	23.2	C
4	1.00	1.00	0.902	0.898	5131	529	5918	1972	0.87	0.27	62.6	60.6	27.3	26.4	C
5	1.00	1.00	0.902	0.898	4834	498	5918	1972	0.82	0.25	63.0	61.1	25.6	24.9	C
6	1.00	1.00	0.902	0.898	4895	504	5918	1972	0.83	0.26	62.9	61.0	25.9	25.2	C
7	1.00	1.00	0.902	0.898	5581	575	5918	1972	0.94	0.29	61.6	59.5	30.2	28.8	D
8	1.00	1.00	0.902	0.898	5406	557	5918	1972	0.91	0.28	62.0	60.0	29.1	27.9	C
9	1.00	1.00	0.902	0.898	5344	550	5918	1972	0.90	0.28	62.1	60.1	28.7	27.5	C
10	1.00	1.00	0.902	0.898	5275	543	5918	1972	0.89	0.28	62.2	60.2	28.3	27.2	C
11	1.00	1.00	0.902	0.898	5146	530	5918	1972	0.87	0.27	62.5	60.5	27.4	26.5	C
12	1.00	1.00	0.902	0.898	4902	504	5918	1972	0.83	0.26	62.9	61.0	26.0	25.2	C

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.902	3379	6761	0.50	70.5	15.9	B
2	1.00	0.902	3797	6761	0.56	70.3	18.0	B
3	1.00	0.902	4489	6761	0.66	68.0	22.0	C
4	1.00	0.902	5129	6761	0.76	64.6	26.5	D
5	1.00	0.902	4831	6761	0.71	66.3	24.3	C
6	1.00	0.902	4894	6761	0.72	66.0	24.7	C
7	1.00	0.902	5578	6761	0.83	61.4	30.3	D
8	1.00	0.902	5404	6761	0.80	62.7	28.7	D
9	1.00	0.902	5341	6761	0.79	63.2	28.2	D

10	1 00	0 902	5273	6761	078	63 6	27 6	D							
11	1 00	0 902	5144	6761	076	64 5	26 6	D							
12	1 00	0 902	4900	6761	072	66 0	24 7	C							
Segment 7: Diverge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 902	0 934	3379	542	5918	1972	0 57	0 27	64 5	60 2	17 5	20 3	C
2	1 00	1 00	0 902	0 934	3797	609	5918	1972	0 64	0 31	64 5	60 1	19 6	22 5	C
3	1 00	1 00	0 902	0 934	4489	721	5918	1972	0 76	0 37	64 3	59 8	23 3	25 9	C
4	1 00	1 00	0 902	0 934	5129	823	5918	1972	0 87	0 42	64 1	59 5	26 7	28 8	D
5	1 00	1 00	0 902	0 934	4831	775	5918	1972	0 82	0 39	64 1	59 6	25 1	27 5	C
6	1 00	1 00	0 902	0 934	4894	786	5918	1972	0 83	0 40	64 1	59 6	25 4	27 7	C
7	1 00	1 00	0 902	0 934	5578	895	5918	1972	0 94	0 45	63 8	59 3	29 1	30 8	D
8	1 00	1 00	0 902	0 934	5404	867	5918	1972	0 91	0 44	64 0	59 4	28 1	30 0	D
9	1 00	1 00	0 902	0 934	5341	858	5918	1972	0 90	0 43	64 0	59 4	27 8	29 8	D
10	1 00	1 00	0 902	0 934	5273	847	5918	1972	0 89	0 43	64 0	59 4	27 5	29 5	D
11	1 00	1 00	0 902	0 934	5144	825	5918	1972	0 87	0 42	64 1	59 5	26 7	28 9	D
12	1 00	1 00	0 902	0 934	4900	787	5918	1972	0 83	0 40	64 1	59 6	25 5	27 8	C
Segment 8: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1 00		0 896		2837		6761		0 42		71 0		13 3	B	
2	1 00		0 896		3188		6761		0 47		71 0		14 9	B	
3	1 00		0 896		3768		6761		0 56		70 4		17 8	B	
4	1 00		0 896		4305		6761		0 64		68 8		20 9	C	
5	1 00		0 896		4056		6761		0 60		69 6		19 4	C	
6	1 00		0 896		4107		6761		0 61		69 5		19 7	C	
7	1 00		0 896		4682		6761		0 69		67 1		23 3	C	
8	1 00		0 896		4536		6761		0 67		67 8		22 3	C	
9	1 00		0 896		4483		6761		0 66		68 0		22 0	C	
10	1 00		0 896		4425		6761		0 65		68 3		21 6	C	
11	1 00		0 896		4318		6761		0 64		68 7		20 9	C	
12	1 00		0 896		4113		6761		0 61		69 5		19 7	C	
Segment 9: Merge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 894	0 876	3059	216	5918	1972	0 52	0 11	65 1	63 1	15 7	15 3	B
2	1 00	1 00	0 894	0 876	3437	242	5918	1972	0 58	0 12	64 8	62 9	17 7	17 1	B
3	1 00	1 00	0 894	0 876	4063	287	5918	1972	0 69	0 15	64 2	62 4	21 1	20 2	C
4	1 00	1 00	0 894	0 876	4640	326	5918	1972	0 78	0 17	63 6	61 8	24 3	23 0	C

5	100	100	0.894	0.876	4373	308	5918	1972	0.74	0.16	63.9	62.1	22.8	21.7	C
6	100	100	0.894	0.876	4428	312	5918	1972	0.75	0.16	63.8	62.0	23.1	22.0	C
7	100	100	0.894	0.876	5047	355	5918	1972	0.85	0.18	63.0	61.2	26.7	25.0	C
8	100	100	0.894	0.876	4891	345	5918	1972	0.83	0.17	63.2	61.4	25.8	24.2	C
9	100	100	0.894	0.876	4833	340	5918	1972	0.82	0.17	63.3	61.5	25.5	23.9	C
10	100	100	0.894	0.876	4771	336	5918	1972	0.81	0.17	63.4	61.6	25.1	23.6	C
11	100	100	0.894	0.876	4656	328	5918	1972	0.79	0.17	63.6	61.8	24.4	23.1	C
12	100	100	0.894	0.876	4435	313	5918	1972	0.75	0.16	63.8	62.0	23.2	22.0	C

Segment 10: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.894	3055	6761	0.45	71.1	14.3	B
2	100	0.894	3432	6761	0.51	71.0	16.1	B
3	100	0.894	4057	6761	0.60	69.6	19.4	C
4	100	0.894	4634	6761	0.69	67.3	23.0	C
5	100	0.894	4367	6761	0.65	68.5	21.3	C
6	100	0.894	4422	6761	0.65	68.3	21.6	C
7	100	0.894	5040	6761	0.75	65.1	25.8	C
8	100	0.894	4884	6761	0.72	66.0	24.7	C
9	100	0.894	4827	6761	0.71	66.4	24.2	C
10	100	0.894	4764	6761	0.70	66.7	23.8	C
11	100	0.894	4649	6761	0.69	67.3	23.0	C
12	100	0.894	4428	6761	0.65	68.3	21.6	C

Segment 11: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.894	0.893	3055	448	5918	1972	0.52	0.23	64.7	60.5	15.7	9.5	A
2	100	100	0.894	0.893	3432	504	5918	1972	0.58	0.26	64.7	60.3	17.7	11.5	B
3	100	100	0.894	0.893	4057	596	5918	1972	0.69	0.30	64.6	60.1	20.9	14.7	B
4	100	100	0.894	0.893	4634	680	5918	1972	0.78	0.34	64.4	59.9	24.0	17.4	B
5	100	100	0.894	0.893	4367	641	5918	1972	0.74	0.32	64.5	60.0	22.6	16.2	B
6	100	100	0.894	0.893	4422	648	5918	1972	0.75	0.33	64.5	60.0	22.9	16.4	B
7	100	100	0.894	0.893	5040	740	5918	1972	0.85	0.38	64.2	59.7	26.2	19.3	B
8	100	100	0.894	0.893	4884	717	5918	1972	0.83	0.36	64.3	59.8	25.3	18.6	B
9	100	100	0.894	0.893	4827	709	5918	1972	0.82	0.36	64.3	59.8	25.0	18.3	B
10	100	100	0.894	0.893	4764	699	5918	1972	0.80	0.35	64.3	59.8	24.7	18.1	B
11	100	100	0.894	0.893	4649	682	5918	1972	0.79	0.35	64.4	59.9	24.1	17.5	B
12	100	100	0.894	0.893	4428	649	5918	1972	0.75	0.33	64.5	60.0	22.9	16.4	B

Segment 12: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
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1	100	0.895	2604	6761	0.39	71.2	12.2	B
2	100	0.895	2925	6761	0.43	71.2	13.7	B
3	100	0.895	3458	6761	0.51	70.9	16.3	B
4	100	0.895	3951	6761	0.58	70.0	18.8	C
5	100	0.895	3723	6761	0.55	70.5	17.6	B
6	100	0.895	3770	6761	0.56	70.4	17.9	B
7	100	0.895	4296	6761	0.64	68.8	20.8	C
8	100	0.895	4163	6761	0.62	69.3	20.0	C
9	100	0.895	4114	6761	0.61	69.5	19.7	C
10	100	0.895	4061	6761	0.60	69.6	19.5	C
11	100	0.895	3963	6761	0.59	69.9	18.9	C
12	100	0.895	3775	6761	0.56	70.4	17.9	B

Segment 13: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.894	0.893	2850	243	5918	1972	0.48	0.12	66.3	64.8	14.3	10.5	B
2	100	100	0.894	0.893	3201	273	5918	1972	0.54	0.14	66.1	64.7	16.1	12.3	B
3	100	100	0.894	0.893	3786	324	5918	1972	0.64	0.16	65.6	64.2	19.2	15.3	B
4	100	100	0.894	0.893	4325	370	5918	1972	0.73	0.19	65.0	63.7	22.2	18.0	B
5	100	100	0.894	0.893	4075	348	5918	1972	0.69	0.18	65.3	64.0	20.8	16.7	B
6	100	100	0.894	0.893	4127	353	5918	1972	0.70	0.18	65.2	63.9	21.1	17.0	B
7	100	100	0.894	0.893	4703	402	5918	1972	0.79	0.20	64.4	63.1	24.3	19.9	B
8	100	100	0.894	0.893	4558	390	5918	1972	0.77	0.20	64.6	63.3	23.5	19.2	B
9	100	100	0.894	0.893	4504	385	5918	1972	0.76	0.20	64.7	63.4	23.2	18.9	B
10	100	100	0.894	0.893	4446	380	5918	1972	0.75	0.19	64.8	63.5	22.9	18.6	B
11	100	100	0.894	0.893	4339	371	5918	1972	0.73	0.19	64.9	63.6	22.3	18.1	B
12	100	100	0.894	0.893	4133	353	5918	1972	0.70	0.18	65.2	63.9	21.1	17.0	B

Segment 14: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.894	2850	6761	0.42	71.2	13.3	B
2	100	0.894	3201	6761	0.47	71.2	15.0	B
3	100	0.894	3785	6761	0.56	70.4	17.9	B
4	100	0.894	4324	6761	0.64	68.7	21.0	C
5	100	0.894	4075	6761	0.60	69.6	19.5	C
6	100	0.894	4126	6761	0.61	69.4	19.8	C
7	100	0.894	4702	6761	0.70	67.0	23.4	C
8	100	0.894	4557	6761	0.67	67.7	22.4	C
9	100	0.894	4503	6761	0.67	68.0	22.1	C
10	100	0.894	4445	6761	0.66	68.2	21.7	C
11	100	0.894	4338	6761	0.64	68.7	21.0	C

12	100	0.894	4132	6761	0.61	69.4	19.8	C							
Segment 15: Diverge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.894	0.924	2850	671	5918	1972	0.48	0.34	63.8	59.9	14.9	16.1	B
2	100	100	0.894	0.924	3201	754	5918	1972	0.54	0.38	63.8	59.7	16.7	18.0	B
3	100	100	0.894	0.924	3785	892	5918	1972	0.64	0.45	63.7	59.3	19.8	21.1	C
4	100	100	0.894	0.924	4324	1018	5918	1972	0.73	0.52	63.5	59.0	22.7	23.9	C
5	100	100	0.894	0.924	4075	960	5918	1972	0.69	0.49	63.5	59.1	21.4	22.7	C
6	100	100	0.894	0.924	4126	972	5918	1972	0.70	0.49	63.5	59.1	21.7	22.9	C
7	100	100	0.894	0.924	4702	1108	5918	1972	0.79	0.56	63.3	58.8	24.8	25.7	C
8	100	100	0.894	0.924	4557	1074	5918	1972	0.77	0.54	63.3	58.8	24.0	25.1	C
9	100	100	0.894	0.924	4503	1061	5918	1972	0.76	0.54	63.4	58.9	23.7	24.8	C
10	100	100	0.894	0.924	4445	1048	5918	1972	0.75	0.53	63.4	58.9	23.4	24.5	C
11	100	100	0.894	0.924	4338	1022	5918	1972	0.73	0.52	63.5	59.0	22.8	24.0	C
12	100	100	0.894	0.924	4132	973	5918	1972	0.70	0.49	63.5	59.1	21.7	22.9	C

Segment 16: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.885	0.885	2179		6761		0.32		71.0		10.2		A
2	100	100	0.885	0.885	2446		6761		0.36		71.0		11.4		B
3	100	100	0.885	0.885	2893		6761		0.43		71.0		13.5		B
4	100	100	0.885	0.885	3305		6761		0.49		71.0		15.5		B
5	100	100	0.885	0.885	3114		6761		0.46		71.0		14.6		B
6	100	100	0.885	0.885	3154		6761		0.47		71.0		14.8		B
7	100	100	0.885	0.885	3593		6761		0.53		70.7		16.9		B
8	100	100	0.885	0.885	3482		6761		0.52		70.9		16.4		B
9	100	100	0.885	0.885	3442		6761		0.51		71.0		16.2		B
10	100	100	0.885	0.885	3397		6761		0.50		71.0		15.9		B
11	100	100	0.885	0.885	3315		6761		0.49		71.0		15.5		B
12	100	100	0.885	0.885	3158		6761		0.47		71.0		14.8		B

Segment 17: Merge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.880	0.853	2628	437	5918	1972	0.44	0.22	65.5	63.5	13.4	13.3	B
2	100	100	0.880	0.853	2951	491	5918	1972	0.50	0.25	65.2	63.3	15.1	15.0	B
3	100	100	0.880	0.853	3489	580	5918	1972	0.59	0.29	64.8	63.0	17.9	17.7	B
4	100	100	0.880	0.853	3988	664	5918	1972	0.67	0.34	64.3	62.5	20.7	20.3	C
5	100	100	0.880	0.853	3757	625	5918	1972	0.63	0.32	64.5	62.7	19.4	19.1	B
6	100	100	0.880	0.853	3805	633	5918	1972	0.64	0.32	64.5	62.7	19.7	19.3	B

7	100	100	0.880	0.853	4335	721	5918	1972	0.73	0.37	63.9	62.1	22.6	22.1	C
8	100	100	0.880	0.853	4201	699	5918	1972	0.71	0.35	64.0	62.2	21.9	21.4	C
9	100	100	0.880	0.853	4152	691	5918	1972	0.70	0.35	64.1	62.3	21.6	21.1	C
10	100	100	0.880	0.853	4098	682	5918	1972	0.69	0.35	64.2	62.4	21.3	20.9	C
11	100	100	0.880	0.853	3999	665	5918	1972	0.68	0.34	64.3	62.5	20.7	20.3	C
12	100	100	0.880	0.853	3810	634	5918	1972	0.64	0.32	64.5	62.7	19.7	19.4	B

Segment 18: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.880	2615	6761	0.39	70.7	12.2	B
2	100	0.880	2936	6761	0.43	70.7	13.8	B
3	100	0.880	3472	6761	0.51	70.6	16.3	B
4	100	0.880	3967	6761	0.59	69.9	18.9	C
5	100	0.880	3738	6761	0.55	70.5	17.7	B
6	100	0.880	3785	6761	0.56	70.4	17.9	B
7	100	0.880	4312	6761	0.64	68.8	20.9	C
8	100	0.880	4180	6761	0.62	69.2	20.1	C
9	100	0.880	4131	6761	0.61	69.4	19.8	C
10	100	0.880	4077	6761	0.60	69.6	19.5	C
11	100	0.880	3978	6761	0.59	69.9	19.0	C
12	100	0.880	3791	6761	0.56	70.4	18.0	B

Segment 19: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.880	2615	6761	0.39	71.2	12.2	B
2	100	0.880	2936	6761	0.43	71.2	13.8	B
3	100	0.880	3472	6761	0.51	70.9	16.3	B
4	100	0.880	3967	6761	0.59	69.9	18.9	C
5	100	0.880	3738	6761	0.55	70.5	17.7	B
6	100	0.880	3785	6761	0.56	70.4	17.9	B
7	100	0.880	4312	6761	0.64	68.8	20.9	C
8	100	0.880	4180	6761	0.62	69.2	20.1	C
9	100	0.880	4131	6761	0.61	69.4	19.8	C
10	100	0.880	4077	6761	0.60	69.6	19.5	C
11	100	0.880	3978	6761	0.59	69.9	19.0	C
12	100	0.880	3791	6761	0.56	70.4	18.0	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost \$/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	5981	5903	2.29	57.37	69.3	14.1	12.6	7.90	B
2	6720	6631	2.86	71.51	69.1	15.9	14.2	7.90	B
3	7944	7840	4.94	123.61	68.2	19.0	17.0	8.00	C

4	9076	8956	8.84	221.03	66.6	22.3	19.9	8.20	C
5	8551	8439	6.73	168.24	67.4	20.7	18.5	8.10	C
6	8660	8546	7.12	177.98	67.3	21.0	18.8	8.10	C
7	9870	9740	13.33	333.14	65.0	24.8	22.2	8.40	C
8	9563	9437	11.41	285.20	65.6	23.8	21.3	8.30	C
9	9452	9328	10.73	268.31	65.9	23.4	21.0	8.30	C
10	9330	9207	10.10	252.62	66.1	23.1	20.6	8.30	C
11	9104	8984	8.96	224.08	66.5	22.3	20.0	8.20	C
12	8673	8558	7.16	178.97	67.3	21.1	18.8	8.10	C

Facility Overall Results

Space Mean Speed, mi/h	66.8	Average Density, veh/mi/ln	18.7
Average Travel Time, min	8.20	Average Density, pc/mi/ln	21.0
Total VMT, veh-mi	102924	Total VHD, veh-h	94.48
Vehicle Value of Time (VOT), \$/h	25.00	Total Delay Cost, \$	2362.06

HCS Freeway Facilities Report

Project Information

Analyst	Kittelson & Associates	Date	11/6/2023
Agency	Florida Department of Transportation	Analysis Year	2030 No-Build Conditions
Jurisdiction	District Five	Time Analyzed	PM Weekday Peak Period
Facility Name	I-75 (Northbound)	Units	U.S. Customary
Project Description	I-75 PD&E North Auxillary Lanes		

Facility Global Input

Jam Density, pc/mi/ln	1900	Density at Capacity, pc/mi/ln	450
Queue Discharge Capacity Drop, %	7	Total Segments	19
Total Analysis Periods	12	Analysis Period Duration, min	15
Facility Length, mi	9.13		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-75 NB	4096	3
2	Basic	Basic	I-75 NB	1500	3
3	Diverge	Diverge	I-75 NB SR 40 Off Ramp	1500	3
4	Basic	Basic	I-75 NB	2890	3
5	Merge	Merge	I-75 NB SR 40 On Ramp	1500	3
6	Basic	Basic	I-75 NB	1294	3
7	Diverge	Diverge	I-75 NB US 27 Off Ramp	1500	3
8	Basic	Basic	I-75 NB	3054	3
9	Merge	Merge	I-75 NB US 27 On Ramp	1500	3
10	Basic	Basic	I-75 NB	4348	3
11	Diverge	Diverge	I-75 NB 49th St DDI Off Ramp	1500	3
12	Basic	Basic	I-75 NB	4841	3
13	Merge	Merge	I-75 NB 49th St DDI On Ramp	1500	3
14	Basic	Basic	I-75 NB	4399	3
15	Diverge	Diverge	I-75 NB SR 326 Off Ramp	1500	3
16	Basic	Basic	I-75 NB	2987	3
17	Merge	Merge	I-75 NB SR 326 On Ramp	1500	3
18	Basic	Basic	I-75 NB	1500	3
19	Basic	Basic	I-75 NB	5280	3

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.902	4826	6761	0.71	66.4	24.2	C
2	1.00	0.902	4554	6761	0.67	67.7	22.4	C

3	1 00	0 902	4687	6761	0 69	67 1	23 3	C
4	1 00	0 902	4415	6761	0 65	68 3	21 6	C
5	1 00	0 902	3785	6761	0 56	70 4	17 9	B
6	1 00	0 902	4223	6761	0 62	69 1	20 4	C
7	1 00	0 902	4349	6761	0 64	68 6	21 1	C
8	1 00	0 902	4481	6761	0 66	68 0	22 0	C
9	1 00	0 902	4323	6761	0 64	68 7	21 0	C
10	1 00	0 902	4090	6761	0 60	69 5	19 6	C
11	1 00	0 902	3978	6761	0 59	69 9	19 0	C
12	1 00	0 902	3738	6761	0 55	70 5	17 7	B

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1 00	0 902	4826	6761	0 71	66 4	24 2	C
2	1 00	0 902	4554	6761	0 67	67 7	22 4	C
3	1 00	0 902	4687	6761	0 69	67 1	23 3	C
4	1 00	0 902	4415	6761	0 65	68 3	21 6	C
5	1 00	0 902	3785	6761	0 56	70 4	17 9	B
6	1 00	0 902	4223	6761	0 62	69 1	20 4	C
7	1 00	0 902	4349	6761	0 64	68 6	21 1	C
8	1 00	0 902	4481	6761	0 66	68 0	22 0	C
9	1 00	0 902	4323	6761	0 64	68 7	21 0	C
10	1 00	0 902	4090	6761	0 60	69 5	19 6	C
11	1 00	0 902	3978	6761	0 59	69 9	19 0	C
12	1 00	0 902	3738	6761	0 55	70 5	17 7	B

Segment 3: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 902	0 898	4826	474	5918	1972	0 82	0 24	64 9	60 4	24 8	25 9	C
2	1 00	1 00	0 902	0 898	4554	448	5918	1972	0 77	0 23	65 0	60 5	23 4	24 6	C
3	1 00	1 00	0 902	0 898	4687	461	5918	1972	0 79	0 23	65 0	60 5	24 0	25 2	C
4	1 00	1 00	0 902	0 898	4415	434	5918	1972	0 75	0 22	65 0	60 5	22 6	24 0	C
5	1 00	1 00	0 902	0 898	3785	373	5918	1972	0 64	0 19	65 1	60 7	19 4	20 9	C
6	1 00	1 00	0 902	0 898	4223	415	5918	1972	0 71	0 21	65 1	60 6	21 6	23 0	C
7	1 00	1 00	0 902	0 898	4349	428	5918	1972	0 73	0 22	65 0	60 5	22 3	23 7	C
8	1 00	1 00	0 902	0 898	4481	441	5918	1972	0 76	0 22	65 0	60 5	23 0	24 3	C
9	1 00	1 00	0 902	0 898	4323	425	5918	1972	0 73	0 22	65 0	60 5	22 2	23 5	C
10	1 00	1 00	0 902	0 898	4090	402	5918	1972	0 69	0 20	65 1	60 6	20 9	22 4	C
11	1 00	1 00	0 902	0 898	3978	391	5918	1972	0 67	0 20	65 1	60 6	20 4	21 9	C
12	1 00	1 00	0 902	0 898	3738	367	5918	1972	0 63	0 19	65 1	60 7	19 1	20 7	C

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.902	4354	6761	0.64	68.6	21.2	C
2	1.00	0.902	4109	6761	0.61	69.5	19.7	C
3	1.00	0.902	4228	6761	0.63	69.1	20.4	C
4	1.00	0.902	3982	6761	0.59	69.9	19.0	C
5	1.00	0.902	3414	6761	0.50	71.0	16.0	B
6	1.00	0.902	3809	6761	0.56	70.3	18.1	C
7	1.00	0.902	3924	6761	0.58	70.0	18.7	C
8	1.00	0.902	4042	6761	0.60	69.7	19.3	C
9	1.00	0.902	3899	6761	0.58	70.1	18.5	C
10	1.00	0.902	3690	6761	0.55	70.6	17.4	B
11	1.00	0.902	3589	6761	0.53	70.8	16.9	B
12	1.00	0.902	3373	6761	0.50	71.0	15.8	B

Segment 5: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.902	0.898	5049	695	5918	1972	0.85	0.35	62.5	60.4	26.9	26.8	C
2	1.00	1.00	0.902	0.898	4765	656	5918	1972	0.81	0.33	63.0	61.0	25.2	25.2	C
3	1.00	1.00	0.902	0.898	4903	675	5918	1972	0.83	0.34	62.7	60.7	26.1	26.0	C
4	1.00	1.00	0.902	0.898	4618	636	5918	1972	0.78	0.32	63.2	61.2	24.4	24.4	C
5	1.00	1.00	0.902	0.898	3959	545	5918	1972	0.67	0.28	64.1	62.1	20.6	21.0	C
6	1.00	1.00	0.902	0.898	4417	608	5918	1972	0.75	0.31	63.5	61.6	23.2	23.3	C
7	1.00	1.00	0.902	0.898	4550	626	5918	1972	0.77	0.32	63.3	61.4	24.0	24.1	C
8	1.00	1.00	0.902	0.898	4687	645	5918	1972	0.79	0.33	63.1	61.1	24.8	24.8	C
9	1.00	1.00	0.902	0.898	4521	622	5918	1972	0.76	0.32	63.3	61.4	23.8	23.9	C
10	1.00	1.00	0.902	0.898	4279	589	5918	1972	0.72	0.30	63.7	61.8	22.4	22.6	C
11	1.00	1.00	0.902	0.898	4161	572	5918	1972	0.70	0.29	63.8	61.9	21.7	22.0	C
12	1.00	1.00	0.902	0.898	3911	538	5918	1972	0.66	0.27	64.1	62.1	20.3	20.7	C

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.902	5045	6761	0.75	65.1	25.8	C
2	1.00	0.902	4762	6761	0.70	66.7	23.8	C
3	1.00	0.902	4900	6761	0.72	66.0	24.7	C
4	1.00	0.902	4615	6761	0.68	67.4	22.8	C
5	1.00	0.902	3956	6761	0.59	69.9	18.9	C
6	1.00	0.902	4415	6761	0.65	68.3	21.6	C
7	1.00	0.902	4547	6761	0.67	67.8	22.4	C
8	1.00	0.902	4684	6761	0.69	67.1	23.3	C
9	1.00	0.902	4519	6761	0.67	67.9	22.2	C

10	1 00	0 902	4276	6761	0 63	68 9	207	C							
11	1 00	0 902	4159	6761	0 62	69 3	20 0	C							
12	1 00	0 902	3908	6761	0 58	70 1	18 6	C							
Segment 7: Diverge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 902	0 934	5045	965	5918	1972	0 85	0 49	63 4	59 1	26 5	29 7	D
2	1 00	1 00	0 902	0 934	4762	910	5918	1972	0 80	0 46	63 6	59 3	25 0	28 3	D
3	1 00	1 00	0 902	0 934	4900	937	5918	1972	0 83	0 48	63 5	59 2	25 7	29 0	D
4	1 00	1 00	0 902	0 934	4615	882	5918	1972	0 78	0 45	63 6	59 3	24 2	27 4	C
5	1 00	1 00	0 902	0 934	3956	757	5918	1972	0 67	0 38	64 0	59 7	20 6	23 8	C
6	1 00	1 00	0 902	0 934	4415	844	5918	1972	0 75	0 43	63 7	59 4	23 1	26 4	C
7	1 00	1 00	0 902	0 934	4547	869	5918	1972	0 77	0 44	63 7	59 4	23 8	27 1	C
8	1 00	1 00	0 902	0 934	4684	896	5918	1972	0 79	0 45	63 6	59 3	24 5	27 8	C
9	1 00	1 00	0 902	0 934	4519	864	5918	1972	0 76	0 44	63 7	59 4	23 6	26 9	C
10	1 00	1 00	0 902	0 934	4276	818	5918	1972	0 72	0 41	63 8	59 5	22 3	25 6	C
11	1 00	1 00	0 902	0 934	4159	796	5918	1972	0 70	0 40	63 9	59 6	21 7	25 0	C
12	1 00	1 00	0 902	0 934	3908	747	5918	1972	0 66	0 38	64 0	59 7	20 4	23 6	C
Segment 8: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1 00	0 894	4083	6761	0 60	69 6	19 6	C							
2	1 00	0 894	3853	6761	0 57	70 2	18 3	C							
3	1 00	0 894	3965	6761	0 59	69 9	18 9	C							
4	1 00	0 894	3735	6761	0 55	70 5	17 7	B							
5	1 00	0 894	3200	6761	0 47	71 0	15 0	B							
6	1 00	0 894	3573	6761	0 53	70 8	16 8	B							
7	1 00	0 894	3679	6761	0 54	70 6	17 4	B							
8	1 00	0 894	3790	6761	0 56	70 4	17 9	B							
9	1 00	0 894	3657	6761	0 54	70 6	17 3	B							
10	1 00	0 894	3460	6761	0 51	70 9	16 3	B							
11	1 00	0 894	3365	6761	0 50	71 0	15 8	B							
12	1 00	0 894	3162	6761	0 47	71 0	14 8	B							
Segment 9: Merge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 892	0 876	4464	372	5918	1972	0 75	0 19	63 7	61 9	23 4	22 3	C
2	1 00	1 00	0 892	0 876	4212	350	5918	1972	0 71	0 18	64 0	62 2	21 9	21 0	C
3	1 00	1 00	0 892	0 876	4335	361	5918	1972	0 73	0 18	63 9	62 1	22 6	21 7	C
4	1 00	1 00	0 892	0 876	4083	340	5918	1972	0 69	0 17	64 2	62 4	21 2	20 4	C

5	100	100	0.892	0.876	3498	291	5918	1972	0.59	0.15	64.7	62.8	18.0	17.5	B
6	100	100	0.892	0.876	3906	325	5918	1972	0.66	0.16	64.3	62.5	20.2	19.6	B
7	100	100	0.892	0.876	4021	334	5918	1972	0.68	0.17	64.2	62.4	20.9	20.1	C
8	100	100	0.892	0.876	4143	345	5918	1972	0.70	0.17	64.1	62.3	21.5	20.7	C
9	100	100	0.892	0.876	3998	333	5918	1972	0.68	0.17	64.2	62.4	20.8	20.0	B
10	100	100	0.892	0.876	3782	315	5918	1972	0.64	0.16	64.5	62.6	19.5	18.9	B
11	100	100	0.892	0.876	3678	306	5918	1972	0.62	0.16	64.6	62.7	19.0	18.4	B
12	100	100	0.892	0.876	3457	288	5918	1972	0.58	0.15	64.7	62.8	17.8	17.3	B

Segment 10: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.892	4457	6761	0.66	68.2	21.6	C
2	100	0.892	4206	6761	0.62	69.1	20.3	C
3	100	0.892	4328	6761	0.64	68.7	21.0	C
4	100	0.892	4077	6761	0.60	69.6	19.5	C
5	100	0.892	3493	6761	0.52	70.9	16.4	B
6	100	0.892	3900	6761	0.58	70.1	18.5	C
7	100	0.892	4016	6761	0.59	69.8	19.2	C
8	100	0.892	4137	6761	0.61	69.4	19.9	C
9	100	0.892	3992	6761	0.59	69.8	19.1	C
10	100	0.892	3777	6761	0.56	70.4	17.9	B
11	100	0.892	3673	6761	0.54	70.6	17.3	B
12	100	0.892	3452	6761	0.51	70.9	16.2	B

Segment 11: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.892	0.893	4457	917	5918	1972	0.75	0.47	63.8	59.3	23.3	17.1	B
2	100	100	0.892	0.893	4206	865	5918	1972	0.71	0.44	63.9	59.4	21.9	15.9	B
3	100	100	0.892	0.893	4328	890	5918	1972	0.73	0.45	63.8	59.3	22.6	16.5	B
4	100	100	0.892	0.893	4077	839	5918	1972	0.69	0.43	63.9	59.5	21.3	15.2	B
5	100	100	0.892	0.893	3493	719	5918	1972	0.59	0.36	64.1	59.8	18.2	12.2	B
6	100	100	0.892	0.893	3900	802	5918	1972	0.66	0.41	63.9	59.5	20.3	14.3	B
7	100	100	0.892	0.893	4016	826	5918	1972	0.68	0.42	63.9	59.5	20.9	14.9	B
8	100	100	0.892	0.893	4137	851	5918	1972	0.70	0.43	63.9	59.4	21.6	15.5	B
9	100	100	0.892	0.893	3992	821	5918	1972	0.67	0.42	63.9	59.5	20.8	14.8	B
10	100	100	0.892	0.893	3777	777	5918	1972	0.64	0.39	64.0	59.6	19.7	13.7	B
11	100	100	0.892	0.893	3673	756	5918	1972	0.62	0.38	64.0	59.7	19.1	13.1	B
12	100	100	0.892	0.893	3452	710	5918	1972	0.58	0.36	64.1	59.8	18.0	12.0	B

Segment 12: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
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1	100	0.892	3539	6761	0.52	70.8	16.7	B
2	100	0.892	3341	6761	0.49	71.1	15.7	B
3	100	0.892	3437	6761	0.51	71.0	16.1	B
4	100	0.892	3238	6761	0.48	71.1	15.2	B
5	100	0.892	2774	6761	0.41	71.2	13.0	B
6	100	0.892	3098	6761	0.46	71.2	14.5	B
7	100	0.892	3188	6761	0.47	71.2	14.9	B
8	100	0.892	3285	6761	0.49	71.1	15.4	B
9	100	0.892	3170	6761	0.47	71.2	14.8	B
10	100	0.892	2999	6761	0.44	71.2	14.0	B
11	100	0.892	2916	6761	0.43	71.2	13.7	B
12	100	0.892	2741	6761	0.41	71.2	12.8	B

Segment 13: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.892	0.893	3901	362	5918	1972	0.66	0.18	65.5	64.1	19.9	15.9	B
2	100	100	0.892	0.893	3683	342	5918	1972	0.62	0.17	65.7	64.3	18.7	14.8	B
3	100	100	0.892	0.893	3789	352	5918	1972	0.64	0.18	65.6	64.2	19.3	15.3	B
4	100	100	0.892	0.893	3569	331	5918	1972	0.60	0.17	65.8	64.4	18.1	14.2	B
5	100	100	0.892	0.893	3058	284	5918	1972	0.52	0.14	66.2	64.7	15.4	11.6	B
6	100	100	0.892	0.893	3415	317	5918	1972	0.58	0.16	65.9	64.5	17.3	13.5	B
7	100	100	0.892	0.893	3514	326	5918	1972	0.59	0.17	65.8	64.4	17.8	14.0	B
8	100	100	0.892	0.893	3621	336	5918	1972	0.61	0.17	65.8	64.4	18.3	14.5	B
9	100	100	0.892	0.893	3495	325	5918	1972	0.59	0.16	65.9	64.5	17.7	13.9	B
10	100	100	0.892	0.893	3306	307	5918	1972	0.56	0.16	66.0	64.6	16.7	12.9	B
11	100	100	0.892	0.893	3214	298	5918	1972	0.54	0.15	66.1	64.6	16.2	12.4	B
12	100	100	0.892	0.893	3021	280	5918	1972	0.51	0.14	66.2	64.7	15.2	11.4	B

Segment 14: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.892	3901	6761	0.58	70.1	18.5	C
2	100	0.892	3683	6761	0.54	70.6	17.4	B
3	100	0.892	3789	6761	0.56	70.4	17.9	B
4	100	0.892	3570	6761	0.53	70.8	16.8	B
5	100	0.892	3058	6761	0.45	71.2	14.3	B
6	100	0.892	3415	6761	0.51	71.0	16.0	B
7	100	0.892	3515	6761	0.52	70.9	16.5	B
8	100	0.892	3621	6761	0.54	70.7	17.1	B
9	100	0.892	3496	6761	0.52	70.9	16.4	B
10	100	0.892	3306	6761	0.49	71.1	15.5	B
11	100	0.892	3214	6761	0.48	71.2	15.0	B

12	100	0.892	3021	6761	0.45	71.2	14.1	B							
Segment 15: Diverge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.892	0.924	3901	1171	5918	1972	0.66	0.59	62.8	58.6	20.7	22.3	C
2	100	100	0.892	0.924	3683	1105	5918	1972	0.62	0.56	63.0	58.8	19.5	21.1	C
3	100	100	0.892	0.924	3789	1137	5918	1972	0.64	0.58	62.9	58.7	20.1	21.7	C
4	100	100	0.892	0.924	3570	1071	5918	1972	0.60	0.54	62.9	58.8	18.9	20.5	C
5	100	100	0.892	0.924	3058	919	5918	1972	0.52	0.47	63.1	59.3	16.2	17.6	B
6	100	100	0.892	0.924	3415	1025	5918	1972	0.58	0.52	63.0	59.0	18.1	19.7	B
7	100	100	0.892	0.924	3515	1055	5918	1972	0.59	0.54	63.0	58.9	18.6	20.2	C
8	100	100	0.892	0.924	3621	1088	5918	1972	0.61	0.55	62.9	58.8	19.2	20.8	C
9	100	100	0.892	0.924	3496	1049	5918	1972	0.59	0.53	63.0	58.9	18.5	20.1	C
10	100	100	0.892	0.924	3306	992	5918	1972	0.56	0.50	63.1	59.1	17.5	19.1	B
11	100	100	0.892	0.924	3214	965	5918	1972	0.54	0.49	63.0	59.1	17.0	18.5	B
12	100	100	0.892	0.924	3021	907	5918	1972	0.51	0.46	63.1	59.3	16.0	17.4	B

Segment 16: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.879	0.879	2728	2728	6761	6761	0.40	0.40	71.0	71.0	12.8	12.8	B
2	100	100	0.879	0.879	2576	2576	6761	6761	0.38	0.38	71.0	71.0	12.1	12.1	B
3	100	100	0.879	0.879	2650	2650	6761	6761	0.39	0.39	71.0	71.0	12.4	12.4	B
4	100	100	0.879	0.879	2496	2496	6761	6761	0.37	0.37	71.0	71.0	11.7	11.7	B
5	100	100	0.879	0.879	2138	2138	6761	6761	0.32	0.32	71.0	71.0	10.0	10.0	A
6	100	100	0.879	0.879	2388	2388	6761	6761	0.35	0.35	71.0	71.0	11.2	11.2	B
7	100	100	0.879	0.879	2457	2457	6761	6761	0.36	0.36	71.0	71.0	11.5	11.5	B
8	100	100	0.879	0.879	2531	2531	6761	6761	0.37	0.37	71.0	71.0	11.9	11.9	B
9	100	100	0.879	0.879	2445	2445	6761	6761	0.36	0.36	71.0	71.0	11.4	11.4	B
10	100	100	0.879	0.879	2312	2312	6761	6761	0.34	0.34	71.0	71.0	10.8	10.8	A
11	100	100	0.879	0.879	2247	2247	6761	6761	0.33	0.33	71.0	71.0	10.5	10.5	A
12	100	100	0.879	0.879	2113	2113	6761	6761	0.31	0.31	71.0	71.0	9.9	9.9	A

Segment 17: Merge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.875	0.853	3236	495	5918	1972	0.55	0.25	65.0	63.1	16.6	16.3	B
2	100	100	0.875	0.853	3054	467	5918	1972	0.52	0.24	65.2	63.3	15.6	15.4	B
3	100	100	0.875	0.853	3143	481	5918	1972	0.53	0.24	65.1	63.2	16.1	15.8	B
4	100	100	0.875	0.853	2960	453	5918	1972	0.50	0.23	65.2	63.3	15.1	14.9	B
5	100	100	0.875	0.853	2535	388	5918	1972	0.43	0.20	65.5	63.5	12.9	12.7	B
6	100	100	0.875	0.853	2832	433	5918	1972	0.48	0.22	65.4	63.4	14.4	14.2	B

7	100	100	0.875	0.853	2914	445	5918	1972	0.49	0.23	65.3	63.3	149	147	B
8	100	100	0.875	0.853	3003	460	5918	1972	0.51	0.23	65.2	63.3	154	151	B
9	100	100	0.875	0.853	2899	443	5918	1972	0.49	0.22	65.3	63.3	148	146	B
10	100	100	0.875	0.853	2742	420	5918	1972	0.46	0.21	65.4	63.4	140	138	B
11	100	100	0.875	0.853	2665	408	5918	1972	0.45	0.21	65.5	63.5	136	134	B
12	100	100	0.875	0.853	2505	383	5918	1972	0.42	0.19	65.5	63.5	127	126	B

Segment 18: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.875	3223	6761	0.48	70.7	15.1	B
2	100	0.875	3042	6761	0.45	70.7	14.2	B
3	100	0.875	3130	6761	0.46	70.7	14.6	B
4	100	0.875	2949	6761	0.44	70.7	13.8	B
5	100	0.875	2526	6761	0.37	70.7	11.8	B
6	100	0.875	2821	6761	0.42	70.7	13.2	B
7	100	0.875	2903	6761	0.43	70.7	13.6	B
8	100	0.875	2991	6761	0.44	70.7	14.0	B
9	100	0.875	2888	6761	0.43	70.7	13.5	B
10	100	0.875	2731	6761	0.40	70.7	12.8	B
11	100	0.875	2655	6761	0.39	70.7	12.4	B
12	100	0.875	2496	6761	0.37	70.7	11.7	B

Segment 19: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.875	3223	6761	0.48	71.2	15.1	B
2	100	0.875	3042	6761	0.45	71.2	14.2	B
3	100	0.875	3130	6761	0.46	71.2	14.6	B
4	100	0.875	2949	6761	0.44	71.2	13.8	B
5	100	0.875	2526	6761	0.37	71.2	11.8	B
6	100	0.875	2821	6761	0.42	71.2	13.2	B
7	100	0.875	2903	6761	0.43	71.2	13.6	B
8	100	0.875	2991	6761	0.44	71.2	14.0	B
9	100	0.875	2888	6761	0.43	71.2	13.5	B
10	100	0.875	2731	6761	0.40	71.2	12.8	B
11	100	0.875	2655	6761	0.39	71.2	12.4	B
12	100	0.875	2496	6761	0.37	71.2	11.7	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost \$/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	8225	8103	6.33	158.25	67.5	19.9	17.8	8.10	C
2	7763	7648	5.03	125.71	68.1	18.7	16.7	8.00	C
3	7989	7870	5.61	140.29	67.8	19.3	17.2	8.10	C

4	7524	7413	4 50	11241	683	18 0	16 1	8 00	C
5	6448	6352	2 83	70 65	691	15 3	13 6	7 90	B
6	7198	7091	3 85	96 26	68 6	17 2	15 3	8 00	B
7	7411	7301	4 25	10613	684	17 7	15 8	8 00	B
8	7635	7522	4 74	11846	68 2	18 3	16 4	8 00	C
9	7368	7259	4 18	10445	684	17 6	15 7	8 00	B
10	6970	6867	3 48	86 97	68 8	16 6	14 8	8 00	B
11	6778	6677	3 20	80 07	68 9	16 1	14 4	8 00	B
12	6370	6276	2 77	69 13	691	15 1	13 5	7 90	B

Facility Overall Results

Space Mean Speed, mi/h	68 4	Average Density, veh/mi/ln	15 6
Average Travel Time, min	8 00	Average Density, pc/mi/ln	17 5
Total VMT, veh-mi	87 67 9	Total VHD, veh-h	50 75
Vehicle Value of Time (VOT), \$/h	25 00	Total Delay Cost, \$	126879

HCS Freeway Facilities Report

Project Information

Analyst	Kittelson & Associates	Date	11/6/2023
Agency	Florida Department of Transportation	Analysis Year	2030 No-Build Conditions
Jurisdiction	District Five	Time Analyzed	WM Weekend Peak Period
Facility Name	I-75 (Northbound)	Units	U.S. Customary
Project Description	I-75 PD&E North Auxillary Lanes		

Facility Global Input

Jam Density, pc/mi/ln	1900	Density at Capacity, pc/mi/ln	450
Queue Discharge Capacity Drop, %	7	Total Segments	19
Total Analysis Periods	12	Analysis Period Duration, min	15
Facility Length, mi	9.13		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-75 NB	4096	3
2	Basic	Basic	I-75 NB	1500	3
3	Diverge	Diverge	I-75 NB SR 40 Off Ramp	1500	3
4	Basic	Basic	I-75 NB	2890	3
5	Merge	Merge	I-75 NB SR 40 On Ramp	1500	3
6	Basic	Basic	I-75 NB	1294	3
7	Diverge	Diverge	I-75 NB US 27 Off Ramp	1500	3
8	Basic	Basic	I-75 NB	3054	3
9	Merge	Merge	I-75 NB US 27 On Ramp	1500	3
10	Basic	Basic	I-75 NB	4348	3
11	Diverge	Diverge	I-75 NB 49th St DDI Off Ramp	1500	3
12	Basic	Basic	I-75 NB	4841	3
13	Merge	Merge	I-75 NB 49th St DDI On Ramp	1500	3
14	Basic	Basic	I-75 NB	4399	3
15	Diverge	Diverge	I-75 NB SR 326 Off Ramp	1500	3
16	Basic	Basic	I-75 NB	2987	3
17	Merge	Merge	I-75 NB SR 326 On Ramp	1500	3
18	Basic	Basic	I-75 NB	1500	3
19	Basic	Basic	I-75 NB	5280	3

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.902	5635	6761	0.90	34.6	54.2	F
2	1.00	0.902	5504	6761	0.90	25.5	72.0	F

3	1 00	0 902	5504	6761	0 90	25 5	72 0	F
4	1 00	0 902	5504	6761	0 90	25 5	72 0	F
5	1 00	0 902	5523	6761	0 82	25 7	71 6	F
6	1 00	0 902	5504	6761	0 82	25 5	72 0	F
7	1 00	0 902	5504	6761	0 82	25 5	72 0	F
8	1 00	0 902	5504	6761	0 82	25 5	72 0	F
9	1 00	0 902	5521	6761	0 73	25 7	71 6	F
10	1 00	0 902	5504	6761	0 73	25 5	72 0	F
11	1 00	0 902	5398	6761	0 73	62 7	28 7	D
12	1 00	0 894	5011	6761	0 74	65 3	25 6	C

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)		Capacity (pc/h)	d/c Ratio	Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1 00	0 902	5511		6761	0 90	27 1		67 9		F
2	1 00	0 902	5504		6761	0 90	25 5		72 0		F
3	1 00	0 902	5504		6761	0 90	25 5		72 0		F
4	1 00	0 902	5504		6761	0 90	25 5		72 0		F
5	1 00	0 902	5504		6761	0 82	25 6		71 8		F
6	1 00	0 902	5504		6761	0 82	25 5		72 0		F
7	1 00	0 902	5504		6761	0 82	25 5		72 0		F
8	1 00	0 902	5504		6761	0 82	25 5		72 0		F
9	1 00	0 902	5504		6761	0 73	25 6		71 8		F
10	1 00	0 902	5504		6761	0 73	25 5		72 0		F
11	1 00	0 902	5504		6761	0 73	26 7		68 6		F
12	1 00	0 894	5064		6761	0 74	65 0		26 0		C

Segment 3: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 902	0 934	5511	480	5918	1972	1 03	0 24	64 8	60 4	28 3	28 8	F
2	1 00	1 00	0 902	0 934	5504	480	5918	1972	1 03	0 24	64 8	60 4	28 3	28 7	F
3	1 00	1 00	0 902	0 934	5504	480	5918	1972	1 03	0 24	64 8	60 4	28 3	28 7	F
4	1 00	1 00	0 902	0 934	5504	480	5918	1972	1 03	0 24	64 8	60 4	28 3	28 7	F
5	1 00	1 00	0 902	0 934	5504	439	5918	1972	0 94	0 22	64 9	60 5	28 3	28 7	D
6	1 00	1 00	0 902	0 934	5504	439	5918	1972	0 94	0 22	64 9	60 5	28 3	28 7	D
7	1 00	1 00	0 902	0 934	5504	439	5918	1972	0 94	0 22	64 9	60 5	28 3	28 7	D
8	1 00	1 00	0 902	0 934	5504	439	5918	1972	0 94	0 22	64 9	60 5	28 3	28 7	D
9	1 00	1 00	0 902	0 934	5504	392	5918	1972	0 84	0 20	65 0	60 6	28 2	28 6	D
10	1 00	1 00	0 902	0 934	5504	392	5918	1972	0 84	0 20	65 0	60 6	28 2	28 6	D
11	1 00	1 00	0 902	0 934	5504	392	5918	1972	0 84	0 20	65 0	60 6	28 2	28 6	D
12	1 00	1 00	0 894	0 934	5064	392	5918	1972	0 85	0 20	65 0	60 6	26 0	26 8	C

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.899	5025	6761	0.83	65.2	25.7	F
2	1.00	0.899	5018	6761	0.83	65.3	25.6	F
3	1.00	0.899	5018	6761	0.83	65.3	25.6	F
4	1.00	0.899	5018	6761	0.83	32.8	51.0	F
5	1.00	0.899	5059	6761	0.76	32.7	51.6	F
6	1.00	0.899	5059	6761	0.76	31.7	53.1	F
7	1.00	0.899	5059	6761	0.76	30.8	54.7	F
8	1.00	0.899	5059	6761	0.76	30.0	56.2	F
9	1.00	0.899	5106	6761	0.68	33.8	50.4	F
10	1.00	0.899	5106	6761	0.68	64.7	26.3	F
11	1.00	0.899	5106	6761	0.68	64.7	26.3	F
12	1.00	0.898	4756	6761	0.68	66.7	23.8	C

Segment 5: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.902	0.940	5511	486	5918	1972	1.03	0.25	61.9	59.9	29.7	28.0	F
2	1.00	1.00	0.902	0.940	5504	486	5918	1972	1.03	0.25	61.9	59.9	29.6	28.0	F
3	1.00	1.00	0.902	0.940	5504	486	5918	1972	1.03	0.25	61.9	59.9	29.6	28.0	F
4	1.00	1.00	0.902	0.940	5504	486	5918	1972	1.03	0.25	61.9	59.9	29.6	28.0	F
5	1.00	1.00	0.902	0.940	5504	445	5918	1972	0.94	0.23	62.0	60.0	29.6	27.9	C
6	1.00	1.00	0.902	0.940	5504	445	5918	1972	0.94	0.23	62.0	60.0	29.6	27.9	C
7	1.00	1.00	0.902	0.940	5504	445	5918	1972	0.94	0.23	62.0	60.0	29.6	27.9	C
8	1.00	1.00	0.902	0.940	5504	445	5918	1972	0.94	0.23	62.0	60.0	29.6	27.9	C
9	1.00	1.00	0.902	0.940	5504	398	5918	1972	0.84	0.20	62.0	60.0	29.6	27.8	C
10	1.00	1.00	0.902	0.940	5504	398	5918	1972	0.84	0.20	62.0	60.0	29.6	27.8	C
11	1.00	1.00	0.902	0.940	5504	398	5918	1972	0.84	0.20	62.0	60.0	29.6	27.8	C
12	1.00	1.00	0.899	0.940	5154	398	5918	1972	0.84	0.20	62.6	60.7	27.4	26.1	C

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.902	5511	6761	0.90	61.9	29.7	D
2	1.00	0.902	5504	6761	0.90	62.0	29.6	D
3	1.00	0.902	5504	6761	0.90	62.0	29.6	D
4	1.00	0.902	5504	6761	0.90	62.0	29.6	D
5	1.00	0.902	5504	6761	0.82	62.0	29.6	D
6	1.00	0.902	5504	6761	0.82	62.0	29.6	D
7	1.00	0.902	5504	6761	0.82	62.0	29.6	D
8	1.00	0.902	5504	6761	0.82	62.0	29.6	D
9	1.00	0.902	5504	6761	0.74	62.0	29.6	D

10	1 00	0 902	5504	6761	074	62 0	29 6	D							
11	1 00	0 902	5504	6761	074	62 0	29 6	D							
12	1 00	0 899	5154	6761	074	64 4	26 7	D							
Segment 7: Diverge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 902	0 961	5511	744	5918	1972	1 03	0 38	64 2	59 7	28 6	30 3	F
2	1 00	1 00	0 902	0 961	5504	744	5918	1972	1 03	0 38	64 2	59 7	28 6	30 2	F
3	1 00	1 00	0 902	0 961	5504	744	5918	1972	1 03	0 38	64 2	59 7	28 6	30 2	F
4	1 00	1 00	0 902	0 961	5504	744	5918	1972	1 03	0 38	64 2	59 7	28 6	30 2	F
5	1 00	1 00	0 902	0 961	5504	681	5918	1972	0 94	0 35	64 4	59 9	28 5	30 1	D
6	1 00	1 00	0 902	0 961	5504	681	5918	1972	0 94	0 35	64 4	59 9	28 5	30 1	D
7	1 00	1 00	0 902	0 961	5504	681	5918	1972	0 94	0 35	64 4	59 9	28 5	30 1	D
8	1 00	1 00	0 902	0 961	5504	681	5918	1972	0 94	0 35	64 4	59 9	28 5	30 1	D
9	1 00	1 00	0 902	0 961	5504	608	5918	1972	0 84	0 31	64 6	60 1	28 4	30 0	D
10	1 00	1 00	0 902	0 961	5504	608	5918	1972	0 84	0 31	64 6	60 1	28 4	30 0	D
11	1 00	1 00	0 902	0 961	5504	608	5918	1972	0 84	0 31	64 6	60 1	28 4	30 0	D
12	1 00	1 00	0 894	0 961	5154	608	5918	1972	0 85	0 31	64 6	60 1	26 6	28 6	D
Segment 8: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00		0 894		4767		6761		0 79		66 7		23 8		C
2	1 00		0 894		4831		6761		0 79		66 3		24 3		C
3	1 00		0 894		4831		6761		0 79		66 3		24 3		C
4	1 00		0 894		4831		6761		0 79		66 3		24 3		C
5	1 00		0 894		4831		6761		0 72		66 3		24 3		C
6	1 00		0 894		4831		6761		0 72		66 3		24 3		C
7	1 00		0 894		4831		6761		0 72		66 3		24 3		C
8	1 00		0 894		4831		6761		0 72		66 3		24 3		C
9	1 00		0 894		4831		6761		0 65		66 3		24 3		C
10	1 00		0 894		4832		6761		0 65		66 3		24 3		C
11	1 00		0 894		4832		6761		0 65		66 3		24 3		C
12	1 00		0 894		4524		6761		0 65		67 9		22 2		C
Segment 9: Merge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 895	0 913	5038	271	5918	1972	0 95	0 14	63 0	61 3	26 7	24 7	C
2	1 00	1 00	0 895	0 913	5102	271	5918	1972	0 95	0 14	62 9	61 2	27 0	25 0	C
3	1 00	1 00	0 895	0 913	5102	271	5918	1972	0 95	0 14	62 9	61 2	27 0	25 0	C
4	1 00	1 00	0 895	0 913	5102	271	5918	1972	0 95	0 14	62 9	61 2	27 0	25 0	C

5	100	100	0.895	0.913	5079	248	5918	1972	0.87	0.13	62.9	61.2	26.9	24.8	C
6	100	100	0.895	0.913	5079	248	5918	1972	0.87	0.13	62.9	61.2	26.9	24.8	C
7	100	100	0.895	0.913	5079	248	5918	1972	0.87	0.13	62.9	61.2	26.9	24.8	C
8	100	100	0.895	0.913	5079	248	5918	1972	0.87	0.13	62.9	61.2	26.9	24.8	C
9	100	100	0.895	0.913	5052	221	5918	1972	0.77	0.11	63.0	61.3	26.7	24.6	C
10	100	100	0.895	0.913	5053	221	5918	1972	0.77	0.11	63.0	61.3	26.7	24.6	C
11	100	100	0.895	0.913	5053	221	5918	1972	0.77	0.11	63.0	61.3	26.7	24.6	C
12	100	100	0.893	0.913	4745	221	5918	1972	0.78	0.11	63.4	61.7	24.9	23.2	C

Segment 10: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.895	5038	6761	0.83	65.1	25.8	C
2	100	0.895	5102	6761	0.83	64.7	26.3	D
3	100	0.895	5102	6761	0.83	64.7	26.3	D
4	100	0.895	5102	6761	0.83	64.7	26.3	D
5	100	0.895	5079	6761	0.76	64.9	26.1	D
6	100	0.895	5079	6761	0.76	64.9	26.1	D
7	100	0.895	5079	6761	0.76	64.9	26.1	D
8	100	0.895	5079	6761	0.76	64.9	26.1	D
9	100	0.895	5052	6761	0.68	65.0	25.9	C
10	100	0.895	5053	6761	0.68	65.0	25.9	C
11	100	0.895	5053	6761	0.68	65.0	25.9	C
12	100	0.893	4745	6761	0.68	66.8	23.7	C

Segment 11: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.895	0.893	5038	964	5918	1972	0.95	0.49	63.7	59.1	26.4	19.7	B
2	100	100	0.895	0.893	5102	964	5918	1972	0.95	0.49	63.7	59.1	26.7	20.0	B
3	100	100	0.895	0.893	5102	964	5918	1972	0.95	0.49	63.7	59.1	26.7	20.0	B
4	100	100	0.895	0.893	5102	964	5918	1972	0.95	0.49	63.7	59.1	26.7	20.0	B
5	100	100	0.895	0.893	5079	881	5918	1972	0.87	0.45	63.9	59.3	26.5	19.7	B
6	100	100	0.895	0.893	5079	881	5918	1972	0.87	0.45	63.9	59.3	26.5	19.7	B
7	100	100	0.895	0.893	5079	881	5918	1972	0.87	0.45	63.9	59.3	26.5	19.7	B
8	100	100	0.895	0.893	5079	881	5918	1972	0.87	0.45	63.9	59.3	26.5	19.7	B
9	100	100	0.895	0.893	5052	787	5918	1972	0.78	0.40	64.2	59.6	26.2	19.4	B
10	100	100	0.895	0.893	5053	787	5918	1972	0.78	0.40	64.2	59.6	26.2	19.4	B
11	100	100	0.895	0.893	5053	787	5918	1972	0.78	0.40	64.2	59.6	26.2	19.4	B
12	100	100	1.000	0.893	4745	787	5918	1972	0.69	0.40	64.1	59.6	24.7	18.1	B

Segment 12: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
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1	100	0.895	4074	6761	0.69	69.6	19.5	C
2	100	0.895	4226	6761	0.69	69.1	20.4	C
3	100	0.895	4226	6761	0.69	69.1	20.4	C
4	100	0.895	4226	6761	0.69	69.1	20.4	C
5	100	0.895	4207	6761	0.63	69.1	20.3	C
6	100	0.895	4207	6761	0.63	69.1	20.3	C
7	100	0.895	4207	6761	0.63	69.1	20.3	C
8	100	0.895	4207	6761	0.63	69.1	20.3	C
9	100	0.895	4185	6761	0.56	69.2	20.2	C
10	100	0.895	4186	6761	0.56	69.2	20.2	C
11	100	0.895	4186	6761	0.56	69.2	20.2	C
12	100	1.000	3931	6761	0.50	70.0	18.7	C

Segment 13: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.895	0.893	4452	378	5918	1972	0.85	0.19	64.8	63.5	22.9	18.6	B
2	100	100	0.895	0.893	4604	378	5918	1972	0.85	0.19	64.6	63.3	23.8	19.4	B
3	100	100	0.895	0.893	4604	378	5918	1972	0.85	0.19	64.6	63.3	23.8	19.4	B
4	100	100	0.895	0.893	4604	378	5918	1972	0.85	0.19	64.6	63.3	23.8	19.4	B
5	100	100	0.895	0.893	4553	346	5918	1972	0.78	0.18	64.7	63.4	23.5	19.0	B
6	100	100	0.895	0.893	4553	346	5918	1972	0.78	0.18	64.7	63.4	23.5	19.0	B
7	100	100	0.895	0.893	4553	346	5918	1972	0.78	0.18	64.7	63.4	23.5	19.0	B
8	100	100	0.895	0.893	4553	346	5918	1972	0.78	0.18	64.7	63.4	23.5	19.0	B
9	100	100	0.895	0.893	4494	309	5918	1972	0.69	0.16	64.8	63.5	23.1	18.7	B
10	100	100	0.895	0.893	4495	309	5918	1972	0.69	0.16	64.8	63.5	23.1	18.7	B
11	100	100	0.895	0.893	4495	309	5918	1972	0.69	0.16	64.8	63.5	23.1	18.7	B
12	100	100	0.893	0.893	4240	309	5918	1972	0.70	0.16	65.1	63.8	21.7	17.4	B

Segment 14: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.895	4452	6761	0.74	68.2	21.8	C
2	100	0.895	4604	6761	0.74	67.5	22.7	C
3	100	0.895	4604	6761	0.74	67.5	22.7	C
4	100	0.895	4604	6761	0.74	67.5	22.7	C
5	100	0.895	4553	6761	0.68	67.7	22.4	C
6	100	0.895	4553	6761	0.68	67.7	22.4	C
7	100	0.895	4553	6761	0.68	67.7	22.4	C
8	100	0.895	4553	6761	0.68	67.7	22.4	C
9	100	0.895	4494	6761	0.61	68.0	22.0	C
10	100	0.895	4495	6761	0.61	68.0	22.0	C
11	100	0.895	4495	6761	0.61	68.0	22.0	C

12	100	0.893	4240	6761	0.61	690	20.5	C							
Segment 15: Diverge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.895	0.942	4452	1203	5918	1972	0.85	0.61	63.0	58.5	23.6	24.9	C
2	100	100	0.895	0.942	4604	1203	5918	1972	0.85	0.61	63.0	58.5	24.4	25.6	C
3	100	100	0.895	0.942	4604	1203	5918	1972	0.85	0.61	63.0	58.5	24.4	25.6	C
4	100	100	0.895	0.942	4604	1203	5918	1972	0.85	0.61	63.0	58.5	24.4	25.6	C
5	100	100	0.895	0.942	4553	1100	5918	1972	0.78	0.56	63.3	58.8	24.0	25.1	C
6	100	100	0.895	0.942	4553	1100	5918	1972	0.78	0.56	63.3	58.8	24.0	25.1	C
7	100	100	0.895	0.942	4553	1100	5918	1972	0.78	0.56	63.3	58.8	24.0	25.1	C
8	100	100	0.895	0.942	4553	1100	5918	1972	0.78	0.56	63.3	58.8	24.0	25.1	C
9	100	100	0.895	0.942	4494	983	5918	1972	0.69	0.50	63.6	59.1	23.6	24.6	C
10	100	100	0.895	0.942	4495	983	5918	1972	0.69	0.50	63.6	59.1	23.6	24.6	C
11	100	100	0.895	0.942	4495	983	5918	1972	0.69	0.50	63.6	59.1	23.6	24.6	C
12	100	100	0.893	0.942	4240	983	5918	1972	0.70	0.50	63.5	59.1	22.3	23.5	C

Segment 16: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.881	0.881	3249	6761	0.57	71.0	15.2	B					
2	100	100	0.881	0.881	3502	6761	0.57	70.9	16.5	B					
3	100	100	0.881	0.881	3502	6761	0.57	70.9	16.5	B					
4	100	100	0.881	0.881	3502	6761	0.57	70.9	16.5	B					
5	100	100	0.881	0.881	3464	6761	0.52	70.9	16.3	B					
6	100	100	0.881	0.881	3464	6761	0.52	70.9	16.3	B					
7	100	100	0.881	0.881	3464	6761	0.52	70.9	16.3	B					
8	100	100	0.881	0.881	3464	6761	0.52	70.9	16.3	B					
9	100	100	0.881	0.881	3419	6761	0.46	71.0	16.1	B					
10	100	100	0.881	0.881	3420	6761	0.46	71.0	16.1	B					
11	100	100	0.881	0.881	3420	6761	0.46	71.0	16.1	B					
12	100	100	0.891	0.891	3226	6761	0.46	71.0	15.1	B					

Segment 17: Merge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.884	0.915	3708	459	5918	1972	0.72	0.23	64.6	62.8	19.1	18.4	B
2	100	100	0.884	0.915	3961	459	5918	1972	0.72	0.23	64.4	62.6	20.5	19.6	B
3	100	100	0.884	0.915	3961	459	5918	1972	0.72	0.23	64.4	62.6	20.5	19.6	B
4	100	100	0.884	0.915	3961	459	5918	1972	0.72	0.23	64.4	62.6	20.5	19.6	B
5	100	100	0.884	0.915	3884	420	5918	1972	0.66	0.21	64.5	62.7	20.1	19.2	B
6	100	100	0.884	0.915	3884	420	5918	1972	0.66	0.21	64.5	62.7	20.1	19.2	B

7	100	100	0.884	0.915	3884	420	5918	1972	0.66	0.21	64.5	62.7	20.1	19.2	B
8	100	100	0.884	0.915	3884	420	5918	1972	0.66	0.21	64.5	62.7	20.1	19.2	B
9	100	100	0.884	0.915	3794	375	5918	1972	0.59	0.19	64.6	62.8	19.6	18.6	B
10	100	100	0.884	0.915	3795	375	5918	1972	0.59	0.19	64.6	62.8	19.6	18.6	B
11	100	100	0.884	0.915	3795	375	5918	1972	0.59	0.19	64.6	62.8	19.6	18.6	B
12	100	100	0.885	0.915	3601	375	5918	1972	0.59	0.19	64.8	63.0	18.5	17.7	B

Segment 18: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.884	3708	6761	0.63	70.5	17.5	B
2	100	0.884	3961	6761	0.63	69.9	18.9	C
3	100	0.884	3961	6761	0.63	69.9	18.9	C
4	100	0.884	3961	6761	0.63	69.9	18.9	C
5	100	0.884	3884	6761	0.58	70.1	18.5	C
6	100	0.884	3884	6761	0.58	70.1	18.5	C
7	100	0.884	3884	6761	0.58	70.1	18.5	C
8	100	0.884	3884	6761	0.58	70.1	18.5	C
9	100	0.884	3794	6761	0.52	70.3	18.0	B
10	100	0.884	3795	6761	0.52	70.3	18.0	B
11	100	0.884	3795	6761	0.52	70.3	18.0	B
12	100	0.885	3601	6761	0.52	70.6	17.0	B

Segment 19: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.884	3708	6761	0.63	70.5	17.5	B
2	100	0.884	3961	6761	0.63	69.9	18.9	C
3	100	0.884	3961	6761	0.63	69.9	18.9	C
4	100	0.884	3961	6761	0.63	69.9	18.9	C
5	100	0.884	3884	6761	0.58	70.1	18.5	C
6	100	0.884	3884	6761	0.58	70.1	18.5	C
7	100	0.884	3884	6761	0.58	70.1	18.5	C
8	100	0.884	3884	6761	0.58	70.1	18.5	C
9	100	0.884	3794	6761	0.52	70.3	18.0	B
10	100	0.884	3795	6761	0.52	70.3	18.0	B
11	100	0.884	3795	6761	0.52	70.3	18.0	B
12	100	0.885	3601	6761	0.52	70.7	17.0	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost \$/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	9427	10473	31.03	77582	57.7	26.7	23.9	9.50	F
2	9627	10473	42.09	105229	54.3	28.9	25.9	10.10	F
3	9627	10473	42.09	105229	54.3	28.9	25.9	10.10	F

4	9627	10473	51.46	1286.61	51.6	30.4	27.3	10.60	F
5	9577	9577	51.04	1276.06	51.6	30.2	27.1	10.60	D
6	9574	9577	51.92	1297.89	51.4	30.4	27.2	10.70	D
7	9574	9577	52.49	1312.29	51.2	30.5	27.3	10.70	D
8	9574	9577	53.07	1326.70	51.1	30.6	27.4	10.70	D
9	9514	8561	50.27	1256.69	51.7	30.0	26.9	10.60	D
10	9513	8561	41.65	1041.35	54.3	28.6	25.6	10.10	D
11	9494	8561	18.57	464.17	62.5	24.8	22.2	8.80	C
12	9015	8561	8.11	202.76	66.9	21.7	19.7	8.20	C

Facility Overall Results

Space Mean Speed, mi/h	54.4	Average Density, veh/mi/ln	25.5
Average Travel Time, min	10.10	Average Density, pc/mi/ln	28.5
Total VMT, veh-mi	114144	Total VHD, veh-h	493.80
Vehicle Value of Time (VOT), \$/h	25.00	Total Delay Cost, \$	12344.92

I-75 North Section - Southbound

HCS Freeway Facilities Report

Project Information

Analyst	Kittelson & Associates	Date	11/6/2023
Agency	Florida Department of Transportation	Analysis Year	2030 No-Build Conditions
Jurisdiction	District Five	Time Analyzed	AM Weekday Peak Period
Facility Name	I-75 (Southbound)	Units	U.S. Customary
Project Description	I-75 PD&E North Auxillary Lanes		

Facility Global Input

Jam Density, pc/mi/ln	1900	Density at Capacity, pc/mi/ln	450
Queue Discharge Capacity Drop, %	7	Total Segments	21
Total Analysis Periods	12	Analysis Period Duration, min	15
Facility Length, mi	9.27		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-75 SB	5280	3
2	Basic	Basic	I-75 SB	1500	3
3	Diverge	Diverge	I-75 SB SR 326 Off Ramp	1500	3
4	Basic	Basic	I-75 SB	1836	3
5	Merge	Merge	I-75 SB SR 326 WB On Ramp	1500	3
6	Basic	Basic	I-75 SB	416	3
7	Merge	Merge	I-75 SB SR 326 EB On Ramp	1500	3
8	Basic	Basic	I-75 SB	4405	3
9	Diverge	Diverge	I-75 SB 49th St DDI Off Ramp	1500	3
10	Basic	Basic	I-75 SB	3253	3
11	Merge	Merge	I-75 SB 49th St DDI On Ramp	1500	3
12	Basic	Basic	I-75 SB	5830	3
13	Diverge	Diverge	I-75 SB US 27 Off Ramp	1500	3
14	Basic	Basic	I-75 SB	3189	3
15	Merge	Merge	I-75 SB US 27 On Ramp	1500	3
16	Basic	Basic	I-75 SB	1415	3
17	Diverge	Diverge	I-75 SB SR 40 Off Ramp	1500	3
18	Basic	Basic	I-75 SB	2836	3
19	Merge	Merge	I-75 SB SR 40 On Ramp	1500	3
20	Basic	Basic	I-75 SB	1500	3
21	Basic	Basic	I-75 SB	3968	3

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
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1	1.00	0.897	1589	6761	0.24	71.2	7.4	A
2	1.00	0.897	1561	6761	0.23	71.2	7.3	A
3	1.00	0.897	1809	6761	0.27	71.2	8.5	A
4	1.00	0.897	1942	6761	0.29	71.2	9.1	A
5	1.00	0.897	2272	6761	0.34	71.2	10.6	A
6	1.00	0.897	2179	6761	0.32	71.2	10.2	A
7	1.00	0.897	1946	6761	0.29	71.2	9.1	A
8	1.00	0.897	2039	6761	0.30	71.2	9.6	A
9	1.00	0.897	2129	6761	0.31	71.2	10.0	A
10	1.00	0.897	2259	6761	0.33	71.2	10.6	A
11	1.00	0.897	2283	6761	0.34	71.2	10.7	A
12	1.00	0.897	2332	6761	0.34	71.2	10.9	A

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.897	1589	6761	0.24	71.2	7.4	A
2	1.00	0.897	1561	6761	0.23	71.2	7.3	A
3	1.00	0.897	1809	6761	0.27	71.2	8.5	A
4	1.00	0.897	1942	6761	0.29	71.2	9.1	A
5	1.00	0.897	2272	6761	0.34	71.2	10.6	A
6	1.00	0.897	2179	6761	0.32	71.2	10.2	A
7	1.00	0.897	1946	6761	0.29	71.2	9.1	A
8	1.00	0.897	2039	6761	0.30	71.2	9.6	A
9	1.00	0.897	2129	6761	0.31	71.2	10.0	A
10	1.00	0.897	2259	6761	0.33	71.2	10.6	A
11	1.00	0.897	2283	6761	0.34	71.2	10.7	A
12	1.00	0.897	2332	6761	0.34	71.2	10.9	A

Segment 3: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.897	0.882	1589	253	5918	1972	0.27	0.13	64.5	61.0	8.2	12.4	B
2	1.00	1.00	0.897	0.882	1561	248	5918	1972	0.26	0.13	64.4	61.0	8.1	12.2	B
3	1.00	1.00	0.897	0.882	1809	288	5918	1972	0.31	0.15	64.5	60.9	9.3	13.8	B
4	1.00	1.00	0.897	0.882	1942	310	5918	1972	0.33	0.16	64.4	60.8	10.1	14.5	B
5	1.00	1.00	0.897	0.882	2272	362	5918	1972	0.38	0.18	64.5	60.7	11.7	16.5	B
6	1.00	1.00	0.897	0.882	2179	347	5918	1972	0.37	0.18	64.4	60.7	11.3	15.9	B
7	1.00	1.00	0.897	0.882	1946	310	5918	1972	0.33	0.16	64.4	60.8	10.1	14.6	B
8	1.00	1.00	0.897	0.882	2039	324	5918	1972	0.34	0.16	64.5	60.8	10.5	15.1	B
9	1.00	1.00	0.897	0.882	2129	339	5918	1972	0.36	0.17	64.5	60.8	11.0	15.6	B
10	1.00	1.00	0.897	0.882	2259	359	5918	1972	0.38	0.18	64.5	60.7	11.7	16.4	B
11	1.00	1.00	0.897	0.882	2283	363	5918	1972	0.39	0.18	64.5	60.7	11.8	16.5	B

12	100	100	0.897	0.882	2332	371	5918	1972	0.39	0.19	645	607	121	168	B
Segment 4: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.900		1336		6761		0.20		70.8		6.2		A
2	1.00		0.900		1312		6761		0.19		70.7		6.1		A
3	1.00		0.900		1521		6761		0.22		70.8		7.1		A
4	1.00		0.900		1632		6761		0.24		70.7		7.6		A
5	1.00		0.900		1910		6761		0.28		70.8		8.9		A
6	1.00		0.900		1832		6761		0.27		70.7		8.6		A
7	1.00		0.900		1637		6761		0.24		70.7		7.7		A
8	1.00		0.900		1714		6761		0.25		70.8		8.0		A
9	1.00		0.900		1790		6761		0.26		70.8		8.4		A
10	1.00		0.900		1899		6761		0.28		70.8		8.9		A
11	1.00		0.900		1920		6761		0.28		70.8		9.0		A
12	1.00		0.900		1961		6761		0.29		70.8		9.2		A
Segment 5: Merge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.887	0.861	1988	633	5918	1878	0.34	0.34	65.9	64.3	10.1	7.3	A
2	1.00	1.00	0.887	0.861	1952	621	5918	1878	0.33	0.33	66.0	64.3	9.9	7.1	A
3	1.00	1.00	0.887	0.861	2263	720	5918	1878	0.38	0.38	65.7	64.1	11.5	8.9	A
4	1.00	1.00	0.887	0.861	2430	774	5918	1878	0.41	0.41	65.6	64.0	12.3	9.8	A
5	1.00	1.00	0.887	0.861	2843	905	5918	1878	0.48	0.48	65.4	63.8	14.5	12.2	B
6	1.00	1.00	0.887	0.861	2727	868	5918	1878	0.46	0.46	65.5	63.9	13.9	11.5	B
7	1.00	1.00	0.887	0.861	2436	775	5918	1878	0.41	0.41	65.6	64.0	12.4	9.9	A
8	1.00	1.00	0.887	0.861	2552	812	5918	1878	0.43	0.43	65.6	64.0	13.0	10.5	B
9	1.00	1.00	0.887	0.861	2664	848	5918	1878	0.45	0.45	65.5	63.9	13.6	11.1	B
10	1.00	1.00	0.887	0.861	2826	899	5918	1878	0.48	0.48	65.4	63.8	14.4	12.1	B
11	1.00	1.00	0.887	0.861	2856	908	5918	1878	0.48	0.48	65.4	63.8	14.6	12.2	B
12	1.00	1.00	0.887	0.861	2919	929	5918	1878	0.49	0.49	65.4	63.8	14.9	12.6	B
Segment 6: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.887		1970		6761		0.29		70.1		9.2		A
2	1.00		0.887		1935		6761		0.29		70.1		9.1		A
3	1.00		0.887		2242		6761		0.33		70.0		10.5		A
4	1.00		0.887		2407		6761		0.36		70.0		11.3		B
5	1.00		0.887		2816		6761		0.42		70.0		13.2		B
6	1.00		0.887		2701		6761		0.40		70.0		12.6		B
7	1.00		0.887		2413		6761		0.36		70.0		11.3		B

8	1 00	0 887	2528	6761	0 37	700	11 8	B
9	1 00	0 887	2639	6761	0 39	700	12 4	B
10	1 00	0 887	2799	6761	0 41	700	13 1	B
11	1 00	0 887	2830	6761	0 42	700	13 2	B
12	1 00	0 887	2892	6761	0 43	700	13 5	B

Segment 7: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 888	0 894	2850	383	5918	1972	0 40	0 19	65 8	63 8	11 9	11 2	B
2	1 00	1 00	0 888	0 894	2808	376	5918	1972	0 39	0 19	65 9	63 9	11 7	11 0	B
3	1 00	1 00	0 888	0 894	2675	435	5918	1972	0 45	0 22	65 6	63 7	13 6	12 9	B
4	1 00	1 00	0 888	0 894	2872	468	5918	1972	0 49	0 24	65 5	63 6	14 6	13 9	B
5	1 00	1 00	0 888	0 894	3360	547	5918	1972	0 57	0 28	65 1	63 3	17 2	16 4	B
6	1 00	1 00	0 888	0 894	3223	525	5918	1972	0 54	0 27	65 2	63 4	16 5	15 7	B
7	1 00	1 00	0 888	0 894	2879	469	5918	1972	0 49	0 24	65 5	63 6	14 7	13 9	B
8	1 00	1 00	0 888	0 894	3016	491	5918	1972	0 51	0 25	65 3	63 5	15 4	14 6	B
9	1 00	1 00	0 888	0 894	3148	512	5918	1972	0 53	0 26	65 3	63 5	16 1	15 3	B
10	1 00	1 00	0 888	0 894	3340	544	5918	1972	0 56	0 28	65 1	63 3	17 1	16 3	B
11	1 00	1 00	0 888	0 894	3376	549	5918	1972	0 57	0 28	65 1	63 3	17 3	16 5	B
12	1 00	1 00	0 888	0 894	3451	562	5918	1972	0 58	0 28	65 0	63 3	17 7	16 9	B

Segment 8: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1 00	0 888	2352	6761	0 35	71 2	11 0	A
2	1 00	0 888	2311	6761	0 34	71 2	10 8	A
3	1 00	0 888	2678	6761	0 40	71 2	12 5	B
4	1 00	0 888	2875	6761	0 43	71 2	13 5	B
5	1 00	0 888	3364	6761	0 50	71 0	15 8	B
6	1 00	0 888	3226	6761	0 48	71 1	15 1	B
7	1 00	0 888	2882	6761	0 43	71 2	13 5	B
8	1 00	0 888	3019	6761	0 45	71 2	14 1	B
9	1 00	0 888	3152	6761	0 47	71 2	14 8	B
10	1 00	0 888	3343	6761	0 49	71 1	15 7	B
11	1 00	0 888	3380	6761	0 50	71 0	15 9	B
12	1 00	0 888	3454	6761	0 51	70 9	16 2	B

Segment 9: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 888	0 893	2852	239	5918	1972	0 40	0 12	65 0	61 0	12 1	5 3	A
2	1 00	1 00	0 888	0 893	2811	233	5918	1972	0 39	0 12	64 9	61 0	11 9	5 1	A

3	100	100	0.888	0.893	2678	271	5918	1972	0.45	0.14	651	610	137	7.2	A
4	100	100	0.888	0.893	2875	291	5918	1972	0.49	0.15	651	609	147	8.3	A
5	100	100	0.888	0.893	3364	340	5918	1972	0.57	0.17	652	608	17.2	10.8	B
6	100	100	0.888	0.893	3226	326	5918	1972	0.55	0.17	652	608	16.5	10.1	B
7	100	100	0.888	0.893	2882	291	5918	1972	0.49	0.15	651	609	148	8.3	A
8	100	100	0.888	0.893	3019	306	5918	1972	0.51	0.16	652	609	15.4	9.0	A
9	100	100	0.888	0.893	3152	319	5918	1972	0.53	0.16	651	608	16.1	9.7	A
10	100	100	0.888	0.893	3343	338	5918	1972	0.56	0.17	652	608	17.1	10.7	B
11	100	100	0.888	0.893	3380	342	5918	1972	0.57	0.17	652	608	17.3	10.9	B
12	100	100	0.888	0.893	3454	349	5918	1972	0.58	0.18	651	607	17.7	11.3	B

Segment 10: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.888	2113	6761	0.31	71.1	9.9	A
2	100	0.888	2077	6761	0.31	71.1	9.7	A
3	100	0.888	2405	6761	0.36	71.1	11.3	B
4	100	0.888	2582	6761	0.38	71.1	12.1	B
5	100	0.888	3021	6761	0.45	71.1	14.1	B
6	100	0.888	2899	6761	0.43	71.1	13.6	B
7	100	0.888	2589	6761	0.38	71.1	12.1	B
8	100	0.888	2712	6761	0.40	71.1	12.7	B
9	100	0.888	2831	6761	0.42	71.1	13.3	B
10	100	0.888	3003	6761	0.44	71.1	14.1	B
11	100	0.888	3036	6761	0.45	71.1	14.2	B
12	100	0.888	3102	6761	0.46	71.1	14.5	B

Segment 11: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.889	0.893	2711	601	5918	1972	0.46	0.30	66.3	64.8	13.6	10.8	B
2	100	100	0.889	0.893	2664	590	5918	1972	0.45	0.30	66.3	64.8	13.4	10.5	B
3	100	100	0.889	0.893	3088	685	5918	1972	0.52	0.35	66.0	64.6	15.6	12.8	B
4	100	100	0.889	0.893	3315	736	5918	1972	0.56	0.37	65.8	64.4	16.8	14.0	B
5	100	100	0.889	0.893	3878	860	5918	1972	0.66	0.44	65.2	63.8	19.8	17.0	B
6	100	100	0.889	0.893	3720	825	5918	1972	0.63	0.42	65.4	64.0	19.0	16.2	B
7	100	100	0.889	0.893	3323	737	5918	1972	0.56	0.37	65.8	64.4	16.8	14.1	B
8	100	100	0.889	0.893	3481	772	5918	1972	0.59	0.39	65.7	64.3	17.7	14.9	B
9	100	100	0.889	0.893	3634	806	5918	1972	0.61	0.41	65.5	64.1	18.5	15.7	B
10	100	100	0.889	0.893	3856	856	5918	1972	0.65	0.43	65.2	63.8	19.7	16.9	B
11	100	100	0.889	0.893	3898	865	5918	1972	0.66	0.44	65.2	63.8	19.9	17.2	B
12	100	100	0.889	0.893	3981	882	5918	1972	0.67	0.45	65.1	63.7	20.4	17.6	B

Segment 12: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.889	2714	6761	0.40	71.2	12.7	B
2	1.00	0.889	2667	6761	0.39	71.2	12.5	B
3	1.00	0.889	3091	6761	0.46	71.2	14.5	B
4	1.00	0.889	3318	6761	0.49	71.1	15.6	B
5	1.00	0.889	3882	6761	0.57	70.1	18.5	C
6	1.00	0.889	3724	6761	0.55	70.5	17.6	B
7	1.00	0.889	3326	6761	0.49	71.1	15.6	B
8	1.00	0.889	3484	6761	0.52	70.9	16.4	B
9	1.00	0.889	3638	6761	0.54	70.7	17.2	B
10	1.00	0.889	3859	6761	0.57	70.2	18.3	C
11	1.00	0.889	3901	6761	0.58	70.1	18.5	C
12	1.00	0.889	3985	6761	0.59	69.9	19.0	C

Segment 13: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.889	0.894	2714	279	5918	1972	0.46	0.14	65.0	60.9	13.9	15.3	B
2	1.00	1.00	0.889	0.894	2667	274	5918	1972	0.45	0.14	65.1	61.0	13.7	15.0	B
3	1.00	1.00	0.889	0.894	3091	316	5918	1972	0.52	0.16	65.1	60.8	15.8	17.3	B
4	1.00	1.00	0.889	0.894	3318	341	5918	1972	0.56	0.17	65.2	60.8	17.0	18.5	B
5	1.00	1.00	0.889	0.894	3882	399	5918	1972	0.66	0.20	65.1	60.6	19.9	21.4	C
6	1.00	1.00	0.889	0.894	3724	383	5918	1972	0.63	0.19	65.1	60.7	19.1	20.6	C
7	1.00	1.00	0.889	0.894	3326	341	5918	1972	0.56	0.17	65.2	60.8	17.0	18.6	B
8	1.00	1.00	0.889	0.894	3484	358	5918	1972	0.59	0.18	65.1	60.7	17.8	19.4	B
9	1.00	1.00	0.889	0.894	3638	374	5918	1972	0.61	0.19	65.1	60.7	18.6	20.2	C
10	1.00	1.00	0.889	0.894	3859	397	5918	1972	0.65	0.20	65.1	60.6	19.8	21.3	C
11	1.00	1.00	0.889	0.894	3901	400	5918	1972	0.66	0.20	65.0	60.6	20.0	21.5	C
12	1.00	1.00	0.889	0.894	3985	409	5918	1972	0.67	0.21	65.1	60.6	20.4	21.9	C

Segment 14: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.888	2437	6761	0.36	71.1	11.4	B
2	1.00	0.888	2394	6761	0.35	71.1	11.2	B
3	1.00	0.888	2775	6761	0.41	71.1	13.0	B
4	1.00	0.888	2979	6761	0.44	71.1	13.9	B
5	1.00	0.888	3484	6761	0.52	70.9	16.4	B
6	1.00	0.888	3343	6761	0.49	71.1	15.7	B
7	1.00	0.888	2986	6761	0.44	71.1	14.0	B
8	1.00	0.888	3127	6761	0.46	71.1	14.6	B
9	1.00	0.888	3266	6761	0.48	71.1	15.3	B

10	100	0.888	3464	6761	0.51	70.9	16.3	B							
11	100	0.888	3502	6761	0.52	70.9	16.5	B							
12	100	0.888	3578	6761	0.53	70.8	16.9	B							
Segment 15: Merge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.894	0.914	3065	644	5918	1972	0.52	0.33	64.8	62.8	15.8	16.7	B
2	100	100	0.894	0.914	3010	632	5918	1972	0.51	0.32	64.9	62.9	15.5	16.4	B
3	100	100	0.894	0.914	3490	734	5918	1972	0.59	0.37	64.4	62.5	18.1	18.9	B
4	100	100	0.894	0.914	3747	788	5918	1972	0.63	0.40	64.2	62.3	19.5	20.3	C
5	100	100	0.894	0.914	4383	922	5918	1972	0.74	0.47	63.4	61.5	23.0	23.6	C
6	100	100	0.894	0.914	4205	884	5918	1972	0.71	0.45	63.7	61.8	22.0	22.7	C
7	100	100	0.894	0.914	3755	789	5918	1972	0.63	0.40	64.2	62.3	19.5	20.3	C
8	100	100	0.894	0.914	3933	827	5918	1972	0.66	0.42	64.0	62.1	20.5	21.2	C
9	100	100	0.894	0.914	4107	863	5918	1972	0.69	0.44	63.8	61.9	21.5	22.1	C
10	100	100	0.894	0.914	4358	917	5918	1972	0.74	0.46	63.4	61.5	22.9	23.5	C
11	100	100	0.894	0.914	4405	926	5918	1972	0.74	0.47	63.4	61.5	23.2	23.7	C
12	100	100	0.894	0.914	4500	946	5918	1972	0.76	0.48	63.2	61.3	23.7	24.2	C
Segment 16: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	100		0.894		3079		6761		0.46		70.6		14.4	B	
2	100		0.894		3025		6761		0.45		70.6		14.2	B	
3	100		0.894		3507		6761		0.52		70.6		16.5	B	
4	100		0.894		3764		6761		0.56		70.4		17.8	B	
5	100		0.894		4404		6761		0.65		68.4		21.5	C	
6	100		0.894		4225		6761		0.62		69.1		20.4	C	
7	100		0.894		3773		6761		0.56		70.4		17.9	B	
8	100		0.894		3952		6761		0.58		70.0		18.8	C	
9	100		0.894		4126		6761		0.61		69.4		19.8	C	
10	100		0.894		4378		6761		0.65		68.5		21.3	C	
11	100		0.894		4425		6761		0.65		68.3		21.6	C	
12	100		0.894		4521		6761		0.67		67.9		22.2	C	
Segment 17: Diverge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.894	0.903	3079	432	5918	1972	0.52	0.22	64.4	60.5	15.9	17.6	B
2	100	100	0.894	0.903	3025	424	5918	1972	0.51	0.22	64.4	60.5	15.7	17.3	B
3	100	100	0.894	0.903	3507	492	5918	1972	0.59	0.25	64.4	60.4	18.2	20.2	C
4	100	100	0.894	0.903	3764	528	5918	1972	0.64	0.27	64.3	60.3	19.5	21.7	C

5	100	100	0.894	0.903	4404	618	5918	1972	0.74	0.31	64.5	60.0	22.8	23.8	C
6	100	100	0.894	0.903	4225	592	5918	1972	0.71	0.30	64.6	60.1	21.8	23.0	C
7	100	100	0.894	0.903	3773	529	5918	1972	0.64	0.27	64.3	60.3	19.6	21.8	C
8	100	100	0.894	0.903	3952	555	5918	1972	0.67	0.28	64.2	60.2	20.5	22.8	C
9	100	100	0.894	0.903	4126	579	5918	1972	0.70	0.29	64.1	60.1	21.5	23.9	C
10	100	100	0.894	0.903	4378	615	5918	1972	0.74	0.31	64.5	60.0	22.6	23.7	C
11	100	100	0.894	0.903	4425	621	5918	1972	0.75	0.32	64.5	60.0	22.9	24.0	C
12	100	100	0.894	0.903	4521	635	5918	1972	0.76	0.32	64.5	60.0	23.4	24.4	C

Segment 18: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.892	2649	6761	0.39	71.0	12.4	B
2	100	0.892	2602	6761	0.38	71.0	12.2	B
3	100	0.892	3017	6761	0.45	71.0	14.1	B
4	100	0.892	3238	6761	0.48	71.0	15.2	B
5	100	0.892	3788	6761	0.56	70.4	17.9	B
6	100	0.892	3635	6761	0.54	70.7	17.1	B
7	100	0.892	3246	6761	0.48	71.0	15.2	B
8	100	0.892	3399	6761	0.50	71.0	16.0	B
9	100	0.892	3549	6761	0.52	70.8	16.7	B
10	100	0.892	3766	6761	0.56	70.4	17.8	B
11	100	0.892	3806	6761	0.56	70.3	18.1	C
12	100	0.892	3889	6761	0.58	70.1	18.5	C

Segment 19: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.894	0.912	2991	348	5918	1972	0.51	0.18	65.4	63.5	15.2	14.3	B
2	100	100	0.894	0.912	2937	341	5918	1972	0.50	0.17	65.4	63.5	15.0	14.0	B
3	100	100	0.894	0.912	3406	396	5918	1972	0.58	0.20	65.1	63.3	17.4	16.4	B
4	100	100	0.894	0.912	3655	425	5918	1972	0.62	0.22	64.9	63.1	18.8	17.7	B
5	100	100	0.894	0.912	4278	498	5918	1972	0.72	0.25	64.2	62.5	22.2	20.8	C
6	100	100	0.894	0.912	4103	477	5918	1972	0.69	0.24	64.4	62.7	21.2	19.9	B
7	100	100	0.894	0.912	3663	425	5918	1972	0.62	0.22	64.9	63.1	18.8	17.7	B
8	100	100	0.894	0.912	3837	446	5918	1972	0.65	0.23	64.6	62.9	19.8	18.6	B
9	100	100	0.894	0.912	4007	466	5918	1972	0.68	0.24	64.5	62.8	20.7	19.4	B
10	100	100	0.894	0.912	4252	495	5918	1972	0.72	0.25	64.2	62.5	22.1	20.7	C
11	100	100	0.894	0.912	4298	500	5918	1972	0.73	0.25	64.1	62.4	22.4	20.9	C
12	100	100	0.894	0.912	4391	511	5918	1972	0.74	0.26	64.0	62.3	22.9	21.4	C

Segment 20: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
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1	1.00	0.894	2998	6761	0.44	707	14.0	B
2	1.00	0.894	2944	6761	0.44	707	13.8	B
3	1.00	0.894	3414	6761	0.50	707	16.0	B
4	1.00	0.894	3664	6761	0.54	706	17.3	B
5	1.00	0.894	4287	6761	0.63	688	20.8	C
6	1.00	0.894	4113	6761	0.61	695	19.7	C
7	1.00	0.894	3672	6761	0.54	706	17.3	B
8	1.00	0.894	3847	6761	0.57	702	18.3	C
9	1.00	0.894	4017	6761	0.59	698	19.2	C
10	1.00	0.894	4262	6761	0.63	689	20.6	C
11	1.00	0.894	4308	6761	0.64	688	20.9	C
12	1.00	0.894	4402	6761	0.65	684	21.4	C

Segment 21: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.894	2998	6761	0.44	71.2	14.0	B
2	1.00	0.894	2944	6761	0.44	71.2	13.8	B
3	1.00	0.894	3414	6761	0.50	71.0	16.0	B
4	1.00	0.894	3664	6761	0.54	70.6	17.3	B
5	1.00	0.894	4287	6761	0.63	68.8	20.8	C
6	1.00	0.894	4113	6761	0.61	69.5	19.7	C
7	1.00	0.894	3672	6761	0.54	70.6	17.3	B
8	1.00	0.894	3847	6761	0.57	70.2	18.3	C
9	1.00	0.894	4017	6761	0.59	69.8	19.2	C
10	1.00	0.894	4262	6761	0.63	68.9	20.6	C
11	1.00	0.894	4308	6761	0.64	68.8	20.9	C
12	1.00	0.894	4402	6761	0.65	68.4	21.4	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost \$/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	4955	4790	1.96	48.91	693	11.5	103	8.00	B
2	4868	4706	1.91	47.81	693	11.3	101	8.00	B
3	5642	5455	2.31	57.71	692	13.2	117	8.00	B
4	6057	5855	2.60	64.88	691	14.2	126	8.00	B
5	7086	6850	3.94	98.49	685	16.7	149	8.10	B
6	6798	6572	3.41	85.36	687	16.0	142	8.10	B
7	6071	5869	2.60	65.04	691	14.2	126	8.00	B
8	6359	6148	2.90	72.44	690	14.9	133	8.10	B
9	6640	6419	3.23	80.71	688	15.6	139	8.10	B
10	7044	6810	3.86	96.46	685	16.6	148	8.10	B
11	7120	6888	3.99	99.65	685	16.8	150	8.10	B
12	7275	7033	4.30	107.38	683	17.2	153	8.10	B

Facility Overall Results

Space Mean Speed, mi/h	68.8	Average Density, veh/mi/ln	13.2
Average Travel Time, min	8.10	Average Density, pc/mi/ln	14.8
Total VMT, veh-mi	75917	Total VHD, veh-h	36.99
Vehicle Value of Time (VOT), \$/h	25.00	Total Delay Cost, \$	924.84

HCS Freeway Facilities Report

Project Information

Analyst	Kittelson & Associates	Date	11/6/2023
Agency	Florida Department of Transportation	Analysis Year	2030 No-Build Conditions
Jurisdiction	District Five	Time Analyzed	PM Weekday Peak Period
Facility Name	I-75 (Southbound)	Units	U.S. Customary
Project Description	I-75 PD&E North Auxillary Lanes		

Facility Global Input

Jam Density, pc/mi/ln	1900	Density at Capacity, pc/mi/ln	450
Queue Discharge Capacity Drop, %	7	Total Segments	21
Total Analysis Periods	12	Analysis Period Duration, min	15
Facility Length, mi	9.27		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-75 SB	5280	3
2	Basic	Basic	I-75 SB	1500	3
3	Diverge	Diverge	I-75 SB SR 326 Off Ramp	1500	3
4	Basic	Basic	I-75 SB	1836	3
5	Merge	Merge	I-75 SB SR 326 WB On Ramp	1500	3
6	Basic	Basic	I-75 SB	416	3
7	Merge	Merge	I-75 SB SR 326 EB On Ramp	1500	3
8	Basic	Basic	I-75 SB	4405	3
9	Diverge	Diverge	I-75 SB 49th St DDI Off Ramp	1500	3
10	Basic	Basic	I-75 SB	3253	3
11	Merge	Merge	I-75 SB 49th St DDI On Ramp	1500	3
12	Basic	Basic	I-75 SB	5830	3
13	Diverge	Diverge	I-75 SB US 27 Off Ramp	1500	3
14	Basic	Basic	I-75 SB	3189	3
15	Merge	Merge	I-75 SB US 27 On Ramp	1500	3
16	Basic	Basic	I-75 SB	1415	3
17	Diverge	Diverge	I-75 SB SR 40 Off Ramp	1500	3
18	Basic	Basic	I-75 SB	2836	3
19	Merge	Merge	I-75 SB SR 40 On Ramp	1500	3
20	Basic	Basic	I-75 SB	1500	3
21	Basic	Basic	I-75 SB	3968	3

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
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1	1 00	0 904	4251	6761	0 63	69 0	20 5	C
2	1 00	0 904	4441	6761	0 66	68 2	21 7	C
3	1 00	0 904	4159	6761	0 62	69 3	20 0	C
4	1 00	0 904	4239	6761	0 63	69 0	20 5	C
5	1 00	0 904	4058	6761	0 60	69 6	19 4	C
6	1 00	0 904	4188	6761	0 64	69 2	20 2	F
7	1 00	0 904	3925	6761	0 58	70 0	18 7	F
8	1 00	0 904	4199	6761	0 61	69 2	20 2	F
9	1 00	0 904	3803	6761	0 59	24 0	52 9	F
10	1 00	0 904	4203	6761	0 59	30 1	46 6	F
11	1 00	0 904	3648	6761	0 54	70 6	17 2	F
12	1 00	0 904	3575	6761	0 52	70 8	16 8	B

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1 00	0 904	4251	6761	0 63	69 0	20 5	C
2	1 00	0 904	4441	6761	0 66	68 2	21 7	C
3	1 00	0 904	4159	6761	0 62	69 3	20 0	C
4	1 00	0 904	4239	6761	0 63	69 0	20 5	C
5	1 00	0 904	4058	6761	0 60	69 6	19 4	C
6	1 00	0 904	4044	6761	0 64	69 7	19 3	F
7	1 00	0 904	3895	6761	0 58	14 9	87 2	F
8	1 00	0 904	3850	6761	0 61	14 2	90 7	F
9	1 00	0 904	3793	6761	0 59	12 7	99 4	F
10	1 00	0 904	4509	6761	0 59	17 3	86 8	F
11	1 00	0 904	3796	6761	0 54	17 3	73 2	F
12	1 00	0 904	3654	6761	0 52	70 6	17 3	B

Segment 3: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 904	0 882	4251	637	5918	1972	0 72	0 32	64 5	60 0	22 0	27 0	C
2	1 00	1 00	0 904	0 882	4441	667	5918	1972	0 75	0 34	64 4	59 9	23 0	27 9	C
3	1 00	1 00	0 904	0 882	4159	624	5918	1972	0 70	0 32	64 5	60 0	21 5	26 5	C
4	1 00	1 00	0 904	0 882	4239	636	5918	1972	0 72	0 32	64 5	60 0	21 9	26 9	C
5	1 00	1 00	0 904	0 882	4058	609	5918	1972	0 69	0 31	64 5	60 1	21 0	26 0	C
6	1 00	1 00	0 904	0 882	3677	647	5918	1972	0 73	0 33	20 8	60 0	58 9	27 3	F
7	1 00	1 00	0 904	0 882	3910	592	5918	1972	0 67	0 30	19 5	60 1	66 8	25 5	F
8	1 00	1 00	0 904	0 882	4200	620	5918	1972	0 70	0 31	20 7	60 0	67 6	26 4	F
9	1 00	1 00	0 904	0 882	3598	596	5918	1972	0 67	0 30	14 6	60 1	82 0	25 6	F
10	1 00	1 00	0 904	0 882	4563	595	5918	1972	0 67	0 30	64 6	60 1	23 5	28 3	F
11	1 00	1 00	0 904	0 882	3933	549	5918	1972	0 62	0 28	16 4	60 2	79 9	24 0	F

12	100	100	0.904	0.882	3642	529	5918	1972	0.60	0.27	647	603	188	23.9	F
Segment 4: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.908		3614		6761		0.53		707		17.0		B
2	1.00		0.908		3776		6761		0.56		704		17.9		B
3	1.00		0.908		3534		6761		0.52		708		16.6		B
4	1.00		0.908		3603		6761		0.53		707		17.0		B
5	1.00		0.908		3392		6761		0.51		708		15.9		F
6	1.00		0.908		2884		6761		0.54		101		95.3		F
7	1.00		0.908		3328		6761		0.50		107		103.4		F
8	1.00		0.908		3179		6761		0.52		9.9		107.3		F
9	1.00		0.908		3360		6761		0.50		10.0		111.7		F
10	1.00		0.908		3515		6761		0.50		11.5		101.5		F
11	1.00		0.908		3695		6761		0.46		12.5		98.2		F
12	1.00		0.908		3204		6761		0.44		10.7		99.4		F
Segment 5: Merge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.897	0.861	4685	1071	5918	1878	0.80	0.57	63.4	61.6	24.6	21.5	C
2	1.00	1.00	0.897	0.861	4894	1118	5918	1878	0.83	0.60	62.9	61.1	25.9	22.6	C
3	1.00	1.00	0.897	0.861	4582	1048	5918	1878	0.78	0.56	63.5	61.8	24.1	20.9	C
4	1.00	1.00	0.897	0.861	4620	1067	5918	1878	0.80	0.57	63.4	61.7	24.4	21.2	F
5	1.00	1.00	0.897	0.861	4058	1022	5918	1878	0.76	0.54	22.1	62.0	61.1	20.5	F
6	1.00	1.00	0.897	0.861	3575	1087	5918	1878	0.81	0.58	12.3	61.4	96.8	22.1	F
7	1.00	1.00	0.897	0.861	4281	994	5918	1878	0.74	0.53	21.2	62.2	67.4	19.9	F
8	1.00	1.00	0.897	0.861	3850	1041	5918	1878	0.78	0.55	15.1	61.8	85.2	21.0	F
9	1.00	1.00	0.897	0.861	4023	1001	5918	1878	0.75	0.53	16.6	62.1	80.9	20.0	F
10	1.00	1.00	0.897	0.861	4319	1000	5918	1878	0.75	0.53	18.4	62.1	78.4	20.0	F
11	1.00	1.00	0.897	0.861	4052	922	5918	1878	0.69	0.49	18.2	62.7	74.1	18.2	F
12	1.00	1.00	0.897	0.861	4473	890	5918	1878	0.66	0.47	20.7	62.9	72.2	17.4	F
Segment 6: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.897		4685		6761		0.69		67.1		23.3		C
2	1.00		0.897		4894		6761		0.72		66.0		24.7		C
3	1.00		0.897		4582		6761		0.68		67.6		22.6		C
4	1.00		0.897		4600		6761		0.69		67.5		22.7		F
5	1.00		0.897		3960		6761		0.66		15.4		85.8		F
6	1.00		0.897		3686		6761		0.70		14.0		87.6		F
7	1.00		0.897		4241		6761		0.64		18.4		76.7		F

8	1 00	0 897	3872	6761	0 67	15 5	83 4	F
9	1 00	0 897	4036	6761	0 65	16 0	84 3	F
10	1 00	0 897	4290	6761	0 65	15 4	92 8	F
11	1 00	0 897	4094	6761	0 60	60 0	19 6	C
12	1 00	0 897	4424	6761	0 58	18 1	81 4	F

Segment 7: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 897	0 894	5108	423	5918	1972	0 86	0 21	63 1	61 4	27 0	24 3	C
2	1 00	1 00	0 897	0 894	5336	442	5918	1972	0 90	0 22	62 7	61 0	28 4	25 5	C
3	1 00	1 00	0 897	0 894	4996	414	5918	1972	0 84	0 21	63 3	61 6	26 3	23 8	C
4	1 00	1 00	0 897	0 894	4919	422	5918	1972	0 86	0 21	63 4	61 7	25 9	23 4	F
5	1 00	1 00	0 897	0 894	4374	404	5918	1972	0 82	0 20	24 4	61 8	59 7	23 2	F
6	1 00	1 00	0 897	0 894	4159	430	5918	1972	0 88	0 22	24 4	61 3	56 8	24 7	F
7	1 00	1 00	0 897	0 894	4622	393	5918	1972	0 80	0 20	28 1	62 1	54 8	22 5	F
8	1 00	1 00	0 897	0 894	4051	412	5918	1972	0 84	0 21	21 1	61 7	63 8	23 6	F
9	1 00	1 00	0 897	0 894	4650	396	5918	1972	0 81	0 20	28 0	62 0	55 3	22 7	F
10	1 00	1 00	0 897	0 894	4703	395	5918	1972	0 81	0 20	21 3	62 0	73 5	22 7	F
11	1 00	1 00	0 897	0 894	4517	365	5918	1972	0 74	0 18	64 0	62 4	23 5	21 4	C
12	1 00	1 00	0 897	0 894	4727	351	5918	1972	0 72	0 18	28 6	62 7	55 1	20 1	F

Segment 8: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1 00	0 897	5108	6761	0 76	64 7	26 3	D
2	1 00	0 897	5336	6761	0 79	63 2	28 1	D
3	1 00	0 897	4996	6761	0 74	65 4	25 5	C
4	1 00	0 897	4512	6761	0 75	30 6	49 2	F
5	1 00	0 897	4298	6761	0 72	20 1	71 2	F
6	1 00	0 897	4198	6761	0 77	18 9	74 2	F
7	1 00	0 897	4680	6761	0 70	24 1	64 7	F
8	1 00	0 897	4059	6761	0 73	18 1	74 9	F
9	1 00	0 897	4548	6761	0 71	22 1	68 7	F
10	1 00	0 897	4845	6761	0 71	22 6	71 4	F
11	1 00	0 897	4364	6761	0 65	20 0	72 7	F
12	1 00	0 897	4814	6761	0 63	23 4	68 7	F

Segment 9: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 897	0 893	5108	385	5918	1972	0 86	0 20	65 1	60 7	26 2	19 0	B
2	1 00	1 00	0 897	0 893	5336	403	5918	1972	0 90	0 20	65 0	60 6	27 4	20 0	B

3	100	100	0.897	0.893	4896	377	5918	1972	0.84	0.19	65.1	60.7	256	18.5	B
4	100	100	0.897	0.893	4314	384	5918	1972	0.86	0.19	26.6	60.7	54.0	19.0	F
5	100	100	0.897	0.893	4284	367	5918	1972	0.82	0.19	25.0	60.7	57.0	18.0	F
6	100	100	0.897	0.893	4313	391	5918	1972	0.88	0.20	27.4	60.6	52.5	19.3	F
7	100	100	0.897	0.893	4650	357	5918	1972	0.80	0.18	26.4	60.7	58.7	17.4	F
8	100	100	0.897	0.893	4070	375	5918	1972	0.84	0.19	20.4	60.7	66.5	18.4	F
9	100	100	0.897	0.893	4664	361	5918	1972	0.81	0.18	65.1	60.7	23.9	17.1	B
10	100	100	0.897	0.893	4718	361	5918	1972	0.81	0.18	30.3	60.7	51.8	17.5	F
11	100	100	0.897	0.893	4491	333	5918	1972	0.74	0.17	65.2	60.8	23.0	16.2	B
12	100	100	0.897	0.893	4684	320	5918	1972	0.72	0.16	30.7	60.8	50.8	15.1	F

Segment 10: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.897	4723	6761	0.70	66.9	23.5	C
2	100	0.897	4933	6761	0.73	65.8	25.0	C
3	100	0.897	4507	6761	0.68	67.9	22.1	F
4	100	0.897	3729	6761	0.70	14.6	85.1	F
5	100	0.897	3859	6761	0.67	15.4	83.6	F
6	100	0.897	4016	6761	0.71	16.6	80.8	F
7	100	0.897	4255	6761	0.65	17.1	83.0	F
8	100	0.897	3813	6761	0.68	14.6	86.9	F
9	100	0.897	4452	6761	0.65	19.1	77.6	F
10	100	0.897	4173	6761	0.65	16.9	82.3	F
11	100	0.897	4238	6761	0.60	16.6	85.3	F
12	100	0.897	4233	6761	0.58	16.4	86.2	F

Segment 11: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.897	0.893	5433	710	5918	1972	0.92	0.36	62.9	61.2	28.8	24.2	C
2	100	100	0.897	0.893	5574	741	5918	1972	0.96	0.38	62.3	60.5	30.4	25.4	C
3	100	100	0.897	0.893	4897	694	5918	1972	0.90	0.35	30.1	61.6	55.4	23.6	F
4	100	100	0.897	0.893	4607	708	5918	1972	0.92	0.36	28.3	61.3	54.2	24.1	F
5	100	100	0.897	0.893	4570	677	5918	1972	0.88	0.34	64.5	63.1	23.6	19.9	B
6	100	100	0.897	0.893	4607	720	5918	1972	0.93	0.37	29.1	61.0	52.7	24.6	F
7	100	100	0.897	0.893	5043	658	5918	1972	0.85	0.33	63.7	62.2	26.4	22.2	C
8	100	100	0.897	0.893	4423	690	5918	1972	0.89	0.35	24.2	61.7	61.0	23.4	F
9	100	100	0.897	0.893	5175	663	5918	1972	0.86	0.34	37.8	62.1	45.6	22.4	F
10	100	100	0.897	0.893	4856	663	5918	1972	0.86	0.34	64.1	62.6	25.3	21.3	C
11	100	100	0.897	0.893	4711	611	5918	1972	0.79	0.31	25.9	63.0	60.6	20.3	F
12	100	100	0.897	0.893	4961	590	5918	1972	0.76	0.30	63.9	62.5	25.9	21.6	C

Segment 12: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.897	5433	6761	0.80	62.5	29.0	D
2	1.00	0.897	5168	6761	0.84	38.2	45.2	F
3	1.00	0.897	4711	6761	0.79	20.2	77.9	F
4	1.00	0.897	4877	6761	0.80	24.7	65.8	F
5	1.00	0.897	4570	6761	0.77	20.8	73.4	F
6	1.00	0.897	4675	6761	0.82	22.0	70.7	F
7	1.00	0.897	4915	6761	0.75	25.3	64.7	F
8	1.00	0.897	4615	6761	0.78	22.6	68.0	F
9	1.00	0.897	4850	6761	0.75	24.9	64.8	F
10	1.00	0.897	4769	6761	0.75	20.5	77.5	F
11	1.00	0.897	4754	6761	0.69	20.4	77.9	F
12	1.00	0.897	5136	6761	0.67	26.8	64.0	F

Segment 13: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.897	0.894	5433	418	5918	1972	0.92	0.21	65.0	60.6	27.9	28.4	D
2	1.00	1.00	0.897	0.894	5035	437	5918	1972	0.96	0.22	27.3	60.5	61.5	29.3	F
3	1.00	1.00	0.897	0.894	4785	409	5918	1972	0.90	0.21	23.3	60.6	68.6	27.8	F
4	1.00	1.00	0.897	0.894	4772	417	5918	1972	0.91	0.21	28.7	60.6	55.4	28.3	F
5	1.00	1.00	0.897	0.894	4734	399	5918	1972	0.88	0.20	65.1	60.6	24.2	25.3	C
6	1.00	1.00	0.897	0.894	4619	425	5918	1972	0.93	0.22	27.8	60.5	55.4	28.7	F
7	1.00	1.00	0.897	0.894	4811	388	5918	1972	0.85	0.20	29.2	60.6	54.9	26.7	F
8	1.00	1.00	0.897	0.894	4675	407	5918	1972	0.89	0.21	28.4	60.6	54.9	27.7	F
9	1.00	1.00	0.897	0.894	4790	391	5918	1972	0.86	0.20	26.0	60.6	61.3	26.8	F
10	1.00	1.00	0.897	0.894	4769	391	5918	1972	0.86	0.20	24.3	60.6	65.5	26.8	F
11	1.00	1.00	0.897	0.894	4776	360	5918	1972	0.79	0.18	26.0	60.7	61.2	25.0	F
12	1.00	1.00	0.897	0.894	5121	348	5918	1972	0.76	0.18	31.9	60.7	53.5	24.3	F

Segment 14: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.897	4599	6761	0.74	28.2	54.3	F
2	1.00	0.897	4587	6761	0.77	16.7	91.4	F
3	1.00	0.897	4473	6761	0.73	16.6	89.7	F
4	1.00	0.897	4287	6761	0.74	15.2	93.8	F
5	1.00	0.897	4387	6761	0.71	16.7	87.6	F
6	1.00	0.897	4245	6761	0.75	15.2	92.8	F
7	1.00	0.897	4441	6761	0.69	16.3	91.0	F
8	1.00	0.897	4319	6761	0.72	15.8	91.1	F
9	1.00	0.897	4416	6761	0.69	16.5	89.5	F

10	100		0.897		4402		6761		0.69		156		94.0		F
11	100		0.897		4441		6761		0.64		16.3		90.9		F
12	100		0.897		4696		6761		0.62		18.2		86.0		F
Segment 15: Merge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.900	0.914	5511	912	5918	1972	1.00	0.46	61.5	59.3	29.9	28.8	D
2	100	100	0.900	0.914	5504	954	5918	1972	1.04	0.48	61.4	59.2	30.1	29.1	F
3	100	100	0.900	0.914	5299	893	5918	1972	0.98	0.45	62.0	59.9	28.5	27.8	F
4	100	100	0.900	0.914	5198	910	5918	1972	1.00	0.46	29.6	58.2	58.4	30.6	F
5	100	100	0.900	0.914	5255	871	5918	1972	0.95	0.44	38.8	59.1	45.2	29.3	F
6	100	100	0.900	0.914	5167	927	5918	1972	1.01	0.47	36.1	57.8	47.7	31.2	F
7	100	100	0.900	0.914	5291	847	5918	1972	0.93	0.43	32.0	59.5	55.1	28.5	F
8	100	100	0.900	0.914	5209	887	5918	1972	0.97	0.45	35.7	58.7	48.6	29.9	F
9	100	100	0.900	0.914	5267	853	5918	1972	0.93	0.43	31.7	59.4	55.3	28.7	F
10	100	100	0.900	0.914	5254	852	5918	1972	0.93	0.43	28.8	59.4	60.8	28.7	F
11	100	100	0.900	0.914	5334	787	5918	1972	0.86	0.40	62.0	60.0	28.7	27.7	F
12	100	100	0.900	0.914	5342	758	5918	1972	0.83	0.38	33.6	60.9	53.0	25.6	F
Segment 16: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	100		0.900		5511		6761		0.88		61.9		29.7		D
2	100		0.900		5418		6761		0.92		62.6		28.8		F
3	100		0.900		5238		6761		0.86		32.0		54.6		F
4	100		0.900		5201		6761		0.87		22.8		76.2		F
5	100		0.900		5249		6761		0.84		26.3		66.6		F
6	100		0.900		5176		6761		0.89		25.8		66.8		F
7	100		0.900		5280		6761		0.81		24.1		73.1		F
8	100		0.900		5215		6761		0.85		24.4		71.2		F
9	100		0.900		5262		6761		0.82		24.2		72.5		F
10	100		0.900		5254		6761		0.82		22.7		77.3		F
11	100		0.900		5326		6761		0.75		32.5		54.7		F
12	100		0.900		5340		6761		0.73		24.5		72.6		F
Segment 17: Diverge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.900	1.000	5511	469	5918	1972	1.00	0.24	64.8	60.4	28.3	28.4	D
2	100	100	0.900	1.000	5311	490	5918	1972	1.05	0.25	38.8	60.4	45.6	31.1	F
3	100	100	0.900	1.000	5235	459	5918	1972	0.98	0.23	30.1	60.5	58.0	29.5	F
4	100	100	0.900	1.000	5202	468	5918	1972	1.00	0.24	27.9	60.4	62.2	30.0	F

5	100	100	0.900	1000	5247	448	5918	1972	0.96	0.23	29.0	60.5	60.4	29.7	F
6	100	100	0.900	1000	5178	476	5918	1972	1.02	0.24	28.0	60.4	61.6	30.4	F
7	100	100	0.900	1000	5276	435	5918	1972	0.93	0.22	31.0	60.5	56.6	29.0	F
8	100	100	0.900	1000	5216	456	5918	1972	0.97	0.23	28.3	60.5	61.4	29.4	F
9	100	100	0.900	1000	5261	439	5918	1972	0.94	0.22	29.1	60.5	60.3	29.2	F
10	100	100	0.900	1000	5255	438	5918	1972	0.93	0.22	28.6	60.5	61.3	29.2	F
11	100	100	0.900	1000	5223	404	5918	1972	0.86	0.20	30.9	60.6	57.5	27.1	F
12	100	100	0.900	1000	5238	390	5918	1972	0.83	0.20	30.3	60.6	58.8	26.2	F

Segment 18: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.899	4798	6761	0.80	33.3	48.0	F
2	100	0.899	4759	6761	0.84	18.8	84.3	F
3	100	0.899	4806	6761	0.78	18.4	86.8	F
4	100	0.899	4793	6761	0.80	18.3	87.2	F
5	100	0.899	4823	6761	0.76	18.6	86.5	F
6	100	0.899	4780	6761	0.81	18.2	87.5	F
7	100	0.899	4842	6761	0.74	18.8	86.0	F
8	100	0.899	4811	6761	0.78	18.5	86.8	F
9	100	0.899	4837	6761	0.75	18.7	86.2	F
10	100	0.899	4838	6761	0.75	18.7	86.2	F
11	100	0.899	4890	6761	0.69	19.2	85.1	F
12	100	0.899	4911	6761	0.66	19.3	84.6	F

Segment 19: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.901	1000	5511	713	5918	1972	1.03	0.36	62.1	60.1	29.6	27.2	F
2	100	100	0.901	1000	5504	745	5918	1972	1.08	0.38	62.0	60.0	29.6	27.2	F
3	100	100	0.901	1000	5504	698	5918	1972	1.01	0.35	62.1	60.1	29.5	27.1	F
4	100	100	0.901	1000	5504	711	5918	1972	1.03	0.36	62.1	60.1	29.5	27.2	F
5	100	100	0.901	1000	5504	681	5918	1972	0.99	0.35	62.1	60.1	29.5	27.1	C
6	100	100	0.901	1000	5504	724	5918	1972	1.05	0.37	62.1	60.1	29.5	27.2	F
7	100	100	0.901	1000	5504	662	5918	1972	0.96	0.34	62.1	60.2	29.5	27.0	C
8	100	100	0.901	1000	5504	693	5918	1972	1.00	0.35	62.1	60.1	29.5	27.1	C
9	100	100	0.901	1000	5504	667	5918	1972	0.96	0.34	62.1	60.2	29.5	27.0	C
10	100	100	0.901	1000	5504	666	5918	1972	0.96	0.34	62.1	60.2	29.5	27.0	C
11	100	100	0.901	1000	5504	614	5918	1972	0.89	0.31	62.1	60.2	29.5	26.9	C
12	100	100	0.901	1000	5504	593	5918	1972	0.86	0.30	62.2	60.3	29.5	26.8	C

Segment 20: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
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1	1 00	0 901	5511	6761	0 92	61 9	297	D
2	1 00	0 901	5504	6761	0 96	62 0	29 6	D
3	1 00	0 901	5504	6761	0 90	62 0	29 6	D
4	1 00	0 901	5504	6761	0 91	62 0	29 6	D
5	1 00	0 901	5504	6761	0 87	62 0	29 6	D
6	1 00	0 901	5504	6761	0 93	62 0	29 6	D
7	1 00	0 901	5504	6761	0 85	62 0	29 6	D
8	1 00	0 901	5504	6761	0 89	62 0	29 6	D
9	1 00	0 901	5504	6761	0 86	62 0	29 6	D
10	1 00	0 901	5504	6761	0 85	62 0	29 6	D
11	1 00	0 901	5504	6761	0 79	62 0	29 6	D
12	1 00	0 901	5504	6761	0 76	62 0	29 6	D

Segment 21: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1 00	0 901	5511	6761	0 92	61 9	297	D
2	1 00	0 901	5504	6761	0 96	62 0	29 6	D
3	1 00	0 901	5504	6761	0 90	62 0	29 6	D
4	1 00	0 901	5504	6761	0 91	62 0	29 6	D
5	1 00	0 901	5504	6761	0 87	62 0	29 6	D
6	1 00	0 901	5504	6761	0 93	62 0	29 6	D
7	1 00	0 901	5504	6761	0 85	62 0	29 6	D
8	1 00	0 901	5504	6761	0 89	62 0	29 6	D
9	1 00	0 901	5504	6761	0 86	62 0	29 6	D
10	1 00	0 901	5504	6761	0 85	62 0	29 6	D
11	1 00	0 901	5504	6761	0 79	62 0	29 6	D
12	1 00	0 901	5504	6761	0 76	62 0	29 6	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost \$/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	10847	10507	36 25	90614	57 0	291	261	9 80	F
2	10442	10974	88 85	2221 15	44 3	37 7	33 9	12 50	F
3	9921	10279	127 59	3189 69	37 2	427	384	15 00	F
4	9689	10475	176 77	4419 34	31 0	501	45 0	18 00	F
5	9448	10028	194 43	4860 74	28 9	524	47 1	19 30	F
6	9350	10667	241 14	6028 43	25 1	59 6	53 6	22 20	F
7	9714	9752	232 53	5813 25	26 3	59 0	53 1	21 10	F
8	9339	10214	263 51	6587 72	23 7	63 2	56 8	23 50	F
9	9631	9822	265 64	6640 99	24 0	64 1	57 7	23 10	F
10	9843	9815	264 81	6620 19	24 4	64 5	58 0	22 80	F
11	9531	9052	232 64	5816 09	26 0	58 6	52 7	21 40	F
12	9761	8734	206 67	5166 79	28 4	55 0	49 5	19 60	F

Facility Overall Results

Space Mean Speed, mi/h	29.4	Average Density, veh/mi/ln	47.7
Average Travel Time, min	18.90	Average Density, pc/mi/ln	53.0
Total VMT, veh-mi	117017	Total VHD, veh-h	233082
Vehicle Value of Time (VOT), \$/h	25.00	Total Delay Cost, \$	5827052

HCS Freeway Facilities Report

Project Information

Analyst	Kittelson & Associates	Date	11/6/2023
Agency	Florida Department of Transportation	Analysis Year	2030 No-Build Conditions
Jurisdiction	District Five	Time Analyzed	WM Weekend Peak Period
Facility Name	I-75 (Southbound)	Units	U.S. Customary
Project Description	I-75 PD&E North Auxillary Lanes		

Facility Global Input

Jam Density, pc/mi/ln	1900	Density at Capacity, pc/mi/ln	450
Queue Discharge Capacity Drop, %	7	Total Segments	21
Total Analysis Periods	12	Analysis Period Duration, min	15
Facility Length, mi	9.27		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-75 SB	5280	3
2	Basic	Basic	I-75 SB	1500	3
3	Diverge	Diverge	I-75 SB SR 326 Off Ramp	1500	3
4	Basic	Basic	I-75 SB	1836	3
5	Merge	Merge	I-75 SB SR 326 WB On Ramp	1500	3
6	Basic	Basic	I-75 SB	416	3
7	Merge	Merge	I-75 SB SR 326 EB On Ramp	1500	3
8	Basic	Basic	I-75 SB	4405	3
9	Diverge	Diverge	I-75 SB 49th St DDI Off Ramp	1500	3
10	Basic	Basic	I-75 SB	3253	3
11	Merge	Merge	I-75 SB 49th St DDI On Ramp	1500	3
12	Basic	Basic	I-75 SB	5830	3
13	Diverge	Diverge	I-75 SB US 27 Off Ramp	1500	3
14	Basic	Basic	I-75 SB	3189	3
15	Merge	Merge	I-75 SB US 27 On Ramp	1500	3
16	Basic	Basic	I-75 SB	1415	3
17	Diverge	Diverge	I-75 SB SR 40 Off Ramp	1500	3
18	Basic	Basic	I-75 SB	2836	3
19	Merge	Merge	I-75 SB SR 40 On Ramp	1500	3
20	Basic	Basic	I-75 SB	1500	3
21	Basic	Basic	I-75 SB	3968	3

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
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1	1 00	0 901	3639	6761	0 54	707	17 2	B
2	1 00	0 901	3639	6761	0 54	707	17 2	B
3	1 00	0 901	3639	6761	0 54	707	17 2	B
4	1 00	0 901	3639	6761	0 54	707	17 2	B
5	1 00	0 901	3786	6761	0 56	704	17 9	B
6	1 00	0 901	3786	6761	0 56	704	17 9	B
7	1 00	0 901	3786	6761	0 56	704	17 9	B
8	1 00	0 901	3786	6761	0 56	704	17 9	B
9	1 00	0 901	3847	6761	0 57	702	18 3	C
10	1 00	0 901	3847	6761	0 57	702	18 3	C
11	1 00	0 901	3847	6761	0 57	702	18 3	C
12	1 00	0 901	3847	6761	0 57	702	18 3	C

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1 00	0 901	3639	6761	0 54	707	17 2	B
2	1 00	0 901	3639	6761	0 54	707	17 2	B
3	1 00	0 901	3639	6761	0 54	707	17 2	B
4	1 00	0 901	3639	6761	0 54	707	17 2	B
5	1 00	0 901	3786	6761	0 56	704	17 9	B
6	1 00	0 901	3786	6761	0 56	704	17 9	B
7	1 00	0 901	3786	6761	0 56	704	17 9	B
8	1 00	0 901	3786	6761	0 56	704	17 9	B
9	1 00	0 901	3847	6761	0 57	702	18 3	C
10	1 00	0 901	3847	6761	0 57	702	18 3	C
11	1 00	0 901	3847	6761	0 57	702	18 3	C
12	1 00	0 901	3847	6761	0 57	702	18 3	C

Segment 3: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 901	0 919	3639	482	5918	1972	0 61	0 24	64 8	60 4	18 7	23 8	C
2	1 00	1 00	0 901	0 919	3639	482	5918	1972	0 61	0 24	64 8	60 4	18 7	23 8	C
3	1 00	1 00	0 901	0 919	3639	482	5918	1972	0 61	0 24	64 8	60 4	18 7	23 8	C
4	1 00	1 00	0 901	0 919	3639	482	5918	1972	0 61	0 24	64 8	60 4	18 7	23 8	C
5	1 00	1 00	0 901	0 919	3786	502	5918	1972	0 64	0 25	64 7	60 3	19 5	24 5	C
6	1 00	1 00	0 901	0 919	3786	502	5918	1972	0 64	0 25	64 7	60 3	19 5	24 5	C
7	1 00	1 00	0 901	0 919	3786	502	5918	1972	0 64	0 25	64 7	60 3	19 5	24 5	C
8	1 00	1 00	0 901	0 919	3786	502	5918	1972	0 64	0 25	64 7	60 3	19 5	24 5	C
9	1 00	1 00	0 901	0 919	3847	509	5918	1972	0 65	0 26	64 7	60 3	19 8	24 8	C
10	1 00	1 00	0 901	0 919	3847	509	5918	1972	0 65	0 26	64 7	60 3	19 8	24 8	C
11	1 00	1 00	0 901	0 919	3847	509	5918	1972	0 65	0 26	64 7	60 3	19 8	24 8	C

12	100	100	0901	0919	3847	509	5918	1972	065	026	647	603	198	248	C
Segment 4: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	100		0898		3158		6761		047		708		148		B
2	100		0898		3158		6761		047		708		148		B
3	100		0898		3158		6761		047		708		148		B
4	100		0898		3158		6761		047		708		148		B
5	100		0898		3285		6761		049		708		154		B
6	100		0898		3285		6761		049		708		154		B
7	100		0898		3285		6761		049		708		154		B
8	100		0898		3285		6761		049		708		154		B
9	100		0898		3339		6761		049		708		157		B
10	100		0898		3339		6761		049		708		157		B
11	100		0898		3339		6761		049		708		157		B
12	100		0898		3339		6761		049		708		157		B
Segment 5: Merge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0905	0926	4064	930	5918	1878	069	050	643	627	211	181	B
2	100	100	0905	0926	4064	930	5918	1878	069	050	643	627	211	181	B
3	100	100	0905	0926	4064	930	5918	1878	069	050	643	627	211	181	B
4	100	100	0905	0926	4064	930	5918	1878	069	050	643	627	211	181	B
5	100	100	0905	0926	4228	968	5918	1878	071	052	641	625	220	190	B
6	100	100	0905	0926	4228	968	5918	1878	071	052	641	625	220	190	B
7	100	100	0905	0926	4228	968	5918	1878	071	052	641	625	220	190	B
8	100	100	0905	0926	4228	968	5918	1878	071	052	641	625	220	190	B
9	100	100	0905	0926	4296	983	5918	1878	073	052	641	624	223	194	B
10	100	100	0905	0926	4296	983	5918	1878	073	052	641	624	223	194	B
11	100	100	0905	0926	4296	983	5918	1878	073	052	641	624	223	194	B
12	100	100	0905	0926	4296	983	5918	1878	073	052	641	624	223	194	B
Segment 6: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	100		0905		4085		6761		060		695		196		C
2	100		0905		4085		6761		060		695		196		C
3	100		0905		4085		6761		060		695		196		C
4	100		0905		4085		6761		060		695		196		C
5	100		0905		4250		6761		063		690		205		C
6	100		0905		4250		6761		063		690		205		C
7	100		0905		4250		6761		063		690		205		C

8	1 00	0 905	4250	6761	0 63	69 0	20 5	C
9	1 00	0 905	4318	6761	0 64	68 7	20 9	C
10	1 00	0 905	4318	6761	0 64	68 7	20 9	C
11	1 00	0 905	4318	6761	0 64	68 7	20 9	C
12	1 00	0 905	4318	6761	0 64	68 7	20 9	C

Segment 7: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 905	0 924	4280	195	5918	1972	0 72	0 10	64 4	62 8	22 2	19 8	B
2	1 00	1 00	0 905	0 924	4280	195	5918	1972	0 72	0 10	64 4	62 8	22 2	19 8	B
3	1 00	1 00	0 905	0 924	4280	195	5918	1972	0 72	0 10	64 4	62 8	22 2	19 8	B
4	1 00	1 00	0 905	0 924	4280	195	5918	1972	0 72	0 10	64 4	62 8	22 2	19 8	B
5	1 00	1 00	0 905	0 924	4452	202	5918	1972	0 75	0 10	64 2	62 6	23 1	20 7	C
6	1 00	1 00	0 905	0 924	4452	202	5918	1972	0 75	0 10	64 2	62 6	23 1	20 7	C
7	1 00	1 00	0 905	0 924	4452	202	5918	1972	0 75	0 10	64 2	62 6	23 1	20 7	C
8	1 00	1 00	0 905	0 924	4452	202	5918	1972	0 75	0 10	64 2	62 6	23 1	20 7	C
9	1 00	1 00	0 905	0 924	4524	206	5918	1972	0 76	0 10	64 1	62 5	23 5	21 0	C
10	1 00	1 00	0 905	0 924	4524	206	5918	1972	0 76	0 10	64 1	62 5	23 5	21 0	C
11	1 00	1 00	0 905	0 924	4524	206	5918	1972	0 76	0 10	64 1	62 5	23 5	21 0	C
12	1 00	1 00	0 905	0 924	4524	206	5918	1972	0 76	0 10	64 1	62 5	23 5	21 0	C

Segment 8: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1 00	0 905	4284	6761	0 63	68 9	20 7	C
2	1 00	0 905	4284	6761	0 63	68 9	20 7	C
3	1 00	0 905	4284	6761	0 63	68 9	20 7	C
4	1 00	0 905	4284	6761	0 63	68 9	20 7	C
5	1 00	0 905	4456	6761	0 66	68 2	21 8	C
6	1 00	0 905	4456	6761	0 66	68 2	21 8	C
7	1 00	0 905	4456	6761	0 66	68 2	21 8	C
8	1 00	0 905	4456	6761	0 66	68 2	21 8	C
9	1 00	0 905	4528	6761	0 67	67 8	22 3	C
10	1 00	0 905	4528	6761	0 67	67 8	22 3	C
11	1 00	0 905	4528	6761	0 67	67 8	22 3	C
12	1 00	0 905	4528	6761	0 67	67 8	22 3	C

Segment 9: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 905	0 893	4284	394	5918	1972	0 72	0 20	65 1	60 6	21 9	15 4	B
2	1 00	1 00	0 905	0 893	4284	394	5918	1972	0 72	0 20	65 1	60 6	21 9	15 4	B

3	100	100	0.905	0.893	4284	394	5918	1972	0.72	0.20	65.1	60.6	21.9	15.4	B
4	100	100	0.905	0.893	4284	394	5918	1972	0.72	0.20	65.1	60.6	21.9	15.4	B
5	100	100	0.905	0.893	4456	410	5918	1972	0.75	0.21	65.1	60.6	22.8	16.2	B
6	100	100	0.905	0.893	4456	410	5918	1972	0.75	0.21	65.1	60.6	22.8	16.2	B
7	100	100	0.905	0.893	4456	410	5918	1972	0.75	0.21	65.1	60.6	22.8	16.2	B
8	100	100	0.905	0.893	4456	410	5918	1972	0.75	0.21	65.1	60.6	22.8	16.2	B
9	100	100	0.905	0.893	4528	417	5918	1972	0.77	0.21	65.1	60.6	23.2	16.5	B
10	100	100	0.905	0.893	4528	417	5918	1972	0.77	0.21	65.1	60.6	23.2	16.5	B
11	100	100	0.905	0.893	4528	417	5918	1972	0.77	0.21	65.1	60.6	23.2	16.5	B
12	100	100	0.905	0.893	4528	417	5918	1972	0.77	0.21	65.1	60.6	23.2	16.5	B

Segment 10: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.907	3886	6761	0.57	70.1	18.5	C
2	100	0.907	3886	6761	0.57	70.1	18.5	C
3	100	0.907	3886	6761	0.57	70.1	18.5	C
4	100	0.907	3886	6761	0.57	70.1	18.5	C
5	100	0.907	4043	6761	0.60	69.7	19.3	C
6	100	0.907	4043	6761	0.60	69.7	19.3	C
7	100	0.907	4043	6761	0.60	69.7	19.3	C
8	100	0.907	4043	6761	0.60	69.7	19.3	C
9	100	0.907	4108	6761	0.61	69.5	19.7	C
10	100	0.907	4108	6761	0.61	69.5	19.7	C
11	100	0.907	4108	6761	0.61	69.5	19.7	C
12	100	0.907	4108	6761	0.61	69.5	19.7	C

Segment 11: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.905	0.893	4611	716	5918	1972	0.78	0.36	64.4	63.0	23.9	20.2	C
2	100	100	0.905	0.893	4611	716	5918	1972	0.78	0.36	64.4	63.0	23.9	20.2	C
3	100	100	0.905	0.893	4611	716	5918	1972	0.78	0.36	64.4	63.0	23.9	20.2	C
4	100	100	0.905	0.893	4611	716	5918	1972	0.78	0.36	64.4	63.0	23.9	20.2	C
5	100	100	0.905	0.893	4797	745	5918	1972	0.81	0.38	64.1	62.6	24.9	21.2	C
6	100	100	0.905	0.893	4797	745	5918	1972	0.81	0.38	64.1	62.6	24.9	21.2	C
7	100	100	0.905	0.893	4797	745	5918	1972	0.81	0.38	64.1	62.6	24.9	21.2	C
8	100	100	0.905	0.893	4797	745	5918	1972	0.81	0.38	64.1	62.6	24.9	21.2	C
9	100	100	0.905	0.893	4874	757	5918	1972	0.82	0.38	64.0	62.5	25.4	21.6	C
10	100	100	0.905	0.893	4874	757	5918	1972	0.82	0.38	64.0	62.5	25.4	21.6	C
11	100	100	0.905	0.893	4874	757	5918	1972	0.82	0.38	64.0	62.5	25.4	21.6	C
12	100	100	0.905	0.893	4874	757	5918	1972	0.82	0.38	64.0	62.5	25.4	21.6	C

Segment 12: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.905	4601	6761	0.68	67.5	22.7	C
2	1.00	0.905	4601	6761	0.68	67.5	22.7	C
3	1.00	0.905	4601	6761	0.68	67.5	22.7	C
4	1.00	0.905	4601	6761	0.68	67.5	22.7	C
5	1.00	0.905	4787	6761	0.71	66.6	24.0	C
6	1.00	0.905	4787	6761	0.71	66.6	24.0	C
7	1.00	0.905	4787	6761	0.71	66.6	24.0	C
8	1.00	0.905	4787	6761	0.71	66.6	24.0	C
9	1.00	0.905	4864	6761	0.72	66.2	24.5	C
10	1.00	0.905	4864	6761	0.72	66.2	24.5	C
11	1.00	0.905	4864	6761	0.72	66.2	24.5	C
12	1.00	0.905	4864	6761	0.72	66.2	24.5	C

Segment 13: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.905	0.933	4601	343	5918	1972	0.78	0.17	65.2	60.8	23.5	24.7	C
2	1.00	1.00	0.905	0.933	4601	343	5918	1972	0.78	0.17	65.2	60.8	23.5	24.7	C
3	1.00	1.00	0.905	0.933	4601	343	5918	1972	0.78	0.17	65.2	60.8	23.5	24.7	C
4	1.00	1.00	0.905	0.933	4601	343	5918	1972	0.78	0.17	65.2	60.8	23.5	24.7	C
5	1.00	1.00	0.905	0.933	4787	357	5918	1972	0.81	0.18	65.1	60.7	24.5	25.5	C
6	1.00	1.00	0.905	0.933	4787	357	5918	1972	0.81	0.18	65.1	60.7	24.5	25.5	C
7	1.00	1.00	0.905	0.933	4787	357	5918	1972	0.81	0.18	65.1	60.7	24.5	25.5	C
8	1.00	1.00	0.905	0.933	4787	357	5918	1972	0.81	0.18	65.1	60.7	24.5	25.5	C
9	1.00	1.00	0.905	0.933	4864	362	5918	1972	0.82	0.18	65.1	60.7	24.9	25.9	C
10	1.00	1.00	0.905	0.933	4864	362	5918	1972	0.82	0.18	65.1	60.7	24.9	25.9	C
11	1.00	1.00	0.905	0.933	4864	362	5918	1972	0.82	0.18	65.1	60.7	24.9	25.9	C
12	1.00	1.00	0.905	0.933	4864	362	5918	1972	0.82	0.18	65.1	60.7	24.9	25.9	C

Segment 14: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.902	4262	6761	0.63	68.9	20.6	C
2	1.00	0.902	4262	6761	0.63	68.9	20.6	C
3	1.00	0.902	4262	6761	0.63	68.9	20.6	C
4	1.00	0.902	4262	6761	0.63	68.9	20.6	C
5	1.00	0.902	4433	6761	0.66	68.3	21.6	C
6	1.00	0.902	4433	6761	0.66	68.3	21.6	C
7	1.00	0.902	4433	6761	0.66	68.3	21.6	C
8	1.00	0.902	4433	6761	0.66	68.3	21.6	C
9	1.00	0.902	4506	6761	0.67	67.9	22.1	C

10	1 00	0 902	4506	6761	0 67	67 9	22 1	C							
11	1 00	0 902	4506	6761	0 67	67 9	22 1	C							
12	1 00	0 902	4506	6761	0 67	67 9	22 1	C							
Segment 15: Merge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0 908	0 943	4969	736	5918	1972	0 84	0 37	62 8	60 8	26 4	25 8	C
2	100	100	0 908	0 943	4969	736	5918	1972	0 84	0 37	62 8	60 8	26 4	25 8	C
3	100	100	0 908	0 943	4969	736	5918	1972	0 84	0 37	62 8	60 8	26 4	25 8	C
4	100	100	0 908	0 943	4969	736	5918	1972	0 84	0 37	62 8	60 8	26 4	25 8	C
5	100	100	0 908	0 943	5170	766	5918	1972	0 87	0 39	62 3	60 3	27 7	26 9	C
6	100	100	0 908	0 943	5170	766	5918	1972	0 87	0 39	62 3	60 3	27 7	26 9	C
7	100	100	0 908	0 943	5170	766	5918	1972	0 87	0 39	62 3	60 3	27 7	26 9	C
8	100	100	0 908	0 943	5170	766	5918	1972	0 87	0 39	62 3	60 3	27 7	26 9	C
9	100	100	0 908	0 943	5254	778	5918	1972	0 89	0 39	62 2	60 2	28 2	27 3	C
10	100	100	0 908	0 943	5254	778	5918	1972	0 89	0 39	62 2	60 2	28 2	27 3	C
11	100	100	0 908	0 943	5254	778	5918	1972	0 89	0 39	62 2	60 2	28 2	27 3	C
12	100	100	0 908	0 943	5254	778	5918	1972	0 89	0 39	62 2	60 2	28 2	27 3	C
Segment 16: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100		0 908		4998		6761		0 74		65 4		25 5		C
2	100		0 908		4998		6761		0 74		65 4		25 5		C
3	100		0 908		4998		6761		0 74		65 4		25 5		C
4	100		0 908		4998		6761		0 74		65 4		25 5		C
5	100		0 908		5199		6761		0 77		64 1		27 0		D
6	100		0 908		5199		6761		0 77		64 1		27 0		D
7	100		0 908		5199		6761		0 77		64 1		27 0		D
8	100		0 908		5199		6761		0 77		64 1		27 0		D
9	100		0 908		5284		6761		0 78		63 5		27 7		D
10	100		0 908		5284		6761		0 78		63 5		27 7		D
11	100		0 908		5284		6761		0 78		63 5		27 7		D
12	100		0 908		5284		6761		0 78		63 5		27 7		D
Segment 17: Diverge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0 908	0 941	4998	413	5918	1972	0 84	0 21	65 0	60 6	25 6	26 4	C
2	100	100	0 908	0 941	4998	413	5918	1972	0 84	0 21	65 0	60 6	25 6	26 4	C
3	100	100	0 908	0 941	4998	413	5918	1972	0 84	0 21	65 0	60 6	25 6	26 4	C
4	100	100	0 908	0 941	4998	413	5918	1972	0 84	0 21	65 0	60 6	25 6	26 4	C

5	100	100	0.908	0.941	5199	430	5918	1972	0.88	0.22	64.9	60.5	26.7	27.4	C
6	100	100	0.908	0.941	5199	430	5918	1972	0.88	0.22	64.9	60.5	26.7	27.4	C
7	100	100	0.908	0.941	5199	430	5918	1972	0.88	0.22	64.9	60.5	26.7	27.4	C
8	100	100	0.908	0.941	5199	430	5918	1972	0.88	0.22	64.9	60.5	26.7	27.4	C
9	100	100	0.908	0.941	5284	438	5918	1972	0.89	0.22	64.9	60.5	27.1	27.8	C
10	100	100	0.908	0.941	5284	438	5918	1972	0.89	0.22	64.9	60.5	27.1	27.8	C
11	100	100	0.908	0.941	5284	438	5918	1972	0.89	0.22	64.9	60.5	27.1	27.8	C
12	100	100	0.908	0.941	5284	438	5918	1972	0.89	0.22	64.9	60.5	27.1	27.8	C

Segment 18: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.905	4585	6761	0.68	67.6	22.6	C
2	100	0.905	4585	6761	0.68	67.6	22.6	C
3	100	0.905	4585	6761	0.68	67.6	22.6	C
4	100	0.905	4585	6761	0.68	67.6	22.6	C
5	100	0.905	4769	6761	0.71	66.7	23.8	C
6	100	0.905	4769	6761	0.71	66.7	23.8	C
7	100	0.905	4769	6761	0.71	66.7	23.8	C
8	100	0.905	4769	6761	0.71	66.7	23.8	C
9	100	0.905	4846	6761	0.72	66.3	24.4	C
10	100	0.905	4846	6761	0.72	66.3	24.4	C
11	100	0.905	4846	6761	0.72	66.3	24.4	C
12	100	0.905	4846	6761	0.72	66.3	24.4	C

Segment 19: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.910	0.952	4894	435	5918	1972	0.84	0.22	63.2	61.5	26.3	24.0	C
2	100	100	0.910	0.952	4894	435	5918	1972	0.84	0.22	63.2	61.5	26.3	24.0	C
3	100	100	0.910	0.952	4894	435	5918	1972	0.84	0.22	63.2	61.5	26.3	24.0	C
4	100	100	0.910	0.952	4894	435	5918	1972	0.84	0.22	63.2	61.5	26.3	24.0	C
5	100	100	0.910	0.952	5196	453	5918	1972	0.88	0.23	62.9	61.2	27.5	25.0	C
6	100	100	0.910	0.952	5196	453	5918	1972	0.88	0.23	62.9	61.2	27.5	25.0	C
7	100	100	0.910	0.952	5196	453	5918	1972	0.88	0.23	62.9	61.2	27.5	25.0	C
8	100	100	0.910	0.952	5196	453	5918	1972	0.88	0.23	62.9	61.2	27.5	25.0	C
9	100	100	0.910	0.952	5280	460	5918	1972	0.89	0.23	62.8	61.0	28.0	25.4	C
10	100	100	0.910	0.952	5280	460	5918	1972	0.89	0.23	62.8	61.0	28.0	25.4	C
11	100	100	0.910	0.952	5280	460	5918	1972	0.89	0.23	62.8	61.0	28.0	25.4	C
12	100	100	0.910	0.952	5280	460	5918	1972	0.89	0.23	62.8	61.0	28.0	25.4	C

Segment 20: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
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1	1 00	0 910	5014	6761	074	65 3	25 6	C
2	1 00	0 910	5014	6761	074	65 3	25 6	C
3	1 00	0 910	5014	6761	074	65 3	25 6	C
4	1 00	0 910	5014	6761	074	65 3	25 6	C
5	1 00	0 910	5216	6761	077	64 0	27 2	D
6	1 00	0 910	5216	6761	077	64 0	27 2	D
7	1 00	0 910	5216	6761	077	64 0	27 2	D
8	1 00	0 910	5216	6761	077	64 0	27 2	D
9	1 00	0 910	5301	6761	078	63 4	27 9	D
10	1 00	0 910	5301	6761	078	63 4	27 9	D
11	1 00	0 910	5301	6761	078	63 4	27 9	D
12	1 00	0 910	5301	6761	078	63 4	27 9	D

Segment 21: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1 00	0 910	5014	6761	074	65 3	25 6	C
2	1 00	0 910	5014	6761	074	65 3	25 6	C
3	1 00	0 910	5014	6761	074	65 3	25 6	C
4	1 00	0 910	5014	6761	074	65 3	25 6	C
5	1 00	0 910	5216	6761	077	64 0	27 2	D
6	1 00	0 910	5216	6761	077	64 0	27 2	D
7	1 00	0 910	5216	6761	077	64 0	27 2	D
8	1 00	0 910	5216	6761	077	64 0	27 2	D
9	1 00	0 910	5301	6761	078	63 4	27 9	D
10	1 00	0 910	5301	6761	078	63 4	27 9	D
11	1 00	0 910	5301	6761	078	63 4	27 9	D
12	1 00	0 910	5301	6761	078	63 4	27 9	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost \$/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	9098	8904	8 02	20044	67 0	21 6	195	830	C
2	9098	8904	8 02	20044	67 0	21 6	195	830	C
3	9098	8904	8 02	20044	67 0	21 6	195	830	C
4	9098	8904	8 02	20044	67 0	21 6	195	830	C
5	9465	9268	9 64	24093	66 4	22 7	205	840	C
6	9465	9268	9 64	24093	66 4	22 7	205	840	C
7	9465	9268	9 64	24093	66 4	22 7	205	840	C
8	9465	9268	9 64	24093	66 4	22 7	205	840	C
9	9618	9413	10 42	26054	66 1	23 1	21 0	840	C
10	9618	9413	10 42	26054	66 1	23 1	21 0	840	C
11	9618	9413	10 42	26054	66 1	23 1	21 0	840	C
12	9618	9413	10 42	26054	66 1	23 1	21 0	840	C

Facility Overall Results

Space Mean Speed, mi/h	66.5	Average Density, veh/mi/ln	20.3
Average Travel Time, min	8.40	Average Density, pc/mi/ln	22.5
Total VMT, veh-mi	11,272.3	Total VHD, veh-h	11,230
Vehicle Value of Time (VOT), \$/h	25.00	Total Delay Cost, \$	2807.61

APPENDIX T – 2040 NO-BUILD HCS OUTPUT REPORTS

I-75 North Section - Northbound

HCS Freeway Facilities Report

Project Information

Analyst	Kittelson & Associates	Date	11/6/2023
Agency	Florida Department of Transportation	Analysis Year	2040 No-Build Conditions
Jurisdiction	District Five	Time Analyzed	AM Weekday Peak Period
Facility Name	I-75 (Northbound)	Units	U.S. Customary
Project Description	I-75 PD&E North Auxillary Lanes		

Facility Global Input

Jam Density, pc/mi/ln	1900	Density at Capacity, pc/mi/ln	450
Queue Discharge Capacity Drop, %	7	Total Segments	19
Total Analysis Periods	12	Analysis Period Duration, min	15
Facility Length, mi	9.13		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-75 NB	4096	3
2	Basic	Basic	I-75 NB	1500	3
3	Diverge	Diverge	I-75 NB SR 40 Off Ramp	1500	3
4	Basic	Basic	I-75 NB	2890	3
5	Merge	Merge	I-75 NB SR 40 On Ramp	1500	3
6	Basic	Basic	I-75 NB	1294	3
7	Diverge	Diverge	I-75 NB US 27 Off Ramp	1500	3
8	Basic	Basic	I-75 NB	3054	3
9	Merge	Merge	I-75 NB US 27 On Ramp	1500	3
10	Basic	Basic	I-75 NB	4348	3
11	Diverge	Diverge	I-75 NB 49th St DDI Off Ramp	1500	3
12	Basic	Basic	I-75 NB	4841	3
13	Merge	Merge	I-75 NB 49th St DDI On Ramp	1500	3
14	Basic	Basic	I-75 NB	4399	3
15	Diverge	Diverge	I-75 NB SR 326 Off Ramp	1500	3
16	Basic	Basic	I-75 NB	2987	3
17	Merge	Merge	I-75 NB SR 326 On Ramp	1500	3
18	Basic	Basic	I-75 NB	1500	3
19	Basic	Basic	I-75 NB	5280	3

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.902	4844	6761	0.72	66.3	24.4	C
2	1.00	0.902	5443	6761	0.81	62.4	29.1	D

3	1 00	0 902	5620	6761	0 95	27 0	69 5	F
4	1 00	0 902	5487	6761	1 09	25 3	72 3	F
5	1 00	0 902	5504	6761	1 02	25 5	72 0	F
6	1 00	0 902	5504	6761	1 04	25 5	72 0	F
7	1 00	0 902	5504	6761	1 18	25 5	72 0	F
8	1 00	0 902	5504	6761	1 15	25 5	72 0	F
9	1 00	0 902	5504	6761	1 13	25 5	72 0	F
10	1 00	0 902	5504	6761	1 12	25 5	72 0	F
11	1 00	0 902	5504	6761	1 09	25 5	72 0	F
12	1 00	0 902	5504	6761	1 04	25 5	72 0	F

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)		Capacity (pc/h)	d/c Ratio	Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1 00	0 902	4844		6761	0 72	66 3		24 4		C
2	1 00	0 902	5443		6761	0 81	62 4		29 1		D
3	1 00	0 902	5511		6761	0 95	26 2		70 1		F
4	1 00	0 902	5504		6761	1 09	25 5		71 9		F
5	1 00	0 902	5504		6761	1 02	25 5		72 0		F
6	1 00	0 902	5504		6761	1 04	25 5		72 0		F
7	1 00	0 902	5504		6761	1 18	25 5		72 0		F
8	1 00	0 902	5504		6761	1 15	25 5		72 0		F
9	1 00	0 902	5504		6761	1 13	25 5		72 0		F
10	1 00	0 902	5504		6761	1 12	25 5		72 0		F
11	1 00	0 902	5504		6761	1 09	25 5		72 0		F
12	1 00	0 902	5504		6761	1 04	25 5		72 0		F

Segment 3: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 902	0 898	4844	549	5918	1972	0 82	0 28	64 7	60 2	25 0	26 1	C
2	1 00	1 00	0 902	0 898	5443	618	5918	1972	0 92	0 31	64 5	60 0	28 1	28 7	D
3	1 00	1 00	0 902	0 898	5511	731	5918	1972	1 09	0 37	64 3	59 8	28 6	29 2	F
4	1 00	1 00	0 902	0 898	5504	834	5918	1972	1 24	0 42	64 0	59 5	28 7	29 3	F
5	1 00	1 00	0 902	0 898	5504	786	5918	1972	1 17	0 40	64 1	59 6	28 6	29 2	F
6	1 00	1 00	0 902	0 898	5504	796	5918	1972	1 18	0 40	64 1	59 6	28 6	29 2	F
7	1 00	1 00	0 902	0 898	5504	908	5918	1972	1 35	0 46	63 9	59 3	28 7	29 4	F
8	1 00	1 00	0 902	0 898	5504	879	5918	1972	1 31	0 45	63 9	59 3	28 7	29 4	F
9	1 00	1 00	0 902	0 898	5504	869	5918	1972	1 29	0 44	64 0	59 4	28 7	29 3	F
10	1 00	1 00	0 902	0 898	5504	857	5918	1972	1 28	0 43	63 9	59 4	28 7	29 3	F
11	1 00	1 00	0 902	0 898	5504	836	5918	1972	1 25	0 42	64 0	59 5	28 7	29 3	F
12	1 00	1 00	0 902	0 898	5504	797	5918	1972	1 19	0 40	64 1	59 6	28 6	29 2	F

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.902	4297	6761	0.64	68.8	20.8	C
2	1.00	0.902	4828	6761	0.71	66.4	24.2	C
3	1.00	0.902	4885	6761	0.84	66.0	24.7	C
4	1.00	0.902	4879	6761	0.96	66.1	24.6	C
5	1.00	0.902	4880	6761	0.91	66.1	24.6	C
6	1.00	0.902	4880	6761	0.92	66.1	24.6	C
7	1.00	0.902	4879	6761	1.05	66.1	24.6	F
8	1.00	0.902	4879	6761	1.02	66.1	24.6	F
9	1.00	0.902	4879	6761	1.00	66.1	24.6	F
10	1.00	0.902	4879	6761	0.99	66.1	24.6	C
11	1.00	0.902	4880	6761	0.97	66.1	24.6	C
12	1.00	0.902	4880	6761	0.92	66.1	24.6	C

Segment 5: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.902	0.898	4719	422	5918	1972	0.80	0.21	63.3	61.4	24.8	24.2	C
2	1.00	1.00	0.902	0.898	5302	474	5918	1972	0.90	0.24	62.3	60.3	28.4	27.0	C
3	1.00	1.00	0.902	0.898	5446	561	5918	1972	1.06	0.28	61.9	59.8	29.3	28.1	F
4	1.00	1.00	0.902	0.898	5520	641	5918	1972	1.21	0.33	61.6	59.4	29.9	28.9	F
5	1.00	1.00	0.902	0.898	5484	604	5918	1972	1.14	0.31	61.7	59.6	29.6	28.5	F
6	1.00	1.00	0.902	0.898	5491	611	5918	1972	1.15	0.31	61.7	59.6	29.7	28.6	F
7	1.00	1.00	0.902	0.898	5576	697	5918	1972	1.32	0.35	61.3	59.1	30.3	29.5	F
8	1.00	1.00	0.902	0.898	5554	675	5918	1972	1.27	0.34	61.4	59.2	30.2	29.3	F
9	1.00	1.00	0.902	0.898	5547	668	5918	1972	1.26	0.34	61.4	59.2	30.1	29.2	F
10	1.00	1.00	0.902	0.898	5538	659	5918	1972	1.24	0.33	61.5	59.3	30.0	29.1	F
11	1.00	1.00	0.902	0.898	5523	643	5918	1972	1.21	0.33	61.6	59.4	29.9	28.9	F
12	1.00	1.00	0.902	0.898	5492	612	5918	1972	1.16	0.31	61.7	59.6	29.7	28.6	F

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.902	4717	6761	0.70	66.9	23.5	C
2	1.00	0.902	5300	6761	0.78	63.4	27.9	D
3	1.00	0.902	5446	6761	0.93	62.4	29.1	D
4	1.00	0.902	5520	6761	1.06	61.8	29.8	F
5	1.00	0.902	5484	6761	1.00	62.1	29.4	D
6	1.00	0.902	5491	6761	1.01	62.1	29.5	F
7	1.00	0.902	5576	6761	1.15	61.4	30.3	F
8	1.00	0.902	5554	6761	1.12	61.6	30.1	F
9	1.00	0.902	5547	6761	1.10	61.6	30.0	F

10	1 00	0 902	5538	6761	1 09	61 7	29 9	F							
11	1 00	0 902	5523	6761	1 06	61 8	29 8	F							
12	1 00	0 902	5492	6761	1 01	62 0	29 5	F							
Segment 7: Diverge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 902	0 934	4717	651	5918	1972	0 80	0 33	64 5	60 0	24 4	26 7	C
2	1 00	1 00	0 902	0 934	5300	732	5918	1972	0 90	0 37	64 3	59 8	27 5	29 4	D
3	1 00	1 00	0 902	0 934	5446	865	5918	1972	1 06	0 44	64 0	59 4	28 4	30 2	F
4	1 00	1 00	0 902	0 934	5520	988	5918	1972	1 21	0 50	63 6	59 1	28 9	31 3	F
5	1 00	1 00	0 902	0 934	5484	931	5918	1972	1 14	0 47	63 7	59 2	28 7	30 8	F
6	1 00	1 00	0 902	0 934	5491	943	5918	1972	1 15	0 48	63 7	59 2	28 7	30 9	F
7	1 00	1 00	0 902	0 934	5576	1075	5918	1972	1 32	0 55	63 2	58 8	29 4	32 1	F
8	1 00	1 00	0 902	0 934	5554	1042	5918	1972	1 27	0 53	63 4	58 9	29 2	31 8	F
9	1 00	1 00	0 902	0 934	5547	1030	5918	1972	1 26	0 52	63 4	59 0	29 2	31 7	F
10	1 00	1 00	0 902	0 934	5538	1016	5918	1972	1 24	0 52	63 4	59 0	29 1	31 6	F
11	1 00	1 00	0 902	0 934	5523	991	5918	1972	1 21	0 50	63 6	59 1	28 9	31 3	F
12	1 00	1 00	0 902	0 934	5492	944	5918	1972	1 16	0 48	63 7	59 2	28 7	30 9	F
Segment 8: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1 00		0 897		4066		6761		0 60		69 6		19 5	C	
2	1 00		0 897		4567		6761		0 68		67 7		22 5	C	
3	1 00		0 897		4694		6761		0 80		67 0		23 4	C	
4	1 00		0 897		4758		6761		0 91		66 7		23 8	C	
5	1 00		0 897		4727		6761		0 86		66 9		23 6	C	
6	1 00		0 897		4733		6761		0 87		66 8		23 6	C	
7	1 00		0 897		4806		6761		0 99		66 5		24 1	C	
8	1 00		0 897		4787		6761		0 96		66 6		24 0	C	
9	1 00		0 897		4781		6761		0 95		66 6		23 9	C	
10	1 00		0 897		4774		6761		0 94		66 6		23 9	C	
11	1 00		0 897		4761		6761		0 92		66 7		23 8	C	
12	1 00		0 897		4734		6761		0 87		66 8		23 6	C	
Segment 9: Merge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 895	0 876	4387	312	5918	1972	0 74	0 16	63 9	62 1	22 9	21 8	C
2	1 00	1 00	0 895	0 876	4928	350	5918	1972	0 83	0 18	63 2	61 4	26 0	24 4	C
3	1 00	1 00	0 895	0 876	5108	414	5918	1972	0 98	0 21	62 8	61 0	27 1	25 4	C
4	1 00	1 00	0 895	0 876	5232	474	5918	1972	1 13	0 24	62 6	60 7	27 9	26 2	F

5	100	100	0.895	0.876	5173	446	5918	1972	1.06	0.23	62.7	60.8	27.5	25.8	F
6	100	100	0.895	0.876	5185	452	5918	1972	1.07	0.23	62.7	60.8	27.6	25.9	F
7	100	100	0.895	0.876	5221	515	5918	1972	1.22	0.26	62.4	60.5	28.4	26.7	F
8	100	100	0.895	0.876	5286	499	5918	1972	1.18	0.25	62.5	60.6	28.2	26.5	F
9	100	100	0.895	0.876	5274	493	5918	1972	1.17	0.25	62.5	60.6	28.1	26.4	F
10	100	100	0.895	0.876	5261	487	5918	1972	1.16	0.25	62.5	60.6	28.1	26.3	F
11	100	100	0.895	0.876	5236	475	5918	1972	1.13	0.24	62.6	60.7	27.9	26.2	F
12	100	100	0.895	0.876	5187	453	5918	1972	1.07	0.23	62.7	60.8	27.6	25.9	F

Segment 10: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.895	4380	6761	0.65	68.5	21.3	C
2	100	0.895	4921	6761	0.73	65.8	24.9	C
3	100	0.895	5108	6761	0.86	64.7	26.3	D
4	100	0.895	5232	6761	0.98	63.9	27.3	D
5	100	0.895	5173	6761	0.93	64.3	26.8	D
6	100	0.895	5185	6761	0.94	64.2	26.9	D
7	100	0.895	5321	6761	1.07	63.3	28.0	F
8	100	0.895	5286	6761	1.04	63.5	27.7	F
9	100	0.895	5274	6761	1.02	63.6	27.6	F
10	100	0.895	5261	6761	1.01	63.7	27.5	F
11	100	0.895	5236	6761	0.99	63.9	27.3	D
12	100	0.895	5187	6761	0.94	64.2	26.9	D

Segment 11: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.895	0.893	4380	518	5918	1972	0.74	0.26	64.8	60.3	22.5	16.0	B
2	100	100	0.895	0.893	4921	582	5918	1972	0.83	0.30	64.6	60.1	25.4	18.5	B
3	100	100	0.895	0.893	5108	689	5918	1972	0.98	0.35	64.3	59.8	26.5	19.5	B
4	100	100	0.895	0.893	5232	786	5918	1972	1.12	0.40	64.1	59.6	27.2	20.2	F
5	100	100	0.895	0.893	5173	741	5918	1972	1.06	0.38	64.2	59.7	26.9	19.9	F
6	100	100	0.895	0.893	5185	750	5918	1972	1.07	0.38	64.2	59.7	26.9	19.9	F
7	100	100	0.895	0.893	5321	856	5918	1972	1.22	0.43	64.0	59.4	27.7	20.7	F
8	100	100	0.895	0.893	5286	829	5918	1972	1.18	0.42	64.1	59.5	27.5	20.5	F
9	100	100	0.895	0.893	5274	820	5918	1972	1.17	0.42	64.1	59.5	27.4	20.4	F
10	100	100	0.895	0.893	5261	809	5918	1972	1.16	0.41	64.1	59.5	27.4	20.3	F
11	100	100	0.895	0.893	5236	789	5918	1972	1.13	0.40	64.1	59.6	27.2	20.2	F
12	100	100	0.895	0.893	5187	751	5918	1972	1.07	0.38	64.2	59.7	26.9	19.9	F

Segment 12: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
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1	100	0.895	3863	6761	0.57	70.2	18.3	C
2	100	0.895	4340	6761	0.64	68.6	21.1	C
3	100	0.895	4504	6761	0.76	68.0	22.1	C
4	100	0.895	4613	6761	0.87	67.4	22.8	C
5	100	0.895	4562	6761	0.82	67.7	22.5	C
6	100	0.895	4571	6761	0.83	67.6	22.5	C
7	100	0.895	4692	6761	0.94	67.1	23.3	C
8	100	0.895	4660	6761	0.91	67.2	23.1	C
9	100	0.895	4650	6761	0.90	67.3	23.0	C
10	100	0.895	4638	6761	0.89	67.3	23.0	C
11	100	0.895	4616	6761	0.87	67.4	22.8	C
12	100	0.895	4573	6761	0.83	67.6	22.5	C

Segment 13: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.895	0.893	4147	284	5918	1972	0.70	0.14	65.2	63.9	21.2	16.9	B
2	100	100	0.895	0.893	4659	319	5918	1972	0.79	0.16	64.6	63.3	24.0	19.5	B
3	100	100	0.895	0.893	4681	377	5918	1972	0.93	0.19	64.2	62.9	25.3	20.7	C
4	100	100	0.895	0.893	5044	431	5918	1972	1.06	0.22	63.9	62.5	26.3	21.6	F
5	100	100	0.895	0.893	4968	406	5918	1972	1.00	0.21	64.1	62.7	25.8	21.2	C
6	100	100	0.895	0.893	4983	412	5918	1972	1.01	0.21	64.0	62.6	26.0	21.3	F
7	100	100	0.895	0.893	5161	469	5918	1972	1.16	0.24	63.7	62.2	27.0	22.3	F
8	100	100	0.895	0.893	5115	455	5918	1972	1.12	0.23	63.8	62.4	26.7	22.0	F
9	100	100	0.895	0.893	5099	449	5918	1972	1.11	0.23	63.8	62.4	26.6	21.9	F
10	100	100	0.895	0.893	5081	443	5918	1972	1.09	0.22	63.8	62.4	26.5	21.8	F
11	100	100	0.895	0.893	5049	433	5918	1972	1.07	0.22	63.9	62.5	26.3	21.6	F
12	100	100	0.895	0.893	4985	412	5918	1972	1.02	0.21	64.0	62.6	26.0	21.3	F

Segment 14: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.895	4146	6761	0.61	69.4	19.9	C
2	100	0.895	4658	6761	0.69	67.2	23.1	C
3	100	0.895	4681	6761	0.81	66.1	24.6	C
4	100	0.895	5044	6761	0.93	65.1	25.8	C
5	100	0.895	4968	6761	0.88	65.6	25.2	C
6	100	0.895	4983	6761	0.89	65.5	25.4	C
7	100	0.895	5161	6761	1.01	64.4	26.7	F
8	100	0.895	5115	6761	0.98	64.7	26.4	D
9	100	0.895	5099	6761	0.97	64.8	26.2	D
10	100	0.895	5081	6761	0.96	64.9	26.1	D
11	100	0.895	5049	6761	0.93	65.1	25.9	C

12	100	0.895	4985	6761	0.89	655	25.4	C							
Segment 15: Diverge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.895	0.924	4146	898	5918	1972	0.70	0.46	63.7	59.3	21.7	22.9	C
2	100	100	0.895	0.924	4658	1010	5918	1972	0.79	0.51	63.5	59.0	24.5	25.4	C
3	100	100	0.895	0.924	4881	1194	5918	1972	0.93	0.61	63.1	58.5	25.8	26.7	C
4	100	100	0.895	0.924	5044	1364	5918	1972	1.06	0.69	62.7	58.1	26.8	27.8	F
5	100	100	0.895	0.924	4968	1285	5918	1972	1.00	0.65	62.9	58.3	26.3	27.3	C
6	100	100	0.895	0.924	4983	1301	5918	1972	1.01	0.66	62.8	58.2	26.4	27.4	F
7	100	100	0.895	0.924	5161	1484	5918	1972	1.16	0.75	62.4	57.8	27.6	28.5	F
8	100	100	0.895	0.924	5115	1437	5918	1972	1.12	0.73	62.5	57.9	27.3	28.2	F
9	100	100	0.895	0.924	5099	1421	5918	1972	1.11	0.72	62.5	57.9	27.2	28.1	F
10	100	100	0.895	0.924	5081	1403	5918	1972	1.09	0.71	62.6	58.0	27.1	28.0	F
11	100	100	0.895	0.924	5049	1368	5918	1972	1.07	0.69	62.7	58.1	26.8	27.8	F
12	100	100	0.895	0.924	4985	1303	5918	1972	1.02	0.66	62.8	58.2	26.5	27.4	F

Segment 16: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.887	0.887	3248	6761	6761	6761	0.48	0.48	71.0	71.0	15.2	15.2	B
2	100	100	0.887	0.887	3648	6761	6761	6761	0.54	0.54	70.6	70.6	17.2	17.2	B
3	100	100	0.887	0.887	3823	6761	6761	6761	0.64	0.64	70.3	70.3	18.1	18.1	C
4	100	100	0.887	0.887	3950	6761	6761	6761	0.73	0.73	70.0	70.0	18.8	18.8	C
5	100	100	0.887	0.887	3891	6761	6761	6761	0.69	0.69	70.1	70.1	18.5	18.5	C
6	100	100	0.887	0.887	3903	6761	6761	6761	0.70	0.70	70.1	70.1	18.6	18.6	C
7	100	100	0.887	0.887	4042	6761	6761	6761	0.79	0.79	69.7	69.7	19.3	19.3	C
8	100	100	0.887	0.887	4006	6761	6761	6761	0.77	0.77	69.8	69.8	19.1	19.1	C
9	100	100	0.887	0.887	3993	6761	6761	6761	0.76	0.76	69.8	69.8	19.1	19.1	C
10	100	100	0.887	0.887	3979	6761	6761	6761	0.75	0.75	69.9	69.9	19.0	19.0	C
11	100	100	0.887	0.887	3955	6761	6761	6761	0.73	0.73	69.9	69.9	18.9	18.9	C
12	100	100	0.887	0.887	3905	6761	6761	6761	0.70	0.70	70.1	70.1	18.6	18.6	C

Segment 17: Merge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.882	0.853	3921	655	5918	1972	0.66	0.33	64.4	62.6	20.3	19.9	B
2	100	100	0.882	0.853	4406	737	5918	1972	0.74	0.37	63.7	61.9	23.1	22.4	C
3	100	100	0.882	0.853	4694	871	5918	1972	0.88	0.44	63.2	61.4	24.8	24.2	C
4	100	100	0.882	0.853	4945	995	5918	1972	1.01	0.50	62.7	60.8	26.3	25.7	F
5	100	100	0.882	0.853	4829	938	5918	1972	0.95	0.48	63.0	61.1	25.6	25.0	C
6	100	100	0.882	0.853	4853	950	5918	1972	0.96	0.48	62.9	61.0	25.7	25.1	C

7	100	100	0.882	0.853	5124	1082	5918	1972	1.09	0.55	62.3	60.3	27.4	26.7	F
8	100	100	0.882	0.853	5054	1048	5918	1972	1.06	0.53	62.5	60.5	27.0	26.3	F
9	100	100	0.882	0.853	5029	1036	5918	1972	1.05	0.53	62.6	60.6	26.8	26.2	F
10	100	100	0.882	0.853	5002	1023	5918	1972	1.03	0.52	62.6	60.6	26.6	26.0	F
11	100	100	0.882	0.853	4954	999	5918	1972	1.01	0.51	62.7	60.8	26.3	25.7	F
12	100	100	0.882	0.853	4856	951	5918	1972	0.96	0.48	62.9	61.0	25.7	25.1	C

Segment 18: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.882	3900	6761	0.58	70.1	18.5	C
2	100	0.882	4382	6761	0.65	68.5	21.3	C
3	100	0.882	4694	6761	0.77	67.0	23.4	C
4	100	0.882	4945	6761	0.88	65.7	25.1	C
5	100	0.882	4829	6761	0.82	66.3	24.3	C
6	100	0.882	4853	6761	0.84	66.2	24.4	C
7	100	0.882	5124	6761	0.95	64.6	26.4	D
8	100	0.882	5054	6761	0.92	65.0	25.9	C
9	100	0.882	5029	6761	0.91	65.2	25.7	C
10	100	0.882	5002	6761	0.90	65.4	25.5	C
11	100	0.882	4954	6761	0.88	65.6	25.2	C
12	100	0.882	4856	6761	0.84	66.2	24.5	C

Segment 19: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.882	3900	6761	0.58	70.1	18.5	C
2	100	0.882	4382	6761	0.65	68.5	21.3	C
3	100	0.882	4694	6761	0.77	67.0	23.4	C
4	100	0.882	4945	6761	0.88	65.7	25.1	C
5	100	0.882	4829	6761	0.82	66.3	24.3	C
6	100	0.882	4853	6761	0.84	66.2	24.4	C
7	100	0.882	5124	6761	0.95	64.6	26.4	D
8	100	0.882	5054	6761	0.92	65.0	25.9	C
9	100	0.882	5029	6761	0.91	65.2	25.7	C
10	100	0.882	5002	6761	0.90	65.4	25.5	C
11	100	0.882	4954	6761	0.88	65.6	25.2	C
12	100	0.882	4856	6761	0.84	66.2	24.5	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost \$/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	8605	8499	6.40	15991	67.6	20.8	18.6	8.10	C
2	9668	9548	11.20	27995	65.8	24.0	21.5	8.30	C
3	10047	11291	41.62	104054	55.0	29.8	26.7	10.00	F

4	10259	12903	45 32	1132 97	54 2	30 9	27 7	10 10	F
5	10151	12153	44 35	1108 67	54 3	30 5	27 3	10 10	F
6	10173	12305	44 51	1112 69	54 3	30 6	27 4	10 10	F
7	10432	14028	46 34	1158 38	54 1	31 5	28 2	10 10	F
8	10865	13588	45 85	1146 14	54 2	31 2	28 0	10 10	F
9	10842	13435	45 66	1141 54	54 2	31 1	27 9	10 10	F
10	10816	13264	45 49	1137 15	54 2	31 0	27 8	10 10	F
11	10270	12937	45 15	1128 87	54 2	30 9	27 7	10 10	F
12	10177	12325	44 52	1112 99	54 3	30 6	27 4	10 10	F

Facility Overall Results

Space Mean Speed, mi/h	55 9	Average Density, veh/mi/ln	26 3
Average Travel Time, min	9 80	Average Density, pc/mi/ln	29 4
Total VMT, veh-mi	120807	Total VHD, veh-h	466 39
Vehicle Value of Time (VOT), \$/h	25 00	Total Delay Cost, \$	1165980

HCS Freeway Facilities Report

Project Information

Analyst	Kittelson & Associates	Date	11/6/2023
Agency	Florida Department of Transportation	Analysis Year	2040 No-Build Conditions
Jurisdiction	District Five	Time Analyzed	PM Weekday Peak Period
Facility Name	I-75 (Northbound)	Units	U.S. Customary
Project Description	I-75 PD&E North Auxillary Lanes		

Facility Global Input

Jam Density, pc/mi/ln	1900	Density at Capacity, pc/mi/ln	450
Queue Discharge Capacity Drop, %	7	Total Segments	19
Total Analysis Periods	12	Analysis Period Duration, min	15
Facility Length, mi	9.13		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-75 NB	4096	3
2	Basic	Basic	I-75 NB	1500	3
3	Diverge	Diverge	I-75 NB SR 40 Off Ramp	1500	3
4	Basic	Basic	I-75 NB	2890	3
5	Merge	Merge	I-75 NB SR 40 On Ramp	1500	3
6	Basic	Basic	I-75 NB	1294	3
7	Diverge	Diverge	I-75 NB US 27 Off Ramp	1500	3
8	Basic	Basic	I-75 NB	3054	3
9	Merge	Merge	I-75 NB US 27 On Ramp	1500	3
10	Basic	Basic	I-75 NB	4348	3
11	Diverge	Diverge	I-75 NB 49th St DDI Off Ramp	1500	3
12	Basic	Basic	I-75 NB	4841	3
13	Merge	Merge	I-75 NB 49th St DDI On Ramp	1500	3
14	Basic	Basic	I-75 NB	4399	3
15	Diverge	Diverge	I-75 NB SR 326 Off Ramp	1500	3
16	Basic	Basic	I-75 NB	2987	3
17	Merge	Merge	I-75 NB SR 326 On Ramp	1500	3
18	Basic	Basic	I-75 NB	1500	3
19	Basic	Basic	I-75 NB	5280	3

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.902	5625	6761	0.94	27.0	69.4	F
2	1.00	0.902	5416	6761	0.88	24.4	73.8	F

3	1 00	0 902	5112	6761	0 91	21 2	80 4	F
4	1 00	0 902	5202	6761	0 86	22 1	78 4	F
5	1 00	0 902	5340	6761	0 73	23 6	75 5	F
6	1 00	0 902	5185	6761	0 82	21 9	78 8	F
7	1 00	0 902	5179	6761	0 84	21 9	78 9	F
8	1 00	0 902	5152	6761	0 87	21 6	79 5	F
9	1 00	0 902	5208	6761	0 84	22 2	78 3	F
10	1 00	0 902	5256	6761	0 79	22 7	77 3	F
11	1 00	0 902	5267	6761	0 77	22 8	77 0	F
12	1 00	0 902	5320	6761	0 72	23 4	75 9	F

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio	Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1 00	0 902	5511		6761		0 94	26 4		69 6		F
2	1 00	0 902	5375		6761		0 88	24 2		74 0		F
3	1 00	0 902	5117		6761		0 91	22 0		77 5		F
4	1 00	0 902	5192		6761		0 86	22 4		77 2		F
5	1 00	0 902	5324		6761		0 73	24 1		73 5		F
6	1 00	0 902	5195		6761		0 82	23 2		74 5		F
7	1 00	0 902	5182		6761		0 84	22 6		76 5		F
8	1 00	0 902	5156		6761		0 87	22 4		76 9		F
9	1 00	0 902	5203		6761		0 84	23 0		75 4		F
10	1 00	0 902	5249		6761		0 79	23 6		74 1		F
11	1 00	0 902	5265		6761		0 77	23 3		75 2		F
12	1 00	0 902	5315		6761		0 72	24 1		73 4		F

Segment 3: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 902	0 898	5511	547	5918	1972	1 07	0 28	64 6	60 2	28 4	28 9	F
2	1 00	1 00	0 902	0 898	5263	516	5918	1972	1 01	0 26	34 0	60 3	51 7	30 6	F
3	1 00	1 00	0 902	0 898	5118	531	5918	1972	1 04	0 27	26 7	60 3	64 0	31 3	F
4	1 00	1 00	0 902	0 898	5190	500	5918	1972	0 98	0 25	28 5	60 3	60 7	29 9	F
5	1 00	1 00	0 902	0 898	5319	429	5918	1972	0 84	0 22	32 8	60 5	54 1	26 4	F
6	1 00	1 00	0 902	0 898	5199	478	5918	1972	0 93	0 24	28 5	60 4	60 9	28 9	F
7	1 00	1 00	0 902	0 898	5183	492	5918	1972	0 96	0 25	27 6	60 4	62 5	29 5	F
8	1 00	1 00	0 902	0 898	5157	508	5918	1972	0 99	0 26	27 3	60 3	63 1	30 3	F
9	1 00	1 00	0 902	0 898	5202	489	5918	1972	0 96	0 25	28 0	60 4	61 8	29 4	F
10	1 00	1 00	0 902	0 898	5247	463	5918	1972	0 91	0 23	29 0	60 5	60 3	28 1	F
11	1 00	1 00	0 902	0 898	5264	450	5918	1972	0 88	0 23	28 9	60 5	60 8	27 5	F
12	1 00	1 00	0 902	0 898	5313	423	5918	1972	0 83	0 21	30 1	60 5	58 9	26 1	F

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.902	4664	6761	0.85	28.1	55.4	F
2	1.00	0.902	4704	6761	0.81	18.0	87.2	F
3	1.00	0.902	4681	6761	0.83	17.4	89.6	F
4	1.00	0.902	4729	6761	0.78	17.8	88.5	F
5	1.00	0.902	4839	6761	0.67	18.8	86.0	F
6	1.00	0.902	4762	6761	0.75	18.1	87.8	F
7	1.00	0.902	4740	6761	0.77	17.9	88.3	F
8	1.00	0.902	4717	6761	0.79	17.7	88.8	F
9	1.00	0.902	4745	6761	0.77	17.9	88.2	F
10	1.00	0.902	4786	6761	0.72	18.3	87.3	F
11	1.00	0.902	4806	6761	0.70	18.4	86.9	F
12	1.00	0.902	4847	6761	0.66	18.8	86.0	F

Segment 5: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.902	0.898	5511	847	5918	1972	1.12	0.43	61.2	58.9	30.0	29.7	F
2	1.00	1.00	0.902	0.898	5504	800	5918	1972	1.06	0.41	61.4	59.1	29.9	29.4	F
3	1.00	1.00	0.902	0.898	5504	823	5918	1972	1.09	0.42	61.3	59.0	29.9	29.6	F
4	1.00	1.00	0.902	0.898	5504	775	5918	1972	1.02	0.39	61.4	59.2	29.9	29.3	F
5	1.00	1.00	0.902	0.898	5504	665	5918	1972	0.88	0.34	61.6	59.5	29.8	28.7	D
6	1.00	1.00	0.902	0.898	5504	742	5918	1972	0.98	0.38	61.5	59.3	29.8	29.1	D
7	1.00	1.00	0.902	0.898	5504	764	5918	1972	1.01	0.39	61.4	59.2	29.9	29.2	F
8	1.00	1.00	0.902	0.898	5504	787	5918	1972	1.04	0.40	61.3	59.1	29.9	29.4	F
9	1.00	1.00	0.902	0.898	5504	759	5918	1972	1.00	0.39	61.4	59.2	29.9	29.2	D
10	1.00	1.00	0.902	0.898	5504	718	5918	1972	0.95	0.36	61.5	59.3	29.8	29.0	D
11	1.00	1.00	0.902	0.898	5504	698	5918	1972	0.92	0.35	61.6	59.4	29.8	28.9	D
12	1.00	1.00	0.902	0.898	5504	657	5918	1972	0.87	0.33	61.7	59.5	29.7	28.7	D

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.902	5511	6761	0.98	61.9	29.7	D
2	1.00	0.902	5504	6761	0.92	62.0	29.6	D
3	1.00	0.902	5504	6761	0.95	62.0	29.6	D
4	1.00	0.902	5504	6761	0.90	62.0	29.6	D
5	1.00	0.902	5504	6761	0.77	62.0	29.6	D
6	1.00	0.902	5504	6761	0.86	62.0	29.6	D
7	1.00	0.902	5504	6761	0.88	62.0	29.6	D
8	1.00	0.902	5504	6761	0.91	62.0	29.6	D
9	1.00	0.902	5504	6761	0.88	62.0	29.6	D

10	1 00	0 902	5504	6761	0 83	62 0	29 6	D							
11	1 00	0 902	5504	6761	0 81	62 0	29 6	D							
12	1 00	0 902	5504	6761	0 76	62 0	29 6	D							
Segment 7: Diverge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 902	0 934	5511	1138	5918	1972	1 12	0 58	62 9	58 7	29 2	32 9	F
2	1 00	1 00	0 902	0 934	5504	1074	5918	1972	1 06	0 54	63 1	58 8	29 1	32 4	F
3	1 00	1 00	0 902	0 934	5504	1105	5918	1972	1 09	0 56	63 1	58 8	29 1	32 6	F
4	1 00	1 00	0 902	0 934	5504	1041	5918	1972	1 02	0 53	63 2	58 9	29 0	32 2	F
5	1 00	1 00	0 902	0 934	5504	893	5918	1972	0 88	0 45	63 7	59 3	28 8	31 1	D
6	1 00	1 00	0 902	0 934	5504	996	5918	1972	0 98	0 50	63 5	59 1	28 9	31 8	D
7	1 00	1 00	0 902	0 934	5504	1026	5918	1972	1 01	0 52	63 3	59 0	29 0	32 1	F
8	1 00	1 00	0 902	0 934	5504	1057	5918	1972	1 04	0 54	63 2	58 9	29 0	32 3	F
9	1 00	1 00	0 902	0 934	5504	1019	5918	1972	1 00	0 52	63 3	59 0	29 0	32 0	D
10	1 00	1 00	0 902	0 934	5504	965	5918	1972	0 95	0 49	63 5	59 1	28 9	31 6	D
11	1 00	1 00	0 902	0 934	5504	938	5918	1972	0 92	0 48	63 6	59 2	28 8	31 4	D
12	1 00	1 00	0 902	0 934	5504	881	5918	1972	0 87	0 45	63 8	59 3	28 8	31 0	D
Segment 8: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1 00		0 896		4373		6761		0 81		68 5		21 3	C	
2	1 00		0 896		4558		6761		0 77		67 7		22 4	C	
3	1 00		0 896		4558		6761		0 79		67 7		22 4	C	
4	1 00		0 896		4558		6761		0 74		67 7		22 4	C	
5	1 00		0 896		4558		6761		0 64		67 7		22 4	C	
6	1 00		0 896		4558		6761		0 71		67 7		22 4	C	
7	1 00		0 896		4558		6761		0 73		67 7		22 4	C	
8	1 00		0 896		4558		6761		0 75		67 7		22 4	C	
9	1 00		0 896		4558		6761		0 73		67 7		22 4	C	
10	1 00		0 896		4559		6761		0 69		67 7		22 4	C	
11	1 00		0 896		4558		6761		0 67		67 7		22 4	C	
12	1 00		0 896		4558		6761		0 63		67 7		22 4	C	
Segment 9: Merge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 893	0 876	4891	518	5918	1972	1 02	0 26	63 1	61 2	25 8	24 7	F
2	1 00	1 00	0 893	0 876	5047	489	5918	1972	0 96	0 25	62 8	61 0	26 8	25 3	C
3	1 00	1 00	0 893	0 876	5061	503	5918	1972	0 99	0 26	62 8	61 0	26 9	25 4	C
4	1 00	1 00	0 893	0 876	5032	474	5918	1972	0 93	0 24	62 9	61 1	26 7	25 2	C

5	100	100	0.893	0.876	4964	406	5918	1972	0.80	0.21	63.0	61.2	26.3	24.7	C
6	100	100	0.893	0.876	5011	453	5918	1972	0.89	0.23	62.9	61.1	26.6	25.1	C
7	100	100	0.893	0.876	5025	467	5918	1972	0.92	0.24	62.9	61.1	26.6	25.2	C
8	100	100	0.893	0.876	5040	482	5918	1972	0.94	0.24	62.8	61.0	26.8	25.3	C
9	100	100	0.893	0.876	5023	465	5918	1972	0.91	0.24	62.9	61.1	26.6	25.2	C
10	100	100	0.893	0.876	4998	439	5918	1972	0.86	0.22	63.0	61.2	26.4	25.0	C
11	100	100	0.893	0.876	4985	427	5918	1972	0.84	0.22	63.0	61.2	26.4	24.9	C
12	100	100	0.893	0.876	4960	402	5918	1972	0.79	0.20	63.0	61.2	26.2	24.7	C

Segment 10: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.893	4891	6761	0.89	66.0	24.7	C
2	100	0.893	5047	6761	0.84	65.1	25.8	C
3	100	0.893	5061	6761	0.86	65.0	26.0	C
4	100	0.893	5032	6761	0.81	65.2	25.7	C
5	100	0.893	4964	6761	0.70	65.6	25.2	C
6	100	0.893	5011	6761	0.78	65.3	25.6	C
7	100	0.893	5025	6761	0.80	65.2	25.7	C
8	100	0.893	5040	6761	0.83	65.1	25.8	C
9	100	0.893	5023	6761	0.80	65.2	25.7	C
10	100	0.893	4998	6761	0.75	65.4	25.5	C
11	100	0.893	4985	6761	0.73	65.5	25.4	C
12	100	0.893	4960	6761	0.69	65.6	25.2	C

Segment 11: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.893	0.893	4891	1069	5918	1972	1.02	0.54	63.4	58.8	25.7	19.3	F
2	100	100	0.893	0.893	5047	1009	5918	1972	0.96	0.51	63.6	59.0	26.5	19.8	B
3	100	100	0.893	0.893	5061	1038	5918	1972	0.99	0.53	63.5	58.9	26.6	19.9	B
4	100	100	0.893	0.893	5032	979	5918	1972	0.93	0.50	63.7	59.1	26.3	19.7	B
5	100	100	0.893	0.893	4964	839	5918	1972	0.80	0.43	64.0	59.5	25.9	19.1	B
6	100	100	0.893	0.893	5011	936	5918	1972	0.89	0.47	63.8	59.2	26.2	19.5	B
7	100	100	0.893	0.893	5025	964	5918	1972	0.91	0.49	63.7	59.1	26.3	19.6	B
8	100	100	0.893	0.893	5040	993	5918	1972	0.94	0.50	63.7	59.1	26.4	19.8	B
9	100	100	0.893	0.893	5023	957	5918	1972	0.91	0.49	63.7	59.1	26.3	19.6	B
10	100	100	0.893	0.893	4998	906	5918	1972	0.86	0.46	63.9	59.3	26.1	19.4	B
11	100	100	0.893	0.893	4985	881	5918	1972	0.84	0.45	63.9	59.3	26.0	19.3	B
12	100	100	0.893	0.893	4960	829	5918	1972	0.79	0.42	64.0	59.5	25.8	19.1	B

Segment 12: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
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1	100	0.893	3822	6761	0.73	70.3	18.1	C
2	100	0.893	4149	6761	0.69	69.3	20.0	C
3	100	0.893	4160	6761	0.71	69.3	20.0	C
4	100	0.893	4137	6761	0.67	69.4	19.9	C
5	100	0.893	4080	6761	0.57	69.6	19.5	C
6	100	0.893	4119	6761	0.64	69.4	19.8	C
7	100	0.893	4131	6761	0.66	69.4	19.8	C
8	100	0.893	4143	6761	0.68	69.4	19.9	C
9	100	0.893	4129	6761	0.65	69.4	19.8	C
10	100	0.893	4109	6761	0.62	69.5	19.7	C
11	100	0.893	4098	6761	0.60	69.5	19.7	C
12	100	0.893	4078	6761	0.57	69.6	19.5	C

Segment 13: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.893	0.893	4244	422	5918	1972	0.91	0.21	65.0	63.7	21.8	17.7	B
2	100	100	0.893	0.893	4548	399	5918	1972	0.85	0.20	64.6	63.3	23.5	19.1	B
3	100	100	0.893	0.893	4570	410	5918	1972	0.88	0.21	64.6	63.3	23.6	19.3	B
4	100	100	0.893	0.893	4523	386	5918	1972	0.83	0.20	64.7	63.4	23.3	19.0	B
5	100	100	0.893	0.893	4411	331	5918	1972	0.71	0.17	64.9	63.6	22.7	18.3	B
6	100	100	0.893	0.893	4489	370	5918	1972	0.79	0.19	64.8	63.5	23.1	18.8	B
7	100	100	0.893	0.893	4512	381	5918	1972	0.82	0.19	64.7	63.4	23.2	18.9	B
8	100	100	0.893	0.893	4535	392	5918	1972	0.84	0.20	64.7	63.4	23.4	19.1	B
9	100	100	0.893	0.893	4507	378	5918	1972	0.81	0.19	64.7	63.4	23.2	18.9	B
10	100	100	0.893	0.893	4467	358	5918	1972	0.77	0.18	64.8	63.5	23.0	18.6	B
11	100	100	0.893	0.893	4446	348	5918	1972	0.75	0.18	64.8	63.5	22.9	18.5	B
12	100	100	0.893	0.893	4405	327	5918	1972	0.70	0.17	64.9	63.6	22.6	18.3	B

Segment 14: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.893	4244	6761	0.79	69.0	20.5	C
2	100	0.893	4548	6761	0.75	67.8	22.4	C
3	100	0.893	4570	6761	0.77	67.7	22.5	C
4	100	0.893	4523	6761	0.73	67.9	22.2	C
5	100	0.893	4411	6761	0.62	68.4	21.5	C
6	100	0.893	4489	6761	0.69	68.0	22.0	C
7	100	0.893	4512	6761	0.71	67.9	22.2	C
8	100	0.893	4535	6761	0.74	67.8	22.3	C
9	100	0.893	4507	6761	0.71	67.9	22.1	C
10	100	0.893	4467	6761	0.67	68.1	21.9	C
11	100	0.893	4446	6761	0.65	68.2	21.7	C

12	100	0.893	4405	6761	0.61	68.4	21.5	C							
Segment 15: Diverge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.893	0.924	4244	1528	5918	1972	0.91	0.77	61.9	57.7	22.9	24.8	C
2	100	100	0.893	0.924	4548	1443	5918	1972	0.85	0.73	62.3	57.9	24.3	25.9	C
3	100	100	0.893	0.924	4570	1485	5918	1972	0.88	0.75	62.2	57.8	24.5	26.0	C
4	100	100	0.893	0.924	4523	1398	5918	1972	0.83	0.71	62.4	58.0	24.2	25.6	C
5	100	100	0.893	0.924	4411	1199	5918	1972	0.71	0.61	62.9	58.5	23.4	24.7	C
6	100	100	0.893	0.924	4489	1338	5918	1972	0.79	0.68	62.5	58.1	23.9	25.3	C
7	100	100	0.893	0.924	4512	1378	5918	1972	0.82	0.70	62.4	58.0	24.1	25.5	C
8	100	100	0.893	0.924	4535	1420	5918	1972	0.84	0.72	62.3	57.9	24.3	25.7	C
9	100	100	0.893	0.924	4507	1369	5918	1972	0.81	0.69	62.5	58.1	24.0	25.5	C
10	100	100	0.893	0.924	4467	1295	5918	1972	0.77	0.66	62.7	58.3	23.7	25.2	C
11	100	100	0.893	0.924	4446	1260	5918	1972	0.75	0.64	62.8	58.4	23.6	25.0	C
12	100	100	0.893	0.924	4405	1184	5918	1972	0.70	0.60	63.0	58.6	23.3	24.6	C

Segment 16: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.881	0.881	2716	6761	0.57	71.0	12.7	B					
2	100	100	0.881	0.881	3252	6761	0.53	71.0	15.2	B					
3	100	100	0.881	0.881	3266	6761	0.55	71.0	15.3	B					
4	100	100	0.881	0.881	3233	6761	0.52	71.0	15.2	B					
5	100	100	0.881	0.881	3154	6761	0.44	71.0	14.8	B					
6	100	100	0.881	0.881	3209	6761	0.50	71.0	15.0	B					
7	100	100	0.881	0.881	3225	6761	0.51	71.0	15.1	B					
8	100	100	0.881	0.881	3241	6761	0.53	71.0	15.2	B					
9	100	100	0.881	0.881	3221	6761	0.51	71.0	15.1	B					
10	100	100	0.881	0.881	3194	6761	0.48	71.0	15.0	B					
11	100	100	0.881	0.881	3179	6761	0.47	71.0	14.9	B					
12	100	100	0.881	0.881	3149	6761	0.44	71.0	14.7	B					

Segment 17: Merge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.876	0.853	3431	715	5918	1972	0.77	0.36	64.7	62.9	17.7	17.8	B
2	100	100	0.876	0.853	3927	675	5918	1972	0.73	0.34	64.3	62.5	20.4	20.0	B
3	100	100	0.876	0.853	3960	694	5918	1972	0.75	0.35	64.3	62.5	20.5	20.2	C
4	100	100	0.876	0.853	3887	654	5918	1972	0.71	0.33	64.4	62.6	20.1	19.8	B
5	100	100	0.876	0.853	3714	560	5918	1972	0.61	0.28	64.6	62.8	19.2	18.7	B
6	100	100	0.876	0.853	3835	626	5918	1972	0.68	0.32	64.4	62.6	19.8	19.5	B

7	100	100	0.876	0.853	3870	645	5918	1972	0.70	0.33	64.4	62.6	20.0	19.7	B
8	100	100	0.876	0.853	3905	664	5918	1972	0.72	0.34	64.4	62.6	20.2	19.9	B
9	100	100	0.876	0.853	3861	640	5918	1972	0.69	0.32	64.4	62.6	20.0	19.6	B
10	100	100	0.876	0.853	3800	606	5918	1972	0.65	0.31	64.5	62.7	19.6	19.2	B
11	100	100	0.876	0.853	3769	590	5918	1972	0.64	0.30	64.5	62.7	19.5	19.1	B
12	100	100	0.876	0.853	3704	555	5918	1972	0.60	0.28	64.6	62.8	19.1	18.7	B

Segment 18: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.876	3431	6761	0.67	70.6	16.1	B
2	100	0.876	3927	6761	0.63	70.0	18.7	C
3	100	0.876	3960	6761	0.65	69.9	18.9	C
4	100	0.876	3887	6761	0.62	70.1	18.5	C
5	100	0.876	3714	6761	0.53	70.5	17.6	B
6	100	0.876	3835	6761	0.59	70.3	18.2	C
7	100	0.876	3870	6761	0.61	70.2	18.4	C
8	100	0.876	3905	6761	0.62	70.1	18.6	C
9	100	0.876	3861	6761	0.60	70.2	18.3	C
10	100	0.876	3800	6761	0.57	70.3	18.0	C
11	100	0.876	3769	6761	0.55	70.4	17.8	B
12	100	0.876	3704	6761	0.52	70.5	17.5	B

Segment 19: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.876	3431	6761	0.67	71.0	16.1	B
2	100	0.876	3927	6761	0.63	70.0	18.7	C
3	100	0.876	3960	6761	0.65	69.9	18.9	C
4	100	0.876	3887	6761	0.62	70.1	18.5	C
5	100	0.876	3714	6761	0.53	70.5	17.6	B
6	100	0.876	3835	6761	0.59	70.3	18.2	C
7	100	0.876	3870	6761	0.61	70.2	18.4	C
8	100	0.876	3905	6761	0.62	70.1	18.6	C
9	100	0.876	3861	6761	0.60	70.2	18.3	C
10	100	0.876	3800	6761	0.57	70.3	18.0	C
11	100	0.876	3769	6761	0.55	70.4	17.8	B
12	100	0.876	3704	6761	0.52	70.5	17.5	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost \$/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	8989	10992	50.25	1256.22	50.9	28.8	25.8	10.80	F
2	9403	10372	71.57	1789.27	46.2	33.2	29.8	11.90	F
3	9347	10674	80.17	2004.20	44.2	34.5	30.9	12.40	F

4	9321	10055	77.39	1934.84	44.8	34.0	30.4	12.20	F
5	9238	8622	71.62	1790.61	45.9	32.8	29.4	11.90	D
6	9281	9619	76.65	1916.14	44.8	33.7	30.2	12.20	D
7	9304	9906	77.80	1944.98	44.6	34.0	30.5	12.30	F
8	9321	10206	78.73	1968.34	44.5	34.2	30.6	12.30	F
9	9306	9847	76.96	1923.89	44.8	33.9	30.3	12.20	D
10	9276	9317	75.05	1876.31	45.2	33.5	30.0	12.10	D
11	9257	9060	74.87	1871.79	45.2	33.4	29.9	12.10	D
12	9227	8518	72.75	1818.77	45.6	33.0	29.6	12.00	D

Facility Overall Results

Space Mean Speed, mi/h	45.5	Average Density, veh/mi/ln	29.8
Average Travel Time, min	12.00	Average Density, pc/mi/ln	33.2
Total VMT, veh-mi	11127.0	Total VHD, veh-h	883.81
Vehicle Value of Time (VOT), \$/h	25.00	Total Delay Cost, \$	22095.35

HCS Freeway Facilities Report

Project Information

Analyst	Kittelson & Associates	Date	11/6/2023
Agency	Florida Department of Transportation	Analysis Year	2040 No-Build Conditions
Jurisdiction	District Five	Time Analyzed	WM Weekend Peak Period
Facility Name	I-75 (Northbound)	Units	U.S. Customary
Project Description	I-75 PD&E North Auxillary Lanes		

Facility Global Input

Jam Density, pc/mi/ln	1900	Density at Capacity, pc/mi/ln	450
Queue Discharge Capacity Drop, %	7	Total Segments	19
Total Analysis Periods	12	Analysis Period Duration, min	15
Facility Length, mi	9.13		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-75 NB	4096	3
2	Basic	Basic	I-75 NB	1500	3
3	Diverge	Diverge	I-75 NB SR 40 Off Ramp	1500	3
4	Basic	Basic	I-75 NB	2890	3
5	Merge	Merge	I-75 NB SR 40 On Ramp	1500	3
6	Basic	Basic	I-75 NB	1294	3
7	Diverge	Diverge	I-75 NB US 27 Off Ramp	1500	3
8	Basic	Basic	I-75 NB	3054	3
9	Merge	Merge	I-75 NB US 27 On Ramp	1500	3
10	Basic	Basic	I-75 NB	4348	3
11	Diverge	Diverge	I-75 NB 49th St DDI Off Ramp	1500	3
12	Basic	Basic	I-75 NB	4841	3
13	Merge	Merge	I-75 NB 49th St DDI On Ramp	1500	3
14	Basic	Basic	I-75 NB	4399	3
15	Diverge	Diverge	I-75 NB SR 326 Off Ramp	1500	3
16	Basic	Basic	I-75 NB	2987	3
17	Merge	Merge	I-75 NB SR 326 On Ramp	1500	3
18	Basic	Basic	I-75 NB	1500	3
19	Basic	Basic	I-75 NB	5280	3

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.902	5603	6761	1.16	26.7	69.8	F
2	1.00	0.902	5537	6761	1.16	25.9	71.3	F

3	1 00	0 902	5251	6761	1 16	22 6	77 4	F
4	1 00	0 902	5250	6761	1 16	22 6	77 4	F
5	1 00	0 902	5311	6761	1 06	23 3	76 1	F
6	1 00	0 902	5306	6761	1 06	23 2	76 2	F
7	1 00	0 902	5306	6761	1 06	23 2	76 2	F
8	1 00	0 902	5306	6761	1 06	23 2	76 2	F
9	1 00	0 902	5449	6761	0 95	24 8	73 1	F
10	1 00	0 902	5367	6761	0 95	23 9	74 9	F
11	1 00	0 902	5367	6761	0 95	23 9	74 9	F
12	1 00	0 894	5363	6761	0 96	23 8	75 0	F

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)		Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)		LOS
1	1 00	0 902	5511		6761	1 16	25 9	71 0		F
2	1 00	0 902	5519		6761	1 16	25 8	71 2		F
3	1 00	0 902	5250		6761	1 16	22 6	77 4		F
4	1 00	0 902	5250		6761	1 16	22 6	77 4		F
5	1 00	0 902	5316		6761	1 06	23 6	75 2		F
6	1 00	0 902	5306		6761	1 06	23 2	76 2		F
7	1 00	0 902	5306		6761	1 06	23 2	76 2		F
8	1 00	0 902	5306		6761	1 06	23 2	76 2		F
9	1 00	0 902	5435		6761	0 95	25 7	70 5		F
10	1 00	0 902	5367		6761	0 95	23 9	74 9		F
11	1 00	0 902	5367		6761	0 95	23 9	74 9		F
12	1 00	0 894	5366		6761	0 96	23 9	74 9		F

Segment 3: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 902	0 934	5511	524	5918	1972	1 32	0 27	64 7	60 3	28 4	28 8	F
2	1 00	1 00	0 902	0 934	5450	524	5918	1972	1 32	0 27	64 7	60 3	28 1	28 6	F
3	1 00	1 00	0 902	0 934	5250	524	5918	1972	1 32	0 27	28 5	60 3	61 4	42 8	F
4	1 00	1 00	0 902	0 934	5250	524	5918	1972	1 32	0 27	28 5	60 3	61 4	42 8	F
5	1 00	1 00	0 902	0 934	5307	479	5918	1972	1 21	0 24	29 6	60 4	59 7	37 1	F
6	1 00	1 00	0 902	0 934	5306	479	5918	1972	1 21	0 24	29 5	60 4	60 0	37 1	F
7	1 00	1 00	0 902	0 934	5306	479	5918	1972	1 21	0 24	29 5	60 4	60 0	37 1	F
8	1 00	1 00	0 902	0 934	5306	479	5918	1972	1 21	0 24	29 5	60 4	60 0	37 1	F
9	1 00	1 00	0 902	0 934	5426	427	5918	1972	1 08	0 22	64 9	60 5	27 9	28 4	F
10	1 00	1 00	0 902	0 934	5367	427	5918	1972	1 08	0 22	30 6	60 5	58 5	32 1	F
11	1 00	1 00	0 902	0 934	5367	427	5918	1972	1 08	0 22	30 6	60 5	58 5	32 1	F
12	1 00	1 00	0 894	0 934	5367	427	5918	1972	1 09	0 22	30 6	60 5	58 5	32 4	F

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.899	4906	6761	1.08	31.9	51.3	F
2	1.00	0.899	4899	6761	1.08	21.9	74.6	F
3	1.00	0.899	4899	6761	1.08	19.2	84.9	F
4	1.00	0.899	4899	6761	1.08	19.2	84.9	F
5	1.00	0.899	4951	6761	0.99	19.7	83.8	F
6	1.00	0.899	4951	6761	0.99	19.7	83.8	F
7	1.00	0.899	4951	6761	0.99	19.7	83.8	F
8	1.00	0.899	4951	6761	0.99	19.7	83.8	F
9	1.00	0.899	5009	6761	0.88	20.9	80.0	F
10	1.00	0.899	5009	6761	0.88	20.2	82.6	F
11	1.00	0.899	5009	6761	0.88	20.2	82.6	F
12	1.00	0.898	5009	6761	0.89	20.2	82.6	F

Segment 5: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.903	0.940	5511	605	5918	1972	1.33	0.31	61.7	59.6	29.8	28.5	F
2	1.00	1.00	0.903	0.940	5504	605	5918	1972	1.33	0.31	61.7	59.6	29.7	28.5	F
3	1.00	1.00	0.903	0.940	5504	605	5918	1972	1.33	0.31	61.7	59.6	29.7	28.5	F
4	1.00	1.00	0.903	0.940	5504	605	5918	1972	1.33	0.31	61.7	59.6	29.7	28.5	F
5	1.00	1.00	0.903	0.940	5504	553	5918	1972	1.22	0.28	61.8	59.8	29.7	28.2	F
6	1.00	1.00	0.903	0.940	5504	553	5918	1972	1.22	0.28	61.8	59.8	29.7	28.2	F
7	1.00	1.00	0.903	0.940	5504	553	5918	1972	1.22	0.28	61.8	59.8	29.7	28.2	F
8	1.00	1.00	0.903	0.940	5504	553	5918	1972	1.22	0.28	61.8	59.8	29.7	28.2	F
9	1.00	1.00	0.903	0.940	5504	495	5918	1972	1.09	0.25	61.9	59.9	29.6	28.0	F
10	1.00	1.00	0.903	0.940	5504	495	5918	1972	1.09	0.25	61.9	59.9	29.6	28.0	F
11	1.00	1.00	0.903	0.940	5504	495	5918	1972	1.09	0.25	61.9	59.9	29.6	28.0	F
12	1.00	1.00	0.899	0.940	5504	495	5918	1972	1.09	0.25	61.9	59.9	29.6	28.0	F

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.908	5511	6761	1.17	61.9	29.7	F
2	1.00	0.908	5504	6761	1.17	62.0	29.6	F
3	1.00	0.908	5504	6761	1.17	62.0	29.6	F
4	1.00	0.908	5504	6761	1.17	62.0	29.6	F
5	1.00	0.908	5504	6761	1.07	62.0	29.6	F
6	1.00	0.908	5504	6761	1.07	62.0	29.6	F
7	1.00	0.908	5504	6761	1.07	62.0	29.6	F
8	1.00	0.908	5504	6761	1.07	62.0	29.6	F
9	1.00	0.908	5504	6761	0.96	62.0	29.6	D

10	1 00	0 908	5504	6761	0 96	62 0	29 6	D							
11	1 00	0 908	5504	6761	0 96	62 0	29 6	D							
12	1 00	0 899	5504	6761	0 96	62 0	29 6	D							
Segment 7: Diverge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 903	0 961	5511	888	5918	1972	1 34	0 45	63 8	59 3	28 8	30 7	F
2	1 00	1 00	0 903	0 961	5504	888	5918	1972	1 34	0 45	63 8	59 3	28 8	30 7	F
3	1 00	1 00	0 903	0 961	5504	888	5918	1972	1 34	0 45	63 8	59 3	28 8	30 7	F
4	1 00	1 00	0 903	0 961	5504	888	5918	1972	1 34	0 45	63 8	59 3	28 8	30 7	F
5	1 00	1 00	0 903	0 961	5504	812	5918	1972	1 22	0 41	64 0	59 5	28 7	30 3	F
6	1 00	1 00	0 903	0 961	5504	812	5918	1972	1 22	0 41	64 0	59 5	28 7	30 3	F
7	1 00	1 00	0 903	0 961	5504	812	5918	1972	1 22	0 41	64 0	59 5	28 7	30 3	F
8	1 00	1 00	0 903	0 961	5504	812	5918	1972	1 22	0 41	64 0	59 5	28 7	30 3	F
9	1 00	1 00	0 903	0 961	5504	725	5918	1972	1 09	0 37	64 3	59 8	28 5	30 2	F
10	1 00	1 00	0 903	0 961	5504	725	5918	1972	1 09	0 37	64 3	59 8	28 5	30 2	F
11	1 00	1 00	0 903	0 961	5504	725	5918	1972	1 09	0 37	64 3	59 8	28 5	30 2	F
12	1 00	1 00	0 894	0 961	5504	725	5918	1972	1 10	0 37	64 3	59 8	28 5	30 2	F
Segment 8: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1 00		0 896		4623		6761		1 04		67 4		22 9	F	
2	1 00		0 896		4886		6761		1 04		66 0		24 7	F	
3	1 00		0 896		4886		6761		1 04		66 0		24 7	F	
4	1 00		0 896		4886		6761		1 04		66 0		24 7	F	
5	1 00		0 896		4886		6761		0 95		66 0		24 7	C	
6	1 00		0 896		4886		6761		0 95		66 0		24 7	C	
7	1 00		0 896		4886		6761		0 95		66 0		24 7	C	
8	1 00		0 896		4886		6761		0 95		66 0		24 7	C	
9	1 00		0 896		4886		6761		0 85		66 0		24 7	C	
10	1 00		0 896		4887		6761		0 85		66 0		24 7	C	
11	1 00		0 896		4887		6761		0 85		66 0		24 7	C	
12	1 00		0 894		4887		6761		0 85		66 0		24 7	C	
Segment 9: Merge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 896	0 913	5021	398	5918	1972	1 25	0 20	63 0	61 2	26 6	25 0	F
2	1 00	1 00	0 896	0 913	5284	398	5918	1972	1 25	0 20	62 6	60 7	28 1	26 2	F
3	1 00	1 00	0 896	0 913	5284	398	5918	1972	1 25	0 20	62 6	60 7	28 1	26 2	F
4	1 00	1 00	0 896	0 913	5284	398	5918	1972	1 25	0 20	62 6	60 7	28 1	26 2	F

5	100	100	0.896	0.913	5250	364	5918	1972	1.15	0.18	62.6	60.8	28.0	25.9	F
6	100	100	0.896	0.913	5250	364	5918	1972	1.15	0.18	62.6	60.8	28.0	25.9	F
7	100	100	0.896	0.913	5250	364	5918	1972	1.15	0.18	62.6	60.8	28.0	25.9	F
8	100	100	0.896	0.913	5250	364	5918	1972	1.15	0.18	62.6	60.8	28.0	25.9	F
9	100	100	0.896	0.913	5211	325	5918	1972	1.02	0.16	62.7	60.9	27.7	25.7	F
10	100	100	0.896	0.913	5212	325	5918	1972	1.02	0.16	62.7	60.9	27.7	25.7	F
11	100	100	0.896	0.913	5212	325	5918	1972	1.02	0.16	62.7	60.9	27.7	25.7	F
12	100	100	0.893	0.913	5212	325	5918	1972	1.03	0.16	62.7	60.9	27.7	25.7	F

Segment 10: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.896	5021	6761	1.10	65.2	25.7	F
2	100	0.896	5284	6761	1.10	63.5	27.7	F
3	100	0.896	5284	6761	1.10	63.5	27.7	F
4	100	0.896	5284	6761	1.10	63.5	27.7	F
5	100	0.896	5250	6761	1.00	63.8	27.4	F
6	100	0.896	5250	6761	1.00	63.8	27.4	F
7	100	0.896	5250	6761	1.00	63.8	27.4	F
8	100	0.896	5250	6761	1.00	63.8	27.4	F
9	100	0.896	5211	6761	0.90	64.0	27.1	D
10	100	0.896	5212	6761	0.90	64.0	27.1	D
11	100	0.896	5212	6761	0.90	64.0	27.1	D
12	100	0.893	5212	6761	0.90	64.0	27.1	D

Segment 11: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.896	0.893	5021	1125	5918	1972	1.25	0.57	63.3	58.7	26.4	20.0	F
2	100	100	0.896	0.893	5284	1125	5918	1972	1.25	0.57	63.3	58.7	27.8	21.0	F
3	100	100	0.896	0.893	5284	1125	5918	1972	1.25	0.57	63.3	58.7	27.8	21.0	F
4	100	100	0.896	0.893	5284	1125	5918	1972	1.25	0.57	63.3	58.7	27.8	21.0	F
5	100	100	0.896	0.893	5250	1029	5918	1972	1.15	0.52	63.6	59.0	27.5	20.7	F
6	100	100	0.896	0.893	5250	1029	5918	1972	1.15	0.52	63.6	59.0	27.5	20.7	F
7	100	100	0.896	0.893	5250	1029	5918	1972	1.15	0.52	63.6	59.0	27.5	20.7	F
8	100	100	0.896	0.893	5250	1029	5918	1972	1.15	0.52	63.6	59.0	27.5	20.7	F
9	100	100	0.896	0.893	5211	919	5918	1972	1.03	0.47	63.9	59.3	27.2	20.3	F
10	100	100	0.896	0.893	5212	919	5918	1972	1.03	0.47	63.9	59.3	27.2	20.3	F
11	100	100	0.896	0.893	5212	919	5918	1972	1.03	0.47	63.9	59.3	27.2	20.3	F
12	100	100	1.000	0.893	5212	919	5918	1972	0.92	0.47	63.9	59.3	27.2	20.3	C

Segment 12: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
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1	100	0.897	3896	6761	0.93	70.1	18.5	C
2	100	0.897	4484	6761	0.93	68.0	22.0	C
3	100	0.897	4484	6761	0.93	68.0	22.0	C
4	100	0.897	4484	6761	0.93	68.0	22.0	C
5	100	0.897	4455	6761	0.85	68.2	21.8	C
6	100	0.897	4455	6761	0.85	68.2	21.8	C
7	100	0.897	4455	6761	0.85	68.2	21.8	C
8	100	0.897	4455	6761	0.85	68.2	21.8	C
9	100	0.897	4422	6761	0.76	68.3	21.6	C
10	100	0.897	4423	6761	0.76	68.3	21.6	C
11	100	0.897	4423	6761	0.76	68.3	21.6	C
12	100	1.000	4423	6761	0.68	68.3	21.6	C

Segment 13: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.896	0.893	4338	442	5918	1972	1.14	0.22	64.9	63.6	22.3	18.2	F
2	100	100	0.896	0.893	4926	442	5918	1972	1.14	0.22	64.1	62.7	25.6	21.1	F
3	100	100	0.896	0.893	4926	442	5918	1972	1.14	0.22	64.1	62.7	25.6	21.1	F
4	100	100	0.896	0.893	4926	442	5918	1972	1.14	0.22	64.1	62.7	25.6	21.1	F
5	100	100	0.896	0.893	4859	404	5918	1972	1.04	0.21	64.2	62.9	25.2	20.7	F
6	100	100	0.896	0.893	4859	404	5918	1972	1.04	0.21	64.2	62.9	25.2	20.7	F
7	100	100	0.896	0.893	4859	404	5918	1972	1.04	0.21	64.2	62.9	25.2	20.7	F
8	100	100	0.896	0.893	4859	404	5918	1972	1.04	0.21	64.2	62.9	25.2	20.7	F
9	100	100	0.896	0.893	4784	36.2	5918	1972	0.93	0.18	64.3	63.0	24.8	20.2	C
10	100	100	0.896	0.893	4785	36.2	5918	1972	0.93	0.18	64.3	63.0	24.8	20.2	C
11	100	100	0.896	0.893	4785	36.2	5918	1972	0.93	0.18	64.3	63.0	24.8	20.2	C
12	100	100	0.893	0.893	4785	36.2	5918	1972	0.94	0.18	64.3	63.0	24.8	20.2	C

Segment 14: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.896	4338	6761	1.00	68.7	21.0	C
2	100	0.896	4926	6761	1.00	65.8	25.0	C
3	100	0.896	4926	6761	1.00	65.8	25.0	C
4	100	0.896	4926	6761	1.00	65.8	25.0	C
5	100	0.896	4859	6761	0.91	66.2	24.5	C
6	100	0.896	4859	6761	0.91	66.2	24.5	C
7	100	0.896	4859	6761	0.91	66.2	24.5	C
8	100	0.896	4859	6761	0.91	66.2	24.5	C
9	100	0.896	4784	6761	0.82	66.6	23.9	C
10	100	0.896	4785	6761	0.82	66.6	23.9	C
11	100	0.896	4785	6761	0.82	66.6	23.9	C

12	100	0.893	4785	6761	0.82	66.6	23.9	C							
Segment 15: Diverge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.896	0.942	4338	1639	5918	1972	1.14	0.83	61.5	57.4	23.5	25.6	F
2	100	100	0.896	0.942	4926	1639	5918	1972	1.14	0.83	61.9	57.4	26.5	27.9	F
3	100	100	0.896	0.942	4926	1639	5918	1972	1.14	0.83	61.9	57.4	26.5	27.9	F
4	100	100	0.896	0.942	4926	1639	5918	1972	1.14	0.83	61.9	57.4	26.5	27.9	F
5	100	100	0.896	0.942	4859	1499	5918	1972	1.04	0.76	62.2	57.7	26.0	27.3	F
6	100	100	0.896	0.942	4859	1499	5918	1972	1.04	0.76	62.2	57.7	26.0	27.3	F
7	100	100	0.896	0.942	4859	1499	5918	1972	1.04	0.76	62.2	57.7	26.0	27.3	F
8	100	100	0.896	0.942	4859	1499	5918	1972	1.04	0.76	62.2	57.7	26.0	27.3	F
9	100	100	0.896	0.942	4784	1340	5918	1972	0.93	0.68	62.6	58.1	25.5	26.6	C
10	100	100	0.896	0.942	4785	1340	5918	1972	0.93	0.68	62.6	58.1	25.5	26.6	C
11	100	100	0.896	0.942	4785	1340	5918	1972	0.93	0.68	62.6	58.1	25.5	26.6	C
12	100	100	0.893	0.942	4785	1340	5918	1972	0.94	0.68	62.6	58.1	25.5	26.6	C

Segment 16: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.882	0.882	2699	6761	0.75	70.9	12.6	B					
2	100	100	0.882	0.882	3729	6761	0.75	70.5	17.6	B					
3	100	100	0.882	0.882	3729	6761	0.75	70.5	17.6	B					
4	100	100	0.882	0.882	3729	6761	0.75	70.5	17.6	B					
5	100	100	0.882	0.882	3679	6761	0.69	70.6	17.4	B					
6	100	100	0.882	0.882	3679	6761	0.69	70.6	17.4	B					
7	100	100	0.882	0.882	3679	6761	0.69	70.6	17.4	B					
8	100	100	0.882	0.882	3679	6761	0.69	70.6	17.4	B					
9	100	100	0.882	0.882	3622	6761	0.62	70.7	17.1	B					
10	100	100	0.882	0.882	3623	6761	0.62	70.7	17.1	B					
11	100	100	0.882	0.882	3623	6761	0.62	70.7	17.1	B					
12	100	100	0.891	0.891	3623	6761	0.61	70.7	17.1	B					

Segment 17: Merge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.886	0.915	3366	667	5918	1972	0.97	0.34	64.8	63.0	17.3	17.4	B
2	100	100	0.886	0.915	4396	667	5918	1972	0.97	0.34	63.8	62.0	23.0	22.2	C
3	100	100	0.886	0.915	4396	667	5918	1972	0.97	0.34	63.8	62.0	23.0	22.2	C
4	100	100	0.886	0.915	4396	667	5918	1972	0.97	0.34	63.8	62.0	23.0	22.2	C
5	100	100	0.886	0.915	4289	610	5918	1972	0.89	0.31	64.0	62.2	22.3	21.6	C
6	100	100	0.886	0.915	4289	610	5918	1972	0.89	0.31	64.0	62.2	22.3	21.6	C

7	100	100	0.886	0.915	4289	610	5918	1972	0.89	0.31	64.0	62.2	22.3	21.6	C
8	100	100	0.886	0.915	4289	610	5918	1972	0.89	0.31	64.0	62.2	22.3	21.6	C
9	100	100	0.886	0.915	4167	545	5918	1972	0.79	0.28	64.2	62.4	21.6	20.8	C
10	100	100	0.886	0.915	4168	545	5918	1972	0.79	0.28	64.2	62.4	21.6	20.8	C
11	100	100	0.886	0.915	4168	545	5918	1972	0.79	0.28	64.2	62.4	21.6	20.8	C
12	100	100	0.885	0.915	4168	545	5918	1972	0.79	0.28	64.2	62.4	21.6	20.8	C

Segment 18: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.886	3366	6761	0.85	70.6	15.8	B
2	100	0.886	4396	6761	0.85	68.4	21.4	C
3	100	0.886	4396	6761	0.85	68.4	21.4	C
4	100	0.886	4396	6761	0.85	68.4	21.4	C
5	100	0.886	4289	6761	0.78	68.8	20.8	C
6	100	0.886	4289	6761	0.78	68.8	20.8	C
7	100	0.886	4289	6761	0.78	68.8	20.8	C
8	100	0.886	4289	6761	0.78	68.8	20.8	C
9	100	0.886	4167	6761	0.70	69.3	20.0	C
10	100	0.886	4168	6761	0.70	69.3	20.0	C
11	100	0.886	4168	6761	0.70	69.3	20.0	C
12	100	0.885	4168	6761	0.70	69.3	20.0	C

Segment 19: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.886	3366	6761	0.85	71.0	15.8	B
2	100	0.886	4396	6761	0.85	68.4	21.4	C
3	100	0.886	4396	6761	0.85	68.4	21.4	C
4	100	0.886	4396	6761	0.85	68.4	21.4	C
5	100	0.886	4289	6761	0.78	68.8	20.8	C
6	100	0.886	4289	6761	0.78	68.8	20.8	C
7	100	0.886	4289	6761	0.78	68.8	20.8	C
8	100	0.886	4289	6761	0.78	68.8	20.8	C
9	100	0.886	4167	6761	0.70	69.3	20.0	C
10	100	0.886	4168	6761	0.70	69.3	20.0	C
11	100	0.886	4168	6761	0.70	69.3	20.0	C
12	100	0.885	4168	6761	0.70	69.3	20.0	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost \$/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	9134	13867	48.26	1231.50	51.4	28.9	25.9	10.60	F
2	10024	13867	61.69	1542.15	49.5	33.0	29.6	11.10	F
3	9944	13867	77.43	1935.76	45.8	35.3	31.7	12.00	F

4	9944	13867	77.44	1936.11	45.8	35.4	31.7	12.00	F
5	9888	12681	74.77	1869.16	46.3	34.8	31.2	11.80	F
6	9886	12681	75.10	1877.44	46.2	34.8	31.3	11.90	F
7	9886	12681	75.10	1877.44	46.2	34.8	31.3	11.90	F
8	9886	12681	75.10	1877.44	46.2	34.8	31.3	11.90	F
9	9842	11336	68.66	1591.59	48.8	32.9	29.5	11.20	F
10	9821	11336	72.57	1814.14	46.7	34.3	30.8	11.70	F
11	9821	11336	72.57	1814.16	46.7	34.3	30.8	11.70	F
12	9935	11336	72.31	1807.86	46.9	34.3	31.0	11.70	F

Facility Overall Results

Space Mean Speed, mi/h	47.1	Average Density, veh/mi/ln	30.5
Average Travel Time, min	11.60	Average Density, pc/mi/ln	34.0
Total VMT, veh-mi	118013	Total VHD, veh-h	846.99
Vehicle Value of Time (VOT), \$/h	25.00	Total Delay Cost, \$	21174.75

I-75 North Section - Southbound

HCS Freeway Facilities Report

Project Information

Analyst	Kittelson & Associates	Date	11/6/2023
Agency	Florida Department of Transportation	Analysis Year	2040 No-Build Conditions
Jurisdiction	District Five	Time Analyzed	AM Weekday Peak Period
Facility Name	I-75 (Southbound)	Units	U.S. Customary
Project Description	I-75 PD&E North Auxillary Lanes		

Facility Global Input

Jam Density, pc/mi/ln	1900	Density at Capacity, pc/mi/ln	450
Queue Discharge Capacity Drop, %	7	Total Segments	21
Total Analysis Periods	12	Analysis Period Duration, min	15
Facility Length, mi	9.27		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-75 SB	5280	3
2	Basic	Basic	I-75 SB	1500	3
3	Diverge	Diverge	I-75 SB SR 326 Off Ramp	1500	3
4	Basic	Basic	I-75 SB	1836	3
5	Merge	Merge	I-75 SB SR 326 WB On Ramp	1500	3
6	Basic	Basic	I-75 SB	416	3
7	Merge	Merge	I-75 SB SR 326 EB On Ramp	1500	3
8	Basic	Basic	I-75 SB	4405	3
9	Diverge	Diverge	I-75 SB 49th St DDI Off Ramp	1500	3
10	Basic	Basic	I-75 SB	3253	3
11	Merge	Merge	I-75 SB 49th St DDI On Ramp	1500	3
12	Basic	Basic	I-75 SB	5830	3
13	Diverge	Diverge	I-75 SB US 27 Off Ramp	1500	3
14	Basic	Basic	I-75 SB	3189	3
15	Merge	Merge	I-75 SB US 27 On Ramp	1500	3
16	Basic	Basic	I-75 SB	1415	3
17	Diverge	Diverge	I-75 SB SR 40 Off Ramp	1500	3
18	Basic	Basic	I-75 SB	2836	3
19	Merge	Merge	I-75 SB SR 40 On Ramp	1500	3
20	Basic	Basic	I-75 SB	1500	3
21	Basic	Basic	I-75 SB	3968	3

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
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1	1.00	0.895	2536	6761	0.38	71.2	11.9	B
2	1.00	0.895	2488	6761	0.37	71.2	11.6	B
3	1.00	0.895	2887	6761	0.43	71.2	13.5	B
4	1.00	0.895	3098	6761	0.46	71.2	14.5	B
5	1.00	0.895	3626	6761	0.54	70.7	17.1	B
6	1.00	0.895	3477	6761	0.51	70.9	16.3	B
7	1.00	0.895	3105	6761	0.46	71.2	14.5	B
8	1.00	0.895	3254	6761	0.48	71.1	15.3	B
9	1.00	0.895	3397	6761	0.50	71.0	15.9	B
10	1.00	0.895	3604	6761	0.53	70.7	17.0	B
11	1.00	0.895	3641	6761	0.54	70.7	17.2	B
12	1.00	0.895	3722	6761	0.55	70.5	17.6	B

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.895	2536	6761	0.38	71.2	11.9	B
2	1.00	0.895	2488	6761	0.37	71.2	11.6	B
3	1.00	0.895	2887	6761	0.43	71.2	13.5	B
4	1.00	0.895	3098	6761	0.46	71.2	14.5	B
5	1.00	0.895	3626	6761	0.54	70.7	17.1	B
6	1.00	0.895	3477	6761	0.51	70.9	16.3	B
7	1.00	0.895	3105	6761	0.46	71.2	14.5	B
8	1.00	0.895	3254	6761	0.48	71.1	15.3	B
9	1.00	0.895	3397	6761	0.50	71.0	15.9	B
10	1.00	0.895	3604	6761	0.53	70.7	17.0	B
11	1.00	0.895	3641	6761	0.54	70.7	17.2	B
12	1.00	0.895	3722	6761	0.55	70.5	17.6	B

Segment 3: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.895	0.882	2536	390	5918	1972	0.43	0.20	64.5	60.6	13.1	18.0	B
2	1.00	1.00	0.895	0.882	2488	383	5918	1972	0.42	0.19	64.6	60.7	12.8	17.7	B
3	1.00	1.00	0.895	0.882	2887	444	5918	1972	0.49	0.23	64.6	60.5	14.9	19.9	B
4	1.00	1.00	0.895	0.882	3098	477	5918	1972	0.52	0.24	64.6	60.4	16.0	21.1	C
5	1.00	1.00	0.895	0.882	3626	558	5918	1972	0.61	0.28	64.6	60.2	18.7	23.9	C
6	1.00	1.00	0.895	0.882	3477	535	5918	1972	0.59	0.27	64.6	60.2	17.9	23.1	C
7	1.00	1.00	0.895	0.882	3105	478	5918	1972	0.52	0.24	64.6	60.4	16.0	21.1	C
8	1.00	1.00	0.895	0.882	3254	501	5918	1972	0.55	0.25	64.6	60.3	16.8	21.9	C
9	1.00	1.00	0.895	0.882	3397	523	5918	1972	0.57	0.27	64.7	60.3	17.5	22.7	C
10	1.00	1.00	0.895	0.882	3604	554	5918	1972	0.61	0.28	64.6	60.2	18.6	23.7	C
11	1.00	1.00	0.895	0.882	3641	561	5918	1972	0.62	0.28	64.6	60.2	18.8	23.9	C

12	100	100	0.895	0.882	3722	573	5918	1972	0.63	0.29	64.6	60.2	19.2	24.4	C
Segment 4: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.898		2145		6761		0.32		70.8		10.0		A
2	1.00		0.898		2104		6761		0.31		70.8		9.8		A
3	1.00		0.898		2441		6761		0.36		70.8		11.4		B
4	1.00		0.898		2619		6761		0.39		70.8		12.3		B
5	1.00		0.898		3068		6761		0.45		70.8		14.4		B
6	1.00		0.898		2942		6761		0.43		70.8		13.8		B
7	1.00		0.898		2627		6761		0.39		70.8		12.3		B
8	1.00		0.898		2753		6761		0.41		70.8		12.9		B
9	1.00		0.898		2874		6761		0.42		70.8		13.5		B
10	1.00		0.898		3049		6761		0.45		70.8		14.3		B
11	1.00		0.898		3081		6761		0.46		70.8		14.4		B
12	1.00		0.898		3149		6761		0.47		70.8		14.7		B
Segment 5: Merge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.886	0.861	2968	794	5918	1878	0.50	0.42	65.4	63.8	15.1	12.5	B
2	100	100	0.886	0.861	2911	779	5918	1878	0.49	0.41	65.4	63.8	14.8	12.2	B
3	100	100	0.886	0.861	3379	905	5918	1878	0.57	0.48	65.0	63.4	17.3	14.8	B
4	100	100	0.886	0.861	3626	971	5918	1878	0.61	0.52	64.8	63.2	18.7	16.1	B
5	100	100	0.886	0.861	4204	1136	5918	1878	0.72	0.60	64.1	62.4	21.9	19.3	B
6	100	100	0.886	0.861	4031	1089	5918	1878	0.69	0.58	64.3	62.6	20.9	18.4	B
7	100	100	0.886	0.861	3600	973	5918	1878	0.61	0.52	64.8	63.2	18.5	16.0	B
8	100	100	0.886	0.861	3773	1020	5918	1878	0.64	0.54	64.6	63.0	19.5	16.9	B
9	100	100	0.886	0.861	3939	1065	5918	1878	0.67	0.57	64.4	62.8	20.4	17.9	B
10	100	100	0.886	0.861	4179	1130	5918	1878	0.71	0.60	64.1	62.4	21.7	19.2	B
11	100	100	0.886	0.861	4223	1142	5918	1878	0.72	0.61	64.0	62.3	22.0	19.4	B
12	100	100	0.886	0.861	4315	1166	5918	1878	0.74	0.62	63.8	62.1	22.5	19.9	B
Segment 6: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.886		2946		6761		0.44		70.0		13.8		B
2	1.00		0.886		2889		6761		0.43		70.0		13.5		B
3	1.00		0.886		3353		6761		0.50		69.9		15.7		B
4	1.00		0.886		3598		6761		0.53		69.8		17.0		B
5	1.00		0.886		4204		6761		0.62		69.2		20.3		C
6	1.00		0.886		4031		6761		0.60		69.7		19.3		C
7	1.00		0.886		3600		6761		0.53		69.8		17.0		B

8	1 00	0 886	3773	6761	0 56	69 8	17 9	B
9	1 00	0 886	3939	6761	0 58	69 8	18 8	C
10	1 00	0 886	4179	6761	0 62	69 2	20 1	C
11	1 00	0 886	4223	6761	0 63	69 1	20 4	C
12	1 00	0 886	4315	6761	0 64	68 7	20 9	C

Segment 7: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 887	0 894	3462	519	5918	1972	0 58	0 26	65 0	63 3	17 8	16 8	B
2	1 00	1 00	0 887	0 894	3395	509	5918	1972	0 57	0 26	65 1	63 3	17 4	16 5	B
3	1 00	1 00	0 887	0 894	3940	591	5918	1972	0 67	0 30	64 5	62 8	20 4	19 3	B
4	1 00	1 00	0 887	0 894	4228	634	5918	1972	0 71	0 32	64 2	62 5	22 0	20 7	C
5	1 00	1 00	0 887	0 894	4947	743	5918	1972	0 84	0 38	63 1	61 3	26 1	24 4	C
6	1 00	1 00	0 887	0 894	4742	711	5918	1972	0 80	0 36	63 5	61 7	24 9	23 4	C
7	1 00	1 00	0 887	0 894	4235	635	5918	1972	0 72	0 32	64 2	62 5	22 0	20 8	C
8	1 00	1 00	0 887	0 894	4440	667	5918	1972	0 75	0 34	63 9	62 2	23 2	21 8	C
9	1 00	1 00	0 887	0 894	4635	696	5918	1972	0 78	0 35	63 6	61 9	24 3	22 8	C
10	1 00	1 00	0 887	0 894	4917	738	5918	1972	0 83	0 37	63 2	61 4	25 9	24 3	C
11	1 00	1 00	0 887	0 894	4969	746	5918	1972	0 84	0 38	63 1	61 3	26 2	24 5	C
12	1 00	1 00	0 887	0 894	5077	762	5918	1972	0 86	0 39	62 9	61 1	26 9	25 1	C

Segment 8: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1 00	0 887	3466	6761	0 51	70 9	16 3	B
2	1 00	0 887	3399	6761	0 50	71 0	16 0	B
3	1 00	0 887	3945	6761	0 58	70 0	18 8	C
4	1 00	0 887	4233	6761	0 63	69 0	20 4	C
5	1 00	0 887	4947	6761	0 73	65 7	25 1	C
6	1 00	0 887	4742	6761	0 70	66 8	23 7	C
7	1 00	0 887	4235	6761	0 63	69 0	20 5	C
8	1 00	0 887	4440	6761	0 66	68 2	21 7	C
9	1 00	0 887	4635	6761	0 69	67 3	23 0	C
10	1 00	0 887	4917	6761	0 73	65 8	24 9	C
11	1 00	0 887	4969	6761	0 74	65 5	25 3	C
12	1 00	0 887	5077	6761	0 75	64 9	26 1	D

Segment 9: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 887	0 893	3466	278	5918	1972	0 59	0 14	65 3	60 9	17 7	11 3	B
2	1 00	1 00	0 887	0 893	3399	272	5918	1972	0 57	0 14	65 4	61 0	17 3	10 9	B

3	100	100	0.887	0.893	3945	316	5918	1972	0.67	0.16	653	60.8	20.1	13.7	B
4	100	100	0.887	0.893	4233	339	5918	1972	0.72	0.17	652	60.8	21.6	15.1	B
5	100	100	0.887	0.893	4847	396	5918	1972	0.84	0.20	650	60.6	25.4	18.3	B
6	100	100	0.887	0.893	4742	381	5918	1972	0.80	0.19	651	60.7	24.3	17.4	B
7	100	100	0.887	0.893	4235	340	5918	1972	0.72	0.17	653	60.8	21.6	15.0	B
8	100	100	0.887	0.893	4440	356	5918	1972	0.75	0.18	652	60.7	22.7	16.0	B
9	100	100	0.887	0.893	4635	372	5918	1972	0.78	0.19	652	60.7	23.7	16.9	B
10	100	100	0.887	0.893	4817	394	5918	1972	0.83	0.20	650	60.6	25.2	18.2	B
11	100	100	0.887	0.893	4869	399	5918	1972	0.84	0.20	650	60.6	25.5	18.4	B
12	100	100	0.887	0.893	5077	408	5918	1972	0.86	0.21	650	60.6	26.0	18.9	B

Segment 10: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.887	3186	6761	0.47	71.1	14.9	B
2	100	0.887	3125	6761	0.46	71.1	14.6	B
3	100	0.887	3627	6761	0.54	70.7	17.1	B
4	100	0.887	3892	6761	0.58	70.1	18.5	C
5	100	0.887	4552	6761	0.67	67.7	22.4	C
6	100	0.887	4363	6761	0.65	68.6	21.2	C
7	100	0.887	3896	6761	0.58	70.1	18.5	C
8	100	0.887	4084	6761	0.60	69.6	19.6	C
9	100	0.887	4264	6761	0.63	68.9	20.6	C
10	100	0.887	4523	6761	0.67	67.9	22.2	C
11	100	0.887	4572	6761	0.68	67.6	22.5	C
12	100	0.887	4364	6761	0.69	68.5	21.2	F

Segment 11: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.888	0.893	3884	702	5918	1972	0.66	0.36	653	63.9	19.8	16.7	B
2	100	100	0.888	0.893	3811	689	5918	1972	0.64	0.35	654	64.0	19.4	16.3	B
3	100	100	0.888	0.893	4423	800	5918	1972	0.75	0.41	646	63.2	22.8	19.5	B
4	100	100	0.888	0.893	4745	858	5918	1972	0.80	0.44	641	62.6	24.7	21.2	C
5	100	100	0.888	0.893	5555	1003	5918	1972	0.94	0.51	623	60.4	29.7	25.5	C
6	100	100	0.888	0.893	5326	963	5918	1972	0.90	0.49	628	61.1	28.3	24.3	C
7	100	100	0.888	0.893	4756	860	5918	1972	0.80	0.44	641	62.6	24.7	21.3	C
8	100	100	0.888	0.893	4884	900	5918	1972	0.84	0.46	63.7	62.1	26.1	22.5	C
9	100	100	0.888	0.893	5205	941	5918	1972	0.88	0.48	63.2	61.5	27.5	23.7	C
10	100	100	0.888	0.893	5521	998	5918	1972	0.93	0.51	62.3	60.5	29.5	25.3	C
11	100	100	0.888	0.893	5580	1008	5918	1972	0.94	0.51	62.1	60.2	30.0	25.7	C
12	100	100	0.888	0.893	5195	1030	5918	1972	0.96	0.52	62.0	59.8	54.2	26.3	F

Segment 12: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.888	3889	6761	0.58	70.1	18.5	C
2	1.00	0.888	3814	6761	0.56	70.3	18.1	C
3	1.00	0.888	4427	6761	0.65	68.3	21.6	C
4	1.00	0.888	4750	6761	0.70	66.8	23.7	C
5	1.00	0.888	5555	6761	0.82	61.6	30.1	D
6	1.00	0.888	5326	6761	0.79	63.2	28.1	D
7	1.00	0.888	4756	6761	0.70	66.7	23.8	C
8	1.00	0.888	4984	6761	0.74	65.5	25.4	C
9	1.00	0.888	5205	6761	0.77	64.1	27.1	D
10	1.00	0.888	5457	6761	0.82	62.3	29.2	F
11	1.00	0.888	5097	6761	0.83	31.5	53.9	F
12	1.00	0.888	5092	6761	0.84	22.5	75.4	F

Segment 13: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.888	0.894	3889	391	5918	1972	0.66	0.20	65.1	60.6	19.9	21.4	C
2	1.00	1.00	0.888	0.894	3814	385	5918	1972	0.64	0.20	65.1	60.7	19.5	21.1	C
3	1.00	1.00	0.888	0.894	4427	446	5918	1972	0.75	0.23	65.0	60.5	22.7	24.0	C
4	1.00	1.00	0.888	0.894	4750	479	5918	1972	0.80	0.24	64.9	60.4	24.4	25.5	C
5	1.00	1.00	0.888	0.894	5555	560	5918	1972	0.94	0.28	64.6	60.2	28.7	29.0	D
6	1.00	1.00	0.888	0.894	5209	537	5918	1972	0.90	0.27	64.7	60.2	26.8	27.6	F
7	1.00	1.00	0.888	0.894	4873	480	5918	1972	0.80	0.24	64.9	60.4	25.0	26.1	C
8	1.00	1.00	0.888	0.894	4984	503	5918	1972	0.84	0.26	64.8	60.3	25.6	26.6	C
9	1.00	1.00	0.888	0.894	5205	525	5918	1972	0.88	0.27	64.7	60.3	26.8	27.6	C
10	1.00	1.00	0.888	0.894	5332	557	5918	1972	0.93	0.28	64.7	60.2	27.5	28.1	F
11	1.00	1.00	0.888	0.894	5097	563	5918	1972	0.94	0.29	26.2	60.2	64.8	29.2	F
12	1.00	1.00	0.888	0.894	5094	575	5918	1972	0.96	0.29	26.3	60.2	64.6	29.7	F

Segment 14: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.887	3498	6761	0.52	70.9	16.4	B
2	1.00	0.887	3431	6761	0.51	71.0	16.1	B
3	1.00	0.887	3982	6761	0.59	69.9	19.0	C
4	1.00	0.887	4273	6761	0.63	68.9	20.7	C
5	1.00	0.887	4591	6761	0.74	28.5	53.6	F
6	1.00	0.887	4587	6761	0.71	17.1	89.2	F
7	1.00	0.887	4587	6761	0.63	18.9	80.8	F
8	1.00	0.887	4587	6761	0.66	27.5	55.6	F
9	1.00	0.887	4587	6761	0.69	27.1	56.3	F

10	100		0.887		4587		6761		0.74		18.0		84.9		F
11	100		0.887		4587		6761		0.74		16.7		91.6		F
12	100		0.887		4587		6761		0.76		16.7		91.6		F
Segment 15: Merge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.893	0.914	4243	768	5918	1972	0.72	0.39	63.7	61.8	22.2	22.5	C
2	100	100	0.893	0.914	4161	753	5918	1972	0.70	0.38	63.8	61.9	21.7	22.1	C
3	100	100	0.893	0.914	4829	874	5918	1972	0.82	0.44	62.9	60.9	25.6	25.6	C
4	100	100	0.893	0.914	5182	938	5918	1972	0.88	0.48	62.2	60.1	27.8	27.4	C
5	100	100	0.893	0.914	5511	1097	5918	1972	1.02	0.56	60.8	58.4	31.2	30.2	F
6	100	100	0.893	0.914	5504	1053	5918	1972	0.98	0.53	61.0	58.7	30.8	29.8	D
7	100	100	0.893	0.914	5504	940	5918	1972	0.88	0.48	61.4	59.2	30.0	29.0	D
8	100	100	0.893	0.914	5504	985	5918	1972	0.92	0.50	61.3	59.0	30.3	29.3	D
9	100	100	0.893	0.914	5504	1028	5918	1972	0.96	0.52	61.1	58.8	30.6	29.6	D
10	100	100	0.893	0.914	5504	1091	5918	1972	1.02	0.55	60.8	58.5	31.1	30.1	F
11	100	100	0.893	0.914	5504	1102	5918	1972	1.03	0.56	60.8	58.4	31.2	30.2	F
12	100	100	0.893	0.914	5504	1127	5918	1972	1.05	0.57	60.7	58.3	31.4	30.4	F
Segment 16: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100		0.893		4261		6761		0.63		68.9		20.6		C
2	100		0.893		4178		6761		0.62		69.2		20.1		C
3	100		0.893		4850		6761		0.72		66.2		24.4		C
4	100		0.893		5204		6761		0.77		64.1		27.1		D
5	100		0.893		5511		6761		0.90		61.9		29.7		D
6	100		0.893		5504		6761		0.86		62.0		29.6		D
7	100		0.893		5504		6761		0.77		62.0		29.6		D
8	100		0.893		5504		6761		0.81		62.0		29.6		D
9	100		0.893		5504		6761		0.84		62.0		29.6		D
10	100		0.893		5504		6761		0.90		62.0		29.6		D
11	100		0.893		5504		6761		0.90		62.0		29.6		D
12	100		0.893		5504		6761		0.92		62.0		29.6		D
Segment 17: Diverge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.893	0.903	4261	532	5918	1972	0.72	0.27	64.5	60.3	22.0	23.9	C
2	100	100	0.893	0.903	4178	522	5918	1972	0.71	0.26	64.5	60.3	21.6	23.5	C
3	100	100	0.893	0.903	4850	605	5918	1972	0.82	0.31	64.3	60.1	25.1	27.1	C
4	100	100	0.893	0.903	5204	650	5918	1972	0.88	0.33	64.5	60.0	26.9	27.4	C

5	100	100	0.893	0.903	5511	760	5918	1972	1.03	0.39	64.2	59.7	28.6	28.8	F
6	100	100	0.893	0.903	5504	729	5918	1972	0.99	0.37	64.3	59.8	28.5	28.8	D
7	100	100	0.893	0.903	5504	651	5918	1972	0.88	0.33	64.5	60.0	28.4	28.6	D
8	100	100	0.893	0.903	5504	682	5918	1972	0.92	0.35	64.4	59.9	28.5	28.7	D
9	100	100	0.893	0.903	5504	712	5918	1972	0.96	0.36	64.3	59.8	28.5	28.7	D
10	100	100	0.893	0.903	5504	755	5918	1972	1.02	0.38	64.2	59.7	28.6	28.8	F
11	100	100	0.893	0.903	5504	763	5918	1972	1.03	0.39	64.2	59.7	28.6	28.8	F
12	100	100	0.893	0.903	5504	780	5918	1972	1.06	0.40	64.1	59.6	28.6	28.9	F

Segment 18: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.891	3732	6761	0.55	70.5	17.6	B
2	100	0.891	3659	6761	0.54	70.6	17.3	B
3	100	0.891	4248	6761	0.63	69.0	20.5	C
4	100	0.891	4557	6761	0.67	67.7	22.4	C
5	100	0.891	4823	6761	0.79	66.4	24.2	C
6	100	0.891	4817	6761	0.76	66.4	24.2	C
7	100	0.891	4817	6761	0.68	66.4	24.2	C
8	100	0.891	4817	6761	0.71	66.4	24.2	C
9	100	0.891	4817	6761	0.74	66.4	24.2	C
10	100	0.891	4818	6761	0.78	66.4	24.2	C
11	100	0.891	4818	6761	0.79	66.4	24.2	C
12	100	0.891	4817	6761	0.81	66.4	24.2	C

Segment 19: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.894	0.912	4104	385	5918	1972	0.69	0.20	64.4	62.7	21.2	19.7	B
2	100	100	0.894	0.912	4025	378	5918	1972	0.68	0.19	64.5	62.8	20.8	19.3	B
3	100	100	0.894	0.912	4673	439	5918	1972	0.79	0.22	63.7	62.0	24.5	22.5	C
4	100	100	0.894	0.912	5011	470	5918	1972	0.85	0.24	63.2	61.5	26.4	24.2	C
5	100	100	0.894	0.912	5373	550	5918	1972	0.99	0.28	62.5	60.7	28.7	26.1	C
6	100	100	0.894	0.912	5344	527	5918	1972	0.95	0.27	62.5	60.7	28.5	25.9	C
7	100	100	0.894	0.912	5288	471	5918	1972	0.85	0.24	62.8	61.0	28.1	25.5	C
8	100	100	0.894	0.912	5312	495	5918	1972	0.89	0.25	62.7	60.9	28.2	25.7	C
9	100	100	0.894	0.912	5332	515	5918	1972	0.93	0.26	62.6	60.8	28.4	25.8	C
10	100	100	0.894	0.912	5365	547	5918	1972	0.99	0.28	62.5	60.7	28.6	26.1	C
11	100	100	0.894	0.912	5371	553	5918	1972	1.00	0.28	62.5	60.7	28.6	26.1	C
12	100	100	0.894	0.912	5382	565	5918	1972	1.02	0.29	62.5	60.6	28.7	26.2	F

Segment 20: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
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1	1.00	0.894	4112	6761	0.61	69.5	197	C
2	1.00	0.894	4032	6761	0.60	69.7	193	C
3	1.00	0.894	4681	6761	0.69	67.1	23.2	C
4	1.00	0.894	5021	6761	0.74	65.2	25.7	C
5	1.00	0.894	5373	6761	0.87	62.9	28.5	D
6	1.00	0.894	5344	6761	0.83	63.1	28.2	D
7	1.00	0.894	5288	6761	0.74	63.5	27.8	D
8	1.00	0.894	5312	6761	0.78	63.3	28.0	D
9	1.00	0.894	5332	6761	0.81	63.2	28.1	D
10	1.00	0.894	5365	6761	0.86	63.0	28.4	D
11	1.00	0.894	5371	6761	0.87	62.9	28.5	D
12	1.00	0.894	5382	6761	0.89	62.9	28.5	D

Segment 21: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.894	4112	6761	0.61	69.5	197	C
2	1.00	0.894	4032	6761	0.60	69.7	193	C
3	1.00	0.894	4681	6761	0.69	67.1	23.2	C
4	1.00	0.894	5021	6761	0.74	65.2	25.7	C
5	1.00	0.894	5373	6761	0.87	62.9	28.5	D
6	1.00	0.894	5344	6761	0.83	63.1	28.2	D
7	1.00	0.894	5288	6761	0.74	63.5	27.8	D
8	1.00	0.894	5312	6761	0.78	63.3	28.0	D
9	1.00	0.894	5332	6761	0.81	63.2	28.1	D
10	1.00	0.894	5365	6761	0.86	63.0	28.4	D
11	1.00	0.894	5371	6761	0.87	62.9	28.5	D
12	1.00	0.894	5382	6761	0.89	62.9	28.5	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost \$/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	7173	6973	3.72	92.99	68.7	16.9	15.0	8.10	B
2	7036	6839	3.49	87.32	68.8	16.5	14.7	8.10	B
3	8166	7938	6.03	150.77	67.6	19.5	17.4	8.20	C
4	8762	8517	8.17	204.29	66.8	21.2	18.9	8.30	C
5	9878	9969	26.12	653.02	59.9	26.7	23.8	9.30	F
6	9609	9559	38.98	974.55	55.2	28.1	25.0	10.10	D
7	8984	8535	32.95	823.77	56.5	25.7	22.9	9.80	C
8	9234	8945	23.74	593.38	60.2	24.8	22.1	9.20	C
9	9480	9341	25.08	626.94	59.9	25.6	22.8	9.30	C
10	9808	9912	38.24	956.00	55.7	28.5	25.3	10.00	F
11	9753	10011	67.88	1696.90	47.6	33.2	29.5	11.70	F
12	9776	10232	88.75	2218.79	43.3	36.6	32.6	12.90	F

Facility Overall Results

Space Mean Speed, mi/h	57.4	Average Density, veh/mi/ln	22.5
Average Travel Time, min	9.70	Average Density, pc/mi/ln	25.3
Total VMT, veh-mi	10765.9	Total VHD, veh-h	363.15
Vehicle Value of Time (VOT), \$/h	25.00	Total Delay Cost, \$	9078.73

HCS Freeway Facilities Report

Project Information

Analyst	Kittelson & Associates	Date	11/6/2023
Agency	Florida Department of Transportation	Analysis Year	2040 No-Build Conditions
Jurisdiction	District Five	Time Analyzed	PM Weekday Peak Period
Facility Name	I-75 (Southbound)	Units	U.S. Customary
Project Description	I-75 PD&E North Auxillary Lanes		

Facility Global Input

Jam Density, pc/mi/ln	1900	Density at Capacity, pc/mi/ln	450
Queue Discharge Capacity Drop, %	7	Total Segments	21
Total Analysis Periods	12	Analysis Period Duration, min	15
Facility Length, mi	9.27		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-75 SB	5280	3
2	Basic	Basic	I-75 SB	1500	3
3	Diverge	Diverge	I-75 SB SR 326 Off Ramp	1500	3
4	Basic	Basic	I-75 SB	1836	3
5	Merge	Merge	I-75 SB SR 326 WB On Ramp	1500	3
6	Basic	Basic	I-75 SB	416	3
7	Merge	Merge	I-75 SB SR 326 EB On Ramp	1500	3
8	Basic	Basic	I-75 SB	4405	3
9	Diverge	Diverge	I-75 SB 49th St DDI Off Ramp	1500	3
10	Basic	Basic	I-75 SB	3253	3
11	Merge	Merge	I-75 SB 49th St DDI On Ramp	1500	3
12	Basic	Basic	I-75 SB	5830	3
13	Diverge	Diverge	I-75 SB US 27 Off Ramp	1500	3
14	Basic	Basic	I-75 SB	3189	3
15	Merge	Merge	I-75 SB US 27 On Ramp	1500	3
16	Basic	Basic	I-75 SB	1415	3
17	Diverge	Diverge	I-75 SB SR 40 Off Ramp	1500	3
18	Basic	Basic	I-75 SB	2836	3
19	Merge	Merge	I-75 SB SR 40 On Ramp	1500	3
20	Basic	Basic	I-75 SB	1500	3
21	Basic	Basic	I-75 SB	3968	3

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
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1	1 00	0 904	5650	6761	0 88	60 8	31 0	F
2	1 00	0 904	4701	6761	0 92	17 6	89 2	F
3	1 00	0 904	3689	6761	0 86	11 1	1109	F
4	1 00	0 904	3031	6761	0 87	8 1	125 0	F
5	1 00	0 904	3790	6761	0 84	11 6	1087	F
6	1 00	0 904	2751	6761	0 89	7 0	131 0	F
7	1 00	0 904	3572	6761	0 81	10 5	1134	F
8	1 00	0 904	3167	6761	0 85	8 6	1221	F
9	1 00	0 904	3609	6761	0 82	10 7	1126	F
10	1 00	0 904	3391	6761	0 82	9 6	117 3	F
11	1 00	0 904	3435	6761	0 76	9 8	116 3	F
12	1 00	0 904	3887	6761	0 73	12 2	106 6	F

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1 00	0 904	5474	6761	0 88	27 7	65 9	F
2	1 00	0 904	4500	6761	0 92	17 2	87 4	F
3	1 00	0 904	3622	6761	0 86	11 0	1099	F
4	1 00	0 904	3421	6761	0 87	10 0	1144	F
5	1 00	0 904	3633	6761	0 84	11 9	101 8	F
6	1 00	0 904	2893	6761	0 89	7 6	127 3	F
7	1 00	0 904	3381	6761	0 81	10 8	104 0	F
8	1 00	0 904	3228	6761	0 85	9 2	116 8	F
9	1 00	0 904	3509	6761	0 82	10 3	113 7	F
10	1 00	0 904	3341	6761	0 82	10 4	107 2	F
11	1 00	0 904	3424	6761	0 76	10 2	112 3	F
12	1 00	0 904	3843	6761	0 73	13 2	96 9	F

Segment 3: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 904	0 882	5340	946	5918	1972	1 00	0 48	63 8	59 2	27 9	32 3	F
2	1 00	1 00	0 904	0 882	4602	989	5918	1972	1 05	0 50	20 9	59 1	73 3	35 7	F
3	1 00	1 00	0 904	0 882	3565	925	5918	1972	0 98	0 47	12 9	59 2	92 2	34 0	F
4	1 00	1 00	0 904	0 882	3039	943	5918	1972	1 00	0 48	9 9	59 2	102 3	34 5	F
5	1 00	1 00	0 904	0 882	3698	902	5918	1972	0 96	0 46	15 3	59 3	80 5	33 4	F
6	1 00	1 00	0 904	0 882	3215	960	5918	1972	1 02	0 49	10 7	59 1	100 4	34 9	F
7	1 00	1 00	0 904	0 882	3214	878	5918	1972	0 93	0 45	11 5	59 3	93 4	32 8	F
8	1 00	1 00	0 904	0 882	3423	920	5918	1972	0 97	0 47	11 9	59 3	96 1	33 9	F
9	1 00	1 00	0 904	0 882	3321	884	5918	1972	0 94	0 45	11 7	59 3	94 3	33 0	F
10	1 00	1 00	0 904	0 882	3393	883	5918	1972	0 94	0 45	11 7	59 3	97 0	32 9	F
11	1 00	1 00	0 904	0 882	3616	815	5918	1972	0 86	0 41	63 8	59 5	18 9	24 3	C

12	100	100	0.904	0.882	3746	786	5918	1972	0.83	0.40	171	596	729	302	F
Segment 4: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.908		4060		6761		0.74		194		69.9		F
2	1.00		0.908		3808		6761		0.77		121		105.3		F
3	1.00		0.908		2797		6761		0.72		7.6		123.0		F
4	1.00		0.908		2772		6761		0.73		7.1		130.6		F
5	1.00		0.908		2859		6761		0.70		7.7		123.2		F
6	1.00		0.908		2655		6761		0.75		7.0		125.8		F
7	1.00		0.908		3087		6761		0.68		8.5		121.0		F
8	1.00		0.908		2484		6761		0.72		6.4		129.3		F
9	1.00		0.908		2787		6761		0.69		7.6		122.9		F
10	1.00		0.908		3276		6761		0.69		9.9		110.5		F
11	1.00		0.908		2681		6761		0.63		7.9		113.1		F
12	1.00		0.908		3528		6761		0.61		10.8		109.1		F
Segment 5: Merge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.898	0.861	4973	1318	5918	1878	1.07	0.70	25.5	55.1	65.1	30.2	F
2	100	100	0.898	0.861	4643	1377	5918	1878	1.12	0.73	20.7	53.4	74.8	31.7	F
3	100	100	0.898	0.861	3368	1290	5918	1878	1.05	0.69	11.3	55.9	99.4	29.5	F
4	100	100	0.898	0.861	3630	1315	5918	1878	1.07	0.70	12.8	55.2	94.4	30.1	F
5	100	100	0.898	0.861	3502	1258	5918	1878	1.03	0.67	11.2	56.8	104.2	28.6	F
6	100	100	0.898	0.861	3132	1338	5918	1878	1.09	0.71	10.0	54.4	104.9	30.7	F
7	100	100	0.898	0.861	3803	1223	5918	1878	1.00	0.65	14.1	57.7	89.9	27.7	F
8	100	100	0.898	0.861	3255	1281	5918	1878	1.04	0.68	10.6	56.2	102.3	29.2	F
9	100	100	0.898	0.861	3579	1232	5918	1878	1.00	0.66	64.0	62.4	21.6	19.3	B
10	100	100	0.898	0.861	3588	1231	5918	1878	1.00	0.66	12.9	57.5	92.5	27.9	F
11	100	100	0.898	0.861	3649	1136	5918	1878	0.93	0.60	13.4	59.5	91.1	25.5	F
12	100	100	0.898	0.861	4187	1095	5918	1878	0.89	0.58	18.3	60.2	76.4	24.4	F
Segment 6: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.898		4929		6761		0.93		19.8		83.1		F
2	1.00		0.898		4686		6761		0.97		60.5		23.3		C
3	1.00		0.898		3305		6761		0.91		10.7		103.1		F
4	1.00		0.898		3649		6761		0.93		12.5		97.1		F
5	1.00		0.898		3447		6761		0.89		11.6		98.8		F
6	1.00		0.898		3091		6761		0.95		9.7		106.0		F
7	1.00		0.898		3827		6761		0.86		13.9		92.0		F

8	1 00	0 898	3340	6761	0 91	10 5	105 5	F
9	1 00	0 898	3504	6761	0 87	12 1	96 4	F
10	1 00	0 898	3587	6761	0 87	12 2	98 0	F
11	1 00	0 898	3705	6761	0 80	13 5	91 3	F
12	1 00	0 898	4190	6761	0 77	15 8	88 2	F

Segment 7: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 898	0 894	5511	582	5918	1972	1 16	0 29	60 3	60 4	29 5	26 7	F
2	1 00	1 00	0 898	0 894	4994	607	5918	1972	1 22	0 31	34 7	53 1	48 0	34 7	F
3	1 00	1 00	0 898	0 894	4155	569	5918	1972	1 14	0 29	19 9	56 0	69 6	32 4	F
4	1 00	1 00	0 898	0 894	4246	579	5918	1972	1 16	0 29	58 8	62 5	22 0	20 7	F
5	1 00	1 00	0 898	0 894	3788	555	5918	1972	1 11	0 28	17 3	56 8	73 1	31 6	F
6	1 00	1 00	0 898	0 894	3897	591	5918	1972	1 18	0 30	58 2	62 9	20 1	19 0	F
7	1 00	1 00	0 898	0 894	4340	539	5918	1972	1 08	0 27	24 8	57 7	58 4	30 7	F
8	1 00	1 00	0 898	0 894	3734	566	5918	1972	1 13	0 29	15 6	56 2	79 6	32 2	F
9	1 00	1 00	0 898	0 894	4089	544	5918	1972	1 09	0 28	18 8	57 4	72 7	30 9	F
10	1 00	1 00	0 898	0 894	4049	544	5918	1972	1 09	0 28	18 3	57 4	73 9	30 9	F
11	1 00	1 00	0 898	0 894	4445	501	5918	1972	1 00	0 25	59 0	62 4	23 0	21 3	C
12	1 00	1 00	0 898	0 894	4616	483	5918	1972	0 97	0 25	29 3	60 0	52 6	27 4	F

Segment 8: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1 00	0 898	5511	6761	1 02	61 9	29 7	F
2	1 00	0 898	4813	6761	1 06	24 4	65 9	F
3	1 00	0 898	3989	6761	1 00	18 6	71 4	F
4	1 00	0 898	4408	6761	1 01	21 7	67 8	F
5	1 00	0 898	3843	6761	0 97	17 0	75 4	F
6	1 00	0 898	3983	6761	1 03	17 6	75 5	F
7	1 00	0 898	3832	6761	0 94	17 8	71 7	F
8	1 00	0 898	3985	6761	0 99	17 2	77 3	F
9	1 00	0 898	4050	6761	0 95	18 4	73 3	F
10	1 00	0 898	4236	6761	0 95	19 5	72 3	F
11	1 00	0 898	4321	6761	0 88	20 3	70 8	F
12	1 00	0 898	4489	6761	0 85	21 2	70 5	F

Segment 9: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 898	0 893	5507	450	5918	1972	1 16	0 23	64 9	60 5	28 3	20 8	F
2	1 00	1 00	0 898	0 893	4753	470	5918	1972	1 21	0 24	25 2	60 4	62 9	29 4	F

3	100	100	0.898	0.893	3996	440	5918	1972	1.14	0.22	20.4	60.5	65.3	25.5	F
4	100	100	0.898	0.893	4348	449	5918	1972	1.16	0.23	22.8	60.5	63.4	26.5	F
5	100	100	0.898	0.893	3909	430	5918	1972	1.11	0.22	18.4	60.5	70.9	24.9	F
6	100	100	0.898	0.893	3925	457	5918	1972	1.18	0.23	17.0	60.5	77.0	27.6	F
7	100	100	0.898	0.893	3851	418	5918	1972	1.08	0.21	17.5	60.6	73.4	24.2	F
8	100	100	0.898	0.893	3968	438	5918	1972	1.13	0.22	19.4	60.5	68.1	25.3	F
9	100	100	0.898	0.893	4045	421	5918	1972	1.09	0.21	18.9	60.6	71.5	24.4	F
10	100	100	0.898	0.893	4253	421	5918	1972	1.09	0.21	20.1	60.6	70.5	24.3	F
11	100	100	0.898	0.893	4415	387	5918	1972	1.00	0.20	26.5	60.7	55.6	22.4	F
12	100	100	0.898	0.893	4490	374	5918	1972	0.97	0.19	65.2	60.7	23.0	16.3	B

Segment 10: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.898	4690	6761	0.95	23.9	65.4	F
2	100	0.898	4456	6761	0.99	16.5	89.9	F
3	100	0.898	3731	6761	0.93	14.4	86.6	F
4	100	0.898	4029	6761	0.95	15.2	88.6	F
5	100	0.898	3631	6761	0.91	12.9	93.7	F
6	100	0.898	3704	6761	0.97	13.5	91.4	F
7	100	0.898	3645	6761	0.88	13.2	92.1	F
8	100	0.898	3655	6761	0.93	13.2	92.6	F
9	100	0.898	3821	6761	0.89	14.1	90.3	F
10	100	0.898	3892	6761	0.89	14.6	89.1	F
11	100	0.898	4077	6761	0.82	15.6	87.0	F
12	100	0.898	4324	6761	0.79	17.4	82.6	F

Segment 11: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.898	0.893	5511	821	5918	1972	1.23	0.42	62.6	60.8	29.3	24.9	F
2	100	100	0.898	0.893	5303	858	5918	1972	1.28	0.44	63.0	61.3	28.1	24.0	F
3	100	100	0.898	0.893	4522	803	5918	1972	1.20	0.41	64.5	63.0	23.4	20.1	F
4	100	100	0.898	0.893	4863	819	5918	1972	1.22	0.42	63.9	62.4	25.3	21.6	F
5	100	100	0.898	0.893	4393	783	5918	1972	1.17	0.40	64.6	63.2	22.8	19.4	F
6	100	100	0.898	0.893	4474	833	5918	1972	1.24	0.42	64.4	63.0	23.5	20.2	F
7	100	100	0.898	0.893	4414	761	5918	1972	1.14	0.39	21.9	55.7	67.2	30.6	F
8	100	100	0.898	0.893	4445	798	5918	1972	1.19	0.40	64.6	63.1	23.0	19.7	F
9	100	100	0.898	0.893	4608	767	5918	1972	1.15	0.39	26.0	55.4	59.1	30.9	F
10	100	100	0.898	0.893	4707	767	5918	1972	1.14	0.39	64.3	62.8	24.2	20.6	F
11	100	100	0.898	0.893	4729	707	5918	1972	1.06	0.36	28.9	58.4	54.6	28.1	F
12	100	100	0.898	0.893	5077	682	5918	1972	1.02	0.35	34.0	59.4	49.7	27.0	F

Segment 12: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.898	5511	6761	1.07	61.9	29.7	F
2	1.00	0.898	5087	6761	1.12	30.4	55.7	F
3	1.00	0.898	4552	6761	1.05	22.4	67.8	F
4	1.00	0.898	4451	6761	1.07	21.0	70.8	F
5	1.00	0.898	4552	6761	1.02	20.4	74.4	F
6	1.00	0.898	4424	6761	1.09	20.6	71.6	F
7	1.00	0.898	4643	6761	0.99	22.4	69.1	F
8	1.00	0.898	4498	6761	1.04	22.4	67.0	F
9	1.00	0.898	4583	6761	1.00	22.5	67.8	F
10	1.00	0.898	4580	6761	1.00	22.4	68.0	F
11	1.00	0.898	4475	6761	0.92	20.9	71.2	F
12	1.00	0.898	4964	6761	0.89	23.2	71.2	F

Segment 13: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.898	0.894	5511	592	5918	1972	1.22	0.30	64.5	60.1	28.5	28.9	F
2	1.00	1.00	0.898	0.894	4947	619	5918	1972	1.28	0.31	27.5	60.0	60.0	40.6	F
3	1.00	1.00	0.898	0.894	4546	579	5918	1972	1.20	0.29	23.3	60.1	65.1	36.5	F
4	1.00	1.00	0.898	0.894	4451	591	5918	1972	1.22	0.30	21.3	60.1	69.8	37.6	F
5	1.00	1.00	0.898	0.894	4549	565	5918	1972	1.17	0.29	24.9	60.2	60.8	34.9	F
6	1.00	1.00	0.898	0.894	4427	601	5918	1972	1.24	0.30	20.6	60.1	71.6	38.7	F
7	1.00	1.00	0.898	0.894	4639	549	5918	1972	1.14	0.28	24.6	60.2	62.9	33.5	F
8	1.00	1.00	0.898	0.894	4499	576	5918	1972	1.19	0.29	22.2	60.2	67.7	36.1	F
9	1.00	1.00	0.898	0.894	4611	554	5918	1972	1.15	0.28	27.0	60.2	57.0	33.7	F
10	1.00	1.00	0.898	0.894	4551	553	5918	1972	1.14	0.28	22.1	60.2	68.7	33.7	F
11	1.00	1.00	0.898	0.894	4626	510	5918	1972	1.06	0.26	64.8	60.3	23.8	25.0	F
12	1.00	1.00	0.898	0.894	4807	492	5918	1972	1.02	0.25	29.2	60.4	54.8	30.8	F

Segment 14: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.898	4591	6761	0.99	23.0	66.6	F
2	1.00	0.898	4439	6761	1.03	16.0	92.3	F
3	1.00	0.898	4155	6761	0.96	14.4	96.3	F
4	1.00	0.898	4098	6761	0.98	13.9	98.4	F
5	1.00	0.898	4152	6761	0.94	14.4	96.1	F
6	1.00	0.898	4102	6761	1.00	14.1	97.2	F
7	1.00	0.898	4211	6761	0.91	15.2	92.7	F
8	1.00	0.898	4155	6761	0.96	14.3	96.5	F
9	1.00	0.898	4217	6761	0.92	15.5	90.7	F

10	100		0.898		4176		6761		0.92		14.4		96.7		F
11	100		0.898		4341		6761		0.85		15.8		91.6		F
12	100		0.898		4282		6761		0.82		15.6		91.4		F
Segment 15: Merge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.900	0.914	5511	1100	5918	1972	1.31	0.56	60.8	58.4	31.2	30.2	F
2	100	100	0.900	0.914	5310	1149	5918	1972	1.37	0.58	33.3	52.5	53.1	42.2	F
3	100	100	0.900	0.914	5088	1075	5918	1972	1.28	0.55	29.4	52.5	57.8	38.9	F
4	100	100	0.900	0.914	5080	1096	5918	1972	1.30	0.56	26.1	52.5	64.9	39.7	F
5	100	100	0.900	0.914	5112	1049	5918	1972	1.25	0.53	28.8	52.5	59.2	38.0	F
6	100	100	0.900	0.914	5069	1116	5918	1972	1.33	0.57	26.9	52.5	62.8	40.4	F
7	100	100	0.900	0.914	5147	1020	5918	1972	1.21	0.52	30.2	52.5	56.8	36.9	F
8	100	100	0.900	0.914	5087	1069	5918	1972	1.27	0.54	29.4	52.5	57.8	38.7	F
9	100	100	0.900	0.914	5140	1027	5918	1972	1.22	0.52	31.1	52.5	55.1	37.2	F
10	100	100	0.900	0.914	5134	1027	5918	1972	1.22	0.52	29.1	52.5	58.7	37.2	F
11	100	100	0.900	0.914	5242	947	5918	1972	1.13	0.48	38.4	54.7	45.5	34.4	F
12	100	100	0.900	0.914	5248	914	5918	1972	1.09	0.46	30.7	56.0	57.1	33.2	F
Segment 16: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	100		0.900		5511		6761		1.15		61.9		29.7		F
2	100		0.900		5191		6761		1.20		26.5		65.4		F
3	100		0.900		5092		6761		1.12		23.8		71.3		F
4	100		0.900		5079		6761		1.14		21.0		80.8		F
5	100		0.900		5114		6761		1.10		22.1		77.1		F
6	100		0.900		5065		6761		1.17		21.1		80.1		F
7	100		0.900		5152		6761		1.07		24.4		70.4		F
8	100		0.900		5084		6761		1.12		23.5		72.1		F
9	100		0.900		5142		6761		1.07		25.2		68.0		F
10	100		0.900		5134		6761		1.07		22.2		77.0		F
11	100		0.900		5243		6761		0.99		27.6		63.4		F
12	100		0.900		5238		6761		0.95		22.9		76.2		F
Segment 17: Diverge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.900	1.000	5511	575	5918	1972	1.31	0.29	64.6	60.2	28.4	28.6	F
2	100	100	0.900	1.000	5110	601	5918	1972	1.37	0.30	27.9	60.1	61.1	44.8	F
3	100	100	0.900	1.000	5087	562	5918	1972	1.28	0.29	26.4	60.2	64.3	40.4	F
4	100	100	0.900	1.000	5080	573	5918	1972	1.31	0.29	25.9	60.2	65.5	41.7	F

5	100	100	0.900	1000	5111	548	5918	1972	1.25	0.28	26.5	60.2	64.4	38.8	F
6	100	100	0.900	1000	5070	583	5918	1972	1.33	0.30	25.7	60.1	65.6	42.9	F
7	100	100	0.900	1000	5146	533	5918	1972	1.22	0.27	27.3	60.2	62.7	37.0	F
8	100	100	0.900	1000	5087	559	5918	1972	1.28	0.28	26.6	60.2	63.8	40.0	F
9	100	100	0.900	1000	5139	537	5918	1972	1.23	0.27	27.4	60.2	62.5	37.5	F
10	100	100	0.900	1000	5134	537	5918	1972	1.23	0.27	26.7	60.2	64.2	37.5	F
11	100	100	0.900	1000	5237	495	5918	1972	1.13	0.25	32.0	60.4	54.5	32.9	F
12	100	100	0.900	1000	5236	478	5918	1972	1.09	0.24	29.2	60.4	59.8	32.1	F

Segment 18: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.900	4707	6761	1.05	24.9	63.1	F
2	100	0.900	4664	6761	1.10	17.4	89.4	F
3	100	0.900	4717	6761	1.03	17.7	88.8	F
4	100	0.900	4702	6761	1.05	17.6	89.1	F
5	100	0.900	4737	6761	1.01	17.9	88.4	F
6	100	0.900	4688	6761	1.07	17.5	89.4	F
7	100	0.900	4758	6761	0.98	18.0	87.9	F
8	100	0.900	4722	6761	1.02	17.7	88.7	F
9	100	0.900	4752	6761	0.98	18.0	88.0	F
10	100	0.900	4753	6761	0.98	18.0	88.1	F
11	100	0.900	4811	6761	0.91	18.7	85.8	F
12	100	0.900	4836	6761	0.88	18.7	86.2	F

Segment 19: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.901	1000	5511	804	5918	1972	1.34	0.41	61.9	59.9	29.7	27.4	F
2	100	100	0.901	1000	5504	840	5918	1972	1.40	0.43	61.9	59.9	29.6	27.5	F
3	100	100	0.901	1000	5504	787	5918	1972	1.31	0.40	62.0	60.0	29.6	27.4	F
4	100	100	0.901	1000	5504	802	5918	1972	1.33	0.41	61.9	59.9	29.6	27.4	F
5	100	100	0.901	1000	5504	767	5918	1972	1.28	0.39	62.0	60.0	29.6	27.3	F
6	100	100	0.901	1000	5504	816	5918	1972	1.36	0.41	61.9	59.9	29.6	27.4	F
7	100	100	0.901	1000	5504	746	5918	1972	1.24	0.38	62.0	60.0	29.6	27.2	F
8	100	100	0.901	1000	5504	782	5918	1972	1.30	0.40	62.0	60.0	29.6	27.3	F
9	100	100	0.901	1000	5504	752	5918	1972	1.25	0.38	62.0	60.0	29.6	27.3	F
10	100	100	0.901	1000	5504	751	5918	1972	1.25	0.38	62.0	60.0	29.6	27.3	F
11	100	100	0.901	1000	5504	693	5918	1972	1.15	0.35	62.1	60.1	29.5	27.1	F
12	100	100	0.901	1000	5504	668	5918	1972	1.11	0.34	62.1	60.2	29.5	27.0	F

Segment 20: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
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1	1 00	0 901	5511	6761	1 18	61 9	297	F
2	1 00	0 901	5504	6761	1 24	62 0	29 6	F
3	1 00	0 901	5504	6761	1 16	62 0	29 6	F
4	1 00	0 901	5504	6761	1 18	62 0	29 6	F
5	1 00	0 901	5504	6761	1 13	62 0	29 6	F
6	1 00	0 901	5504	6761	1 20	62 0	29 6	F
7	1 00	0 901	5504	6761	1 10	62 0	29 6	F
8	1 00	0 901	5504	6761	1 15	62 0	29 6	F
9	1 00	0 901	5504	6761	1 11	62 0	29 6	F
10	1 00	0 901	5504	6761	1 11	62 0	29 6	F
11	1 00	0 901	5504	6761	1 02	62 0	29 6	F
12	1 00	0 901	5504	6761	0 98	62 0	29 6	D

Segment 21: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1 00	0 901	5511	6761	1 18	61 9	297	F
2	1 00	0 901	5504	6761	1 24	62 0	29 6	F
3	1 00	0 901	5504	6761	1 16	62 0	29 6	F
4	1 00	0 901	5504	6761	1 18	62 0	29 6	F
5	1 00	0 901	5504	6761	1 13	62 0	29 6	F
6	1 00	0 901	5504	6761	1 20	62 0	29 6	F
7	1 00	0 901	5504	6761	1 10	62 0	29 6	F
8	1 00	0 901	5504	6761	1 15	62 0	29 6	F
9	1 00	0 901	5504	6761	1 11	62 0	29 6	F
10	1 00	0 901	5504	6761	1 11	62 0	29 6	F
11	1 00	0 901	5504	6761	1 02	62 0	29 6	F
12	1 00	0 901	5504	6761	0 98	62 0	29 6	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost \$/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	11015	14092	99 03	2475 76	43 4	40 6	36 5	12 80	F
2	10161	14726	273 23	683076	24 4	66 5	59 8	22 80	F
3	9006	13793	344 52	8613 08	19 1	75 3	67 8	29 10	F
4	8959	14053	355 58	8889 49	18 6	76 8	69 2	29 90	F
5	8982	13448	352 30	8807 40	18 8	76 5	68 9	29 60	F
6	8612	14307	375 44	9386 01	17 4	79 2	71 4	32 00	F
7	9008	13075	350 73	8768 15	18 9	76 3	68 7	29 50	F
8	8761	13702	367 95	9198 69	17 8	78 5	70 7	31 20	F
9	9044	13174	336 09	8402 20	19 5	74 1	66 7	28 50	F
10	9079	13164	349 18	8729 61	19 1	76 2	68 6	29 20	F
11	9175	12140	309 04	7726 05	21 0	69 9	63 0	26 50	F
12	9653	11711	306 86	7671 53	21 8	70 7	63 7	25 50	F

Facility Overall Results

Space Mean Speed, mi/h	20.7	Average Density, veh/mi/ln	64.6
Average Travel Time, min	26.90	Average Density, pc/mi/ln	71.7
Total VMT, veh-mi	111454	Total VHD, veh-h	381995
Vehicle Value of Time (VOT), \$/h	25.00	Total Delay Cost, \$	9549874

HCS Freeway Facilities Report

Project Information

Analyst	Kittelson & Associates	Date	11/6/2023
Agency	Florida Department of Transportation	Analysis Year	2040 No-Build Conditions
Jurisdiction	District Five	Time Analyzed	WM Weekend Peak Period
Facility Name	I-75 (Southbound)	Units	U.S. Customary
Project Description	I-75 PD&E North Auxillary Lanes		

Facility Global Input

Jam Density, pc/mi/ln	1900	Density at Capacity, pc/mi/ln	450
Queue Discharge Capacity Drop, %	7	Total Segments	21
Total Analysis Periods	12	Analysis Period Duration, min	15
Facility Length, mi	9.27		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-75 SB	5280	3
2	Basic	Basic	I-75 SB	1500	3
3	Diverge	Diverge	I-75 SB SR 326 Off Ramp	1500	3
4	Basic	Basic	I-75 SB	1836	3
5	Merge	Merge	I-75 SB SR 326 WB On Ramp	1500	3
6	Basic	Basic	I-75 SB	416	3
7	Merge	Merge	I-75 SB SR 326 EB On Ramp	1500	3
8	Basic	Basic	I-75 SB	4405	3
9	Diverge	Diverge	I-75 SB 49th St DDI Off Ramp	1500	3
10	Basic	Basic	I-75 SB	3253	3
11	Merge	Merge	I-75 SB 49th St DDI On Ramp	1500	3
12	Basic	Basic	I-75 SB	5830	3
13	Diverge	Diverge	I-75 SB US 27 Off Ramp	1500	3
14	Basic	Basic	I-75 SB	3189	3
15	Merge	Merge	I-75 SB US 27 On Ramp	1500	3
16	Basic	Basic	I-75 SB	1415	3
17	Diverge	Diverge	I-75 SB SR 40 Off Ramp	1500	3
18	Basic	Basic	I-75 SB	2836	3
19	Merge	Merge	I-75 SB SR 40 On Ramp	1500	3
20	Basic	Basic	I-75 SB	1500	3
21	Basic	Basic	I-75 SB	3968	3

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
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1	1 00	0 901	4947	6761	073	65 7	25 1	C
2	1 00	0 901	4947	6761	073	65 7	25 1	C
3	1 00	0 901	4947	6761	073	65 7	25 1	C
4	1 00	0 901	4947	6761	073	65 7	25 1	C
5	1 00	0 901	3102	6761	076	11 2	92 5	F
6	1 00	0 901	4531	6761	076	16 3	92 8	F
7	1 00	0 901	4410	6761	076	15 4	95 4	F
8	1 00	0 901	3929	6761	076	12 4	105 7	F
9	1 00	0 901	3083	6761	077	8 3	123 9	F
10	1 00	0 901	4539	6761	077	16 3	92 7	F
11	1 00	0 901	4198	6761	077	14 0	1000	F
12	1 00	0 901	3912	6761	077	12 3	1061	F

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1 00	0 901	4947	6761	073	65 7	25 1	C
2	1 00	0 901	4947	6761	073	65 7	25 1	C
3	1 00	0 901	4947	6761	073	65 7	25 1	C
4	1 00	0 901	4828	6761	073	26 3	61 3	F
5	1 00	0 901	3187	6761	076	9 6	1103	F
6	1 00	0 901	4470	6761	076	17 4	85 8	F
7	1 00	0 901	4235	6761	076	14 4	97 8	F
8	1 00	0 901	3929	6761	076	12 4	105 7	F
9	1 00	0 901	3206	6761	077	9 3	115 4	F
10	1 00	0 901	4488	6761	077	18 4	81 2	F
11	1 00	0 901	4127	6761	077	14 5	94 7	F
12	1 00	0 901	3912	6761	077	12 3	1061	F

Segment 3: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 901	0 919	4947	651	5918	1972	0 84	0 33	64 5	60 0	25 6	30 1	D
2	1 00	1 00	0 901	0 919	4947	651	5918	1972	0 84	0 33	64 5	60 0	25 6	30 1	D
3	1 00	1 00	0 901	0 919	4828	651	5918	1972	0 84	0 33	64 5	60 0	25 0	29 6	F
4	1 00	1 00	0 901	0 919	4734	651	5918	1972	0 84	0 33	28 6	60 0	55 3	30 1	F
5	1 00	1 00	0 901	0 919	3381	677	5918	1972	0 87	0 34	12 3	59 9	91 9	31 0	F
6	1 00	1 00	0 901	0 919	4488	677	5918	1972	0 87	0 34	64 4	59 9	23 2	28 1	D
7	1 00	1 00	0 901	0 919	4007	677	5918	1972	0 87	0 34	15 2	59 9	87 7	31 0	F
8	1 00	1 00	0 901	0 919	3929	677	5918	1972	0 87	0 34	14 0	59 9	93 7	31 0	F
9	1 00	1 00	0 901	0 919	3195	688	5918	1972	0 88	0 35	10 8	59 8	98 4	31 4	F
10	1 00	1 00	0 901	0 919	4695	688	5918	1972	0 88	0 35	34 1	59 8	45 9	31 4	F
11	1 00	1 00	0 901	0 919	3932	688	5918	1972	0 88	0 35	14 6	59 8	90 0	31 4	F

12	100	100	0901	0919	3912	688	5918	1972	088	035	139	598	942	314	F
Segment 4: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	100		0898		4296		6761		064		688		208		C
2	100		0898		4296		6761		064		688		208		C
3	100		0898		4027		6761		064		697		193		F
4	100		0898		3854		6761		064		125		1031		F
5	100		0898		2914		6761		066		77		1254		F
6	100		0898		3984		6761		066		131		1017		F
7	100		0898		3413		6761		066		97		1168		F
8	100		0898		3413		6761		066		97		1168		F
9	100		0898		2973		6761		067		80		1241		F
10	100		0898		3891		6761		067		135		961		F
11	100		0898		3404		6761		067		97		1168		F
12	100		0898		3398		6761		067		97		1171		F
Segment 5: Merge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0886	0926	5436	1140	5918	1878	093	061	617	596	294	253	C
2	100	100	0886	0926	5436	1140	5918	1878	093	061	617	596	294	253	C
3	100	100	0886	0926	4534	1140	5918	1878	093	061	244	594	620	256	F
4	100	100	0886	0926	5076	1140	5918	1878	093	061	265	594	637	256	F
5	100	100	0886	0926	3633	1187	5918	1878	097	063	126	585	962	268	F
6	100	100	0886	0926	4827	1187	5918	1878	097	063	282	585	570	268	F
7	100	100	0886	0926	4266	1187	5918	1878	097	063	166	585	855	268	F
8	100	100	0886	0926	4266	1187	5918	1878	097	063	166	585	855	268	F
9	100	100	0886	0926	3786	1206	5918	1878	098	064	134	581	945	273	F
10	100	100	0886	0926	4658	1206	5918	1878	098	064	216	581	719	273	F
11	100	100	0886	0926	4247	1206	5918	1878	098	064	165	581	859	273	F
12	100	100	0886	0926	4247	1206	5918	1878	098	064	165	581	859	273	F
Segment 6: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	100		0886		5436		6761		082		625		290		D
2	100		0886		5436		6761		082		625		290		D
3	100		0886		4534		6761		082		613		223		C
4	100		0886		5013		6761		082		209		801		F
5	100		0886		3671		6761		085		129		949		F
6	100		0886		4790		6761		085		231		691		F
7	100		0886		4266		6761		085		144		985		F

8	1 00	0 886	4266	6761	0 85	14 4	98 5	F
9	1 00	0 886	3807	6761	0 87	13 7	92 8	F
10	1 00	0 886	4637	6761	0 87	18 1	85 3	F
11	1 00	0 886	4247	6761	0 87	14 3	98 9	F
12	1 00	0 886	4247	6761	0 87	14 3	98 9	F

Segment 7: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 887	0 924	5647	211	5918	1972	0 97	0 11	62 3	60 6	30 2	26 3	C
2	1 00	1 00	0 887	0 924	5642	211	5918	1972	0 97	0 11	62 3	60 6	30 2	26 3	F
3	1 00	1 00	0 887	0 924	4750	211	5918	1972	0 97	0 11	63 8	62 2	24 8	22 1	C
4	1 00	1 00	0 887	0 924	5062	211	5918	1972	0 97	0 11	33 2	60 4	50 9	26 8	F
5	1 00	1 00	0 887	0 924	4054	220	5918	1972	1 01	0 11	58 8	63 0	20 9	18 8	F
6	1 00	1 00	0 887	0 924	4847	220	5918	1972	1 01	0 11	28 7	59 7	56 3	28 0	F
7	1 00	1 00	0 887	0 924	4486	220	5918	1972	1 01	0 11	18 7	59 7	80 1	28 0	F
8	1 00	1 00	0 887	0 924	4486	220	5918	1972	1 01	0 11	18 7	59 7	80 1	28 0	F
9	1 00	1 00	0 887	0 924	4193	223	5918	1972	1 03	0 11	59 0	62 8	21 7	19 5	F
10	1 00	1 00	0 887	0 924	4698	223	5918	1972	1 03	0 11	24 8	59 4	63 3	28 4	F
11	1 00	1 00	0 887	0 924	4470	223	5918	1972	1 03	0 11	18 5	59 4	80 5	28 4	F
12	1 00	1 00	0 887	0 924	4470	223	5918	1972	1 03	0 11	18 5	59 4	80 5	28 4	F

Segment 8: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1 00	0 887	5647	6761	0 85	60 9	30 9	D
2	1 00	0 887	5150	6761	0 85	31 8	54 0	F
3	1 00	0 887	4962	6761	0 85	20 9	79 2	F
4	1 00	0 887	4738	6761	0 85	19 6	80 8	F
5	1 00	0 887	4417	6761	0 89	19 9	73 9	F
6	1 00	0 887	4494	6761	0 89	18 4	81 4	F
7	1 00	0 887	4486	6761	0 89	15 9	93 8	F
8	1 00	0 887	4486	6761	0 89	15 9	93 8	F
9	1 00	0 887	4429	6761	0 90	19 6	75 4	F
10	1 00	0 887	4470	6761	0 90	17 3	86 0	F
11	1 00	0 887	4470	6761	0 90	15 8	94 1	F
12	1 00	0 887	4470	6761	0 90	15 8	94 1	F

Segment 9: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 887	0 893	5594	460	5918	1972	0 97	0 23	64 9	60 5	28 7	21 2	F
2	1 00	1 00	0 887	0 893	5080	460	5918	1972	0 97	0 23	26 3	60 5	64 4	21 8	F

3	100	100	0.887	0.893	5085	460	5918	1972	0.97	0.23	64.9	60.5	26.1	19.0	B
4	100	100	0.887	0.893	4571	460	5918	1972	0.97	0.23	20.3	60.5	75.1	21.8	F
5	100	100	0.887	0.893	4423	479	5918	1972	1.01	0.24	21.4	60.4	69.0	22.8	F
6	100	100	0.887	0.893	4487	479	5918	1972	1.01	0.24	19.5	60.4	76.7	22.8	F
7	100	100	0.887	0.893	4486	479	5918	1972	1.01	0.24	18.7	60.4	80.1	22.8	F
8	100	100	0.887	0.893	4486	479	5918	1972	1.01	0.24	18.7	60.4	80.1	22.8	F
9	100	100	0.887	0.893	4430	487	5918	1972	1.03	0.25	22.2	60.4	66.5	23.1	F
10	100	100	0.887	0.893	4470	487	5918	1972	1.03	0.25	19.5	60.4	76.6	23.1	F
11	100	100	0.887	0.893	4470	487	5918	1972	1.03	0.25	18.5	60.4	80.5	23.1	F
12	100	100	0.887	0.893	4470	487	5918	1972	1.03	0.25	18.5	60.4	80.5	23.1	F

Segment 10: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.887	4676	6761	0.78	25.1	62.1	F
2	100	0.887	4669	6761	0.78	17.3	89.9	F
3	100	0.887	4617	6761	0.78	17.5	88.0	F
4	100	0.887	4188	6761	0.78	13.9	100.2	F
5	100	0.887	4074	6761	0.82	14.1	96.3	F
6	100	0.887	4127	6761	0.82	13.6	101.3	F
7	100	0.887	4127	6761	0.82	13.6	101.5	F
8	100	0.887	4127	6761	0.82	13.6	101.5	F
9	100	0.887	4079	6761	0.83	13.9	97.5	F
10	100	0.887	4113	6761	0.83	13.5	101.2	F
11	100	0.887	4113	6761	0.83	13.5	101.8	F
12	100	0.887	4113	6761	0.83	13.5	101.8	F

Segment 11: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.888	0.893	5511	835	5918	1972	1.04	0.42	62.6	60.8	29.3	24.9	F
2	100	100	0.888	0.893	5504	835	5918	1972	1.04	0.42	62.6	60.8	29.3	24.9	F
3	100	100	0.888	0.893	5338	835	5918	1972	1.04	0.42	63.0	61.3	28.2	24.0	F
4	100	100	0.888	0.893	5023	835	5918	1972	1.04	0.42	25.0	58.6	66.9	27.9	F
5	100	100	0.888	0.893	4947	869	5918	1972	1.08	0.44	26.2	57.3	63.0	29.2	F
6	100	100	0.888	0.893	4996	869	5918	1972	1.08	0.44	24.6	57.3	67.6	29.2	F
7	100	100	0.888	0.893	4996	869	5918	1972	1.08	0.44	24.6	57.3	67.6	29.2	F
8	100	100	0.888	0.893	4996	869	5918	1972	1.08	0.44	24.6	57.3	67.6	29.2	F
9	100	100	0.888	0.893	4966	884	5918	1972	1.09	0.45	26.9	56.7	61.5	29.7	F
10	100	100	0.888	0.893	4997	884	5918	1972	1.09	0.45	24.7	56.7	67.5	29.7	F
11	100	100	0.888	0.893	4997	884	5918	1972	1.09	0.45	24.6	56.7	67.6	29.7	F
12	100	100	0.888	0.893	4997	884	5918	1972	1.09	0.45	24.6	56.7	67.6	29.7	F

Segment 12: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.888	5511	6761	0.91	61.9	29.7	D
2	1.00	0.888	5207	6761	0.91	64.1	27.1	F
3	1.00	0.888	5023	6761	0.91	22.4	74.7	F
4	1.00	0.888	5023	6761	0.91	20.4	82.3	F
5	1.00	0.888	4981	6761	0.94	21.5	77.1	F
6	1.00	0.888	4996	6761	0.94	20.1	82.8	F
7	1.00	0.888	4996	6761	0.94	20.1	82.8	F
8	1.00	0.888	4996	6761	0.94	20.1	82.8	F
9	1.00	0.888	4986	6761	0.96	21.0	79.1	F
10	1.00	0.888	4997	6761	0.96	20.1	82.8	F
11	1.00	0.888	4997	6761	0.96	20.1	82.8	F
12	1.00	0.888	4997	6761	0.96	20.1	82.8	F

Segment 13: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.888	0.933	5511	503	5918	1972	1.04	0.25	64.7	60.3	28.4	28.8	F
2	1.00	1.00	0.888	0.933	5087	503	5918	1972	1.04	0.25	29.0	60.3	58.5	31.3	F
3	1.00	1.00	0.888	0.933	5023	503	5918	1972	1.04	0.25	25.0	60.3	66.9	31.3	F
4	1.00	1.00	0.888	0.933	5023	503	5918	1972	1.04	0.25	25.0	60.3	66.9	31.3	F
5	1.00	1.00	0.888	0.933	4883	523	5918	1972	1.08	0.27	25.0	60.3	66.5	32.2	F
6	1.00	1.00	0.888	0.933	4896	523	5918	1972	1.08	0.27	24.6	60.3	67.6	32.2	F
7	1.00	1.00	0.888	0.933	4896	523	5918	1972	1.08	0.27	24.6	60.3	67.6	32.2	F
8	1.00	1.00	0.888	0.933	4896	523	5918	1972	1.08	0.27	24.6	60.3	67.6	32.2	F
9	1.00	1.00	0.888	0.933	4888	532	5918	1972	1.10	0.27	24.8	60.3	67.0	32.6	F
10	1.00	1.00	0.888	0.933	4897	532	5918	1972	1.10	0.27	24.6	60.3	67.6	32.6	F
11	1.00	1.00	0.888	0.933	4897	532	5918	1972	1.10	0.27	24.6	60.3	67.6	32.6	F
12	1.00	1.00	0.888	0.933	4897	532	5918	1972	1.10	0.27	24.6	60.3	67.6	32.6	F

Segment 14: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.887	4618	6761	0.83	26.6	58.0	F
2	1.00	0.887	4611	6761	0.83	16.9	90.8	F
3	1.00	0.887	4611	6761	0.83	16.9	91.1	F
4	1.00	0.887	4611	6761	0.83	16.9	91.1	F
5	1.00	0.887	4587	6761	0.86	16.7	91.6	F
6	1.00	0.887	4587	6761	0.86	16.7	91.6	F
7	1.00	0.887	4587	6761	0.86	16.7	91.6	F
8	1.00	0.887	4587	6761	0.86	16.7	91.6	F
9	1.00	0.887	4587	6761	0.88	16.7	91.6	F

10	100		0.887		4587		6761		0.88		16.7		91.6		F
11	100		0.887		4587		6761		0.88		16.7		91.6		F
12	100		0.887		4587		6761		0.88		16.7		91.6		F
Segment 15: Merge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.893	0.943	5511	893	5918	1972	1.09	0.45	61.5	59.3	29.9	28.8	F
2	100	100	0.893	0.943	5504	893	5918	1972	1.09	0.45	61.6	59.4	29.8	28.8	F
3	100	100	0.893	0.943	5504	893	5918	1972	1.09	0.45	61.6	59.4	29.8	28.8	F
4	100	100	0.893	0.943	5504	893	5918	1972	1.09	0.45	61.6	59.4	29.8	28.8	F
5	100	100	0.893	0.943	5504	929	5918	1972	1.14	0.47	61.5	59.3	29.9	28.9	F
6	100	100	0.893	0.943	5504	929	5918	1972	1.14	0.47	61.5	59.3	29.9	28.9	F
7	100	100	0.893	0.943	5504	929	5918	1972	1.14	0.47	61.5	59.3	29.9	28.9	F
8	100	100	0.893	0.943	5504	929	5918	1972	1.14	0.47	61.5	59.3	29.9	28.9	F
9	100	100	0.893	0.943	5504	944	5918	1972	1.16	0.48	61.4	59.2	30.0	29.0	F
10	100	100	0.893	0.943	5504	944	5918	1972	1.16	0.48	61.4	59.2	30.0	29.0	F
11	100	100	0.893	0.943	5504	944	5918	1972	1.16	0.48	61.4	59.2	30.0	29.0	F
12	100	100	0.893	0.943	5504	944	5918	1972	1.16	0.48	61.4	59.2	30.0	29.0	F
Segment 16: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100		0.893		5511		6761		0.96		61.9		29.7		D
2	100		0.893		5504		6761		0.96		62.0		29.6		D
3	100		0.893		5504		6761		0.96		62.0		29.6		D
4	100		0.893		5504		6761		0.96		62.0		29.6		D
5	100		0.893		5504		6761		1.00		62.0		29.6		F
6	100		0.893		5504		6761		1.00		62.0		29.6		F
7	100		0.893		5504		6761		1.00		62.0		29.6		F
8	100		0.893		5504		6761		1.00		62.0		29.6		F
9	100		0.893		5504		6761		1.02		62.0		29.6		F
10	100		0.893		5504		6761		1.02		62.0		29.6		F
11	100		0.893		5504		6761		1.02		62.0		29.6		F
12	100		0.893		5504		6761		1.02		62.0		29.6		F
Segment 17: Diverge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.893	0.941	5511	510	5918	1972	1.10	0.26	64.7	60.3	28.4	28.5	F
2	100	100	0.893	0.941	5504	510	5918	1972	1.10	0.26	64.7	60.3	28.4	28.4	F
3	100	100	0.893	0.941	5504	510	5918	1972	1.10	0.26	64.7	60.3	28.4	28.4	F
4	100	100	0.893	0.941	5504	510	5918	1972	1.10	0.26	64.7	60.3	28.4	28.4	F

5	100	100	0.893	0.941	5504	530	5918	1972	1.15	0.27	64.7	60.3	28.4	28.4	F
6	100	100	0.893	0.941	5504	530	5918	1972	1.15	0.27	64.7	60.3	28.4	28.4	F
7	100	100	0.893	0.941	5504	530	5918	1972	1.15	0.27	64.7	60.3	28.4	28.4	F
8	100	100	0.893	0.941	5504	530	5918	1972	1.15	0.27	64.7	60.3	28.4	28.4	F
9	100	100	0.893	0.941	5504	539	5918	1972	1.16	0.27	64.6	60.2	28.4	28.5	F
10	100	100	0.893	0.941	5504	539	5918	1972	1.16	0.27	64.6	60.2	28.4	28.5	F
11	100	100	0.893	0.941	5504	539	5918	1972	1.16	0.27	64.6	60.2	28.4	28.5	F
12	100	100	0.893	0.941	5504	539	5918	1972	1.16	0.27	64.6	60.2	28.4	28.5	F

Segment 18: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.891	5001	6761	0.89	65.4	25.5	C
2	100	0.891	5073	6761	0.89	64.9	26.1	D
3	100	0.891	5073	6761	0.89	64.9	26.1	D
4	100	0.891	5073	6761	0.89	64.9	26.1	D
5	100	0.891	5073	6761	0.92	64.9	26.1	D
6	100	0.891	5074	6761	0.92	64.9	26.1	D
7	100	0.891	5074	6761	0.92	64.9	26.1	D
8	100	0.891	5074	6761	0.92	64.9	26.1	D
9	100	0.891	5074	6761	0.94	64.9	26.1	D
10	100	0.891	5073	6761	0.94	64.9	26.1	D
11	100	0.891	5073	6761	0.94	64.9	26.1	D
12	100	0.891	5073	6761	0.94	64.9	26.1	D

Segment 19: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.894	0.952	5497	496	5918	1972	1.09	0.25	62.3	60.5	29.4	26.6	F
2	100	100	0.894	0.952	5569	496	5918	1972	1.09	0.25	62.2	60.3	29.8	26.9	F
3	100	100	0.894	0.952	5569	496	5918	1972	1.09	0.25	62.2	60.3	29.8	26.9	F
4	100	100	0.894	0.952	5569	496	5918	1972	1.09	0.25	62.2	60.3	29.8	26.9	F
5	100	100	0.894	0.952	5589	516	5918	1972	1.14	0.26	62.1	60.2	30.0	27.0	F
6	100	100	0.894	0.952	5590	516	5918	1972	1.14	0.26	62.1	60.2	30.0	27.0	F
7	100	100	0.894	0.952	5590	516	5918	1972	1.14	0.26	62.1	60.2	30.0	27.0	F
8	100	100	0.894	0.952	5590	516	5918	1972	1.14	0.26	62.1	60.2	30.0	27.0	F
9	100	100	0.894	0.952	5598	524	5918	1972	1.16	0.27	62.1	60.2	30.0	27.1	F
10	100	100	0.894	0.952	5597	524	5918	1972	1.16	0.27	62.1	60.2	30.0	27.1	F
11	100	100	0.894	0.952	5597	524	5918	1972	1.16	0.27	62.1	60.2	30.0	27.1	F
12	100	100	0.894	0.952	5597	524	5918	1972	1.16	0.27	62.1	60.2	30.0	27.1	F

Segment 20: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
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1	1 00	0 894	5497	6761	0 96	62 0	29 6	D
2	1 00	0 894	5569	6761	0 96	61 5	30 2	D
3	1 00	0 894	5569	6761	0 96	61 5	30 2	D
4	1 00	0 894	5569	6761	0 96	61 5	30 2	D
5	1 00	0 894	5589	6761	1 00	61 3	30 4	F
6	1 00	0 894	5590	6761	1 00	61 3	30 4	F
7	1 00	0 894	5590	6761	1 00	61 3	30 4	F
8	1 00	0 894	5590	6761	1 00	61 3	30 4	F
9	1 00	0 894	5598	6761	1 02	61 2	30 5	F
10	1 00	0 894	5597	6761	1 02	61 2	30 5	F
11	1 00	0 894	5597	6761	1 02	61 2	30 5	F
12	1 00	0 894	5597	6761	1 02	61 2	30 5	F

Segment 21: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1 00	0 894	5497	6761	0 96	62 0	29 6	D
2	1 00	0 894	5569	6761	0 96	61 5	30 2	D
3	1 00	0 894	5569	6761	0 96	61 5	30 2	D
4	1 00	0 894	5569	6761	0 96	61 5	30 2	D
5	1 00	0 894	5589	6761	1 00	61 3	30 4	F
6	1 00	0 894	5590	6761	1 00	61 3	30 4	F
7	1 00	0 894	5590	6761	1 00	61 3	30 4	F
8	1 00	0 894	5590	6761	1 00	61 3	30 4	F
9	1 00	0 894	5598	6761	1 02	61 2	30 5	F
10	1 00	0 894	5597	6761	1 02	61 2	30 5	F
11	1 00	0 894	5597	6761	1 02	61 2	30 5	F
12	1 00	0 894	5597	6761	1 02	61 2	30 5	F

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost \$/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	10825	11687	48 08	1202 01	54 1	32 3	28 8	10 30	F
2	10625	11687	99 47	2486 79	42 7	40 2	35 8	13 00	F
3	10866	11687	150 01	3750 25	35 1	47 8	42 5	15 90	F
4	10249	11687	220 25	5506 33	28 1	58 9	52 4	19 80	F
5	9292	12161	291 81	7295 21	22 0	68 1	60 7	25 30	F
6	10028	12161	268 70	6717 49	24 5	66 1	58 9	22 70	F
7	9842	12161	310 33	7758 14	21 9	72 4	64 5	25 30	F
8	9709	12161	321 84	8046 01	21 2	73 9	65 9	26 20	F
9	9311	12358	316 59	7914 71	20 8	72 1	64 3	26 70	F
10	10009	12358	278 58	6964 51	23 9	67 7	60 3	23 30	F
11	9775	12358	314 81	7870 31	21 6	73 0	65 1	25 70	F
12	9695	12358	323 13	8078 37	21 1	74 1	66 1	26 30	F

Facility Overall Results

Space Mean Speed, mi/h	25.9	Average Density, veh/mi/ln	55.5
Average Travel Time, min	21.50	Average Density, pc/mi/ln	62.2
Total VMT, veh-mi	119726	Total VHD, veh-h	2943.60
Vehicle Value of Time (VOT), \$/h	25.00	Total Delay Cost, \$	7359012

**APPENDIX U – 2030 NO-BUILD SYNCHRO OUTPUT
REPORTS**

SR 40 Summary Tables

36: I-75 SB On-Ramp/I-75 SB Off-Ramp & SR 40

Approach	Movement	AM Peak Hour			PM Peak Hour			WKND Peak Hour		
		V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)
Westbound	Left	0.70	37.5 (D)	200	0.89	73.6 (E)	375	0.71	37.1 (D)	225
	Through	0.54	73.9 (E)	500	0.58	55.5 (E)	475	0.36	7.5 (A)	125
	Approach	0.56	68.3 (E)	-	0.64	59.1 (E)	-	0.45	14.8 (B)	-
Eastbound	Through	0.77	37.3 (D)	675	0.89	44.4 (D)	800	0.55	23.8 (C)	450
	Right	0.26	3.7 (A)	50	0.44	4.1 (A)	75	0.18	3.3 (A)	50
	Approach	0.70	32.3 (C)	-	0.79	35.5 (D)	-	0.50	21.0 (C)	-
Southbound	LT/RT Approach	1.30	189.5 (F)	825	1.25	169.0 (F)	725	1.04	97.5 (F)	575
		1.30	189.5 (F)	-	1.25	169.0 (F)	-	1.04	97.5 (F)	-
Overall Intersection		0.74	71.7 (E)	-	0.78	62.1 (E)	-	0.56	30.0 (C)	-

37: I-75 NB Off-Ramp/I-75 NB On-Ramp & SR 40

Approach	Movement	AM Peak Hour			PM Peak Hour			WKND Peak Hour		
		V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)
Westbound	Through	0.85	59.8 (E)	725	0.84	35.1 (D)	775	0.47	17.1 (B)	325
	Right	0.38	4.5 (A)	75	0.36	3.0 (A)	50	0.24	2.1 (A)	50
	Approach	0.76	48.9 (D)	-	0.75	29.4 (C)	-	0.42	14.1 (B)	-
Northbound	LT/RT Approach	1.32	199.9 (F)	1050	1.10	128.7 (F)	550	1.18	143.7 (F)	625
		1.32	199.9 (F)	-	1.10	128.7 (F)	-	1.18	143.7 (F)	-
Eastbound	Left	0.78	39.1 (D)	150	0.81	67.8 (E)	175	0.50	9.3 (A)	75
	Through	0.66	25.2 (C)	175	0.52	2.1 (A)	25	0.42	3.4 (A)	50
	Approach	0.68	27.0 (C)	-	0.57	12.3 (B)	-	0.43	4.3 (A)	-
Overall Intersection		0.83	68.4 (E)	-	0.71	32.8 (C)	-	0.54	29.0 (C)	-

SR 40 Synchro Reports



Lane Group	EBT	EBR	WBL	WBT	SBT
Lane Configurations	↑↑	↗	↖	↑↑	↓
Traffic Volume (vph)	1222	210	211	1170	0
Future Volume (vph)	1222	210	211	1170	0
Lane Group Flow (vph)	1286	221	222	1232	546
Turn Type	NA	Perm	pm+pt	NA	NA
Protected Phases	6		5	2	8
Permitted Phases		6	2		
Detector Phase	6	6	5	2	8
Switch Phase					
Minimum Initial (s)	15.0	15.0	5.0	15.0	8.0
Minimum Split (s)	28.8	28.8	11.8	25.8	38.1
Total Split (s)	66.0	66.0	36.0	102.0	38.0
Total Split (%)	47.1%	47.1%	25.7%	72.9%	27.1%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.1
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.1
Lead/Lag	Lag	Lag	Lead		
Lead/Lag Optimize?	Yes	Yes	Yes		
Recall Mode	C-Max	C-Max	Min	Max	None
Act Effct Green (s)	68.9	68.9	95.2	95.2	31.9
Actuated g/C Ratio	0.49	0.49	0.68	0.68	0.23
w/c Ratio	0.77	0.26	0.70	0.54	1.30
Control Delay (s/veh)	34.2	3.7	36.7	24.0	189.3
Queue Delay	3.1	0.0	0.8	49.9	0.1
Total Delay (s/veh)	37.3	3.7	37.5	73.9	189.5
LOS	D	A	D	E	F
Approach Delay (s/veh)	32.3			68.3	189.5
Approach LOS	C			E	F
Queue Length 50th (ft)	494	0	168	395	-576
Queue Length 95th (ft)	666	49	m195	m496	#308
Internal Link Dist (ft)	2515			323	481
Turn Bay Length (ft)		450	135		
Base Capacity (vph)	1661	835	418	2294	418
Starvation Cap Reductn	0	0	54	127.2	0
Spillback Cap Reductn	268	0	0	0	5
Storage Cap Reductn	0	0	0	0	0
Reduced w/c Ratio	0.92	0.26	0.61	1.21	1.32

Intersection Summary
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 91 (65%), Referenced to phase 6EBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 1.30
 Intersection Signal Delay (s/veh): 71.7
 Intersection LOS: E
 Intersection Capacity Utilization: 99.3%
 ICU Level of Service: F
 Analysis Period (min): 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

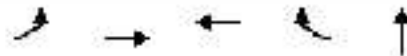
m Volume for 95th percentile queue is metered by upstream signal

Splits and Phases: 36 I-75 SB On-Ramp/I-75 SB Off-Ramp & SR 40



Timings
 37: I-75 NB Off-Ramp/I-75 NB On-Ramp & SR 40

2030 No-Build Conditions
 Timing Plan AM



Lane Group	EBL	EBT	WBT	WBR	NBT
Lane Configurations					
Traffic Volume (vph)	196	1273	1154	283	0
Future Volume (vph)	196	1273	1154	283	0
Lane Group Flow (vph)	206	1340	1215	298	710
Turn Type	pm+pt	NA	NA	Perm	NA
Protected Phases	1	6	2		4
Permitted Phases	6			2	
Detector Phase	1	6	2	2	4
Switch Phase					
Minimum Initial (s)	5.0	15.0	15.0	15.0	5.0
Minimum Split (s)	11.8	24.8	24.8	24.8	34.2
Total Split (s)	30.0	90.0	60.0	60.0	50.0
Total Split (%)	21.4%	64.3%	42.9%	42.9%	35.7%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.2
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.2
Lead/Lag	Lead		Lag	Lag	
Lead/Lag Optimize?	Yes		Yes	Yes	
Recall Mode	Min	Max	C-Max	C-Max	None
Act Effct Green (s)	83.2	83.2	58.6	58.6	43.8
Actuated g/C Ratio	0.59	0.59	0.42	0.42	0.31
w/c Ratio	0.78	0.66	0.85	0.38	1.32
Control Delay (s/veh)	38.7	13.1	44.5	4.5	192.9
Queue Delay	0.3	1.21	15.3	0.0	7.0
Total Delay (s/veh)	39.1	25.2	59.8	4.5	199.9
LOS	D	C	E	A	F
Approach Delay (s/veh)		27.0	48.9		199.9
Approach LOS		C	D		F
Queue Length 50th (ft)	93	546	525	0	-785
Queue Length 95th (ft)	m129	m171	#704	60	#1032
Internal Link Dist (ft)		323	2364		1319
Turn Bay Length (ft)	130			400	
Base Capacity (vph)	323	2024	1426	782	536
Starvation Cap Reductn	9	679	0	0	0
Spillback Cap Reductn	0	0	226	0	266
Storage Cap Reductn	0	0	0	0	0
Reduced w/c Ratio	0.66	1.00	1.01	0.38	2.63

Intersection Summary

Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 125 (89%), Referenced to phase 2/WBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 1.32
 Intersection Signal Delay (s/veh): 68.4
 Intersection Capacity Utilization: 99.3%
 Analysis Period (min): 15
 Intersection LOS: E
 ICU Level of Service: F

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal

Splits and Phases: 37: I-75 NB Off-Ramp/I-75 NB On-Ramp & SR 40





Lane Group	EBT	EBR	WBL	WBT	SBT
Lane Configurations	↑↑	↗	↖	↑↑	↓
Traffic Volume (vph)	1275	364	328	1304	0
Future Volume (vph)	1275	364	328	1304	0
Lane Group Flow (vph)	1342	383	343	1373	478
Turn Type	NA	Perm	pm+pt	NA	NA
Protected Phases	6		5	2	8
Permitted Phases		6	2		
Detector Phase	6	6	5	2	8
Switch Phase					
Minimum Initial (s)	15.0	15.0	5.0	15.0	8.0
Minimum Split (s)	28.8	28.8	11.8	25.8	38.1
Total Split (s)	65.0	65.0	40.0	105.0	35.0
Total Split (%)	46.4%	46.4%	28.6%	75.0%	25.0%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.1
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.1
Lead/Lag	Lag	Lag	Lead		
Lead/Lag Optimize?	Yes	Yes	Yes		
Recall Mode	C-Max	C-Max	Min	Max	None
Act Effct Green (s)	62.8	62.8	98.2	98.2	28.9
Actuated g/C Ratio	0.45	0.45	0.70	0.70	0.21
w/c Ratio	0.89	0.44	0.89	0.58	1.25
Control Delay (s/veh)	44.4	4.1	60.3	17.1	169.0
Queue Delay	0.0	0.0	13.3	38.4	0.0
Total Delay (s/veh)	44.4	4.1	73.6	55.5	169.0
LOS	D	A	E	E	F
Approach Delay (s/veh)	35.5			59.1	169.0
Approach LOS	D			E	F
Queue Length 50th (ft)	595	0	298	340	~479
Queue Length 95th (ft)	#777	62	m356	m464	#701
Internal Link Dist (ft)	2515			323	481
Turn Bay Length (ft)		450	135		
Base Capacity (vph)	1513	869	435	2366	383
Starvation Cap Reductn	0	0	77	1088	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced w/c Ratio	0.89	0.44	0.96	1.07	1.25

Intersection Summary

Cycle Length: 140	
Actuated Cycle Length: 140	
Offset: 91 (65%), Referenced to phase 6EBT, Start of Yellow	
Natural Cycle: 130	
Control Type: Actuated-Coordinated	
Maximum w/c Ratio: 1.25	
Intersection Signal Delay (s/veh): 62.1	Intersection LOS: E
Intersection Capacity Utilization 96.5%	ICU Level of Service F
Analysis Period (min): 15	

~ Volume exceeds capacity, queue is theoretically infinite.

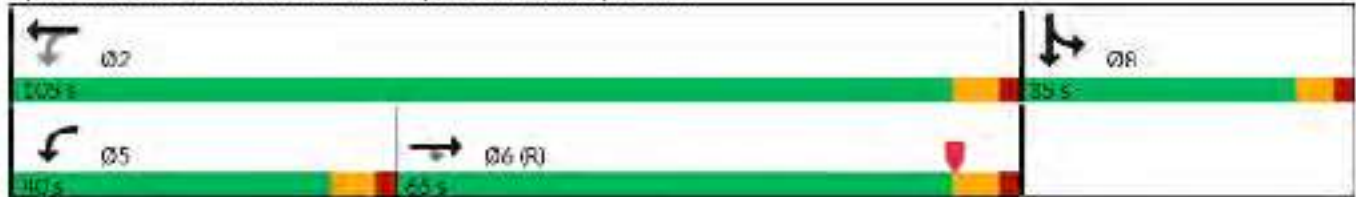
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 36 I-75 SB On-Ramp/I-75 SB Off-Ramp & SR 40





Lane Group	EBL	EBT	WBT	WBR	NBT
Lane Configurations					
Traffic Volume (vph)	227	1225	1463	317	0
Future Volume (vph)	227	1225	1463	317	0
Lane Group Flow (vph)	236	1276	1524	330	388
Turn Type	pm+pt	NA	NA	Perm	NA
Protected Phases	1	6	2		4
Permitted Phases	6			2	
Detector Phase	1	6	2	2	4
Switch Phase					
Minimum Initial (s)	5.0	15.0	15.0	15.0	5.0
Minimum Split (s)	11.8	24.8	24.8	24.8	34.2
Total Split (s)	32.0	108.0	76.0	76.0	32.0
Total Split (%)	22.9%	77.1%	54.3%	54.3%	22.9%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.2
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.2
Lead/Lag	Lead		Lag	Lag	
Lead/Lag Optimize?	Yes		Yes	Yes	
Recall Mode	Min	Max	C-Max	C-Max	None
Act Effct Green (s)	101.2	101.2	74.2	74.2	25.8
Actuated g/C Ratio	0.72	0.72	0.53	0.53	0.18
w/c Ratio	0.81	0.52	0.84	0.36	1.10
Control Delay (s/veh)	67.6	13	34.3	3.0	118.0
Queue Delay	0.2	0.8	0.8	0.0	10.7
Total Delay (s/veh)	67.8	21	35.1	3.0	128.7
LOS	E	A	D	A	F
Approach Delay (s/veh)		123	29.4		128.7
Approach LOS		B	C		F
Queue Length 50th (ft)	141	21	613	0	~334
Queue Length 95th (ft)	m158	m22	772	50	#543
Internal Link Dist (ft)		323	2364		1319
Turn Bay Length (ft)	130			400	
Base Capacity (vph)	347	2462	1806	926	353
Starvation Cap Reductn	5	7.95	0	0	0
Spillback Cap Reductn	0	0	88	0	186
Storage Cap Reductn	0	0	0	0	0
Reduced w/c Ratio	0.69	0.77	0.89	0.36	2.32

Intersection Summary

Cycle Length: 140	
Actuated Cycle Length: 140	
Offset: 125 (89%), Referenced to phase 2/WBT, Start of Yellow	
Natural Cycle: 110	
Control Type: Actuated-Coordinated	
Maximum w/c Ratio: 1.10	
Intersection Signal Delay (s/veh): 32.8	Intersection LOS: C
Intersection Capacity Utilization 96.5%	ICU Level of Service F
Analysis Period (min): 15	

~ Volume exceeds capacity, queue is theoretically infinite.

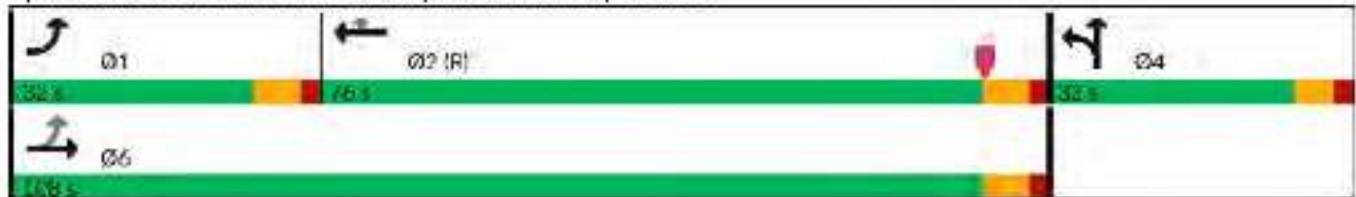
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 37: I-75 NB Off-Ramp/I-75 NB On-Ramp & SR 40





Lane Group	EBT	EBR	WBL	WBT	SBT
Lane Configurations	↑↑	↑	↘	↑↑	↓
Traffic Volume (vph)	990	157	274	839	0
Future Volume (vph)	990	157	274	839	0
Lane Group Flow (vph)	1021	162	282	865	417
Turn Type	NA	Perm	pm+pt	NA	NA
Protected Phases	6		5	2	8
Permitted Phases		6	2		
Detector Phase	6	6	5	2	8
Switch Phase					
Minimum Initial (s)	15.0	15.0	5.0	15.0	8.0
Minimum Split (s)	28.8	28.8	11.8	25.8	38.1
Total Split (s)	69.0	69.0	36.0	105.0	35.0
Total Split (%)	49.3%	49.3%	25.7%	75.0%	25.0%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.1
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.1
Lead/Lag	Lag	Lag	Lead		
Lead/Lag Optimize?	Yes	Yes	Yes		
Recall Mode	C-Max	C-Max	Min	Max	None
Act Effct Green (s)	74.7	74.7	98.2	98.2	28.9
Actuated g/C Ratio	0.53	0.53	0.70	0.70	0.21
w/c Ratio	0.55	0.18	0.71	0.36	1.04
Control Delay (s/veh)	23.8	3.3	36.5	7.0	97.5
Queue Delay	0.0	0.0	0.7	0.5	0.0
Total Delay (s/veh)	23.8	3.3	37.1	7.5	97.5
LOS	C	A	D	A	F
Approach Delay (s/veh)	21.0			14.8	97.5
Approach LOS	C			B	F
Queue Length 50th (ft)	305	0	138	112	~344
Queue Length 95th (ft)	433	39	m220	m124	#557
Internal Link Dist (ft)	2515			323	481
Turn Bay Length (ft)		450	135		
Base Capacity (vph)	1852	896	523	2434	402
Starvation Cap Reductn	0	0	65	1030	0
Spillback Cap Reductn	19	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced w/c Ratio	0.56	0.18	0.62	0.62	1.04

Intersection Summary

Cycle Length: 140	
Actuated Cycle Length: 140	
Offset: 91 (65%), Referenced to phase 6EBT, Start of Yellow	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum w/c Ratio: 1.04	
Intersection Signal Delay (s/veh): 30.0	Intersection LOS: C
Intersection Capacity Utilization 82.6%	ICU Level of Service E
Analysis Period (min): 15	

~ Volume exceeds capacity, queue is theoretically infinite.

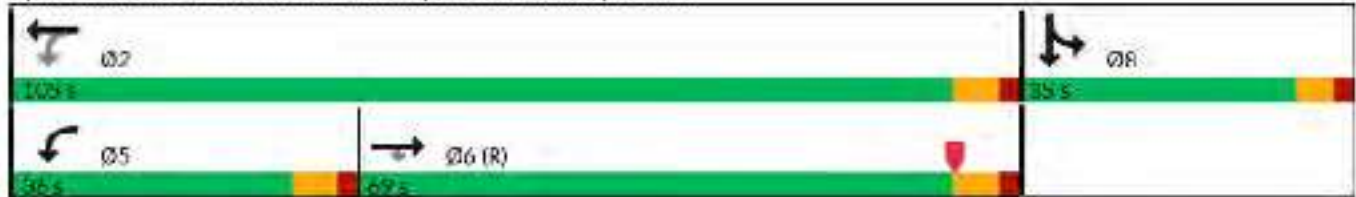
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

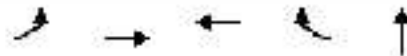
m Volume for 95th percentile queue is metered by upstream signal

Splits and Phases: 36 I-75 SB On-Ramp/I-75 SB Off-Ramp & SR 40



Timings
 37: I-75 NB Off-Ramp/I-75 NB On-Ramp & SR 40

2030 No-Build Conditions
 Timing Plan: Weekend



Lane Group	EBL	EBT	WBT	WBR	NBT
Lane Configurations					
Traffic Volume (vph)	185	1011	940	233	0
Future Volume (vph)	185	1011	940	233	0
Lane Group Flow (vph)	193	1053	979	243	427
Turn Type	pm+pt	NA	NA	Perm	NA
Protected Phases	1	6	2		4
Permitted Phases	6			2	
Detector Phase	1	6	2	2	4
Switch Phase					
Minimum Initial (s)	5.0	15.0	15.0	15.0	5.0
Minimum Split (s)	11.8	24.8	24.8	24.8	34.2
Total Split (s)	32.0	108.0	76.0	76.0	32.0
Total Split (%)	22.9%	77.1%	54.3%	54.3%	22.9%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.2
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.2
Lead/Lag	Lead		Lag	Lag	
Lead/Lag Optimize?	Yes		Yes	Yes	
Recall Mode	Min	Max	C-Max	C-Max	None
Act Effct Green (s)	101.2	101.2	83.4	83.4	25.8
Actuated g/C Ratio	0.72	0.72	0.60	0.60	0.18
w/c Ratio	0.50	0.42	0.47	0.24	1.18
Control Delay (s/veh)	9.1	3.1	17.1	2.1	143.7
Queue Delay	0.2	0.3	0.0	0.0	0.0
Total Delay (s/veh)	9.3	3.4	17.1	2.1	143.7
LOS	A	A	B	A	F
Approach Delay (s/veh)		4.3	14.1		143.7
Approach LOS		A	B		F
Queue Length 50th (ft)	9	25	251	0	~400
Queue Length 95th (ft)	m52	m28	321	37	#614
Internal Link Dist (ft)		323	2364		1319
Turn Bay Length (ft)	130			400	
Base Capacity (vph)	519	2509	2068	1006	363
Starvation Cap Reductn	57	756	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced w/c Ratio	0.42	0.60	0.47	0.24	1.18

Intersection Summary

Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 125 (89%), Referenced to phase 2/WBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 1.18
 Intersection Signal Delay (s/veh): 29.0
 Intersection Capacity Utilization: 82.6%
 Analysis Period (min): 15
 Intersection LOS: C
 ICU Level of Service: E

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 37: I-75 NB Off-Ramp/I-75 NB On-Ramp & SR 40



US 27 Summary Tables

42: I-75 SB On-ramp/I-75 SB Off-ramp & US 27

Approach	Movement	AM Peak Hour			PM Peak Hour			WKND Peak Hour		
		V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)
Westbound	Left	0.80	82.4 (F)	375	0.81	45.2 (D)	450	0.59	20.9 (C)	150
	Through	0.40	8.9 (A)	225	0.68	13.6 (B)	425	0.53	9.8 (A)	325
	Approach	0.51	28.9 (C)	-	0.71	20.4 (C)	-	0.54	11.8 (B)	-
Eastbound	Through	0.78	41.8 (D)	650	0.71	46.7 (D)	575	0.49	25.8 (C)	400
	Right	0.53	9.1 (A)	175	0.52	10.4 (B)	175	0.45	3.7 (A)	75
	Approach	0.71	32.7 (C)	-	0.65	35.7 (D)	-	0.48	18.2 (B)	-
Southbound	LT/RT Approach	0.91	72.6 (E)	450	0.91	73.8 (E)	525	0.82	54.8 (D)	350
		0.91	72.6 (E)	-	0.91	73.8 (E)	-	0.82	54.8 (D)	-
Overall Intersection		0.65	35.4 (D)	-	0.71	31.4 (C)	-	0.54	19.0 (B)	-

43: I-75 NB Off-ramp/I-75 NB On-ramp & US 27

Approach	Movement	AM Peak Hour			PM Peak Hour			WKND Peak Hour		
		V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)
Westbound	Through	0.34	15.6 (B)	250	0.47	13.7 (B)	375	0.35	10.8 (B)	250
	Right	0.21	14.5 (B)	150	0.22	11.1 (B)	150	0.15	9.3 (A)	100
	Approach	0.32	15.4 (B)	-	0.44	13.4 (B)	-	0.33	10.6 (B)	-
Northbound	Left	0.45	51.3 (D)	250	0.82	70.3 (E)	375	0.76	60.2 (E)	300
	Right	0.84	63.3 (E)	375	0.77	68.4 (E)	300	0.67	58.5 (E)	225
	Approach	0.69	58.6 (E)	-	0.80	69.5 (E)	-	0.72	59.5 (E)	-
Eastbound	Left	0.37	11.5 (B)	75	0.42	11.7 (B)	50	0.25	7.7 (A)	50
	Through	0.55	11.7 (B)	375	0.42	7.8 (A)	250	0.37	6.1 (A)	200
	Approach	0.53	11.7 (B)	-	0.42	8.1 (A)	-	0.36	6.2 (A)	-
Overall Intersection		0.50	24.2 (C)	-	0.51	24.2 (C)	-	0.43	19.9 (B)	-

US 27 Synchro Reports

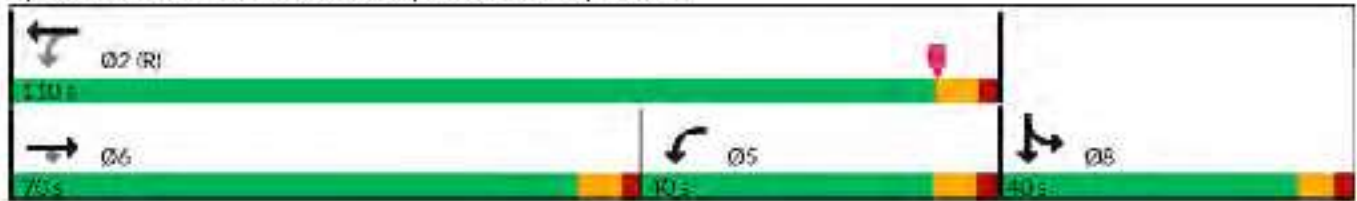


Lane Group	EBT	EBR	WBL	WBT	SBT
Lane Configurations	↑↑	↑	↓	↑↑	↓
Traffic Volume (vph)	1127	438	344	917	0
Future Volume (vph)	1127	438	344	917	0
Lane Group Flow (vph)	1186	461	362	965	349
Turn Type	NA	Perm	pm+pt	NA	NA
Protected Phases	6		5	2	8
Permitted Phases		6	2		
Detector Phase	6	6	5	2	8
Switch Phase					
Minimum Initial (s)	15.0	15.0	5.0	15.0	8.0
Minimum Split (s)	31.0	31.0	12.0	22.0	15.0
Total Split (s)	70.0	70.0	40.0	110.0	40.0
Total Split (%)	46.7%	46.7%	26.7%	73.3%	26.7%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.0
All-Red Time (s)	2.0	2.0	2.2	2.0	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	7.0	6.8	6.3
Lead/Lag	Lead	Lead	Lag		
Lead/Lag Optimize?	Yes	Yes	Yes		
Recall Mode	Min	Min	None	C-Min	None
Act Effct Green (s)	67.4	67.4	106.0	106.2	30.7
Actuated g/C Ratio	0.45	0.45	0.71	0.71	0.20
w/c Ratio	0.78	0.53	0.80	0.40	0.91
Control Delay (s/veh)	40.6	91	51.6	8.7	72.3
Queue Delay	1.2	0.0	30.8	0.2	0.3
Total Delay (s/veh)	41.8	91	82.4	8.9	72.6
LOS	D	A	F	A	E
Approach Delay (s/veh)	32.7			28.9	72.6
Approach LOS	C			C	E
Queue Length 50th (ft)	540	60	243	165	262
Queue Length 95th (ft)	638	167	#370	222	#430
Internal Link Dist (ft)	2673			327	1520
Turn Bay Length (ft)		270			
Base Capacity (vph)	1516	865	466	2388	413
Starvation Cap Reductn	0	0	115	577	0
Spillback Cap Reductn	147	0	0	0	3
Storage Cap Reductn	0	0	0	0	0
Reduced w/c Ratio	0.87	0.53	1.03	0.53	0.85

Intersection Summary
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 97 (65%), Referenced to phase 2:WBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 0.91
 Intersection Signal Delay (s/veh): 35.4
 Intersection Capacity Utilization: 85.9%
 Analysis Period (min): 15
 Intersection LOS: D
 ICU Level of Service: E

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

Splits and Phases: 42 I-75 SB On-ramp/I-75 SB Off-ramp & US 27



HCM 7th Signalized Intersection Summary
 43: I-75 NB Off-ramp/I-75 NB On-ramp & US 27

2030 No-Build Conditions
 Timing Plan AM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	1238	0	0	953	174	308	0	468	0	0	0
Future Volume (veh/h)	115	1238	0	0	953	174	308	0	468	0	0	0
Initial Q (Cb), veh	0	0	0	0	0	0	0	0	0			
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/hln	1693	1811	0	0	1811	1693	1796	0	1796			
Adj Flow Rate, veh/h	121	1303	0	0	1003	183	324	0	493			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95			
Percent Heavy Veh, %	14	6	0	0	6	14	7	0	7			
Cap, veh/h	328	2378	0	0	2963	857	727	0	587			
Arrive On Green	0.04	0.69	0.00	0.00	0.60	0.60	0.22	0.00	0.22			
Sat Flow, veh/h	1612	3532	0	0	5107	1434	3319	0	2879			
Grp Volume(s), veh/h	121	1303	0	0	1003	183	324	0	493			
Grp Sat Flow(s), veh/hln	1612	1721	0	0	1648	1434	1659	0	1340			
Q Serve(g_s), s	4.2	28.2	0.0	0.0	15.4	8.8	127	0.0	26.4			
Cycle Q Clear(g_c), s	4.2	28.2	0.0	0.0	15.4	8.8	127	0.0	26.4			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(s), veh/h	328	2378	0	0	2963	857	727	0	587			
W/C Ratio(%)	0.37	0.55	0.00	0.00	0.34	0.21	0.45	0.00	0.84			
Avail Cap(c_s), veh/h	413	2378	0	0	2963	857	960	0	775			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.53	0.53	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	11.2	11.5	0.0	0.0	15.3	13.9	507	0.0	56.1			
Incr Delay (d2), s/veh	0.4	0.2	0.0	0.0	0.3	0.6	0.6	0.0	7.3			
Initial Q Delay(dB), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%), veh/ln	2.8	14.4	0.0	0.0	9.9	5.5	92	0.0	14.6			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	11.5	11.7	0.0	0.0	15.6	14.5	513	0.0	63.3			
LnGrp LOS	B	B			B	B	D		E			
Approach Vol, veh/h		1424			1186			817				
Approach Delay, s/veh		11.7			15.4			58.6				
Approach LOS		B			B			E				
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+R)q, s	14.1	965		39.5		110.5						
Change Period (Y+R)q, s	7.7	6.9		6.6		6.9						
Max Green Setting (Gmax), s	14.3	71.1		43.4		93.1						
Max Q Clear Time (g_c+I), s	6.2	17.4		28.4		30.2						
Green Ext Time (p_c), s	0.2	15.7		4.4		22.6						
Intersection Summary												
HCM 7th Control Delay, s/veh				24.2								
HCM 7th LOS				C								
Notes												
User approved pedestrian interval to be less than phase max green.												



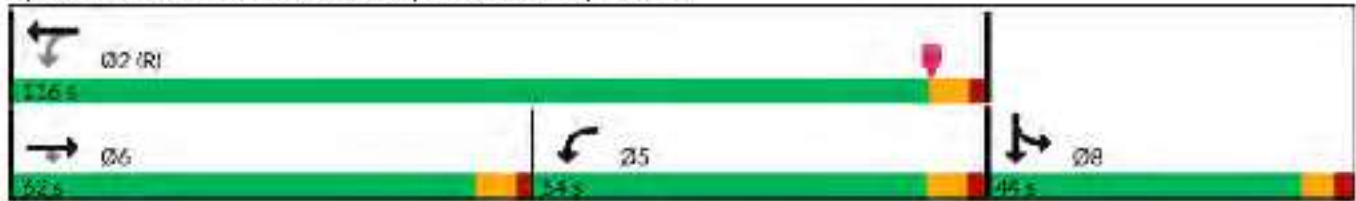
Lane Group	EBT	EBR	WBL	WBT	SBT
Lane Configurations	↑↑	↗	↖	↑↑	↓
Traffic Volume (vph)	896	390	417	1502	0
Future Volume (vph)	896	390	417	1502	0
Lane Group Flow (vph)	943	411	439	1581	381
Turn Type	NA	Perm	pm+pt	NA	NA
Protected Phases	6		5	2	8
Permitted Phases		6	2		
Detector Phase	6	6	5	2	8
Switch Phase					
Minimum Initial (s)	15.0	15.0	5.0	15.0	8.0
Minimum Split (s)	31.0	31.0	12.0	22.0	15.0
Total Split (s)	62.0	62.0	54.0	116.0	44.0
Total Split (%)	38.8%	38.8%	33.8%	72.5%	27.5%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.0
All-Red Time (s)	2.0	2.0	2.2	2.0	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	7.0	6.8	6.3
Lead/Lag	Lead	Lead	Lag		
Lead/Lag Optimize?	Yes	Yes	Yes		
Recall Mode	Min	Min	None	C-Min	None
Act Effct Green (s)	63.0	63.0	109.4	109.6	37.3
Actuated g/C Ratio	0.39	0.39	0.68	0.69	0.23
w/c Ratio	0.71	0.52	0.81	0.68	0.91
Control Delay (s/veh)	46.0	10.4	45.2	13.3	73.6
Queue Delay	0.7	0.0	0.0	0.2	0.3
Total Delay (s/veh)	46.7	10.4	45.2	13.6	73.8
LOS	D	B	D	B	E
Approach Delay (s/veh)	35.7			20.4	73.8
Approach LOS	D			C	E
Queue Length 50th (ft)	45.4	52	307	321	314
Queue Length 95th (ft)	562	163	427	404	4521
Internal Link Dist (ft)	2673			327	1520
Turn Bay Length (ft)		270			
Base Capacity (vph)	1329	787	618	2340	435
Starvation Cap Reductn	0	0	0	199	0
Spillback Cap Reductn	142	0	0	0	2
Storage Cap Reductn	0	0	0	0	0
Reduced w/c Ratio	0.79	0.52	0.71	0.74	0.88

Intersection Summary

Cycle Length: 160
 Actuated Cycle Length: 160
 Offset: 40 (25%), Referenced to phase 2:WBT, Start of Yellow
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 0.91
 Intersection Signal Delay (s/veh): 31.4
 Intersection Capacity Utilization: 85.6%
 Analysis Period (min): 15
 Intersection LOS: C
 ICU Level of Service: E

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

Splits and Phases: 42 I-75 SB On-ramp/I-75 SB Off-ramp & US 27



HCM 7th Signalized Intersection Summary
 43: I-75 NB Off-ramp/I-75 NB On-ramp & US 27

2030 No-Build Conditions
 Timing Plan PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↗			↗	↘	↘		↗			
Traffic Volume (veh/h)	89	1010	0	0	1471	195	448	0	338	0	0	0
Future Volume (veh/h)	89	1010	0	0	1471	195	448	0	338	0	0	0
Initial Q (Cb), veh	0	0	0	0	0	0	0	0	0			
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/hln	1693	1811	0	0	1811	1693	1796	0	1796			
Adj Flow Rate, veh/h	94	1063	0	0	1548	205	472	0	356			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95			
Percent Heavy Veh, %	14	6	0	0	6	14	7	0	7			
Cap, veh/h	221	2553	0	0	3277	951	576	0	465			
Arrive On Green	0.03	0.74	0.00	0.00	0.66	0.66	0.17	0.00	0.17			
Sat Flow, veh/h	1612	3532	0	0	5107	1434	3319	0	2679			
Grp Volume(s), veh/h	94	1063	0	0	1548	205	472	0	356			
Grp Sat Flow(s), veh/hln	1612	1721	0	0	1648	1434	1659	0	1340			
Q Serve(g_s), s	2.9	185	0.0	0.0	24.6	9.0	21.9	0.0	20.3			
Cycle Q Clear(g_c), s	2.9	185	0.0	0.0	24.6	9.0	21.9	0.0	20.3			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(s), veh/h	221	2553	0	0	3277	951	576	0	465			
WC Ratio(%)	0.42	0.42	0.00	0.00	0.47	0.22	0.82	0.00	0.77			
Avail Cap(c_s), veh/h	335	2553	0	0	3277	951	734	0	593			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.64	0.64	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	10.9	7.7	0.0	0.0	13.2	10.6	63.7	0.0	63.0			
Incr Delay (d2), s/veh	0.8	0.1	0.0	0.0	0.5	0.5	6.6	0.0	5.4			
Initial Q Delay(dI), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%), veh/ln	1.9	10.0	0.0	0.0	14.2	5.5	15.0	0.0	11.7			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	11.7	7.8	0.0	0.0	13.7	11.1	70.3	0.0	68.4			
LnGrp LOS	B	A			B	B	E		E			
Approach Vol, veh/h		1157			1753			828				
Approach Delay, s/veh		8.1			13.4			69.5				
Approach LOS		A			B			E				
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+R)q, s	12.7	11.29		34.4		125.6						
Change Period (Y+R)q, s	7.7	6.9		6.6		6.9						
Max Green Setting (Gmax), s	16.3	87.1		35.4		111.1						
Max Q Clear Time (g_c+I), s	4.9	26.6		23.9		20.5						
Green Ext Time (p_q), s	0.1	30.7		3.9		16.7						

Intersection Summary

HCM 7th Control Delay, s/veh	24.2
HCM 7th LOS	C

Notes

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

Timings
42: I-75 SB On-ramp/I-75 SB Off-ramp & US 27

2030 No-Build Conditions
Timing Plan: Weekend



Lane Group	EBT	EBR	WBL	WBT	SBT
Lane Configurations	↑↑	↑	↔	↑↑	↓
Traffic Volume (vph)	847	440	282	1243	0
Future Volume (vph)	847	440	282	1243	0
Lane Group Flow (vph)	864	449	288	1268	340
Turn Type	NA	Perm	pm+pt	NA	NA
Protected Phases	6		5	2	8
Permitted Phases		6	2		
Detector Phase	6	6	5	2	8
Switch Phase					
Minimum Initial (s)	15.0	15.0	5.0	15.0	8.0
Minimum Split (s)	31.0	31.0	12.0	22.0	15.0
Total Split (s)	70.0	70.0	38.0	106.0	34.0
Total Split (%)	50.0%	50.0%	25.7%	75.7%	24.3%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.0
All-Red Time (s)	2.0	2.0	2.2	2.0	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	7.0	6.8	6.3
Lead/Lag	Lead	Lead	Lag		
Lead/Lag Optimize?	Yes	Yes	Yes		
Recall Mode	Min	Min	None	C-Min	None
Act Effct Green (s)	70.5	70.5	96.4	96.6	30.3
Actuated g/C Ratio	0.50	0.50	0.69	0.69	0.22
w/c Ratio	0.49	0.46	0.59	0.53	0.82
Control Delay (s/veh)	25.7	3.7	20.9	9.4	54.7
Queue Delay	0.1	0.0	0.0	0.4	0.2
Total Delay (s/veh)	25.8	3.7	20.9	9.8	54.8
LOS	C	A	C	A	D
Approach Delay (s/veh)	18.2			11.8	54.8
Approach LOS	B			B	D
Queue Length 50th (ft)	273	0	65	155	227
Queue Length 95th (ft)	378	64	127	318	329
Internal Link Dist (ft)	2673			327	1520
Turn Bay Length (ft)		270			
Base Capacity (vph)	1763	995	607	2496	431
Starvation Cap Reductn	0	0	0	639	0
Spillback Cap Reductn	165	0	0	0	3
Storage Cap Reductn	0	0	0	0	0
Reduced w/c Ratio	0.54	0.46	0.47	0.68	0.79

Intersection Summary

Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 66 (47%), Referenced to phase 2:WBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 0.82
 Intersection Signal Delay (s/veh): 19.0
 Intersection Capacity Utilization: 79.0%
 Analysis Period (min): 15
 Intersection LOS: B
 ICU Level of Service: D

Splits and Phases: 42 I-75 SB On-ramp/I-75 SB Off-ramp & US 27



HCM 7th Signalized Intersection Summary
 43: I-75 NB Off-ramp/I-75 NB On-ramp & US 27

2030 No-Build Conditions
 Timing Plan: Weekend

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	944	0	0	1142	147	383	0	271	0	0	0
Future Volume (veh/h)	79	944	0	0	1142	147	383	0	271	0	0	0
Initial Q (Cb), veh	0	0	0	0	0	0	0	0	0			
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/hln	1752	1841	0	0	1841	1752	1841	0	1841			
Adj Flow Rate, veh/h	81	973	0	0	1177	152	395	0	279			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97			
Percent Heavy Veh, %	10	4	0	0	4	10	4	0	4			
Cap, veh/h	324	2626	0	0	3325	982	519	0	419			
Arrive On Green	0.03	0.75	0.00	0.00	0.66	0.66	0.15	0.00	0.15			
Sat Flow, veh/h	1668	3589	0	0	5191	1485	3401	0	2745			
Grp Volume(s), veh/h	81	973	0	0	1177	152	395	0	279			
Grp Sat Flow(s), veh/hln	1668	1749	0	0	1675	1485	1700	0	1373			
Q Serve(g_s), s	2.1	13.4	0.0	0.0	14.5	5.4	15.6	0.0	13.4			
Cycle Q Clear(g_c), s	2.1	13.4	0.0	0.0	14.5	5.4	15.6	0.0	13.4			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(s), veh/h	324	2626	0	0	3325	982	519	0	419			
WC Ratio(%)	0.25	0.37	0.00	0.00	0.35	0.15	0.76	0.00	0.67			
Avail Cap(c_s), veh/h	414	2626	0	0	3325	982	860	0	694			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.86	0.86	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	7.4	6.0	0.0	0.0	10.5	8.9	56.9	0.0	55.9			
Incr Delay (d2), s/veh	0.3	0.1	0.0	0.0	0.3	0.3	3.3	0.0	2.6			
Initial Q Delay(dB), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%), veh/ln	1.3	7.9	0.0	0.0	9.2	3.3	11.3	0.0	8.4			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	7.7	6.1	0.0	0.0	10.8	9.3	60.2	0.0	58.5			
LnGrp LOS	A	A			B	A	E		E			
Approach Vol, veh/h		1054			1329			674				
Approach Delay, s/veh		6.2			10.6			59.5				
Approach LOS		A			B			E				
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+R), s	12.5	99.5		28.0		112.0						
Change Period (Y+R), s	7.7	6.9		6.6		6.9						
Max Green Setting (G_max), s	12.3	71.1		35.4		91.1						
Max Q Clear Time (g_c+I), s	4.1	16.5		17.6		15.4						
Green Ext Time (p_c), s	0.1	19.2		3.8		14.2						
Intersection Summary												
HCM 7th Control Delay, s/veh				19.9								
HCM 7th LOS				B								
Notes												
User approved pedestrian interval to be less than phase max green.												

SR 326 Summary Tables

47: NW 44TH AVE/I-75 SB Off-ramp & SR 326

Approach	Movement	AM Peak Hour			PM Peak Hour			WKND Peak Hour		
		V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)
Westbound	Left	0.25	16.6 (B)	25	0.20	19.8 (B)	25	0.15	15.8 (B)	25
	Through	0.20	11.7 (B)	75	0.31	17.7 (B)	100	0.26	14.2 (B)	75
	Approach	0.21	12.4 (B)	-	0.30	18.0 (B)	-	0.25	14.4 (B)	-
Northbound	Left	0.32	34.9 (C)	50	0.62	37.6 (D)	100	0.34	28.7 (C)	50
	Right	0.70	43.8 (D)	100	0.55	37.0 (D)	75	0.51	31.5 (C)	50
	Approach	0.57	40.6 (D)	-	0.59	37.3 (D)	-	0.44	30.2 (C)	-
Eastbound	TH/RT	0.79	23.9 (C)	300	0.74	28.5 (C)	200	0.55	21.8 (C)	125
	Approach	0.79	23.8 (C)	-	0.74	28.5 (C)	-	0.55	21.9 (C)	-
Southbound	LT/TH	0.71	36.8 (D)	175	0.72	27.6 (C)	225	0.78	29.0 (C)	200
	Right	0.60	34.7 (C)	125	0.65	26.3 (C)	200	0.18	20.5 (C)	50
	Approach	0.65	35.9 (D)	-	0.67	27.0 (C)	-	0.51	27.5 (C)	-
Overall Intersection		0.63	25.0 (C)	-	0.60	26.6 (C)	-	0.45	22.1 (C)	-

48: Shell Driveway & SR 326 & I-75 SB On-Ramp

Approach	Movement	AM Peak Hour			PM Peak Hour			WKND Peak Hour		
		V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)
Westbound	Left	0.12	11.9 (B)	25	0.04	10.0 (B)	25	0.03	9.1 (A)	25
Northbound	Right	0.19	15.0 (B)	25	0.13	12.5 (B)	25	0.09	11.4 (B)	25

49: I-75 NB Off-ramp/I-75 NB On-ramp & SR 326

Approach	Movement	AM Peak Hour			PM Peak Hour			WKND Peak Hour		
		V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)
Westbound	TH/RT	1.15	125.6 (F)	1150	0.99	70.6 (E)	1025	0.98	62.4 (E)	875
	Approach	1.15	125.6 (F)	-	0.99	70.6 (E)	-	0.98	62.4 (E)	-
Northbound	Left	0.35	46.2 (D)	275	0.38	46.7 (D)	300	0.32	36.1 (D)	225
	Right Approach	1.04	71.6 (E)	975	1.04	75.1 (E)	975	1.03	60.3 (E)	875
		0.90	66.6 (E)	-	0.89	68.9 (E)	-	0.90	55.7 (E)	-
Eastbound	Left	0.89	86.0 (F)	400	0.89	91.5 (F)	300	0.72	53.9 (D)	150
	Through Approach	0.25	18.5 (B)	175	0.28	19.7 (B)	200	0.21	17.9 (B)	150
		0.47	42.3 (D)	-	0.43	37.1 (D)	-	0.33	26.7 (C)	-
Overall Intersection		0.88	87.0 (F)	-	0.82	62.5 (E)	-	0.82	53.7 (D)	-

SR 326 Synchro Reports

HCM 7th Signalized Intersection Summary
 47: NW 44TH AVE/I-75 SB Off-ramp & SR 326

2030 No-Build Conditions
 Timing Plan AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↓		↘	↑↑			↙	↗		↘	↗
Traffic Volume (veh/h)	0	851	70	52	298	0	49	0	89	164	5	127
Future Volume (veh/h)	0	851	70	52	298	0	49	0	89	164	5	127
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1678	1678	1678	1678	0	1752	1900	1752	1707	1707	1707
Adj Flow Rate, veh/h	0	896	74	55	314	0	52	0	94	173	5	134
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	15	15	15	15	0	10	0	10	13	13	13
Cap, veh/h	0	1133	94	222	1537	0	163	0	134	242	7	222
Arrive On Green	0.00	0.38	0.38	0.04	0.48	0.00	0.09	0.00	0.09	0.15	0.15	0.15
Sat Flow, veh/h	0	3085	246	1598	3272	0	1810	0	1485	1582	46	1447
Grp Volume(s), veh/h	0	479	491	55	314	0	52	0	94	178	0	134
Grp Sat Flow(s), veh/h/ln	0	1594	1633	1598	1594	0	1810	0	1485	1628	0	1447
Q Serve(g_s), s	0.0	20.9	20.9	1.5	4.4	0.0	21	0.0	4.8	8.1	0.0	6.8
Cycle Q Clear(g_c), s	0.0	20.9	20.9	1.5	4.4	0.0	21	0.0	4.8	8.1	0.0	6.8
Prop In Lane	0.00		0.15	1.00		0.00	1.00		1.00	0.97		1.00
Lane Grp Cap(s), veh/h	0	606	621	222	1537	0	163	0	134	249	0	222
W/C Ratio(%)	0.00	0.79	0.79	0.25	0.20	0.00	0.32	0.00	0.70	0.71	0.00	0.60
Avail Cap(c_s), veh/h	0	1511	1549	284	3470	0	414	0	340	528	0	470
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	21.5	21.5	16.0	11.6	0.0	33.4	0.0	34.6	31.5	0.0	30.9
Incr Delay (d2), s/veh	0.0	24	23	0.6	0.1	0.0	1.6	0.0	9.2	5.3	0.0	3.7
Initial Q Delay(dB), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%), veh/ln	0.0	11.6	11.8	0.9	2.4	0.0	1.8	0.0	3.7	6.2	0.0	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	23.9	23.8	16.6	11.7	0.0	34.9	0.0	43.8	36.8	0.0	34.7
LnGrp LOS		C	C	B	B		C		D	D		C
Approach Vol, veh/h		970			369			146				312
Approach Delay, s/veh		23.8			12.4			40.6				35.9
Approach LOS		C			B			D				D
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rq), s	8.0	365		19.6		44.5		14.1				
Change Period (Y+Rq), s	4.5	6.8		7.6		6.8		7.1				
Max Green Setting (Gmax), s	6.5	74.2		25		85.2		17.9				
Max Q Clear Time (g_c+I), s	3.5	22.9		10.1		6.4		6.8				
Green Ext Time (p_q), s	0.0	6.9		1.8		2.0		0.5				

Intersection Summary		
HCM 7th Control Delay, s/veh		25.0
HCM 7th LOS		C

Notes
 User approved pedestrian interval to be less than phase max green.
 * HCM 7th computational engine requires equal clearancetimes for the phases crossing the barrier.

Intersection										
Int Delay, s/veh	0.9									
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER
Lane Configurations		↑↑		↑	↑↑			↑		
Traffic Vol, veh/h	0	1063	52	68	350	723	0	78	0	0
Future Vol, veh/h	0	1063	52	68	350	723	0	78	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None	-	-
Storage Length	-	-	-	240	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	92	92
Heavy Vehicles, %	0	15	8	2	15	16	0	8	2	2
Mvmt Flow	0	1108	55	72	388	761	0	82	0	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	-	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.14
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.22
Pot Cap-1 Maneuver	0	-	596
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	596
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.71	15
HCM LOS			B

Minor Lane/Major Mvmt	NBLnl	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	442	-	-	596	-	-
HCM Lane V/C Ratio	0.186	-	-	0.12	-	-
HCM Control Delay (s/veh)	15	-	-	11.9	-	-
HCM Lane LOS	B	-	-	B	-	-
HCM 95th %tile Q(veh)	0.7	-	-	0.4	-	-



Lane Group	EBL	EBT	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	238	439	954	187	763
Future Volume (vph)	238	439	954	187	763
Lane Group Flow (vph)	251	462	1355	197	803
Turn Type	pm+pt	NA	NA	Prot	Perm
Protected Phases	1	6	2	4	
Permitted Phases	6				4
Detector Phase	1	6	2	4	4
Switch Phase					
Minimum Initial (s)	6.0	16.0	16.0	10.0	10.0
Minimum Split (s)	12.8	24.9	24.9	25.1	25.1
Total Split (s)	39.0	113.0	74.0	67.0	67.0
Total Split (%)	21.7%	62.8%	41.1%	37.2%	37.2%
Yellow Time (s)	4.8	4.9	4.9	4.1	4.1
All-Red Time (s)	2.0	2.0	2.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.9	6.9	7.1	7.1
Lead/Lag	Lead		Lag		
Lead/Lag Optimize?	Yes		Yes		
Recall Mode	None	Min	Min	None	None
Act Effct Green (s)	101.8	101.7	67.2	60.0	60.0
Actuated g/C Ratio	0.58	0.58	0.38	0.34	0.34
w/c Ratio	0.89	0.25	1.15	0.35	1.04
Control Delay (s/veh)	86.0	185	125.6	46.2	71.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	86.0	185	125.6	46.2	71.6
LOS	F	B	F	D	E
Approach Delay (s/veh)		423	125.6		
Approach LOS		D	F		
Queue Length 50th (ft)	241	134	~980	174	~693
Queue Length 95th (ft)	#383	168	#1136	255	#968
Internal Link Dist (ft)		553	1985		
Turn Bay Length (ft)	190				420
Base Capacity (vph)	318	1914	1174	570	770
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced w/c Ratio	0.79	0.24	1.15	0.35	1.04

Intersection Summary

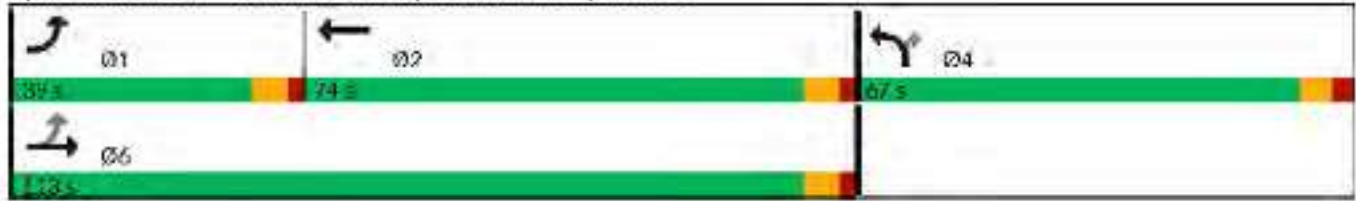
Cycle Length: 180	
Actuated Cycle Length: 175.7	
Natural Cycle: 140	
Control Type: Actuated-Uncoordinated	
Maximum w/c Ratio: 1.15	
Intersection Signal Delay (s/veh): 87.0	Intersection LOS: F
Intersection Capacity Utilization 75.3%	ICU Level of Service D
Analysis Period (min): 15	
~ Volume exceeds capacity, queue is theoretically infinite.	

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 49. I-75 NB Off-ramp/I-75 NB On-ramp & SR 326



HCM 7th Signalized Intersection Summary
 47: NW 44TH AVE/I-75 SB Off-ramp & SR 326

2030 No-Build Conditions
 Timing Plan PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↓		↘	↑↑			↙	↗		↘	↗
Traffic Volume (veh/h)	0	483	75	41	321	0	96	0	70	291	13	240
Future Volume (veh/h)	0	483	75	41	321	0	96	0	70	291	13	240
Initial Q (Cb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/hln	0	1678	1678	1678	1678	0	1752	1900	1752	1707	1707	1707
Adj Flow Rate, veh/h	0	508	79	43	338	0	101	0	74	306	14	253
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	15	15	15	15	0	10	0	10	13	13	13
Cap, veh/h	0	680	105	217	1105	0	164	0	134	422	19	392
Arrive On Green	0.00	0.25	0.25	0.04	0.35	0.00	0.09	0.00	0.09	0.27	0.27	0.27
Sat Flow, veh/h	0	2850	428	1598	3272	0	1810	0	1485	1558	71	1447
Grp Volume(s), veh/h	0	292	295	43	338	0	101	0	74	320	0	253
Grp Sat Flow(s), veh/hln	0	1594	1601	1598	1594	0	1810	0	1485	1629	0	1447
Q Serve(g_s), s	0.0	125	12.6	1.4	5.7	0.0	4.0	0.0	3.5	13.1	0.0	11.4
Cycle Q Clear(g_c), s	0.0	125	12.6	1.4	5.7	0.0	4.0	0.0	3.5	13.1	0.0	11.4
Prop In Lane	0.00		0.27	1.00		0.00	1.00		1.00	0.96		1.00
Lane Grp Cap(s), veh/h	0	392	394	217	1105	0	164	0	134	442	0	392
WC Ratio(%)	0.00	0.74	0.75	0.20	0.31	0.00	0.62	0.00	0.55	0.72	0.00	0.65
Avail Cap(c_s), veh/h	0	1216	1221	273	2864	0	513	0	421	1137	0	1009
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	25.6	25.7	19.4	17.6	0.0	323	0.0	321	24.4	0.0	23.7
Incr Delay (d2), s/veh	0.0	2.8	2.9	0.4	0.2	0.0	5.3	0.0	4.9	3.2	0.0	2.5
Initial Q Delay(dB), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%), veh/ln	0.0	8.0	8.1	0.9	3.4	0.0	3.5	0.0	2.5	8.9	0.0	7.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	285	28.6	19.8	17.7	0.0	37.6	0.0	37.0	27.6	0.0	26.3
LnGrp LOS		C	C	B	B		D		D	C		C
Approach Vol, veh/h		587			381			175				573
Approach Delay, s/veh		285			18.0			37.3				27.0
Approach LOS		C			B			D				C
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rq), s	7.4	24.9		27.6		32.4		13.8				
Change Period (Y+Rq), s	4.5	6.8		7.6		6.8		7.1				
Max Green Setting (Gmax), s	5.5	56.2		51		66.2		20.9				
Max Q Clear Time (g_c+I), s	3.4	14.6		15.1		7.7		6.0				
Green Ext Time (p_q), s	0.0	3.6		4.8		2.2		0.9				

Intersection Summary		
HCM 7th Control Delay, s/veh		26.6
HCM 7th LOS		C

Notes
 User approved pedestrian interval to be less than phase max green.
 * HCM 7th computational engine requires equal clearancetimes for the phases crossing the barrier.

Intersection										
Int Delay, s/veh	0.5									
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER
Lane Configurations		↑↓		↑	↑↓			↑		
Traffic Vol, veh/h	0	817	30	29	362	892	0	67	0	0
Future Vol, veh/h	0	817	30	29	362	892	0	67	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None	-	-
Storage Length	-	-	-	240	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	92	92
Heavy Vehicles, %	0	15	14	3	15	16	0	6	2	2
Mvmt Flow	0	860	32	31	381	939	0	71	0	0

Major/Minor	Major1	Major2	Minor1					
Conflicting Flow All	-	0	0	892	0	0	-	446
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	4.16	-	-	-	7.02
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	2.23	-	-	-	3.36
Pot Cap-1 Maneuver	0	-	-	750	-	-	0	549
Stage 1	0	-	-	-	-	-	0	-
Stage 2	0	-	-	-	-	-	0	-
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	750	-	-	-	549
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.23	12.52
HCM LOS			B

Minor Lane/Major Mvmt	NBLnl	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	549	-	-	750	-	-
HCM Lane V/C Ratio	0.128	-	-	0.041	-	-
HCM Control Delay (s/veh)	12.5	-	-	10	-	-
HCM Lane LOS	B	-	-	B	-	-
HCM 95th %tile Q(veh)	0.4	-	-	0.1	-	-



Lane Group	EBL	EBT	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	156	496	1075	208	736
Future Volume (vph)	156	496	1075	208	736
Lane Group Flow (vph)	164	512	1355	219	775
Turn Type	pm+pt	NA	NA	Prot	Perm
Protected Phases	1	6	2	4	
Permitted Phases	6				4
Detector Phase	1	6	2	4	4
Switch Phase					
Minimum Initial (s)	6.0	16.0	16.0	10.0	10.0
Minimum Split (s)	12.8	24.9	24.9	25.1	25.1
Total Split (s)	25.0	111.0	86.0	69.0	69.0
Total Split (%)	13.9%	61.7%	47.8%	38.3%	38.3%
Yellow Time (s)	4.8	4.9	4.9	4.1	4.1
All-Red Time (s)	2.0	2.0	2.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.9	6.9	7.1	7.1
Lead/Lag	Lead		Lag		
Lead/Lag Optimize?	Yes		Yes		
Recall Mode	None	Min	Min	None	None
Act Effct Green (s)	103.2	103.1	79.1	61.9	61.9
Actuated g/C Ratio	0.58	0.58	0.44	0.35	0.35
w/c Ratio	0.89	0.28	0.99	0.38	1.04
Control Delay (s/veh)	91.5	197	70.6	46.7	75.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	91.5	197	70.6	46.7	75.1
LOS	F	B	E	D	E
Approach Delay (s/veh)		37.1	70.6		
Approach LOS		D	E		
Queue Length 50th (ft)	146	155	83.0	196	-7.06
Queue Length 95th (ft)	#285	193	#1003	279	#971
Internal Link Dist (ft)		553	1985		
Turn Bay Length (ft)	190				420
Base Capacity (vph)	194	1842	1367	577	743
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced w/c Ratio	0.85	0.28	0.99	0.38	1.04

Intersection Summary

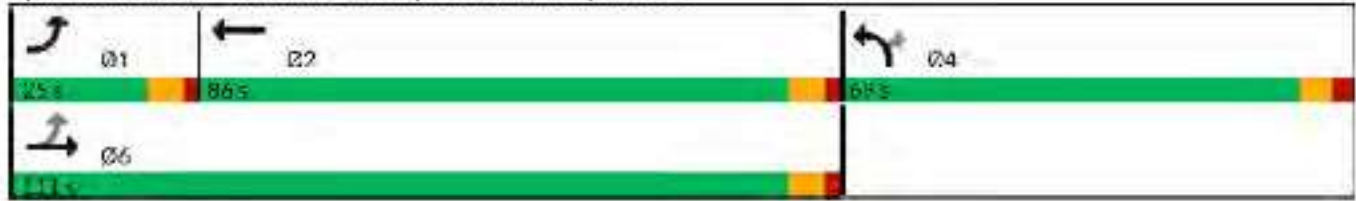
Cycle Length: 180	
Actuated Cycle Length: 179	
Natural Cycle: 140	
Control Type: Actuated-Uncoordinated	
Maximum w/c Ratio: 1.04	
Intersection Signal Delay (s/veh): 62.5	Intersection LOS: E
Intersection Capacity Utilization: 71.4%	ICU Level of Service: C
Analysis Period (min): 15	
~ Volume exceeds capacity, queue is theoretically infinite.	

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 49. I-75 NB Off-ramp/I-75 NB On-ramp & SR 326



HCM 7th Signalized Intersection Summary
 47: NW 44TH AVE/I-75 SB Off-ramp & SR 326

2030 No-Build Conditions
 Timing Plan: Weekend



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↓		↘	↑↑			↙	↗		↘	↗
Traffic Volume (veh/h)	0	340	80	44	292	0	49	0	64	257	6	198
Future Volume (veh/h)	0	340	80	44	292	0	49	0	64	257	6	198
Initial Q (Cb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/hln	0	1752	1841	1841	1752	0	1841	1900	1841	1767	1767	1767
Adj Flow Rate, veh/h	0	358	84	46	307	0	52	0	67	271	6	57
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	10	4	4	10	0	4	0	4	9	9	9
Cap, veh/h	0	648	150	308	1198	0	152	0	131	347	8	316
Arrive On Green	0.00	0.24	0.24	0.04	0.36	0.00	0.08	0.00	0.08	0.21	0.21	0.21
Sat Flow, veh/h	0	2770	622	1753	3416	0	1810	0	1560	1648	36	1497
Grp Volume(s), veh/h	0	221	221	46	307	0	52	0	67	277	0	57
Grp Sat Flow(s), veh/hln	0	1664	1640	1753	1664	0	1810	0	1560	1684	0	1497
Q Serve(g_s), s	0.0	7.2	7.3	1.1	4.0	0.0	1.7	0.0	2.5	9.6	0.0	1.9
Cycle Q Clear(g_c), s	0.0	7.2	7.3	1.1	4.0	0.0	1.7	0.0	2.5	9.6	0.0	1.9
Prop In Lane	0.00		0.38	1.00		0.00	1.00		1.00	0.98		1.00
Lane Grp Cap(s), veh/h	0	402	396	308	1198	0	152	0	131	355	0	316
WC Ratio(%)	0.00	0.55	0.56	0.15	0.26	0.00	0.34	0.00	0.51	0.78	0.00	0.18
Avail Cap(c_s), veh/h	0	435	428	386	1405	0	230	0	199	527	0	468
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	20.6	20.6	15.6	14.1	0.0	26.8	0.0	27.2	23.1	0.0	20.1
Incr Delay (d2), s/veh	0.0	1.2	1.4	0.2	0.1	0.0	1.9	0.0	4.3	5.8	0.0	0.4
Initial Q Delay(dB), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%), veh/ln	0.0	4.6	4.6	0.7	2.3	0.0	1.4	0.0	1.9	7.4	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	21.8	22.0	15.8	14.2	0.0	28.7	0.0	31.5	29.0	0.0	20.5
LnGrp LOS		C	C	B	B		C		C	C		C
Approach Vol, veh/h		442			353			119				334
Approach Delay, s/veh		21.9			14.4			30.2				27.5
Approach LOS		C			B			C				C
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+R)q, s	7.2	21.8		20.7		29.0		12.3				
Change Period (Y+R)q, s	4.5	6.8		7.6		6.8		7.1				
Max Green Setting (Gmax), s	5.5	16.2		19		26.2		7.9				
Max Q Clear Time (g_c+I), s	3.1	93		11.6		6.0		4.5				
Green Ext Time (p_q), s	0.0	1.3		1.5		1.7		0.2				

Intersection Summary		
HCM 7th Control Delay, s/veh		22.1
HCM 7th LOS		C

Notes
 User approved pedestrian interval to be less than phase max green.
 * HCM 7th computational engine requires equal clearancetimes for the phases crossing the barrier.

Intersection										
Int Delay, s/veh	0.4									
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER
Lane Configurations		↑↑		↑	↑↑			↑		
Traffic Vol, veh/h	0	632	33	26	336	896	0	53	0	0
Future Vol, veh/h	0	632	33	26	336	896	0	53	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None	-	-
Storage Length	-	-	-	240	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	92	92
Heavy Vehicles, %	0	10	17	1	10	8	0	12	2	2
Mvmt Flow	0	665	35	27	354	943	0	56	0	0

Major/Minor	Major1	Major2	Minor1					
Conflicting Flow All	-	0	0	7.00	0	0	-	350
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	4.12	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	2.21	-	-	-	3.42
Pot Cap-1 Maneuver	0	-	-	899	-	-	0	618
Stage 1	0	-	-	-	-	-	0	-
Stage 2	0	-	-	-	-	-	0	-
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	899	-	-	-	618
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.19	11.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLnl	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	618	-	-	899	-	-
HCM Lane V/C Ratio	0.09	-	-	0.03	-	-
HCM Control Delay (s/veh)	11.4	-	-	9.1	-	-
HCM Lane LOS	B	-	-	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-	-



Lane Group	EBL	EBT	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	122	376	1062	196	840
Future Volume (vph)	122	376	1062	196	840
Lane Group Flow (vph)	124	394	1351	200	857
Turn Type	pm+pt	NA	NA	Prot	Perm
Protected Phases	1	6	2	4	
Permitted Phases	6				4
Detector Phase	1	6	2	4	4
Switch Phase					
Minimum Initial (s)	6.0	16.0	16.0	10.0	10.0
Minimum Split (s)	12.8	24.9	24.9	25.1	25.1
Total Split (s)	20.0	89.0	69.0	61.0	61.0
Total Split (%)	13.3%	59.3%	46.0%	40.7%	40.7%
Yellow Time (s)	4.8	4.9	4.9	4.1	4.1
All-Red Time (s)	2.0	2.0	2.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.9	6.9	7.1	7.1
Lead/Lag	Lead		Lag		
Lead/Lag Optimize?	Yes		Yes		
Recall Mode	None	Min	Min	None	None
Act Effct Green (s)	80.2	80.1	62.1	53.9	53.9
Actuated g/C Ratio	0.54	0.54	0.42	0.36	0.36
w/c Ratio	0.72	0.21	0.98	0.32	1.03
Control Delay (s/veh)	53.9	17.9	62.4	36.1	60.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	53.9	17.9	62.4	36.1	60.3
LOS	D	B	E	D	E
Approach Delay (s/veh)		26.7	62.4		
Approach LOS		C	E		
Queue Length 50th (ft)	7.0	98	671	140	-5.95
Queue Length 95th (ft)	#145	129	#853	212	#363
Internal Link Dist (ft)		553	1985		
Turn Bay Length (ft)	190				420
Base Capacity (vph)	193	1895	1372	620	836
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced w/c Ratio	0.64	0.21	0.98	0.32	1.03

Intersection Summary

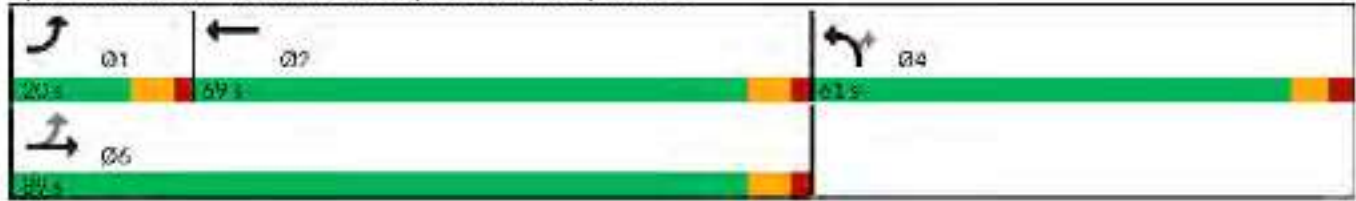
Cycle Length: 150	
Actuated Cycle Length: 148	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum w/c Ratio: 1.03	
Intersection Signal Delay (s/veh): 53.7	Intersection LOS: D
Intersection Capacity Utilization 77.0%	ICU Level of Service D
Analysis Period (min): 15	
~ Volume exceeds capacity, queue is theoretically infinite.	

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 49. I-75 NB Off-ramp/I-75 NB On-ramp & SR 326



**APPENDIX V – 2040 NO-BUILD SYNCHRO OUTPUT
REPORTS**

SR 40 Summary Tables

36: I-75 SB On-Ramp/I-75 SB Off-Ramp & SR 40

Approach	Movement	AM Peak Hour			PM Peak Hour			WKND Peak Hour		
		V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)
Westbound	Left	0.83	37.8 (D)	200	0.94	105.5 (F)	375	0.84	60.0 (E)	350
	Through	0.59	80.0 (F)	475	0.63	69.5 (E)	475	0.39	9.0 (A)	200
	Approach	0.63	73.3 (E)	-	0.70	77.1 (E)	-	0.51	22.5 (C)	-
Eastbound	Through	0.88	88.4 (F)	825	1.04	84.4 (F)	925	0.70	32.1 (C)	550
	Right	0.29	3.8 (A)	75	0.49	4.3 (A)	75	0.20	3.8 (A)	50
	Approach	0.80	76.3 (E)	-	0.92	66.7 (E)	-	0.64	28.6 (C)	-
Southbound	LT/RT Approach	1.60	312.8 (F)	1075	1.53	281.9 (F)	925	1.28	179.2 (F)	775
		1.60	312.8 (F)	-	1.53	281.9 (F)	-	1.28	179.2 (F)	-
Overall Intersection		0.87	115.7 (F)	-	0.90	99.9 (F)	-	0.69	50.7 (D)	-

37: I-75 NB Off-Ramp/I-75 NB On-Ramp & SR 40

Approach	Movement	AM Peak Hour			PM Peak Hour			WKND Peak Hour		
		V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)
Westbound	Through	1.04	103.0 (F)	850	0.97	91.7 (F)	975	0.56	20.5 (C)	450
	Right	0.48	5.1 (A)	75	0.43	3.5 (A)	75	0.30	2.5 (A)	50
	Approach	0.92	81.8 (F)	-	0.87	74.7 (E)	-	0.50	16.6 (B)	-
Northbound	LT/RT Approach	1.35	209.0 (F)	1175	1.27	195.3 (F)	675	1.28	185.4 (F)	700
		1.35	209.0 (F)	-	1.27	195.3 (F)	-	1.28	185.4 (F)	-
Eastbound	Left	0.93	44.6 (D)	175	0.91	70.2 (E)	200	0.66	26.5 (C)	100
	Through	0.79	65.3 (E)	600	0.57	3.0 (A)	25	0.49	2.9 (A)	50
	Approach	0.81	62.4 (E)	-	0.63	14.6 (B)	-	0.52	6.7 (A)	-
Overall Intersection		0.95	97.7 (F)	-	0.81	63.2 (E)	-	0.62	35.8 (D)	-

SR 40 Synchro Reports



Lane Group	EBT	EBR	WBL	WBT	SBT
Lane Configurations	↑↑	↗	↖	↑↑	↓
Traffic Volume (vph)	1329	222	244	1279	0
Future Volume (vph)	1329	222	244	1279	0
Lane Group Flow (vph)	1399	234	257	1346	671
Turn Type	NA	Perm	pm+pt	NA	NA
Protected Phases	6		5	2	8
Permitted Phases		6	2		
Detector Phase	6	6	5	2	8
Switch Phase					
Minimum Initial (s)	15.0	15.0	5.0	15.0	8.0
Minimum Split (s)	28.8	28.8	11.8	25.8	38.1
Total Split (s)	66.0	66.0	36.0	102.0	38.0
Total Split (%)	47.1%	47.1%	25.7%	72.9%	27.1%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.1
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.1
Lead/Lag	Lag	Lag	Lead		
Lead/Lag Optimize?	Yes	Yes	Yes		
Recall Mode	C-Max	C-Max	Min	Max	None
Act Effct Green (s)	66.3	66.3	95.2	95.2	31.9
Actuated g/C Ratio	0.47	0.47	0.68	0.68	0.23
w/c Ratio	0.88	0.29	0.83	0.59	1.60
Control Delay (s/veh)	41.3	3.8	36.5	29.9	312.6
Queue Delay	47.1	0.0	1.3	50.2	0.2
Total Delay (s/veh)	88.4	3.8	37.8	80.0	312.8
LOS	F	A	D	F	F
Approach Delay (s/veh)	76.3			73.3	312.8
Approach LOS	E			E	F
Queue Length 50th (ft)	595	0	21.2	51.0	~816
Queue Length 95th (ft)	#822	51	m195	m466	#1060
Internal Link Dist (ft)	2515			323	481
Turn Bay Length (ft)		450	135		
Base Capacity (vph)	1598	818	389	2294	419
Starvation Cap Reductn	0	0	36	1331	0
Spillback Cap Reductn	373	0	0	0	8
Storage Cap Reductn	0	0	0	0	0
Reduced w/c Ratio	1.14	0.29	0.73	1.40	1.63

Intersection Summary

Cycle Length: 140	
Actuated Cycle Length: 140	
Offset: 91 (65%), Referenced to phase 6EBT, Start of Yellow	
Natural Cycle: 110	
Control Type: Actuated-Coordinated	
Maximum w/c Ratio: 1.60	
Intersection Signal Delay (s/veh): 115.7	Intersection LOS: F
Intersection Capacity Utilization: 109.6%	ICU Level of Service: H
Analysis Period (min): 15	

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal

Splits and Phases: 36 I-75 SB On-Ramp/I-75 SB Off-Ramp & SR 40





Lane Group	EBL	EBT	WBT	WBR	NBT
Lane Configurations					
Traffic Volume (vph)	226	1422	1286	355	0
Future Volume (vph)	226	1422	1286	355	0
Lane Group Flow (vph)	238	1497	1354	374	795
Turn Type	pm+pt	NA	NA	Perm	NA
Protected Phases	1	6	2		4
Permitted Phases	6			2	
Detector Phase	1	6	2	2	4
Switch Phase					
Minimum Initial (s)	5.0	15.0	15.0	15.0	5.0
Minimum Split (s)	11.8	24.8	24.8	24.8	34.2
Total Split (s)	25.0	85.0	60.0	60.0	55.0
Total Split (%)	17.9%	60.7%	42.9%	42.9%	39.3%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.2
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.2
Lead/Lag	Lead		Lag	Lag	
Lead/Lag Optimize?	Yes		Yes	Yes	
Recall Mode	Min	Max	C-Max	C-Max	None
Act Effct Green (s)	78.2	78.2	53.6	53.6	48.8
Actuated g/C Ratio	0.56	0.56	0.38	0.38	0.35
w/c Ratio	0.93	0.79	1.04	0.48	1.35
Control Delay (s/veh)	44.6	16.9	77.6	5.1	209.3
Queue Delay	0.0	483	25.4	0.0	5.7
Total Delay (s/veh)	44.6	65.3	103.0	5.1	209.0
LOS	D	E	F	A	F
Approach Delay (s/veh)		624	81.8		209.0
Approach LOS		E	F		F
Queue Length 50th (ft)	148	670	~703	2	~901
Queue Length 95th (ft)	m161	m585	#843	71	#1154
Internal Link Dist (ft)		323	2364		1319
Turn Bay Length (ft)	130			400	
Base Capacity (vph)	259	1902	1304	785	587
Starvation Cap Reductn	0	660	0	0	0
Spillback Cap Reductn	0	0	322	0	268
Storage Cap Reductn	0	0	0	0	0
Reduced w/c Ratio	0.92	1.21	1.38	0.48	2.49

Intersection Summary

Cycle Length: 140	
Actuated Cycle Length: 140	
Offset: 125 (89%), Referenced to phase 2/WBT, Start of Yellow	
Natural Cycle: 130	
Control Type: Actuated-Coordinated	
Maximum w/c Ratio: 1.35	
Intersection Signal Delay (s/veh): 97.7	Intersection LOS: F
Intersection Capacity Utilization: 109.6%	ICU Level of Service: H
Analysis Period (min): 15	

~ Volume exceeds capacity, queue is theoretically infinite.

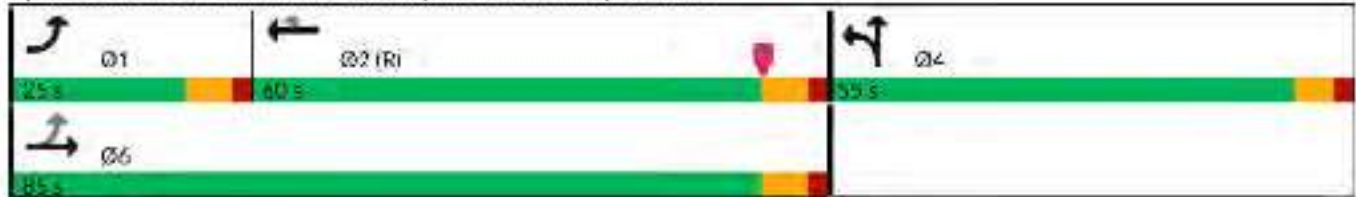
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal

Splits and Phases: 37: I-75 NB Off-Ramp/I-75 NB On-Ramp & SR 40





Lane Group	EBT	EBR	WBL	WBT	SBT
Lane Configurations	↑↑	↗	↖	↑↑	↓
Traffic Volume (vph)	1413	400	378	1417	0
Future Volume (vph)	1413	400	378	1417	0
Lane Group Flow (vph)	1487	421	398	1492	586
Turn Type	NA	Perm	pm+pt	NA	NA
Protected Phases	6		5	2	8
Permitted Phases		6	2		
Detector Phase	6	6	5	2	8
Switch Phase					
Minimum Initial (s)	15.0	15.0	5.0	15.0	8.0
Minimum Split (s)	28.8	28.8	11.8	25.8	38.1
Total Split (s)	65.0	65.0	40.0	105.0	35.0
Total Split (%)	46.4%	46.4%	28.6%	75.0%	25.0%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.1
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.1
Lead/Lag	Lag	Lag	Lead		
Lead/Lag Optimize?	Yes	Yes	Yes		
Recall Mode	C-Max	C-Max	Min	Max	None
Act Effct Green (s)	59.6	59.6	98.2	98.2	28.9
Actuated g/C Ratio	0.43	0.43	0.70	0.70	0.21
w/c Ratio	1.04	0.49	0.94	0.63	1.53
Control Delay (s/veh)	73.1	43	57.1	20.4	281.9
Queue Delay	11.3	0.0	48.4	49.1	0.0
Total Delay (s/veh)	84.4	43	105.5	69.5	281.9
LOS	F	A	F	E	F
Approach Delay (s/veh)	66.7			77.1	281.9
Approach LOS	E			E	F
Queue Length 50th (ft)	~781	0	355	465	~686
Queue Length 95th (ft)	#921	65	m357	m468	#922
Internal Link Dist (ft)	2515			323	481
Turn Bay Length (ft)		450	135		
Base Capacity (vph)	1435	866	437	2366	384
Starvation Cap Reductn	0	0	99	1148	0
Spillback Cap Reductn	40	0	0	0	1
Storage Cap Reductn	0	0	0	0	0
Reduced w/c Ratio	1.07	0.49	1.18	1.22	1.53

Intersection Summary

Cycle Length: 140	
Actuated Cycle Length: 140	
Offset: 91 (65%), Referenced to phase 6EBT, Start of Yellow	
Natural Cycle: 120	
Control Type: Actuated-Coordinated	
Maximum w/c Ratio: 1.53	
Intersection Signal Delay (s/veh): 99.9	Intersection LOS: F
Intersection Capacity Utilization: 109.2%	ICU Level of Service: H
Analysis Period (min): 15	

~ Volume exceeds capacity, queue is theoretically infinite.

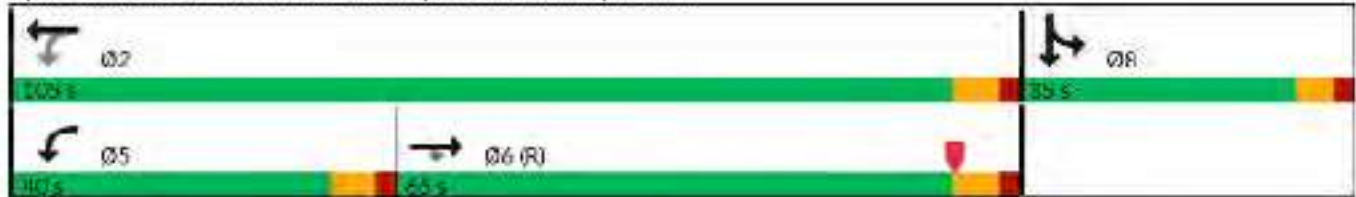
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

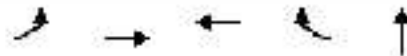
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 36 I-75 SB On-Ramp/I-75 SB Off-Ramp & SR 40



Timings
37: I-75 NB Off-Ramp/I-75 NB On-Ramp & SR 40

2040 No-Build Conditions
Timing Plan PM



Lane Group	EBL	EBT	WBT	WBR	NBT
Lane Configurations					
Traffic Volume (vph)	281	1355	1609	383	0
Future Volume (vph)	281	1355	1609	383	0
Lane Group Flow (vph)	293	1411	1676	399	446
Turn Type	pm+pt	NA	NA	Perm	NA
Protected Phases	1	6	2		4
Permitted Phases	6			2	
Detector Phase	1	6	2	2	4
Switch Phase					
Minimum Initial (s)	5.0	15.0	15.0	15.0	5.0
Minimum Split (s)	11.8	24.8	24.8	24.8	34.2
Total Split (s)	32.0	108.0	76.0	76.0	32.0
Total Split (%)	22.9%	77.1%	54.3%	54.3%	22.9%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.2
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.2
Lead/Lag	Lead		Lag	Lag	
Lead/Lag Optimize?	Yes		Yes	Yes	
Recall Mode	Min	Max	C-Max	C-Max	None
Act Effct Green (s)	101.2	101.2	70.9	70.9	25.8
Actuated gC Ratio	0.72	0.72	0.51	0.51	0.18
w/c Ratio	0.91	0.57	0.97	0.43	1.27
Control Delay (s/veh)	69.5	1.4	50.1	3.5	177.9
Queue Delay	0.7	1.6	41.6	0.0	17.4
Total Delay (s/veh)	70.2	3.0	91.7	3.5	195.3
LOS	E	A	F	A	F
Approach Delay (s/veh)		14.6	74.7		195.3
Approach LOS		B	E		F
Queue Length 50th (ft)	196	25	781	4	~446
Queue Length 95th (ft)	m176	m24	#967	58	#665
Internal Link Dist (ft)		323	2364		1319
Turn Bay Length (ft)	130			400	
Base Capacity (vph)	339	2462	1723	929	352
Starvation Cap Reductn	4	813	0	0	0
Spillback Cap Reductn	0	0	244	0	236
Storage Cap Reductn	0	0	0	0	0
Reduced w/c Ratio	0.87	0.86	1.13	0.43	3.84

Intersection Summary

Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 125 (89%), Referenced to phase 2/WBT, Start of Yellow
 Natural Cycle: 130
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 1.27
 Intersection Signal Delay (s/veh): 63.2
 Intersection LOS: E
 Intersection Capacity Utilization: 109.2%
 ICU Level of Service: H
 Analysis Period (min): 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 37: I-75 NB Off-Ramp/I-75 NB On-Ramp & SR 40



	→	↘	↙	←	↓
Lane Group	EBT	EBR	WBL	WBT	SBT
Lane Configurations	↑↑	↗	↖	↑↑	↓
Traffic Volume (vph)	1131	158	333	924	0
Future Volume (vph)	1131	158	333	924	0
Lane Group Flow (vph)	1166	163	343	953	514
Turn Type	NA	Perm	pm+pt	NA	NA
Protected Phases	6		5	2	8
Permitted Phases		6	2		
Detector Phase	6	6	5	2	8
Switch Phase					
Minimum Initial (s)	15.0	15.0	5.0	15.0	8.0
Minimum Split (s)	28.8	28.8	11.8	25.8	38.1
Total Split (s)	69.0	69.0	36.0	105.0	35.0
Total Split (%)	49.3%	49.3%	25.7%	75.0%	25.0%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.1
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.1
Lead/Lag	Lag	Lag	Lead		
Lead/Lag Optimize?	Yes	Yes	Yes		
Recall Mode	C-Max	C-Max	Min	Max	None
Act Effct Green (s)	67.4	67.4	98.2	98.2	28.9
Actuated g/C Ratio	0.48	0.48	0.70	0.70	0.21
w/c Ratio	0.70	0.20	0.84	0.39	1.28
Control Delay (s/veh)	32.1	3.8	56.4	8.2	179.2
Queue Delay	0.0	0.0	3.5	0.8	0.0
Total Delay (s/veh)	32.1	3.8	60.0	9.0	179.2
LOS	C	A	E	A	F
Approach Delay (s/veh)	28.6			22.5	179.2
Approach LOS	C			C	F
Queue Length 50th (ft)	436	0	242	124	-529
Queue Length 95th (ft)	549	42	m338	m183	#757
Internal Link Dist (ft)	2515			323	481
Turn Bay Length (ft)		450	135		
Base Capacity (vph)	1671	825	465	2434	403
Starvation Cap Reductn	0	0	60	1075	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced w/c Ratio	0.70	0.20	0.85	0.70	1.28

Intersection Summary

Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 91 (65%), Referenced to phase 6EBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 1.28
 Intersection Signal Delay (s/veh): 50.7
 Intersection LOS: D
 Intersection Capacity Utilization 95.1%
 ICU Level of Service F
 Analysis Period (min): 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 36 I-75 SB On-Ramp/I-75 SB Off-Ramp & SR 40





Lane Group	EBL	EBT	WBT	WBR	NBT
Lane Configurations					
Traffic Volume (vph)	228	1176	1069	292	0
Future Volume (vph)	228	1176	1069	292	0
Lane Group Flow (vph)	238	1225	1114	304	466
Turn Type	pm+pt	NA	NA	Perm	NA
Protected Phases	1	6	2		4
Permitted Phases	6			2	
Detector Phase	1	6	2	2	4
Switch Phase					
Minimum Initial (s)	5.0	15.0	15.0	15.0	5.0
Minimum Split (s)	11.8	24.8	24.8	24.8	34.2
Total Split (s)	32.0	108.0	76.0	76.0	32.0
Total Split (%)	22.9%	77.1%	54.3%	54.3%	22.9%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.2
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.2
Lead/Lag	Lead		Lag	Lag	
Lead/Lag Optimize?	Yes		Yes	Yes	
Recall Mode	Min	Max	C-Max	C-Max	None
Act Effct Green (s)	101.2	101.2	80.7	80.7	25.8
Actuated g/C Ratio	0.72	0.72	0.58	0.58	0.18
w/c Ratio	0.66	0.49	0.56	0.30	1.28
Control Delay (s/veh)	26.2	24	20.4	25	184.1
Queue Delay	0.3	0.5	0.0	0.0	1.3
Total Delay (s/veh)	26.5	29	20.5	25	185.4
LOS	C	A	C	A	F
Approach Delay (s/veh)		6.7	16.6		185.4
Approach LOS		A	B		F
Queue Length 50th (ft)	59	33	311	0	~474
Queue Length 95th (ft)	m95	m35	432	45	#695
Internal Link Dist (ft)		323	2364		1319
Turn Bay Length (ft)	130			400	
Base Capacity (vph)	473	2509	2000	1007	363
Starvation Cap Reductn	37	765	0	0	0
Spillback Cap Reductn	0	0	59	0	40
Storage Cap Reductn	0	0	0	0	0
Reduced w/c Ratio	0.55	0.70	0.57	0.30	1.44

Intersection Summary

Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 125 (89%), Referenced to phase 2/WBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 1.28
 Intersection Signal Delay (s/veh): 35.8
 Intersection Capacity Utilization 95.1%
 Analysis Period (min): 15
 Intersection LOS: D
 ICU Level of Service F

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 37: I-75 NB Off-Ramp/I-75 NB On-Ramp & SR 40



US 27 Summary Tables

42: I-75 SB On-ramp/I-75 SB Off-ramp & US 27

Approach	Movement	AM Peak Hour			PM Peak Hour			WKND Peak Hour		
		V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)
Westbound	Left	0.99	124.7 (F)	575	0.95	92.7 (F)	650	0.87	100.6 (F)	150
	Through	0.47	12.6 (B)	275	0.77	24.5 (C)	475	0.70	18.2 (B)	300
	Approach	0.61	43.7 (D)	-	0.81	40.0 (D)	-	0.73	33.6 (C)	-
Eastbound	Through	0.92	98.3 (F)	775	0.88	108.1 (F)	625	0.72	39.0 (D)	450
	Right	0.66	13.1 (B)	275	0.68	15.1 (B)	250	0.59	4.6 (A)	75
	Approach	0.84	72.6 (E)	-	0.81	76.6 (E)	-	0.67	26.6 (C)	-
Southbound	LT/RT Approach	1.19	148.2 (F)	750	1.19	147.6 (F)	900	0.90	60.5 (E)	750
		1.19	148.2 (F)	-	1.19	147.6 (F)	-	0.90	60.5 (E)	-
Overall Intersection		0.80	70.9 (E)	-	0.86	66.6 (E)	-	0.73	34.3 (C)	-

43: I-75 NB Off-ramp/I-75 NB On-ramp & US 27

Approach	Movement	AM Peak Hour			PM Peak Hour			WKND Peak Hour		
		V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)
Westbound	Through	0.39	19.4 (B)	300	0.53	17.6 (B)	425	0.42	13.6 (B)	300
	Right	0.32	19.1 (B)	225	0.31	15.0 (B)	225	0.24	12.0 (B)	150
	Approach	0.38	19.3 (B)	-	0.50	17.3 (B)	-	0.39	13.4 (B)	-
Northbound	Left	0.54	50.6 (D)	300	0.87	72.6 (E)	475	0.79	59.0 (E)	350
	Right	0.85	62.7 (E)	400	0.74	65.2 (E)	325	0.65	55.2 (E)	250
	Approach	0.71	57.4 (E)	-	0.82	69.6 (E)	-	0.73	57.5 (E)	-
Eastbound	Left	0.60	14.8 (B)	125	0.67	19.5 (B)	100	0.45	10.9 (B)	75
	Through	0.62	14.2 (B)	425	0.47	9.9 (A)	300	0.45	8.1 (A)	275
	Approach	0.62	14.3 (B)	-	0.49	10.9 (B)	-	0.45	8.4 (A)	-
Overall Intersection		0.56	26.7 (C)	-	0.57	27.4 (C)	-	0.49	21.4 (C)	-

US 27 Synchro Reports



Lane Group	EBT	EBR	WBL	WBT	SBT
Lane Configurations	↑↑	↑	↓	↑↑	↓
Traffic Volume (vph)	1241	536	395	1031	0
Future Volume (vph)	1241	536	395	1031	0
Lane Group Flow (vph)	1306	564	416	1085	490
Turn Type	NA	Perm	pm+pt	NA	NA
Protected Phases	6		5	2	8
Permitted Phases		6	2		
Detector Phase	6	6	5	2	8
Switch Phase					
Minimum Initial (s)	15.0	15.0	5.0	15.0	8.0
Minimum Split (s)	31.0	31.0	12.0	22.0	15.0
Total Split (s)	70.0	70.0	40.0	110.0	40.0
Total Split (%)	46.7%	46.7%	26.7%	73.3%	26.7%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.0
All-Red Time (s)	2.0	2.0	2.2	2.0	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	7.0	6.8	6.3
Lead/Lag	Lead	Lead	Lag		
Lead/Lag Optimize?	Yes	Yes	Yes		
Recall Mode	Min	Min	None	C-Min	None
Act Effct Green (s)	63.2	63.2	103.0	103.2	33.7
Actuated g/C Ratio	0.42	0.42	0.69	0.69	0.22
w/c Ratio	0.92	0.66	0.99	0.47	1.19
Control Delay (s/veh)	52.3	13.1	88.1	12.2	148.0
Queue Delay	46.0	0.0	36.5	0.4	0.2
Total Delay (s/veh)	98.3	13.1	124.7	12.6	148.2
LOS	F	B	F	B	F
Approach Delay (s/veh)	72.6			43.7	148.2
Approach LOS	E			D	F
Queue Length 50th (ft)	63.0	1.20	35.8	22.4	-51.4
Queue Length 95th (ft)	#753	258	#563	27.2	#742
Internal Link Dist (ft)	2673			327	1520
Turn Bay Length (ft)		270			
Base Capacity (vph)	1421	857	421	2321	412
Starvation Cap Reductn	0	0	63	660	0
Spillback Cap Reductn	333	0	0	0	8
Storage Cap Reductn	0	0	0	0	0
Reduced w/c Ratio	1.20	0.66	1.16	0.65	1.21

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 97 (65%), Referenced to phase 2:WBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 1.19
 Intersection Signal Delay (s/veh): 70.9
 Intersection Capacity Utilization: 99.6%
 Analysis Period (min): 15

Intersection LOS: E
 ICU Level of Service: F

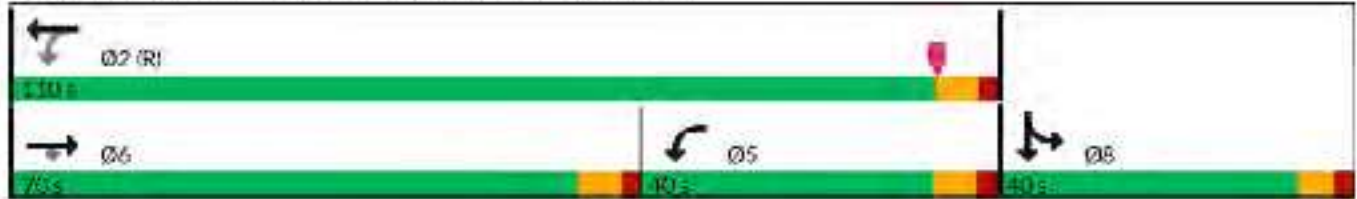
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.



















Queue shown is maximum after two cycles.

Splits and Phases: 42 I-75 SB On-ramp/I-75 SB Off-ramp & US 27



HCM 7th Signalized Intersection Summary
 43: I-75 NB Off-ramp/I-75 NB On-ramp & US 27

2040 No-Build Conditions
 Timing Plan AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	179	1365	0	0	1014	240	412	0	520	0	0	0
Future Volume (veh/h)	179	1365	0	0	1014	240	412	0	520	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/hln	1693	1811	0	0	1811	1693	1796	0	1796			
Adj Flow Rate, veh/h	188	1437	0	0	1067	253	434	0	547			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95			
Percent Heavy Veh, %	14	6	0	0	6	14	7	0	7			
Cap, veh/h	313	2305	0	0	2744	796	797	0	644			
Arrive On Green	0.06	0.67	0.00	0.00	0.56	0.56	0.24	0.00	0.24			
Sat Flow, veh/h	1612	3532	0	0	5107	1434	3319	0	2679			
Grp Volume(s), veh/h	188	1437	0	0	1067	253	434	0	547			
Grp Sat Flow(s), veh/hln	1612	1721	0	0	1648	1434	1659	0	1340			
Q Serve(g_s), s	7.3	35.5	0.0	0.0	18.4	14.3	17.1	0.0	29.2			
Cycle Q Clear(g_c), s	7.3	35.5	0.0	0.0	18.4	14.3	17.1	0.0	29.2			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(s), veh/h	313	2305	0	0	2744	796	797	0	644			
WC Ratio(%)	0.60	0.62	0.00	0.00	0.39	0.32	0.54	0.00	0.85			
Avail Cap(c_s), veh/h	364	2305	0	0	2744	796	960	0	775			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.27	0.27	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	14.3	14.0	0.0	0.0	18.9	18.0	49.8	0.0	54.4			
Incr Delay (d2), s/veh	0.6	0.2	0.0	0.0	0.4	1.0	0.8	0.0	8.3			
Initial Q Delay(dB), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%), veh ln	4.1	16.6	0.0	0.0	11.6	8.7	11.7	0.0	16.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	14.8	14.2	0.0	0.0	19.4	19.1	50.6	0.0	62.7			
LnGrp LOS	B	B			B	B	D		E			
Approach Vol, veh/h		1625			1320			981				
Approach Delay, s/veh		14.3			19.3			57.4				
Approach LOS		B			B			E				
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rq), s	17.2	90.2		42.6		107.4						
Change Period (Y+Rq), s	7.7	6.9		6.6		6.9						
Max Green Setting (Gmax), s	14.3	71.1		43.4		93.1						
Max Q Clear Time (g_c+I), s	9.3	20.4		31.2		37.5						
Green Ext Time (p_c), s	0.2	17.7		4.8		25.5						
Intersection Summary												
HCM 7th Control Delay, s/veh				26.7								
HCM 7th LOS				C								
Notes												
User approved pedestrian interval to be less than phase max green.												



Lane Group	EBT	EBR	WBL	WBT	SBT
Lane Configurations	↑↑	↗	↖	↑↑	↓
Traffic Volume (vph)	961	494	478	1625	0
Future Volume (vph)	961	494	478	1625	0
Lane Group Flow (vph)	1012	520	503	1711	539
Turn Type	NA	Perm	pm+pt	NA	NA
Protected Phases	6		5	2	8
Permitted Phases		6	2		
Detector Phase	6	6	5	2	8
Switch Phase					
Minimum Initial (s)	15.0	15.0	5.0	15.0	8.0
Minimum Split (s)	31.0	31.0	12.0	22.0	15.0
Total Split (s)	62.0	62.0	54.0	116.0	44.0
Total Split (%)	38.8%	38.8%	33.8%	72.5%	27.5%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.0
All-Red Time (s)	2.0	2.0	2.2	2.0	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	7.0	6.8	6.3
Lead/Lag	Lead	Lead	Lag		
Lead/Lag Optimize?	Yes	Yes	Yes		
Recall Mode	Min	Min	None	C-Min	None
Act Effct Green (s)	54.4	54.4	105.5	105.7	41.2
Actuated g/C Ratio	0.34	0.34	0.66	0.66	0.26
w/c Ratio	0.88	0.68	0.95	0.77	1.19
Control Delay (s/veh)	59.8	15.1	64.0	17.3	147.4
Queue Delay	48.4	0.0	28.8	7.2	0.1
Total Delay (s/veh)	108.1	15.1	92.7	24.5	147.6
LOS	F	B	F	C	F
Approach Delay (s/veh)	76.6			40.0	147.6
Approach LOS	E			D	F
Queue Length 50th (ft)	522	107	438	420	~652
Queue Length 95th (ft)	616	249	#638	458	#891
Internal Link Dist (ft)	2673			327	1520
Turn Bay Length (ft)		270			
Base Capacity (vph)	1164	770	559	2302	454
Starvation Cap Reductn	0	0	79	555	0
Spillback Cap Reductn	336	0	0	0	7
Storage Cap Reductn	0	0	0	0	0
Reduced w/c Ratio	1.22	0.68	1.05	0.98	1.21

Intersection Summary	
Cycle Length: 160	
Actuated Cycle Length: 160	
Offset: 40 (25%), Referenced to phase 2:WBT, Start of Yellow	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum w/c Ratio: 1.19	
Intersection Signal Delay (s/veh): 66.6	Intersection LOS: E
Intersection Capacity Utilization: 103.5%	ICU Level of Service: G
Analysis Period (min): 15	

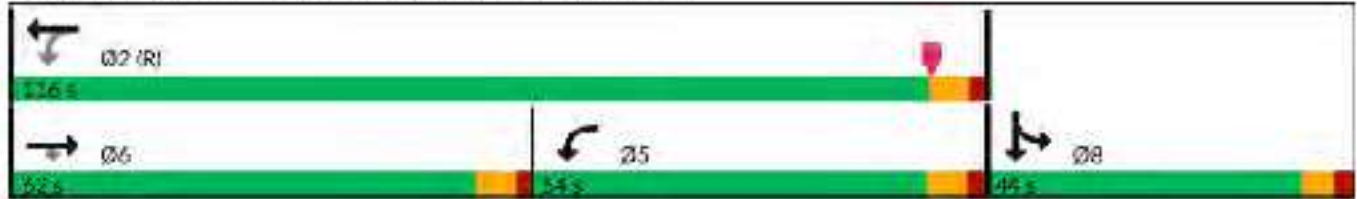
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 42 I-75 SB On-ramp/I-75 SB Off-ramp & US 27



HCM 7th Signalized Intersection Summary
 43: I-75 NB Off-ramp/I-75 NB On-ramp & US 27

2040 No-Build Conditions
 Timing Plan PM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	132	1109	0	0	1555	264	548	0	379	0	0	0
Future Volume (veh/h)	132	1109	0	0	1555	264	548	0	379	0	0	0
Initial Q (Cb), veh	0	0	0	0	0	0	0	0	0			
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/hln	1693	1811	0	0	1811	1693	1796	0	1796			
Adj Flow Rate, veh/h	139	1167	0	0	1637	278	577	0	399			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95			
Percent Heavy Veh, %	14	6	0	0	6	14	7	0	7			
Cap, veh/h	208	2462	0	0	3081	894	664	0	536			
Arrive On Green	0.04	0.72	0.00	0.00	0.62	0.62	0.20	0.00	0.20			
Sat Flow, veh/h	1612	3532	0	0	5107	1434	3319	0	2879			
Grp Volume(s), veh/h	139	1167	0	0	1637	278	577	0	399			
Grp Sat Flow(s), veh/hln	1612	1721	0	0	1648	1434	1659	0	1340			
Q Serve(g_s), s	4.8	23.4	0.0	0.0	29.8	14.5	26.9	0.0	22.4			
Cycle Q Clear(g_c), s	4.8	23.4	0.0	0.0	29.8	14.5	26.9	0.0	22.4			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(s), veh/h	208	2462	0	0	3081	894	664	0	536			
WC Ratio(%)	0.67	0.47	0.00	0.00	0.53	0.31	0.87	0.00	0.74			
Avail Cap(c_s), veh/h	302	2462	0	0	3081	894	734	0	593			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.35	0.35	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	18.2	9.8	0.0	0.0	17.0	14.1	61.9	0.0	60.1			
Incr Delay (d2), s/veh	1.3	0.1	0.0	0.0	0.7	0.9	107	0.0	5.1			
Initial Q Delay(dB), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%), veh/ln	4.0	11.5	0.0	0.0	17.0	8.7	18.2	0.0	12.7			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	19.5	9.9	0.0	0.0	17.6	15.0	72.6	0.0	65.2			
LnGrp LOS	B	A			B	B	E		E			
Approach Vol, veh/h		1306			1915			976				
Approach Delay, s/veh		10.9			17.3			69.6				
Approach LOS		B			B			E				
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rq), s	14.7	106.6		38.6		121.4						
Change Period (Y+Rq), s	7.7	6.9		6.6		6.9						
Max Green Setting (Gmax), s	16.3	87.1		35.4		111.1						
Max Q Clear Time (g_c+I), s	6.8	31.8		28.9		25.4						
Green Ext Time (p_c), s	0.2	3.27		3.1		19.7						
Intersection Summary												
HCM 7th Control Delay, s/veh				27.4								
HCM 7th LOS				C								
Notes												
User approved pedestrian interval to be less than phase max green.												

Timings
42: I-75 SB On-ramp/I-75 SB Off-ramp & US 27

2040 No-Build Conditions
Timing Plan: Weekend



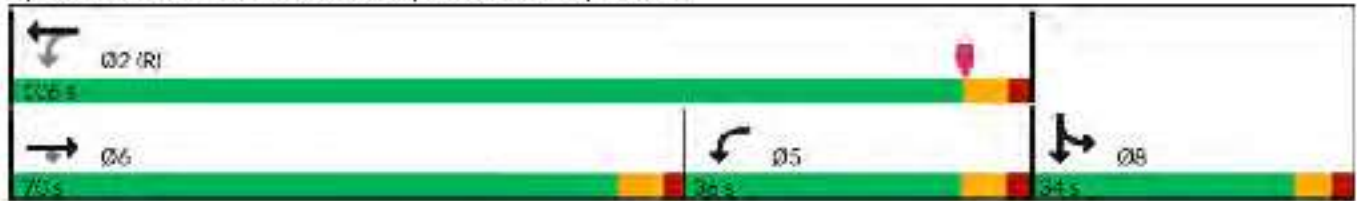
Lane Group	EBT	EBR	WBL	WBT	SBT
Lane Configurations	↑↑	↗	↖	↑↑	↓
Traffic Volume (vph)	977	548	328	1429	0
Future Volume (vph)	977	548	328	1429	0
Lane Group Flow (vph)	997	559	335	1458	498
Turn Type	NA	Perm	pm+pt	NA	NA
Protected Phases	6		5	2	8
Permitted Phases		6	2		
Detector Phase	6	6	5	2	8
Switch Phase					
Minimum Initial (s)	15.0	15.0	5.0	15.0	8.0
Minimum Split (s)	31.0	31.0	12.0	22.0	15.0
Total Split (s)	70.0	70.0	36.0	106.0	34.0
Total Split (%)	50.0%	50.0%	25.7%	75.7%	24.3%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.0
All-Red Time (s)	2.0	2.0	2.2	2.0	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	7.0	6.8	6.3
Lead/Lag	Lead	Lead	Lag		
Lead/Lag Optimize?	Yes	Yes	Yes		
Recall Mode	Min	Min	None	C-Min	None
Act Effct Green (s)	56.0	56.0	83.9	84.1	42.8
Actuated g/C Ratio	0.40	0.40	0.60	0.60	0.31
w/c Ratio	0.72	0.59	0.87	0.70	0.90
Control Delay (s/veh)	38.1	4.6	53.1	17.9	59.8
Queue Delay	0.9	0.0	47.4	0.4	0.8
Total Delay (s/veh)	39.0	4.6	100.6	18.2	60.5
LOS	D	A	F	B	E
Approach Delay (s/veh)	26.6			33.6	60.5
Approach LOS	C			C	E
Queue Length 50th (ft)	391	0	179	333	379
Queue Length 95th (ft)	435	66	144	281	#738
Internal Link Dist (ft)	2673			327	1520
Turn Bay Length (ft)		270			
Base Capacity (vph)	1566	994	482	2459	553
Starvation Cap Reductn	0	0	170	432	0
Spillback Cap Reductn	292	0	0	0	6
Storage Cap Reductn	0	0	0	0	0
Reduced w/c Ratio	0.78	0.56	1.07	0.72	0.91

Intersection Summary

Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 66 (47%), Referenced to phase 2:WBT, Start of Yellow
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 0.90
 Intersection Signal Delay (s/veh): 34.3
 Intersection Capacity Utilization: 73.3%
 Analysis Period (min): 15
 Intersection LOS: C
 ICU Level of Service: F

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

Splits and Phases: 42 I-75 SB On-ramp/I-75 SB Off-ramp & US 27



HCM 7th Signalized Intersection Summary
 43: I-75 NB Off-ramp/I-75 NB On-ramp & US 27

2040 No-Build Conditions
 Timing Plan: Weekend

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	1109	0	0	1287	212	470	0	310	0	0	0
Future Volume (veh/h)	120	1109	0	0	1287	212	470	0	310	0	0	0
Initial Q (Cb), veh	0	0	0	0	0	0	0	0	0			
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/hln	1752	1841	0	0	1841	1752	1841	0	1841			
Adj Flow Rate, veh/h	124	1143	0	0	1327	219	485	0	320			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97			
Percent Heavy Veh, %	10	4	0	0	4	10	4	0	4			
Cap, veh/h	274	2529	0	0	3154	932	614	0	496			
Arrive On Green	0.04	0.72	0.00	0.00	0.63	0.63	0.18	0.00	0.18			
Sat Flow, veh/h	1668	3589	0	0	5191	1485	3401	0	2745			
Grp Volume(s), veh/h	124	1143	0	0	1327	219	485	0	320			
Grp Sat Flow(s), veh/hln	1668	1749	0	0	1675	1485	1700	0	1373			
Q Serve(g_s), s	3.6	18.8	0.0	0.0	18.7	9.0	19.1	0.0	15.1			
Cycle Q Clear(g_c), s	3.6	18.8	0.0	0.0	18.7	9.0	19.1	0.0	15.1			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(s), veh/h	274	2529	0	0	3154	932	614	0	496			
WC Ratio(%)	0.45	0.45	0.00	0.00	0.42	0.24	0.79	0.00	0.65			
Avail Cap(c_s), veh/h	353	2529	0	0	3154	932	860	0	694			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.63	0.63	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	10.2	8.0	0.0	0.0	13.2	11.4	54.8	0.0	53.2			
Incr Delay (d2), s/veh	0.7	0.1	0.0	0.0	0.4	0.6	4.2	0.0	2.0			
Initial Q Delay(dB), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%), veh/ln	2.4	10.1	0.0	0.0	11.5	5.6	13.4	0.0	9.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	10.9	8.1	0.0	0.0	13.6	12.0	59.0	0.0	55.2			
LnGrp LOS	B	A			B	B	E		E			
Approach Vol, veh/h		1287			1546			805				
Approach Delay, s/veh		8.4			13.4			57.5				
Approach LOS		A			B			E				
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+R)q, s	13.4	94.8		31.9		108.1						
Change Period (Y+R)q, s	7.7	6.9		6.6		6.9						
Max Green Setting (Gmax), s	12.3	71.1		35.4		91.1						
Max Q Clear Time (g_c+I), s	5.6	20.7		21.1		20.8						
Green Ext Time (p_c), s	0.2	23.0		4.2		18.4						
Intersection Summary												
HCM 7th Control Delay, s/veh				21.4								
HCM 7th LOS				C								
Notes												
User approved pedestrian interval to be less than phase max green.												

SR 326 Summary Tables

47: NW 44TH AVE/I-75 SB Off-ramp & SR 326

Approach	Movement	AM Peak Hour			PM Peak Hour			WKND Peak Hour		
		V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)
Westbound	Left	0.38	25.9 (C)	50	0.32	31.3 (C)	50	0.20	18.7 (B)	25
	Through	0.22	15.0 (B)	125	0.29	25.9 (C)	175	0.35	17.1 (B)	100
	Approach	0.24	16.6 (B)	-	0.29	26.5 (C)	-	0.33	17.3 (B)	-
Northbound	Left	0.34	49.6 (D)	100	0.78	61.8 (E)	225	0.50	32.8 (C)	75
	Right	0.82	69.2 (E)	225	0.47	53.7 (D)	125	0.69	39.2 (D)	100
	Approach	0.66	62.6 (E)	-	0.68	59.2 (E)	-	0.60	36.3 (D)	-
Eastbound	TH/RT	0.86	34.8 (C)	575	0.86	46.0 (D)	475	0.72	29.9 (C)	200
	Approach	0.86	34.8 (C)	-	0.86	46.0 (D)	-	0.72	30.4 (C)	-
Southbound	LT/TH	0.86	63.8 (E)	350	0.83	45.8 (D)	500	0.74	29.1 (C)	225
	Right	0.86	65.6 (E)	325	0.87	50.5 (D)	475	0.85	38.0 (D)	275
	Approach	0.85	64.6 (E)	-	0.84	48.1 (D)	-	0.79	33.6 (C)	-
Overall Intersection		0.73	40.0 (D)	-	0.74	44.7 (D)	-	0.64	28.9 (C)	-

48: Shell Driveway & SR 326 & I-75 SB On-Ramp

Approach	Movement	AM Peak Hour			PM Peak Hour			WKND Peak Hour		
		V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)
Westbound	Left	0.17	14.9 (B)	25	0.06	12.1 (B)	25	0.04	9.5 (A)	25
Northbound	Right	0.26	19.3 (C)	25	0.18	15.6 (C)	25	0.10	12.0 (B)	25

49: I-75 NB Off-ramp/I-75 NB On-ramp & SR 326

Approach	Movement	AM Peak Hour			PM Peak Hour			WKND Peak Hour		
		V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)
Westbound	TH/RT	1.43	235.8 (F)	1500	1.21	145.7 (F)	1325	1.34	196.1 (F)	1225
	Approach	1.43	235.8 (F)	-	1.21	145.7 (F)	-	1.34	196.1 (F)	-
Northbound	Left	0.57	54.5 (D)	425	0.67	62.6 (E)	500	0.48	35.8 (D)	350
	Right	1.36	197.5 (F)	1550	1.33	186.0 (F)	1425	1.29	164.4 (F)	1425
	Approach	1.17	163.4 (F)	-	1.16	153.9 (F)	-	1.10	134.7 (F)	-
Eastbound	Left	1.31	206.1 (F)	825	0.91	88.1 (F)	425	1.06	121.0 (F)	350
	Through	0.26	18.3 (B)	175	0.26	15.4 (B)	175	0.23	21.6 (C)	150
	Approach	0.74	104.6 (F)	-	0.48	40.6 (D)	-	0.52	56.0 (E)	-
Overall Intersection		1.15	180.5 (F)	-	1.02	126.3 (F)	-	1.09	149.1 (F)	-

SR 326 Synchro Reports

HCM 7th Signalized Intersection Summary
 47: NW 44TH AVE/I-75 SB Off-ramp & SR 326

2040 No-Build Conditions
 Timing Plan AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↓		↘	↑↑			↙	↗		↘	↗
Traffic Volume (veh/h)	0	1071	117	58	348	0	65	0	127	236	6	215
Future Volume (veh/h)	0	1071	117	58	348	0	65	0	127	236	6	215
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1678	1678	1678	1678	0	1752	1900	1752	1707	1707	1707
Adj Flow Rate, veh/h	0	1127	123	61	366	0	68	0	134	248	6	226
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	15	15	15	15	0	10	0	10	13	13	13
Cap, veh/h	0	1302	142	159	1672	0	198	0	163	290	7	264
Arrive On Green	0.00	0.46	0.46	0.04	0.52	0.00	0.11	0.00	0.11	0.18	0.18	0.18
Sat Flow, veh/h	0	2933	316	1598	3272	0	1810	0	1495	1589	38	1447
Grp Volume(s), veh/h	0	619	631	61	366	0	68	0	134	254	0	226
Grp Sat Flow(s), veh/h/ln	0	1594	1621	1598	1594	0	1810	0	1495	1628	0	1447
Q Serve(g_s), s	0.0	40.9	41.1	2.3	7.2	0.0	4.1	0.0	10.3	17.7	0.0	17.7
Cycle Q Clear(g_c), s	0.0	40.9	41.1	2.3	7.2	0.0	4.1	0.0	10.3	17.7	0.0	17.7
Prop In Lane	0.00		0.19	1.00		0.00	1.00		1.00	0.98		1.00
Lane Grp Cap(s), veh/h	0	716	728	159	1672	0	198	0	163	297	0	264
WC Ratio(%)	0.00	0.86	0.87	0.38	0.22	0.00	0.34	0.00	0.82	0.86	0.00	0.86
Avail Cap(c_s), veh/h	0	1011	1028	189	2322	0	277	0	227	354	0	314
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	29.0	29.1	24.4	14.9	0.0	48.2	0.0	51.0	46.3	0.0	46.4
Incr Delay (d2), s/veh	0.0	5.8	5.8	1.5	0.1	0.0	1.5	0.0	18.2	17.4	0.0	19.3
Initial Q Delay(dB), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%), veh/ln	0.0	221	22.5	1.6	4.4	0.0	3.5	0.0	8.2	13.4	0.0	12.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	34.8	34.9	25.9	15.0	0.0	49.6	0.0	69.2	63.8	0.0	65.6
LnGrp LOS		C	C	C	B		D		E	E		E
Approach Vol, veh/h		1250			427			202				480
Approach Delay, s/veh		34.8			16.6			62.6				64.6
Approach LOS		C			B			E				E
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rq), s	8.8	5.93		28.9		68.1		19.9				
Change Period (Y+Rq), s	4.5	6.8		7.6		6.8		7.1				
Max Green Setting (Gmax), s	6.5	74.2		25		85.2		17.9				
Max Q Clear Time (g_c+I), s	4.3	43.1		19.7		9.2		12.3				
Green Ext Time (p_q), s	0.0	9.4		1.6		2.4		0.5				

Intersection Summary		
HCM 7th Control Delay, s/veh		40.0
HCM 7th LOS		D

Notes
 User approved pedestrian interval to be less than phase max green.
 * HCM 7th computational engine requires equal clearancetimes for the phases crossing the barrier.

Intersection										
Int Delay, s/veh	0.9									
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER
Lane Configurations		↑↓		↑	↑↓			↑		
Traffic Vol, veh/h	0	1380	55	71	406	908	0	82	0	0
Future Vol, veh/h	0	1380	55	71	406	908	0	82	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None	-	-
Storage Length	-	-	-	240	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	92	92
Heavy Vehicles, %	0	15	8	2	15	16	0	8	2	2
Mvmt Flow	0	1463	58	75	427	956	0	86	0	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	-	0	0 1511
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.14
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.22
Pot Cap-1 Maneuver	0	-	439
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	439
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.76	19.26
HCM LOS			C

Minor Lane/Major Mvmt	NBLnl	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	338	-	-	439	-	-
HCM Lane V/C Ratio	0.255	-	-	0.17	-	-
HCM Control Delay (s/veh)	19.3	-	-	14.9	-	-
HCM Lane LOS	C	-	-	B	-	-
HCM 95th %tile Q(veh)	1	-	-	0.6	-	-



Lane Group	EBL	EBT	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	389	457	1082	303	969
Future Volume (vph)	389	457	1082	303	969
Lane Group Flow (vph)	409	481	1632	319	1020
Turn Type	pm+pt	NA	NA	Prot	Perm
Protected Phases	1	6	2	4	
Permitted Phases	6				4
Detector Phase	1	6	2	4	4
Switch Phase					
Minimum Initial (s)	6.0	16.0	16.0	10.0	10.0
Minimum Split (s)	12.8	24.9	24.9	25.1	25.1
Total Split (s)	39.0	113.0	74.0	67.0	67.0
Total Split (%)	21.7%	62.8%	41.1%	37.2%	37.2%
Yellow Time (s)	4.8	4.9	4.9	4.1	4.1
All-Red Time (s)	2.0	2.0	2.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.9	6.9	7.1	7.1
Lead/Lag	Lead		Lag		
Lead/Lag Optimize?	Yes		Yes		
Recall Mode	None	Min	Min	None	None
Act Effct Green (s)	106.2	106.1	67.1	59.9	59.9
Actuated g/C Ratio	0.59	0.59	0.37	0.33	0.33
w/c Ratio	1.31	0.26	1.43	0.57	1.36
Control Delay (s/veh)	206.1	183	235.8	54.5	197.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	206.1	183	235.8	54.5	197.5
LOS	F	B	F	D	F
Approach Delay (s/veh)		104.6	235.8		
Approach LOS		F	F		
Queue Length 50th (ft)	~57.6	140	~135.2	31.2	~126.6
Queue Length 95th (ft)	#806	175	#1487	424	#1538
Internal Link Dist (ft)		553	1985		
Turn Bay Length (ft)	190				420
Base Capacity (vph)	312	1866	1146	656	751
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced w/c Ratio	1.31	0.26	1.43	0.57	1.36

Intersection Summary

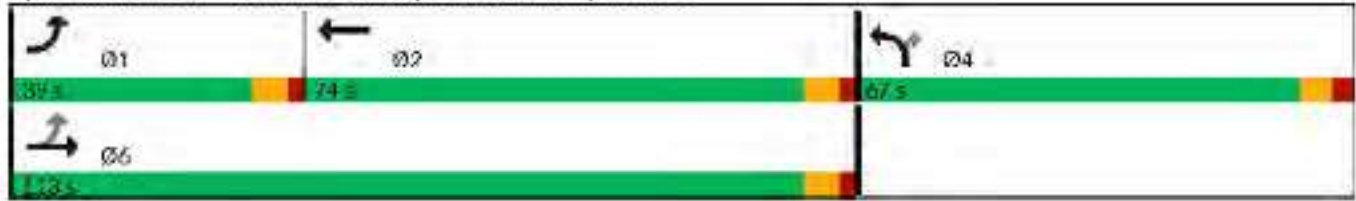
Cycle Length: 180	
Actuated Cycle Length: 180	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum w/c Ratio: 1.43	
Intersection Signal Delay (s/veh): 1805	Intersection LOS: F
Intersection Capacity Utilization 98.0%	ICU Level of Service F
Analysis Period (min): 15	
~ Volume exceeds capacity, queue is theoretically infinite.	

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 49. I-75 NB Off-ramp/I-75 NB On-ramp & SR 326



HCM 7th Signalized Intersection Summary
 47: NW 44TH AVE/I-75 SB Off-ramp & SR 326

2040 No-Build Conditions
 Timing Plan PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↓		↘	↑↑			↙	↗		↘	↗
Traffic Volume (veh/h)	0	713	113	45	343	0	148	0	73	405	13	389
Future Volume (veh/h)	0	713	113	45	343	0	148	0	73	405	13	389
Initial Q (Cb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/hln	0	1678	1678	1678	1678	0	1752	1900	1752	1707	1707	1707
Adj Flow Rate, veh/h	0	751	119	47	361	0	156	0	77	426	14	409
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	15	15	15	15	0	10	0	10	13	13	13
Cap, veh/h	0	872	138	146	1231	0	199	0	163	515	17	473
Arrive On Green	0.00	0.32	0.32	0.03	0.39	0.00	0.11	0.00	0.11	0.33	0.33	0.33
Sat Flow, veh/h	0	2840	437	1598	3272	0	1810	0	1485	1577	52	1447
Grp Volume(s), veh/h	0	434	436	47	361	0	156	0	77	440	0	409
Grp Sat Flow(s), veh/hln	0	1594	1599	1598	1594	0	1810	0	1485	1629	0	1447
Q Serve(g_s), s	0.0	31.1	31.1	23	95	0.0	10.2	0.0	5.9	30.3	0.0	32.2
Cycle Q Clear(g_c), s	0.0	31.1	31.1	23	95	0.0	10.2	0.0	5.9	30.3	0.0	32.2
Prop In Lane	0.00		0.27	1.00		0.00	1.00		1.00	0.97		1.00
Lane Grp Cap(s), veh/h	0	504	506	146	1231	0	199	0	163	532	0	473
WC Ratio(%)	0.00	0.86	0.86	0.32	0.29	0.00	0.78	0.00	0.47	0.83	0.00	0.87
Avail Cap(c_s), veh/h	0	738	740	166	1739	0	356	0	292	649	0	577
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	39.0	39.0	30.1	25.8	0.0	52.6	0.0	50.7	37.7	0.0	38.3
Incr Delay (d2), s/veh	0.0	7.1	7.1	1.3	0.1	0.0	9.2	0.0	3.0	8.1	0.0	12.1
Initial Q Delay(dB), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%), veh/ln	0.0	18.4	18.5	1.6	6.3	0.0	8.9	0.0	4.2	19.1	0.0	18.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	46.0	46.1	31.3	25.9	0.0	61.8	0.0	53.7	45.8	0.0	50.5
LnGrp LOS		D	D	C	C		E		D	D		D
Approach Vol, veh/h		870			408			233				849
Approach Delay, s/veh		46.0			26.5			59.2				48.1
Approach LOS		D			C			E				D
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rq), s	8.5	45.2		47.3		53.7		20.4				
Change Period (Y+Rq), s	4.5	6.8		7.6		6.8		7.1				
Max Green Setting (Gmax), s	5.5	56.2		48		66.2		23.9				
Max Q Clear Time (g_c+I), s	4.3	33.1		34.2		11.5		12.2				
Green Ext Time (p_q), s	0.0	5.3		5.5		2.4		1.2				

Intersection Summary		
HCM 7th Control Delay, s/veh		44.7
HCM 7th LOS		D

Notes
 User approved pedestrian interval to be less than phase max green.
 * HCM 7th computational engine requires equal clearancetimes for the phases crossing the barrier.

Intersection										
Int Delay, s/veh	0.5									
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER
Lane Configurations		↑↑		↑	↑↑			↑		
Traffic Vol, veh/h	0	1163	32	31	388	1098	0	71	0	0
Future Vol, veh/h	0	1163	32	31	388	1098	0	71	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None	-	-
Storage Length	-	-	-	240	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	92	92
Heavy Vehicles, %	0	15	14	3	15	16	0	6	2	2
Mvmt Flow	0	1224	34	33	408	1156	0	75	0	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	-	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.16
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.23
Pot Cap-1 Maneuver	0	-	543
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	543
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.25	15.55
HCM LOS			C

Minor Lane/Major Mvmt	NBLnl	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	416	-	-	543	-	-
HCM Lane V/C Ratio	0.18	-	-	0.06	-	-
HCM Control Delay (s/veh)	15.6	-	-	12.1	-	-
HCM Lane LOS	C	-	-	B	-	-
HCM 95th %tile Q(veh)	0.6	-	-	0.2	-	-



Lane Group	EBL	EBT	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	253	478	1196	321	911
Future Volume (vph)	253	478	1196	321	911
Lane Group Flow (vph)	266	503	1553	338	959
Turn Type	pm+pt	NA	NA	Prot	Perm
Protected Phases	1	6	2	4	
Permitted Phases	6				4
Detector Phase	1	6	2	4	4
Switch Phase					
Minimum Initial (s)	6.0	16.0	16.0	10.0	10.0
Minimum Split (s)	12.8	24.9	24.9	25.1	25.1
Total Split (s)	40.0	120.0	80.0	60.0	60.0
Total Split (%)	22.2%	66.7%	44.4%	33.3%	33.3%
Yellow Time (s)	4.8	4.9	4.9	4.1	4.1
All-Red Time (s)	2.0	2.0	2.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.9	6.9	7.1	7.1
Lead/Lag	Lead		Lag		
Lead/Lag Optimize?	Yes		Yes		
Recall Mode	None	Min	Min	None	None
Act Effct Green (s)	109.4	109.3	73.2	53.0	53.0
Actuated g/C Ratio	0.62	0.62	0.42	0.30	0.30
w/c Ratio	0.91	0.26	1.21	0.67	1.33
Control Delay (s/veh)	88.1	15.4	145.7	62.6	186.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	88.1	15.4	145.7	62.6	186.0
LOS	F	B	F	E	F
Approach Delay (s/veh)		40.6	145.7		
Approach LOS		D	F		
Queue Length 50th (ft)	260	133	~1182	355	~1133
Queue Length 95th (ft)	#412	165	#1325	481	#1407
Internal Link Dist (ft)		553	1985		
Turn Bay Length (ft)	190				420
Base Capacity (vph)	325	2033	1282	502	720
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced w/c Ratio	0.82	0.25	1.21	0.67	1.33

Intersection Summary

Cycle Length: 180	
Actuated Cycle Length: 176.3	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum w/c Ratio: 1.33	
Intersection Signal Delay (s/veh): 1263	Intersection LOS: F
Intersection Capacity Utilization 88.5%	ICU Level of Service E
Analysis Period (min): 15	
~ Volume exceeds capacity, queue is theoretically infinite.	

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 49. I-75 NB Off-ramp/I-75 NB On-ramp & SR 326



HCM 7th Signalized Intersection Summary
 47: NW 44TH AVE/I-75 SB Off-ramp & SR 326

2040 No-Build Conditions
 Timing Plan: Weekend



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↓		↘	↑↑			↙	↗		↘	↗
Traffic Volume (veh/h)	0	362	138	47	372	0	76	0	90	302	7	313
Future Volume (veh/h)	0	362	138	47	372	0	76	0	90	302	7	313
Initial Q (Cb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1752	1841	1841	1752	0	1841	1900	1841	1767	1767	1767
Adj Flow Rate, veh/h	0	381	146	49	392	0	80	0	95	318	7	329
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	10	4	4	10	0	4	0	4	9	9	9
Cap, veh/h	0	527	198	246	1111	0	159	0	137	427	9	388
Arrive On Green	0.00	0.22	0.22	0.04	0.33	0.00	0.09	0.00	0.09	0.26	0.26	0.26
Sat Flow, veh/h	0	2465	889	1753	3416	0	1810	0	1560	1648	36	1497
Grp Volume(s), veh/h	0	266	260	49	392	0	80	0	95	325	0	329
Grp Sat Flow(s), veh/h/ln	0	1664	1592	1753	1664	0	1810	0	1560	1684	0	1497
Q Serve(g_s), s	0.0	10.0	10.2	1.4	6.0	0.0	2.8	0.0	4.0	11.9	0.0	14.1
Cycle Q Clear(g_c), s	0.0	10.0	10.2	1.4	6.0	0.0	2.8	0.0	4.0	11.9	0.0	14.1
Prop In Lane	0.00		0.56	1.00		0.00	1.00		1.00	0.98		1.00
Lane Grp Cap(s), veh/h	0	370	354	246	1111	0	159	0	137	437	0	388
WC Ratio(%)	0.00	0.72	0.73	0.20	0.35	0.00	0.50	0.00	0.69	0.74	0.00	0.85
Avail Cap(c_s), veh/h	0	400	383	311	1294	0	212	0	183	485	0	431
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	243	24.3	18.3	17.0	0.0	293	0.0	29.9	22.9	0.0	23.7
Incr Delay (d2), s/veh	0.0	5.7	6.6	0.4	0.2	0.0	3.5	0.0	9.3	6.2	0.0	14.3
Initial Q Delay(d0), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%), veh/ln	0.0	7.3	7.3	0.9	3.6	0.0	24	0.0	3.2	8.9	0.0	10.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	29.9	30.9	18.7	17.1	0.0	32.8	0.0	39.2	29.1	0.0	38.0
LnGrp LOS		C	C	B	B		C		D	C		D
Approach Vol, veh/h		526			441			175				654
Approach Delay, s/veh		30.4			17.3			36.3				33.6
Approach LOS		C			B			D				C
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+R)q, s	7.5	21.8		25.1		29.3		13.0				
Change Period (Y+R)q, s	4.5	6.8		7.6		6.8		7.1				
Max Green Setting (Gmax), s	5.5	16.2		19		26.2		7.9				
Max Q Clear Time (g_c+I), s	3.4	12.2		16.1		8.0		6.0				
Green Ext Time (p_q), s	0.0	1.1		1.4		2.1		0.2				

Intersection Summary		
HCM 7th Control Delay, s/veh		28.9
HCM 7th LOS		C

Notes
 User approved pedestrian interval to be less than phase max green.
 * HCM 7th computational engine requires equal clearances times for the phases crossing the barrier.

Intersection										
Int Delay, s/veh	0.4									
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER
Lane Configurations		↑↓		↑	↑↓			↑		
Traffic Vol, veh/h	0	724	34	28	419	1099	0	56	0	0
Future Vol, veh/h	0	724	34	28	419	1099	0	56	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None	-	-
Storage Length	-	-	-	240	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	92	92
Heavy Vehicles, %	0	10	17	1	10	8	0	12	2	2
Mvmt Flow	0	762	36	29	441	1157	0	59	0	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	-	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.21
Pot Cap-1 Maneuver	0	-	827
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	827
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.17	.12
HCM LOS			B

Minor Lane/Major Mvmt	NBLnl	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	573	-	-	827	-	-
HCM Lane V/C Ratio	0.103	-	-	0.036	-	-
HCM Control Delay (s/veh)	12	-	-	9.5	-	-
HCM Lane LOS	B	-	-	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-	-



Lane Group	EBL	EBT	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	200	377	1220	326	1086
Future Volume (vph)	200	377	1220	326	1086
Lane Group Flow (vph)	204	385	1610	333	1108
Turn Type	pm+pt	NA	NA	Prot	Perm
Protected Phases	1	6	2	4	
Permitted Phases	6				4
Detector Phase	1	6	2	4	4
Switch Phase					
Minimum Initial (s)	6.0	16.0	16.0	10.0	10.0
Minimum Split (s)	12.8	24.9	24.9	25.1	25.1
Total Split (s)	20.0	82.0	62.0	68.0	68.0
Total Split (%)	13.3%	54.7%	41.3%	45.3%	45.3%
Yellow Time (s)	4.8	4.9	4.9	4.1	4.1
All-Red Time (s)	2.0	2.0	2.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.9	6.9	7.1	7.1
Lead/Lag	Lead		Lag		
Lead/Lag Optimize?	Yes		Yes		
Recall Mode	None	Min	Min	None	None
Act Effct Green (s)	75.2	75.1	55.1	60.9	60.9
Actuated g/C Ratio	0.50	0.50	0.37	0.41	0.41
w/c Ratio	1.06	0.23	1.34	0.48	1.29
Control Delay (s/veh)	121.0	21.6	196.1	35.8	164.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	121.0	21.6	196.1	35.8	164.4
LOS	F	C	F	D	F
Approach Delay (s/veh)		56.0	196.1		
Approach LOS		E	F		
Queue Length 50th (ft)	~170	109	~1073	239	~1134
Queue Length 95th (ft)	#341	144	#1213	334	#1401
Internal Link Dist (ft)		553	1985		
Turn Bay Length (ft)	190				420
Base Capacity (vph)	192	1673	1201	691	858
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced w/c Ratio	1.06	0.23	1.34	0.48	1.29

Intersection Summary

Cycle Length: 150	
Actuated Cycle Length: 150	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum w/c Ratio: 1.34	
Intersection Signal Delay (s/veh): 1491	Intersection LOS: F
Intersection Capacity Utilization 92.2%	ICU Level of Service F
Analysis Period (min): 15	
~ Volume exceeds capacity, queue is theoretically infinite.	

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 49: I-75 NB Off-ramp/I-75 NB On-ramp & SR 326



APPENDIX W – BUILD CONCEPT PLANS



LEGEND	
	ROADWAY MILLING & RESURFACING
	ROADWAY WIDENING
	SHOULDER MILLING & RESURFACING
	SHOULDER PAVEMENT
	EXISTING BRIDGE TO REMAIN
	BRIDGE WIDENING/REPLACEMENT
	EXISTING LA R/W LINE
	EXIST R/W LINE
	EXISTING PROPERTY LINE
	TRAVEL LANES
	AUXILIARY LANES

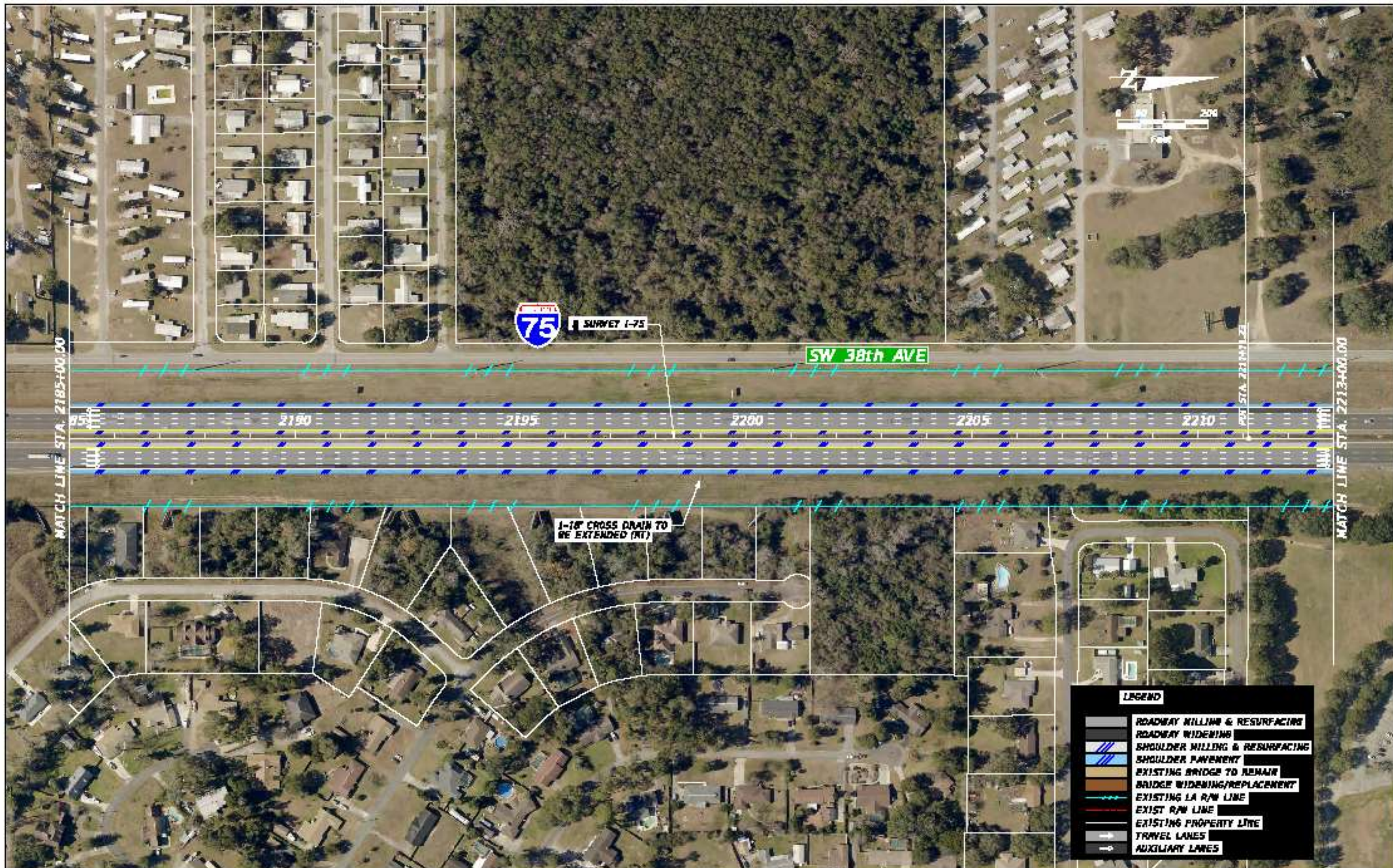
REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION



STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 93	MARTIN	443824-3-22-01

**I-75 PD&E STUDY
CONCEPT PLANS**

SHEET NO.
1



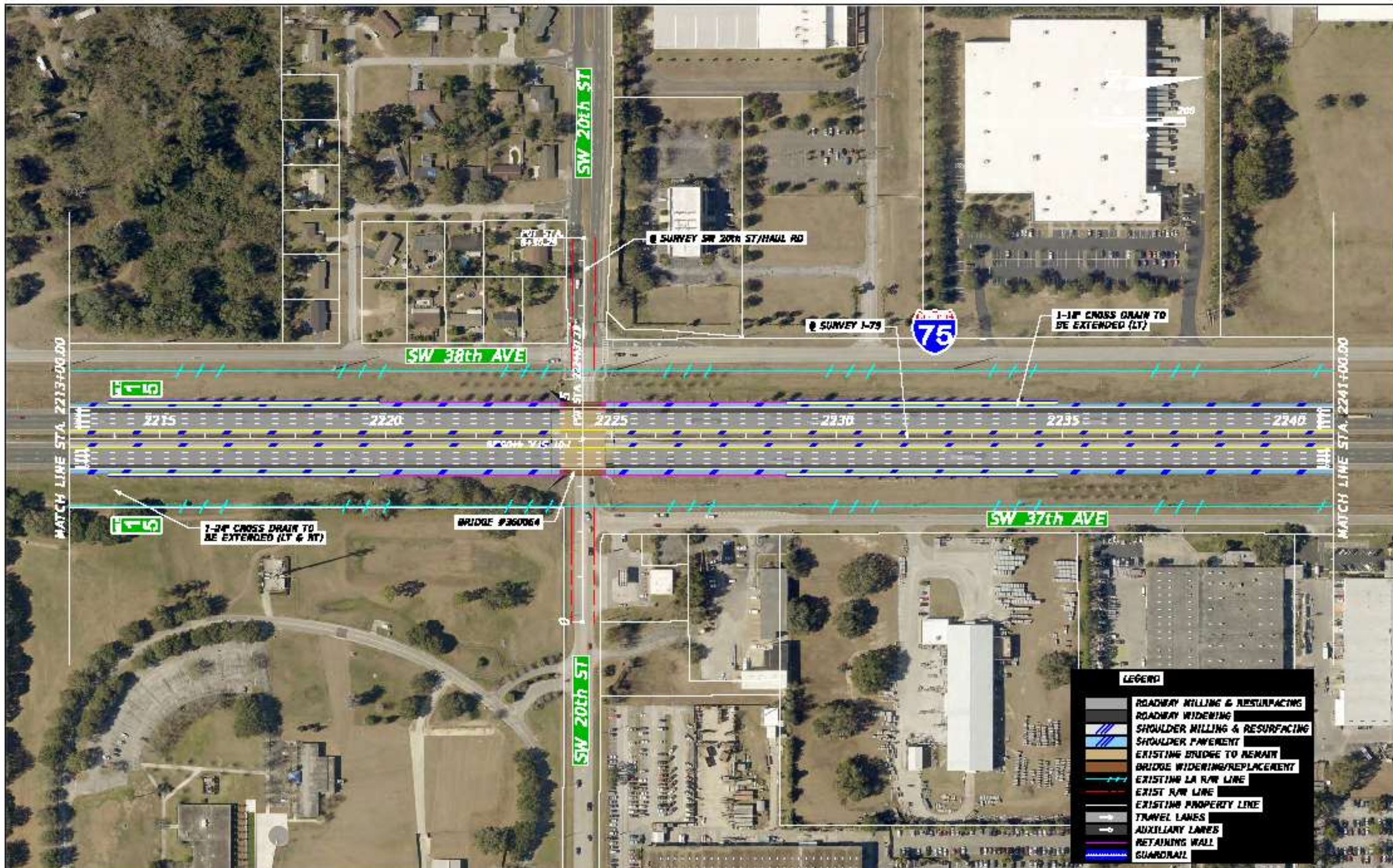
REVISIONS	
DATE	DESCRIPTION


 S.R. 200
 TO S.R. 326

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 93	MARTIN	443824-S-22-01

**I-75 PD&E STUDY
 CONCEPT PLANS**

SHEET
 NO.
2



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION



STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 93	MARTIN	443824-5-22-01

**I-75 PD&E STUDY
CONCEPT PLANS**

SHEET NO.
3



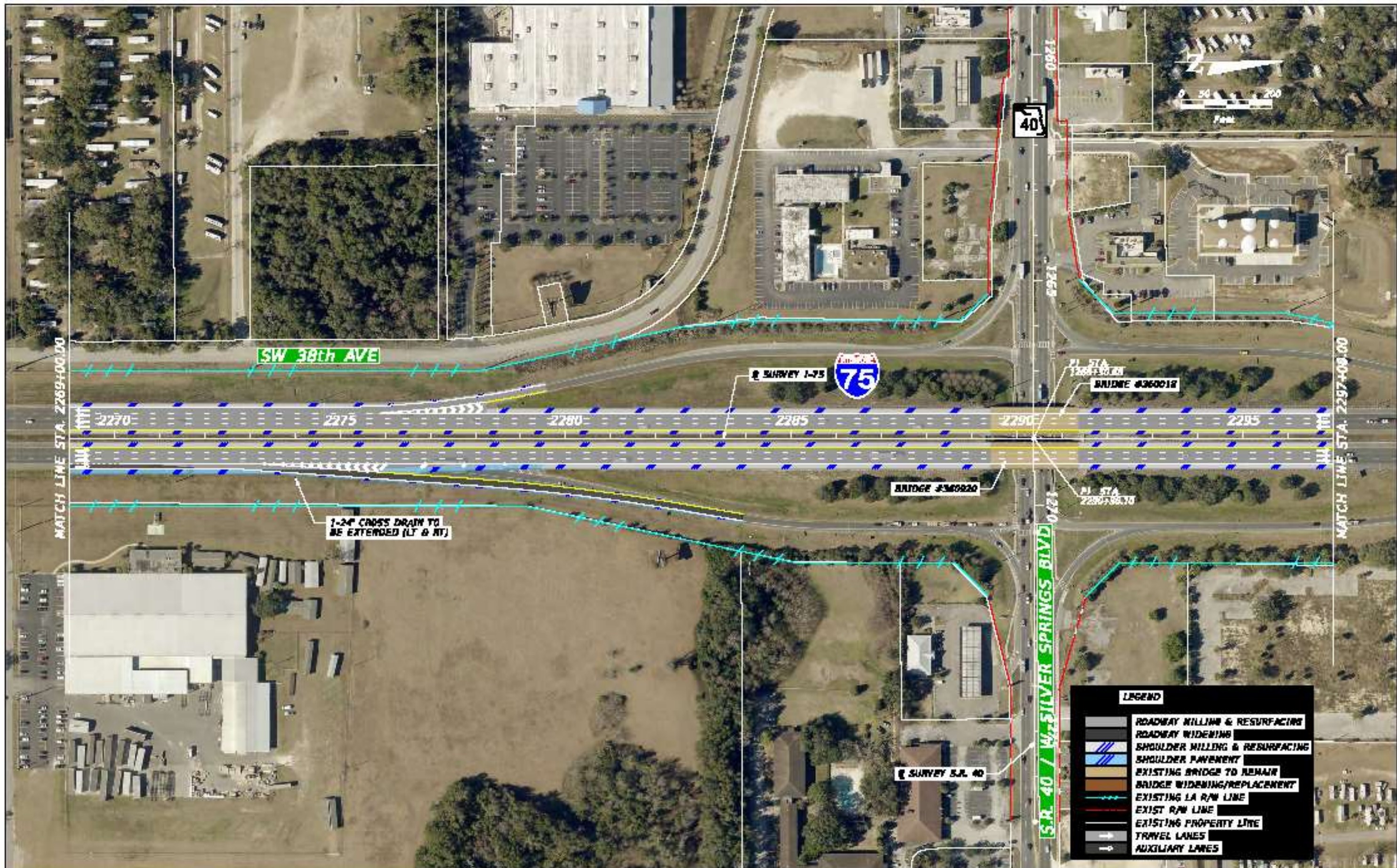
REVISIONS	
DATE	DESCRIPTION

1-75 FORWARD
S.R. 200 TO S.R. 326

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 93	MARTIN	443824-S-22-01

**I-75 PD&E STUDY
CONCEPT PLANS**

SHEET NO.
4



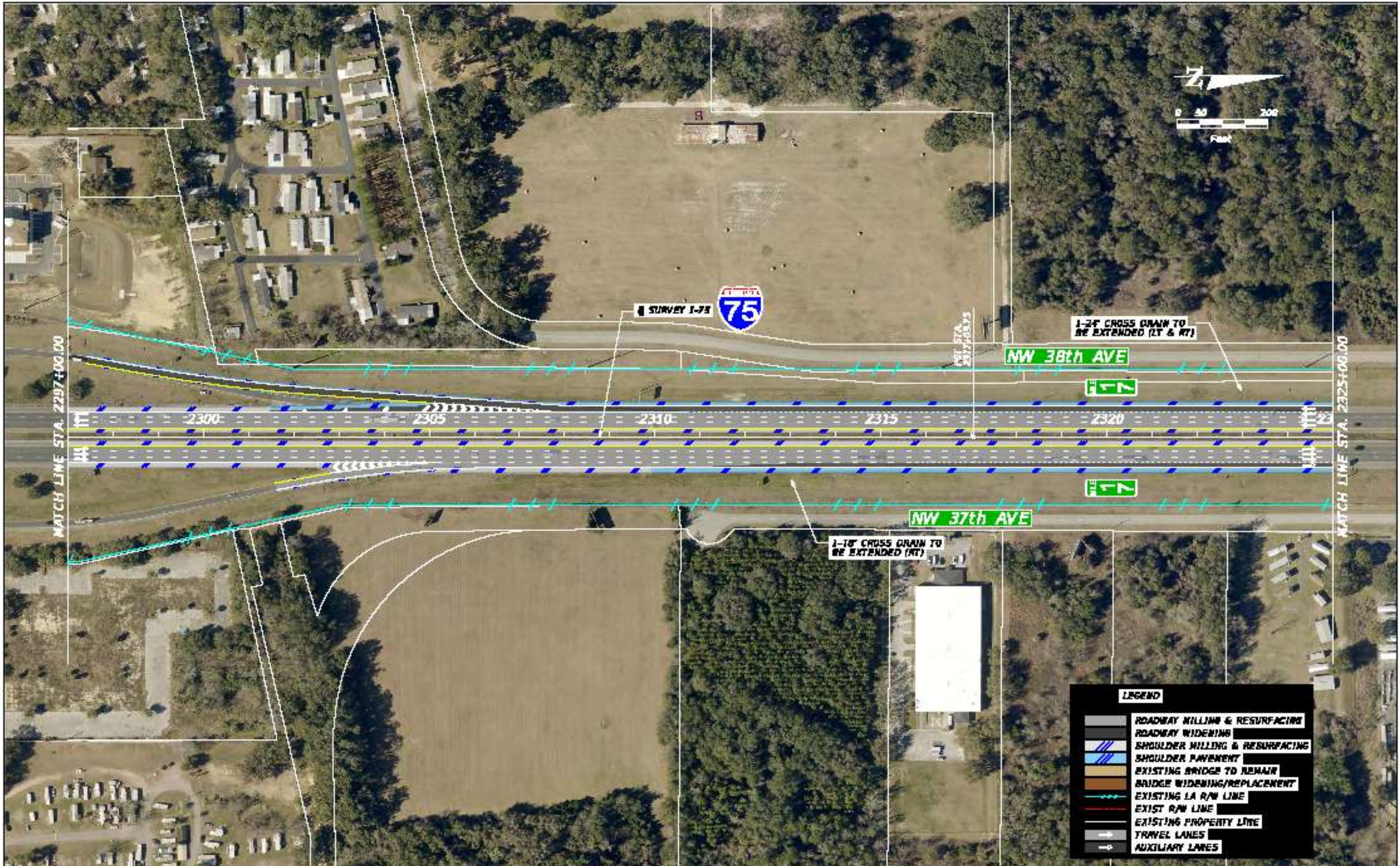
REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION



STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 93	MARTIN	443824-S-22-01

**I-75 PD&E STUDY
CONCEPT PLANS**

SHEET NO.
5



LEGEND	
	ROADWAY MILLING & RESURFACING
	ROADWAY WIDENING
	SHOULDER MILLING & RESURFACING
	SHOULDER PAVEMENT
	EXISTING BRIDGE TO REMAIN
	BRIDGE WIDENING/REPLACEMENT
	EXISTING LA R/W LINE
	EXIST R/W LINE
	EXISTING PROPERTY LINE
	TRAVEL LANES
	AUXILIARY LANES

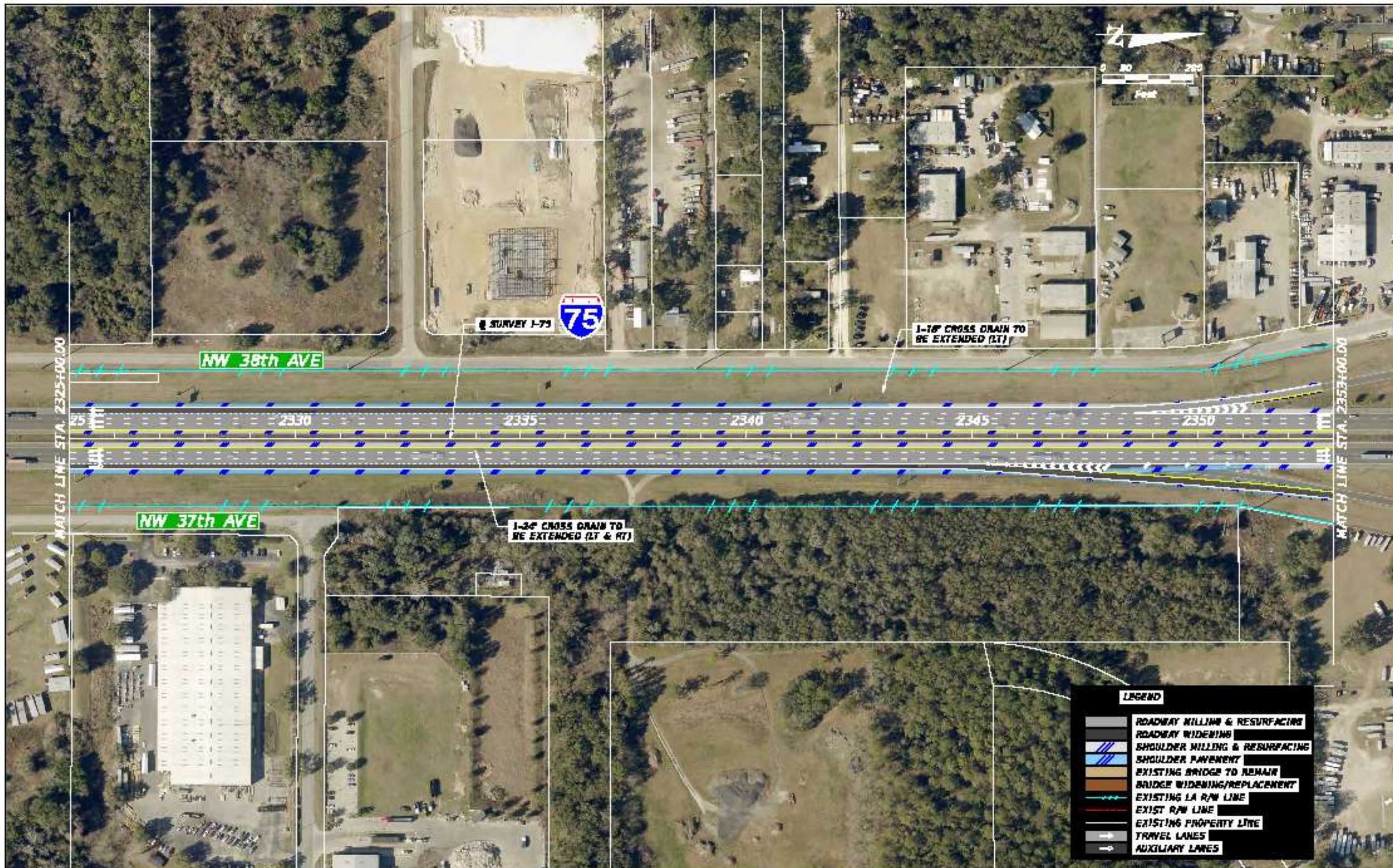
REVISIONS	
DATE	DESCRIPTION



STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 93	MARTIN	443824-S-22-01

**I-75 PD&E STUDY
CONCEPT PLANS**

SHEET NO.
6



REVISIONS	
DATE	DESCRIPTION

1-75 FORWARD
S.R. 200 TO S.R. 326

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 93	MARTIN	443824-3-22-01

**I-75 PD&E STUDY
CONCEPT PLANS**

SHEET NO.
7



REVISIONS	
DATE	DESCRIPTION



STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 93	MARTIN	443824-3-22-01

**I-75 PD&E STUDY
CONCEPT PLANS**

SHEET NO.
8



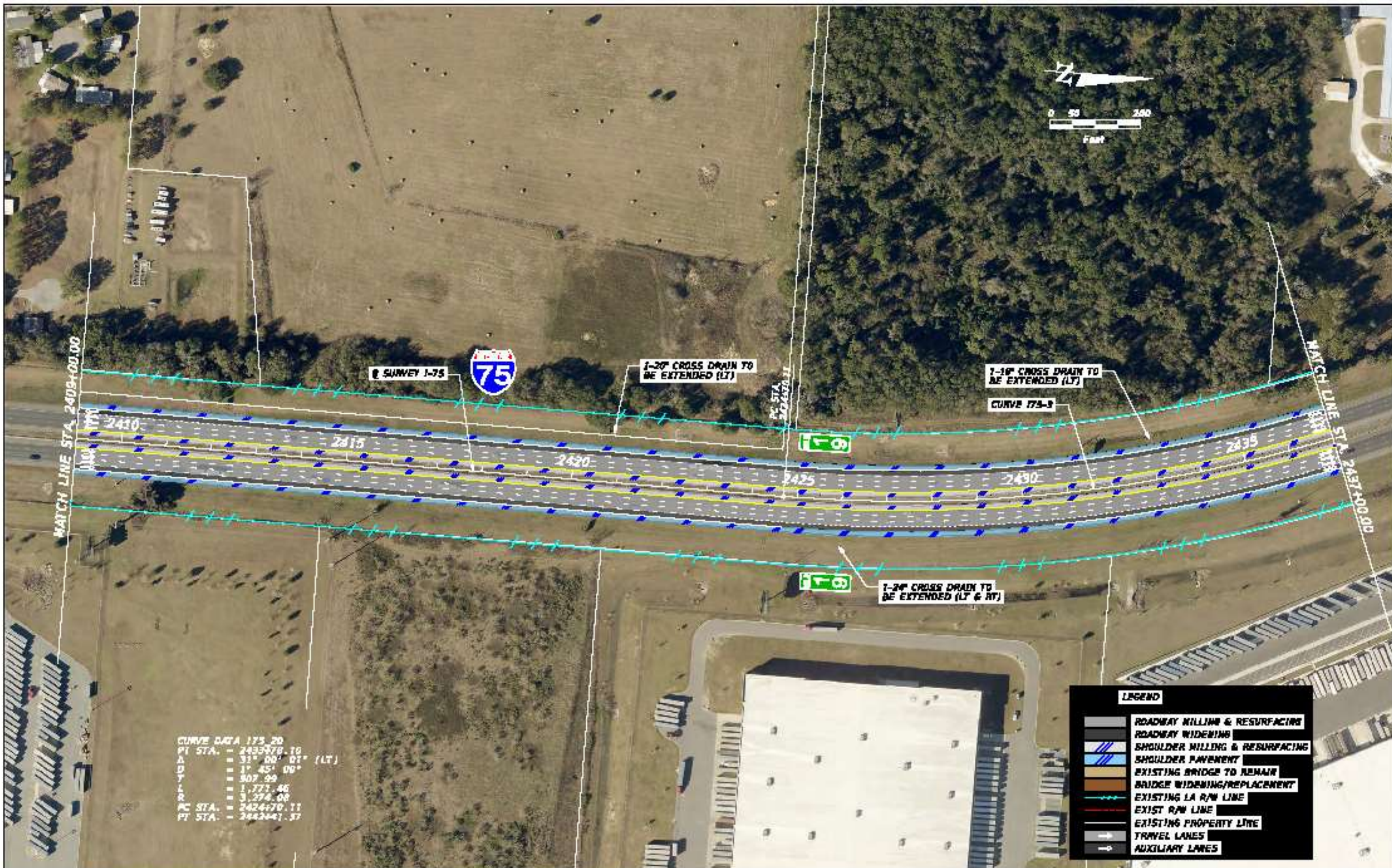
REVISIONS	
DATE	DESCRIPTION

I-75 FORWARD S.R. 200 TO S.R. 326

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 93	MARTIN	443824-3-22-01

**I-75 PD&E STUDY
CONCEPT PLANS**

SHEET NO.
9



CURVE DATA 175.20
 PT STA. = 2433378.10
 Δ = 31° 00' 07" (LT)
 D = 1° 45' 00"
 T = 307.99
 L = 1,771.46
 R = 3,274.08
 PC STA. = 2424170.11
 PT STA. = 2442441.37

LEGEND	
	ROADWAY MILLING & RESURFACING
	ROADWAY WIDENING
	SHOULDER MILLING & RESURFACING
	SHOULDER PAVEMENT
	EXISTING BRIDGE TO REMAIN
	BRIDGE WIDENING/REPLACEMENT
	EXISTING LA R/W LINE
	EXIST R/W LINE
	EXISTING PROPERTY LINE
	TRAVEL LANES
	AUXILIARY LANES

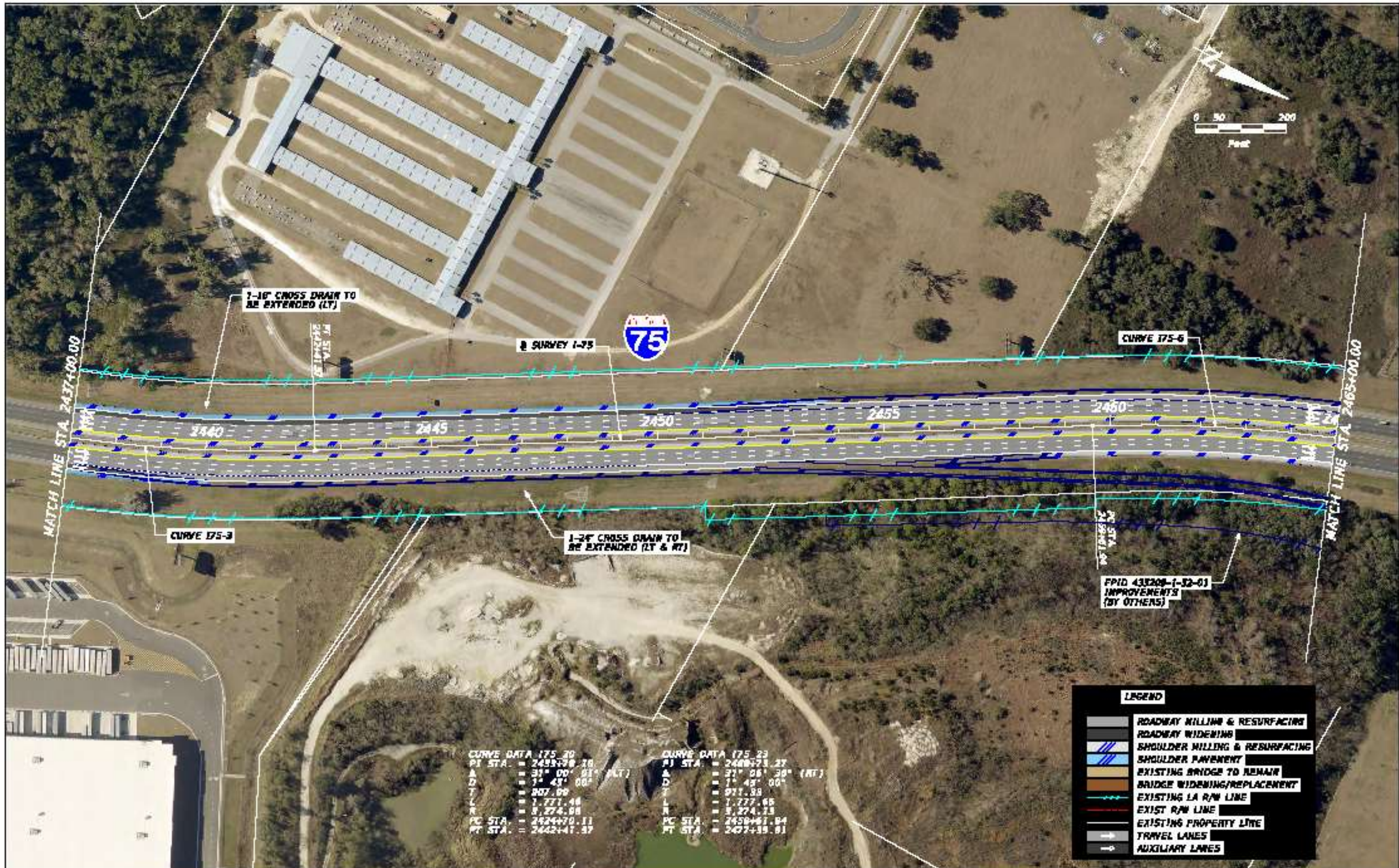
REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION



STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 93	MARTIN	443824-3-22-01

**I-75 PD&E STUDY
CONCEPT PLANS**

SHEET NO.
10



CURVE DATA 175 20		CURVE DATA 175 23	
PI STA.	= 2439+70.20	PI STA.	= 2408+71.27
A	= 31° 00' 21" (LT)	A	= 21° 06' 30" (RT)
D	= 1° 45' 00"	D	= 1° 45' 00"
T	= 307.00	T	= 271.33
L	= 1,777.46	L	= 1,777.65
R	= 3,274.08	R	= 3,274.23
PC STA.	= 2424+70.11	PC STA.	= 2458+61.84
PT STA.	= 2442+41.37	PT STA.	= 2427+35.81

LEGEND	
	ROADWAY MILLING & RESURFACING
	ROADWAY WIDENING
	SHOULDER MILLING & RESURFACING
	SHOULDER PAVEMENT
	EXISTING BRIDGE TO REMAIN
	BRIDGE WIDENING/REPLACEMENT
	EXISTING LA R/W LINE
	EXIST R/W LINE
	EXISTING PROPERTY LINE
	TRAVEL LANES
	AUXILIARY LANES

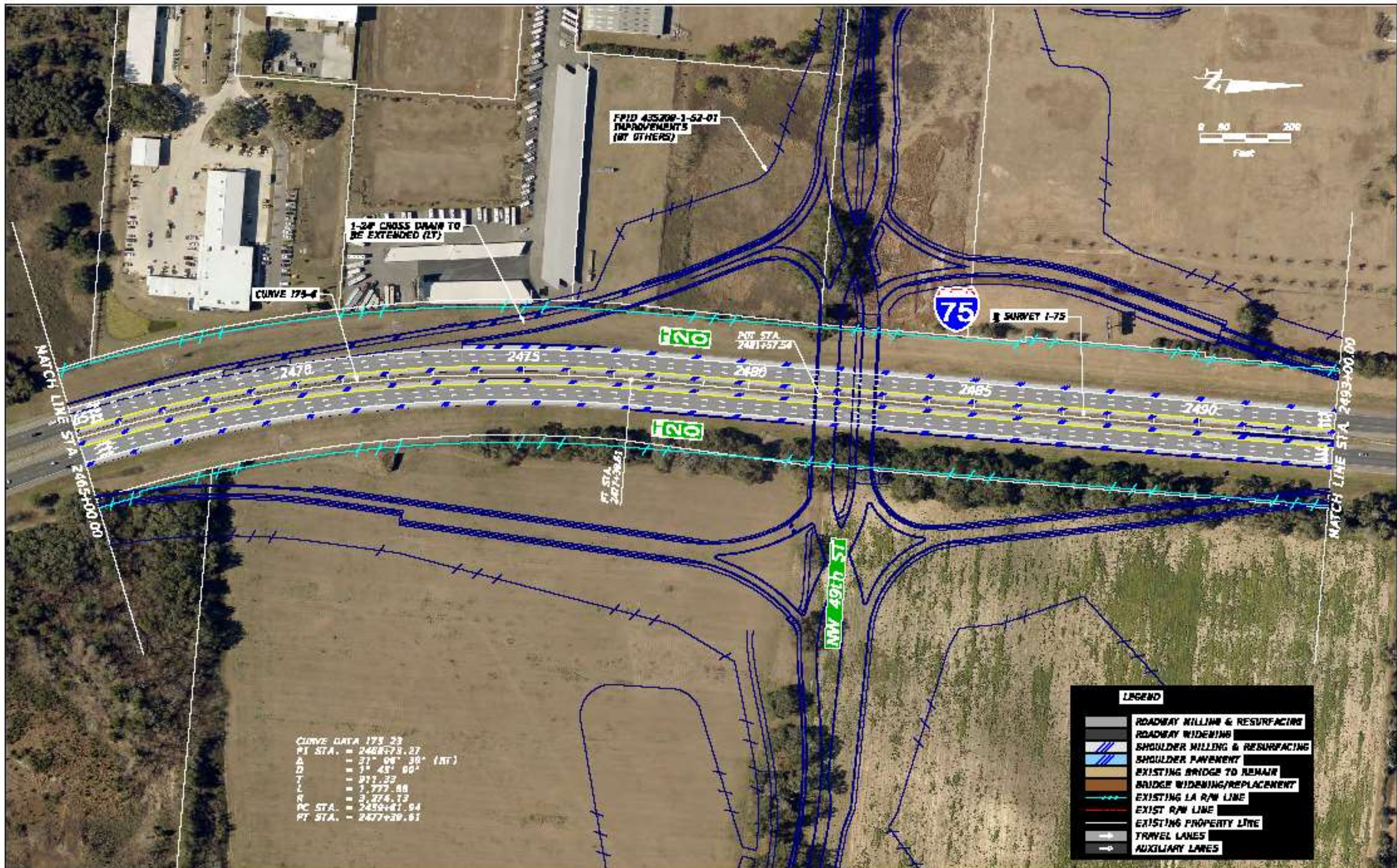
REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION



STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 93	MARTIN	443824-S-22-01

**I-75 PD&E STUDY
CONCEPT PLANS**

SHEET NO.
11



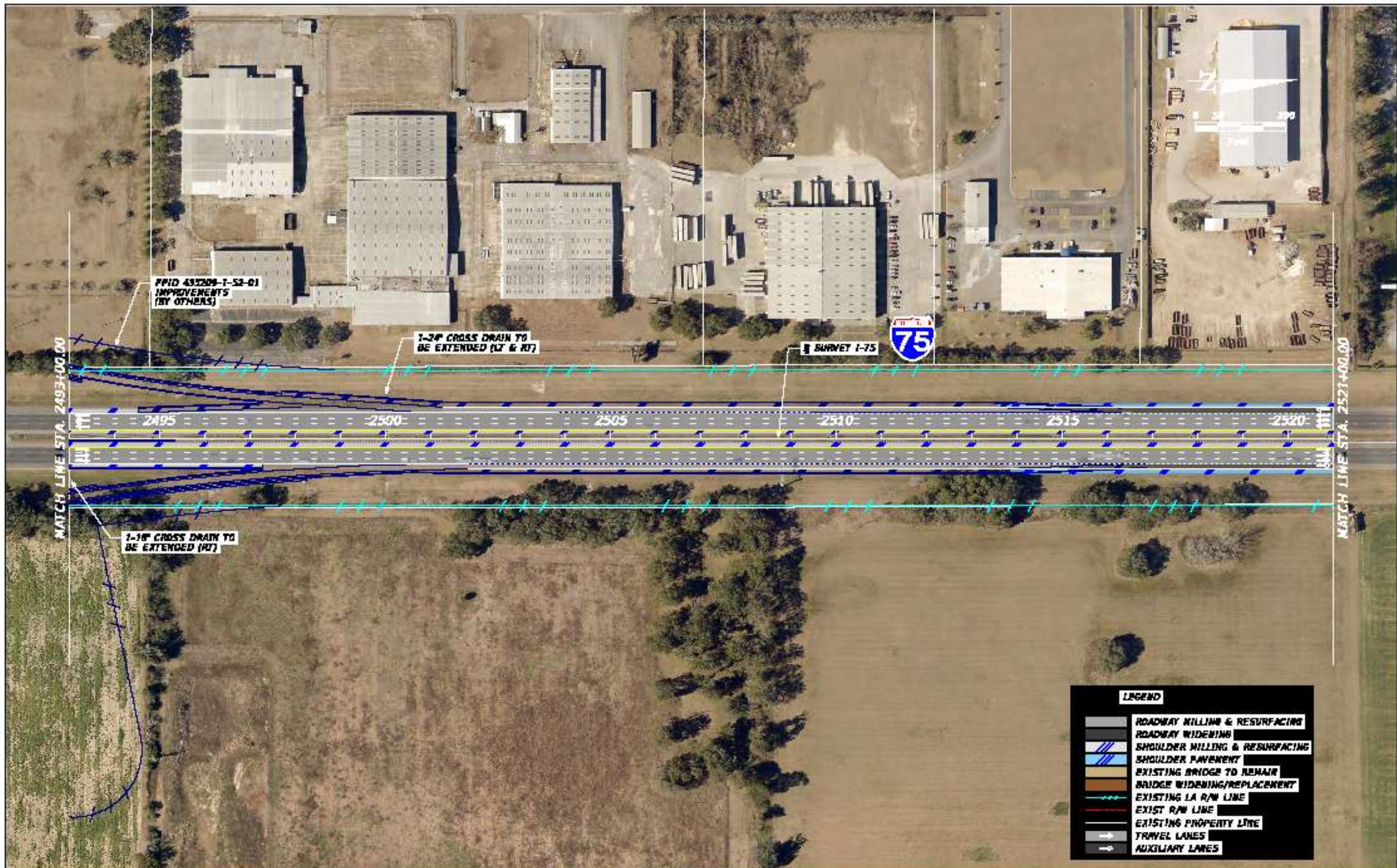
REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION



STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 93	MARTIN	443824-3-22-01

**I-75 PD&E STUDY
CONCEPT PLANS**

SHEET NO.
12



MATCH LINE STA. 2493+00.00

MATCH LINE STA. 2521+00.00

FPID 437208-1-52-01
IMPROVEMENTS
(BY OTHERS)

1-24" CROSS DRAIN TO
BE EXTENDED (LT & RT)

BURNET I-75



1-18" CROSS DRAIN TO
BE EXTENDED (RT)

LEGEND	
	ROADWAY MILLING & RESURFACING
	ROADWAY WIDENING
	SHOULDER MILLING & RESURFACING
	SHOULDER PAVEMENT
	EXISTING BRIDGE TO REMAIN
	BRIDGE WIDENING/REPLACEMENT
	EXISTING LA R/W LINE
	EXIST R/W LINE
	EXISTING PROPERTY LINE
	TRAVEL LANES
	AUXILIARY LANES

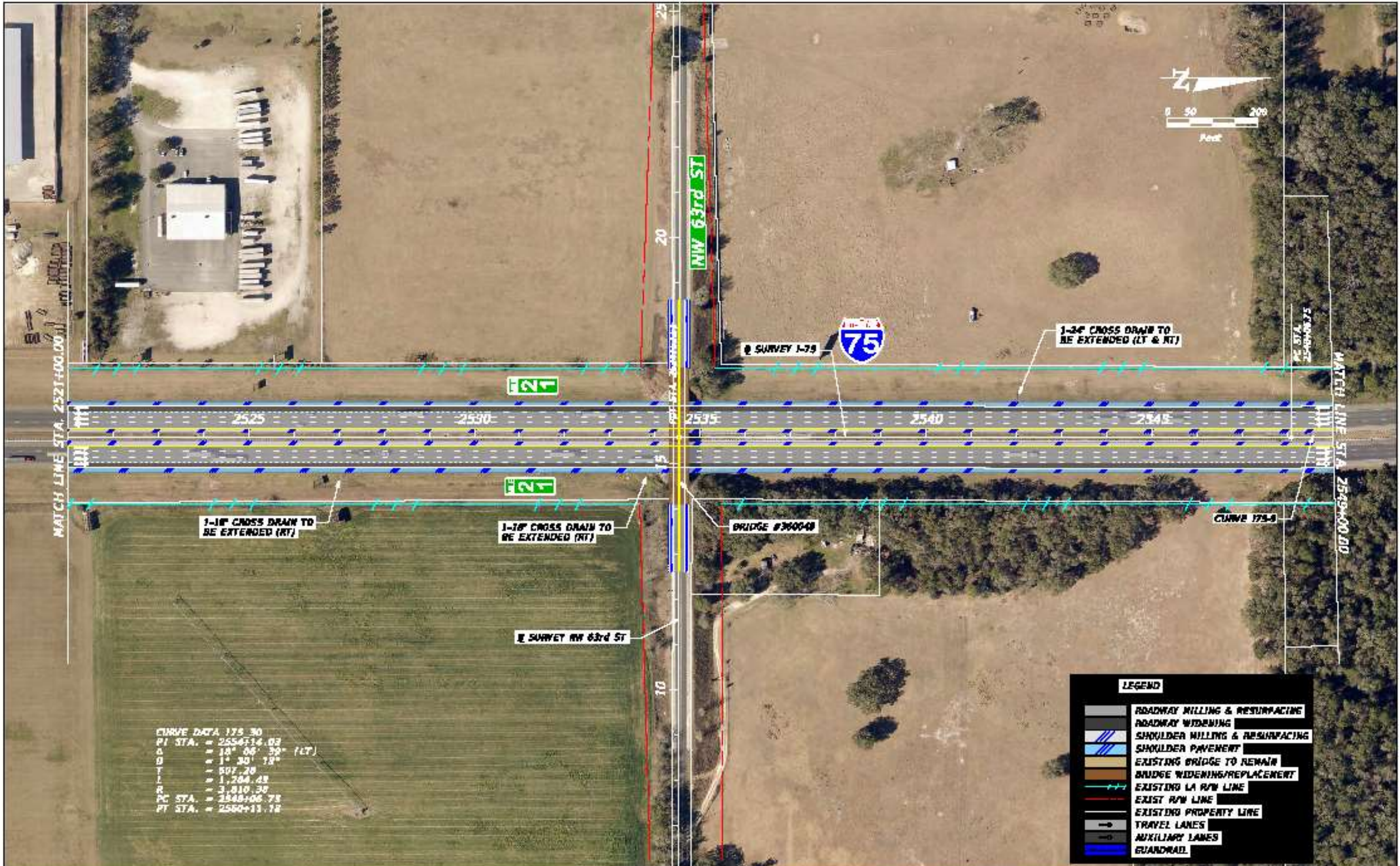
REVISIONS	
DATE	DESCRIPTION



STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 93	MARTIN	443824-3-22-01

**I-75 PD&E STUDY
CONCEPT PLANS**

SHEET NO.
13



CURVE DATA 175.30
 PI STA. = 2554+14.03
 Δ = 18° 06' 39" (LT)
 D = 1" 30' 19"
 T = 507.20
 L = 1,204.42
 R = 3,810.30
 PC STA. = 2548+06.75
 PT STA. = 2560+11.12

LEGEND	
[Grey box]	ROADWAY MILLING & RESURFACING
[Dark grey box]	ROADWAY WIDENING
[Blue hatched box]	SHOULDER MILLING & RESURFACING
[Light blue hatched box]	SHOULDER PAVEMENT
[Brown box]	EXISTING BRIDGE TO REMAIN
[Orange box]	BRIDGE WIDENING/REPLACEMENT
[Green dashed line]	EXISTING LA R/W LINE
[Red dashed line]	EXIST R/W LINE
[Black dashed line]	EXISTING PROPERTY LINE
[Grey arrow]	TRAVEL LANES
[Dark grey arrow]	AUXILIARY LANES
[Blue arrow]	GUARDRAIL

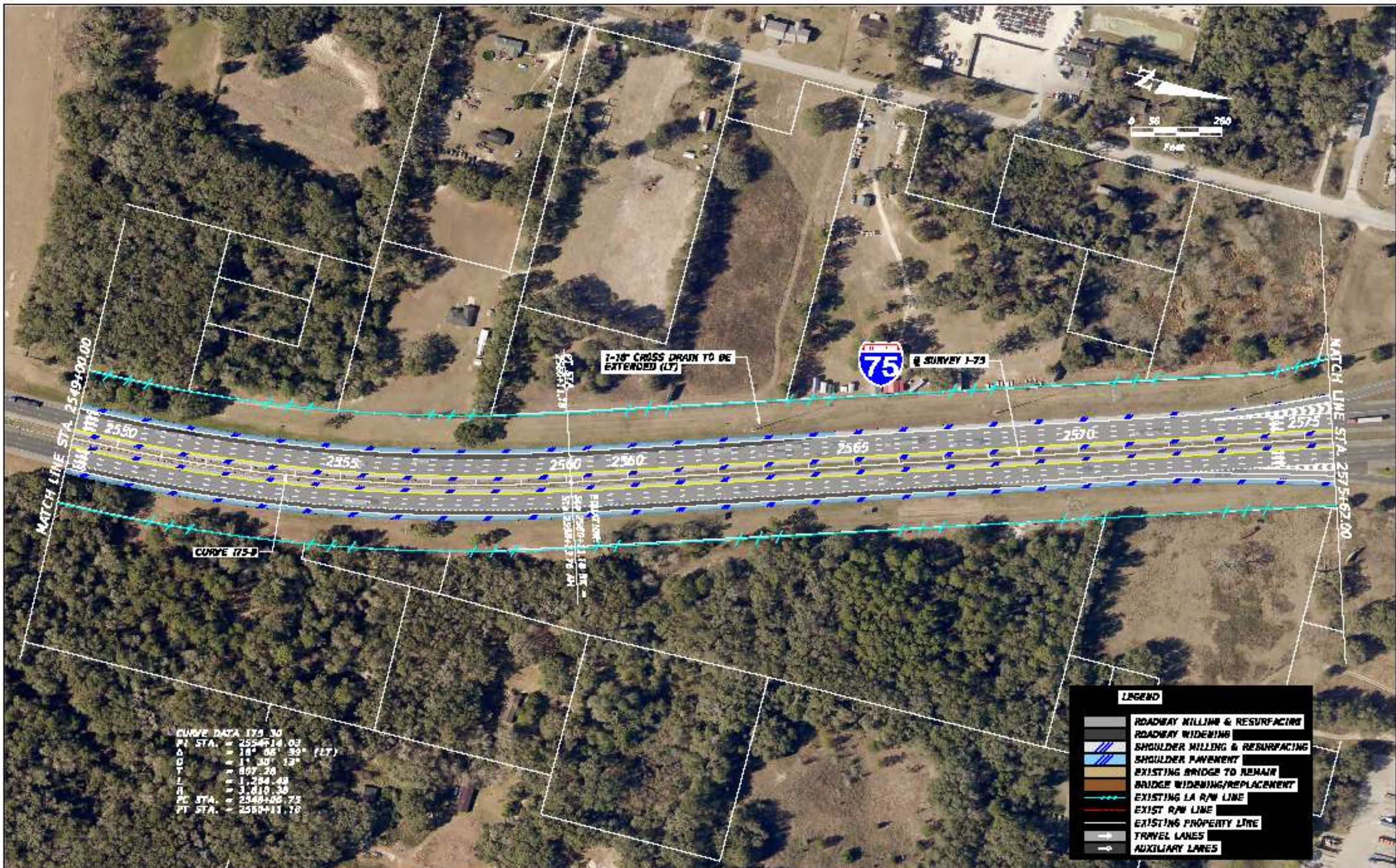
REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION



STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 93	MARTIN	443824-3-22-01

**I-75 PD&E STUDY
CONCEPT PLANS**

SHEET NO.
14



CURVE DATA I75-30
 P1 STA. = 2554+14.03
 Δ = 18° 06' 39" (LT)
 D = 1' 30" 12"
 T = 807.28
 L = 1,284.48
 R = 3,810.38
 PC STA. = 2548+00.73
 PT STA. = 2559+11.78

REVISIONS	
DATE	DESCRIPTION



STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 93	MARTIN	443824-3-22-01

**I-75 PD&E STUDY
CONCEPT PLANS**

SHEET NO.
15



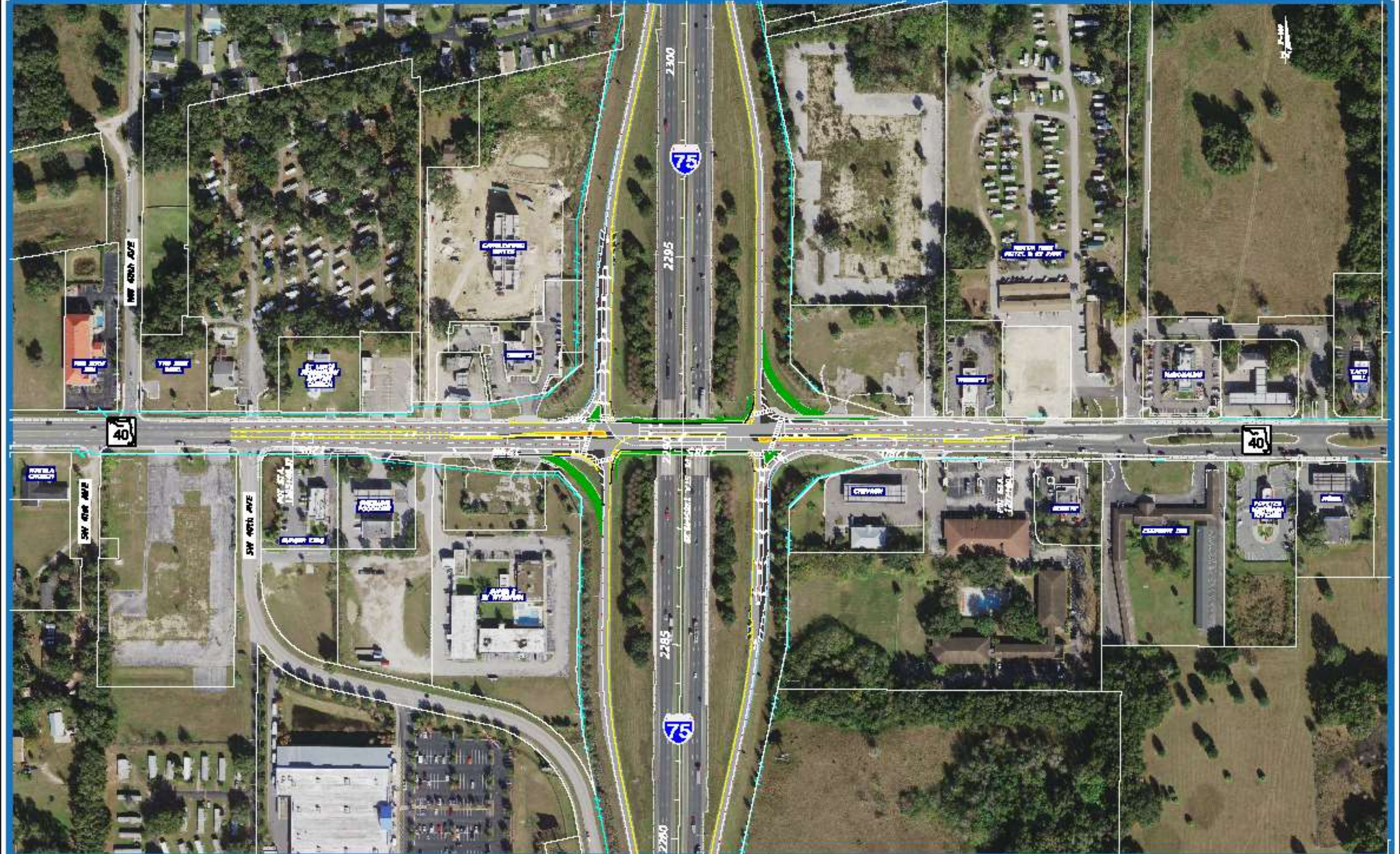
LEGEND	
[Grey box]	ROADWAY MILLING & RESURFACING
[Light grey box]	ROADWAY WIDENING
[Blue hatched box]	SHOULDER MILLING & RESURFACING
[Blue box]	SHOULDER PAVEMENT
[White box]	EXISTING BRIDGE TO REMAIN
[Brown box]	BRIDGE WIDENING/REPLACEMENT
[Light grey box]	EXISTING CONCRETE
[Cyan line]	EXISTING LA R/W LINE
[Red line]	EXIST R/W LINE
[Black line]	EXISTING PROPERTY LINE
[Arrow]	TRAVEL LANES
[Arrow]	AUXILIARY LANES

REVISIONS	
DATE	DESCRIPTION



STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 93	MARTIN	443824-3-22-01

I-75 PD&E STUDY CONCEPT PLANS	SHEET NO.
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LEGEND
 ROADWAY MILLING & RESURFACING
 ROADWAY WIDENING
 SHOULDER PAVEMENT
 TRAFFIC SEPARATOR

CONCRETE SIDEWALK
 SOI
 EXISTING LA R/W LINE
 EXISTING R/W LINE

EXISTING PROPERTY LINE
 PROPOSED LA R/W LINE
 PROPOSED R/W LINE

CONCEPT PLAN

I-75 MASTER PLAN - SR 40 IMPROVEMENTS CONCEPT

ROLL PLOT NUMBER



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 93	MARTIN	443824-3-22-01

SR 326 PD&E STUDY CONCEPT PLAN	SHEET NO.
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APPENDIX X – 2030 BUILD HCS OUTPUT REPORTS

I-75 North Section - Northbound

HCS Freeway Facilities Report

Project Information

Analyst	Kittelson & Associates	Date	11/21/2023
Agency	Florida Department of Transportation	Analysis Year	2030 Build Conditions
Jurisdiction	District Five	Time Analyzed	AM Weekday Peak Period
Facility Name	I-75 (Northbound)	Units	U.S. Customary
Project Description	I-75 PD&E North Auxillary Lanes		

Facility Global Input

Jam Density, pc/mi/ln	1900	Density at Capacity, pc/mi/ln	450
Queue Discharge Capacity Drop, %	7	Total Segments	19
Total Analysis Periods	12	Analysis Period Duration, min	15
Facility Length, mi	9.13		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-75 NB	4096	4
2	Basic	Basic	I-75 NB	1500	4
3	Diverge	Basic	I-75 NB SR 40 Off Ramp	1500	4
4	Basic	Basic	I-75 NB	3150	3
5	Merge	Basic	I-75 NB SR 40 On Ramp	1500	4
6	Basic	Basic	I-75 NB	1020	4
7	Diverge	Basic	I-75 NB US 27 Off Ramp	1500	4
8	Basic	Basic	I-75 NB	3460	3
9	Merge	Basic	I-75 NB US 27 On Ramp	1500	4
10	Basic	Basic	I-75 NB	4280	4
11	Diverge	Basic	I-75 NB 49th St DDI Off Ramp	1500	4
12	Basic	Basic	I-75 NB	4840	3
13	Merge	Basic	I-75 NB 49th St DDI On Ramp	1500	4
14	Basic	Basic	I-75 NB	4300	4
15	Diverge	Diverge	I-75 NB SR 326 Off Ramp	1500	4
16	Basic	Basic	I-75 NB	2950	3
17	Merge	Merge	I-75 NB SR 326 On Ramp	1500	3
18	Basic	Basic	I-75 NB	1500	3
19	Basic	Basic	I-75 NB	5093	3

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.902	3520	9014	0.39	71.2	12.4	B
2	1.00	0.902	3956	9014	0.44	71.2	13.9	B

3	1 00	0 902	4677	9014	0 52	70 9	16 5	B
4	1 00	0 902	5343	9014	0 59	69 8	19 1	C
5	1 00	0 902	5033	9014	0 56	70 4	17 9	B
6	1 00	0 902	5098	9014	0 57	70 3	18 1	C
7	1 00	0 902	5810	9014	0 64	68 6	21 2	C
8	1 00	0 902	5629	9014	0 62	69 1	20 4	C
9	1 00	0 902	5565	9014	0 62	69 3	20 1	C
10	1 00	0 902	5493	9014	0 61	69 4	19 8	C
11	1 00	0 902	5359	9014	0 59	69 8	19 2	C
12	1 00	0 902	5105	9014	0 57	70 3	18 2	C

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio	Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1 00	0 902	3520		9014		0 39	71 2		12 4		B
2	1 00	0 902	3956		9014		0 44	71 2		13 9		B
3	1 00	0 902	4677		9014		0 52	70 9		16 5		B
4	1 00	0 902	5343		9014		0 59	69 8		19 1		C
5	1 00	0 902	5033		9014		0 56	70 4		17 9		B
6	1 00	0 902	5098		9014		0 57	70 3		18 1		C
7	1 00	0 902	5810		9014		0 64	68 6		21 2		C
8	1 00	0 902	5629		9014		0 62	69 1		20 4		C
9	1 00	0 902	5565		9014		0 62	69 3		20 1		C
10	1 00	0 902	5493		9014		0 61	69 4		19 8		C
11	1 00	0 902	5359		9014		0 59	69 8		19 2		C
12	1 00	0 902	5105		9014		0 57	70 3		18 2		C

Segment 3: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 902	0 898	3520	490	7507	1972	0 47	0 25	70 5	70 5	12 5	12 5	B
2	1 00	1 00	0 902	0 898	3956	550	7507	1972	0 53	0 28	69 5	69 5	14 2	14 2	B
3	1 00	1 00	0 902	0 898	4677	651	7507	1972	0 62	0 33	66 6	66 6	17 6	17 6	B
4	1 00	1 00	0 902	0 898	5343	744	7507	1972	0 71	0 38	62 6	62 6	21 3	21 3	C
5	1 00	1 00	0 902	0 898	5033	700	7507	1972	0 67	0 35	64 6	64 6	19 5	19 5	C
6	1 00	1 00	0 902	0 898	5098	709	7507	1972	0 68	0 36	64 2	64 2	19 8	19 8	C
7	1 00	1 00	0 902	0 898	5810	808	7507	1972	0 77	0 41	59 2	59 2	24 5	24 5	C
8	1 00	1 00	0 902	0 898	5629	783	7507	1972	0 75	0 40	60 6	60 6	23 2	23 2	C
9	1 00	1 00	0 902	0 898	5565	775	7507	1972	0 74	0 39	61 1	61 1	22 8	22 8	C
10	1 00	1 00	0 902	0 898	5493	765	7507	1972	0 73	0 39	61 6	61 6	22 3	22 3	C
11	1 00	1 00	0 902	0 898	5359	746	7507	1972	0 71	0 38	62 5	62 5	21 4	21 4	C
12	1 00	1 00	0 902	0 898	5105	710	7507	1972	0 68	0 36	64 2	64 2	19 9	19 9	C

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.902	3032	6761	0.45	71.2	14.2	B
2	1.00	0.902	3408	6761	0.50	71.0	16.0	B
3	1.00	0.902	4029	6761	0.60	69.7	19.3	C
4	1.00	0.902	4602	6761	0.68	67.5	22.7	C
5	1.00	0.902	4336	6761	0.64	68.7	21.0	C
6	1.00	0.902	4391	6761	0.65	68.4	21.4	C
7	1.00	0.902	5006	6761	0.74	65.3	25.6	C
8	1.00	0.902	4849	6761	0.72	66.2	24.4	C
9	1.00	0.902	4794	6761	0.71	66.5	24.0	C
10	1.00	0.902	4732	6761	0.70	66.9	23.6	C
11	1.00	0.902	4616	6761	0.68	67.4	22.8	C
12	1.00	0.902	4398	6761	0.65	68.4	21.4	C

Segment 5: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.902	0.898	3381	349	7507	1972	0.45	0.18	70.8	70.8	11.9	11.9	B
2	1.00	1.00	0.902	0.898	3799	391	7507	1972	0.51	0.20	69.9	69.9	13.6	13.6	B
3	1.00	1.00	0.902	0.898	4491	462	7507	1972	0.60	0.23	67.4	67.4	16.7	16.7	B
4	1.00	1.00	0.902	0.898	5131	529	7507	1972	0.68	0.27	64.0	64.0	20.0	20.0	C
5	1.00	1.00	0.902	0.898	4834	498	7507	1972	0.64	0.25	65.7	65.7	18.4	18.4	C
6	1.00	1.00	0.902	0.898	4895	504	7507	1972	0.65	0.26	65.4	65.4	18.7	18.7	C
7	1.00	1.00	0.902	0.898	5581	575	7507	1972	0.74	0.29	61.0	61.0	22.9	22.9	C
8	1.00	1.00	0.902	0.898	5406	557	7507	1972	0.72	0.28	62.2	62.2	21.7	21.7	C
9	1.00	1.00	0.902	0.898	5344	550	7507	1972	0.71	0.28	62.6	62.6	21.3	21.3	C
10	1.00	1.00	0.902	0.898	5275	543	7507	1972	0.70	0.28	63.1	63.1	20.9	20.9	C
11	1.00	1.00	0.902	0.898	5146	530	7507	1972	0.69	0.27	63.9	63.9	20.1	20.1	C
12	1.00	1.00	0.902	0.898	4902	504	7507	1972	0.65	0.26	65.4	65.4	18.7	18.7	C

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.902	3379	9014	0.37	71.1	11.9	B
2	1.00	0.902	3797	9014	0.42	71.0	13.3	B
3	1.00	0.902	4489	9014	0.50	70.7	15.8	B
4	1.00	0.902	5129	9014	0.57	70.2	18.3	C
5	1.00	0.902	4831	9014	0.54	70.5	17.1	B
6	1.00	0.902	4894	9014	0.54	70.4	17.3	B
7	1.00	0.902	5578	9014	0.62	69.2	20.1	C
8	1.00	0.902	5404	9014	0.60	69.7	19.4	C
9	1.00	0.902	5341	9014	0.59	69.8	19.1	C

10	1 00	0 902	5273	9014	0 58	69 9	18 9	C							
11	1 00	0 902	5144	9014	0 57	70 2	18 3	C							
12	1 00	0 902	4900	9014	0 54	70 4	17 4	B							
Segment 7: Diverge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 902	0 934	3379	542	7507	1972	0 45	0 27	70 8	70 8	11 9	11 9	B
2	1 00	1 00	0 902	0 934	3797	609	7507	1972	0 51	0 31	69 9	69 9	13 6	13 6	B
3	1 00	1 00	0 902	0 934	4489	721	7507	1972	0 60	0 37	67 5	67 5	16 6	16 6	B
4	1 00	1 00	0 902	0 934	5129	823	7507	1972	0 68	0 42	64 0	64 0	20 0	20 0	C
5	1 00	1 00	0 902	0 934	4831	775	7507	1972	0 64	0 39	65 8	65 8	18 4	18 4	C
6	1 00	1 00	0 902	0 934	4894	786	7507	1972	0 65	0 40	65 4	65 4	18 7	18 7	C
7	1 00	1 00	0 902	0 934	5578	895	7507	1972	0 74	0 45	61 0	61 0	22 9	22 9	C
8	1 00	1 00	0 902	0 934	5404	867	7507	1972	0 72	0 44	62 2	62 2	21 7	21 7	C
9	1 00	1 00	0 902	0 934	5341	858	7507	1972	0 71	0 44	62 7	62 7	21 3	21 3	C
10	1 00	1 00	0 902	0 934	5273	847	7507	1972	0 70	0 43	63 1	63 1	20 9	20 9	C
11	1 00	1 00	0 902	0 934	5144	825	7507	1972	0 69	0 42	63 9	63 9	20 1	20 1	C
12	1 00	1 00	0 902	0 934	4900	787	7507	1972	0 65	0 40	65 4	65 4	18 7	18 7	C
Segment 8: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1 00	0 896	2837	6761	0 42	71 2	13 3	B							
2	1 00	0 896	3188	6761	0 47	71 2	14 9	B							
3	1 00	0 896	3768	6761	0 56	70 4	17 8	B							
4	1 00	0 896	4305	6761	0 64	68 8	20 9	C							
5	1 00	0 896	4056	6761	0 60	69 6	19 4	C							
6	1 00	0 896	4107	6761	0 61	69 5	19 7	C							
7	1 00	0 896	4682	6761	0 69	67 1	23 3	C							
8	1 00	0 896	4536	6761	0 67	67 8	22 3	C							
9	1 00	0 896	4483	6761	0 66	68 0	22 0	C							
10	1 00	0 896	4425	6761	0 65	68 3	21 6	C							
11	1 00	0 896	4318	6761	0 64	68 7	20 9	C							
12	1 00	0 896	4113	6761	0 61	69 5	19 7	C							
Segment 9: Merge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 894	0 876	3059	216	7507	1972	0 41	0 11	71 1	71 1	10 8	10 8	A
2	1 00	1 00	0 894	0 876	3437	242	7507	1972	0 46	0 12	70 7	70 7	12 2	12 2	B
3	1 00	1 00	0 894	0 876	4063	287	7507	1972	0 54	0 15	69 1	69 1	14 7	14 7	B
4	1 00	1 00	0 894	0 876	4640	326	7507	1972	0 62	0 17	66 7	66 7	17 4	17 4	B

5	100	100	0.894	0.876	4373	308	7507	1972	0.58	0.16	68.0	68.0	16.1	16.1	B
6	100	100	0.894	0.876	4428	312	7507	1972	0.59	0.16	67.7	67.7	16.4	16.4	B
7	100	100	0.894	0.876	5047	355	7507	1972	0.67	0.18	64.5	64.5	19.6	19.6	C
8	100	100	0.894	0.876	4891	345	7507	1972	0.65	0.17	65.4	65.4	18.7	18.7	C
9	100	100	0.894	0.876	4833	340	7507	1972	0.64	0.17	65.7	65.7	18.4	18.4	C
10	100	100	0.894	0.876	4771	336	7507	1972	0.64	0.17	66.1	66.1	18.0	18.0	B
11	100	100	0.894	0.876	4656	328	7507	1972	0.62	0.17	66.7	66.7	17.5	17.5	B
12	100	100	0.894	0.876	4435	313	7507	1972	0.59	0.16	67.7	67.7	16.4	16.4	B

Segment 10: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.894	3055	9014	0.34	71.2	10.7	A
2	100	0.894	3432	9014	0.38	71.2	12.1	B
3	100	0.894	4057	9014	0.45	71.2	14.2	B
4	100	0.894	4634	9014	0.51	70.9	16.3	B
5	100	0.894	4367	9014	0.48	71.1	15.4	B
6	100	0.894	4422	9014	0.49	71.1	15.6	B
7	100	0.894	5040	9014	0.56	70.4	17.9	B
8	100	0.894	4884	9014	0.54	70.6	17.3	B
9	100	0.894	4827	9014	0.54	70.7	17.1	B
10	100	0.894	4764	9014	0.53	70.8	16.8	B
11	100	0.894	4649	9014	0.52	70.9	16.4	B
12	100	0.894	4428	9014	0.49	71.1	15.6	B

Segment 11: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.894	0.893	3055	448	7507	1972	0.41	0.23	71.1	71.1	10.7	10.7	A
2	100	100	0.894	0.893	3432	504	7507	1972	0.46	0.26	70.7	70.7	12.1	12.1	B
3	100	100	0.894	0.893	4057	596	7507	1972	0.54	0.30	69.1	69.1	14.7	14.7	B
4	100	100	0.894	0.893	4634	680	7507	1972	0.62	0.34	66.8	66.8	17.3	17.3	B
5	100	100	0.894	0.893	4367	641	7507	1972	0.58	0.33	68.0	68.0	16.1	16.1	B
6	100	100	0.894	0.893	4422	648	7507	1972	0.59	0.33	67.7	67.7	16.3	16.3	B
7	100	100	0.894	0.893	5040	740	7507	1972	0.67	0.38	64.6	64.6	19.5	19.5	C
8	100	100	0.894	0.893	4884	717	7507	1972	0.65	0.36	65.5	65.5	18.6	18.6	C
9	100	100	0.894	0.893	4827	709	7507	1972	0.64	0.36	65.8	65.8	18.3	18.3	C
10	100	100	0.894	0.893	4764	699	7507	1972	0.63	0.35	66.1	66.1	18.0	18.0	B
11	100	100	0.894	0.893	4649	682	7507	1972	0.62	0.35	66.7	66.7	17.4	17.4	B
12	100	100	0.894	0.893	4428	649	7507	1972	0.59	0.33	67.7	67.7	16.4	16.4	B

Segment 12: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
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1	100	0.895	2604	6761	0.39	71.2	12.2	B
2	100	0.895	2925	6761	0.43	71.2	13.7	B
3	100	0.895	3458	6761	0.51	70.9	16.3	B
4	100	0.895	3951	6761	0.58	70.0	18.8	C
5	100	0.895	3723	6761	0.55	70.5	17.6	B
6	100	0.895	3770	6761	0.56	70.4	17.9	B
7	100	0.895	4296	6761	0.64	68.8	20.8	C
8	100	0.895	4163	6761	0.62	69.3	20.0	C
9	100	0.895	4114	6761	0.61	69.5	19.7	C
10	100	0.895	4061	6761	0.60	69.6	19.5	C
11	100	0.895	3963	6761	0.59	69.9	18.9	C
12	100	0.895	3775	6761	0.56	70.4	17.9	B

Segment 13: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.894	0.893	2850	243	7507	1972	0.38	0.12	71.2	71.2	10.0	10.0	A
2	100	100	0.894	0.893	3201	273	7507	1972	0.43	0.14	71.0	71.0	11.3	11.3	B
3	100	100	0.894	0.893	3786	324	7507	1972	0.50	0.16	69.9	69.9	13.5	13.5	B
4	100	100	0.894	0.893	4325	370	7507	1972	0.58	0.19	68.1	68.1	15.9	15.9	B
5	100	100	0.894	0.893	4075	348	7507	1972	0.54	0.18	69.1	69.1	14.7	14.7	B
6	100	100	0.894	0.893	4127	353	7507	1972	0.55	0.18	68.9	68.9	15.0	15.0	B
7	100	100	0.894	0.893	4703	402	7507	1972	0.63	0.20	66.4	66.4	17.7	17.7	B
8	100	100	0.894	0.893	4558	390	7507	1972	0.61	0.20	67.1	67.1	17.0	17.0	B
9	100	100	0.894	0.893	4504	385	7507	1972	0.60	0.20	67.4	67.4	16.7	16.7	B
10	100	100	0.894	0.893	4446	380	7507	1972	0.59	0.19	67.6	67.6	16.4	16.4	B
11	100	100	0.894	0.893	4339	371	7507	1972	0.58	0.19	68.1	68.1	15.9	15.9	B
12	100	100	0.894	0.893	4133	353	7507	1972	0.55	0.18	68.9	68.9	15.0	15.0	B

Segment 14: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.894	2850	9014	0.32	71.2	10.0	A
2	100	0.894	3201	9014	0.36	71.2	11.2	B
3	100	0.894	3785	9014	0.42	71.2	13.3	B
4	100	0.894	4324	9014	0.48	71.1	15.2	B
5	100	0.894	4075	9014	0.45	71.2	14.3	B
6	100	0.894	4126	9014	0.46	71.2	14.5	B
7	100	0.894	4702	9014	0.52	70.8	16.6	B
8	100	0.894	4557	9014	0.51	71.0	16.0	B
9	100	0.894	4503	9014	0.50	71.0	15.9	B
10	100	0.894	4445	9014	0.49	71.1	15.6	B
11	100	0.894	4338	9014	0.48	71.1	15.2	B

12	100	0.894	4132	9014	0.46	71.2	14.5	B							
Segment 15: Diverge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.894	0.924	2850	671	7507	3944	0.38	0.17	69.0	59.9	10.3	1.4	A
2	100	100	0.894	0.924	3201	754	7507	3944	0.43	0.19	68.9	59.7	11.6	2.7	A
3	100	100	0.894	0.924	3785	892	7507	3944	0.50	0.23	68.5	59.3	13.8	4.9	A
4	100	100	0.894	0.924	4324	1018	7507	3944	0.58	0.26	68.1	59.0	15.9	6.9	A
5	100	100	0.894	0.924	4075	960	7507	3944	0.54	0.24	68.3	59.1	14.9	6.0	A
6	100	100	0.894	0.924	4126	972	7507	3944	0.55	0.25	68.3	59.1	15.1	6.2	A
7	100	100	0.894	0.924	4702	1108	7507	3944	0.63	0.28	67.8	58.8	17.3	8.3	A
8	100	100	0.894	0.924	4557	1074	7507	3944	0.61	0.27	67.9	58.8	16.8	7.8	A
9	100	100	0.894	0.924	4503	1061	7507	3944	0.60	0.27	67.9	58.9	16.6	7.6	A
10	100	100	0.894	0.924	4445	1048	7507	3944	0.59	0.27	68.0	58.9	16.3	7.4	A
11	100	100	0.894	0.924	4338	1022	7507	3944	0.58	0.26	68.1	59.0	15.9	7.0	A
12	100	100	0.894	0.924	4132	973	7507	3944	0.55	0.25	68.2	59.1	15.1	6.2	A

Segment 16: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.885	0.885	2179	6761	0.32	71.1	10.2	A					
2	100	100	0.885	0.885	2446	6761	0.36	71.1	11.4	B					
3	100	100	0.885	0.885	2893	6761	0.43	71.1	13.5	B					
4	100	100	0.885	0.885	3305	6761	0.49	71.1	15.5	B					
5	100	100	0.885	0.885	3114	6761	0.46	71.1	14.6	B					
6	100	100	0.885	0.885	3154	6761	0.47	71.1	14.8	B					
7	100	100	0.885	0.885	3593	6761	0.53	70.7	16.9	B					
8	100	100	0.885	0.885	3482	6761	0.52	70.9	16.4	B					
9	100	100	0.885	0.885	3442	6761	0.51	71.0	16.2	B					
10	100	100	0.885	0.885	3397	6761	0.50	71.0	15.9	B					
11	100	100	0.885	0.885	3315	6761	0.49	71.1	15.5	B					
12	100	100	0.885	0.885	3158	6761	0.47	71.1	14.8	B					

Segment 17: Merge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.880	0.853	2628	437	5918	1972	0.44	0.22	65.5	63.5	13.4	13.3	B
2	100	100	0.880	0.853	2951	491	5918	1972	0.50	0.25	65.2	63.3	15.1	15.0	B
3	100	100	0.880	0.853	3489	580	5918	1972	0.59	0.29	64.8	63.0	17.9	17.7	B
4	100	100	0.880	0.853	3988	664	5918	1972	0.67	0.34	64.3	62.5	20.7	20.3	C
5	100	100	0.880	0.853	3757	625	5918	1972	0.63	0.32	64.5	62.7	19.4	19.1	B
6	100	100	0.880	0.853	3805	633	5918	1972	0.64	0.32	64.5	62.7	19.7	19.3	B

7	100	100	0.880	0.853	4335	721	5918	1972	0.73	0.37	63.9	62.1	22.6	22.1	C
8	100	100	0.880	0.853	4201	699	5918	1972	0.71	0.35	64.0	62.2	21.9	21.4	C
9	100	100	0.880	0.853	4152	691	5918	1972	0.70	0.35	64.1	62.3	21.6	21.1	C
10	100	100	0.880	0.853	4098	682	5918	1972	0.69	0.35	64.2	62.4	21.3	20.9	C
11	100	100	0.880	0.853	3999	665	5918	1972	0.68	0.34	64.3	62.5	20.7	20.3	C
12	100	100	0.880	0.853	3810	634	5918	1972	0.64	0.32	64.5	62.7	19.7	19.4	B

Segment 18: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.880	2615	6761	0.39	70.7	12.2	B
2	100	0.880	2936	6761	0.43	70.7	13.8	B
3	100	0.880	3472	6761	0.51	70.6	16.3	B
4	100	0.880	3967	6761	0.59	69.9	18.9	C
5	100	0.880	3738	6761	0.55	70.5	17.7	B
6	100	0.880	3785	6761	0.56	70.4	17.9	B
7	100	0.880	4312	6761	0.64	68.8	20.9	C
8	100	0.880	4180	6761	0.62	69.2	20.1	C
9	100	0.880	4131	6761	0.61	69.4	19.8	C
10	100	0.880	4077	6761	0.60	69.6	19.5	C
11	100	0.880	3978	6761	0.59	69.9	19.0	C
12	100	0.880	3791	6761	0.56	70.4	18.0	B

Segment 19: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.880	2615	6761	0.39	71.2	12.2	B
2	100	0.880	2936	6761	0.43	71.2	13.8	B
3	100	0.880	3472	6761	0.51	70.9	16.3	B
4	100	0.880	3967	6761	0.59	69.9	18.9	C
5	100	0.880	3738	6761	0.55	70.5	17.7	B
6	100	0.880	3785	6761	0.56	70.4	17.9	B
7	100	0.880	4312	6761	0.64	68.8	20.9	C
8	100	0.880	4180	6761	0.62	69.2	20.1	C
9	100	0.880	4131	6761	0.61	69.4	19.8	C
10	100	0.880	4077	6761	0.60	69.6	19.5	C
11	100	0.880	3978	6761	0.59	69.9	19.0	C
12	100	0.880	3791	6761	0.56	70.4	18.0	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost \$/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	5980	5901	0.38	9.47	70.9	11.7	10.5	7.70	B
2	6718	6629	0.65	16.24	70.7	13.2	11.8	7.70	B
3	7942	7838	1.92	47.90	70.0	15.7	14.1	7.80	B

4	9073	8954	472	11802	687	183	164	8 00	C
5	8549	8436	3 14	78 60	694	17 1	15 3	7 90	B
6	8658	8544	3 43	85 69	693	17 3	15 5	7 90	B
7	9867	9737	8 17	20414	67 2	204	18 2	8 10	C
8	9561	9435	6 68	167 12	67 8	195	17 5	8 10	C
9	9450	9325	6 17	15429	68 0	193	17 2	8 00	C
10	9328	9205	5 67	141 66	68 3	19 0	17 0	8 00	C
11	9101	8981	4 81	12026	68 6	18 4	16 4	8 00	C
12	8670	8556	3 44	85 96	69 2	17 4	15 5	7 90	B

Facility Overall Results

Space Mean Speed, mi/h	68 9	Average Density, veh/mi/ln	15 4
Average Travel Time, min	8 00	Average Density, pc/mi/ln	17 3
Total VMT, veh-mi	102896	Total VHD, veh-h	49 17
Vehicle Value of Time (VOT), \$/h	25 00	Total Delay Cost, \$	122933

HCS Freeway Facilities Report

Project Information

Analyst	Kittelson & Associates	Date	11/21/2023
Agency	Florida Department of Transportation	Analysis Year	2030 Build Conditions
Jurisdiction	District Five	Time Analyzed	PM Weekday Peak Period
Facility Name	I-75 (Northbound)	Units	U.S. Customary
Project Description	I-75 PD&E North Auxillary Lanes		

Facility Global Input

Jam Density, pc/mi/ln	1900	Density at Capacity, pc/mi/ln	450
Queue Discharge Capacity Drop, %	7	Total Segments	19
Total Analysis Periods	12	Analysis Period Duration, min	15
Facility Length, mi	9.13		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-75 NB	4096	4
2	Basic	Basic	I-75 NB	1500	4
3	Diverge	Basic	I-75 NB SR 40 Off Ramp	1500	4
4	Basic	Basic	I-75 NB	3150	3
5	Merge	Basic	I-75 NB SR 40 On Ramp	1500	4
6	Basic	Basic	I-75 NB	1020	4
7	Diverge	Basic	I-75 NB US 27 Off Ramp	1500	4
8	Basic	Basic	I-75 NB	3460	3
9	Merge	Basic	I-75 NB US 27 On Ramp	1500	4
10	Basic	Basic	I-75 NB	4280	4
11	Diverge	Basic	I-75 NB 49th St DDI Off Ramp	1500	4
12	Basic	Basic	I-75 NB	4840	3
13	Merge	Basic	I-75 NB 49th St DDI On Ramp	1500	4
14	Basic	Basic	I-75 NB	4300	4
15	Diverge	Diverge	I-75 NB SR 326 Off Ramp	1500	4
16	Basic	Basic	I-75 NB	2950	3
17	Merge	Merge	I-75 NB SR 326 On Ramp	1500	3
18	Basic	Basic	I-75 NB	1500	3
19	Basic	Basic	I-75 NB	5093	3

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.902	4826	9014	0.54	7.07	17.1	B
2	1.00	0.902	4554	9014	0.51	71.0	16.0	B

3	1 00	0 902	4687	9014	0 52	70 9	16 5	B
4	1 00	0 902	4415	9014	0 49	71 1	15 5	B
5	1 00	0 902	3785	9014	0 42	71 2	13 3	B
6	1 00	0 902	4223	9014	0 47	71 2	14 8	B
7	1 00	0 902	4349	9014	0 48	71 1	15 3	B
8	1 00	0 902	4481	9014	0 50	71 1	15 8	B
9	1 00	0 902	4323	9014	0 48	71 1	15 2	B
10	1 00	0 902	4090	9014	0 45	71 2	14 4	B
11	1 00	0 902	3978	9014	0 44	71 2	14 0	B
12	1 00	0 902	3738	9014	0 41	71 2	13 1	B

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1 00	0 902	4826	9014	0 54	70 7	17 1	B
2	1 00	0 902	4554	9014	0 51	71 0	16 0	B
3	1 00	0 902	4687	9014	0 52	70 9	16 5	B
4	1 00	0 902	4415	9014	0 49	71 1	15 5	B
5	1 00	0 902	3785	9014	0 42	71 2	13 3	B
6	1 00	0 902	4223	9014	0 47	71 2	14 8	B
7	1 00	0 902	4349	9014	0 48	71 1	15 3	B
8	1 00	0 902	4481	9014	0 50	71 1	15 8	B
9	1 00	0 902	4323	9014	0 48	71 1	15 2	B
10	1 00	0 902	4090	9014	0 45	71 2	14 4	B
11	1 00	0 902	3978	9014	0 44	71 2	14 0	B
12	1 00	0 902	3738	9014	0 41	71 2	13 1	B

Segment 3: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 902	0 898	4826	474	7507	1972	0 64	0 24	65 8	65 8	18 3	18 3	C
2	1 00	1 00	0 902	0 898	4554	448	7507	1972	0 61	0 23	67 2	67 2	16 9	16 9	B
3	1 00	1 00	0 902	0 898	4687	461	7507	1972	0 62	0 23	66 5	66 5	17 6	17 6	B
4	1 00	1 00	0 902	0 898	4415	434	7507	1972	0 59	0 22	67 8	67 8	16 3	16 3	B
5	1 00	1 00	0 902	0 898	3785	373	7507	1972	0 50	0 19	69 9	69 9	13 5	13 5	B
6	1 00	1 00	0 902	0 898	4223	415	7507	1972	0 56	0 21	68 5	68 5	15 4	15 4	B
7	1 00	1 00	0 902	0 898	4349	428	7507	1972	0 58	0 22	68 1	68 1	16 0	16 0	B
8	1 00	1 00	0 902	0 898	4481	441	7507	1972	0 60	0 22	67 5	67 5	16 6	16 6	B
9	1 00	1 00	0 902	0 898	4323	425	7507	1972	0 58	0 22	68 2	68 2	15 9	15 9	B
10	1 00	1 00	0 902	0 898	4090	402	7507	1972	0 54	0 20	69 0	69 0	14 8	14 8	B
11	1 00	1 00	0 902	0 898	3978	391	7507	1972	0 53	0 20	69 4	69 4	14 3	14 3	B
12	1 00	1 00	0 902	0 898	3738	367	7507	1972	0 50	0 19	70 1	70 1	13 3	13 3	B

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.902	4354	6761	0.64	68.6	21.2	C
2	1.00	0.902	4109	6761	0.61	69.5	19.7	C
3	1.00	0.902	4228	6761	0.63	69.1	20.4	C
4	1.00	0.902	3982	6761	0.59	69.9	19.0	C
5	1.00	0.902	3414	6761	0.50	71.0	16.0	B
6	1.00	0.902	3809	6761	0.56	70.3	18.1	C
7	1.00	0.902	3924	6761	0.58	70.0	18.7	C
8	1.00	0.902	4042	6761	0.60	69.7	19.3	C
9	1.00	0.902	3899	6761	0.58	70.1	18.5	C
10	1.00	0.902	3690	6761	0.55	70.6	17.4	B
11	1.00	0.902	3589	6761	0.53	70.8	16.9	B
12	1.00	0.902	3373	6761	0.50	71.0	15.8	B

Segment 5: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.902	0.898	5049	695	7507	1972	0.67	0.35	64.5	64.5	19.6	19.6	C
2	1.00	1.00	0.902	0.898	4765	656	7507	1972	0.63	0.33	66.1	66.1	18.0	18.0	B
3	1.00	1.00	0.902	0.898	4903	675	7507	1972	0.65	0.34	65.4	65.4	18.7	18.7	C
4	1.00	1.00	0.902	0.898	4618	636	7507	1972	0.62	0.32	66.8	66.8	17.3	17.3	B
5	1.00	1.00	0.902	0.898	3959	545	7507	1972	0.53	0.28	69.4	69.4	14.3	14.3	B
6	1.00	1.00	0.902	0.898	4417	608	7507	1972	0.59	0.31	67.8	67.8	16.3	16.3	B
7	1.00	1.00	0.902	0.898	4550	626	7507	1972	0.61	0.32	67.2	67.2	16.9	16.9	B
8	1.00	1.00	0.902	0.898	4687	645	7507	1972	0.62	0.33	66.5	66.5	17.6	17.6	B
9	1.00	1.00	0.902	0.898	4521	622	7507	1972	0.60	0.32	67.3	67.3	16.8	16.8	B
10	1.00	1.00	0.902	0.898	4279	589	7507	1972	0.57	0.30	68.3	68.3	15.7	15.7	B
11	1.00	1.00	0.902	0.898	4161	572	7507	1972	0.55	0.29	68.8	68.8	15.1	15.1	B
12	1.00	1.00	0.902	0.898	3911	538	7507	1972	0.52	0.27	69.6	69.6	14.0	14.0	B

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.902	5045	9014	0.56	70.3	17.9	B
2	1.00	0.902	4762	9014	0.53	70.5	16.8	B
3	1.00	0.902	4900	9014	0.54	70.4	17.4	B
4	1.00	0.902	4615	9014	0.51	70.6	16.3	B
5	1.00	0.902	3956	9014	0.44	71.0	13.9	B
6	1.00	0.902	4415	9014	0.49	70.8	15.5	B
7	1.00	0.902	4547	9014	0.50	70.7	16.0	B
8	1.00	0.902	4684	9014	0.52	70.6	16.5	B
9	1.00	0.902	4519	9014	0.50	70.7	15.9	B

10	1 00	0 902	4276	9014	0 47	70 8	15 0	B							
11	1 00	0 902	4159	9014	0 46	70 9	14 6	B							
12	1 00	0 902	3908	9014	0 43	71 0	13 7	B							
Segment 7: Diverge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 902	0 934	5045	965	7507	1972	0 67	0 49	64 5	64 5	19 6	19 6	C
2	1 00	1 00	0 902	0 934	4762	910	7507	1972	0 63	0 46	66 1	66 1	18 0	18 0	B
3	1 00	1 00	0 902	0 934	4900	937	7507	1972	0 65	0 48	65 4	65 4	18 7	18 7	C
4	1 00	1 00	0 902	0 934	4615	882	7507	1972	0 61	0 45	66 9	66 9	17 2	17 2	B
5	1 00	1 00	0 902	0 934	3956	757	7507	1972	0 53	0 38	69 5	69 5	14 2	14 2	B
6	1 00	1 00	0 902	0 934	4415	844	7507	1972	0 59	0 43	67 8	67 8	16 3	16 3	B
7	1 00	1 00	0 902	0 934	4547	869	7507	1972	0 61	0 44	67 2	67 2	16 9	16 9	B
8	1 00	1 00	0 902	0 934	4684	896	7507	1972	0 62	0 45	66 5	66 5	17 6	17 6	B
9	1 00	1 00	0 902	0 934	4519	864	7507	1972	0 60	0 44	67 3	67 3	16 8	16 8	B
10	1 00	1 00	0 902	0 934	4276	818	7507	1972	0 57	0 41	68 3	68 3	15 7	15 7	B
11	1 00	1 00	0 902	0 934	4159	796	7507	1972	0 55	0 40	68 8	68 8	15 1	15 1	B
12	1 00	1 00	0 902	0 934	3908	747	7507	1972	0 52	0 38	69 6	69 6	14 0	14 0	B
Segment 8: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1 00	0 894	4083	6761	0 60	69 6	19 6	C							
2	1 00	0 894	3853	6761	0 57	70 2	18 3	C							
3	1 00	0 894	3965	6761	0 59	69 9	18 9	C							
4	1 00	0 894	3735	6761	0 55	70 5	17 7	B							
5	1 00	0 894	3200	6761	0 47	71 2	15 0	B							
6	1 00	0 894	3573	6761	0 53	70 8	16 8	B							
7	1 00	0 894	3679	6761	0 54	70 6	17 4	B							
8	1 00	0 894	3790	6761	0 56	70 4	17 9	B							
9	1 00	0 894	3657	6761	0 54	70 6	17 3	B							
10	1 00	0 894	3460	6761	0 51	70 9	16 3	B							
11	1 00	0 894	3365	6761	0 50	71 0	15 8	B							
12	1 00	0 894	3162	6761	0 47	71 2	14 8	B							
Segment 9: Merge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 892	0 876	4464	372	7507	1972	0 59	0 19	67 6	67 6	16 5	16 5	B
2	1 00	1 00	0 892	0 876	4212	350	7507	1972	0 56	0 18	68 6	68 6	15 3	15 3	B
3	1 00	1 00	0 892	0 876	4335	361	7507	1972	0 58	0 18	68 1	68 1	15 9	15 9	B
4	1 00	1 00	0 892	0 876	4083	340	7507	1972	0 54	0 17	69 0	69 0	14 8	14 8	B

5	100	100	0.892	0.876	3498	291	7507	1972	0.47	0.15	70.6	70.6	12.4	12.4	B
6	100	100	0.892	0.876	3906	325	7507	1972	0.52	0.16	69.6	69.6	14.0	14.0	B
7	100	100	0.892	0.876	4021	334	7507	1972	0.54	0.17	69.3	69.3	14.5	14.5	B
8	100	100	0.892	0.876	4143	345	7507	1972	0.55	0.17	68.8	68.8	15.1	15.1	B
9	100	100	0.892	0.876	3998	333	7507	1972	0.53	0.17	69.3	69.3	14.4	14.4	B
10	100	100	0.892	0.876	3782	315	7507	1972	0.50	0.16	69.9	69.9	13.5	13.5	B
11	100	100	0.892	0.876	3678	306	7507	1972	0.49	0.16	70.2	70.2	13.1	13.1	B
12	100	100	0.892	0.876	3457	288	7507	1972	0.46	0.15	70.6	70.6	12.2	12.2	B

Segment 10: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.892	4457	9014	0.49	71.1	15.7	B
2	100	0.892	4206	9014	0.47	71.2	14.8	B
3	100	0.892	4328	9014	0.48	71.1	15.2	B
4	100	0.892	4077	9014	0.45	71.2	14.3	B
5	100	0.892	3493	9014	0.39	71.2	12.3	B
6	100	0.892	3900	9014	0.43	71.2	13.7	B
7	100	0.892	4016	9014	0.45	71.2	14.1	B
8	100	0.892	4137	9014	0.46	71.2	14.5	B
9	100	0.892	3992	9014	0.44	71.2	14.0	B
10	100	0.892	3777	9014	0.42	71.2	13.3	B
11	100	0.892	3673	9014	0.41	71.2	12.9	B
12	100	0.892	3452	9014	0.38	71.2	12.1	B

Segment 11: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.892	0.893	4457	917	7507	1972	0.59	0.47	67.6	67.6	16.5	16.5	B
2	100	100	0.892	0.893	4206	865	7507	1972	0.56	0.44	68.6	68.6	15.3	15.3	B
3	100	100	0.892	0.893	4328	890	7507	1972	0.58	0.45	68.1	68.1	15.9	15.9	B
4	100	100	0.892	0.893	4077	839	7507	1972	0.54	0.43	69.1	69.1	14.7	14.7	B
5	100	100	0.892	0.893	3493	719	7507	1972	0.47	0.36	70.6	70.6	12.4	12.4	B
6	100	100	0.892	0.893	3900	802	7507	1972	0.52	0.41	69.6	69.6	14.0	14.0	B
7	100	100	0.892	0.893	4016	826	7507	1972	0.53	0.42	69.3	69.3	14.5	14.5	B
8	100	100	0.892	0.893	4137	851	7507	1972	0.55	0.43	68.9	68.9	15.0	15.0	B
9	100	100	0.892	0.893	3992	821	7507	1972	0.53	0.42	69.3	69.3	14.4	14.4	B
10	100	100	0.892	0.893	3777	777	7507	1972	0.50	0.39	70.0	70.0	13.5	13.5	B
11	100	100	0.892	0.893	3673	756	7507	1972	0.49	0.38	70.2	70.2	13.1	13.1	B
12	100	100	0.892	0.893	3452	710	7507	1972	0.46	0.36	70.7	70.7	12.2	12.2	B

Segment 12: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
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1	100	0.892	3539	6761	0.52	70.8	16.7	B
2	100	0.892	3341	6761	0.49	71.1	15.7	B
3	100	0.892	3437	6761	0.51	71.0	16.1	B
4	100	0.892	3238	6761	0.48	71.1	15.2	B
5	100	0.892	2774	6761	0.41	71.2	13.0	B
6	100	0.892	3098	6761	0.46	71.2	14.5	B
7	100	0.892	3188	6761	0.47	71.2	14.9	B
8	100	0.892	3285	6761	0.49	71.1	15.4	B
9	100	0.892	3170	6761	0.47	71.2	14.8	B
10	100	0.892	2999	6761	0.44	71.2	14.0	B
11	100	0.892	2916	6761	0.43	71.2	13.7	B
12	100	0.892	2741	6761	0.41	71.2	12.8	B

Segment 13: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.892	0.893	3901	36.2	7507	1972	0.52	0.18	69.6	69.6	140	140	B
2	100	100	0.892	0.893	3683	34.2	7507	1972	0.49	0.17	70.2	70.2	131	131	B
3	100	100	0.892	0.893	3789	35.2	7507	1972	0.50	0.18	69.9	69.9	136	136	B
4	100	100	0.892	0.893	3569	33.1	7507	1972	0.48	0.17	70.4	70.4	127	127	B
5	100	100	0.892	0.893	3058	28.4	7507	1972	0.41	0.14	71.1	71.1	108	108	A
6	100	100	0.892	0.893	3415	31.7	7507	1972	0.45	0.16	70.7	70.7	121	121	B
7	100	100	0.892	0.893	3514	32.6	7507	1972	0.47	0.17	70.5	70.5	125	125	B
8	100	100	0.892	0.893	3621	33.6	7507	1972	0.48	0.17	70.3	70.3	129	129	B
9	100	100	0.892	0.893	3495	32.5	7507	1972	0.47	0.16	70.6	70.6	124	124	B
10	100	100	0.892	0.893	3306	30.7	7507	1972	0.44	0.16	70.9	70.9	117	117	B
11	100	100	0.892	0.893	3214	29.8	7507	1972	0.43	0.15	71.0	71.0	113	113	B
12	100	100	0.892	0.893	3021	28.0	7507	1972	0.40	0.14	71.1	71.1	106	106	A

Segment 14: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.892	3901	9014	0.43	71.2	13.7	B
2	100	0.892	3683	9014	0.41	71.2	12.9	B
3	100	0.892	3789	9014	0.42	71.2	13.3	B
4	100	0.892	3570	9014	0.40	71.2	12.5	B
5	100	0.892	3058	9014	0.34	71.2	10.7	A
6	100	0.892	3415	9014	0.38	71.2	12.0	B
7	100	0.892	3515	9014	0.39	71.2	12.3	B
8	100	0.892	3621	9014	0.40	71.2	12.7	B
9	100	0.892	3496	9014	0.39	71.2	12.3	B
10	100	0.892	3306	9014	0.37	71.2	11.6	B
11	100	0.892	3214	9014	0.36	71.2	11.3	B

12	100	0.892	3021	9014	0.34	71.2	10.6	A							
Segment 15: Diverge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.892	0.924	3901	1171	7507	3944	0.52	0.30	67.3	58.6	14.5	6.9	A
2	100	100	0.892	0.924	3683	1105	7507	3944	0.49	0.28	67.4	58.8	13.7	6.0	A
3	100	100	0.892	0.924	3789	1137	7507	3944	0.50	0.29	67.4	58.7	14.1	6.5	A
4	100	100	0.892	0.924	3570	1071	7507	3944	0.48	0.27	67.4	58.8	13.2	5.6	A
5	100	100	0.892	0.924	3058	919	7507	3944	0.41	0.23	67.7	59.3	11.3	3.4	A
6	100	100	0.892	0.924	3415	1025	7507	3944	0.45	0.26	67.6	59.0	12.6	4.9	A
7	100	100	0.892	0.924	3515	1055	7507	3944	0.47	0.27	67.5	58.9	13.0	5.3	A
8	100	100	0.892	0.924	3621	1088	7507	3944	0.48	0.28	67.4	58.8	13.4	5.8	A
9	100	100	0.892	0.924	3496	1049	7507	3944	0.47	0.27	67.5	58.9	12.9	5.2	A
10	100	100	0.892	0.924	3306	992	7507	3944	0.44	0.25	67.6	59.1	12.2	4.5	A
11	100	100	0.892	0.924	3214	965	7507	3944	0.43	0.24	67.6	59.1	11.9	4.1	A
12	100	100	0.892	0.924	3021	907	7507	3944	0.40	0.23	67.7	59.3	11.2	3.3	A

Segment 16: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.879	0.879	2728	2728	6761	6761	0.40	0.40	71.1	71.1	12.8	12.8	B
2	100	100	0.879	0.879	2576	2576	6761	6761	0.38	0.38	71.1	71.1	12.1	12.1	B
3	100	100	0.879	0.879	2650	2650	6761	6761	0.39	0.39	71.1	71.1	12.4	12.4	B
4	100	100	0.879	0.879	2496	2496	6761	6761	0.37	0.37	71.1	71.1	11.7	11.7	B
5	100	100	0.879	0.879	2138	2138	6761	6761	0.32	0.32	71.1	71.1	10.0	10.0	A
6	100	100	0.879	0.879	2388	2388	6761	6761	0.35	0.35	71.1	71.1	11.2	11.2	B
7	100	100	0.879	0.879	2457	2457	6761	6761	0.36	0.36	71.1	71.1	11.5	11.5	B
8	100	100	0.879	0.879	2531	2531	6761	6761	0.37	0.37	71.1	71.1	11.9	11.9	B
9	100	100	0.879	0.879	2445	2445	6761	6761	0.36	0.36	71.1	71.1	11.4	11.4	B
10	100	100	0.879	0.879	2312	2312	6761	6761	0.34	0.34	71.1	71.1	10.8	10.8	A
11	100	100	0.879	0.879	2247	2247	6761	6761	0.33	0.33	71.1	71.1	10.5	10.5	A
12	100	100	0.879	0.879	2113	2113	6761	6761	0.31	0.31	71.1	71.1	9.9	9.9	A

Segment 17: Merge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.875	0.853	3236	495	5918	1972	0.55	0.25	65.0	63.1	16.6	16.3	B
2	100	100	0.875	0.853	3054	467	5918	1972	0.52	0.24	65.2	63.3	15.6	15.4	B
3	100	100	0.875	0.853	3143	481	5918	1972	0.53	0.24	65.1	63.2	16.1	15.8	B
4	100	100	0.875	0.853	2960	453	5918	1972	0.50	0.23	65.2	63.3	15.1	14.9	B
5	100	100	0.875	0.853	2535	388	5918	1972	0.43	0.20	65.5	63.5	12.9	12.7	B
6	100	100	0.875	0.853	2832	433	5918	1972	0.48	0.22	65.4	63.4	14.4	14.2	B

7	100	100	0.875	0.853	2914	445	5918	1972	0.49	0.23	653	633	149	147	B
8	100	100	0.875	0.853	3003	460	5918	1972	0.51	0.23	652	633	154	151	B
9	100	100	0.875	0.853	2899	443	5918	1972	0.49	0.22	653	633	148	146	B
10	100	100	0.875	0.853	2742	420	5918	1972	0.46	0.21	654	634	140	138	B
11	100	100	0.875	0.853	2665	408	5918	1972	0.45	0.21	655	635	136	134	B
12	100	100	0.875	0.853	2505	383	5918	1972	0.42	0.19	655	635	127	126	B

Segment 18: Basic

AP	PHF	HV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.875	3223	6761	0.48	70.7	15.1	B
2	100	0.875	3042	6761	0.45	70.7	14.2	B
3	100	0.875	3130	6761	0.46	70.7	14.6	B
4	100	0.875	2949	6761	0.44	70.7	13.8	B
5	100	0.875	2526	6761	0.37	70.7	11.8	B
6	100	0.875	2821	6761	0.42	70.7	13.2	B
7	100	0.875	2903	6761	0.43	70.7	13.6	B
8	100	0.875	2991	6761	0.44	70.7	14.0	B
9	100	0.875	2888	6761	0.43	70.7	13.5	B
10	100	0.875	2731	6761	0.40	70.7	12.8	B
11	100	0.875	2655	6761	0.39	70.7	12.4	B
12	100	0.875	2496	6761	0.37	70.7	11.7	B

Segment 19: Basic

AP	PHF	HV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.875	3223	6761	0.48	71.2	15.1	B
2	100	0.875	3042	6761	0.45	71.2	14.2	B
3	100	0.875	3130	6761	0.46	71.2	14.6	B
4	100	0.875	2949	6761	0.44	71.2	13.8	B
5	100	0.875	2526	6761	0.37	71.2	11.8	B
6	100	0.875	2821	6761	0.42	71.2	13.2	B
7	100	0.875	2903	6761	0.43	71.2	13.6	B
8	100	0.875	2991	6761	0.44	71.2	14.0	B
9	100	0.875	2888	6761	0.43	71.2	13.5	B
10	100	0.875	2731	6761	0.40	71.2	12.8	B
11	100	0.875	2655	6761	0.39	71.2	12.4	B
12	100	0.875	2496	6761	0.37	71.2	11.7	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost \$/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	8226	8104	3.04	7588	69.4	16.5	14.7	7.90	B
2	7764	7640	2.08	5210	69.9	15.4	13.8	7.80	B
3	7990	7871	2.51	6267	69.6	15.9	14.2	7.90	B

4	7525	7414	1.72	43.04	701	14.9	13.3	7.80	B
5	6448	6353	0.68	17.09	707	12.7	11.3	7.70	B
6	7199	7092	1.29	32.21	703	14.2	12.7	7.80	B
7	7412	7302	1.56	38.89	702	14.7	13.1	7.80	B
8	7636	7523	1.88	46.88	700	15.2	13.5	7.80	B
9	7369	7260	1.51	37.80	702	14.6	13.0	7.80	B
10	6971	6868	1.07	26.87	704	13.8	12.3	7.80	B
11	6778	6678	0.90	22.58	705	13.4	11.9	7.80	B
12	6371	6277	0.64	16.12	707	12.5	11.2	7.70	B

Facility Overall Results

Space Mean Speed, mi/h	701	Average Density, veh/mi/ln	12.9
Average Travel Time, min	7.80	Average Density, pc/mi/ln	14.5
Total VMT, veh-mi	87690	Total VHD, veh-h	18.89
Vehicle Value of Time (VOT), \$/h	25.00	Total Delay Cost, \$	472.13

HCS Freeway Facilities Report

Project Information

Analyst	Kittelson & Associates	Date	11/21/2023
Agency	Florida Department of Transportation	Analysis Year	2030 Build Conditions
Jurisdiction	District Five	Time Analyzed	WM Weekend Peak Period
Facility Name	I-75 (Northbound)	Units	U.S. Customary
Project Description	I-75 PD&E North Auxillary Lanes		

Facility Global Input

Jam Density, pc/mi/ln	1900	Density at Capacity, pc/mi/ln	450
Queue Discharge Capacity Drop, %	7	Total Segments	19
Total Analysis Periods	12	Analysis Period Duration, min	15
Facility Length, mi	9.13		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-75 NB	4096	4
2	Basic	Basic	I-75 NB	1500	4
3	Diverge	Basic	I-75 NB SR 40 Off Ramp	1500	4
4	Basic	Basic	I-75 NB	3150	3
5	Merge	Basic	I-75 NB SR 40 On Ramp	1500	4
6	Basic	Basic	I-75 NB	1020	4
7	Diverge	Basic	I-75 NB US 27 Off Ramp	1500	4
8	Basic	Basic	I-75 NB	3460	3
9	Merge	Basic	I-75 NB US 27 On Ramp	1500	4
10	Basic	Basic	I-75 NB	4280	4
11	Diverge	Basic	I-75 NB 49th St DDI Off Ramp	1500	4
12	Basic	Basic	I-75 NB	4840	3
13	Merge	Basic	I-75 NB 49th St DDI On Ramp	1500	4
14	Basic	Basic	I-75 NB	4300	4
15	Diverge	Diverge	I-75 NB SR 326 Off Ramp	1500	4
16	Basic	Basic	I-75 NB	2950	3
17	Merge	Merge	I-75 NB SR 326 On Ramp	1500	3
18	Basic	Basic	I-75 NB	1500	3
19	Basic	Basic	I-75 NB	5093	3

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.902	6078	9014	0.67	67.7	22.5	C
2	1.00	0.902	6078	9014	0.67	67.7	22.5	C

3	1 00	0 902	6078	9014	0 67	67 7	22 5	C
4	1 00	0 902	6078	9014	0 67	67 7	22 5	C
5	1 00	0 902	5558	9014	0 62	69 3	20 1	C
6	1 00	0 902	5558	9014	0 62	69 3	20 1	C
7	1 00	0 902	5558	9014	0 62	69 3	20 1	C
8	1 00	0 902	5558	9014	0 62	69 3	20 1	C
9	1 00	0 902	4967	9014	0 55	70 5	17 6	B
10	1 00	0 902	4967	9014	0 55	70 5	17 6	B
11	1 00	0 902	4967	9014	0 55	70 5	17 6	B
12	1 00	0 894	5011	9014	0 56	70 4	17 8	B

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)		Capacity (pc/h)	d/c Ratio	Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1 00	0 902	6078		9014	0 67	67 7		22 5		C
2	1 00	0 902	6078		9014	0 67	67 7		22 5		C
3	1 00	0 902	6078		9014	0 67	67 7		22 5		C
4	1 00	0 902	6078		9014	0 67	67 7		22 5		C
5	1 00	0 902	5558		9014	0 62	69 3		20 1		C
6	1 00	0 902	5558		9014	0 62	69 3		20 1		C
7	1 00	0 902	5558		9014	0 62	69 3		20 1		C
8	1 00	0 902	5558		9014	0 62	69 3		20 1		C
9	1 00	0 902	4967		9014	0 55	70 5		17 6		B
10	1 00	0 902	4967		9014	0 55	70 5		17 6		B
11	1 00	0 902	4967		9014	0 55	70 5		17 6		B
12	1 00	0 894	5011		9014	0 56	70 4		17 8		B

Segment 3: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 902	0 934	6078	480	7507	1972	0 81	0 24	56 9	56 9	26 7	26 7	D
2	1 00	1 00	0 902	0 934	6078	480	7507	1972	0 81	0 24	56 9	56 9	26 7	26 7	D
3	1 00	1 00	0 902	0 934	6078	480	7507	1972	0 81	0 24	56 9	56 9	26 7	26 7	D
4	1 00	1 00	0 902	0 934	6078	480	7507	1972	0 81	0 24	56 9	56 9	26 7	26 7	D
5	1 00	1 00	0 902	0 934	5558	439	7507	1972	0 74	0 22	61 1	61 1	22 7	22 7	C
6	1 00	1 00	0 902	0 934	5558	439	7507	1972	0 74	0 22	61 1	61 1	22 7	22 7	C
7	1 00	1 00	0 902	0 934	5558	439	7507	1972	0 74	0 22	61 1	61 1	22 7	22 7	C
8	1 00	1 00	0 902	0 934	5558	439	7507	1972	0 74	0 22	61 1	61 1	22 7	22 7	C
9	1 00	1 00	0 902	0 934	4967	392	7507	1972	0 66	0 20	65 0	65 0	19 1	19 1	C
10	1 00	1 00	0 902	0 934	4967	392	7507	1972	0 66	0 20	65 0	65 0	19 1	19 1	C
11	1 00	1 00	0 902	0 934	4967	392	7507	1972	0 66	0 20	65 0	65 0	19 1	19 1	C
12	1 00	1 00	0 894	0 934	5011	392	7507	1972	0 67	0 20	64 7	64 7	19 4	19 4	C

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.899	5600	6761	0.83	61.2	30.5	D
2	1.00	0.899	5600	6761	0.83	61.2	30.5	D
3	1.00	0.899	5600	6761	0.83	61.2	30.5	D
4	1.00	0.899	5600	6761	0.83	61.2	30.5	D
5	1.00	0.899	5120	6761	0.76	64.6	26.4	D
6	1.00	0.899	5120	6761	0.76	64.6	26.4	D
7	1.00	0.899	5120	6761	0.76	64.6	26.4	D
8	1.00	0.899	5120	6761	0.76	64.6	26.4	D
9	1.00	0.899	4576	6761	0.68	67.6	22.6	C
10	1.00	0.899	4576	6761	0.68	67.6	22.6	C
11	1.00	0.899	4576	6761	0.68	67.6	22.6	C
12	1.00	0.898	4581	6761	0.68	67.6	22.6	C

Segment 5: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.902	0.940	6067	486	7507	1972	0.81	0.25	57.0	57.0	26.6	26.6	D
2	1.00	1.00	0.902	0.940	6067	486	7507	1972	0.81	0.25	57.0	57.0	26.6	26.6	D
3	1.00	1.00	0.902	0.940	6067	486	7507	1972	0.81	0.25	57.0	57.0	26.6	26.6	D
4	1.00	1.00	0.902	0.940	6067	486	7507	1972	0.81	0.25	57.0	57.0	26.6	26.6	D
5	1.00	1.00	0.902	0.940	5548	445	7507	1972	0.74	0.23	61.2	61.2	22.7	22.7	C
6	1.00	1.00	0.902	0.940	5548	445	7507	1972	0.74	0.23	61.2	61.2	22.7	22.7	C
7	1.00	1.00	0.902	0.940	5548	445	7507	1972	0.74	0.23	61.2	61.2	22.7	22.7	C
8	1.00	1.00	0.902	0.940	5548	445	7507	1972	0.74	0.23	61.2	61.2	22.7	22.7	C
9	1.00	1.00	0.902	0.940	4959	398	7507	1972	0.66	0.20	65.0	65.0	19.1	19.1	C
10	1.00	1.00	0.902	0.940	4959	398	7507	1972	0.66	0.20	65.0	65.0	19.1	19.1	C
11	1.00	1.00	0.902	0.940	4959	398	7507	1972	0.66	0.20	65.0	65.0	19.1	19.1	C
12	1.00	1.00	0.899	0.940	4974	398	7507	1972	0.66	0.20	65.0	65.0	19.1	19.1	C

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.902	6088	9014	0.68	67.7	22.5	C
2	1.00	0.902	6088	9014	0.68	67.7	22.5	C
3	1.00	0.902	6088	9014	0.68	67.7	22.5	C
4	1.00	0.902	6088	9014	0.68	67.7	22.5	C
5	1.00	0.902	5567	9014	0.62	69.3	20.1	C
6	1.00	0.902	5567	9014	0.62	69.3	20.1	C
7	1.00	0.902	5567	9014	0.62	69.3	20.1	C
8	1.00	0.902	5567	9014	0.62	69.3	20.1	C
9	1.00	0.902	4976	9014	0.55	70.4	17.6	B

10	1 00	0 902	4976	9014	0 55	704	17 6	B							
11	1 00	0 902	4976	9014	0 55	704	17 6	B							
12	1 00	0 899	4992	9014	0 55	704	17 7	B							
Segment 7: Diverge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 902	0 961	6088	744	7507	1972	0 81	0 38	56 9	56 9	267	267	D
2	1 00	1 00	0 902	0 961	6088	744	7507	1972	0 81	0 38	56 9	56 9	267	267	D
3	1 00	1 00	0 902	0 961	6088	744	7507	1972	0 81	0 38	56 9	56 9	267	267	D
4	1 00	1 00	0 902	0 961	6088	744	7507	1972	0 81	0 38	56 9	56 9	267	267	D
5	1 00	1 00	0 902	0 961	5567	681	7507	1972	0 74	0 35	61 1	61 1	22 8	22 8	C
6	1 00	1 00	0 902	0 961	5567	681	7507	1972	0 74	0 35	61 1	61 1	22 8	22 8	C
7	1 00	1 00	0 902	0 961	5567	681	7507	1972	0 74	0 35	61 1	61 1	22 8	22 8	C
8	1 00	1 00	0 902	0 961	5567	681	7507	1972	0 74	0 35	61 1	61 1	22 8	22 8	C
9	1 00	1 00	0 902	0 961	4976	608	7507	1972	0 66	0 31	64 9	64 9	19 2	19 2	C
10	1 00	1 00	0 902	0 961	4976	608	7507	1972	0 66	0 31	64 9	64 9	19 2	19 2	C
11	1 00	1 00	0 902	0 961	4976	608	7507	1972	0 66	0 31	64 9	64 9	19 2	19 2	C
12	1 00	1 00	0 894	0 961	5020	608	7507	1972	0 67	0 31	64 7	64 7	19 4	19 4	C
Segment 8: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00		0 894		5342		6761		0 79		63 1		28 2		D
2	1 00		0 894		5342		6761		0 79		63 1		28 2		D
3	1 00		0 894		5342		6761		0 79		63 1		28 2		D
4	1 00		0 894		5342		6761		0 79		63 1		28 2		D
5	1 00		0 894		4885		6761		0 72		66 0		24 7		C
6	1 00		0 894		4885		6761		0 72		66 0		24 7		C
7	1 00		0 894		4885		6761		0 72		66 0		24 7		C
8	1 00		0 894		4885		6761		0 72		66 0		24 7		C
9	1 00		0 894		4367		6761		0 65		68 5		21 3		C
10	1 00		0 894		4367		6761		0 65		68 5		21 3		C
11	1 00		0 894		4367		6761		0 65		68 5		21 3		C
12	1 00		0 894		4367		6761		0 65		68 5		21 3		C
Segment 9: Merge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 895	0 913	5607	271	7507	1972	0 75	0 14	60 8	60 8	23 1	23 1	C
2	1 00	1 00	0 895	0 913	5607	271	7507	1972	0 75	0 14	60 8	60 8	23 1	23 1	C
3	1 00	1 00	0 895	0 913	5607	271	7507	1972	0 75	0 14	60 8	60 8	23 1	23 1	C
4	1 00	1 00	0 895	0 913	5607	271	7507	1972	0 75	0 14	60 8	60 8	23 1	23 1	C

5	100	100	0.895	0.913	5127	248	7507	1972	0.68	0.13	640	640	200	200	C
6	100	100	0.895	0.913	5127	248	7507	1972	0.68	0.13	640	640	200	200	C
7	100	100	0.895	0.913	5127	248	7507	1972	0.68	0.13	640	640	200	200	C
8	100	100	0.895	0.913	5127	248	7507	1972	0.68	0.13	640	640	200	200	C
9	100	100	0.895	0.913	4583	221	7507	1972	0.61	0.11	670	670	171	171	B
10	100	100	0.895	0.913	4583	221	7507	1972	0.61	0.11	670	670	171	171	B
11	100	100	0.895	0.913	4583	221	7507	1972	0.61	0.11	670	670	171	171	B
12	100	100	0.893	0.913	4593	221	7507	1972	0.61	0.11	670	670	171	171	B

Segment 10: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.895	5612	9014	0.62	69.1	20.3	C
2	100	0.895	5612	9014	0.62	69.1	20.3	C
3	100	0.895	5612	9014	0.62	69.1	20.3	C
4	100	0.895	5612	9014	0.62	69.1	20.3	C
5	100	0.895	5132	9014	0.57	70.2	18.3	C
6	100	0.895	5132	9014	0.57	70.2	18.3	C
7	100	0.895	5132	9014	0.57	70.2	18.3	C
8	100	0.895	5132	9014	0.57	70.2	18.3	C
9	100	0.895	4588	9014	0.51	71.0	16.2	B
10	100	0.895	4588	9014	0.51	71.0	16.2	B
11	100	0.895	4588	9014	0.51	71.0	16.2	B
12	100	0.893	4598	9014	0.51	71.0	16.2	B

Segment 11: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.895	0.893	5612	964	7507	1972	0.75	0.49	60.7	60.7	23.1	23.1	C
2	100	100	0.895	0.893	5612	964	7507	1972	0.75	0.49	60.7	60.7	23.1	23.1	C
3	100	100	0.895	0.893	5612	964	7507	1972	0.75	0.49	60.7	60.7	23.1	23.1	C
4	100	100	0.895	0.893	5612	964	7507	1972	0.75	0.49	60.7	60.7	23.1	23.1	C
5	100	100	0.895	0.893	5132	881	7507	1972	0.68	0.45	64.0	64.0	20.0	20.0	C
6	100	100	0.895	0.893	5132	881	7507	1972	0.68	0.45	64.0	64.0	20.0	20.0	C
7	100	100	0.895	0.893	5132	881	7507	1972	0.68	0.45	64.0	64.0	20.0	20.0	C
8	100	100	0.895	0.893	5132	881	7507	1972	0.68	0.45	64.0	64.0	20.0	20.0	C
9	100	100	0.895	0.893	4588	787	7507	1972	0.61	0.40	67.0	67.0	17.1	17.1	B
10	100	100	0.895	0.893	4588	787	7507	1972	0.61	0.40	67.0	67.0	17.1	17.1	B
11	100	100	0.895	0.893	4588	787	7507	1972	0.61	0.40	67.0	67.0	17.1	17.1	B
12	100	100	1.000	0.893	4106	787	7507	1972	0.55	0.40	69.0	69.0	14.9	14.9	B

Segment 12: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
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1	100	0.895	46.50	6761	0.69	67.3	23.0	C
2	100	0.895	46.50	6761	0.69	67.3	23.0	C
3	100	0.895	46.50	6761	0.69	67.3	23.0	C
4	100	0.895	46.50	6761	0.69	67.3	23.0	C
5	100	0.895	42.53	6761	0.63	69.0	20.6	C
6	100	0.895	42.53	6761	0.63	69.0	20.6	C
7	100	0.895	42.53	6761	0.63	69.0	20.6	C
8	100	0.895	42.53	6761	0.63	69.0	20.6	C
9	100	0.895	38.02	6761	0.56	70.3	18.0	B
10	100	0.895	38.02	6761	0.56	70.3	18.0	B
11	100	0.895	38.02	6761	0.56	70.3	18.0	B
12	100	1.000	34.03	6761	0.50	71.0	16.0	B

Segment 13: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.895	0.893	5028	378	7507	1972	0.67	0.19	64.6	64.6	19.5	19.5	C
2	100	100	0.895	0.893	5028	378	7507	1972	0.67	0.19	64.6	64.6	19.5	19.5	C
3	100	100	0.895	0.893	5028	378	7507	1972	0.67	0.19	64.6	64.6	19.5	19.5	C
4	100	100	0.895	0.893	5028	378	7507	1972	0.67	0.19	64.6	64.6	19.5	19.5	C
5	100	100	0.895	0.893	4599	346	7507	1972	0.61	0.18	66.9	66.9	17.2	17.2	B
6	100	100	0.895	0.893	4599	346	7507	1972	0.61	0.18	66.9	66.9	17.2	17.2	B
7	100	100	0.895	0.893	4599	346	7507	1972	0.61	0.18	66.9	66.9	17.2	17.2	B
8	100	100	0.895	0.893	4599	346	7507	1972	0.61	0.18	66.9	66.9	17.2	17.2	B
9	100	100	0.895	0.893	4111	309	7507	1972	0.55	0.16	69.0	69.0	14.9	14.9	B
10	100	100	0.895	0.893	4111	309	7507	1972	0.55	0.16	69.0	69.0	14.9	14.9	B
11	100	100	0.895	0.893	4111	309	7507	1972	0.55	0.16	69.0	69.0	14.9	14.9	B
12	100	100	0.893	0.893	4120	309	7507	1972	0.55	0.16	68.9	68.9	14.9	14.9	B

Segment 14: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.895	5028	9014	0.56	70.4	17.9	B
2	100	0.895	5028	9014	0.56	70.4	17.9	B
3	100	0.895	5028	9014	0.56	70.4	17.9	B
4	100	0.895	5028	9014	0.56	70.4	17.9	B
5	100	0.895	4598	9014	0.51	71.0	16.2	B
6	100	0.895	4598	9014	0.51	71.0	16.2	B
7	100	0.895	4598	9014	0.51	71.0	16.2	B
8	100	0.895	4598	9014	0.51	71.0	16.2	B
9	100	0.895	4111	9014	0.46	71.2	14.4	B
10	100	0.895	4111	9014	0.46	71.2	14.4	B
11	100	0.895	4111	9014	0.46	71.2	14.4	B

12	1 00	0 893	4120	9014	0 46	71 2	14 5	B							
Segment 15: Diverge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0 895	0 942	5028	1203	7507	3944	0 67	0 30	67 4	58 5	18 6	9 7	A
2	100	100	0 895	0 942	5028	1203	7507	3944	0 67	0 30	67 4	58 5	18 6	9 7	A
3	100	100	0 895	0 942	5028	1203	7507	3944	0 67	0 30	67 4	58 5	18 6	9 7	A
4	100	100	0 895	0 942	5028	1203	7507	3944	0 67	0 30	67 4	58 5	18 6	9 7	A
5	100	100	0 895	0 942	4598	1100	7507	3944	0 61	0 28	67 8	58 8	17 0	8 0	A
6	100	100	0 895	0 942	4598	1100	7507	3944	0 61	0 28	67 8	58 8	17 0	8 0	A
7	100	100	0 895	0 942	4598	1100	7507	3944	0 61	0 28	67 8	58 8	17 0	8 0	A
8	100	100	0 895	0 942	4598	1100	7507	3944	0 61	0 28	67 8	58 8	17 0	8 0	A
9	100	100	0 895	0 942	4111	983	7507	3944	0 55	0 25	68 2	59 1	15 1	6 2	A
10	100	100	0 895	0 942	4111	983	7507	3944	0 55	0 25	68 2	59 1	15 1	6 2	A
11	100	100	0 895	0 942	4111	983	7507	3944	0 55	0 25	68 2	59 1	15 1	6 2	A
12	100	100	0 893	0 942	4120	983	7507	3944	0 55	0 25	68 2	59 1	15 1	6 2	A

Segment 16: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100		0 881		3822		6761		0 57		70 3		18 1		C
2	100		0 881		3822		6761		0 57		70 3		18 1		C
3	100		0 881		3822		6761		0 57		70 3		18 1		C
4	100		0 881		3822		6761		0 57		70 3		18 1		C
5	100		0 881		3495		6761		0 52		70 9		16 4		B
6	100		0 881		3495		6761		0 52		70 9		16 4		B
7	100		0 881		3495		6761		0 52		70 9		16 4		B
8	100		0 881		3495		6761		0 52		70 9		16 4		B
9	100		0 881		3125		6761		0 46		71 1		14 6		B
10	100		0 881		3125		6761		0 46		71 1		14 6		B
11	100		0 881		3125		6761		0 46		71 1		14 6		B
12	100		0 891		3090		6761		0 46		71 1		14 5		B

Segment 17: Merge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0 884	0 915	4268	459	5918	1972	0 72	0 23	64 1	62 3	22 2	21 1	C
2	100	100	0 884	0 915	4268	459	5918	1972	0 72	0 23	64 1	62 3	22 2	21 1	C
3	100	100	0 884	0 915	4268	459	5918	1972	0 72	0 23	64 1	62 3	22 2	21 1	C
4	100	100	0 884	0 915	4268	459	5918	1972	0 72	0 23	64 1	62 3	22 2	21 1	C
5	100	100	0 884	0 915	3903	420	5918	1972	0 66	0 21	64 5	62 7	20 2	19 2	B
6	100	100	0 884	0 915	3903	420	5918	1972	0 66	0 21	64 5	62 7	20 2	19 2	B

7	100	100	0.884	0.915	3903	420	5918	1972	0.66	0.21	64.5	62.7	20.2	19.2	B
8	100	100	0.884	0.915	3903	420	5918	1972	0.66	0.21	64.5	62.7	20.2	19.2	B
9	100	100	0.884	0.915	3489	375	5918	1972	0.59	0.19	64.9	63.1	17.9	17.2	B
10	100	100	0.884	0.915	3489	375	5918	1972	0.59	0.19	64.9	63.1	17.9	17.2	B
11	100	100	0.884	0.915	3489	375	5918	1972	0.59	0.19	64.9	63.1	17.9	17.2	B
12	100	100	0.885	0.915	3486	375	5918	1972	0.59	0.19	64.9	63.1	17.9	17.2	B

Segment 18: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.884	4284	6761	0.63	68.9	20.7	C
2	100	0.884	4284	6761	0.63	68.9	20.7	C
3	100	0.884	4284	6761	0.63	68.9	20.7	C
4	100	0.884	4284	6761	0.63	68.9	20.7	C
5	100	0.884	3917	6761	0.58	70.0	18.7	C
6	100	0.884	3917	6761	0.58	70.0	18.7	C
7	100	0.884	3917	6761	0.58	70.0	18.7	C
8	100	0.884	3917	6761	0.58	70.0	18.7	C
9	100	0.884	3502	6761	0.52	70.6	16.5	B
10	100	0.884	3502	6761	0.52	70.6	16.5	B
11	100	0.884	3502	6761	0.52	70.6	16.5	B
12	100	0.885	3498	6761	0.52	70.6	16.4	B

Segment 19: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.884	4284	6761	0.63	68.9	20.7	C
2	100	0.884	4284	6761	0.63	68.9	20.7	C
3	100	0.884	4284	6761	0.63	68.9	20.7	C
4	100	0.884	4284	6761	0.63	68.9	20.7	C
5	100	0.884	3917	6761	0.58	70.0	18.7	C
6	100	0.884	3917	6761	0.58	70.0	18.7	C
7	100	0.884	3917	6761	0.58	70.0	18.7	C
8	100	0.884	3917	6761	0.58	70.0	18.7	C
9	100	0.884	3502	6761	0.52	70.9	16.5	B
10	100	0.884	3502	6761	0.52	70.9	16.5	B
11	100	0.884	3502	6761	0.52	70.9	16.5	B
12	100	0.885	3498	6761	0.52	70.9	16.4	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost \$/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	10580	10478	13.34	333.47	65.3	22.4	20.1	8.40	C
2	10580	10478	13.34	333.47	65.3	22.4	20.1	8.40	C
3	10580	10478	13.34	333.47	65.3	22.4	20.1	8.40	C

4	10580	10478	13.34	33347	65.3	224	201	840	C
5	9674	9582	7.61	19013	67.4	19.9	17.8	810	C
6	9674	9582	7.61	19013	67.4	19.9	17.8	810	C
7	9674	9582	7.61	19013	67.4	19.9	17.8	810	C
8	9674	9582	7.61	19013	67.4	19.9	17.8	810	C
9	8648	8565	3.64	9103	69.1	17.3	15.5	790	B
10	8648	8565	3.64	9103	69.1	17.3	15.5	790	B
11	8648	8565	3.64	9103	69.1	17.3	15.5	790	B
12	8648	8565	3.47	8682	69.2	17.1	15.5	790	B

Facility Overall Results

Space Mean Speed, mi/h	67.1	Average Density, veh/mi/ln	17.8
Average Travel Time, min	8.20	Average Density, pc/mi/ln	19.9
Total VMT, veh-mi	115609	Total VHD, veh-h	9817
Vehicle Value of Time (VOT), \$/h	25.00	Total Delay Cost, \$	245431

I-75 North Section - Southbound

HCS Freeway Facilities Report

Project Information

Analyst	Kittelson & Associates	Date	11/21/2023
Agency	Florida Department of Transportation	Analysis Year	2030 Build Conditions
Jurisdiction	District Five	Time Analyzed	AM Weekday Peak Period
Facility Name	I-75 (Southbound)	Units	U.S. Customary
Project Description	I-75 PD&E North Auxillary Lanes		

Facility Global Input

Jam Density, pc/mi/ln	1900	Density at Capacity, pc/mi/ln	450
Queue Discharge Capacity Drop, %	7	Total Segments	21
Total Analysis Periods	12	Analysis Period Duration, min	15
Facility Length, mi	9.27		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-75 SB	5584	3
2	Basic	Basic	I-75 SB	1500	3
3	Diverge	Diverge	I-75 SB SR 326 Off Ramp	1500	3
4	Basic	Basic	I-75 SB	1836	3
5	Merge	Merge	I-75 SB SR 326 WB On Ramp	1500	3
6	Basic	Basic	I-75 SB	480	3
7	Merge	Basic	I-75 SB SR 326 EB On Ramp	1500	4
8	Basic	Basic	I-75 SB	4120	4
9	Diverge	Basic	I-75 SB 49th St DDI Off Ramp	1500	4
10	Basic	Basic	I-75 SB	2980	3
11	Merge	Basic	I-75 SB 49th St DDI On Ramp	1500	4
12	Basic	Basic	I-75 SB	5730	4
13	Diverge	Basic	I-75 SB US 27 Off Ramp	1500	4
14	Basic	Basic	I-75 SB	3450	3
15	Merge	Basic	I-75 SB US 27 On Ramp	1500	4
16	Basic	Basic	I-75 SB	1100	4
17	Diverge	Basic	I-75 SB SR 40 Off Ramp	1500	4
18	Basic	Basic	I-75 SB	3180	3
19	Merge	Basic	I-75 SB SR 40 On Ramp	1500	4
20	Basic	Basic	I-75 SB	1500	4
21	Basic	Basic	I-75 SB	3968	4

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
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1	1.00	0.897	1589	6761	0.24	71.2	7.4	A
2	1.00	0.897	1561	6761	0.23	71.2	7.3	A
3	1.00	0.897	1809	6761	0.27	71.2	8.5	A
4	1.00	0.897	1942	6761	0.29	71.2	9.1	A
5	1.00	0.897	2272	6761	0.34	71.2	10.6	A
6	1.00	0.897	2179	6761	0.32	71.2	10.2	A
7	1.00	0.897	1946	6761	0.29	71.2	9.1	A
8	1.00	0.897	2039	6761	0.30	71.2	9.6	A
9	1.00	0.897	2129	6761	0.31	71.2	10.0	A
10	1.00	0.897	2259	6761	0.33	71.2	10.6	A
11	1.00	0.897	2283	6761	0.34	71.2	10.7	A
12	1.00	0.897	2332	6761	0.34	71.2	10.9	A

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.897	1589	6761	0.24	71.2	7.4	A
2	1.00	0.897	1561	6761	0.23	71.2	7.3	A
3	1.00	0.897	1809	6761	0.27	71.2	8.5	A
4	1.00	0.897	1942	6761	0.29	71.2	9.1	A
5	1.00	0.897	2272	6761	0.34	71.2	10.6	A
6	1.00	0.897	2179	6761	0.32	71.2	10.2	A
7	1.00	0.897	1946	6761	0.29	71.2	9.1	A
8	1.00	0.897	2039	6761	0.30	71.2	9.6	A
9	1.00	0.897	2129	6761	0.31	71.2	10.0	A
10	1.00	0.897	2259	6761	0.33	71.2	10.6	A
11	1.00	0.897	2283	6761	0.34	71.2	10.7	A
12	1.00	0.897	2332	6761	0.34	71.2	10.9	A

Segment 3: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.897	0.882	1589	253	5918	1972	0.27	0.13	64.5	61.0	8.2	12.4	B
2	1.00	1.00	0.897	0.882	1561	248	5918	1972	0.26	0.13	64.4	61.0	8.1	12.2	B
3	1.00	1.00	0.897	0.882	1809	288	5918	1972	0.31	0.15	64.5	60.9	9.3	13.8	B
4	1.00	1.00	0.897	0.882	1942	310	5918	1972	0.33	0.16	64.4	60.8	10.1	14.5	B
5	1.00	1.00	0.897	0.882	2272	362	5918	1972	0.38	0.18	64.5	60.7	11.7	16.5	B
6	1.00	1.00	0.897	0.882	2179	347	5918	1972	0.37	0.18	64.4	60.7	11.3	15.9	B
7	1.00	1.00	0.897	0.882	1946	310	5918	1972	0.33	0.16	64.4	60.8	10.1	14.6	B
8	1.00	1.00	0.897	0.882	2039	324	5918	1972	0.34	0.16	64.5	60.8	10.5	15.1	B
9	1.00	1.00	0.897	0.882	2129	339	5918	1972	0.36	0.17	64.5	60.8	11.0	15.6	B
10	1.00	1.00	0.897	0.882	2259	359	5918	1972	0.38	0.18	64.5	60.7	11.7	16.4	B
11	1.00	1.00	0.897	0.882	2283	363	5918	1972	0.39	0.18	64.5	60.7	11.8	16.5	B

12	100	100	0.897	0.882	2332	371	5918	1972	0.39	0.19	645	607	121	168	B
Segment 4: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.900		1336		6761		0.20		70.8		6.2		A
2	1.00		0.900		1312		6761		0.19		70.7		6.1		A
3	1.00		0.900		1521		6761		0.22		70.8		7.1		A
4	1.00		0.900		1632		6761		0.24		70.7		7.6		A
5	1.00		0.900		1910		6761		0.28		70.8		8.9		A
6	1.00		0.900		1832		6761		0.27		70.7		8.6		A
7	1.00		0.900		1637		6761		0.24		70.7		7.7		A
8	1.00		0.900		1714		6761		0.25		70.8		8.0		A
9	1.00		0.900		1790		6761		0.26		70.8		8.4		A
10	1.00		0.900		1899		6761		0.28		70.8		8.9		A
11	1.00		0.900		1920		6761		0.28		70.8		9.0		A
12	1.00		0.900		1961		6761		0.29		70.8		9.2		A
Segment 5: Merge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.887	0.861	1988	633	5918	1878	0.34	0.34	65.9	64.3	10.1	7.3	A
2	1.00	1.00	0.887	0.861	1952	621	5918	1878	0.33	0.33	66.0	64.3	9.9	7.1	A
3	1.00	1.00	0.887	0.861	2263	720	5918	1878	0.38	0.38	65.7	64.1	11.5	8.9	A
4	1.00	1.00	0.887	0.861	2430	774	5918	1878	0.41	0.41	65.6	64.0	12.3	9.8	A
5	1.00	1.00	0.887	0.861	2843	905	5918	1878	0.48	0.48	65.4	63.8	14.5	12.2	B
6	1.00	1.00	0.887	0.861	2727	868	5918	1878	0.46	0.46	65.5	63.9	13.9	11.5	B
7	1.00	1.00	0.887	0.861	2436	775	5918	1878	0.41	0.41	65.6	64.0	12.4	9.9	A
8	1.00	1.00	0.887	0.861	2552	812	5918	1878	0.43	0.43	65.6	64.0	13.0	10.5	B
9	1.00	1.00	0.887	0.861	2664	848	5918	1878	0.45	0.45	65.5	63.9	13.6	11.1	B
10	1.00	1.00	0.887	0.861	2826	899	5918	1878	0.48	0.48	65.4	63.8	14.4	12.1	B
11	1.00	1.00	0.887	0.861	2856	908	5918	1878	0.48	0.48	65.4	63.8	14.6	12.2	B
12	1.00	1.00	0.887	0.861	2919	929	5918	1878	0.49	0.49	65.4	63.8	14.9	12.6	B
Segment 6: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.887		1970		6761		0.29		70.1		9.2		A
2	1.00		0.887		1935		6761		0.29		70.2		9.1		A
3	1.00		0.887		2242		6761		0.33		70.1		10.5		A
4	1.00		0.887		2407		6761		0.36		70.1		11.3		B
5	1.00		0.887		2816		6761		0.42		70.0		13.2		B
6	1.00		0.887		2701		6761		0.40		70.1		12.6		B
7	1.00		0.887		2413		6761		0.36		70.1		11.3		B

8	1 00	0 887	2528	6761	0 37	701	11 8	B
9	1 00	0 887	2639	6761	0 39	701	12 4	B
10	1 00	0 887	2799	6761	0 41	700	13 1	B
11	1 00	0 887	2830	6761	0 42	700	13 2	B
12	1 00	0 887	2892	6761	0 43	700	13 5	B

Segment 7: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 888	0 894	2850	383	7507	1972	0 31	0 19	71 0	71 2	83	83	A
2	1 00	1 00	0 888	0 894	2808	376	7507	1972	0 31	0 19	71 0	71 2	81	81	A
3	1 00	1 00	0 888	0 894	2675	435	7507	1972	0 36	0 22	71 0	71 2	94	94	A
4	1 00	1 00	0 888	0 894	2872	468	7507	1972	0 38	0 24	71 0	71 2	101	101	A
5	1 00	1 00	0 888	0 894	3360	547	7507	1972	0 45	0 28	70 8	70 8	11 9	11 9	B
6	1 00	1 00	0 888	0 894	3223	525	7507	1972	0 43	0 27	71 0	71 0	11 3	11 3	B
7	1 00	1 00	0 888	0 894	2879	469	7507	1972	0 38	0 24	71 0	71 2	101	101	A
8	1 00	1 00	0 888	0 894	3016	491	7507	1972	0 40	0 25	71 0	71 1	106	106	A
9	1 00	1 00	0 888	0 894	3148	512	7507	1972	0 42	0 26	71 0	71 1	11 1	11 1	B
10	1 00	1 00	0 888	0 894	3340	544	7507	1972	0 44	0 28	70 8	70 8	11 8	11 8	B
11	1 00	1 00	0 888	0 894	3376	549	7507	1972	0 45	0 28	70 8	70 8	11 9	11 9	B
12	1 00	1 00	0 888	0 894	3451	562	7507	1972	0 46	0 29	70 7	70 7	12 2	12 2	B

Segment 8: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1 00	0 888	2352	9014	0 26	71 2	83	A
2	1 00	0 888	2311	9014	0 26	71 2	81	A
3	1 00	0 888	2678	9014	0 30	71 2	94	A
4	1 00	0 888	2875	9014	0 32	71 2	101	A
5	1 00	0 888	3364	9014	0 37	71 2	11 8	B
6	1 00	0 888	3226	9014	0 36	71 2	11 3	B
7	1 00	0 888	2882	9014	0 32	71 2	101	A
8	1 00	0 888	3019	9014	0 33	71 2	106	A
9	1 00	0 888	3152	9014	0 35	71 2	11 1	B
10	1 00	0 888	3343	9014	0 37	71 2	11 7	B
11	1 00	0 888	3380	9014	0 37	71 2	11 9	B
12	1 00	0 888	3454	9014	0 38	71 2	12 1	B

Segment 9: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 888	0 893	2852	239	7507	1972	0 31	0 12	71 2	71 2	83	83	A
2	1 00	1 00	0 888	0 893	2811	233	7507	1972	0 31	0 12	71 2	71 2	81	81	A

3	100	100	0.888	0.893	2678	271	7507	1972	0.36	0.14	71.2	71.2	9.4	9.4	A
4	100	100	0.888	0.893	2875	291	7507	1972	0.38	0.15	71.2	71.2	10.1	10.1	A
5	100	100	0.888	0.893	3364	340	7507	1972	0.45	0.17	70.8	70.8	11.9	11.9	B
6	100	100	0.888	0.893	3226	326	7507	1972	0.43	0.17	71.0	71.0	11.4	11.4	B
7	100	100	0.888	0.893	2882	291	7507	1972	0.38	0.15	71.2	71.2	10.1	10.1	A
8	100	100	0.888	0.893	3019	306	7507	1972	0.40	0.16	71.1	71.1	10.6	10.6	A
9	100	100	0.888	0.893	3152	319	7507	1972	0.42	0.16	71.0	71.0	11.1	11.1	B
10	100	100	0.888	0.893	3343	338	7507	1972	0.45	0.17	70.8	70.8	11.8	11.8	B
11	100	100	0.888	0.893	3380	342	7507	1972	0.45	0.17	70.8	70.8	11.9	11.9	B
12	100	100	0.888	0.893	3454	349	7507	1972	0.46	0.18	70.7	70.7	12.2	12.2	B

Segment 10: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.888	2113	6761	0.31	71.2	9.9	A
2	100	0.888	2077	6761	0.31	71.2	9.7	A
3	100	0.888	2405	6761	0.36	71.2	11.3	B
4	100	0.888	2582	6761	0.38	71.2	12.1	B
5	100	0.888	3021	6761	0.45	71.2	14.1	B
6	100	0.888	2899	6761	0.43	71.2	13.6	B
7	100	0.888	2589	6761	0.38	71.2	12.1	B
8	100	0.888	2712	6761	0.40	71.2	12.7	B
9	100	0.888	2831	6761	0.42	71.2	13.3	B
10	100	0.888	3003	6761	0.44	71.2	14.1	B
11	100	0.888	3036	6761	0.45	71.2	14.2	B
12	100	0.888	3102	6761	0.46	71.2	14.5	B

Segment 11: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.889	0.893	2711	601	7507	1972	0.36	0.30	71.2	71.2	9.5	9.5	A
2	100	100	0.889	0.893	2664	590	7507	1972	0.35	0.30	71.2	71.2	9.4	9.4	A
3	100	100	0.889	0.893	3088	685	7507	1972	0.41	0.35	71.1	71.1	10.9	10.9	A
4	100	100	0.889	0.893	3315	736	7507	1972	0.44	0.37	70.9	70.9	11.7	11.7	B
5	100	100	0.889	0.893	3878	860	7507	1972	0.52	0.44	69.7	69.7	13.9	13.9	B
6	100	100	0.889	0.893	3720	825	7507	1972	0.50	0.42	70.1	70.1	13.3	13.3	B
7	100	100	0.889	0.893	3323	737	7507	1972	0.44	0.37	70.9	70.9	11.7	11.7	B
8	100	100	0.889	0.893	3481	772	7507	1972	0.46	0.39	70.6	70.6	12.3	12.3	B
9	100	100	0.889	0.893	3634	806	7507	1972	0.48	0.41	70.3	70.3	12.9	12.9	B
10	100	100	0.889	0.893	3856	856	7507	1972	0.51	0.43	69.8	69.8	13.8	13.8	B
11	100	100	0.889	0.893	3898	865	7507	1972	0.52	0.44	69.6	69.6	14.0	14.0	B
12	100	100	0.889	0.893	3981	882	7507	1972	0.53	0.45	69.4	69.4	14.3	14.3	B

Segment 12: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.889	2714	9014	0.30	71.2	9.5	A
2	1.00	0.889	2667	9014	0.30	71.2	9.4	A
3	1.00	0.889	3091	9014	0.34	71.2	10.9	A
4	1.00	0.889	3318	9014	0.37	71.2	11.7	B
5	1.00	0.889	3682	9014	0.43	71.2	13.6	B
6	1.00	0.889	3724	9014	0.41	71.2	13.1	B
7	1.00	0.889	3326	9014	0.37	71.2	11.7	B
8	1.00	0.889	3484	9014	0.39	71.2	12.2	B
9	1.00	0.889	3638	9014	0.40	71.2	12.8	B
10	1.00	0.889	3859	9014	0.43	71.2	13.6	B
11	1.00	0.889	3901	9014	0.43	71.2	13.7	B
12	1.00	0.889	3985	9014	0.44	71.2	14.0	B

Segment 13: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.889	0.894	2714	279	7507	1972	0.36	0.14	71.2	71.2	9.5	9.5	A
2	1.00	1.00	0.889	0.894	2667	274	7507	1972	0.36	0.14	71.2	71.2	9.4	9.4	A
3	1.00	1.00	0.889	0.894	3091	316	7507	1972	0.41	0.16	71.1	71.1	10.9	10.9	A
4	1.00	1.00	0.889	0.894	3318	341	7507	1972	0.44	0.17	70.9	70.9	11.7	11.7	B
5	1.00	1.00	0.889	0.894	3682	399	7507	1972	0.52	0.20	69.7	69.7	13.9	13.9	B
6	1.00	1.00	0.889	0.894	3724	383	7507	1972	0.50	0.19	70.1	70.1	13.3	13.3	B
7	1.00	1.00	0.889	0.894	3326	341	7507	1972	0.44	0.17	70.8	70.8	11.8	11.8	B
8	1.00	1.00	0.889	0.894	3484	358	7507	1972	0.46	0.18	70.6	70.6	12.3	12.3	B
9	1.00	1.00	0.889	0.894	3638	374	7507	1972	0.48	0.19	70.3	70.3	12.9	12.9	B
10	1.00	1.00	0.889	0.894	3859	397	7507	1972	0.51	0.20	69.7	69.7	13.8	13.8	B
11	1.00	1.00	0.889	0.894	3901	400	7507	1972	0.52	0.20	69.6	69.6	14.0	14.0	B
12	1.00	1.00	0.889	0.894	3985	409	7507	1972	0.53	0.21	69.4	69.4	14.4	14.4	B

Segment 14: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.888	2437	6761	0.36	71.2	11.4	B
2	1.00	0.888	2394	6761	0.35	71.2	11.2	B
3	1.00	0.888	2775	6761	0.41	71.2	13.0	B
4	1.00	0.888	2979	6761	0.44	71.2	13.9	B
5	1.00	0.888	3484	6761	0.52	70.9	16.4	B
6	1.00	0.888	3343	6761	0.49	71.1	15.7	B
7	1.00	0.888	2986	6761	0.44	71.2	14.0	B
8	1.00	0.888	3127	6761	0.46	71.2	14.6	B
9	1.00	0.888	3266	6761	0.48	71.1	15.3	B

10	100		0.888		3464		6761		0.51		70.9		16.3		B
11	100		0.888		3502		6761		0.52		70.9		16.5		B
12	100		0.888		3578		6761		0.53		70.8		16.9		B
Segment 15: Merge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.894	0.914	3065	644	7507	1972	0.41	0.33	71.1	71.1	10.8	10.8	A
2	100	100	0.894	0.914	3010	632	7507	1972	0.40	0.32	71.1	71.1	10.6	10.6	A
3	100	100	0.894	0.914	3490	734	7507	1972	0.46	0.37	70.6	70.6	12.4	12.4	B
4	100	100	0.894	0.914	3747	788	7507	1972	0.50	0.40	70.0	70.0	13.4	13.4	B
5	100	100	0.894	0.914	4383	922	7507	1972	0.58	0.47	67.9	67.9	16.1	16.1	B
6	100	100	0.894	0.914	4205	884	7507	1972	0.56	0.45	68.6	68.6	15.3	15.3	B
7	100	100	0.894	0.914	3755	789	7507	1972	0.50	0.40	70.0	70.0	13.4	13.4	B
8	100	100	0.894	0.914	3933	827	7507	1972	0.52	0.42	69.5	69.5	14.1	14.1	B
9	100	100	0.894	0.914	4107	863	7507	1972	0.55	0.44	69.0	69.0	14.9	14.9	B
10	100	100	0.894	0.914	4358	917	7507	1972	0.58	0.47	68.0	68.0	16.0	16.0	B
11	100	100	0.894	0.914	4405	926	7507	1972	0.59	0.47	67.8	67.8	16.2	16.2	B
12	100	100	0.894	0.914	4500	946	7507	1972	0.60	0.48	67.4	67.4	16.7	16.7	B
Segment 16: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100		0.894		3079		9014		0.34		71.2		10.8		A
2	100		0.894		3025		9014		0.34		71.2		10.6		A
3	100		0.894		3507		9014		0.39		71.1		12.3		B
4	100		0.894		3764		9014		0.42		71.1		13.2		B
5	100		0.894		4404		9014		0.49		70.8		15.5		B
6	100		0.894		4225		9014		0.47		70.9		14.8		B
7	100		0.894		3773		9014		0.42		71.1		13.2		B
8	100		0.894		3952		9014		0.44		71.0		13.9		B
9	100		0.894		4126		9014		0.46		70.9		14.5		B
10	100		0.894		4378		9014		0.49		70.8		15.4		B
11	100		0.894		4425		9014		0.49		70.8		15.6		B
12	100		0.894		4521		9014		0.50		70.7		15.9		B
Segment 17: Diverge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.894	0.903	3079	432	7507	1972	0.41	0.22	71.1	71.1	10.8	10.8	A
2	100	100	0.894	0.903	3025	424	7507	1972	0.40	0.22	71.1	71.1	10.6	10.6	A
3	100	100	0.894	0.903	3507	492	7507	1972	0.47	0.25	70.6	70.6	12.4	12.4	B
4	100	100	0.894	0.903	3764	528	7507	1972	0.50	0.27	70.0	70.0	13.4	13.4	B

5	100	100	0.894	0.903	4404	618	7507	1972	0.59	0.31	67.8	67.8	16.2	16.2	B
6	100	100	0.894	0.903	4225	592	7507	1972	0.56	0.30	68.5	68.5	15.4	15.4	B
7	100	100	0.894	0.903	3773	529	7507	1972	0.50	0.27	70.0	70.0	13.5	13.5	B
8	100	100	0.894	0.903	3952	555	7507	1972	0.53	0.28	69.5	69.5	14.2	14.2	B
9	100	100	0.894	0.903	4126	579	7507	1972	0.55	0.29	68.9	68.9	15.0	15.0	B
10	100	100	0.894	0.903	4378	615	7507	1972	0.58	0.31	67.9	67.9	16.1	16.1	B
11	100	100	0.894	0.903	4425	621	7507	1972	0.59	0.31	67.7	67.7	16.3	16.3	B
12	100	100	0.894	0.903	4521	635	7507	1972	0.60	0.32	67.3	67.3	16.8	16.8	B

Segment 18: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.892	2649	6761	0.39	71.2	12.4	B
2	100	0.892	2602	6761	0.38	71.2	12.2	B
3	100	0.892	3017	6761	0.45	71.2	14.1	B
4	100	0.892	3238	6761	0.48	71.1	15.2	B
5	100	0.892	3788	6761	0.56	70.4	17.9	B
6	100	0.892	3635	6761	0.54	70.7	17.1	B
7	100	0.892	3246	6761	0.48	71.1	15.2	B
8	100	0.892	3399	6761	0.50	71.0	16.0	B
9	100	0.892	3549	6761	0.52	70.8	16.7	B
10	100	0.892	3766	6761	0.56	70.4	17.8	B
11	100	0.892	3806	6761	0.56	70.3	18.1	C
12	100	0.892	3889	6761	0.58	70.1	18.5	C

Segment 19: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.894	0.912	2991	348	7507	1972	0.40	0.18	71.2	71.2	10.5	10.5	A
2	100	100	0.894	0.912	2937	341	7507	1972	0.39	0.17	71.2	71.2	10.3	10.3	A
3	100	100	0.894	0.912	3406	396	7507	1972	0.45	0.20	70.7	70.7	12.0	12.0	B
4	100	100	0.894	0.912	3655	425	7507	1972	0.49	0.22	70.3	70.3	13.0	13.0	B
5	100	100	0.894	0.912	4278	498	7507	1972	0.57	0.25	68.3	68.3	15.7	15.7	B
6	100	100	0.894	0.912	4103	477	7507	1972	0.55	0.24	69.0	69.0	14.9	14.9	B
7	100	100	0.894	0.912	3663	425	7507	1972	0.49	0.22	70.2	70.2	13.0	13.0	B
8	100	100	0.894	0.912	3837	446	7507	1972	0.51	0.23	69.8	69.8	13.7	13.7	B
9	100	100	0.894	0.912	4007	466	7507	1972	0.53	0.24	69.3	69.3	14.5	14.5	B
10	100	100	0.894	0.912	4252	495	7507	1972	0.57	0.25	68.4	68.4	15.5	15.5	B
11	100	100	0.894	0.912	4298	500	7507	1972	0.57	0.25	68.3	68.3	15.7	15.7	B
12	100	100	0.894	0.912	4391	511	7507	1972	0.58	0.26	67.9	67.9	16.2	16.2	B

Segment 20: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
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1	1.00	0.894	2998	9014	0.33	71.2	105	A
2	1.00	0.894	2944	9014	0.33	71.2	103	A
3	1.00	0.894	3414	9014	0.38	71.2	120	B
4	1.00	0.894	3664	9014	0.41	71.1	129	B
5	1.00	0.894	4287	9014	0.48	70.9	151	B
6	1.00	0.894	4113	9014	0.46	71.0	144	B
7	1.00	0.894	3672	9014	0.41	71.1	129	B
8	1.00	0.894	3847	9014	0.43	71.1	135	B
9	1.00	0.894	4017	9014	0.45	71.0	141	B
10	1.00	0.894	4262	9014	0.47	71.0	150	B
11	1.00	0.894	4308	9014	0.48	70.9	151	B
12	1.00	0.894	4402	9014	0.49	70.9	155	B

Segment 21: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.894	2998	9014	0.33	71.2	105	A
2	1.00	0.894	2944	9014	0.33	71.2	103	A
3	1.00	0.894	3414	9014	0.38	71.2	120	B
4	1.00	0.894	3664	9014	0.41	71.2	129	B
5	1.00	0.894	4287	9014	0.48	71.2	151	B
6	1.00	0.894	4113	9014	0.46	71.2	144	B
7	1.00	0.894	3672	9014	0.41	71.2	129	B
8	1.00	0.894	3847	9014	0.43	71.2	135	B
9	1.00	0.894	4017	9014	0.45	71.2	141	B
10	1.00	0.894	4262	9014	0.47	71.2	150	B
11	1.00	0.894	4308	9014	0.48	71.1	151	B
12	1.00	0.894	4402	9014	0.49	71.1	155	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost \$/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	4941	4776	0.32	8.04	70.9	95	85	7.80	A
2	4854	4692	0.32	7.88	70.9	93	83	7.80	A
3	5627	5439	0.45	11.30	70.8	109	97	7.90	A
4	6040	5838	0.60	14.93	70.7	117	104	7.90	B
5	7066	6830	1.34	33.38	70.3	137	122	7.90	B
6	6779	6553	1.05	26.29	70.4	131	117	7.90	B
7	6054	5852	0.61	15.21	70.7	117	104	7.90	B
8	6341	6130	0.74	18.61	70.6	122	109	7.90	B
9	6621	6401	0.93	23.30	70.5	128	115	7.90	B
10	7025	6790	1.30	32.59	70.3	136	122	7.90	B
11	7101	6864	1.39	34.72	70.2	138	123	7.90	B
12	7255	7013	1.56	38.97	70.1	141	126	7.90	B

Facility Overall Results

Space Mean Speed, mi/h	70.5	Average Density, veh/mi/ln	10.9
Average Travel Time, min	7.90	Average Density, pc/mi/ln	12.2
Total VMT, veh-mi	75704	Total VHD, veh-h	10.61
Vehicle Value of Time (VOT), \$/h	25.00	Total Delay Cost, \$	265.22

HCS Freeway Facilities Report

Project Information

Analyst	Kittelson & Associates	Date	11/21/2023
Agency	Florida Department of Transportation	Analysis Year	2030 Build Conditions
Jurisdiction	District Five	Time Analyzed	PM Weekday Peak Period
Facility Name	I-75 (Southbound)	Units	U.S. Customary
Project Description	I-75 PD&E North Auxillary Lanes		

Facility Global Input

Jam Density, pc/mi/ln	1900	Density at Capacity, pc/mi/ln	450
Queue Discharge Capacity Drop, %	7	Total Segments	21
Total Analysis Periods	12	Analysis Period Duration, min	15
Facility Length, mi	9.27		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-75 SB	5584	3
2	Basic	Basic	I-75 SB	1500	3
3	Diverge	Diverge	I-75 SB SR 326 Off Ramp	1500	3
4	Basic	Basic	I-75 SB	1836	3
5	Merge	Merge	I-75 SB SR 326 WB On Ramp	1500	3
6	Basic	Basic	I-75 SB	480	3
7	Merge	Basic	I-75 SB SR 326 EB On Ramp	1500	4
8	Basic	Basic	I-75 SB	4120	4
9	Diverge	Basic	I-75 SB 49th St DDI Off Ramp	1500	4
10	Basic	Basic	I-75 SB	2980	3
11	Merge	Basic	I-75 SB 49th St DDI On Ramp	1500	4
12	Basic	Basic	I-75 SB	5730	4
13	Diverge	Basic	I-75 SB US 27 Off Ramp	1500	4
14	Basic	Basic	I-75 SB	3450	3
15	Merge	Basic	I-75 SB US 27 On Ramp	1500	4
16	Basic	Basic	I-75 SB	1100	4
17	Diverge	Basic	I-75 SB SR 40 Off Ramp	1500	4
18	Basic	Basic	I-75 SB	3180	3
19	Merge	Basic	I-75 SB SR 40 On Ramp	1500	4
20	Basic	Basic	I-75 SB	1500	4
21	Basic	Basic	I-75 SB	3968	4

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
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1	1 00	0 904	4251	6761	0 63	69 0	20 5	C
2	1 00	0 904	4441	6761	0 66	68 2	21 7	C
3	1 00	0 904	4159	6761	0 62	69 3	20 0	C
4	1 00	0 904	4239	6761	0 63	69 0	20 5	C
5	1 00	0 904	4058	6761	0 60	69 6	19 4	C
6	1 00	0 904	4316	6761	0 64	68 7	20 9	C
7	1 00	0 904	3946	6761	0 58	70 0	18 8	C
8	1 00	0 904	4134	6761	0 61	69 4	19 9	C
9	1 00	0 904	3975	6761	0 59	69 9	19 0	C
10	1 00	0 904	3972	6761	0 59	69 9	18 9	C
11	1 00	0 904	3663	6761	0 54	70 6	17 3	B
12	1 00	0 904	3534	6761	0 52	70 8	16 6	B

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1 00	0 904	4251	6761	0 63	69 0	20 5	C
2	1 00	0 904	4441	6761	0 66	68 2	21 7	C
3	1 00	0 904	4159	6761	0 62	69 3	20 0	C
4	1 00	0 904	4239	6761	0 63	69 0	20 5	C
5	1 00	0 904	4058	6761	0 60	69 6	19 4	C
6	1 00	0 904	4316	6761	0 64	68 7	20 9	C
7	1 00	0 904	3946	6761	0 58	70 0	18 8	C
8	1 00	0 904	4134	6761	0 61	69 4	19 9	C
9	1 00	0 904	3975	6761	0 59	69 9	19 0	C
10	1 00	0 904	3972	6761	0 59	69 9	18 9	C
11	1 00	0 904	3663	6761	0 54	70 6	17 3	B
12	1 00	0 904	3534	6761	0 52	70 8	16 6	B

Segment 3: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 904	0 882	4251	637	5918	1972	0 72	0 32	64 5	60 0	22 0	27 0	C
2	1 00	1 00	0 904	0 882	4441	667	5918	1972	0 75	0 34	64 4	59 9	23 0	27 9	C
3	1 00	1 00	0 904	0 882	4159	624	5918	1972	0 70	0 32	64 5	60 0	21 5	26 5	C
4	1 00	1 00	0 904	0 882	4239	636	5918	1972	0 72	0 32	64 5	60 0	21 9	26 9	C
5	1 00	1 00	0 904	0 882	4058	609	5918	1972	0 69	0 31	64 5	60 1	21 0	26 0	C
6	1 00	1 00	0 904	0 882	4316	647	5918	1972	0 73	0 33	64 5	60 0	22 3	27 3	C
7	1 00	1 00	0 904	0 882	3946	592	5918	1972	0 67	0 30	64 5	60 1	20 4	25 5	C
8	1 00	1 00	0 904	0 882	4134	620	5918	1972	0 70	0 31	64 5	60 0	21 4	26 4	C
9	1 00	1 00	0 904	0 882	3975	596	5918	1972	0 67	0 30	64 6	60 1	20 5	25 6	C
10	1 00	1 00	0 904	0 882	3972	595	5918	1972	0 67	0 30	64 6	60 1	20 5	25 6	C
11	1 00	1 00	0 904	0 882	3663	549	5918	1972	0 62	0 28	64 6	60 2	18 9	24 0	C

12	100	100	0.904	0.882	3534	529	5918	1972	0.60	0.27	647	603	182	234	C
Segment 4: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.908		3613		6761		0.53		707		17.0		B
2	1.00		0.908		3774		6761		0.56		704		17.9		B
3	1.00		0.908		3535		6761		0.52		708		16.6		B
4	1.00		0.908		3602		6761		0.53		707		17.0		B
5	1.00		0.908		3448		6761		0.51		708		16.2		B
6	1.00		0.908		3669		6761		0.54		706		17.3		B
7	1.00		0.908		3354		6761		0.50		708		15.7		B
8	1.00		0.908		3513		6761		0.52		708		16.5		B
9	1.00		0.908		3378		6761		0.50		708		15.9		B
10	1.00		0.908		3377		6761		0.50		708		15.9		B
11	1.00		0.908		3113		6761		0.46		708		14.6		B
12	1.00		0.908		3004		6761		0.44		708		14.1		B
Segment 5: Merge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.897	0.861	4729	1071	5918	1878	0.80	0.57	63.3	61.5	24.9	21.7	C
2	100	100	0.897	0.861	4939	1118	5918	1878	0.83	0.60	62.9	61.0	26.2	22.8	C
3	100	100	0.897	0.861	4627	1048	5918	1878	0.78	0.56	63.5	61.7	24.3	21.1	C
4	100	100	0.897	0.861	4714	1067	5918	1878	0.80	0.57	63.4	61.6	24.8	21.6	C
5	100	100	0.897	0.861	4513	1022	5918	1878	0.76	0.54	63.7	62.0	23.6	20.5	C
6	100	100	0.897	0.861	4800	1087	5918	1878	0.81	0.58	63.2	61.4	25.3	22.1	C
7	100	100	0.897	0.861	4389	994	5918	1878	0.74	0.53	63.9	62.2	22.9	19.9	B
8	100	100	0.897	0.861	4597	1041	5918	1878	0.78	0.55	63.5	61.8	24.1	21.0	C
9	100	100	0.897	0.861	4420	1001	5918	1878	0.75	0.53	63.8	62.1	23.1	20.0	B
10	100	100	0.897	0.861	4418	1000	5918	1878	0.75	0.53	63.8	62.1	23.1	20.0	B
11	100	100	0.897	0.861	4074	922	5918	1878	0.69	0.49	64.4	62.7	21.1	18.2	B
12	100	100	0.897	0.861	3931	890	5918	1878	0.66	0.47	64.5	62.9	20.3	17.4	B
Segment 6: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.897		4686		6761		0.69		67.1		23.3		C
2	1.00		0.897		4894		6761		0.72		66.0		24.7		C
3	1.00		0.897		4584		6761		0.68		67.6		22.6		C
4	1.00		0.897		4671		6761		0.69		67.2		23.2		C
5	1.00		0.897		4472		6761		0.66		68.1		21.9		C
6	1.00		0.897		4757		6761		0.70		66.7		23.8		C
7	1.00		0.897		4349		6761		0.64		68.6		21.1		C

8	1 00	0 897	4555	6761	0 67	67 7	224	C
9	1 00	0 897	4380	6761	0 65	68 5	21 3	C
10	1 00	0 897	4378	6761	0 65	68 5	21 3	C
11	1 00	0 897	4037	6761	0 60	69 7	19 3	C
12	1 00	0 897	3895	6761	0 58	69 9	18 5	C

Segment 7: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 897	0 894	5109	423	7507	1972	0 68	0 21	64 2	64 2	19 9	19 9	C
2	1 00	1 00	0 897	0 894	5336	442	7507	1972	0 71	0 22	62 7	62 7	21 3	21 3	C
3	1 00	1 00	0 897	0 894	4998	414	7507	1972	0 67	0 21	64 8	64 8	19 3	19 3	C
4	1 00	1 00	0 897	0 894	5093	422	7507	1972	0 68	0 21	64 3	64 3	19 8	19 8	C
5	1 00	1 00	0 897	0 894	4876	404	7507	1972	0 65	0 20	65 5	65 5	18 6	18 6	C
6	1 00	1 00	0 897	0 894	5187	430	7507	1972	0 69	0 22	63 7	63 7	20 4	20 4	C
7	1 00	1 00	0 897	0 894	4742	393	7507	1972	0 63	0 20	66 2	66 2	17 9	17 9	B
8	1 00	1 00	0 897	0 894	4967	412	7507	1972	0 66	0 21	65 0	65 0	19 1	19 1	C
9	1 00	1 00	0 897	0 894	4776	396	7507	1972	0 64	0 20	66 1	66 1	18 1	18 1	C
10	1 00	1 00	0 897	0 894	4773	395	7507	1972	0 64	0 20	66 1	66 1	18 1	18 1	C
11	1 00	1 00	0 897	0 894	4402	365	7507	1972	0 59	0 19	67 8	67 8	16 2	16 2	B
12	1 00	1 00	0 897	0 894	4246	351	7507	1972	0 57	0 18	68 5	68 5	15 5	15 5	B

Segment 8: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1 00	0 897	5107	9014	0 57	70 3	18 2	C
2	1 00	0 897	5334	9014	0 59	69 8	19 1	C
3	1 00	0 897	4997	9014	0 55	70 5	17 7	B
4	1 00	0 897	5091	9014	0 56	70 3	18 1	C
5	1 00	0 897	4874	9014	0 54	70 6	17 3	B
6	1 00	0 897	5185	9014	0 58	70 1	18 5	C
7	1 00	0 897	4740	9014	0 53	70 8	16 7	B
8	1 00	0 897	4965	9014	0 55	70 5	17 6	B
9	1 00	0 897	4775	9014	0 53	70 8	16 9	B
10	1 00	0 897	4771	9014	0 53	70 8	16 9	B
11	1 00	0 897	4400	9014	0 49	71 1	15 5	B
12	1 00	0 897	4245	9014	0 47	71 2	14 9	B

Segment 9: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 897	0 893	5107	385	7507	1972	0 68	0 20	64 2	64 2	19 9	19 9	C
2	1 00	1 00	0 897	0 893	5334	403	7507	1972	0 71	0 20	62 7	62 7	21 3	21 3	C

3	100	100	0.897	0.893	4897	377	7507	1972	0.67	0.19	64.8	64.8	19.3	19.3	C
4	100	100	0.897	0.893	5091	384	7507	1972	0.68	0.19	64.3	64.3	19.8	19.8	C
5	100	100	0.897	0.893	4874	367	7507	1972	0.65	0.19	65.5	65.5	18.6	18.6	C
6	100	100	0.897	0.893	5185	391	7507	1972	0.69	0.20	63.7	63.7	20.3	20.3	C
7	100	100	0.897	0.893	4740	357	7507	1972	0.63	0.18	66.2	66.2	17.9	17.9	B
8	100	100	0.897	0.893	4865	375	7507	1972	0.66	0.19	65.0	65.0	19.1	19.1	C
9	100	100	0.897	0.893	4775	361	7507	1972	0.64	0.18	66.1	66.1	18.1	18.1	C
10	100	100	0.897	0.893	4771	361	7507	1972	0.64	0.18	66.1	66.1	18.0	18.0	B
11	100	100	0.897	0.893	4400	333	7507	1972	0.59	0.17	67.8	67.8	16.2	16.2	B
12	100	100	0.897	0.893	4245	320	7507	1972	0.57	0.16	68.5	68.5	15.5	15.5	B

Segment 10: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.897	4724	6761	0.70	66.9	23.5	C
2	100	0.897	4933	6761	0.73	65.8	25.0	C
3	100	0.897	4621	6761	0.68	67.4	22.8	C
4	100	0.897	4709	6761	0.70	67.0	23.4	C
5	100	0.897	4508	6761	0.67	67.9	22.1	C
6	100	0.897	4796	6761	0.71	66.5	24.0	C
7	100	0.897	4385	6761	0.65	68.5	21.3	C
8	100	0.897	4592	6761	0.68	67.5	22.7	C
9	100	0.897	4416	6761	0.65	68.3	21.6	C
10	100	0.897	4412	6761	0.65	68.3	21.5	C
11	100	0.897	4069	6761	0.60	69.6	19.5	C
12	100	0.897	3926	6761	0.58	70.0	18.7	C

Segment 11: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.897	0.893	5434	710	7507	1972	0.72	0.36	62.0	62.0	21.9	21.9	C
2	100	100	0.897	0.893	5574	741	7507	1972	0.76	0.38	60.3	60.3	23.5	23.5	C
3	100	100	0.897	0.893	5315	694	7507	1972	0.71	0.35	62.8	62.8	21.2	21.2	C
4	100	100	0.897	0.893	5417	708	7507	1972	0.72	0.36	62.1	62.1	21.8	21.8	C
5	100	100	0.897	0.893	5185	677	7507	1972	0.69	0.34	63.7	63.7	20.3	20.3	C
6	100	100	0.897	0.893	5516	720	7507	1972	0.73	0.37	61.4	61.4	22.5	22.5	C
7	100	100	0.897	0.893	5043	658	7507	1972	0.67	0.33	64.6	64.6	19.5	19.5	C
8	100	100	0.897	0.893	5282	690	7507	1972	0.70	0.35	63.1	63.1	20.9	20.9	C
9	100	100	0.897	0.893	5079	663	7507	1972	0.68	0.34	64.3	64.3	19.7	19.7	C
10	100	100	0.897	0.893	5075	663	7507	1972	0.68	0.34	64.4	64.4	19.7	19.7	C
11	100	100	0.897	0.893	4680	611	7507	1972	0.62	0.31	66.5	66.5	17.6	17.6	B
12	100	100	0.897	0.893	4516	590	7507	1972	0.60	0.30	67.3	67.3	16.8	16.8	B

Segment 12: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.897	5430	9014	0.60	69.6	19.5	C
2	1.00	0.897	5671	9014	0.63	69.0	20.6	C
3	1.00	0.897	5312	9014	0.59	69.9	19.0	C
4	1.00	0.897	5414	9014	0.60	69.6	19.5	C
5	1.00	0.897	5183	9014	0.57	70.1	18.5	C
6	1.00	0.897	5513	9014	0.61	69.4	19.9	C
7	1.00	0.897	5040	9014	0.56	70.4	17.9	B
8	1.00	0.897	5279	9014	0.59	69.9	18.9	C
9	1.00	0.897	5076	9014	0.56	70.3	18.1	C
10	1.00	0.897	5072	9014	0.56	70.3	18.0	B
11	1.00	0.897	4678	9014	0.52	70.9	16.5	B
12	1.00	0.897	4514	9014	0.50	71.0	15.9	B

Segment 13: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.897	0.894	5430	418	7507	1972	0.72	0.21	62.0	62.0	21.9	21.9	C
2	1.00	1.00	0.897	0.894	5671	437	7507	1972	0.76	0.22	60.3	60.3	23.5	23.5	C
3	1.00	1.00	0.897	0.894	5312	409	7507	1972	0.71	0.21	62.9	62.9	21.1	21.1	C
4	1.00	1.00	0.897	0.894	5414	417	7507	1972	0.72	0.21	62.1	62.1	21.8	21.8	C
5	1.00	1.00	0.897	0.894	5183	399	7507	1972	0.69	0.20	63.7	63.7	20.3	20.3	C
6	1.00	1.00	0.897	0.894	5513	425	7507	1972	0.73	0.22	61.5	61.5	22.4	22.4	C
7	1.00	1.00	0.897	0.894	5040	388	7507	1972	0.67	0.20	64.6	64.6	19.5	19.5	C
8	1.00	1.00	0.897	0.894	5279	407	7507	1972	0.70	0.21	63.1	63.1	20.9	20.9	C
9	1.00	1.00	0.897	0.894	5076	391	7507	1972	0.68	0.20	64.4	64.4	19.7	19.7	C
10	1.00	1.00	0.897	0.894	5072	391	7507	1972	0.68	0.20	64.4	64.4	19.7	19.7	C
11	1.00	1.00	0.897	0.894	4678	360	7507	1972	0.62	0.18	66.5	66.5	17.6	17.6	B
12	1.00	1.00	0.897	0.894	4514	348	7507	1972	0.60	0.18	67.3	67.3	16.8	16.8	B

Segment 14: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.897	5013	6761	0.74	65.3	25.6	C
2	1.00	0.897	5235	6761	0.77	63.9	27.3	D
3	1.00	0.897	4904	6761	0.73	65.9	24.8	C
4	1.00	0.897	4998	6761	0.74	65.4	25.5	C
5	1.00	0.897	4785	6761	0.71	66.6	23.9	C
6	1.00	0.897	5089	6761	0.75	64.8	26.2	D
7	1.00	0.897	4653	6761	0.69	67.3	23.0	C
8	1.00	0.897	4873	6761	0.72	66.1	24.6	C
9	1.00	0.897	4686	6761	0.69	67.1	23.3	C

10	100		0.897		4682		6761		0.69		67.1		23.3		C
11	100		0.897		4319		6761		0.64		68.7		21.0		C
12	100		0.897		4167		6761		0.62		69.3		20.0		C
Segment 15: Merge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.900	0.914	5909	912	7507	1972	0.79	0.46	58.4	58.4	25.3	25.3	C
2	100	100	0.900	0.914	6172	954	7507	1972	0.82	0.48	56.1	56.1	27.5	27.5	D
3	100	100	0.900	0.914	5781	893	7507	1972	0.77	0.45	59.4	59.4	24.3	24.3	C
4	100	100	0.900	0.914	5891	910	7507	1972	0.78	0.46	58.5	58.5	25.2	25.2	C
5	100	100	0.900	0.914	5540	871	7507	1972	0.75	0.44	60.5	60.5	23.3	23.3	C
6	100	100	0.900	0.914	5999	927	7507	1972	0.80	0.47	57.6	57.6	26.0	26.0	C
7	100	100	0.900	0.914	5485	847	7507	1972	0.73	0.43	61.7	61.7	22.2	22.2	C
8	100	100	0.900	0.914	5744	887	7507	1972	0.77	0.45	59.7	59.7	24.1	24.1	C
9	100	100	0.900	0.914	5523	853	7507	1972	0.74	0.43	61.4	61.4	22.5	22.5	C
10	100	100	0.900	0.914	5519	852	7507	1972	0.74	0.43	61.4	61.4	22.5	22.5	C
11	100	100	0.900	0.914	5091	787	7507	1972	0.68	0.40	64.3	64.3	19.8	19.8	C
12	100	100	0.900	0.914	4811	758	7507	1972	0.65	0.38	65.3	65.3	18.8	18.8	C
Segment 16: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	100		0.900		5923		9014		0.66		68.2		21.7		C
2	100		0.900		6187		9014		0.69		67.3		23.0		C
3	100		0.900		5794		9014		0.64		68.6		21.1		C
4	100		0.900		5906		9014		0.66		68.3		21.6		C
5	100		0.900		5653		9014		0.63		69.0		20.5		C
6	100		0.900		6013		9014		0.67		67.9		22.1		C
7	100		0.900		5498		9014		0.61		69.4		19.8		C
8	100		0.900		5758		9014		0.64		68.7		21.0		C
9	100		0.900		5537		9014		0.61		69.3		20.0		C
10	100		0.900		5532		9014		0.61		69.3		20.0		C
11	100		0.900		5103		9014		0.57		70.3		18.2		C
12	100		0.900		4923		9014		0.55		70.5		17.4		B
Segment 17: Diverge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.900	1.000	5923	469	7507	1972	0.79	0.24	58.3	58.3	25.4	25.4	C
2	100	100	0.900	1.000	6187	490	7507	1972	0.82	0.25	56.0	56.0	27.6	27.6	D
3	100	100	0.900	1.000	5794	459	7507	1972	0.77	0.23	59.3	59.3	24.4	24.4	C
4	100	100	0.900	1.000	5906	468	7507	1972	0.79	0.24	58.4	58.4	25.3	25.3	C

5	100	100	0.900	1000	553	448	7507	1972	0.75	0.23	60.4	60.4	23.4	23.4	C
6	100	100	0.900	1000	6013	476	7507	1972	0.80	0.24	57.5	57.5	26.1	26.1	D
7	100	100	0.900	1000	5498	435	7507	1972	0.73	0.22	61.6	61.6	22.3	22.3	C
8	100	100	0.900	1000	5758	456	7507	1972	0.77	0.23	59.6	59.6	24.2	24.2	C
9	100	100	0.900	1000	5537	439	7507	1972	0.74	0.22	61.3	61.3	22.6	22.6	C
10	100	100	0.900	1000	5532	438	7507	1972	0.74	0.22	61.3	61.3	22.6	22.6	C
11	100	100	0.900	1000	5103	404	7507	1972	0.68	0.20	64.2	64.2	19.9	19.9	C
12	100	100	0.900	1000	4923	390	7507	1972	0.66	0.20	65.2	65.2	18.9	18.9	C

Segment 18: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.899	5408	6761	0.80	62.7	28.8	D
2	100	0.899	5648	6761	0.84	60.8	31.0	D
3	100	0.899	5290	6761	0.78	63.5	27.8	D
4	100	0.899	5392	6761	0.80	62.8	28.6	D
5	100	0.899	5161	6761	0.76	64.4	26.7	D
6	100	0.899	5491	6761	0.81	62.1	29.5	D
7	100	0.899	5020	6761	0.74	65.2	25.7	C
8	100	0.899	5257	6761	0.78	63.7	27.5	D
9	100	0.899	5055	6761	0.75	65.0	25.9	C
10	100	0.899	5051	6761	0.75	65.0	25.9	C
11	100	0.899	4660	6761	0.69	67.2	23.1	C
12	100	0.899	4495	6761	0.66	68.0	22.0	C

Segment 19: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.901	1000	6109	713	7507	1972	0.81	0.36	56.7	56.7	26.9	26.9	D
2	100	100	0.901	1000	6381	745	7507	1972	0.85	0.38	54.2	54.2	29.4	29.4	D
3	100	100	0.901	1000	5977	698	7507	1972	0.80	0.35	57.8	57.8	25.9	25.9	C
4	100	100	0.901	1000	6091	711	7507	1972	0.81	0.36	56.8	56.8	26.8	26.8	D
5	100	100	0.901	1000	5831	681	7507	1972	0.78	0.35	59.0	59.0	24.7	24.7	C
6	100	100	0.901	1000	6202	724	7507	1972	0.83	0.37	55.8	55.8	27.8	27.8	D
7	100	100	0.901	1000	5571	662	7507	1972	0.76	0.34	60.3	60.3	23.5	23.5	C
8	100	100	0.901	1000	5938	693	7507	1972	0.79	0.35	58.1	58.1	25.6	25.6	C
9	100	100	0.901	1000	5710	667	7507	1972	0.76	0.34	60.0	60.0	23.8	23.8	C
10	100	100	0.901	1000	5706	666	7507	1972	0.76	0.34	60.0	60.0	23.8	23.8	C
11	100	100	0.901	1000	5263	614	7507	1972	0.70	0.31	63.2	63.2	20.8	20.8	C
12	100	100	0.901	1000	5078	593	7507	1972	0.68	0.30	64.3	64.3	19.7	19.7	C

Segment 20: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
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1	1 00	0 901	6188	9014	0 69	67 3	23 0	C
2	1 00	0 901	6463	9014	0 72	66 2	24 4	C
3	1 00	0 901	6053	9014	0 67	67 8	22 3	C
4	1 00	0 901	6169	9014	0 68	67 4	22 9	C
5	1 00	0 901	5906	9014	0 66	68 3	21 6	C
6	1 00	0 901	6282	9014	0 70	67 0	23 4	C
7	1 00	0 901	5744	9014	0 64	68 8	20 9	C
8	1 00	0 901	6014	9014	0 67	67 9	22 2	C
9	1 00	0 901	5784	9014	0 64	68 7	21 0	C
10	1 00	0 901	5779	9014	0 64	68 7	21 0	C
11	1 00	0 901	5331	9014	0 59	69 8	19 1	C
12	1 00	0 901	5143	9014	0 57	70 2	18 3	C

Segment 21: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1 00	0 901	6188	9014	0 69	67 3	23 0	C
2	1 00	0 901	6463	9014	0 72	66 2	24 4	C
3	1 00	0 901	6053	9014	0 67	67 8	22 3	C
4	1 00	0 901	6169	9014	0 68	67 4	22 9	C
5	1 00	0 901	5906	9014	0 66	68 3	21 6	C
6	1 00	0 901	6282	9014	0 70	67 0	23 4	C
7	1 00	0 901	5744	9014	0 64	68 8	20 9	C
8	1 00	0 901	6014	9014	0 67	67 9	22 2	C
9	1 00	0 901	5784	9014	0 64	68 7	21 0	C
10	1 00	0 901	5779	9014	0 64	68 7	21 0	C
11	1 00	0 901	5331	9014	0 59	69 8	19 1	C
12	1 00	0 901	5143	9014	0 57	70 2	18 3	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost \$/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	10735	10490	12 60	314 89	65 7	22 1	19 9	8 50	C
2	11212	10957	16 43	410 66	64 5	23 5	21 2	8 60	C
3	10602	10263	11 03	275 80	66 3	21 4	19 3	8 40	C
4	10702	10459	12 39	309 83	65 8	22 0	19 8	8 50	C
5	10246	10012	9 50	237 48	66 8	20 7	18 6	8 30	C
6	10899	10650	13 84	345 90	65 3	22 6	20 3	8 50	C
7	9964	9737	7 94	198 52	67 4	20 0	18 0	8 30	C
8	10436	10198	10 65	266 21	66 4	21 3	19 1	8 40	C
9	10035	9806	8 31	207 71	67 2	20 2	18 2	8 30	C
10	10028	9800	8 29	207 36	67 2	20 2	18 1	8 30	C
11	9248	9038	4 97	124 25	68 6	18 2	16 4	8 10	C
12	8923	8720	3 95	98 82	69 0	17 5	15 7	8 10	B

Facility Overall Results

Space Mean Speed, mi/h	66.6	Average Density, veh/mi/ln	18.7
Average Travel Time, min	8.40	Average Density, pc/mi/ln	20.8
Total VMT, veh-mi	122929	Total VHD, veh-h	119.90
Vehicle Value of Time (VOT), \$/h	25.00	Total Delay Cost, \$	2997.44

HCS Freeway Facilities Report

Project Information

Analyst	Kittelson & Associates	Date	11/21/2023
Agency	Florida Department of Transportation	Analysis Year	2030 Build Conditions
Jurisdiction	District Five	Time Analyzed	WM Weekend Peak Period
Facility Name	I-75 (Southbound)	Units	U.S. Customary
Project Description	I-75 PD&E North Auxillary Lanes		

Facility Global Input

Jam Density, pc/mi/ln	1900	Density at Capacity, pc/mi/ln	450
Queue Discharge Capacity Drop, %	7	Total Segments	21
Total Analysis Periods	12	Analysis Period Duration, min	15
Facility Length, mi	9.27		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-75 SB	5584	3
2	Basic	Basic	I-75 SB	1500	3
3	Diverge	Diverge	I-75 SB SR 326 Off Ramp	1500	3
4	Basic	Basic	I-75 SB	1836	3
5	Merge	Merge	I-75 SB SR 326 WB On Ramp	1500	3
6	Basic	Basic	I-75 SB	480	3
7	Merge	Basic	I-75 SB SR 326 EB On Ramp	1500	4
8	Basic	Basic	I-75 SB	4120	4
9	Diverge	Basic	I-75 SB 49th St DDI Off Ramp	1500	4
10	Basic	Basic	I-75 SB	2980	3
11	Merge	Basic	I-75 SB 49th St DDI On Ramp	1500	4
12	Basic	Basic	I-75 SB	5730	4
13	Diverge	Basic	I-75 SB US 27 Off Ramp	1500	4
14	Basic	Basic	I-75 SB	3450	3
15	Merge	Basic	I-75 SB US 27 On Ramp	1500	4
16	Basic	Basic	I-75 SB	1100	4
17	Diverge	Basic	I-75 SB SR 40 Off Ramp	1500	4
18	Basic	Basic	I-75 SB	3180	3
19	Merge	Basic	I-75 SB SR 40 On Ramp	1500	4
20	Basic	Basic	I-75 SB	1500	4
21	Basic	Basic	I-75 SB	3968	4

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
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1	1 00	0 901	3639	6761	0 54	707	17 2	B
2	1 00	0 901	3639	6761	0 54	707	17 2	B
3	1 00	0 901	3639	6761	0 54	707	17 2	B
4	1 00	0 901	3639	6761	0 54	707	17 2	B
5	1 00	0 901	3786	6761	0 56	704	17 9	B
6	1 00	0 901	3786	6761	0 56	704	17 9	B
7	1 00	0 901	3786	6761	0 56	704	17 9	B
8	1 00	0 901	3786	6761	0 56	704	17 9	B
9	1 00	0 901	3847	6761	0 57	702	18 3	C
10	1 00	0 901	3847	6761	0 57	702	18 3	C
11	1 00	0 901	3847	6761	0 57	702	18 3	C
12	1 00	0 901	3847	6761	0 57	702	18 3	C

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1 00	0 901	3639	6761	0 54	707	17 2	B
2	1 00	0 901	3639	6761	0 54	707	17 2	B
3	1 00	0 901	3639	6761	0 54	707	17 2	B
4	1 00	0 901	3639	6761	0 54	707	17 2	B
5	1 00	0 901	3786	6761	0 56	704	17 9	B
6	1 00	0 901	3786	6761	0 56	704	17 9	B
7	1 00	0 901	3786	6761	0 56	704	17 9	B
8	1 00	0 901	3786	6761	0 56	704	17 9	B
9	1 00	0 901	3847	6761	0 57	702	18 3	C
10	1 00	0 901	3847	6761	0 57	702	18 3	C
11	1 00	0 901	3847	6761	0 57	702	18 3	C
12	1 00	0 901	3847	6761	0 57	702	18 3	C

Segment 3: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 901	0 919	3639	482	5918	1972	0 61	0 24	64 8	60 4	18 7	23 8	C
2	1 00	1 00	0 901	0 919	3639	482	5918	1972	0 61	0 24	64 8	60 4	18 7	23 8	C
3	1 00	1 00	0 901	0 919	3639	482	5918	1972	0 61	0 24	64 8	60 4	18 7	23 8	C
4	1 00	1 00	0 901	0 919	3639	482	5918	1972	0 61	0 24	64 8	60 4	18 7	23 8	C
5	1 00	1 00	0 901	0 919	3786	502	5918	1972	0 64	0 25	64 7	60 3	19 5	24 5	C
6	1 00	1 00	0 901	0 919	3786	502	5918	1972	0 64	0 25	64 7	60 3	19 5	24 5	C
7	1 00	1 00	0 901	0 919	3786	502	5918	1972	0 64	0 25	64 7	60 3	19 5	24 5	C
8	1 00	1 00	0 901	0 919	3786	502	5918	1972	0 64	0 25	64 7	60 3	19 5	24 5	C
9	1 00	1 00	0 901	0 919	3847	509	5918	1972	0 65	0 26	64 7	60 3	19 8	24 8	C
10	1 00	1 00	0 901	0 919	3847	509	5918	1972	0 65	0 26	64 7	60 3	19 8	24 8	C
11	1 00	1 00	0 901	0 919	3847	509	5918	1972	0 65	0 26	64 7	60 3	19 8	24 8	C

12	100	100	0901	0919	3847	509	5918	1972	065	026	647	603	198	248	C
Segment 4: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	100		0898		3158		6761		047		708		148		B
2	100		0898		3158		6761		047		708		148		B
3	100		0898		3158		6761		047		708		148		B
4	100		0898		3158		6761		047		708		148		B
5	100		0898		3285		6761		049		708		154		B
6	100		0898		3285		6761		049		708		154		B
7	100		0898		3285		6761		049		708		154		B
8	100		0898		3285		6761		049		708		154		B
9	100		0898		3339		6761		049		708		157		B
10	100		0898		3339		6761		049		708		157		B
11	100		0898		3339		6761		049		708		157		B
12	100		0898		3339		6761		049		708		157		B
Segment 5: Merge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0905	0926	4064	930	5918	1878	069	050	643	627	211	181	B
2	100	100	0905	0926	4064	930	5918	1878	069	050	643	627	211	181	B
3	100	100	0905	0926	4064	930	5918	1878	069	050	643	627	211	181	B
4	100	100	0905	0926	4064	930	5918	1878	069	050	643	627	211	181	B
5	100	100	0905	0926	4228	968	5918	1878	071	052	641	625	220	190	B
6	100	100	0905	0926	4228	968	5918	1878	071	052	641	625	220	190	B
7	100	100	0905	0926	4228	968	5918	1878	071	052	641	625	220	190	B
8	100	100	0905	0926	4228	968	5918	1878	071	052	641	625	220	190	B
9	100	100	0905	0926	4296	983	5918	1878	073	052	641	624	223	194	B
10	100	100	0905	0926	4296	983	5918	1878	073	052	641	624	223	194	B
11	100	100	0905	0926	4296	983	5918	1878	073	052	641	624	223	194	B
12	100	100	0905	0926	4296	983	5918	1878	073	052	641	624	223	194	B
Segment 6: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	100		0905		4085		6761		060		695		196		C
2	100		0905		4085		6761		060		695		196		C
3	100		0905		4085		6761		060		695		196		C
4	100		0905		4085		6761		060		695		196		C
5	100		0905		4250		6761		063		690		205		C
6	100		0905		4250		6761		063		690		205		C
7	100		0905		4250		6761		063		690		205		C

8	1 00	0 905	4250	6761	0 63	69 0	20 5	C
9	1 00	0 905	4318	6761	0 64	68 7	20 9	C
10	1 00	0 905	4318	6761	0 64	68 7	20 9	C
11	1 00	0 905	4318	6761	0 64	68 7	20 9	C
12	1 00	0 905	4318	6761	0 64	68 7	20 9	C

Segment 7: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 905	0 924	4280	195	7507	1972	0 57	0 10	68 3	68 3	15 7	15 7	B
2	1 00	1 00	0 905	0 924	4280	195	7507	1972	0 57	0 10	68 3	68 3	15 7	15 7	B
3	1 00	1 00	0 905	0 924	4280	195	7507	1972	0 57	0 10	68 3	68 3	15 7	15 7	B
4	1 00	1 00	0 905	0 924	4280	195	7507	1972	0 57	0 10	68 3	68 3	15 7	15 7	B
5	1 00	1 00	0 905	0 924	4452	202	7507	1972	0 59	0 10	67 6	67 6	16 5	16 5	B
6	1 00	1 00	0 905	0 924	4452	202	7507	1972	0 59	0 10	67 6	67 6	16 5	16 5	B
7	1 00	1 00	0 905	0 924	4452	202	7507	1972	0 59	0 10	67 6	67 6	16 5	16 5	B
8	1 00	1 00	0 905	0 924	4452	202	7507	1972	0 59	0 10	67 6	67 6	16 5	16 5	B
9	1 00	1 00	0 905	0 924	4524	206	7507	1972	0 60	0 10	67 3	67 3	16 8	16 8	B
10	1 00	1 00	0 905	0 924	4524	206	7507	1972	0 60	0 10	67 3	67 3	16 8	16 8	B
11	1 00	1 00	0 905	0 924	4524	206	7507	1972	0 60	0 10	67 3	67 3	16 8	16 8	B
12	1 00	1 00	0 905	0 924	4524	206	7507	1972	0 60	0 10	67 3	67 3	16 8	16 8	B

Segment 8: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1 00	0 905	4284	9014	0 48	71 2	15 0	B
2	1 00	0 905	4284	9014	0 48	71 2	15 0	B
3	1 00	0 905	4284	9014	0 48	71 2	15 0	B
4	1 00	0 905	4284	9014	0 48	71 2	15 0	B
5	1 00	0 905	4456	9014	0 49	71 1	15 7	B
6	1 00	0 905	4456	9014	0 49	71 1	15 7	B
7	1 00	0 905	4456	9014	0 49	71 1	15 7	B
8	1 00	0 905	4456	9014	0 49	71 1	15 7	B
9	1 00	0 905	4528	9014	0 50	71 0	15 9	B
10	1 00	0 905	4528	9014	0 50	71 0	15 9	B
11	1 00	0 905	4528	9014	0 50	71 0	15 9	B
12	1 00	0 905	4528	9014	0 50	71 0	15 9	B

Segment 9: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 905	0 893	4284	394	7507	1972	0 57	0 20	68 3	68 3	15 7	15 7	B
2	1 00	1 00	0 905	0 893	4284	394	7507	1972	0 57	0 20	68 3	68 3	15 7	15 7	B

3	100	100	0.905	0.893	4284	394	7507	1972	0.57	0.20	68.3	68.3	157	157	B
4	100	100	0.905	0.893	4284	394	7507	1972	0.57	0.20	68.3	68.3	157	157	B
5	100	100	0.905	0.893	4456	410	7507	1972	0.59	0.21	67.6	67.6	16.5	16.5	B
6	100	100	0.905	0.893	4456	410	7507	1972	0.59	0.21	67.6	67.6	16.5	16.5	B
7	100	100	0.905	0.893	4456	410	7507	1972	0.59	0.21	67.6	67.6	16.5	16.5	B
8	100	100	0.905	0.893	4456	410	7507	1972	0.59	0.21	67.6	67.6	16.5	16.5	B
9	100	100	0.905	0.893	4528	417	7507	1972	0.60	0.21	67.3	67.3	16.8	16.8	B
10	100	100	0.905	0.893	4528	417	7507	1972	0.60	0.21	67.3	67.3	16.8	16.8	B
11	100	100	0.905	0.893	4528	417	7507	1972	0.60	0.21	67.3	67.3	16.8	16.8	B
12	100	100	0.905	0.893	4528	417	7507	1972	0.60	0.21	67.3	67.3	16.8	16.8	B

Segment 10: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.907	3886	6761	0.57	70.1	18.5	C
2	100	0.907	3886	6761	0.57	70.1	18.5	C
3	100	0.907	3886	6761	0.57	70.1	18.5	C
4	100	0.907	3886	6761	0.57	70.1	18.5	C
5	100	0.907	4043	6761	0.60	69.7	19.3	C
6	100	0.907	4043	6761	0.60	69.7	19.3	C
7	100	0.907	4043	6761	0.60	69.7	19.3	C
8	100	0.907	4043	6761	0.60	69.7	19.3	C
9	100	0.907	4108	6761	0.61	69.5	19.7	C
10	100	0.907	4108	6761	0.61	69.5	19.7	C
11	100	0.907	4108	6761	0.61	69.5	19.7	C
12	100	0.907	4108	6761	0.61	69.5	19.7	C

Segment 11: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.905	0.893	4611	716	7507	1972	0.61	0.36	66.9	66.9	17.2	17.2	B
2	100	100	0.905	0.893	4611	716	7507	1972	0.61	0.36	66.9	66.9	17.2	17.2	B
3	100	100	0.905	0.893	4611	716	7507	1972	0.61	0.36	66.9	66.9	17.2	17.2	B
4	100	100	0.905	0.893	4611	716	7507	1972	0.61	0.36	66.9	66.9	17.2	17.2	B
5	100	100	0.905	0.893	4797	745	7507	1972	0.64	0.38	65.9	65.9	18.2	18.2	C
6	100	100	0.905	0.893	4797	745	7507	1972	0.64	0.38	65.9	65.9	18.2	18.2	C
7	100	100	0.905	0.893	4797	745	7507	1972	0.64	0.38	65.9	65.9	18.2	18.2	C
8	100	100	0.905	0.893	4797	745	7507	1972	0.64	0.38	65.9	65.9	18.2	18.2	C
9	100	100	0.905	0.893	4874	757	7507	1972	0.65	0.38	65.5	65.5	18.6	18.6	C
10	100	100	0.905	0.893	4874	757	7507	1972	0.65	0.38	65.5	65.5	18.6	18.6	C
11	100	100	0.905	0.893	4874	757	7507	1972	0.65	0.38	65.5	65.5	18.6	18.6	C
12	100	100	0.905	0.893	4874	757	7507	1972	0.65	0.38	65.5	65.5	18.6	18.6	C

Segment 12: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.905	4601	9014	0.51	71.0	16.2	B
2	1.00	0.905	4601	9014	0.51	71.0	16.2	B
3	1.00	0.905	4601	9014	0.51	71.0	16.2	B
4	1.00	0.905	4601	9014	0.51	71.0	16.2	B
5	1.00	0.905	4787	9014	0.53	70.7	16.9	B
6	1.00	0.905	4787	9014	0.53	70.7	16.9	B
7	1.00	0.905	4787	9014	0.53	70.7	16.9	B
8	1.00	0.905	4787	9014	0.53	70.7	16.9	B
9	1.00	0.905	4864	9014	0.54	70.6	17.2	B
10	1.00	0.905	4864	9014	0.54	70.6	17.2	B
11	1.00	0.905	4864	9014	0.54	70.6	17.2	B
12	1.00	0.905	4864	9014	0.54	70.6	17.2	B

Segment 13: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.905	0.933	4601	343	7507	1972	0.61	0.17	66.9	66.9	17.2	17.2	B
2	1.00	1.00	0.905	0.933	4601	343	7507	1972	0.61	0.17	66.9	66.9	17.2	17.2	B
3	1.00	1.00	0.905	0.933	4601	343	7507	1972	0.61	0.17	66.9	66.9	17.2	17.2	B
4	1.00	1.00	0.905	0.933	4601	343	7507	1972	0.61	0.17	66.9	66.9	17.2	17.2	B
5	1.00	1.00	0.905	0.933	4787	357	7507	1972	0.64	0.18	66.0	66.0	18.1	18.1	C
6	1.00	1.00	0.905	0.933	4787	357	7507	1972	0.64	0.18	66.0	66.0	18.1	18.1	C
7	1.00	1.00	0.905	0.933	4787	357	7507	1972	0.64	0.18	66.0	66.0	18.1	18.1	C
8	1.00	1.00	0.905	0.933	4787	357	7507	1972	0.64	0.18	66.0	66.0	18.1	18.1	C
9	1.00	1.00	0.905	0.933	4864	362	7507	1972	0.65	0.18	65.6	65.6	18.5	18.5	C
10	1.00	1.00	0.905	0.933	4864	362	7507	1972	0.65	0.18	65.6	65.6	18.5	18.5	C
11	1.00	1.00	0.905	0.933	4864	362	7507	1972	0.65	0.18	65.6	65.6	18.5	18.5	C
12	1.00	1.00	0.905	0.933	4864	362	7507	1972	0.65	0.18	65.6	65.6	18.5	18.5	C

Segment 14: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.902	4262	6761	0.63	68.9	20.6	C
2	1.00	0.902	4262	6761	0.63	68.9	20.6	C
3	1.00	0.902	4262	6761	0.63	68.9	20.6	C
4	1.00	0.902	4262	6761	0.63	68.9	20.6	C
5	1.00	0.902	4433	6761	0.66	68.3	21.6	C
6	1.00	0.902	4433	6761	0.66	68.3	21.6	C
7	1.00	0.902	4433	6761	0.66	68.3	21.6	C
8	1.00	0.902	4433	6761	0.66	68.3	21.6	C
9	1.00	0.902	4506	6761	0.67	67.9	22.1	C

10	100	0.902	4506	6761	0.67	67.9	22.1	C							
11	100	0.902	4506	6761	0.67	67.9	22.1	C							
12	100	0.902	4506	6761	0.67	67.9	22.1	C							
Segment 15: Merge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.908	0.943	4969	736	7507	1972	0.66	0.37	650	650	19.1	19.1	C
2	100	100	0.908	0.943	4969	736	7507	1972	0.66	0.37	650	650	19.1	19.1	C
3	100	100	0.908	0.943	4969	736	7507	1972	0.66	0.37	650	650	19.1	19.1	C
4	100	100	0.908	0.943	4969	736	7507	1972	0.66	0.37	650	650	19.1	19.1	C
5	100	100	0.908	0.943	5170	766	7507	1972	0.69	0.39	63.8	63.8	20.3	20.3	C
6	100	100	0.908	0.943	5170	766	7507	1972	0.69	0.39	63.8	63.8	20.3	20.3	C
7	100	100	0.908	0.943	5170	766	7507	1972	0.69	0.39	63.8	63.8	20.3	20.3	C
8	100	100	0.908	0.943	5170	766	7507	1972	0.69	0.39	63.8	63.8	20.3	20.3	C
9	100	100	0.908	0.943	5254	778	7507	1972	0.70	0.39	63.2	63.2	20.8	20.8	C
10	100	100	0.908	0.943	5254	778	7507	1972	0.70	0.39	63.2	63.2	20.8	20.8	C
11	100	100	0.908	0.943	5254	778	7507	1972	0.70	0.39	63.2	63.2	20.8	20.8	C
12	100	100	0.908	0.943	5254	778	7507	1972	0.70	0.39	63.2	63.2	20.8	20.8	C
Segment 16: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	100		0.908		4998		9014		0.55		70.4		17.8	B	
2	100		0.908		4998		9014		0.55		70.4		17.8	B	
3	100		0.908		4998		9014		0.55		70.4		17.8	B	
4	100		0.908		4998		9014		0.55		70.4		17.8	B	
5	100		0.908		5199		9014		0.58		70.1		18.5	C	
6	100		0.908		5199		9014		0.58		70.1		18.5	C	
7	100		0.908		5199		9014		0.58		70.1		18.5	C	
8	100		0.908		5199		9014		0.58		70.1		18.5	C	
9	100		0.908		5284		9014		0.59		69.9		18.9	C	
10	100		0.908		5284		9014		0.59		69.9		18.9	C	
11	100		0.908		5284		9014		0.59		69.9		18.9	C	
12	100		0.908		5284		9014		0.59		69.9		18.9	C	
Segment 17: Diverge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.908	0.941	4898	413	7507	1972	0.67	0.21	64.8	64.8	19.3	19.3	C
2	100	100	0.908	0.941	4898	413	7507	1972	0.67	0.21	64.8	64.8	19.3	19.3	C
3	100	100	0.908	0.941	4898	413	7507	1972	0.67	0.21	64.8	64.8	19.3	19.3	C
4	100	100	0.908	0.941	4898	413	7507	1972	0.67	0.21	64.8	64.8	19.3	19.3	C

5	100	100	0.908	0.941	5199	430	7507	1972	0.69	0.22	63.6	63.6	20.4	20.4	C
6	100	100	0.908	0.941	5199	430	7507	1972	0.69	0.22	63.6	63.6	20.4	20.4	C
7	100	100	0.908	0.941	5199	430	7507	1972	0.69	0.22	63.6	63.6	20.4	20.4	C
8	100	100	0.908	0.941	5199	430	7507	1972	0.69	0.22	63.6	63.6	20.4	20.4	C
9	100	100	0.908	0.941	5284	438	7507	1972	0.70	0.22	63.0	63.0	21.0	21.0	C
10	100	100	0.908	0.941	5284	438	7507	1972	0.70	0.22	63.0	63.0	21.0	21.0	C
11	100	100	0.908	0.941	5284	438	7507	1972	0.70	0.22	63.0	63.0	21.0	21.0	C
12	100	100	0.908	0.941	5284	438	7507	1972	0.70	0.22	63.0	63.0	21.0	21.0	C

Segment 18: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.905	4585	6761	0.68	67.6	22.6	C
2	100	0.905	4585	6761	0.68	67.6	22.6	C
3	100	0.905	4585	6761	0.68	67.6	22.6	C
4	100	0.905	4585	6761	0.68	67.6	22.6	C
5	100	0.905	4769	6761	0.71	66.7	23.8	C
6	100	0.905	4769	6761	0.71	66.7	23.8	C
7	100	0.905	4769	6761	0.71	66.7	23.8	C
8	100	0.905	4769	6761	0.71	66.7	23.8	C
9	100	0.905	4846	6761	0.72	66.3	24.4	C
10	100	0.905	4846	6761	0.72	66.3	24.4	C
11	100	0.905	4846	6761	0.72	66.3	24.4	C
12	100	0.905	4846	6761	0.72	66.3	24.4	C

Segment 19: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.910	0.952	4894	435	7507	1972	0.67	0.22	64.8	64.8	19.3	19.3	C
2	100	100	0.910	0.952	4894	435	7507	1972	0.67	0.22	64.8	64.8	19.3	19.3	C
3	100	100	0.910	0.952	4894	435	7507	1972	0.67	0.22	64.8	64.8	19.3	19.3	C
4	100	100	0.910	0.952	4894	435	7507	1972	0.67	0.22	64.8	64.8	19.3	19.3	C
5	100	100	0.910	0.952	5196	453	7507	1972	0.69	0.23	63.6	63.6	20.4	20.4	C
6	100	100	0.910	0.952	5196	453	7507	1972	0.69	0.23	63.6	63.6	20.4	20.4	C
7	100	100	0.910	0.952	5196	453	7507	1972	0.69	0.23	63.6	63.6	20.4	20.4	C
8	100	100	0.910	0.952	5196	453	7507	1972	0.69	0.23	63.6	63.6	20.4	20.4	C
9	100	100	0.910	0.952	5280	460	7507	1972	0.70	0.23	63.1	63.1	20.9	20.9	C
10	100	100	0.910	0.952	5280	460	7507	1972	0.70	0.23	63.1	63.1	20.9	20.9	C
11	100	100	0.910	0.952	5280	460	7507	1972	0.70	0.23	63.1	63.1	20.9	20.9	C
12	100	100	0.910	0.952	5280	460	7507	1972	0.70	0.23	63.1	63.1	20.9	20.9	C

Segment 20: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
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1	1 00	0 910	5014	9014	0 56	704	17 8	B
2	1 00	0 910	5014	9014	0 56	704	17 8	B
3	1 00	0 910	5014	9014	0 56	704	17 8	B
4	1 00	0 910	5014	9014	0 56	704	17 8	B
5	1 00	0 910	5216	9014	0 58	701	18 6	C
6	1 00	0 910	5216	9014	0 58	701	18 6	C
7	1 00	0 910	5216	9014	0 58	701	18 6	C
8	1 00	0 910	5216	9014	0 58	701	18 6	C
9	1 00	0 910	5301	9014	0 59	69 9	19 0	C
10	1 00	0 910	5301	9014	0 59	69 9	19 0	C
11	1 00	0 910	5301	9014	0 59	69 9	19 0	C
12	1 00	0 910	5301	9014	0 59	69 9	19 0	C

Segment 21: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1 00	0 910	5014	9014	0 56	704	17 8	B
2	1 00	0 910	5014	9014	0 56	704	17 8	B
3	1 00	0 910	5014	9014	0 56	704	17 8	B
4	1 00	0 910	5014	9014	0 56	704	17 8	B
5	1 00	0 910	5216	9014	0 58	701	18 6	C
6	1 00	0 910	5216	9014	0 58	701	18 6	C
7	1 00	0 910	5216	9014	0 58	701	18 6	C
8	1 00	0 910	5216	9014	0 58	701	18 6	C
9	1 00	0 910	5301	9014	0 59	69 9	19 0	C
10	1 00	0 910	5301	9014	0 59	69 9	19 0	C
11	1 00	0 910	5301	9014	0 59	69 9	19 0	C
12	1 00	0 910	5301	9014	0 59	69 9	19 0	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost \$/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	9086	8892	4 21	105 24	68 9	17 7	16 0	8 10	B
2	9086	8892	4 21	105 24	68 9	17 7	16 0	8 10	B
3	9086	8892	4 21	105 24	68 9	17 7	16 0	8 10	B
4	9086	8892	4 21	105 24	68 9	17 7	16 0	8 10	B
5	9452	9251	5 41	135 35	68 4	18 6	16 8	8 10	C
6	9452	9251	5 41	135 35	68 4	18 6	16 8	8 10	C
7	9452	9251	5 41	135 35	68 4	18 6	16 8	8 10	C
8	9452	9251	5 41	135 35	68 4	18 6	16 8	8 10	C
9	9605	9400	6 03	150 86	68 2	18 9	17 1	8 20	C
10	9605	9400	6 03	150 86	68 2	18 9	17 1	8 20	C
11	9605	9400	6 03	150 86	68 2	18 9	17 1	8 20	C
12	9605	9400	6 03	150 86	68 2	18 9	17 1	8 20	C

Facility Overall Results

Space Mean Speed, mi/h	68.5	Average Density, veh/mi/ln	16.7
Average Travel Time, min	8.10	Average Density, pc/mi/ln	18.4
Total VMT, veh-mi	112577	Total VHD, veh-h	62.63
Vehicle Value of Time (VOT), \$/h	25.00	Total Delay Cost, \$	156578

APPENDIX Y – 2040 BUILD HCS OUTPUT REPORTS

I-75 North Section - Northbound

HCS Freeway Facilities Report

Project Information

Analyst	Kittelson & Associates	Date	11/21/2023
Agency	Florida Department of Transportation	Analysis Year	2040 Build Conditions
Jurisdiction	District Five	Time Analyzed	AM Weekday Peak Period
Facility Name	I-75 (Northbound)	Units	U.S. Customary
Project Description	I-75 PD&E North Auxillary Lanes		

Facility Global Input

Jam Density, pc/mi/ln	1900	Density at Capacity, pc/mi/ln	450
Queue Discharge Capacity Drop, %	7	Total Segments	19
Total Analysis Periods	12	Analysis Period Duration, min	15
Facility Length, mi	9.13		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-75 NB	4096	4
2	Basic	Basic	I-75 NB	1500	4
3	Diverge	Basic	I-75 NB SR 40 Off Ramp	1500	4
4	Basic	Basic	I-75 NB	3150	3
5	Merge	Basic	I-75 NB SR 40 On Ramp	1500	4
6	Basic	Basic	I-75 NB	1020	4
7	Diverge	Basic	I-75 NB US 27 Off Ramp	1500	4
8	Basic	Basic	I-75 NB	3460	3
9	Merge	Basic	I-75 NB US 27 On Ramp	1500	4
10	Basic	Basic	I-75 NB	4280	4
11	Diverge	Basic	I-75 NB 49th St DDI Off Ramp	1500	4
12	Basic	Basic	I-75 NB	4840	3
13	Merge	Basic	I-75 NB 49th St DDI On Ramp	1500	4
14	Basic	Basic	I-75 NB	4300	4
15	Diverge	Diverge	I-75 NB SR 326 Off Ramp	1500	4
16	Basic	Basic	I-75 NB	2950	3
17	Merge	Merge	I-75 NB SR 326 On Ramp	1500	3
18	Basic	Basic	I-75 NB	1500	3
19	Basic	Basic	I-75 NB	5093	3

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.902	4844	9014	0.54	7.07	17.1	B
2	1.00	0.902	5443	9014	0.60	69.6	19.6	C

3	1 00	0 902	6436	9014	071	66 4	24 2	C
4	1 00	0 902	7353	9014	0 82	61 9	297	D
5	1 00	0 902	6927	9014	077	64 1	27 0	D
6	1 00	0 902	7013	9014	078	63 7	27 5	D
7	1 00	0 902	7365	9014	0 89	35 0	527	F
8	1 00	0 902	7115	9014	0 86	23 5	75 5	F
9	1 00	0 902	7103	9014	0 85	23 4	75 7	F
10	1 00	0 902	7103	9014	0 84	23 4	75 7	F
11	1 00	0 902	7110	9014	0 82	23 5	75 6	F
12	1 00	0 902	7123	9014	078	23 6	75 4	F

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)		Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)		LOS
1	1 00	0 902	4844		9014	0 54	70 7	17 1		B
2	1 00	0 902	5443		9014	0 60	69 6	19 6		C
3	1 00	0 902	6436		9014	071	66 4	24 2		C
4	1 00	0 902	7353		9014	0 82	61 9	297		D
5	1 00	0 902	6927		9014	077	64 1	27 0		D
6	1 00	0 902	7013		9014	078	63 7	27 5		D
7	1 00	0 902	7177		9014	0 89	26 3	68 2		F
8	1 00	0 902	7106		9014	0 86	23 7	75 0		F
9	1 00	0 902	7099		9014	0 85	23 5	75 4		F
10	1 00	0 902	7100		9014	0 84	23 5	75 4		F
11	1 00	0 902	7105		9014	0 82	23 7	75 0		F
12	1 00	0 902	7113		9014	078	23 7	74 9		F

Segment 3: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 902	0 898	4844	549	7 891	1 972	0 61	0 28	67 6	67 6	17 9	17 9	B
2	1 00	1 00	0 902	0 898	5443	618	7 891	1 972	0 69	0 31	64 7	64 7	21 0	21 0	C
3	1 00	1 00	0 902	0 898	6436	731	7 891	1 972	0 82	0 37	58 0	58 0	27 7	27 7	D
4	1 00	1 00	0 902	0 898	7353	834	7 891	1 972	0 93	0 42	66 3	66 3	27 7	27 7	D
5	1 00	1 00	0 902	0 898	6927	786	7 891	1 972	0 88	0 40	66 5	66 5	26 0	26 0	C
6	1 00	1 00	0 902	0 898	7013	796	7 891	1 972	0 89	0 40	66 5	66 5	26 4	26 4	D
7	1 00	1 00	0 902	0 898	7110	908	7 891	1 972	1 01	0 46	30 2	30 2	58 9	58 9	F
8	1 00	1 00	0 902	0 898	7095	879	7 891	1 972	0 98	0 45	29 8	29 8	59 5	59 5	F
9	1 00	1 00	0 902	0 898	7093	869	7 891	1 972	0 97	0 44	29 8	29 8	59 6	59 6	F
10	1 00	1 00	0 902	0 898	7094	857	7 891	1 972	0 96	0 43	29 8	29 8	59 6	59 6	F
11	1 00	1 00	0 902	0 898	7093	836	7 891	1 972	0 93	0 42	29 8	29 8	59 5	59 5	F
12	1 00	1 00	0 902	0 898	7094	797	7 891	1 972	0 89	0 40	29 8	29 8	59 4	59 4	F

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.902	4297	6761	0.64	68.8	20.8	C
2	1.00	0.902	4828	6761	0.71	66.4	24.2	C
3	1.00	0.902	5708	6761	0.84	60.4	31.5	D
4	1.00	0.902	6519	6761	0.96	52.7	41.2	E
5	1.00	0.902	6141	6761	0.91	56.5	36.2	E
6	1.00	0.902	6217	6761	0.92	55.8	37.1	E
7	1.00	0.902	6296	6761	1.05	55.0	38.2	F
8	1.00	0.902	6288	6761	1.02	55.1	38.0	F
9	1.00	0.902	6288	6761	1.00	55.1	38.0	F
10	1.00	0.902	6288	6761	0.99	55.1	38.0	E
11	1.00	0.902	6288	6761	0.97	55.1	38.0	E
12	1.00	0.902	6288	6761	0.92	55.1	38.0	E

Segment 5: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.902	0.898	4719	422	7891	1972	0.60	0.21	68.1	68.1	17.3	17.3	B
2	1.00	1.00	0.902	0.898	5302	474	7891	1972	0.67	0.24	65.5	65.5	20.2	20.2	C
3	1.00	1.00	0.902	0.898	6269	561	7891	1972	0.79	0.28	59.3	59.3	26.4	26.4	D
4	1.00	1.00	0.902	0.898	7160	641	7891	1972	0.91	0.33	64.4	64.4	27.8	27.8	D
5	1.00	1.00	0.902	0.898	6745	604	7891	1972	0.86	0.31	64.9	64.9	26.0	26.0	C
6	1.00	1.00	0.902	0.898	6828	611	7891	1972	0.87	0.31	64.8	64.8	26.3	26.3	D
7	1.00	1.00	0.902	0.898	6993	697	7891	1972	0.99	0.35	64.5	64.5	27.1	27.1	D
8	1.00	1.00	0.902	0.898	6963	675	7891	1972	0.96	0.34	64.6	64.6	26.9	26.9	D
9	1.00	1.00	0.902	0.898	6956	668	7891	1972	0.95	0.34	64.6	64.6	26.9	26.9	D
10	1.00	1.00	0.902	0.898	6947	659	7891	1972	0.93	0.33	64.6	64.6	26.9	26.9	D
11	1.00	1.00	0.902	0.898	6931	643	7891	1972	0.91	0.33	64.7	64.7	26.8	26.8	D
12	1.00	1.00	0.902	0.898	6900	612	7891	1972	0.87	0.31	64.7	64.7	26.7	26.7	D

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.902	4717	9014	0.52	70.8	16.7	B
2	1.00	0.902	5300	9014	0.59	69.9	19.0	C
3	1.00	0.902	6267	9014	0.70	67.0	23.4	C
4	1.00	0.902	7160	9014	0.79	62.9	28.5	D
5	1.00	0.902	6745	9014	0.75	65.0	25.9	C
6	1.00	0.902	6828	9014	0.76	64.6	26.4	D
7	1.00	0.902	6993	9014	0.86	63.8	27.4	D
8	1.00	0.902	6963	9014	0.84	64.0	27.2	D
9	1.00	0.902	6956	9014	0.83	64.0	27.2	D

10	1 00	0 902	6947	9014	0 82	64 0	27 1	D							
11	1 00	0 902	6931	9014	0 80	64 1	27 0	D							
12	1 00	0 902	6900	9014	0 76	64 3	26 8	D							
Segment 7: Diverge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 902	0 934	4717	651	7891	1972	0 60	0 33	68 1	68 1	17 3	17 3	B
2	1 00	1 00	0 902	0 934	5300	732	7891	1972	0 67	0 37	65 5	65 5	20 2	20 2	C
3	1 00	1 00	0 902	0 934	6267	865	7891	1972	0 79	0 44	59 3	59 3	26 4	26 4	D
4	1 00	1 00	0 902	0 934	7160	988	7891	1972	0 91	0 50	66 0	66 0	27 1	27 1	D
5	1 00	1 00	0 902	0 934	6745	931	7891	1972	0 85	0 47	66 2	66 2	25 5	25 5	C
6	1 00	1 00	0 902	0 934	6828	943	7891	1972	0 87	0 48	66 1	66 1	25 8	25 8	C
7	1 00	1 00	0 902	0 934	6993	1075	7891	1972	0 99	0 55	65 7	65 7	26 6	26 6	D
8	1 00	1 00	0 902	0 934	6963	1042	7891	1972	0 96	0 53	65 8	65 8	26 5	26 5	D
9	1 00	1 00	0 902	0 934	6956	1030	7891	1972	0 95	0 52	65 9	65 9	26 4	26 4	D
10	1 00	1 00	0 902	0 934	6947	1016	7891	1972	0 93	0 52	65 9	65 9	26 4	26 4	D
11	1 00	1 00	0 902	0 934	6931	991	7891	1972	0 91	0 50	66 0	66 0	26 3	26 3	D
12	1 00	1 00	0 902	0 934	6900	944	7891	1972	0 87	0 48	66 2	66 2	26 1	26 1	D
Segment 8: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1 00		0 897		4066		6761		0 60		69 6		19 5	C	
2	1 00		0 897		4567		6761		0 68		67 7		22 5	C	
3	1 00		0 897		5401		6761		0 80		62 7		28 7	D	
4	1 00		0 897		6172		6761		0 91		56 2		36 6	E	
5	1 00		0 897		5815		6761		0 86		59 5		32 6	D	
6	1 00		0 897		5886		6761		0 87		58 9		33 3	D	
7	1 00		0 897		6027		6761		0 99		57 6		34 9	D	
8	1 00		0 897		6001		6761		0 96		57 8		34 6	D	
9	1 00		0 897		5995		6761		0 95		57 9		34 5	D	
10	1 00		0 897		5987		6761		0 94		58 0		34 4	D	
11	1 00		0 897		5974		6761		0 92		58 1		34 3	D	
12	1 00		0 897		5948		6761		0 87		58 3		34 0	D	
Segment 9: Merge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 895	0 876	4387	312	7891	1972	0 56	0 16	69 3	69 3	15 8	15 8	B
2	1 00	1 00	0 895	0 876	4928	350	7891	1972	0 62	0 18	67 2	67 2	18 3	18 3	C
3	1 00	1 00	0 895	0 876	5827	414	7891	1972	0 74	0 21	62 4	62 4	23 3	23 3	C
4	1 00	1 00	0 895	0 876	6646	474	7891	1972	0 84	0 24	65 0	65 0	25 6	25 6	C

5	100	100	0.895	0.876	6261	446	7891	1972	0.79	0.23	65.4	65.4	23.9	23.9	C
6	100	100	0.895	0.876	6338	452	7891	1972	0.80	0.23	65.3	65.3	24.3	24.3	C
7	100	100	0.895	0.876	6542	515	7891	1972	0.92	0.26	65.1	65.1	25.1	25.1	C
8	100	100	0.895	0.876	6500	499	7891	1972	0.89	0.25	65.1	65.1	25.0	25.0	C
9	100	100	0.895	0.876	6488	493	7891	1972	0.88	0.25	65.1	65.1	24.9	24.9	C
10	100	100	0.895	0.876	6474	487	7891	1972	0.87	0.25	65.1	65.1	24.9	24.9	C
11	100	100	0.895	0.876	6449	475	7891	1972	0.85	0.24	65.2	65.2	24.7	24.7	C
12	100	100	0.895	0.876	6401	453	7891	1972	0.81	0.23	65.2	65.2	24.5	24.5	C

Segment 10: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.895	4380	9014	0.49	71.1	15.4	B
2	100	0.895	4921	9014	0.55	70.6	17.4	B
3	100	0.895	5819	9014	0.65	68.5	21.2	C
4	100	0.895	6646	9014	0.74	65.5	25.4	C
5	100	0.895	6261	9014	0.69	67.0	23.4	C
6	100	0.895	6338	9014	0.70	66.7	23.6	C
7	100	0.895	6542	9014	0.80	65.9	24.8	C
8	100	0.895	6500	9014	0.78	66.1	24.6	C
9	100	0.895	6488	9014	0.77	66.1	24.5	C
10	100	0.895	6306	9014	0.76	66.9	23.6	F
11	100	0.895	6157	9014	0.74	67.4	22.8	F
12	100	0.895	6381	9014	0.70	28.8	55.4	F

Segment 11: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.895	0.893	4380	516	7891	1972	0.56	0.26	69.3	69.3	15.8	15.8	B
2	100	100	0.895	0.893	4921	582	7891	1972	0.62	0.30	67.3	67.3	18.3	18.3	C
3	100	100	0.895	0.893	5819	689	7891	1972	0.74	0.35	62.4	62.4	23.3	23.3	C
4	100	100	0.895	0.893	6646	786	7891	1972	0.84	0.40	66.6	66.6	24.9	24.9	C
5	100	100	0.895	0.893	6261	741	7891	1972	0.79	0.38	66.8	66.8	23.4	23.4	C
6	100	100	0.895	0.893	6338	750	7891	1972	0.80	0.38	66.8	66.8	23.7	23.7	C
7	100	100	0.895	0.893	6542	856	7891	1972	0.92	0.43	66.4	66.4	24.6	24.6	C
8	100	100	0.895	0.893	6500	829	7891	1972	0.89	0.42	66.5	66.5	24.4	24.4	C
9	100	100	0.895	0.893	6387	820	7891	1972	0.88	0.42	66.6	66.6	24.0	24.0	F
10	100	100	0.895	0.893	6259	809	7891	1972	0.87	0.41	28.2	28.2	55.4	55.4	F
11	100	100	0.895	0.893	6215	789	7891	1972	0.84	0.40	27.0	27.0	57.5	57.5	F
12	100	100	0.895	0.893	6168	751	7891	1972	0.80	0.38	25.9	25.9	59.6	59.6	F

Segment 12: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
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1	100	0.895	3863	6761	0.57	70.2	18.3	C
2	100	0.895	4340	6761	0.64	68.6	21.1	C
3	100	0.895	5132	6761	0.76	64.5	26.5	D
4	100	0.895	5860	6761	0.87	59.1	33.1	D
5	100	0.895	5521	6761	0.82	61.8	29.8	D
6	100	0.895	5588	6761	0.83	61.3	30.4	D
7	100	0.895	5768	6761	0.94	59.9	32.1	D
8	100	0.895	5731	6761	0.91	60.2	31.7	D
9	100	0.895	5594	6761	0.90	61.3	30.4	F
10	100	0.895	5396	6761	0.89	38.8	46.4	F
11	100	0.895	5532	6761	0.87	39.5	46.7	F
12	100	0.895	5451	6761	0.83	37.8	48.1	F

Segment 13: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.895	0.893	4147	284	7891	1972	0.53	0.14	69.9	69.9	14.8	14.8	B
2	100	100	0.895	0.893	4659	319	7891	1972	0.59	0.16	68.3	68.3	17.1	17.1	B
3	100	100	0.895	0.893	5509	377	7891	1972	0.70	0.19	64.3	64.3	21.4	21.4	C
4	100	100	0.895	0.893	6291	431	7891	1972	0.80	0.22	65.4	65.4	24.0	24.0	C
5	100	100	0.895	0.893	5927	406	7891	1972	0.75	0.21	65.6	65.6	22.6	22.6	C
6	100	100	0.895	0.893	6000	412	7891	1972	0.76	0.21	65.6	65.6	22.9	22.9	C
7	100	100	0.895	0.893	6237	469	7891	1972	0.87	0.24	65.4	65.4	23.8	23.8	C
8	100	100	0.895	0.893	6186	455	7891	1972	0.84	0.23	65.4	65.4	23.6	23.6	C
9	100	100	0.895	0.893	5901	449	7891	1972	0.83	0.23	65.7	65.7	22.5	22.5	F
10	100	100	0.895	0.893	5920	443	7891	1972	0.82	0.22	29.0	29.0	51.1	51.1	F
11	100	100	0.895	0.893	5841	433	7891	1972	0.80	0.22	30.6	30.6	47.7	47.7	F
12	100	100	0.895	0.893	5868	412	7891	1972	0.76	0.21	30.2	30.2	48.6	48.6	F

Segment 14: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.895	4146	9014	0.46	71.2	14.6	B
2	100	0.895	4658	9014	0.52	70.9	16.4	B
3	100	0.895	5508	9014	0.61	69.4	19.8	C
4	100	0.895	6291	9014	0.70	66.9	23.5	C
5	100	0.895	5927	9014	0.66	68.2	21.7	C
6	100	0.895	6000	9014	0.67	68.0	22.1	C
7	100	0.895	6080	9014	0.76	67.7	22.5	F
8	100	0.895	5859	9014	0.74	28.6	51.2	F
9	100	0.895	5862	9014	0.73	22.0	66.7	F
10	100	0.895	5863	9014	0.72	21.9	67.0	F
11	100	0.895	5867	9014	0.70	19.4	75.7	F

12	1 00	0 895	5878	9014	0 67	21 3	68 9	F							
Segment 15: Diverge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0 895	0 924	4146	898	7891	3944	0 53	0 23	68 6	59 3	15 1	5 7	A
2	100	100	0 895	0 924	4658	1010	7891	3944	0 59	0 26	68 1	59 0	17 1	7 6	A
3	100	100	0 895	0 924	5508	1194	7891	3944	0 70	0 30	67 4	58 5	20 4	10 7	B
4	100	100	0 895	0 924	6291	1364	7891	3944	0 80	0 35	66 8	58 1	23 5	13 5	B
5	100	100	0 895	0 924	5927	1285	7891	3944	0 75	0 33	67 1	58 3	22 1	12 2	B
6	100	100	0 895	0 924	5953	1301	7891	3944	0 76	0 33	67 0	58 2	22 2	12 3	F
7	100	100	0 895	0 924	5871	1484	7891	3944	0 87	0 38	20 5	57 8	71 6	15 5	F
8	100	100	0 895	0 924	5867	1437	7891	3944	0 84	0 36	19 1	57 9	76 8	14 7	F
9	100	100	0 895	0 924	5861	1421	7891	3944	0 83	0 36	19 1	57 9	76 6	14 5	F
10	100	100	0 895	0 924	5861	1403	7891	3944	0 82	0 36	19 1	58 0	76 6	14 2	F
11	100	100	0 895	0 924	5865	1368	7891	3944	0 80	0 35	18 5	58 1	79 3	13 6	F
12	100	100	0 895	0 924	5872	1303	7891	3944	0 76	0 33	19 0	58 2	77 2	12 5	F

Segment 16: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0 887	0 887	3248	6761	6761	6761	0 48	0 48	71 1	71 1	15 2	15 2	B
2	100	100	0 887	0 887	3648	6761	6761	6761	0 54	0 54	70 6	70 6	17 2	17 2	B
3	100	100	0 887	0 887	4315	6761	6761	6761	0 64	0 64	68 7	68 7	20 9	20 9	C
4	100	100	0 887	0 887	4592	6761	6761	6761	0 73	0 73	30 6	30 6	50 1	50 1	F
5	100	100	0 887	0 887	4587	6761	6761	6761	0 69	0 69	19 8	19 8	77 3	77 3	F
6	100	100	0 887	0 887	4587	6761	6761	6761	0 70	0 70	17 2	17 2	88 8	88 8	F
7	100	100	0 887	0 887	4587	6761	6761	6761	0 79	0 79	16 7	16 7	91 5	91 5	F
8	100	100	0 887	0 887	4587	6761	6761	6761	0 77	0 77	16 7	16 7	91 6	91 6	F
9	100	100	0 887	0 887	4587	6761	6761	6761	0 76	0 76	16 7	16 7	91 6	91 6	F
10	100	100	0 887	0 887	4587	6761	6761	6761	0 75	0 75	16 7	16 7	91 6	91 6	F
11	100	100	0 887	0 887	4587	6761	6761	6761	0 73	0 73	16 7	16 7	91 6	91 6	F
12	100	100	0 887	0 887	4587	6761	6761	6761	0 70	0 70	16 7	16 7	91 6	91 6	F

Segment 17: Merge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0 882	0 853	3921	655	5918	1972	0 66	0 33	64 4	62 6	20 3	19 9	B
2	100	100	0 882	0 853	4406	737	5918	1972	0 74	0 37	63 7	61 9	23 1	22 4	C
3	100	100	0 882	0 853	5210	871	5918	1972	0 88	0 44	62 4	60 4	27 8	26 6	C
4	100	100	0 882	0 853	5511	995	5918	1972	1 01	0 50	61 4	59 2	30 3	28 7	F
5	100	100	0 882	0 853	5504	938	5918	1972	0 95	0 48	61 6	59 5	29 9	28 2	D
6	100	100	0 882	0 853	5504	950	5918	1972	0 96	0 48	61 5	59 4	30 0	28 3	D

7	100	100	0.882	0.853	5504	1082	5918	1972	1.09	0.55	61.0	58.8	31.0	29.3	F
8	100	100	0.882	0.853	5504	1048	5918	1972	1.06	0.53	61.2	59.0	30.7	29.0	F
9	100	100	0.882	0.853	5504	1036	5918	1972	1.05	0.53	61.2	59.0	30.6	29.0	F
10	100	100	0.882	0.853	5504	1023	5918	1972	1.03	0.52	61.3	59.1	30.5	28.9	F
11	100	100	0.882	0.853	5504	999	5918	1972	1.01	0.51	61.4	59.2	30.3	28.7	F
12	100	100	0.882	0.853	5504	951	5918	1972	0.96	0.48	61.5	59.4	30.0	28.3	D

Segment 18: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.882	3900	6761	0.58	70.1	18.5	C
2	100	0.882	4382	6761	0.65	68.5	21.3	C
3	100	0.882	5181	6761	0.77	64.2	26.9	D
4	100	0.882	5511	6761	0.88	61.9	29.7	D
5	100	0.882	5504	6761	0.82	62.0	29.6	D
6	100	0.882	5504	6761	0.84	62.0	29.6	D
7	100	0.882	5504	6761	0.95	62.0	29.6	D
8	100	0.882	5504	6761	0.92	62.0	29.6	D
9	100	0.882	5504	6761	0.91	62.0	29.6	D
10	100	0.882	5504	6761	0.90	62.0	29.6	D
11	100	0.882	5504	6761	0.88	62.0	29.6	D
12	100	0.882	5504	6761	0.84	62.0	29.6	D

Segment 19: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.882	3900	6761	0.58	70.1	18.5	C
2	100	0.882	4382	6761	0.65	68.5	21.3	C
3	100	0.882	5181	6761	0.77	64.2	26.9	D
4	100	0.882	5511	6761	0.88	61.9	29.7	D
5	100	0.882	5504	6761	0.82	62.0	29.6	D
6	100	0.882	5504	6761	0.84	62.0	29.6	D
7	100	0.882	5504	6761	0.95	62.0	29.6	D
8	100	0.882	5504	6761	0.92	62.0	29.6	D
9	100	0.882	5504	6761	0.91	62.0	29.6	D
10	100	0.882	5504	6761	0.90	62.0	29.6	D
11	100	0.882	5504	6761	0.88	62.0	29.6	D
12	100	0.882	5504	6761	0.84	62.0	29.6	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost \$/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	8602	8496	2.43	60.87	69.8	17.1	15.3	7.80	B
2	9665	9546	5.64	141.02	68.4	19.6	17.5	8.00	C
3	11428	11287	16.68	417.11	64.5	24.5	22.0	8.50	C

4	12872	12898	36 08	90212	594	301	26 9	9 20	F
5	12264	12148	40 23	1005 72	57 7	29 5	26 4	9 50	D
6	12882	12300	45 55	1138 68	56 4	30 5	27 2	9 70	D
7	12644	14023	96 34	2408 39	46 2	38 0	34 0	11 90	F
8	12521	13583	137 43	3435 77	40 0	43 4	38 9	13 70	F
9	12460	13430	148 44	3710 91	38 5	44 8	40 1	14 20	F
10	12376	13259	174 14	4353 42	35 6	48 2	43 2	15 40	F
11	12365	12933	180 32	4508 12	34 9	49 0	43 9	15 70	F
12	12881	12321	199 32	4983 10	33 2	51 7	46 3	16 50	F

Facility Overall Results

Space Mean Speed, mi/h	46 1	Average Density, veh/mi/ln	31 8
Average Travel Time, min	11 90	Average Density, pc/mi/ln	35 5
Total VMT, veh-mi	141960	Total VHD, veh-h	108261
Vehicle Value of Time (VOT), \$/h	25 00	Total Delay Cost, \$	27065 23

HCS Freeway Facilities Report

Project Information

Analyst	Kittelson & Associates	Date	11/21/2023
Agency	Florida Department of Transportation	Analysis Year	2040 Build Conditions
Jurisdiction	District Five	Time Analyzed	PM Weekday Peak Period
Facility Name	I-75 (Northbound)	Units	U.S. Customary
Project Description	I-75 PD&E North Auxillary Lanes		

Facility Global Input

Jam Density, pc/mi/ln	1900	Density at Capacity, pc/mi/ln	450
Queue Discharge Capacity Drop, %	7	Total Segments	19
Total Analysis Periods	12	Analysis Period Duration, min	15
Facility Length, mi	9.13		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-75 NB	4096	4
2	Basic	Basic	I-75 NB	1500	4
3	Diverge	Basic	I-75 NB SR 40 Off Ramp	1500	4
4	Basic	Basic	I-75 NB	3150	3
5	Merge	Basic	I-75 NB SR 40 On Ramp	1500	4
6	Basic	Basic	I-75 NB	1020	4
7	Diverge	Basic	I-75 NB US 27 Off Ramp	1500	4
8	Basic	Basic	I-75 NB	3460	3
9	Merge	Basic	I-75 NB US 27 On Ramp	1500	4
10	Basic	Basic	I-75 NB	4280	4
11	Diverge	Basic	I-75 NB 49th St DDI Off Ramp	1500	4
12	Basic	Basic	I-75 NB	4840	3
13	Merge	Basic	I-75 NB 49th St DDI On Ramp	1500	4
14	Basic	Basic	I-75 NB	4300	4
15	Diverge	Diverge	I-75 NB SR 326 Off Ramp	1500	4
16	Basic	Basic	I-75 NB	2950	3
17	Merge	Merge	I-75 NB SR 326 On Ramp	1500	3
18	Basic	Basic	I-75 NB	1500	3
19	Basic	Basic	I-75 NB	5093	3

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.902	6324	9014	0.70	66.8	23.7	C
2	1.00	0.902	5967	9014	0.66	68.1	21.9	C

3	1 00	0 902	6141	9014	0 68	67 5	227	C
4	1 00	0 902	5785	9014	0 64	687	21 0	C
5	1 00	0 902	4960	9014	0 55	705	17 6	B
6	1 00	0 902	5533	9014	0 61	693	20 0	C
7	1 00	0 902	5698	9014	0 63	68 9	207	C
8	1 00	0 902	5871	9014	0 65	684	21 5	C
9	1 00	0 902	5663	9014	0 63	69 0	205	C
10	1 00	0 902	5359	9014	0 59	69 8	192	C
11	1 00	0 902	5212	9014	0 58	70 1	18 6	C
12	1 00	0 902	4899	9014	0 54	70 6	17 4	B

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio	Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1 00	0 902	6324		9014		0 70	66 8		23 7		C
2	1 00	0 902	5967		9014		0 66	68 1		21 9		C
3	1 00	0 902	6141		9014		0 68	67 5		227		C
4	1 00	0 902	5785		9014		0 64	687		21 0		C
5	1 00	0 902	4960		9014		0 55	705		17 6		B
6	1 00	0 902	5533		9014		0 61	693		20 0		C
7	1 00	0 902	5698		9014		0 63	68 9		207		C
8	1 00	0 902	5871		9014		0 65	684		21 5		C
9	1 00	0 902	5663		9014		0 63	69 0		205		C
10	1 00	0 902	5359		9014		0 59	69 8		192		C
11	1 00	0 902	5212		9014		0 58	70 1		18 6		C
12	1 00	0 902	4899		9014		0 54	70 6		17 4		B

Segment 3: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 902	0 898	6324	547	7891	1972	0 80	0 28	58 8	58 8	26 9	26 9	D
2	1 00	1 00	0 902	0 898	5967	516	7891	1972	0 76	0 26	61 4	61 4	24 3	24 3	C
3	1 00	1 00	0 902	0 898	6141	531	7891	1972	0 78	0 27	60 2	60 2	25 5	25 5	C
4	1 00	1 00	0 902	0 898	5785	500	7891	1972	0 73	0 25	62 6	62 6	23 1	23 1	C
5	1 00	1 00	0 902	0 898	4960	429	7891	1972	0 63	0 22	67 1	67 1	18 5	18 5	C
6	1 00	1 00	0 902	0 898	5533	478	7891	1972	0 70	0 24	64 2	64 2	21 5	21 5	C
7	1 00	1 00	0 902	0 898	5698	492	7891	1972	0 72	0 25	63 2	63 2	22 5	22 5	C
8	1 00	1 00	0 902	0 898	5871	508	7891	1972	0 74	0 26	62 1	62 1	23 6	23 6	C
9	1 00	1 00	0 902	0 898	5663	489	7891	1972	0 72	0 25	63 4	63 4	22 3	22 3	C
10	1 00	1 00	0 902	0 898	5359	463	7891	1972	0 68	0 23	65 1	65 1	20 6	20 6	C
11	1 00	1 00	0 902	0 898	5212	450	7891	1972	0 66	0 23	65 9	65 9	19 8	19 8	C
12	1 00	1 00	0 902	0 898	4899	423	7891	1972	0 62	0 21	67 4	67 4	18 2	18 2	C

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.902	5779	6761	0.85	59.8	32.2	D
2	1.00	0.902	5453	6761	0.81	62.3	29.2	D
3	1.00	0.902	5612	6761	0.83	61.1	30.6	D
4	1.00	0.902	5287	6761	0.78	63.5	27.7	D
5	1.00	0.902	4533	6761	0.67	67.8	22.3	C
6	1.00	0.902	5058	6761	0.75	65.0	25.9	C
7	1.00	0.902	5208	6761	0.77	64.1	27.1	D
8	1.00	0.902	5366	6761	0.79	63.0	28.4	D
9	1.00	0.902	5176	6761	0.77	64.3	26.8	D
10	1.00	0.902	4898	6761	0.72	66.0	24.7	C
11	1.00	0.902	4764	6761	0.70	66.7	23.8	C
12	1.00	0.902	4478	6761	0.66	68.1	21.9	C

Segment 5: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.902	0.898	6626	847	7891	1972	0.84	0.43	56.4	56.4	29.4	29.4	D
2	1.00	1.00	0.902	0.898	6253	800	7891	1972	0.79	0.41	59.4	59.4	26.3	26.3	D
3	1.00	1.00	0.902	0.898	6435	823	7891	1972	0.82	0.42	58.0	58.0	27.7	27.7	D
4	1.00	1.00	0.902	0.898	6062	775	7891	1972	0.77	0.39	60.8	60.8	24.9	24.9	C
5	1.00	1.00	0.902	0.898	5198	665	7891	1972	0.66	0.34	66.0	66.0	19.7	19.7	C
6	1.00	1.00	0.902	0.898	5800	742	7891	1972	0.74	0.38	62.5	62.5	23.2	23.2	C
7	1.00	1.00	0.902	0.898	5972	764	7891	1972	0.76	0.39	61.4	61.4	24.3	24.3	C
8	1.00	1.00	0.902	0.898	6153	787	7891	1972	0.78	0.40	60.1	60.1	25.6	25.6	C
9	1.00	1.00	0.902	0.898	5935	759	7891	1972	0.75	0.38	61.7	61.7	24.0	24.0	C
10	1.00	1.00	0.902	0.898	5616	718	7891	1972	0.71	0.36	63.7	63.7	22.0	22.0	C
11	1.00	1.00	0.902	0.898	5462	698	7891	1972	0.69	0.35	64.6	64.6	21.1	21.1	C
12	1.00	1.00	0.902	0.898	5135	657	7891	1972	0.65	0.33	66.3	66.3	19.4	19.4	C

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.902	6623	9014	0.73	65.6	25.2	C
2	1.00	0.902	6249	9014	0.69	67.1	23.3	C
3	1.00	0.902	6431	9014	0.71	66.4	24.2	C
4	1.00	0.902	6059	9014	0.67	67.8	22.3	C
5	1.00	0.902	5195	9014	0.58	70.1	18.5	C
6	1.00	0.902	5796	9014	0.64	68.6	21.1	C
7	1.00	0.902	5969	9014	0.66	68.1	21.9	C
8	1.00	0.902	6150	9014	0.68	67.4	22.8	C
9	1.00	0.902	5932	9014	0.66	68.2	21.7	C

10	1 00	0 902	5613	9014	0 62	691	203	C							
11	1 00	0 902	5459	9014	0 61	695	196	C							
12	1 00	0 902	5132	9014	0 57	702	183	C							
Segment 7: Diverge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 902	0 934	6623	1138	7891	1972	0 84	0 58	56 4	56 4	29 4	29 4	D
2	1 00	1 00	0 902	0 934	6249	1074	7891	1972	0 79	0 54	59 4	59 4	26 3	26 3	D
3	1 00	1 00	0 902	0 934	6431	1105	7891	1972	0 81	0 56	58 0	58 0	27 7	27 7	D
4	1 00	1 00	0 902	0 934	6059	1041	7891	1972	0 77	0 53	60 8	60 8	24 9	24 9	C
5	1 00	1 00	0 902	0 934	5195	893	7891	1972	0 66	0 45	66 0	66 0	19 7	19 7	C
6	1 00	1 00	0 902	0 934	5796	996	7891	1972	0 73	0 51	62 6	62 6	23 1	23 1	C
7	1 00	1 00	0 902	0 934	5969	1026	7891	1972	0 76	0 52	61 4	61 4	24 3	24 3	C
8	1 00	1 00	0 902	0 934	6150	1057	7891	1972	0 78	0 54	60 1	60 1	25 6	25 6	C
9	1 00	1 00	0 902	0 934	5932	1019	7891	1972	0 75	0 52	61 7	61 7	24 0	24 0	C
10	1 00	1 00	0 902	0 934	5613	965	7891	1972	0 71	0 49	63 7	63 7	22 0	22 0	C
11	1 00	1 00	0 902	0 934	5459	938	7891	1972	0 69	0 48	64 6	64 6	21 1	21 1	C
12	1 00	1 00	0 902	0 934	5132	881	7891	1972	0 65	0 45	66 3	66 3	19 4	19 4	C
Segment 8: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1 00		0 895		5487		6761		0 81		62 1		29 5		D
2	1 00		0 895		5178		6761		0 77		64 2		26 9		D
3	1 00		0 895		5328		6761		0 79		63 2		28 1		D
4	1 00		0 895		5020		6761		0 74		65 2		25 7		C
5	1 00		0 895		4304		6761		0 64		68 8		20 9		C
6	1 00		0 895		4802		6761		0 71		66 5		24 1		C
7	1 00		0 895		4945		6761		0 73		65 7		25 1		C
8	1 00		0 895		5095		6761		0 75		64 8		26 2		D
9	1 00		0 895		4915		6761		0 73		65 9		24 9		C
10	1 00		0 895		4650		6761		0 69		67 3		23 0		C
11	1 00		0 895		4523		6761		0 67		67 9		22 2		C
12	1 00		0 895		4253		6761		0 63		69 0		20 6		C
Segment 9: Merge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 893	0 876	6017	518	7891	1972	0 76	0 26	61 1	61 1	24 6	24 6	C
2	1 00	1 00	0 893	0 876	5678	489	7891	1972	0 72	0 25	63 3	63 3	22 4	22 4	C
3	1 00	1 00	0 893	0 876	5843	503	7891	1972	0 74	0 26	62 3	62 3	23 4	23 4	C
4	1 00	1 00	0 893	0 876	5505	474	7891	1972	0 70	0 24	64 3	64 3	21 4	21 4	C

5	100	100	0.893	0.876	4720	406	7891	1972	0.60	0.21	68.1	68.1	17.3	17.3	B
6	100	100	0.893	0.876	5266	453	7891	1972	0.67	0.23	65.6	65.6	20.1	20.1	C
7	100	100	0.893	0.876	5423	467	7891	1972	0.69	0.24	64.8	64.8	20.9	20.9	C
8	100	100	0.893	0.876	5588	482	7891	1972	0.71	0.24	63.9	63.9	21.9	21.9	C
9	100	100	0.893	0.876	5391	465	7891	1972	0.68	0.24	65.0	65.0	20.7	20.7	C
10	100	100	0.893	0.876	5100	439	7891	1972	0.65	0.22	66.5	66.5	19.2	19.2	C
11	100	100	0.893	0.876	4860	427	7891	1972	0.63	0.22	67.1	67.1	18.5	18.5	C
12	100	100	0.893	0.876	4664	402	7891	1972	0.59	0.20	68.3	68.3	17.1	17.1	B

Segment 10: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.893	6008	9014	0.67	67.9	22.1	C
2	100	0.893	5669	9014	0.63	69.0	20.5	C
3	100	0.893	5834	9014	0.65	68.5	21.3	C
4	100	0.893	5496	9014	0.61	69.4	19.8	C
5	100	0.893	4712	9014	0.52	70.8	16.6	B
6	100	0.893	5258	9014	0.58	70.0	18.8	C
7	100	0.893	5414	9014	0.60	69.6	19.5	C
8	100	0.893	5579	9014	0.62	69.2	20.2	C
9	100	0.893	5382	9014	0.60	69.7	19.3	C
10	100	0.893	5092	9014	0.56	70.3	18.1	C
11	100	0.893	4952	9014	0.55	70.5	17.6	B
12	100	0.893	4656	9014	0.52	70.9	16.4	B

Segment 11: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.893	0.893	6008	1069	7891	1972	0.76	0.54	61.2	61.2	24.5	24.5	C
2	100	100	0.893	0.893	5669	1009	7891	1972	0.72	0.51	63.4	63.4	22.4	22.4	C
3	100	100	0.893	0.893	5834	1038	7891	1972	0.74	0.53	62.3	62.3	23.4	23.4	C
4	100	100	0.893	0.893	5496	979	7891	1972	0.70	0.50	64.4	64.4	21.3	21.3	C
5	100	100	0.893	0.893	4712	839	7891	1972	0.60	0.43	68.1	68.1	17.3	17.3	B
6	100	100	0.893	0.893	5258	936	7891	1972	0.67	0.47	65.7	65.7	20.0	20.0	C
7	100	100	0.893	0.893	5414	964	7891	1972	0.69	0.49	64.8	64.8	20.9	20.9	C
8	100	100	0.893	0.893	5579	993	7891	1972	0.71	0.50	63.9	63.9	21.8	21.8	C
9	100	100	0.893	0.893	5382	957	7891	1972	0.68	0.49	65.0	65.0	20.7	20.7	C
10	100	100	0.893	0.893	5092	906	7891	1972	0.65	0.46	66.5	66.5	19.1	19.1	C
11	100	100	0.893	0.893	4952	881	7891	1972	0.63	0.45	67.1	67.1	18.5	18.5	C
12	100	100	0.893	0.893	4656	829	7891	1972	0.59	0.42	68.3	68.3	17.0	17.0	B

Segment 12: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
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1	100	0.893	4938	6761	0.73	65.7	25.1	C
2	100	0.893	4660	6761	0.69	67.2	23.1	C
3	100	0.893	4796	6761	0.71	66.5	24.0	C
4	100	0.893	4517	6761	0.67	67.9	22.2	C
5	100	0.893	3673	6761	0.57	70.2	18.4	C
6	100	0.893	4321	6761	0.64	68.7	21.0	C
7	100	0.893	4450	6761	0.66	68.2	21.7	C
8	100	0.893	4586	6761	0.68	67.6	22.6	C
9	100	0.893	4424	6761	0.65	68.3	21.6	C
10	100	0.893	4186	6761	0.62	69.2	20.2	C
11	100	0.893	4071	6761	0.60	69.6	19.5	C
12	100	0.893	3628	6761	0.57	70.3	18.2	C

Segment 13: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.893	0.893	5360	422	7891	1972	0.68	0.21	65.1	65.1	20.6	20.6	C
2	100	100	0.893	0.893	5059	399	7891	1972	0.64	0.20	66.7	66.7	19.0	19.0	C
3	100	100	0.893	0.893	5206	410	7891	1972	0.66	0.21	65.9	65.9	19.7	19.7	C
4	100	100	0.893	0.893	4903	386	7891	1972	0.62	0.20	67.4	67.4	18.2	18.2	C
5	100	100	0.893	0.893	4204	331	7891	1972	0.53	0.17	69.8	69.8	15.1	15.1	B
6	100	100	0.893	0.893	4691	370	7891	1972	0.59	0.19	68.2	68.2	17.2	17.2	B
7	100	100	0.893	0.893	4631	381	7891	1972	0.61	0.19	67.7	67.7	17.8	17.8	B
8	100	100	0.893	0.893	4978	392	7891	1972	0.63	0.20	67.0	67.0	18.6	18.6	C
9	100	100	0.893	0.893	4602	378	7891	1972	0.61	0.19	67.8	67.8	17.7	17.7	B
10	100	100	0.893	0.893	4544	358	7891	1972	0.58	0.18	68.7	68.7	16.5	16.5	B
11	100	100	0.893	0.893	4419	348	7891	1972	0.56	0.18	69.2	69.2	16.0	16.0	B
12	100	100	0.893	0.893	4155	327	7891	1972	0.53	0.17	69.9	69.9	14.9	14.9	B

Segment 14: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.893	5361	9014	0.59	69.8	19.2	C
2	100	0.893	5058	9014	0.56	70.4	18.0	B
3	100	0.893	5206	9014	0.58	70.1	18.6	C
4	100	0.893	4904	9014	0.54	70.6	17.4	B
5	100	0.893	4205	9014	0.47	71.2	14.8	B
6	100	0.893	4691	9014	0.52	70.9	16.5	B
7	100	0.893	4631	9014	0.54	70.7	17.1	B
8	100	0.893	4978	9014	0.55	70.5	17.6	B
9	100	0.893	4603	9014	0.53	70.7	17.0	B
10	100	0.893	4544	9014	0.50	71.0	16.0	B
11	100	0.893	4419	9014	0.49	71.1	15.5	B

12	1 00	0 893	4155	9014	0 46	71 2	146	B							
Segment 15: Diverge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0 893	0 924	5361	1528	7891	3944	0 68	0 39	57 1	57 1	23 5	23 5	C
2	100	100	0 893	0 924	5058	1443	7891	3944	0 64	0 37	57 1	57 1	22 1	22 1	C
3	100	100	0 893	0 924	5206	1485	7891	3944	0 66	0 38	57 1	57 1	22 8	22 8	C
4	100	100	0 893	0 924	4904	1398	7891	3944	0 62	0 35	57 1	57 1	21 5	21 5	C
5	100	100	0 893	0 924	4205	1199	7891	3944	0 53	0 30	57 1	57 1	18 4	18 4	B
6	100	100	0 893	0 924	4691	1338	7891	3944	0 59	0 34	57 1	57 1	20 5	20 5	C
7	100	100	0 893	0 924	4831	1378	7891	3944	0 61	0 35	57 1	57 1	21 1	21 1	C
8	100	100	0 893	0 924	4878	1420	7891	3944	0 63	0 36	57 1	57 1	21 8	21 8	C
9	100	100	0 893	0 924	4803	1369	7891	3944	0 61	0 35	57 1	57 1	21 0	21 0	C
10	100	100	0 893	0 924	4544	1295	7891	3944	0 58	0 33	57 1	57 1	19 9	19 9	B
11	100	100	0 893	0 924	4419	1260	7891	3944	0 56	0 32	57 1	57 1	19 3	19 3	B
12	100	100	0 893	0 924	4155	1184	7891	3944	0 53	0 30	57 1	57 1	18 2	18 2	B

Segment 16: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0 881	0 881	3631	6761	6761	6761	0 57	0 57	70 3	70 3	18 2	18 2	C
2	100	100	0 881	0 881	3614	6761	6761	6761	0 53	0 53	70 7	70 7	17 0	17 0	B
3	100	100	0 881	0 881	3720	6761	6761	6761	0 55	0 55	70 5	70 5	17 6	17 6	B
4	100	100	0 881	0 881	3504	6761	6761	6761	0 52	0 52	70 8	70 8	16 5	16 5	B
5	100	100	0 881	0 881	3005	6761	6761	6761	0 44	0 44	70 8	70 8	14 1	14 1	B
6	100	100	0 881	0 881	3352	6761	6761	6761	0 50	0 50	70 8	70 8	15 7	15 7	B
7	100	100	0 881	0 881	3452	6761	6761	6761	0 51	0 51	70 8	70 8	16 2	16 2	B
8	100	100	0 881	0 881	3556	6761	6761	6761	0 53	0 53	70 8	70 8	16 7	16 7	B
9	100	100	0 881	0 881	3432	6761	6761	6761	0 51	0 51	70 8	70 8	16 1	16 1	B
10	100	100	0 881	0 881	3247	6761	6761	6761	0 48	0 48	70 8	70 8	15 2	15 2	B
11	100	100	0 881	0 881	3158	6761	6761	6761	0 47	0 47	70 8	70 8	14 8	14 8	B
12	100	100	0 881	0 881	2969	6761	6761	6761	0 44	0 44	70 8	70 8	13 9	13 9	B

Segment 17: Merge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0 876	0 853	4568	715	5918	1972	0 77	0 36	63 5	61 7	24 0	23 1	C
2	100	100	0 876	0 853	4310	675	5918	1972	0 73	0 34	63 9	62 1	22 5	21 8	C
3	100	100	0 876	0 853	4435	694	5918	1972	0 75	0 35	63 7	61 9	23 2	22 5	C
4	100	100	0 876	0 853	4178	654	5918	1972	0 71	0 33	64 1	62 3	21 7	21 2	C
5	100	100	0 876	0 853	3582	560	5918	1972	0 61	0 28	64 7	62 9	18 5	18 1	B
6	100	100	0 876	0 853	3997	626	5918	1972	0 68	0 32	64 3	62 5	20 7	20 2	C

7	100	100	0.876	0.853	4116	645	5918	1972	0.70	0.33	64.2	62.4	21.4	20.8	C
8	100	100	0.876	0.853	4240	664	5918	1972	0.72	0.34	64.0	62.2	22.1	21.5	C
9	100	100	0.876	0.853	4092	640	5918	1972	0.69	0.32	64.2	62.4	21.2	20.7	C
10	100	100	0.876	0.853	3872	606	5918	1972	0.65	0.31	64.4	62.6	20.0	19.6	B
11	100	100	0.876	0.853	3766	590	5918	1972	0.64	0.30	64.5	62.7	19.5	19.0	B
12	100	100	0.876	0.853	3541	555	5918	1972	0.60	0.28	64.7	62.9	18.2	17.9	B

Segment 18: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.876	4549	6761	0.67	67.8	22.4	C
2	100	0.876	4292	6761	0.63	68.8	20.8	C
3	100	0.876	4417	6761	0.65	68.3	21.6	C
4	100	0.876	4161	6761	0.62	69.3	20.0	C
5	100	0.876	3567	6761	0.53	70.6	16.8	B
6	100	0.876	3981	6761	0.59	69.9	19.0	C
7	100	0.876	4099	6761	0.61	69.5	19.7	C
8	100	0.876	4223	6761	0.62	69.1	20.4	C
9	100	0.876	4075	6761	0.60	69.6	19.5	C
10	100	0.876	3856	6761	0.57	70.2	18.3	C
11	100	0.876	3750	6761	0.55	70.4	17.8	B
12	100	0.876	3526	6761	0.52	70.6	16.6	B

Segment 19: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.876	4549	6761	0.67	67.8	22.4	C
2	100	0.876	4292	6761	0.63	68.8	20.8	C
3	100	0.876	4417	6761	0.65	68.3	21.6	C
4	100	0.876	4161	6761	0.62	69.3	20.0	C
5	100	0.876	3567	6761	0.53	70.8	16.8	B
6	100	0.876	3981	6761	0.59	69.9	19.0	C
7	100	0.876	4099	6761	0.61	69.5	19.7	C
8	100	0.876	4223	6761	0.62	69.1	20.4	C
9	100	0.876	4075	6761	0.60	69.6	19.5	C
10	100	0.876	3856	6761	0.57	70.2	18.3	C
11	100	0.876	3750	6761	0.55	70.4	17.8	B
12	100	0.876	3526	6761	0.52	70.9	16.6	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost \$/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	11150	10992	16.84	42106	64.3	24.1	21.5	8.50	C
2	10521	10372	11.99	29973	65.9	22.2	19.8	8.30	C
3	10828	10674	14.21	35520	65.1	23.1	20.6	8.40	C

4	10200	10055	9.97	24937	66.6	21.3	19.0	8.20	C
5	8746	8622	4.00	99.95	69.0	17.6	15.7	7.90	B
6	9758	9619	7.67	191.66	67.4	20.1	17.9	8.10	C
7	10049	9906	9.12	228.04	66.9	20.9	18.7	8.20	C
8	10853	10206	10.88	272.02	66.2	21.7	19.4	8.30	C
9	9988	9847	8.79	219.63	67.0	20.7	18.5	8.20	C
10	9451	9317	6.32	158.00	68.0	19.3	17.2	8.10	C
11	9191	9060	5.36	134.09	68.4	18.7	16.7	8.00	C
12	8641	8518	3.71	92.81	69.1	17.4	15.5	7.90	B

Facility Overall Results

Space Mean Speed, mi/h	66.8	Average Density, veh/mi/ln	18.4
Average Travel Time, min	8.20	Average Density, pc/mi/ln	20.6
Total VMT, veh-mi	118877	Total VHD, veh-h	108.86
Vehicle Value of Time (VOT), \$/h	25.00	Total Delay Cost, \$	2721.55

HCS Freeway Facilities Report

Project Information

Analyst	Kittelson & Associates	Date	11/21/2023
Agency	Florida Department of Transportation	Analysis Year	2040 Build Conditions
Jurisdiction	District Five	Time Analyzed	WM Weekend Peak Period
Facility Name	I-75 (Northbound)	Units	U.S. Customary
Project Description	I-75 PD&E North Auxillary Lanes		

Facility Global Input

Jam Density, pc/mi/ln	1900	Density at Capacity, pc/mi/ln	450
Queue Discharge Capacity Drop, %	7	Total Segments	19
Total Analysis Periods	12	Analysis Period Duration, min	15
Facility Length, mi	9.13		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-75 NB	4096	4
2	Basic	Basic	I-75 NB	1500	4
3	Diverge	Basic	I-75 NB SR 40 Off Ramp	1500	4
4	Basic	Basic	I-75 NB	3150	3
5	Merge	Basic	I-75 NB SR 40 On Ramp	1500	4
6	Basic	Basic	I-75 NB	1020	4
7	Diverge	Basic	I-75 NB US 27 Off Ramp	1500	4
8	Basic	Basic	I-75 NB	3460	3
9	Merge	Basic	I-75 NB US 27 On Ramp	1500	4
10	Basic	Basic	I-75 NB	4280	4
11	Diverge	Basic	I-75 NB 49th St DDI Off Ramp	1500	4
12	Basic	Basic	I-75 NB	4840	3
13	Merge	Basic	I-75 NB 49th St DDI On Ramp	1500	4
14	Basic	Basic	I-75 NB	4300	4
15	Diverge	Diverge	I-75 NB SR 326 Off Ramp	1500	4
16	Basic	Basic	I-75 NB	2950	3
17	Merge	Merge	I-75 NB SR 326 On Ramp	1500	3
18	Basic	Basic	I-75 NB	1500	3
19	Basic	Basic	I-75 NB	5093	3

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.902	7129	9014	0.87	33.5	53.2	F
2	1.00	0.902	6750	9014	0.87	20.7	81.4	F

3	1 00	0 902	6739	9014	0 87	20 6	81 6	F
4	1 00	0 902	6739	9014	0 87	20 6	81 6	F
5	1 00	0 902	6805	9014	0 79	21 1	80 5	F
6	1 00	0 902	6738	9014	0 79	20 6	81 6	F
7	1 00	0 902	6738	9014	0 79	20 6	81 6	F
8	1 00	0 902	6738	9014	0 79	20 6	81 6	F
9	1 00	0 902	6794	9014	0 71	21 0	80 7	F
10	1 00	0 902	6737	9014	0 71	20 6	81 6	F
11	1 00	0 902	6737	9014	0 71	20 6	81 6	F
12	1 00	0 894	6733	9014	0 72	20 6	81 7	F

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)		Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)		LOS
1	1 00	0 902	6914		9014	0 87	24 3	71 1		F
2	1 00	0 902	6745		9014	0 87	20 7	81 4		F
3	1 00	0 902	6739		9014	0 87	20 6	81 6		F
4	1 00	0 902	6739		9014	0 87	20 6	81 6		F
5	1 00	0 902	6783		9014	0 79	21 3	79 7		F
6	1 00	0 902	6738		9014	0 79	20 6	81 6		F
7	1 00	0 902	6738		9014	0 79	20 6	81 6		F
8	1 00	0 902	6738		9014	0 79	20 6	81 6		F
9	1 00	0 902	6774		9014	0 71	21 1	80 1		F
10	1 00	0 902	6737		9014	0 71	20 6	81 6		F
11	1 00	0 902	6737		9014	0 71	20 6	81 6		F
12	1 00	0 894	6735		9014	0 72	20 6	81 6		F

Segment 3: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 902	0 934	6820	524	7891	1972	0 99	0 27	26 7	26 7	63 9	63 9	F
2	1 00	1 00	0 902	0 934	6739	524	7891	1972	0 99	0 27	25 5	25 5	66 1	66 1	F
3	1 00	1 00	0 902	0 934	6739	524	7891	1972	0 99	0 27	25 5	25 5	66 2	66 2	F
4	1 00	1 00	0 902	0 934	6739	524	7891	1972	0 99	0 27	25 5	25 5	66 2	66 2	F
5	1 00	1 00	0 902	0 934	6742	479	7891	1972	0 91	0 24	25 6	25 6	65 7	65 7	F
6	1 00	1 00	0 902	0 934	6738	479	7891	1972	0 91	0 24	25 5	25 5	66 2	66 2	F
7	1 00	1 00	0 902	0 934	6738	479	7891	1972	0 91	0 24	25 5	25 5	66 2	66 2	F
8	1 00	1 00	0 902	0 934	6738	479	7891	1972	0 91	0 24	25 5	25 5	66 2	66 2	F
9	1 00	1 00	0 902	0 934	6741	427	7891	1972	0 81	0 22	25 6	25 6	65 8	65 8	F
10	1 00	1 00	0 902	0 934	6737	427	7891	1972	0 81	0 22	25 4	25 4	66 2	66 2	F
11	1 00	1 00	0 902	0 934	6737	427	7891	1972	0 81	0 22	25 4	25 4	66 2	66 2	F
12	1 00	1 00	0 894	0 934	6737	427	7891	1972	0 82	0 22	25 4	25 4	66 2	66 2	F

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.899	6296	6761	1.08	55.0	38.2	F
2	1.00	0.899	6288	6761	1.08	55.1	38.0	F
3	1.00	0.899	6288	6761	1.08	55.1	38.0	F
4	1.00	0.899	6288	6761	1.08	55.1	38.0	F
5	1.00	0.899	6288	6761	0.99	55.1	38.0	E
6	1.00	0.899	6288	6761	0.99	55.1	38.0	E
7	1.00	0.899	6288	6761	0.99	55.1	38.0	E
8	1.00	0.899	6288	6761	0.99	55.1	38.0	E
9	1.00	0.899	6288	6761	0.88	55.1	38.0	E
10	1.00	0.899	6288	6761	0.88	55.1	38.0	E
11	1.00	0.899	6288	6761	0.88	55.1	38.0	E
12	1.00	0.898	6288	6761	0.89	55.1	38.0	E

Segment 5: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.903	0.940	6901	605	7891	1972	1.00	0.31	64.7	64.7	26.7	26.7	D
2	1.00	1.00	0.903	0.940	6893	605	7891	1972	1.00	0.31	64.7	64.7	26.6	26.6	D
3	1.00	1.00	0.903	0.940	6893	605	7891	1972	1.00	0.31	64.7	64.7	26.6	26.6	D
4	1.00	1.00	0.903	0.940	6893	605	7891	1972	1.00	0.31	64.7	64.7	26.6	26.6	D
5	1.00	1.00	0.903	0.940	6841	553	7891	1972	0.91	0.28	64.8	64.8	26.4	26.4	D
6	1.00	1.00	0.903	0.940	6841	553	7891	1972	0.91	0.28	64.8	64.8	26.4	26.4	D
7	1.00	1.00	0.903	0.940	6841	553	7891	1972	0.91	0.28	64.8	64.8	26.4	26.4	D
8	1.00	1.00	0.903	0.940	6841	553	7891	1972	0.91	0.28	64.8	64.8	26.4	26.4	D
9	1.00	1.00	0.903	0.940	6783	495	7891	1972	0.82	0.25	64.9	64.9	26.1	26.1	D
10	1.00	1.00	0.903	0.940	6783	495	7891	1972	0.82	0.25	64.9	64.9	26.1	26.1	D
11	1.00	1.00	0.903	0.940	6783	495	7891	1972	0.82	0.25	64.9	64.9	26.1	26.1	D
12	1.00	1.00	0.899	0.940	6783	495	7891	1972	0.82	0.25	64.9	64.9	26.1	26.1	D

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.908	6901	9014	0.88	64.3	26.8	D
2	1.00	0.908	6893	9014	0.88	64.3	26.8	D
3	1.00	0.908	6893	9014	0.88	64.3	26.8	D
4	1.00	0.908	6893	9014	0.88	64.3	26.8	D
5	1.00	0.908	6841	9014	0.80	64.6	26.5	D
6	1.00	0.908	6841	9014	0.80	64.6	26.5	D
7	1.00	0.908	6841	9014	0.80	64.6	26.5	D
8	1.00	0.908	6841	9014	0.80	64.6	26.5	D
9	1.00	0.908	6783	9014	0.72	64.8	26.2	D

10	1 00	0 908	6783	9014	072	64 8	26 2	D							
11	1 00	0 908	6783	9014	072	64 8	26 2	D							
12	1 00	0 899	6783	9014	072	64 8	26 2	D							
Segment 7: Diverge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 903	0 961	6901	888	7891	1972	1 00	0 45	66 3	66 3	26 0	26 0	C
2	1 00	1 00	0 903	0 961	6893	888	7891	1972	1 00	0 45	66 3	66 3	26 0	26 0	C
3	1 00	1 00	0 903	0 961	6893	888	7891	1972	1 00	0 45	66 3	66 3	26 0	26 0	C
4	1 00	1 00	0 903	0 961	6893	888	7891	1972	1 00	0 45	66 3	66 3	26 0	26 0	C
5	1 00	1 00	0 903	0 961	6841	812	7891	1972	0 92	0 41	66 5	66 5	25 7	25 7	C
6	1 00	1 00	0 903	0 961	6841	812	7891	1972	0 92	0 41	66 5	66 5	25 7	25 7	C
7	1 00	1 00	0 903	0 961	6841	812	7891	1972	0 92	0 41	66 5	66 5	25 7	25 7	C
8	1 00	1 00	0 903	0 961	6841	812	7891	1972	0 92	0 41	66 5	66 5	25 7	25 7	C
9	1 00	1 00	0 903	0 961	6783	725	7891	1972	0 82	0 37	66 7	66 7	25 4	25 4	C
10	1 00	1 00	0 903	0 961	6783	725	7891	1972	0 82	0 37	66 7	66 7	25 4	25 4	C
11	1 00	1 00	0 903	0 961	6783	725	7891	1972	0 82	0 37	66 7	66 7	25 4	25 4	C
12	1 00	1 00	0 894	0 961	6783	725	7891	1972	0 83	0 37	66 7	66 7	25 4	25 4	C
Segment 8: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00		0 896		6013		6761		1 04		57 7		34 7		F
2	1 00		0 896		6119		6761		1 04		56 8		35 9		F
3	1 00		0 896		6119		6761		1 04		56 8		35 9		F
4	1 00		0 896		6119		6761		1 04		56 8		35 9		F
5	1 00		0 896		6073		6761		0 95		57 2		35 4		E
6	1 00		0 896		6073		6761		0 95		57 2		35 4		E
7	1 00		0 896		6073		6761		0 95		57 2		35 4		E
8	1 00		0 896		6073		6761		0 95		57 2		35 4		E
9	1 00		0 896		6022		6761		0 85		57 6		34 8		D
10	1 00		0 896		6022		6761		0 85		57 6		34 8		D
11	1 00		0 896		6022		6761		0 85		57 6		34 8		D
12	1 00		0 894		6022		6761		0 85		57 6		34 8		D
Segment 9: Merge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 896	0 913	6411	398	7891	1972	0 94	0 20	65 2	65 2	24 6	24 6	C
2	1 00	1 00	0 896	0 913	6517	398	7891	1972	0 94	0 20	65 1	65 1	25 0	25 0	C
3	1 00	1 00	0 896	0 913	6517	398	7891	1972	0 94	0 20	65 1	65 1	25 0	25 0	C
4	1 00	1 00	0 896	0 913	6517	398	7891	1972	0 94	0 20	65 1	65 1	25 0	25 0	C

5	100	100	0.896	0.913	6437	364	7891	1972	0.86	0.18	652	652	247	247	C
6	100	100	0.896	0.913	6437	364	7891	1972	0.86	0.18	652	652	247	247	C
7	100	100	0.896	0.913	6437	364	7891	1972	0.86	0.18	652	652	247	247	C
8	100	100	0.896	0.913	6437	364	7891	1972	0.86	0.18	652	652	247	247	C
9	100	100	0.896	0.913	6347	325	7891	1972	0.77	0.16	653	653	243	243	C
10	100	100	0.896	0.913	6347	325	7891	1972	0.77	0.16	653	653	243	243	C
11	100	100	0.896	0.913	6347	325	7891	1972	0.77	0.16	653	653	243	243	C
12	100	100	0.893	0.913	6347	325	7891	1972	0.77	0.16	653	653	243	243	C

Segment 10: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.896	6411	9014	0.82	66.5	24.1	C
2	100	0.896	6517	9014	0.82	66.0	24.7	C
3	100	0.896	6517	9014	0.82	66.0	24.7	C
4	100	0.896	6517	9014	0.82	66.0	24.7	C
5	100	0.896	6437	9014	0.75	66.3	24.3	C
6	100	0.896	6437	9014	0.75	66.3	24.3	C
7	100	0.896	6437	9014	0.75	66.3	24.3	C
8	100	0.896	6437	9014	0.75	66.3	24.3	C
9	100	0.896	6347	9014	0.67	66.7	23.8	C
10	100	0.896	6347	9014	0.67	66.7	23.8	C
11	100	0.896	6347	9014	0.67	66.7	23.8	C
12	100	0.893	6347	9014	0.68	66.7	23.8	C

Segment 11: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.896	0.893	6411	1125	7891	1972	0.94	0.57	657	657	24.4	24.4	C
2	100	100	0.896	0.893	6517	1125	7891	1972	0.94	0.57	657	657	24.8	24.8	C
3	100	100	0.896	0.893	6517	1125	7891	1972	0.94	0.57	657	657	24.8	24.8	C
4	100	100	0.896	0.893	6517	1125	7891	1972	0.94	0.57	657	657	24.8	24.8	C
5	100	100	0.896	0.893	6437	1029	7891	1972	0.86	0.52	66.0	66.0	24.4	24.4	C
6	100	100	0.896	0.893	6437	1029	7891	1972	0.86	0.52	66.0	66.0	24.4	24.4	C
7	100	100	0.896	0.893	6437	1029	7891	1972	0.86	0.52	66.0	66.0	24.4	24.4	C
8	100	100	0.896	0.893	6437	1029	7891	1972	0.86	0.52	66.0	66.0	24.4	24.4	C
9	100	100	0.896	0.893	6347	919	7891	1972	0.77	0.47	66.3	66.3	23.9	23.9	C
10	100	100	0.896	0.893	6347	919	7891	1972	0.77	0.47	66.3	66.3	23.9	23.9	C
11	100	100	0.896	0.893	6347	919	7891	1972	0.77	0.47	66.3	66.3	23.9	23.9	C
12	100	100	1.000	0.893	6347	919	7891	1972	0.69	0.47	66.3	66.3	23.9	23.9	C

Segment 12: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
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1	100	0.897	5286	6761	0.93	63.5	27.7	D
2	100	0.897	5530	6761	0.93	61.8	29.8	D
3	100	0.897	5530	6761	0.93	61.8	29.8	D
4	100	0.897	5530	6761	0.93	61.8	29.8	D
5	100	0.897	5462	6761	0.85	62.3	29.2	D
6	100	0.897	5462	6761	0.85	62.3	29.2	D
7	100	0.897	5462	6761	0.85	62.3	29.2	D
8	100	0.897	5462	6761	0.85	62.3	29.2	D
9	100	0.897	5385	6761	0.76	62.8	28.6	D
10	100	0.897	5387	6761	0.76	62.8	28.6	D
11	100	0.897	5387	6761	0.76	62.8	28.6	D
12	100	1.000	5387	6761	0.68	62.8	28.6	D

Segment 13: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.896	0.893	5728	442	7891	1972	0.86	0.22	65.8	65.8	21.8	21.8	C
2	100	100	0.896	0.893	5972	442	7891	1972	0.86	0.22	65.6	65.6	22.8	22.8	C
3	100	100	0.896	0.893	5972	442	7891	1972	0.86	0.22	65.6	65.6	22.8	22.8	C
4	100	100	0.896	0.893	5972	442	7891	1972	0.86	0.22	65.6	65.6	22.8	22.8	C
5	100	100	0.896	0.893	5866	404	7891	1972	0.78	0.21	65.7	65.7	22.3	22.3	C
6	100	100	0.896	0.893	5866	404	7891	1972	0.78	0.21	65.7	65.7	22.3	22.3	C
7	100	100	0.896	0.893	5866	404	7891	1972	0.78	0.21	65.7	65.7	22.3	22.3	C
8	100	100	0.896	0.893	5866	404	7891	1972	0.78	0.21	65.7	65.7	22.3	22.3	C
9	100	100	0.896	0.893	5747	362	7891	1972	0.70	0.18	65.9	65.9	21.8	21.8	C
10	100	100	0.896	0.893	5749	362	7891	1972	0.70	0.18	65.9	65.9	21.8	21.8	C
11	100	100	0.896	0.893	5749	362	7891	1972	0.70	0.18	65.9	65.9	21.8	21.8	C
12	100	100	0.893	0.893	5749	362	7891	1972	0.70	0.18	65.9	65.9	21.8	21.8	C

Segment 14: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.896	5728	9014	0.75	68.8	20.8	C
2	100	0.896	5972	9014	0.75	68.1	21.9	C
3	100	0.896	5972	9014	0.75	68.1	21.9	C
4	100	0.896	5972	9014	0.75	68.1	21.9	C
5	100	0.896	5866	9014	0.68	68.4	21.4	C
6	100	0.896	5866	9014	0.68	68.4	21.4	C
7	100	0.896	5866	9014	0.68	68.4	21.4	C
8	100	0.896	5866	9014	0.68	68.4	21.4	C
9	100	0.896	5747	9014	0.61	68.8	20.9	C
10	100	0.896	5749	9014	0.61	68.8	20.9	C
11	100	0.896	5749	9014	0.61	68.8	20.9	C

12	100	0.893	5749	9014	0.61	68.8	20.9	C							
Segment 15: Diverge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.896	0.942	5728	1639	7891	3944	0.85	0.42	66.0	57.4	21.7	14.0	B
2	100	100	0.896	0.942	5972	1639	7891	3944	0.85	0.42	66.0	57.4	22.6	14.5	B
3	100	100	0.896	0.942	5972	1639	7891	3944	0.85	0.42	66.0	57.4	22.6	14.5	B
4	100	100	0.896	0.942	5972	1639	7891	3944	0.85	0.42	66.0	57.4	22.6	14.5	B
5	100	100	0.896	0.942	5866	1499	7891	3944	0.78	0.38	66.4	57.7	22.1	13.4	B
6	100	100	0.896	0.942	5866	1499	7891	3944	0.78	0.38	66.4	57.7	22.1	13.4	B
7	100	100	0.896	0.942	5866	1499	7891	3944	0.78	0.38	66.4	57.7	22.1	13.4	B
8	100	100	0.896	0.942	5866	1499	7891	3944	0.78	0.38	66.4	57.7	22.1	13.4	B
9	100	100	0.896	0.942	5747	1340	7891	3944	0.70	0.34	66.9	58.1	21.5	12.1	B
10	100	100	0.896	0.942	5749	1340	7891	3944	0.70	0.34	66.9	58.1	21.5	12.1	B
11	100	100	0.896	0.942	5749	1340	7891	3944	0.70	0.34	66.9	58.1	21.5	12.1	B
12	100	100	0.893	0.942	5749	1340	7891	3944	0.70	0.34	66.9	58.1	21.5	12.1	B

Segment 16: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.882	0.882	4089	6761	6761	6761	0.75	0.75	69.5	19.6	19.6	C	
2	100	100	0.882	0.882	4521	6761	6761	6761	0.75	0.75	67.9	22.2	22.2	C	
3	100	100	0.882	0.882	4521	6761	6761	6761	0.75	0.75	67.9	22.2	22.2	C	
4	100	100	0.882	0.882	4521	6761	6761	6761	0.75	0.75	67.9	22.2	22.2	C	
5	100	100	0.882	0.882	4441	6761	6761	6761	0.69	0.69	68.2	21.7	21.7	C	
6	100	100	0.882	0.882	4441	6761	6761	6761	0.69	0.69	68.2	21.7	21.7	C	
7	100	100	0.882	0.882	4441	6761	6761	6761	0.69	0.69	68.2	21.7	21.7	C	
8	100	100	0.882	0.882	4441	6761	6761	6761	0.69	0.69	68.2	21.7	21.7	C	
9	100	100	0.882	0.882	4351	6761	6761	6761	0.62	0.62	68.6	21.1	21.1	C	
10	100	100	0.882	0.882	4352	6761	6761	6761	0.62	0.62	68.6	21.1	21.1	C	
11	100	100	0.882	0.882	4352	6761	6761	6761	0.62	0.62	68.6	21.1	21.1	C	
12	100	100	0.891	0.891	4352	6761	6761	6761	0.61	0.61	68.6	21.1	21.1	C	

Segment 17: Merge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.886	0.915	4756	667	5918	1972	0.97	0.34	63.3	61.5	25.0	23.9	C
2	100	100	0.886	0.915	5188	667	5918	1972	0.97	0.34	62.6	60.7	27.6	25.9	C
3	100	100	0.886	0.915	5188	667	5918	1972	0.97	0.34	62.6	60.7	27.6	25.9	C
4	100	100	0.886	0.915	5188	667	5918	1972	0.97	0.34	62.6	60.7	27.6	25.9	C
5	100	100	0.886	0.915	5051	610	5918	1972	0.89	0.31	62.9	61.1	26.8	25.1	C
6	100	100	0.886	0.915	5051	610	5918	1972	0.89	0.31	62.9	61.1	26.8	25.1	C

7	100	100	0.886	0.915	5051	610	5918	1972	0.89	0.31	62.9	61.1	26.8	25.1	C
8	100	100	0.886	0.915	5051	610	5918	1972	0.89	0.31	62.9	61.1	26.8	25.1	C
9	100	100	0.886	0.915	4896	545	5918	1972	0.79	0.28	63.2	61.4	25.8	24.2	C
10	100	100	0.886	0.915	4897	545	5918	1972	0.79	0.28	63.2	61.4	25.8	24.2	C
11	100	100	0.886	0.915	4897	545	5918	1972	0.79	0.28	63.2	61.4	25.8	24.2	C
12	100	100	0.885	0.915	4897	545	5918	1972	0.79	0.28	63.2	61.4	25.8	24.2	C

Segment 18: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.886	4756	6761	0.85	66.7	23.8	C
2	100	0.886	5188	6761	0.85	64.2	26.9	D
3	100	0.886	5188	6761	0.85	64.2	26.9	D
4	100	0.886	5188	6761	0.85	64.2	26.9	D
5	100	0.886	5051	6761	0.78	65.1	25.9	C
6	100	0.886	5051	6761	0.78	65.1	25.9	C
7	100	0.886	5051	6761	0.78	65.1	25.9	C
8	100	0.886	5051	6761	0.78	65.1	25.9	C
9	100	0.886	4896	6761	0.70	66.0	24.7	C
10	100	0.886	4897	6761	0.70	66.0	24.7	C
11	100	0.886	4897	6761	0.70	66.0	24.7	C
12	100	0.885	4897	6761	0.70	66.0	24.7	C

Segment 19: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.886	4756	6761	0.85	66.7	23.8	C
2	100	0.886	5188	6761	0.85	64.2	26.9	D
3	100	0.886	5188	6761	0.85	64.2	26.9	D
4	100	0.886	5188	6761	0.85	64.2	26.9	D
5	100	0.886	5051	6761	0.78	65.1	25.9	C
6	100	0.886	5051	6761	0.78	65.1	25.9	C
7	100	0.886	5051	6761	0.78	65.1	25.9	C
8	100	0.886	5051	6761	0.78	65.1	25.9	C
9	100	0.886	4896	6761	0.70	66.0	24.7	C
10	100	0.886	4897	6761	0.70	66.0	24.7	C
11	100	0.886	4897	6761	0.70	66.0	24.7	C
12	100	0.885	4897	6761	0.70	66.0	24.7	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost \$/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	11998	13873	57.18	1429.61	53.2	31.2	28.0	10.30	F
2	12287	13873	83.80	2095.04	47.9	35.4	31.8	11.40	F
3	12285	13873	84.02	2100.52	47.9	35.5	31.8	11.40	F

4	12285	13873	84.02	2100.52	47.9	35.5	31.8	11.40	F
5	12156	12687	81.37	2034.15	48.2	34.9	31.3	11.40	D
6	12141	12687	82.94	2073.52	47.9	35.0	31.4	11.40	E
7	12141	12687	82.94	2073.52	47.9	35.0	31.4	11.40	E
8	12141	12687	82.94	2073.52	47.9	35.0	31.4	11.40	E
9	11992	11341	80.51	2012.85	48.2	34.4	30.9	11.40	D
10	11981	11341	81.82	2045.56	47.9	34.6	31.0	11.40	D
11	11981	11341	81.82	2045.58	47.9	34.6	31.0	11.40	D
12	12119	11341	81.53	2038.36	48.1	34.6	31.2	11.40	D

Facility Overall Results

Space Mean Speed, mi/h	48.4	Average Density, veh/mi/ln	31.1
Average Travel Time, min	11.30	Average Density, pc/mi/ln	34.6
Total VMT, veh-mi	1455.06	Total VHD, veh-h	964.91
Vehicle Value of Time (VOT), \$/h	25.00	Total Delay Cost, \$	2412275

I-75 North Section - Southbound

HCS Freeway Facilities Report

Project Information

Analyst	Kittelson & Associates	Date	11/21/2023
Agency	Florida Department of Transportation	Analysis Year	2040 Build Conditions
Jurisdiction	District Five	Time Analyzed	AM Weekday Peak Period
Facility Name	I-75 (Southbound)	Units	U.S. Customary
Project Description	I-75 PD&E North Auxillary Lanes		

Facility Global Input

Jam Density, pc/mi/ln	1900	Density at Capacity, pc/mi/ln	450
Queue Discharge Capacity Drop, %	7	Total Segments	21
Total Analysis Periods	12	Analysis Period Duration, min	15
Facility Length, mi	9.27		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-75 SB	5584	3
2	Basic	Basic	I-75 SB	1500	3
3	Diverge	Diverge	I-75 SB SR 326 Off Ramp	1500	3
4	Basic	Basic	I-75 SB	1836	3
5	Merge	Merge	I-75 SB SR 326 WB On Ramp	1500	3
6	Basic	Basic	I-75 SB	480	3
7	Merge	Basic	I-75 SB SR 326 EB On Ramp	1500	4
8	Basic	Basic	I-75 SB	4120	4
9	Diverge	Basic	I-75 SB 49th St DDI Off Ramp	1500	4
10	Basic	Basic	I-75 SB	2980	3
11	Merge	Basic	I-75 SB 49th St DDI On Ramp	1500	4
12	Basic	Basic	I-75 SB	5730	4
13	Diverge	Basic	I-75 SB US 27 Off Ramp	1500	4
14	Basic	Basic	I-75 SB	3450	3
15	Merge	Basic	I-75 SB US 27 On Ramp	1500	4
16	Basic	Basic	I-75 SB	1100	4
17	Diverge	Basic	I-75 SB SR 40 Off Ramp	1500	4
18	Basic	Basic	I-75 SB	3180	3
19	Merge	Basic	I-75 SB SR 40 On Ramp	1500	4
20	Basic	Basic	I-75 SB	1500	4
21	Basic	Basic	I-75 SB	3968	4

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
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1	1.00	0.895	2536	6761	0.38	71.2	11.9	B
2	1.00	0.895	2488	6761	0.37	71.2	11.6	B
3	1.00	0.895	2887	6761	0.43	71.2	13.5	B
4	1.00	0.895	3098	6761	0.46	71.2	14.5	B
5	1.00	0.895	3626	6761	0.54	70.7	17.1	B
6	1.00	0.895	3477	6761	0.51	70.9	16.3	B
7	1.00	0.895	3105	6761	0.46	71.2	14.5	B
8	1.00	0.895	3254	6761	0.48	71.1	15.3	B
9	1.00	0.895	3397	6761	0.50	71.0	15.9	B
10	1.00	0.895	3604	6761	0.53	70.7	17.0	B
11	1.00	0.895	3641	6761	0.54	70.7	17.2	B
12	1.00	0.895	3722	6761	0.55	70.5	17.6	B

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.895	2536	6761	0.38	71.2	11.9	B
2	1.00	0.895	2488	6761	0.37	71.2	11.6	B
3	1.00	0.895	2887	6761	0.43	71.2	13.5	B
4	1.00	0.895	3098	6761	0.46	71.2	14.5	B
5	1.00	0.895	3626	6761	0.54	70.7	17.1	B
6	1.00	0.895	3477	6761	0.51	70.9	16.3	B
7	1.00	0.895	3105	6761	0.46	71.2	14.5	B
8	1.00	0.895	3254	6761	0.48	71.1	15.3	B
9	1.00	0.895	3397	6761	0.50	71.0	15.9	B
10	1.00	0.895	3604	6761	0.53	70.7	17.0	B
11	1.00	0.895	3641	6761	0.54	70.7	17.2	B
12	1.00	0.895	3722	6761	0.55	70.5	17.6	B

Segment 3: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.895	0.882	2536	390	5918	1972	0.43	0.20	64.5	60.6	13.1	18.0	B
2	1.00	1.00	0.895	0.882	2488	383	5918	1972	0.42	0.19	64.6	60.7	12.8	17.7	B
3	1.00	1.00	0.895	0.882	2887	444	5918	1972	0.49	0.23	64.6	60.5	14.9	19.9	B
4	1.00	1.00	0.895	0.882	3098	477	5918	1972	0.52	0.24	64.6	60.4	16.0	21.1	C
5	1.00	1.00	0.895	0.882	3626	558	5918	1972	0.61	0.28	64.6	60.2	18.7	23.9	C
6	1.00	1.00	0.895	0.882	3477	535	5918	1972	0.59	0.27	64.6	60.2	17.9	23.1	C
7	1.00	1.00	0.895	0.882	3105	478	5918	1972	0.52	0.24	64.6	60.4	16.0	21.1	C
8	1.00	1.00	0.895	0.882	3254	501	5918	1972	0.55	0.25	64.6	60.3	16.8	21.9	C
9	1.00	1.00	0.895	0.882	3397	523	5918	1972	0.57	0.27	64.7	60.3	17.5	22.7	C
10	1.00	1.00	0.895	0.882	3604	554	5918	1972	0.61	0.28	64.6	60.2	18.6	23.7	C
11	1.00	1.00	0.895	0.882	3641	561	5918	1972	0.62	0.28	64.6	60.2	18.8	23.9	C

12	100	100	0.895	0.882	3722	573	5918	1972	0.63	0.29	64.6	60.2	19.2	24.4	C
Segment 4: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.898		2145		6761		0.32		70.8		10.0		A
2	1.00		0.898		2104		6761		0.31		70.8		9.8		A
3	1.00		0.898		2441		6761		0.36		70.8		11.4		B
4	1.00		0.898		2619		6761		0.39		70.8		12.3		B
5	1.00		0.898		3066		6761		0.45		70.8		14.4		B
6	1.00		0.898		2940		6761		0.43		70.8		13.8		B
7	1.00		0.898		2625		6761		0.39		70.8		12.3		B
8	1.00		0.898		2751		6761		0.41		70.8		12.9		B
9	1.00		0.898		2872		6761		0.42		70.8		13.4		B
10	1.00		0.898		3048		6761		0.45		70.8		14.3		B
11	1.00		0.898		3078		6761		0.46		70.8		14.4		B
12	1.00		0.898		3147		6761		0.47		70.8		14.7		B
Segment 5: Merge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.886	0.861	2968	794	5918	1878	0.50	0.42	65.4	63.8	15.1	12.5	B
2	100	100	0.886	0.861	2911	779	5918	1878	0.49	0.41	65.4	63.8	14.8	12.2	B
3	100	100	0.886	0.861	3379	905	5918	1878	0.57	0.48	65.0	63.4	17.3	14.8	B
4	100	100	0.886	0.861	3626	971	5918	1878	0.61	0.52	64.8	63.2	18.7	16.1	B
5	100	100	0.886	0.861	4243	1136	5918	1878	0.72	0.60	64.0	62.3	22.1	19.5	B
6	100	100	0.886	0.861	4069	1089	5918	1878	0.69	0.58	64.2	62.6	21.1	18.6	B
7	100	100	0.886	0.861	3633	973	5918	1878	0.61	0.52	64.8	63.2	18.7	16.1	B
8	100	100	0.886	0.861	3808	1020	5918	1878	0.64	0.54	64.6	63.0	19.6	17.1	B
9	100	100	0.886	0.861	3976	1065	5918	1878	0.67	0.57	64.3	62.7	20.6	18.0	B
10	100	100	0.886	0.861	4219	1130	5918	1878	0.71	0.60	64.1	62.4	21.9	19.4	B
11	100	100	0.886	0.861	4262	1142	5918	1878	0.72	0.61	64.0	62.3	22.2	19.6	B
12	100	100	0.886	0.861	4356	1166	5918	1878	0.74	0.62	63.8	62.1	22.8	20.1	C
Segment 6: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.886		2946		6761		0.44		70.0		13.8		B
2	1.00		0.886		2889		6761		0.43		70.0		13.5		B
3	1.00		0.886		3353		6761		0.50		70.0		15.7		B
4	1.00		0.886		3598		6761		0.53		69.9		17.0		B
5	1.00		0.886		4211		6761		0.62		69.1		20.3		C
6	1.00		0.886		4038		6761		0.60		69.7		19.3		C
7	1.00		0.886		3606		6761		0.53		69.9		17.0		B

8	1 00	0 886	3779	6761	0 56	69 9	17 9	B
9	1 00	0 886	3946	6761	0 58	69 8	18 8	C
10	1 00	0 886	4187	6761	0 62	69 2	20 2	C
11	1 00	0 886	4229	6761	0 63	69 1	20 4	C
12	1 00	0 886	4323	6761	0 64	68 7	21 0	C

Segment 7: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 887	0 894	3462	519	7507	1972	0 46	0 26	70 6	70 6	123	123	B
2	1 00	1 00	0 887	0 894	3395	509	7507	1972	0 45	0 26	70 8	70 8	120	120	B
3	1 00	1 00	0 887	0 894	3940	591	7507	1972	0 52	0 30	69 5	69 5	14 2	14 2	B
4	1 00	1 00	0 887	0 894	4228	634	7507	1972	0 56	0 32	68 5	68 5	15 4	15 4	B
5	1 00	1 00	0 887	0 894	4949	743	7507	1972	0 66	0 38	65 1	65 1	19 0	19 0	C
6	1 00	1 00	0 887	0 894	4745	711	7507	1972	0 63	0 36	66 2	66 2	17 9	17 9	B
7	1 00	1 00	0 887	0 894	4237	635	7507	1972	0 56	0 32	68 5	68 5	15 5	15 5	B
8	1 00	1 00	0 887	0 894	4442	667	7507	1972	0 59	0 34	67 7	67 7	16 4	16 4	B
9	1 00	1 00	0 887	0 894	4637	696	7507	1972	0 62	0 35	66 8	66 8	17 4	17 4	B
10	1 00	1 00	0 887	0 894	4921	738	7507	1972	0 66	0 37	65 3	65 3	18 8	18 8	C
11	1 00	1 00	0 887	0 894	4970	746	7507	1972	0 66	0 38	65 0	65 0	19 1	19 1	C
12	1 00	1 00	0 887	0 894	5080	762	7507	1972	0 68	0 39	64 3	64 3	19 8	19 8	C

Segment 8: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1 00	0 887	3466	9014	0 38	71 2	12 2	B
2	1 00	0 887	3399	9014	0 38	71 2	11 9	B
3	1 00	0 887	3945	9014	0 44	71 2	13 8	B
4	1 00	0 887	4233	9014	0 47	71 2	14 9	B
5	1 00	0 887	4955	9014	0 55	70 5	17 6	B
6	1 00	0 887	4751	9014	0 53	70 8	16 8	B
7	1 00	0 887	4242	9014	0 47	71 2	14 9	B
8	1 00	0 887	4446	9014	0 49	71 1	15 6	B
9	1 00	0 887	4643	9014	0 52	70 9	16 4	B
10	1 00	0 887	4927	9014	0 55	70 6	17 5	B
11	1 00	0 887	4976	9014	0 55	70 5	17 6	B
12	1 00	0 887	5086	9014	0 56	70 3	18 1	C

Segment 9: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 887	0 893	3466	278	7507	1972	0 46	0 14	70 6	70 6	123	123	B
2	1 00	1 00	0 887	0 893	3399	272	7507	1972	0 45	0 14	70 7	70 7	120	120	B

3	100	100	0.887	0.893	3945	316	7507	1972	0.53	0.16	69.5	69.5	14.2	14.2	B
4	100	100	0.887	0.893	4233	339	7507	1972	0.56	0.17	68.5	68.5	15.4	15.4	B
5	100	100	0.887	0.893	4855	396	7507	1972	0.66	0.20	65.1	65.1	19.0	19.0	C
6	100	100	0.887	0.893	4751	381	7507	1972	0.63	0.19	66.2	66.2	17.9	17.9	B
7	100	100	0.887	0.893	4242	340	7507	1972	0.57	0.17	68.5	68.5	15.5	15.5	B
8	100	100	0.887	0.893	4446	356	7507	1972	0.59	0.18	67.6	67.6	16.4	16.4	B
9	100	100	0.887	0.893	4643	372	7507	1972	0.62	0.19	66.7	66.7	17.4	17.4	B
10	100	100	0.887	0.893	4827	394	7507	1972	0.66	0.20	65.2	65.2	18.9	18.9	C
11	100	100	0.887	0.893	4876	399	7507	1972	0.66	0.20	64.9	64.9	19.2	19.2	C
12	100	100	0.887	0.893	5086	408	7507	1972	0.68	0.21	64.3	64.3	19.8	19.8	C

Segment 10: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.887	3186	6761	0.47	71.2	14.9	B
2	100	0.887	3125	6761	0.46	71.2	14.6	B
3	100	0.887	3627	6761	0.54	70.7	17.1	B
4	100	0.887	3892	6761	0.58	70.1	18.5	C
5	100	0.887	4556	6761	0.67	67.7	22.4	C
6	100	0.887	4368	6761	0.65	68.5	21.3	C
7	100	0.887	3900	6761	0.58	70.1	18.5	C
8	100	0.887	4088	6761	0.60	69.5	19.6	C
9	100	0.887	4268	6761	0.63	68.9	20.7	C
10	100	0.887	4530	6761	0.67	67.8	22.3	C
11	100	0.887	4575	6761	0.68	67.6	22.6	C
12	100	0.887	4675	6761	0.69	67.1	23.2	C

Segment 11: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.888	0.893	3884	702	7507	1972	0.52	0.36	69.7	69.7	13.9	13.9	B
2	100	100	0.888	0.893	3811	689	7507	1972	0.51	0.35	69.9	69.9	13.6	13.6	B
3	100	100	0.888	0.893	4423	800	7507	1972	0.59	0.41	67.7	67.7	16.3	16.3	B
4	100	100	0.888	0.893	4745	858	7507	1972	0.63	0.44	66.2	66.2	17.9	17.9	B
5	100	100	0.888	0.893	5554	1003	7507	1972	0.74	0.51	61.2	61.2	22.7	22.7	C
6	100	100	0.888	0.893	5326	963	7507	1972	0.71	0.49	62.8	62.8	21.2	21.2	C
7	100	100	0.888	0.893	4755	860	7507	1972	0.63	0.44	66.2	66.2	18.0	18.0	B
8	100	100	0.888	0.893	4883	900	7507	1972	0.66	0.46	64.9	64.9	19.2	19.2	C
9	100	100	0.888	0.893	5205	941	7507	1972	0.69	0.48	63.6	63.6	20.5	20.5	C
10	100	100	0.888	0.893	5523	998	7507	1972	0.74	0.51	61.4	61.4	22.5	22.5	C
11	100	100	0.888	0.893	5578	1008	7507	1972	0.74	0.51	61.0	61.0	22.9	22.9	C
12	100	100	0.888	0.893	5700	1030	7507	1972	0.76	0.52	60.1	60.1	23.7	23.7	C

Segment 12: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.888	3889	9014	0.43	71.2	13.7	B
2	1.00	0.888	3814	9014	0.42	71.2	13.4	B
3	1.00	0.888	4427	9014	0.49	71.1	15.6	B
4	1.00	0.888	4750	9014	0.53	70.8	16.8	B
5	1.00	0.888	5560	9014	0.62	69.3	20.1	C
6	1.00	0.888	5331	9014	0.59	69.8	19.1	C
7	1.00	0.888	4760	9014	0.53	70.8	16.8	B
8	1.00	0.888	4989	9014	0.55	70.5	17.7	B
9	1.00	0.888	5209	9014	0.58	70.1	18.6	C
10	1.00	0.888	5528	9014	0.61	69.4	19.9	C
11	1.00	0.888	5583	9014	0.62	69.2	20.2	C
12	1.00	0.888	5706	9014	0.63	68.9	20.7	C

Segment 13: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.888	0.894	3889	391	7507	1972	0.52	0.20	69.7	69.7	13.9	13.9	B
2	1.00	1.00	0.888	0.894	3814	385	7507	1972	0.51	0.20	69.9	69.9	13.6	13.6	B
3	1.00	1.00	0.888	0.894	4427	446	7507	1972	0.59	0.23	67.7	67.7	16.4	16.4	B
4	1.00	1.00	0.888	0.894	4750	479	7507	1972	0.63	0.24	66.2	66.2	17.9	17.9	B
5	1.00	1.00	0.888	0.894	5560	560	7507	1972	0.74	0.28	61.1	61.1	22.7	22.7	C
6	1.00	1.00	0.888	0.894	5331	537	7507	1972	0.71	0.27	62.7	62.7	21.3	21.3	C
7	1.00	1.00	0.888	0.894	4760	480	7507	1972	0.63	0.24	66.1	66.1	18.0	18.0	B
8	1.00	1.00	0.888	0.894	4989	503	7507	1972	0.66	0.26	64.9	64.9	19.2	19.2	C
9	1.00	1.00	0.888	0.894	5209	525	7507	1972	0.69	0.27	63.5	63.5	20.5	20.5	C
10	1.00	1.00	0.888	0.894	5528	557	7507	1972	0.74	0.28	61.3	61.3	22.5	22.5	C
11	1.00	1.00	0.888	0.894	5583	563	7507	1972	0.74	0.29	60.9	60.9	22.9	22.9	C
12	1.00	1.00	0.888	0.894	5706	575	7507	1972	0.76	0.29	60.0	60.0	23.8	23.8	C

Segment 14: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.887	3498	6761	0.52	70.9	16.4	B
2	1.00	0.887	3431	6761	0.51	71.0	16.1	B
3	1.00	0.887	3982	6761	0.59	69.9	19.0	C
4	1.00	0.887	4273	6761	0.63	68.9	20.7	C
5	1.00	0.887	5001	6761	0.74	65.4	25.5	C
6	1.00	0.887	4796	6761	0.71	66.5	24.0	C
7	1.00	0.887	4282	6761	0.63	68.9	20.7	C
8	1.00	0.887	4487	6761	0.66	68.0	22.0	C
9	1.00	0.887	4687	6761	0.69	67.1	23.3	C

10	100		0.887		4973		6761		0.74		65.5		25.3		C
11	100		0.887		5023		6761		0.74		65.2		25.7		C
12	100		0.887		5133		6761		0.76		64.5		26.5		D
Segment 15: Merge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.893	0.914	4243	768	7507	1972	0.57	0.39	68.5	68.5	15.5	15.5	B
2	100	100	0.893	0.914	4161	753	7507	1972	0.55	0.38	68.8	68.8	15.1	15.1	B
3	100	100	0.893	0.914	4829	874	7507	1972	0.64	0.44	65.8	65.8	18.3	18.3	C
4	100	100	0.893	0.914	5182	938	7507	1972	0.69	0.48	63.7	63.7	20.3	20.3	C
5	100	100	0.893	0.914	6065	1097	7507	1972	0.81	0.56	57.1	57.1	26.6	26.6	D
6	100	100	0.893	0.914	5817	1053	7507	1972	0.77	0.53	59.1	59.1	24.6	24.6	C
7	100	100	0.893	0.914	5193	940	7507	1972	0.69	0.48	63.6	63.6	20.4	20.4	C
8	100	100	0.893	0.914	5442	985	7507	1972	0.72	0.50	62.0	62.0	21.9	21.9	C
9	100	100	0.893	0.914	5583	1028	7507	1972	0.76	0.52	60.2	60.2	23.6	23.6	C
10	100	100	0.893	0.914	6031	1091	7507	1972	0.80	0.55	57.3	57.3	26.3	26.3	D
11	100	100	0.893	0.914	6091	1102	7507	1972	0.81	0.56	56.8	56.8	26.8	26.8	D
12	100	100	0.893	0.914	6226	1127	7507	1972	0.83	0.57	55.6	55.6	28.0	28.0	D
Segment 16: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	100		0.893		4261		9014		0.47		70.9		15.0		B
2	100		0.893		4178		9014		0.46		70.9		14.7		B
3	100		0.893		4850		9014		0.54		70.5		17.1		B
4	100		0.893		5204		9014		0.58		70.1		18.6		C
5	100		0.893		6091		9014		0.68		67.7		22.5		C
6	100		0.893		5841		9014		0.65		68.5		21.3		C
7	100		0.893		5215		9014		0.58		70.1		18.6		C
8	100		0.893		5465		9014		0.61		69.5		19.7		C
9	100		0.893		5708		9014		0.63		68.9		20.7		C
10	100		0.893		6056		9014		0.67		67.8		22.3		C
11	100		0.893		6116		9014		0.68		67.6		22.6		C
12	100		0.893		6252		9014		0.69		67.1		23.3		C
Segment 17: Diverge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.893	0.903	4261	532	7507	1972	0.57	0.27	68.4	68.4	15.6	15.6	B
2	100	100	0.893	0.903	4178	522	7507	1972	0.56	0.26	68.7	68.7	15.2	15.2	B
3	100	100	0.893	0.903	4850	605	7507	1972	0.65	0.31	65.7	65.7	18.4	18.4	C
4	100	100	0.893	0.903	5204	650	7507	1972	0.69	0.33	63.6	63.6	20.5	20.5	C

5	100	100	0.893	0.903	6091	760	7507	1972	0.81	0.39	56.8	56.8	26.8	26.8	D
6	100	100	0.893	0.903	5841	729	7507	1972	0.78	0.37	58.9	58.9	24.8	24.8	C
7	100	100	0.893	0.903	5215	651	7507	1972	0.69	0.33	63.5	63.5	20.5	20.5	C
8	100	100	0.893	0.903	5465	682	7507	1972	0.73	0.35	61.8	61.8	22.1	22.1	C
9	100	100	0.893	0.903	5708	712	7507	1972	0.76	0.36	60.0	60.0	23.8	23.8	C
10	100	100	0.893	0.903	6056	755	7507	1972	0.81	0.38	57.1	57.1	26.5	26.5	D
11	100	100	0.893	0.903	6116	763	7507	1972	0.81	0.39	56.6	56.6	27.0	27.0	D
12	100	100	0.893	0.903	6252	780	7507	1972	0.83	0.40	55.4	55.4	28.2	28.2	D

Segment 18: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.891	3732	6761	0.55	70.5	17.6	B
2	100	0.891	3659	6761	0.54	70.6	17.3	B
3	100	0.891	4248	6761	0.63	69.0	20.5	C
4	100	0.891	4557	6761	0.67	67.7	22.4	C
5	100	0.891	5334	6761	0.79	63.2	28.1	D
6	100	0.891	5116	6761	0.76	64.7	26.4	D
7	100	0.891	4567	6761	0.68	67.7	22.5	C
8	100	0.891	4786	6761	0.71	66.6	23.9	C
9	100	0.891	4999	6761	0.74	65.4	25.5	C
10	100	0.891	5304	6761	0.78	63.4	27.9	D
11	100	0.891	5357	6761	0.79	63.0	28.3	D
12	100	0.891	5476	6761	0.81	62.2	29.3	D

Segment 19: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.894	0.912	4104	385	7507	1972	0.55	0.20	69.0	69.0	14.9	14.9	B
2	100	100	0.894	0.912	4025	378	7507	1972	0.54	0.19	69.2	69.2	14.5	14.5	B
3	100	100	0.894	0.912	4673	439	7507	1972	0.62	0.22	66.6	66.6	17.5	17.5	B
4	100	100	0.894	0.912	5011	470	7507	1972	0.67	0.24	64.7	64.7	19.4	19.4	C
5	100	100	0.894	0.912	5867	550	7507	1972	0.78	0.28	58.7	58.7	25.0	25.0	C
6	100	100	0.894	0.912	5625	527	7507	1972	0.75	0.27	60.6	60.6	23.2	23.2	C
7	100	100	0.894	0.912	5022	471	7507	1972	0.67	0.24	64.7	64.7	19.4	19.4	C
8	100	100	0.894	0.912	5265	495	7507	1972	0.70	0.25	63.2	63.2	20.8	20.8	C
9	100	100	0.894	0.912	5497	515	7507	1972	0.73	0.26	61.6	61.6	22.3	22.3	C
10	100	100	0.894	0.912	5833	547	7507	1972	0.78	0.28	59.0	59.0	24.7	24.7	C
11	100	100	0.894	0.912	5892	553	7507	1972	0.78	0.28	58.5	58.5	25.2	25.2	C
12	100	100	0.894	0.912	6022	565	7507	1972	0.80	0.29	57.4	57.4	26.2	26.2	D

Segment 20: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
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1	1 00	0 894	4112	9014	0 46	71 0	14 4	B
2	1 00	0 894	4032	9014	0 45	71 0	14 2	B
3	1 00	0 894	4681	9014	0 52	70 8	16 5	B
4	1 00	0 894	5021	9014	0 56	70 4	17 8	B
5	1 00	0 894	5878	9014	0 65	68 4	21 5	C
6	1 00	0 894	5636	9014	0 63	69 1	20 4	C
7	1 00	0 894	5032	9014	0 56	70 4	17 9	B
8	1 00	0 894	5274	9014	0 59	69 9	18 9	C
9	1 00	0 894	5508	9014	0 61	69 4	19 8	C
10	1 00	0 894	5845	9014	0 65	68 5	21 3	C
11	1 00	0 894	5903	9014	0 65	68 3	21 6	C
12	1 00	0 894	6034	9014	0 67	67 9	22 2	C

Segment 21: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1 00	0 894	4112	9014	0 46	71 2	14 4	B
2	1 00	0 894	4032	9014	0 45	71 2	14 2	B
3	1 00	0 894	4681	9014	0 52	70 9	16 5	B
4	1 00	0 894	5021	9014	0 56	70 4	17 8	B
5	1 00	0 894	5878	9014	0 65	68 4	21 5	C
6	1 00	0 894	5636	9014	0 63	69 1	20 4	C
7	1 00	0 894	5032	9014	0 56	70 4	17 9	B
8	1 00	0 894	5274	9014	0 59	69 9	18 9	C
9	1 00	0 894	5508	9014	0 61	69 4	19 8	C
10	1 00	0 894	5845	9014	0 65	68 5	21 3	C
11	1 00	0 894	5903	9014	0 65	68 3	21 6	C
12	1 00	0 894	6034	9014	0 67	67 9	22 2	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost \$/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	7155	6955	1 24	31 10	703	13 9	12 4	7 90	B
2	7018	6822	1 12	27 91	704	13 6	12 1	7 90	B
3	8145	7917	2 73	68 37	695	16 0	14 2	8 00	B
4	8740	8496	4 29	107 20	688	17 3	15 4	8 10	B
5	10229	9943	11 39	284 82	66 0	21 2	18 9	8 40	C
6	9809	9535	8 84	221 04	66 9	20 0	17 8	8 30	C
7	8758	8513	4 32	108 00	68 8	17 4	15 5	8 10	B
8	9179	8922	5 84	146 02	68 1	18 4	16 4	8 20	C
9	9585	9317	7 64	191 03	67 4	19 4	17 3	8 30	C
10	10171	9887	11 03	275 63	66 1	21 0	18 7	8 40	C
11	10273	9985	11 73	293 23	65 9	21 3	19 0	8 40	C
12	10600	10206	13 37	334 26	65 3	22 0	19 6	8 50	C

Facility Overall Results

Space Mean Speed, mi/h	67.5	Average Density, veh/mi/ln	16.4
Average Travel Time, min	8.20	Average Density, pc/mi/ln	18.5
Total VMT, veh-mi	109562	Total VHD, veh-h	83.54
Vehicle Value of Time (VOT), \$/h	25.00	Total Delay Cost, \$	208861

HCS Freeway Facilities Report

Project Information

Analyst	Kittelson & Associates	Date	11/21/2023
Agency	Florida Department of Transportation	Analysis Year	2040 Build Conditions
Jurisdiction	District Five	Time Analyzed	PM Weekday Peak Period
Facility Name	I-75 (Southbound)	Units	U.S. Customary
Project Description	I-75 PD&E North Auxillary Lanes		

Facility Global Input

Jam Density, pc/mi/ln	1900	Density at Capacity, pc/mi/ln	450
Queue Discharge Capacity Drop, %	7	Total Segments	21
Total Analysis Periods	12	Analysis Period Duration, min	15
Facility Length, mi	9.27		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-75 SB	5584	3
2	Basic	Basic	I-75 SB	1500	3
3	Diverge	Diverge	I-75 SB SR 326 Off Ramp	1500	3
4	Basic	Basic	I-75 SB	1836	3
5	Merge	Merge	I-75 SB SR 326 WB On Ramp	1500	3
6	Basic	Basic	I-75 SB	480	3
7	Merge	Basic	I-75 SB SR 326 EB On Ramp	1500	4
8	Basic	Basic	I-75 SB	4120	4
9	Diverge	Basic	I-75 SB 49th St DDI Off Ramp	1500	4
10	Basic	Basic	I-75 SB	2980	3
11	Merge	Basic	I-75 SB 49th St DDI On Ramp	1500	4
12	Basic	Basic	I-75 SB	5730	4
13	Diverge	Basic	I-75 SB US 27 Off Ramp	1500	4
14	Basic	Basic	I-75 SB	3450	3
15	Merge	Basic	I-75 SB US 27 On Ramp	1500	4
16	Basic	Basic	I-75 SB	1100	4
17	Diverge	Basic	I-75 SB SR 40 Off Ramp	1500	4
18	Basic	Basic	I-75 SB	3180	3
19	Merge	Basic	I-75 SB SR 40 On Ramp	1500	4
20	Basic	Basic	I-75 SB	1500	4
21	Basic	Basic	I-75 SB	3968	4

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
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1	1 00	0 904	5641	6761	0 88	60 9	30 9	F
2	1 00	0 904	5494	6761	0 92	25 4	72 2	F
3	1 00	0 904	5519	6761	0 86	25 7	71 6	F
4	1 00	0 904	5374	6761	0 87	24 0	74 7	F
5	1 00	0 904	5538	6761	0 84	25 9	71 2	F
6	1 00	0 904	5171	6761	0 89	21 8	79 1	F
7	1 00	0 904	5241	6761	0 81	22 5	77 6	F
8	1 00	0 904	5320	6761	0 85	23 4	75 9	F
9	1 00	0 904	5575	6761	0 82	26 4	70 4	F
10	1 00	0 904	5458	6761	0 82	24 9	72 9	F
11	1 00	0 904	5490	6761	0 76	25 3	72 3	F
12	1 00	0 904	5470	6761	0 73	25 1	72 7	F

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1 00	0 904	5511	6761	0 88	27 9	65 8	F
2	1 00	0 904	5504	6761	0 92	25 5	71 9	F
3	1 00	0 904	5504	6761	0 86	25 6	71 8	F
4	1 00	0 904	5403	6761	0 87	24 8	72 5	F
5	1 00	0 904	5504	6761	0 84	25 5	71 9	F
6	1 00	0 904	5079	6761	0 89	22 1	76 6	F
7	1 00	0 904	5328	6761	0 81	24 5	72 4	F
8	1 00	0 904	5378	6761	0 85	25 1	71 4	F
9	1 00	0 904	5515	6761	0 82	26 0	70 6	F
10	1 00	0 904	5458	6761	0 82	25 1	72 4	F
11	1 00	0 904	5477	6761	0 76	26 0	70 2	F
12	1 00	0 904	5466	6761	0 73	25 7	71 0	F

Segment 3: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 904	0 882	5511	946	5918	1972	1 00	0 48	63 8	59 2	28 8	33 0	D
2	1 00	1 00	0 904	0 882	5504	989	5918	1972	1 05	0 50	63 7	59 1	28 8	33 0	F
3	1 00	1 00	0 904	0 882	5504	925	5918	1972	0 98	0 47	63 8	59 2	28 8	32 9	D
4	1 00	1 00	0 904	0 882	5403	943	5918	1972	1 00	0 48	63 8	59 2	28 2	32 5	D
5	1 00	1 00	0 904	0 882	5504	902	5918	1972	0 96	0 46	63 9	59 3	28 7	32 8	D
6	1 00	1 00	0 904	0 882	4963	960	5918	1972	1 02	0 49	31 8	59 1	51 9	34 9	F
7	1 00	1 00	0 904	0 882	5444	878	5918	1972	0 93	0 45	63 9	59 3	28 4	32 6	D
8	1 00	1 00	0 904	0 882	5327	920	5918	1972	0 97	0 47	35 1	59 3	50 6	33 9	F
9	1 00	1 00	0 904	0 882	5473	884	5918	1972	0 94	0 45	33 1	59 3	55 2	33 0	F
10	1 00	1 00	0 904	0 882	5458	883	5918	1972	0 94	0 45	32 4	59 3	56 2	32 9	F
11	1 00	1 00	0 904	0 882	5469	815	5918	1972	0 86	0 41	33 6	59 5	54 3	31 1	F

12	100	100	0.904	0.882	5463	786	5918	1972	0.83	0.40	327	596	557	302	F
Segment 4: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.908		4565		6761		0.74		67.7		22.5		C
2	1.00		0.908		4626		6761		0.77		67.4		22.9		C
3	1.00		0.908		4625		6761		0.72		67.4		22.9		C
4	1.00		0.908		4315		6761		0.73		27.8		51.7		F
5	1.00		0.908		4587		6761		0.70		18.4		83.0		F
6	1.00		0.908		4146		6761		0.75		14.9		92.9		F
7	1.00		0.908		4587		6761		0.68		17.8		85.8		F
8	1.00		0.908		4469		6761		0.72		16.3		91.4		F
9	1.00		0.908		4587		6761		0.69		16.7		91.6		F
10	1.00		0.908		4587		6761		0.69		16.7		91.6		F
11	1.00		0.908		4587		6761		0.63		16.7		91.6		F
12	1.00		0.908		4587		6761		0.61		16.7		91.6		F
Segment 5: Merge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.898	0.861	5829	1318	5918	1878	1.07	0.70	60.0	57.5	327	27.9	F
2	100	100	0.898	0.861	5918	1377	5918	1878	1.12	0.73	59.4	56.8	337	28.6	F
3	100	100	0.898	0.861	5918	1290	5918	1878	1.05	0.69	59.9	57.4	32.9	28.0	F
4	100	100	0.898	0.861	5366	1315	5918	1878	1.07	0.70	60.8	58.6	30.9	26.7	F
5	100	100	0.898	0.861	5504	1258	5918	1878	1.03	0.67	60.3	57.9	32.3	27.6	F
6	100	100	0.898	0.861	5019	1338	5918	1878	1.09	0.71	61.2	59.1	29.9	26.0	F
7	100	100	0.898	0.861	5504	1223	5918	1878	1.00	0.65	60.4	58.1	32.1	27.3	C
8	100	100	0.898	0.861	5381	1281	5918	1878	1.04	0.68	60.5	58.2	31.7	27.2	F
9	100	100	0.898	0.861	5504	1232	5918	1878	1.00	0.66	60.4	58.0	32.1	27.4	C
10	100	100	0.898	0.861	5504	1231	5918	1878	1.00	0.66	60.4	58.0	32.1	27.4	C
11	100	100	0.898	0.861	5504	1136	5918	1878	0.93	0.60	60.9	58.6	31.3	26.7	C
12	100	100	0.898	0.861	5504	1095	5918	1878	0.89	0.58	61.1	58.9	31.0	26.4	C
Segment 6: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.898		5829		6761		0.93		59.4		32.7		D
2	1.00		0.898		5918		6761		0.97		58.6		33.7		D
3	1.00		0.898		5918		6761		0.91		58.6		33.7		D
4	1.00		0.898		5366		6761		0.93		63.0		28.4		D
5	1.00		0.898		5504		6761		0.89		62.0		29.6		D
6	1.00		0.898		5019		6761		0.95		65.2		25.7		C
7	1.00		0.898		5504		6761		0.86		62.0		29.6		D

8	1 00	0 898	5381	6761	0 91	62 9	28 5	D
9	1 00	0 898	5504	6761	0 87	62 0	29 6	D
10	1 00	0 898	5504	6761	0 87	62 0	29 6	D
11	1 00	0 898	5504	6761	0 80	62 0	29 6	D
12	1 00	0 898	5504	6761	0 77	62 0	29 6	D

Segment 7: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 898	0 894	6411	582	7507	1972	0 92	0 29	65 2	65 2	24 6	24 6	C
2	1 00	1 00	0 898	0 894	6525	607	7507	1972	0 96	0 31	65 1	65 1	25 1	25 1	C
3	1 00	1 00	0 898	0 894	6487	569	7507	1972	0 90	0 29	65 1	65 1	24 9	24 9	C
4	1 00	1 00	0 898	0 894	5945	579	7507	1972	0 91	0 29	65 6	65 6	22 7	22 7	C
5	1 00	1 00	0 898	0 894	6059	555	7507	1972	0 88	0 28	65 6	65 6	23 1	23 1	C
6	1 00	1 00	0 898	0 894	5610	591	7507	1972	0 93	0 30	65 9	65 9	21 3	21 3	C
7	1 00	1 00	0 898	0 894	6043	539	7507	1972	0 85	0 27	65 6	65 6	23 0	23 0	C
8	1 00	1 00	0 898	0 894	5947	566	7507	1972	0 89	0 29	65 6	65 6	22 7	22 7	C
9	1 00	1 00	0 898	0 894	6048	544	7507	1972	0 86	0 28	65 6	65 6	23 0	23 0	C
10	1 00	1 00	0 898	0 894	6048	544	7507	1972	0 86	0 28	65 6	65 6	23 0	23 0	C
11	1 00	1 00	0 898	0 894	6005	501	7507	1972	0 79	0 25	65 6	65 6	22 9	22 9	C
12	1 00	1 00	0 898	0 894	5987	483	7507	1972	0 76	0 25	65 6	65 6	22 8	22 8	C

Segment 8: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1 00	0 898	6411	9014	0 76	66 5	24 1	C
2	1 00	0 898	6525	9014	0 80	66 0	24 7	C
3	1 00	0 898	6246	9014	0 75	67 1	23 3	F
4	1 00	0 898	5852	9014	0 76	24 3	60 1	F
5	1 00	0 898	5917	9014	0 73	24 6	60 0	F
6	1 00	0 898	5765	9014	0 78	20 3	71 2	F
7	1 00	0 898	6033	9014	0 71	28 1	53 8	F
8	1 00	0 898	5700	9014	0 74	23 7	60 0	F
9	1 00	0 898	6526	9014	0 71	65 5	25 3	C
10	1 00	0 898	5664	9014	0 71	69 0	20 5	F
11	1 00	0 898	6390	9014	0 66	66 5	24 0	C
12	1 00	0 898	5987	9014	0 63	68 0	22 0	C

Segment 9: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 898	0 893	6411	450	7507	1972	0 92	0 23	67 5	67 5	23 7	23 7	C
2	1 00	1 00	0 898	0 893	6525	470	7507	1972	0 96	0 24	67 4	67 4	24 2	24 2	C

3	100	100	0.898	0.893	6124	440	7507	1972	0.90	0.22	28.8	28.8	53.2	53.2	F
4	100	100	0.898	0.893	5846	449	7507	1972	0.91	0.23	22.7	22.7	64.4	64.4	F
5	100	100	0.898	0.893	5964	430	7507	1972	0.87	0.22	23.3	23.3	63.9	63.9	F
6	100	100	0.898	0.893	5726	457	7507	1972	0.93	0.23	22.1	22.1	64.8	64.8	F
7	100	100	0.898	0.893	6051	418	7507	1972	0.85	0.21	24.9	24.9	60.8	60.8	F
8	100	100	0.898	0.893	5711	438	7507	1972	0.89	0.22	21.8	21.8	65.5	65.5	F
9	100	100	0.898	0.893	6717	421	7507	1972	0.86	0.21	30.8	30.8	54.5	54.5	F
10	100	100	0.898	0.893	5506	421	7507	1972	0.86	0.21	24.2	24.2	57.9	57.9	F
11	100	100	0.898	0.893	6448	387	7507	1972	0.79	0.20	67.7	67.7	23.8	23.8	C
12	100	100	0.898	0.893	5987	374	7507	1972	0.76	0.19	67.8	67.8	22.1	22.1	C

Segment 10: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.898	5961	6761	0.95	58.2	34.1	D
2	100	0.898	6099	6761	0.99	56.9	35.7	E
3	100	0.898	5716	6761	0.93	60.3	31.6	D
4	100	0.898	5333	6761	0.95	30.1	59.1	F
5	100	0.898	5502	6761	0.91	32.3	56.8	F
6	100	0.898	5441	6761	0.97	31.5	57.7	F
7	100	0.898	5621	6761	0.88	34.9	53.7	F
8	100	0.898	5342	6761	0.93	30.3	58.8	F
9	100	0.898	6353	6761	0.89	43.4	48.8	F
10	100	0.898	5232	6761	0.89	31.6	55.3	F
11	100	0.898	6108	6761	0.82	56.9	35.8	E
12	100	0.898	5485	6761	0.79	35.6	51.4	F

Segment 11: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.898	0.893	6782	821	7507	1972	0.97	0.42	64.7	64.7	26.2	26.2	D
2	100	100	0.898	0.893	6957	858	7507	1972	1.01	0.44	64.5	64.5	27.0	27.0	F
3	100	100	0.898	0.893	6298	803	7507	1972	0.95	0.41	34.9	34.9	45.1	45.1	F
4	100	100	0.898	0.893	6353	819	7507	1972	0.96	0.42	65.1	65.1	24.4	24.4	C
5	100	100	0.898	0.893	6302	783	7507	1972	0.92	0.40	65.2	65.2	24.1	24.1	C
6	100	100	0.898	0.893	6277	833	7507	1972	0.98	0.42	65.2	65.2	24.1	24.1	C
7	100	100	0.898	0.893	6339	761	7507	1972	0.90	0.39	65.2	65.2	24.3	24.3	F
8	100	100	0.898	0.893	6164	798	7507	1972	0.94	0.40	65.3	65.3	23.7	23.7	C
9	100	100	0.898	0.893	6982	767	7507	1972	0.90	0.39	64.5	64.5	27.0	27.0	F
10	100	100	0.898	0.893	6119	767	7507	1972	0.90	0.39	26.0	26.0	58.8	58.8	F
11	100	100	0.898	0.893	6807	707	7507	1972	0.83	0.36	36.5	36.5	46.6	46.6	F
12	100	100	0.898	0.893	6210	682	7507	1972	0.80	0.35	65.3	65.3	23.8	23.8	C

Segment 12: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.898	6782	9014	0.80	64.8	26.2	D
2	1.00	0.898	6386	9014	0.84	30.5	52.3	F
3	1.00	0.898	6128	9014	0.79	21.2	72.3	F
4	1.00	0.898	6432	9014	0.80	23.2	69.4	F
5	1.00	0.898	6288	9014	0.77	22.8	69.0	F
6	1.00	0.898	6230	9014	0.82	22.4	69.5	F
7	1.00	0.898	6387	9014	0.75	23.7	67.4	F
8	1.00	0.898	6328	9014	0.78	23.9	66.3	F
9	1.00	0.898	6408	9014	0.75	22.0	72.9	F
10	1.00	0.898	6337	9014	0.75	21.0	75.4	F
11	1.00	0.898	6559	9014	0.69	23.2	70.8	F
12	1.00	0.898	6475	9014	0.67	22.7	71.3	F

Segment 13: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.898	0.894	6782	592	7507	1972	0.97	0.30	67.0	67.0	25.3	25.3	C
2	1.00	1.00	0.898	0.894	6271	619	7507	1972	1.01	0.31	26.2	26.2	59.9	59.9	F
3	1.00	1.00	0.898	0.894	6112	579	7507	1972	0.95	0.29	24.6	24.6	62.2	62.2	F
4	1.00	1.00	0.898	0.894	6429	591	7507	1972	0.96	0.30	28.4	28.4	56.6	56.6	F
5	1.00	1.00	0.898	0.894	6366	565	7507	1972	0.92	0.29	28.1	28.1	56.6	56.6	F
6	1.00	1.00	0.898	0.894	6160	601	7507	1972	0.98	0.30	23.9	23.9	64.5	64.5	F
7	1.00	1.00	0.898	0.894	6447	549	7507	1972	0.90	0.28	28.2	28.2	57.1	57.1	F
8	1.00	1.00	0.898	0.894	6251	576	7507	1972	0.94	0.29	26.6	26.6	58.7	58.7	F
9	1.00	1.00	0.898	0.894	6394	554	7507	1972	0.90	0.28	26.3	26.3	60.8	60.8	F
10	1.00	1.00	0.898	0.894	6337	553	7507	1972	0.90	0.28	25.9	25.9	61.3	61.3	F
11	1.00	1.00	0.898	0.894	6540	510	7507	1972	0.83	0.26	29.1	29.1	56.2	56.2	F
12	1.00	1.00	0.898	0.894	6469	492	7507	1972	0.80	0.25	27.4	27.4	59.1	59.1	F

Segment 14: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.898	6081	6761	0.99	44.9	45.1	F
2	1.00	0.898	5678	6761	1.03	32.2	58.7	F
3	1.00	0.898	5778	6761	0.96	33.9	56.8	F
4	1.00	0.898	5730	6761	0.98	33.9	56.3	F
5	1.00	0.898	5838	6761	0.94	35.7	54.5	F
6	1.00	0.898	5678	6761	1.00	31.7	59.7	F
7	1.00	0.898	5904	6761	0.91	36.5	53.9	F
8	1.00	0.898	5727	6761	0.96	32.0	59.6	F
9	1.00	0.898	5850	6761	0.92	32.9	59.2	F

10	1 00	0 898	5818	6761	0 92	32 5	59 7	F							
11	1 00	0 898	5973	6761	0 85	34 3	58 0	F							
12	1 00	0 898	5930	6761	0 82	35 1	56 3	F							
Segment 15: Merge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0 900	0 914	7080	1100	7507	1972	1 03	0 56	36 0	36 0	49 2	49 2	F
2	100	100	0 900	0 914	6647	1149	7507	1972	1 08	0 58	29 9	29 9	55 5	55 5	F
3	100	100	0 900	0 914	6687	1075	7507	1972	1 01	0 55	34 6	34 6	48 3	48 3	F
4	100	100	0 900	0 914	6675	1096	7507	1972	1 03	0 56	31 0	31 0	53 9	53 9	F
5	100	100	0 900	0 914	6717	1049	7507	1972	0 98	0 53	33 7	33 7	49 9	49 9	F
6	100	100	0 900	0 914	6654	1116	7507	1972	1 05	0 57	30 0	30 0	55 5	55 5	F
7	100	100	0 900	0 914	6773	1020	7507	1972	0 96	0 52	36 3	36 3	46 6	46 6	F
8	100	100	0 900	0 914	6653	1069	7507	1972	1 00	0 54	31 2	31 2	53 3	53 3	F
9	100	100	0 900	0 914	6759	1027	7507	1972	0 96	0 52	30 0	30 0	56 3	56 3	F
10	100	100	0 900	0 914	6730	1027	7507	1972	0 96	0 52	31 5	31 5	53 5	53 5	F
11	100	100	0 900	0 914	6878	947	7507	1972	0 89	0 48	31 2	31 2	55 0	55 0	F
12	100	100	0 900	0 914	6846	914	7507	1972	0 86	0 46	32 3	32 3	52 9	52 9	F
Segment 16: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0 900	0 914	6918	575	7507	1972	0 86	0 29	31 4	31 4	54 6	54 6	F
2	100	100	0 900	0 914	6650	601	7507	1972	0 90	0 30	27 0	27 0	61 5	61 5	F
3	100	100	0 900	0 914	6676	562	7507	1972	0 84	0 29	27 8	27 8	60 1	60 1	F
4	100	100	0 900	0 914	6677	573	7507	1972	0 86	0 29	27 4	27 4	61 0	61 0	F
5	100	100	0 900	0 914	6711	575	7507	1972	0 82	0 29	27 8	27 8	60 1	60 1	F
6	100	100	0 900	0 914	6663	601	7507	1972	0 87	0 30	27 0	27 0	61 5	61 5	F
7	100	100	0 900	0 914	6761	575	7507	1972	0 80	0 29	27 8	27 8	60 1	60 1	F
8	100	100	0 900	0 914	6659	601	7507	1972	0 84	0 30	27 0	27 0	61 5	61 5	F
9	100	100	0 900	0 914	6754	575	7507	1972	0 80	0 29	27 8	27 8	60 1	60 1	F
10	100	100	0 900	0 914	6730	601	7507	1972	0 80	0 30	27 0	27 0	61 5	61 5	F
11	100	100	0 900	0 914	6870	575	7507	1972	0 74	0 29	27 8	27 8	60 1	60 1	F
12	100	100	0 900	0 914	6843	575	7507	1972	0 72	0 29	27 8	27 8	60 1	60 1	F
Segment 17: Diverge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0 900	1 000	6852	575	7507	1972	1 03	0 29	31 4	31 4	54 6	54 6	F
2	100	100	0 900	1 000	6640	601	7507	1972	1 08	0 30	27 0	27 0	61 5	61 5	F
3	100	100	0 900	1 000	6681	562	7507	1972	1 01	0 29	27 8	27 8	60 1	60 1	F
4	100	100	0 900	1 000	6676	573	7507	1972	1 03	0 29	27 4	27 4	61 0	61 0	F

5	100	100	0.900	1000	6706	548	7507	1972	0.99	0.28	27.9	27.9	60.1	60.1	F
6	100	100	0.900	1000	6666	583	7507	1972	1.05	0.30	27.3	27.3	61.0	61.0	F
7	100	100	0.900	1000	6743	533	7507	1972	0.96	0.27	28.6	28.6	58.8	58.8	F
8	100	100	0.900	1000	6680	559	7507	1972	1.01	0.28	27.8	27.8	60.1	60.1	F
9	100	100	0.900	1000	6737	537	7507	1972	0.97	0.27	28.5	28.5	59.1	59.1	F
10	100	100	0.900	1000	6730	537	7507	1972	0.97	0.27	28.1	28.1	60.0	60.0	F
11	100	100	0.900	1000	6840	495	7507	1972	0.89	0.25	29.9	29.9	57.2	57.2	F
12	100	100	0.900	1000	6834	478	7507	1972	0.86	0.24	29.9	29.9	57.1	57.1	F

Segment 18: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.900	6186	6761	1.05	37.3	55.2	F
2	100	0.900	6142	6761	1.10	35.1	58.3	F
3	100	0.900	6195	6761	1.03	36.1	57.1	F
4	100	0.900	6180	6761	1.05	35.9	57.5	F
5	100	0.900	6215	6761	1.01	36.5	56.7	F
6	100	0.900	6166	6761	1.07	35.6	57.7	F
7	100	0.900	6236	6761	0.98	37.0	56.2	F
8	100	0.900	6200	6761	1.02	36.3	57.0	F
9	100	0.900	6230	6761	0.98	36.8	56.4	F
10	100	0.900	6231	6761	0.98	36.8	56.4	F
11	100	0.900	6289	6761	0.91	38.3	54.7	F
12	100	0.900	6314	6761	0.88	38.6	54.5	F

Segment 19: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.901	1000	6990	804	7507	1972	1.05	0.41	64.5	64.5	27.1	27.1	F
2	100	100	0.901	1000	6982	840	7507	1972	1.10	0.43	64.5	64.5	27.1	27.1	F
3	100	100	0.901	1000	6982	787	7507	1972	1.03	0.40	64.5	64.5	27.1	27.1	F
4	100	100	0.901	1000	6982	802	7507	1972	1.05	0.41	64.5	64.5	27.1	27.1	F
5	100	100	0.901	1000	6982	767	7507	1972	1.01	0.39	64.5	64.5	27.1	27.1	F
6	100	100	0.901	1000	6982	816	7507	1972	1.07	0.41	64.5	64.5	27.1	27.1	F
7	100	100	0.901	1000	6982	746	7507	1972	0.98	0.38	64.6	64.6	27.0	27.0	D
8	100	100	0.901	1000	6982	782	7507	1972	1.03	0.40	64.5	64.5	27.1	27.1	F
9	100	100	0.901	1000	6982	752	7507	1972	0.99	0.38	64.5	64.5	27.1	27.1	D
10	100	100	0.901	1000	6982	751	7507	1972	0.99	0.38	64.6	64.6	27.0	27.0	D
11	100	100	0.901	1000	6982	693	7507	1972	0.91	0.35	64.6	64.6	27.0	27.0	D
12	100	100	0.901	1000	6982	668	7507	1972	0.88	0.34	64.6	64.6	27.0	27.0	D

Segment 20: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
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1	1 00	0 901	6990	9014	0 89	63 8	27 4	D
2	1 00	0 901	6982	9014	0 93	63 9	27 3	D
3	1 00	0 901	6982	9014	0 87	63 9	27 3	D
4	1 00	0 901	6982	9014	0 89	63 9	27 3	D
5	1 00	0 901	6982	9014	0 85	63 9	27 3	D
6	1 00	0 901	6982	9014	0 90	63 9	27 3	D
7	1 00	0 901	6982	9014	0 82	63 9	27 3	D
8	1 00	0 901	6982	9014	0 86	63 9	27 3	D
9	1 00	0 901	6982	9014	0 83	63 9	27 3	D
10	1 00	0 901	6982	9014	0 83	63 9	27 3	D
11	1 00	0 901	6982	9014	0 77	63 9	27 3	D
12	1 00	0 901	6982	9014	0 74	63 9	27 3	D

Segment 21: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1 00	0 901	6990	9014	0 89	63 8	27 4	D
2	1 00	0 901	6982	9014	0 93	63 9	27 3	D
3	1 00	0 901	6982	9014	0 87	63 9	27 3	D
4	1 00	0 901	6982	9014	0 89	63 9	27 3	D
5	1 00	0 901	6982	9014	0 85	63 9	27 3	D
6	1 00	0 901	6982	9014	0 90	63 9	27 3	D
7	1 00	0 901	6982	9014	0 82	63 9	27 3	D
8	1 00	0 901	6982	9014	0 86	63 9	27 3	D
9	1 00	0 901	6982	9014	0 83	63 9	27 3	D
10	1 00	0 901	6982	9014	0 83	63 9	27 3	D
11	1 00	0 901	6982	9014	0 77	63 9	27 3	D
12	1 00	0 901	6982	9014	0 74	63 9	27 3	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost \$/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	13144	14071	61 88	1546 98	53 3	33 3	30 0	10 40	F
2	12933	14705	146 42	3660 54	39 4	44 3	39 9	14 10	F
3	12726	13773	171 61	4290 21	36 3	47 3	42 6	15 30	F
4	12526	14033	215 91	5397 75	32 0	53 0	47 7	17 40	F
5	12643	13429	214 78	5369 47	32 2	53 0	47 8	17 30	F
6	12272	14286	248 85	6221 32	29 1	57 0	51 3	19 10	F
7	12649	13056	210 17	5254 17	32 6	52 4	47 2	17 00	F
8	12437	13682	229 67	5741 84	30 8	54 7	49 2	18 10	F
9	13015	13155	196 49	4912 14	34 3	51 3	46 2	16 20	F
10	12517	13144	216 05	5401 19	31 9	53 0	47 7	17 40	F
11	12980	12122	183 80	4595 09	35 5	49 5	44 5	15 70	F
12	12724	11694	185 98	4649 45	34 9	49 3	44 4	15 90	F

Facility Overall Results

Space Mean Speed, mi/h	34.5	Average Density, veh/mi/ln	44.9
Average Travel Time, min	16.10	Average Density, pc/mi/ln	49.8
Total VMT, veh-mi	152565	Total VHD, veh-h	2281.61
Vehicle Value of Time (VOT), \$/h	25.00	Total Delay Cost, \$	5704016

HCS Freeway Facilities Report

Project Information

Analyst	Kittelson & Associates	Date	11/21/2023
Agency	Florida Department of Transportation	Analysis Year	2040 Build Conditions
Jurisdiction	District Five	Time Analyzed	WM Weekend Peak Period
Facility Name	I-75 (Southbound)	Units	U.S. Customary
Project Description	I-75 PD&E North Auxillary Lanes		

Facility Global Input

Jam Density, pc/mi/ln	1900	Density at Capacity, pc/mi/ln	450
Queue Discharge Capacity Drop, %	7	Total Segments	21
Total Analysis Periods	12	Analysis Period Duration, min	15
Facility Length, mi	9.27		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-75 SB	5584	3
2	Basic	Basic	I-75 SB	1500	3
3	Diverge	Diverge	I-75 SB SR 326 Off Ramp	1500	3
4	Basic	Basic	I-75 SB	1836	3
5	Merge	Merge	I-75 SB SR 326 WB On Ramp	1500	3
6	Basic	Basic	I-75 SB	480	3
7	Merge	Basic	I-75 SB SR 326 EB On Ramp	1500	4
8	Basic	Basic	I-75 SB	4120	4
9	Diverge	Basic	I-75 SB 49th St DDI Off Ramp	1500	4
10	Basic	Basic	I-75 SB	2980	3
11	Merge	Basic	I-75 SB 49th St DDI On Ramp	1500	4
12	Basic	Basic	I-75 SB	5730	4
13	Diverge	Basic	I-75 SB US 27 Off Ramp	1500	4
14	Basic	Basic	I-75 SB	3450	3
15	Merge	Basic	I-75 SB US 27 On Ramp	1500	4
16	Basic	Basic	I-75 SB	1100	4
17	Diverge	Basic	I-75 SB SR 40 Off Ramp	1500	4
18	Basic	Basic	I-75 SB	3180	3
19	Merge	Basic	I-75 SB SR 40 On Ramp	1500	4
20	Basic	Basic	I-75 SB	1500	4
21	Basic	Basic	I-75 SB	3968	4

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
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1	1 00	0 901	4947	6761	073	65 7	25 1	C
2	1 00	0 901	4947	6761	073	65 7	25 1	C
3	1 00	0 901	4947	6761	073	65 7	25 1	C
4	1 00	0 901	4947	6761	073	65 7	25 1	C
5	1 00	0 901	5148	6761	076	64 4	26 6	D
6	1 00	0 901	5148	6761	076	64 4	26 6	D
7	1 00	0 901	5148	6761	076	64 4	26 6	D
8	1 00	0 901	5148	6761	076	64 4	26 6	D
9	1 00	0 901	5231	6761	077	63 9	27 3	D
10	1 00	0 901	5231	6761	077	63 9	27 3	D
11	1 00	0 901	5231	6761	077	63 9	27 3	D
12	1 00	0 901	5231	6761	077	63 9	27 3	D

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1 00	0 901	4947	6761	073	65 7	25 1	C
2	1 00	0 901	4947	6761	073	65 7	25 1	C
3	1 00	0 901	4947	6761	073	65 7	25 1	C
4	1 00	0 901	4947	6761	073	65 7	25 1	C
5	1 00	0 901	5148	6761	076	64 4	26 6	D
6	1 00	0 901	5148	6761	076	64 4	26 6	D
7	1 00	0 901	5148	6761	076	64 4	26 6	D
8	1 00	0 901	5148	6761	076	64 4	26 6	D
9	1 00	0 901	5231	6761	077	63 9	27 3	D
10	1 00	0 901	5231	6761	077	63 9	27 3	D
11	1 00	0 901	5231	6761	077	63 9	27 3	D
12	1 00	0 901	5231	6761	077	63 9	27 3	D

Segment 3: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 901	0 919	4947	651	5918	1972	0 84	0 33	64 5	60 0	25 6	30 1	D
2	1 00	1 00	0 901	0 919	4947	651	5918	1972	0 84	0 33	64 5	60 0	25 6	30 1	D
3	1 00	1 00	0 901	0 919	4947	651	5918	1972	0 84	0 33	64 5	60 0	25 6	30 1	D
4	1 00	1 00	0 901	0 919	4947	651	5918	1972	0 84	0 33	64 5	60 0	25 6	30 1	D
5	1 00	1 00	0 901	0 919	5148	677	5918	1972	0 87	0 34	64 4	59 9	26 6	31 0	D
6	1 00	1 00	0 901	0 919	5148	677	5918	1972	0 87	0 34	64 4	59 9	26 6	31 0	D
7	1 00	1 00	0 901	0 919	5148	677	5918	1972	0 87	0 34	64 4	59 9	26 6	31 0	D
8	1 00	1 00	0 901	0 919	5148	677	5918	1972	0 87	0 34	64 4	59 9	26 6	31 0	D
9	1 00	1 00	0 901	0 919	5231	688	5918	1972	0 88	0 35	64 3	59 8	27 1	31 4	D
10	1 00	1 00	0 901	0 919	5231	688	5918	1972	0 88	0 35	64 3	59 8	27 1	31 4	D
11	1 00	1 00	0 901	0 919	5231	688	5918	1972	0 88	0 35	64 3	59 8	27 1	31 4	D

12	100	100	0.901	0.919	5231	688	5918	1972	0.88	0.35	643	598	271	314	D
Segment 4: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.898		4297		6761		0.64		68.8		20.8		C
2	1.00		0.898		4297		6761		0.64		68.8		20.8		C
3	1.00		0.898		4297		6761		0.64		68.8		20.8		C
4	1.00		0.898		4297		6761		0.64		68.8		20.8		C
5	1.00		0.898		4472		6761		0.66		68.1		21.9		C
6	1.00		0.898		4472		6761		0.66		68.1		21.9		C
7	1.00		0.898		4472		6761		0.66		68.1		21.9		C
8	1.00		0.898		4472		6761		0.66		68.1		21.9		C
9	1.00		0.898		4545		6761		0.67		67.8		22.3		C
10	1.00		0.898		4545		6761		0.67		67.8		22.3		C
11	1.00		0.898		4545		6761		0.67		67.8		22.3		C
12	1.00		0.898		4545		6761		0.67		67.8		22.3		C
Segment 5: Merge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.886	0.926	5496	1140	5918	1878	0.93	0.61	61.5	59.4	29.8	25.6	C
2	100	100	0.886	0.926	5496	1140	5918	1878	0.93	0.61	61.5	59.4	29.8	25.6	C
3	100	100	0.886	0.926	5496	1140	5918	1878	0.93	0.61	61.5	59.4	29.8	25.6	C
4	100	100	0.886	0.926	5496	1140	5918	1878	0.93	0.61	61.5	59.4	29.8	25.6	C
5	100	100	0.886	0.926	5720	1187	5918	1878	0.97	0.63	60.8	58.5	31.4	26.8	C
6	100	100	0.886	0.926	5720	1187	5918	1878	0.97	0.63	60.8	58.5	31.4	26.8	C
7	100	100	0.886	0.926	5720	1187	5918	1878	0.97	0.63	60.8	58.5	31.4	26.8	C
8	100	100	0.886	0.926	5720	1187	5918	1878	0.97	0.63	60.8	58.5	31.4	26.8	C
9	100	100	0.886	0.926	5812	1206	5918	1878	0.98	0.64	60.4	58.1	32.1	27.3	C
10	100	100	0.886	0.926	5812	1206	5918	1878	0.98	0.64	60.4	58.1	32.1	27.3	C
11	100	100	0.886	0.926	5812	1206	5918	1878	0.98	0.64	60.4	58.1	32.1	27.3	C
12	100	100	0.886	0.926	5812	1206	5918	1878	0.98	0.64	60.4	58.1	32.1	27.3	C
Segment 6: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.886		5547		6761		0.82		61.6		30.0		D
2	1.00		0.886		5547		6761		0.82		61.6		30.0		D
3	1.00		0.886		5547		6761		0.82		61.6		30.0		D
4	1.00		0.886		5547		6761		0.82		61.6		30.0		D
5	1.00		0.886		5773		6761		0.85		59.8		32.2		D
6	1.00		0.886		5773		6761		0.85		59.8		32.2		D
7	1.00		0.886		5773		6761		0.85		59.8		32.2		D

8	1 00	0 886	5773	6761	0 85	59 8	32 2	D
9	1 00	0 886	5867	6761	0 87	59 0	33 2	D
10	1 00	0 886	5867	6761	0 87	59 0	33 2	D
11	1 00	0 886	5867	6761	0 87	59 0	33 2	D
12	1 00	0 886	5867	6761	0 87	59 0	33 2	D

Segment 7: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 887	0 924	5752	211	7507	1972	0 77	0 11	59 6	59 6	24 1	24 1	C
2	1 00	1 00	0 887	0 924	5752	211	7507	1972	0 77	0 11	59 6	59 6	24 1	24 1	C
3	1 00	1 00	0 887	0 924	5752	211	7507	1972	0 77	0 11	59 6	59 6	24 1	24 1	C
4	1 00	1 00	0 887	0 924	5752	211	7507	1972	0 77	0 11	59 6	59 6	24 1	24 1	C
5	1 00	1 00	0 887	0 924	5987	220	7507	1972	0 80	0 11	57 7	57 7	25 9	25 9	C
6	1 00	1 00	0 887	0 924	5987	220	7507	1972	0 80	0 11	57 7	57 7	25 9	25 9	C
7	1 00	1 00	0 887	0 924	5987	220	7507	1972	0 80	0 11	57 7	57 7	25 9	25 9	C
8	1 00	1 00	0 887	0 924	5987	220	7507	1972	0 80	0 11	57 7	57 7	25 9	25 9	C
9	1 00	1 00	0 887	0 924	6083	223	7507	1972	0 81	0 11	56 9	56 9	26 7	26 7	D
10	1 00	1 00	0 887	0 924	6083	223	7507	1972	0 81	0 11	56 9	56 9	26 7	26 7	D
11	1 00	1 00	0 887	0 924	6083	223	7507	1972	0 81	0 11	56 9	56 9	26 7	26 7	D
12	1 00	1 00	0 887	0 924	6083	223	7507	1972	0 81	0 11	56 9	56 9	26 7	26 7	D

Segment 8: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1 00	0 887	5761	9014	0 64	68 7	21 0	C
2	1 00	0 887	5761	9014	0 64	68 7	21 0	C
3	1 00	0 887	5761	9014	0 64	68 7	21 0	C
4	1 00	0 887	5761	9014	0 64	68 7	21 0	C
5	1 00	0 887	5995	9014	0 67	68 0	22 0	C
6	1 00	0 887	5995	9014	0 67	68 0	22 0	C
7	1 00	0 887	5995	9014	0 67	68 0	22 0	C
8	1 00	0 887	5995	9014	0 67	68 0	22 0	C
9	1 00	0 887	6092	9014	0 68	67 7	22 5	C
10	1 00	0 887	6092	9014	0 68	67 7	22 5	C
11	1 00	0 887	6092	9014	0 68	67 7	22 5	C
12	1 00	0 887	6092	9014	0 68	67 7	22 5	C

Segment 9: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1 00	1 00	0 887	0 893	5761	460	7507	1972	0 77	0 23	59 6	59 6	24 2	24 2	C
2	1 00	1 00	0 887	0 893	5761	460	7507	1972	0 77	0 23	59 6	59 6	24 2	24 2	C

3	100	100	0.887	0.893	5761	460	7507	1972	0.77	0.23	59.6	59.6	24.2	24.2	C
4	100	100	0.887	0.893	5761	460	7507	1972	0.77	0.23	59.6	59.6	24.2	24.2	C
5	100	100	0.887	0.893	5995	479	7507	1972	0.80	0.24	57.6	57.6	26.0	26.0	C
6	100	100	0.887	0.893	5995	479	7507	1972	0.80	0.24	57.6	57.6	26.0	26.0	C
7	100	100	0.887	0.893	5995	479	7507	1972	0.80	0.24	57.6	57.6	26.0	26.0	C
8	100	100	0.887	0.893	5995	479	7507	1972	0.80	0.24	57.6	57.6	26.0	26.0	C
9	100	100	0.887	0.893	6092	487	7507	1972	0.81	0.25	56.8	56.8	26.8	26.8	D
10	100	100	0.887	0.893	6092	487	7507	1972	0.81	0.25	56.8	56.8	26.8	26.8	D
11	100	100	0.887	0.893	6092	487	7507	1972	0.81	0.25	56.8	56.8	26.8	26.8	D
12	100	100	0.887	0.893	6092	487	7507	1972	0.81	0.25	56.8	56.8	26.8	26.8	D

Segment 10: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.887	5298	6761	0.78	63.4	27.9	D
2	100	0.887	5298	6761	0.78	63.4	27.9	D
3	100	0.887	5298	6761	0.78	63.4	27.9	D
4	100	0.887	5298	6761	0.78	63.4	27.9	D
5	100	0.887	5513	6761	0.82	61.9	29.7	D
6	100	0.887	5513	6761	0.82	61.9	29.7	D
7	100	0.887	5513	6761	0.82	61.9	29.7	D
8	100	0.887	5513	6761	0.82	61.9	29.7	D
9	100	0.887	5602	6761	0.83	61.2	30.5	D
10	100	0.887	5602	6761	0.83	61.2	30.5	D
11	100	0.887	5602	6761	0.83	61.2	30.5	D
12	100	0.887	5602	6761	0.83	61.2	30.5	D

Segment 11: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.888	0.893	6127	835	7507	1972	0.82	0.42	56.5	56.5	27.1	27.1	D
2	100	100	0.888	0.893	6127	835	7507	1972	0.82	0.42	56.5	56.5	27.1	27.1	D
3	100	100	0.888	0.893	6127	835	7507	1972	0.82	0.42	56.5	56.5	27.1	27.1	D
4	100	100	0.888	0.893	6127	835	7507	1972	0.82	0.42	56.5	56.5	27.1	27.1	D
5	100	100	0.888	0.893	6376	869	7507	1972	0.85	0.44	54.2	54.2	29.4	29.4	D
6	100	100	0.888	0.893	6376	869	7507	1972	0.85	0.44	54.2	54.2	29.4	29.4	D
7	100	100	0.888	0.893	6376	869	7507	1972	0.85	0.44	54.2	54.2	29.4	29.4	D
8	100	100	0.888	0.893	6376	869	7507	1972	0.85	0.44	54.2	54.2	29.4	29.4	D
9	100	100	0.888	0.893	6480	884	7507	1972	0.86	0.45	53.2	53.2	30.5	30.5	D
10	100	100	0.888	0.893	6480	884	7507	1972	0.86	0.45	53.2	53.2	30.5	30.5	D
11	100	100	0.888	0.893	6480	884	7507	1972	0.86	0.45	53.2	53.2	30.5	30.5	D
12	100	100	0.888	0.893	6480	884	7507	1972	0.86	0.45	53.2	53.2	30.5	30.5	D

Segment 12: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.888	6132	9014	0.68	67.5	22.7	C
2	1.00	0.888	6132	9014	0.68	67.5	22.7	C
3	1.00	0.888	6132	9014	0.68	67.5	22.7	C
4	1.00	0.888	6132	9014	0.68	67.5	22.7	C
5	1.00	0.888	6381	9014	0.71	66.6	23.9	C
6	1.00	0.888	6381	9014	0.71	66.6	23.9	C
7	1.00	0.888	6381	9014	0.71	66.6	23.9	C
8	1.00	0.888	6381	9014	0.71	66.6	23.9	C
9	1.00	0.888	6484	9014	0.72	66.2	24.5	C
10	1.00	0.888	6484	9014	0.72	66.2	24.5	C
11	1.00	0.888	6484	9014	0.72	66.2	24.5	C
12	1.00	0.888	6484	9014	0.72	66.2	24.5	C

Segment 13: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.888	0.933	6132	503	7507	1972	0.82	0.26	56.5	56.5	27.1	27.1	D
2	1.00	1.00	0.888	0.933	6132	503	7507	1972	0.82	0.26	56.5	56.5	27.1	27.1	D
3	1.00	1.00	0.888	0.933	6132	503	7507	1972	0.82	0.26	56.5	56.5	27.1	27.1	D
4	1.00	1.00	0.888	0.933	6132	503	7507	1972	0.82	0.26	56.5	56.5	27.1	27.1	D
5	1.00	1.00	0.888	0.933	6381	523	7507	1972	0.85	0.27	54.2	54.2	29.4	29.4	D
6	1.00	1.00	0.888	0.933	6381	523	7507	1972	0.85	0.27	54.2	54.2	29.4	29.4	D
7	1.00	1.00	0.888	0.933	6381	523	7507	1972	0.85	0.27	54.2	54.2	29.4	29.4	D
8	1.00	1.00	0.888	0.933	6381	523	7507	1972	0.85	0.27	54.2	54.2	29.4	29.4	D
9	1.00	1.00	0.888	0.933	6484	532	7507	1972	0.86	0.27	53.2	53.2	30.5	30.5	D
10	1.00	1.00	0.888	0.933	6484	532	7507	1972	0.86	0.27	53.2	53.2	30.5	30.5	D
11	1.00	1.00	0.888	0.933	6484	532	7507	1972	0.86	0.27	53.2	53.2	30.5	30.5	D
12	1.00	1.00	0.888	0.933	6484	532	7507	1972	0.86	0.27	53.2	53.2	30.5	30.5	D

Segment 14: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.887	5610	6761	0.83	61.1	30.6	D
2	1.00	0.887	5610	6761	0.83	61.1	30.6	D
3	1.00	0.887	5610	6761	0.83	61.1	30.6	D
4	1.00	0.887	5610	6761	0.83	61.1	30.6	D
5	1.00	0.887	5838	6761	0.86	59.3	32.8	D
6	1.00	0.887	5838	6761	0.86	59.3	32.8	D
7	1.00	0.887	5838	6761	0.86	59.3	32.8	D
8	1.00	0.887	5838	6761	0.86	59.3	32.8	D
9	1.00	0.887	5932	6761	0.88	58.5	33.8	D

10	100		0.887		5932		6761		0.88		58.5		33.6		D
11	100		0.887		5932		6761		0.88		58.5		33.6		D
12	100		0.887		5932		6761		0.88		58.5		33.6		D
Segment 15: Merge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.893	0.943	6465	893	7507	1972	0.86	0.45	53.4	53.4	30.3	30.3	D
2	100	100	0.893	0.943	6465	893	7507	1972	0.86	0.45	53.4	53.4	30.3	30.3	D
3	100	100	0.893	0.943	6465	893	7507	1972	0.86	0.45	53.4	53.4	30.3	30.3	D
4	100	100	0.893	0.943	6465	893	7507	1972	0.86	0.45	53.4	53.4	30.3	30.3	D
5	100	100	0.893	0.943	6727	929	7507	1972	0.90	0.47	50.7	50.7	33.2	33.2	D
6	100	100	0.893	0.943	6727	929	7507	1972	0.90	0.47	50.7	50.7	33.2	33.2	D
7	100	100	0.893	0.943	6727	929	7507	1972	0.90	0.47	50.7	50.7	33.2	33.2	D
8	100	100	0.893	0.943	6727	929	7507	1972	0.90	0.47	50.7	50.7	33.2	33.2	D
9	100	100	0.893	0.943	6836	944	7507	1972	0.91	0.48	49.5	49.5	34.5	34.5	D
10	100	100	0.893	0.943	6836	944	7507	1972	0.91	0.48	49.5	49.5	34.5	34.5	D
11	100	100	0.893	0.943	6836	944	7507	1972	0.91	0.48	49.5	49.5	34.5	34.5	D
12	100	100	0.893	0.943	6836	944	7507	1972	0.91	0.48	49.5	49.5	34.5	34.5	D
Segment 16: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	100		0.893		6515		9014		0.72		66.0		24.7		C
2	100		0.893		6515		9014		0.72		66.0		24.7		C
3	100		0.893		6515		9014		0.72		66.0		24.7		C
4	100		0.893		6515		9014		0.72		66.0		24.7		C
5	100		0.893		6779		9014		0.75		64.8		26.2		D
6	100		0.893		6779		9014		0.75		64.8		26.2		D
7	100		0.893		6779		9014		0.75		64.8		26.2		D
8	100		0.893		6779		9014		0.75		64.8		26.2		D
9	100		0.893		6889		9014		0.76		64.3		26.8		D
10	100		0.893		6889		9014		0.76		64.3		26.8		D
11	100		0.893		6889		9014		0.76		64.3		26.8		D
12	100		0.893		6889		9014		0.76		64.3		26.8		D
Segment 17: Diverge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.893	0.941	6515	510	7507	1972	0.87	0.26	52.9	52.9	30.8	30.8	D
2	100	100	0.893	0.941	6515	510	7507	1972	0.87	0.26	52.9	52.9	30.8	30.8	D
3	100	100	0.893	0.941	6515	510	7507	1972	0.87	0.26	52.9	52.9	30.8	30.8	D
4	100	100	0.893	0.941	6515	510	7507	1972	0.87	0.26	52.9	52.9	30.8	30.8	D

5	100	100	0.893	0.941	6779	530	7507	1972	0.90	0.27	50.1	50.1	33.8	33.8	D
6	100	100	0.893	0.941	6779	530	7507	1972	0.90	0.27	50.1	50.1	33.8	33.8	D
7	100	100	0.893	0.941	6779	530	7507	1972	0.90	0.27	50.1	50.1	33.8	33.8	D
8	100	100	0.893	0.941	6779	530	7507	1972	0.90	0.27	50.1	50.1	33.8	33.8	D
9	100	100	0.893	0.941	6889	539	7507	1972	0.92	0.27	49.0	49.0	35.1	35.1	E
10	100	100	0.893	0.941	6889	539	7507	1972	0.92	0.27	49.0	49.0	35.1	35.1	E
11	100	100	0.893	0.941	6889	539	7507	1972	0.92	0.27	49.0	49.0	35.1	35.1	E
12	100	100	0.893	0.941	6889	539	7507	1972	0.92	0.27	49.0	49.0	35.1	35.1	E

Segment 18: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	100	0.891	5991	6761	0.89	57.9	34.5	D
2	100	0.891	5991	6761	0.89	57.9	34.5	D
3	100	0.891	5991	6761	0.89	57.9	34.5	D
4	100	0.891	5991	6761	0.89	57.9	34.5	D
5	100	0.891	6235	6761	0.92	55.6	37.4	E
6	100	0.891	6235	6761	0.92	55.6	37.4	E
7	100	0.891	6235	6761	0.92	55.6	37.4	E
8	100	0.891	6235	6761	0.92	55.6	37.4	E
9	100	0.891	6336	6761	0.94	54.6	38.7	E
10	100	0.891	6336	6761	0.94	54.6	38.7	E
11	100	0.891	6336	6761	0.94	54.6	38.7	E
12	100	0.891	6336	6761	0.94	54.6	38.7	E

Segment 19: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	100	100	0.894	0.952	6467	496	7507	1972	0.86	0.25	53.3	53.3	30.3	30.3	D
2	100	100	0.894	0.952	6467	496	7507	1972	0.86	0.25	53.3	53.3	30.3	30.3	D
3	100	100	0.894	0.952	6467	496	7507	1972	0.86	0.25	53.3	53.3	30.3	30.3	D
4	100	100	0.894	0.952	6467	496	7507	1972	0.86	0.25	53.3	53.3	30.3	30.3	D
5	100	100	0.894	0.952	6730	516	7507	1972	0.90	0.26	50.7	50.7	33.2	33.2	D
6	100	100	0.894	0.952	6730	516	7507	1972	0.90	0.26	50.7	50.7	33.2	33.2	D
7	100	100	0.894	0.952	6730	516	7507	1972	0.90	0.26	50.7	50.7	33.2	33.2	D
8	100	100	0.894	0.952	6730	516	7507	1972	0.90	0.26	50.7	50.7	33.2	33.2	D
9	100	100	0.894	0.952	6838	524	7507	1972	0.91	0.27	49.5	49.5	34.5	34.5	D
10	100	100	0.894	0.952	6838	524	7507	1972	0.91	0.27	49.5	49.5	34.5	34.5	D
11	100	100	0.894	0.952	6838	524	7507	1972	0.91	0.27	49.5	49.5	34.5	34.5	D
12	100	100	0.894	0.952	6838	524	7507	1972	0.91	0.27	49.5	49.5	34.5	34.5	D

Segment 20: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
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1	1 00	0 894	6499	9014	072	66 1	24 6	C
2	1 00	0 894	6499	9014	072	66 1	24 6	C
3	1 00	0 894	6499	9014	072	66 1	24 6	C
4	1 00	0 894	6499	9014	072	66 1	24 6	C
5	1 00	0 894	6763	9014	075	64 9	26 1	D
6	1 00	0 894	6763	9014	075	64 9	26 1	D
7	1 00	0 894	6763	9014	075	64 9	26 1	D
8	1 00	0 894	6763	9014	075	64 9	26 1	D
9	1 00	0 894	6872	9014	076	64 4	26 7	D
10	1 00	0 894	6872	9014	076	64 4	26 7	D
11	1 00	0 894	6872	9014	076	64 4	26 7	D
12	1 00	0 894	6872	9014	076	64 4	26 7	D

Segment 21: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1 00	0 894	6499	9014	072	66 1	24 6	C
2	1 00	0 894	6499	9014	072	66 1	24 6	C
3	1 00	0 894	6499	9014	072	66 1	24 6	C
4	1 00	0 894	6499	9014	072	66 1	24 6	C
5	1 00	0 894	6763	9014	075	64 9	26 1	D
6	1 00	0 894	6763	9014	075	64 9	26 1	D
7	1 00	0 894	6763	9014	075	64 9	26 1	D
8	1 00	0 894	6763	9014	075	64 9	26 1	D
9	1 00	0 894	6872	9014	076	64 4	26 7	D
10	1 00	0 894	6872	9014	076	64 4	26 7	D
11	1 00	0 894	6872	9014	076	64 4	26 7	D
12	1 00	0 894	6872	9014	076	64 4	26 7	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost \$/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	11898	11672	23 30	58260	625	26 0	23 2	8 90	C
2	11898	11672	23 30	58260	625	26 0	23 2	8 90	C
3	11898	11672	23 30	58260	625	26 0	23 2	8 90	C
4	11898	11672	23 30	58260	625	26 0	23 2	8 90	C
5	12381	12146	29 51	73770	60 9	27 7	24 7	9 10	D
6	12381	12146	29 51	73770	60 9	27 7	24 7	9 10	D
7	12381	12146	29 51	73770	60 9	27 7	24 7	9 10	D
8	12381	12146	29 51	73770	60 9	27 7	24 7	9 10	D
9	12582	12343	32 40	81010	60 2	28 5	25 4	9 20	D
10	12582	12343	32 40	81010	60 2	28 5	25 4	9 20	D
11	12582	12343	32 40	81010	60 2	28 5	25 4	9 20	D
12	12582	12343	32 40	81010	60 2	28 5	25 4	9 20	D

Facility Overall Results

Space Mean Speed, mi/h	61.1	Average Density, veh/mi/ln	24.4
Average Travel Time, min	9.10	Average Density, pc/mi/ln	27.4
Total VMT, veh-mi	147442	Total VHD, veh-h	340.86
Vehicle Value of Time (VOT), \$/h	25.00	Total Delay Cost, \$	8521.60

**APPENDIX Z – 2030 BUILD SYNCHRO OUTPUT
REPORTS**

SR 40 Summary Tables

36: I-75 SB On-Ramp/I-75 SB Off-Ramp & SR 40

Approach	Movement	AM Peak Hour			PM Peak Hour			WKND Peak Hour		
		V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)
Westbound	Left	0.65	37.9 (D)	275	0.83	63.2 (E)	400	0.62	21.7 (C)	200
	Through	0.50	24.9 (C)	550	0.56	14.0 (B)	425	0.31	4.0 (A)	125
	Approach	0.52	26.9 (C)	-	0.61	23.8 (C)	-	0.39	8.4 (A)	-
Eastbound	Through	0.46	19.6 (B)	375	0.56	27.6 (C)	425	0.31	11.2 (B)	225
	Right	0.23	3.1 (A)	50	0.42	3.8 (A)	75	0.15	2.0 (A)	50
	Approach	0.43	17.2 (B)	-	0.53	22.3 (C)	-	0.29	9.9 (A)	-
Southbound	Left	0.47	53.3 (D)	150	0.32	50.4 (D)	125	0.58	65.4 (E)	150
	Right	0.85	58.4 (E)	275	0.89	67.0 (E)	350	0.59	14.3 (B)	75
	Approach	0.67	56.0 (E)	-	0.67	60.5 (E)	-	0.58	40.3 (D)	-
Overall Intersection		0.50	27.2 (C)	-	0.58	27.6 (C)	-	0.37	13.9 (B)	-

37: I-75 NB Off-Ramp/I-75 NB On-Ramp & SR 40

Approach	Movement	AM Peak Hour			PM Peak Hour			WKND Peak Hour		
		V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)
Westbound	Through	0.56	31.2 (C)	400	0.51	17.8 (B)	425	0.29	10.8 (B)	200
	Right	0.37	4.3 (A)	75	0.32	2.7 (A)	50	0.22	1.9 (A)	50
	Approach	0.52	25.9 (C)	-	0.48	15.1 (B)	-	0.28	9.0 (A)	-
Northbound	Left	0.25	37.4 (D)	125	0.43	58.7 (E)	125	0.46	60.1 (E)	125
	Right	0.96	70.8 (E)	600	0.78	48.7 (D)	200	0.77	37.2 (D)	175
	Approach	0.72	59.6 (E)	-	0.62	53.2 (D)	-	0.64	46.8 (D)	-
Eastbound	Left	0.69	21.1 (C)	75	0.73	54.7 (D)	175	0.44	5.8 (A)	50
	Through	0.65	18.7 (B)	575	0.48	2.9 (A)	75	0.39	5.6 (A)	325
	Approach	0.66	19.1 (B)	-	0.52	11.0 (B)	-	0.40	5.6 (A)	-
Overall Intersection		0.61	29.4 (C)	-	0.51	17.4 (B)	-	0.38	13.1 (B)	-

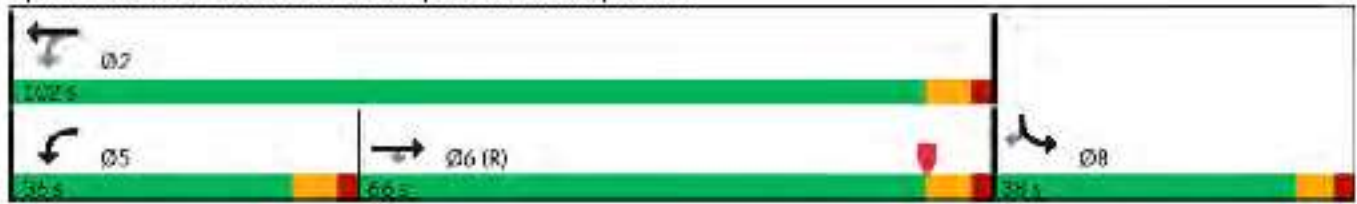
SR 40 Synchro Reports

	→	↘	↙	←	↘	↙
Lane Group	EBT	EBR	WBL	WBT	SBL	SBR
Lane Configurations	↑↑↑	↗	↖	↑↑	↗↖	↗
Traffic Volume (vph)	1222	210	211	1170	247	271
Future Volume (vph)	1222	210	211	1170	247	271
Lane Group Flow (vph)	1286	221	222	1232	260	285
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	6		5	2	8	
Permitted Phases		6	2			8
Detector Phase	6	6	5	2	8	8
Switch Phase						
Minimum Initial (s)	15.0	15.0	5.0	15.0	8.0	8.0
Minimum Split (s)	28.8	28.8	11.8	25.8	38.1	38.1
Total Split (s)	66.0	66.0	36.0	102.0	38.0	38.0
Total Split (%)	47.1%	47.1%	25.7%	72.9%	27.1%	27.1%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.1	4.1
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.1	6.1
Lead/Lag	Lag	Lag	Lead			
Lead/Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	Min	Max	None	None
Act Effct Green (s)	80.9	80.9	102.4	102.4	24.7	24.7
Actuated g/C Ratio	0.58	0.58	0.73	0.73	0.18	0.18
w/c Ratio	0.46	0.23	0.65	0.50	0.47	0.85
Control Delay (s/veh)	19.4	3.1	37.4	20.8	53.3	58.4
Queue Delay	0.2	0.0	0.5	4.0	0.0	0.0
Total Delay (s/veh)	19.6	3.1	37.9	24.9	53.3	58.4
LOS	B	A	D	C	D	E
Approach Delay (s/veh)	17.2			26.9		
Approach LOS	B			C		
Queue Length 50th (ft)	234	0	139	332	109	170
Queue Length 95th (ft)	355	46	267	526	146	269
Internal Link Dist (ft)	257.9			286		
Turn Bay Length (ft)		400			375	375
Base Capacity (vph)	2802	941	482	2467	718	403
Starvation Cap Reductn	0	0	65	1131	0	0
Spillback Cap Reductn	596	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced w/c Ratio	0.58	0.23	0.53	0.92	0.36	0.71

Intersection Summary

Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 91 (65%), Referenced to phase 6EBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 0.85
 Intersection Signal Delay (s/veh): 27.2
 Intersection LOS: C
 Intersection Capacity Utilization: 73.7%
 ICU Level of Service: D
 Analysis Period (min): 15

Splits and Phases: 36 I-75 SB On-Ramp/I-75 SB Off-Ramp & SR 40





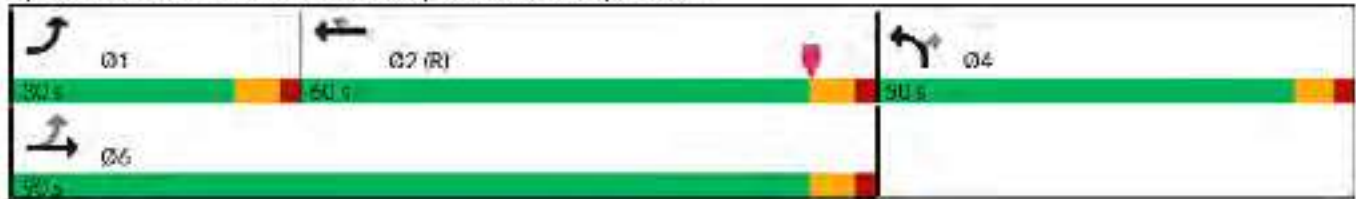
Lane Group	EBL	EBT	WBT	WBR	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	196	1273	1154	283	227	447
Future Volume (vph)	196	1273	1154	283	227	447
Lane Group Flow (vph)	206	1340	1215	298	239	471
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	1	6	2		4	
Permitted Phases	6			2		4
Detector Phase	1	6	2	2	4	4
Switch Phase						
Minimum Initial (s)	5.0	15.0	15.0	15.0	5.0	5.0
Minimum Split (s)	11.8	24.8	24.8	24.8	34.2	34.2
Total Split (s)	30.0	90.0	60.0	60.0	50.0	50.0
Total Split (%)	21.4%	64.3%	42.9%	42.9%	35.7%	35.7%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.2	4.2
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.2	6.2
Lead/Lag	Lead		Lag	Lag		
Lead/Lag Optimize?	Yes		Yes	Yes		
Recall Mode	Min	Max	C-Max	C-Max	None	None
Act Effct Green (s)	84.6	84.6	62.2	62.2	42.4	42.4
Actuated g/C Ratio	0.60	0.60	0.44	0.44	0.30	0.30
w/c Ratio	0.69	0.65	0.56	0.37	0.25	0.96
Control Delay (s/veh)	20.9	18.1	31.1	4.3	37.2	70.8
Queue Delay	0.2	0.7	0.1	0.0	0.1	0.0
Total Delay (s/veh)	21.1	18.7	31.2	4.3	37.4	70.8
LOS	C	B	C	A	D	E
Approach Delay (s/veh)		19.1	25.9			
Approach LOS		B	C			
Queue Length 50th (ft)	106	485	296	0	83	357
Queue Length 95th (ft)	68	574	385	60	119	#579
Internal Link Dist (ft)		296	2337			
Turn Bay Length (ft)				425	370	370
Base Capacity (vph)	37.2	2058	217.2	81.1	98.7	505
Starvation Cap Reductn	1.2	352	0	0	0	0
Spillback Cap Reductn	0	0	177	0	228	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced w/c Ratio	0.57	0.79	0.61	0.37	0.31	0.93

Intersection Summary

Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 125 (89%), Referenced to phase 2/WBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 0.96
 Intersection Signal Delay (s/veh): 29.4
 Intersection Capacity Utilization: 73.7%
 Analysis Period (min): 15
 Intersection LOS: C
 ICU Level of Service: D

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

Splits and Phases: 37: I-75 NB Off-Ramp/I-75 NB On-Ramp & SR 40



	→	↘	↙	←	↘	↙
Lane Group	EBT	EBR	WBL	WBT	SBL	SBR
Lane Configurations	↑↑↑	↗	↖	↑↑	↘↖	↗
Traffic Volume (vph)	1275	364	326	1304	177	277
Future Volume (vph)	1275	364	326	1304	177	277
Lane Group Flow (vph)	1342	383	343	1373	186	292
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	6		5	2	8	
Permitted Phases		6	2			8
Detector Phase	6	6	5	2	8	8
Switch Phase						
Minimum Initial (s)	15.0	15.0	5.0	15.0	8.0	8.0
Minimum Split (s)	28.8	28.8	11.8	25.8	38.1	38.1
Total Split (s)	65.0	65.0	40.0	105.0	35.0	35.0
Total Split (%)	46.4%	46.4%	28.6%	75.0%	25.0%	25.0%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.1	4.1
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.1	6.1
Lead/Lag	Lag	Lag	Lead			
Lead/Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	Min	Max	None	None
Act Effct Green (s)	69.3	69.3	101.5	101.5	25.6	25.6
Actuated g/C Ratio	0.50	0.50	0.73	0.73	0.18	0.18
w/c Ratio	0.56	0.42	0.83	0.56	0.32	0.89
Control Delay (s/veh)	27.6	3.8	58.4	12.7	50.4	67.0
Queue Delay	0.0	0.0	4.9	1.3	0.0	0.0
Total Delay (s/veh)	27.6	3.8	63.2	14.0	50.4	67.0
LOS	C	A	E	B	D	E
Approach Delay (s/veh)	22.3			23.8		
Approach LOS	C			C		
Queue Length 50th (ft)	326	0	262	246	74	188
Queue Length 95th (ft)	412	62	388	405	111	#336
Internal Link Dist (ft)	257.9			286		
Turn Bay Length (ft)		400			375	375
Base Capacity (vph)	2400	920	494	2446	651	361
Starvation Cap Reductn	0	0	94	7.97	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced w/c Ratio	0.56	0.42	0.86	0.83	0.29	0.81

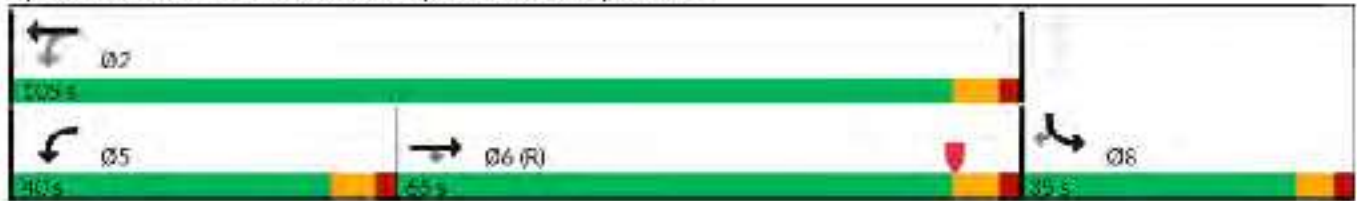
Intersection Summary

Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 91 (65%), Referenced to phase 6EBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 0.89
 Intersection Signal Delay (s/veh): 27.6
 Intersection Capacity Utilization: 65.8%
 Analysis Period (min): 15

Intersection LOS: C
 ICU Level of Service: C

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

Splits and Phases: 36 I-75 SB On-Ramp/I-75 SB Off-Ramp & SR 40



37: I-75 NB Off-Ramp/I-75 NB On-Ramp & SR 40

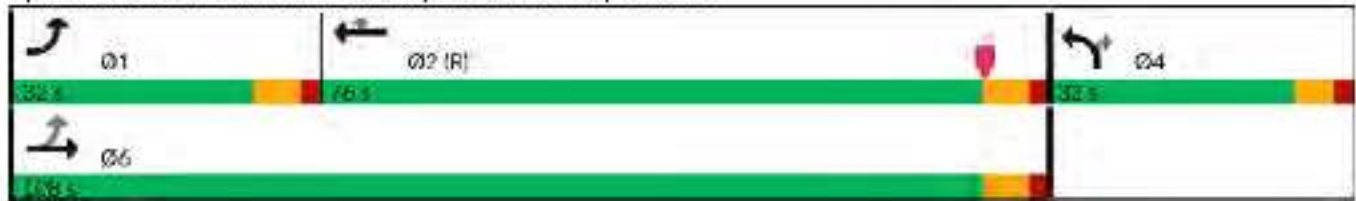


Lane Group	EBL	EBT	WBT	WBR	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	227	1225	1463	317	167	205
Future Volume (vph)	227	1225	1463	317	167	205
Lane Group Flow (vph)	236	1276	1524	330	174	214
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	1	6	2		4	
Permitted Phases	6			2		4
Detector Phase	1	6	2	2	4	4
Switch Phase						
Minimum Initial (s)	5.0	15.0	15.0	15.0	5.0	5.0
Minimum Split (s)	11.8	24.8	24.8	24.8	34.2	34.2
Total Split (s)	32.0	108.0	76.0	76.0	32.0	32.0
Total Split (%)	22.9%	77.1%	54.3%	54.3%	22.9%	22.9%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.2	4.2
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.2	6.2
Lead Lag	Lead		Lag	Lag		
Lead Lag Optimize?	Yes		Yes	Yes		
Recall Mode	Min	Max	C-Max	C-Max	None	None
Act Effct Green (s)	109.2	109.2	85.7	85.7	17.8	17.8
Actuated gC Ratio	0.78	0.78	0.61	0.61	0.13	0.13
w/c Ratio	0.73	0.48	0.51	0.32	0.43	0.78
Control Delay (s/veh)	54.5	27	17.8	27	58.5	48.7
Queue Delay	0.1	0.2	0.0	0.0	0.2	0.0
Total Delay (s/veh)	54.7	29	17.8	27	58.7	48.7
LOS	D	A	B	A	E	D
Approach Delay (s/veh)		11.0	15.1			
Approach LOS		B	B			
Queue Length 50th (ft)	114	66	270	0	76	98
Queue Length 95th (ft)	161	58	416	50	107	182
Internal Link Dist (ft)		296	2337			
Turn Bay Length (ft)				425	370	370
Base Capacity (vph)	411	2665	2965	1018	581	349
Starvation Cap Reductn	10	474	0	0	0	0
Spillback Cap Reductn	0	0	120	0	94	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced w/c Ratio	0.59	0.59	0.53	0.32	0.36	0.61

Intersection Summary

Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 125 (89%), Referenced to phase 2/WBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 0.78
 Intersection Signal Delay (s/veh): 17.4
 Intersection Capacity Utilization: 65.8%
 Analysis Period (min): 15
 Intersection LOS: B
 ICU Level of Service: C

Splits and Phases: 37: I-75 NB Off-Ramp/I-75 NB On-Ramp & SR 40



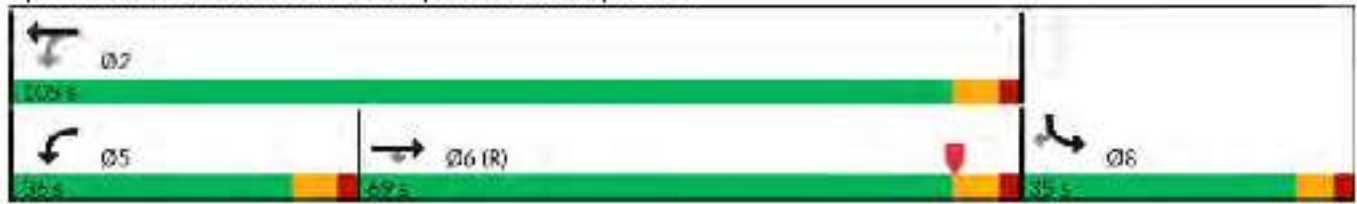
	→	↘	↙	←	↘	↙
Lane Group	EBT	EBR	WBL	WBT	SBL	SBR
Lane Configurations	↑↑↑	↗	↖	↑↑	↗↖	↗
Traffic Volume (vph)	990	157	274	839	206	199
Future Volume (vph)	990	157	274	839	206	199
Lane Group Flow (vph)	1021	162	282	865	212	205
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	6		5	2	8	
Permitted Phases		6	2			8
Detector Phase	6	6	5	2	8	8
Switch Phase						
Minimum Initial (s)	15.0	15.0	5.0	15.0	8.0	8.0
Minimum Split (s)	28.8	28.8	11.8	25.8	38.1	38.1
Total Split (s)	69.0	69.0	36.0	105.0	35.0	35.0
Total Split (%)	49.3%	49.3%	25.7%	75.0%	25.0%	25.0%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.1	4.1
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.1	6.1
Lead/Lag	Lag	Lag	Lead			
Lead/Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	Min	Max	None	None
Act Effct Green (s)	92.4	92.4	111.7	111.7	15.4	15.4
Actuated g/C Ratio	0.66	0.66	0.80	0.80	0.11	0.11
w/c Ratio	0.31	0.15	0.62	0.31	0.58	0.59
Control Delay (s/veh)	11.2	2.0	21.4	3.7	65.4	14.3
Queue Delay	0.0	0.0	0.3	0.3	0.0	0.0
Total Delay (s/veh)	11.2	2.0	21.7	4.0	65.4	14.3
LOS	B	A	C	A	E	B
Approach Delay (s/veh)	9.9			8.4		
Approach LOS	A			A		
Queue Length 50th (ft)	132	0	50	74	96	0
Queue Length 95th (ft)	202	31	191	110	134	75
Internal Link Dist (ft)	257.9			286		
Turn Bay Length (ft)		400			375	375
Base Capacity (vph)	3292	1070	608	2768	681	472
Starvation Cap Reductn	0	0	72	1175	0	0
Spillback Cap Reductn	99	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced w/c Ratio	0.32	0.15	0.53	0.54	0.31	0.43

Intersection Summary

Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 91 (65%), Referenced to phase 6EBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 0.62
 Intersection Signal Delay (s/veh): 13.9
 Intersection Capacity Utilization: 57.4%
 Analysis Period (min): 15

Intersection LOS: B
 ICU Level of Service: B

Splits and Phases: 36 I-75 SB On-Ramp/I-75 SB Off-Ramp & SR 40



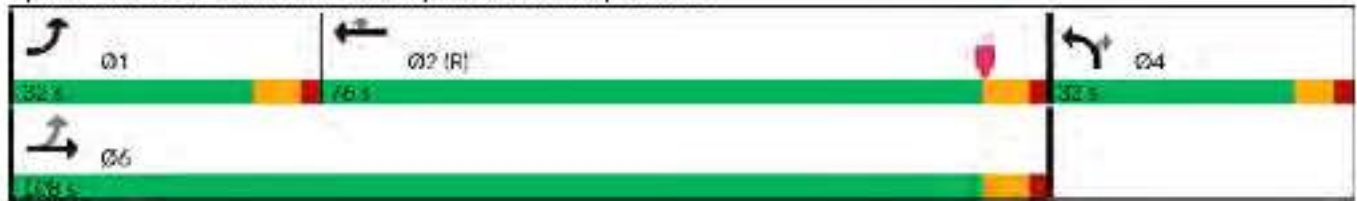


Lane Group	EBL	EBT	WBT	WBR	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	185	1011	940	233	173	237
Future Volume (vph)	185	1011	940	233	173	237
Lane Group Flow (vph)	193	1053	979	243	180	247
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	1	6	2		4	
Permitted Phases	6			2		4
Detector Phase	1	6	2	2	4	4
Switch Phase						
Minimum Initial (s)	5.0	15.0	15.0	15.0	5.0	5.0
Minimum Split (s)	11.8	24.8	24.8	24.8	34.2	34.2
Total Split (s)	32.0	108.0	76.0	76.0	32.0	32.0
Total Split (%)	22.9%	77.1%	54.3%	54.3%	22.9%	22.9%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.2	4.2
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.2	6.2
Lead/Lag	Lead		Lag	Lag		
Lead/Lag Optimize?	Yes		Yes	Yes		
Recall Mode	Min	Max	C-Max	C-Max	None	None
Act Effct Green (s)	110.3	110.3	93.4	93.4	16.7	16.7
Actuated g/C Ratio	0.79	0.79	0.67	0.67	0.12	0.12
w/c Ratio	0.44	0.39	0.29	0.22	0.46	0.77
Control Delay (s/veh)	5.7	5.4	10.8	1.9	60.1	37.2
Queue Delay	0.1	0.2	0.0	0.0	0.0	0.0
Total Delay (s/veh)	5.8	5.6	10.8	1.9	60.1	37.2
LOS	A	A	B	A	E	D
Approach Delay (s/veh)		5.6	9.0			
Approach LOS		A	A			
Queue Length 50th (ft)	44	215	120	0	80	77
Queue Length 95th (ft)	38	307	194	37	110	166
Internal Link Dist (ft)		296	2337			
Turn Bay Length (ft)				425	370	370
Base Capacity (vph)	577	2734	3328	1097	608	404
Starvation Cap Reductn	36	713	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced w/c Ratio	0.36	0.52	0.29	0.22	0.30	0.61

Intersection Summary

Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 125 (89%), Referenced to phase 2/WBT, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 0.77
 Intersection Signal Delay (s/veh): 13.1
 Intersection Capacity Utilization: 57.4%
 Analysis Period (min): 15
 Intersection LOS: B
 ICU Level of Service: B

Splits and Phases: 37: I-75 NB Off-Ramp/I-75 NB On-Ramp & SR 40



US 27 Summary Tables

42: I-75 SB On-ramp/I-75 SB Off-ramp & US 27

Approach	Movement	AM Peak Hour			PM Peak Hour			WKND Peak Hour		
		V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)
Westbound	Left	0.80	82.4 (F)	375	0.81	45.2 (D)	450	0.59	20.9 (C)	150
	Through	0.40	8.9 (A)	225	0.68	13.6 (B)	425	0.53	9.8 (A)	325
	Approach	0.51	28.9 (C)	-	0.71	20.4 (C)	-	0.54	11.8 (B)	-
Eastbound	Through	0.78	41.8 (D)	650	0.71	46.7 (D)	575	0.49	25.8 (C)	400
	Right	0.53	9.1 (A)	175	0.52	10.4 (B)	175	0.45	3.7 (A)	75
	Approach	0.71	32.7 (C)	-	0.65	35.7 (D)	-	0.48	18.2 (B)	-
Southbound	LT/TH/RT Approach	0.91	72.6 (E)	450	0.91	73.8 (E)	525	0.82	54.8 (D)	350
		0.91	72.6 (E)	-	0.91	73.8 (E)	-	0.82	54.8 (D)	-
Overall Intersection		0.65	35.4 (D)	-	0.71	31.4 (C)	-	0.54	19.0 (B)	-

43: I-75 NB Off-ramp/I-75 NB On-ramp & US 27

Approach	Movement	AM Peak Hour			PM Peak Hour			WKND Peak Hour		
		V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)
Westbound	Through	0.34	15.6 (B)	250	0.47	13.7 (B)	375	0.35	10.8 (B)	250
	Right	0.21	14.5 (B)	150	0.22	11.1 (B)	150	0.15	9.3 (A)	100
	Approach	0.32	15.4 (B)	-	0.44	13.4 (B)	-	0.33	10.6 (B)	-
Northbound	Left	0.45	51.3 (D)	250	0.82	70.3 (E)	375	0.76	60.2 (E)	300
	Right	0.84	63.3 (E)	375	0.77	68.4 (E)	300	0.67	58.5 (E)	225
	Approach	0.69	58.6 (E)	-	0.80	69.5 (E)	-	0.72	59.5 (E)	-
Eastbound	Left	0.37	11.5 (B)	75	0.42	11.7 (B)	50	0.25	7.7 (A)	50
	Through	0.55	11.7 (B)	375	0.42	7.8 (A)	250	0.37	6.1 (A)	200
	Approach	0.53	11.7 (B)	-	0.42	8.1 (A)	-	0.36	6.2 (A)	-
Overall Intersection		0.50	24.2 (C)	-	0.51	24.2 (C)	-	0.43	19.9 (B)	-

US 27 Synchro Reports



Lane Group	EBT	EBR	WBL	WBT	SBT
Lane Configurations	↑↑	↑	↓	↑↑	↓
Traffic Volume (vph)	1127	438	344	917	0
Future Volume (vph)	1127	438	344	917	0
Lane Group Flow (vph)	1186	461	362	965	349
Turn Type	NA	Perm	pm+pt	NA	NA
Protected Phases	6		5	2	8
Permitted Phases		6	2		
Detector Phase	6	6	5	2	8
Switch Phase					
Minimum Initial (s)	15.0	15.0	5.0	15.0	8.0
Minimum Split (s)	31.0	31.0	12.0	22.0	15.0
Total Split (s)	70.0	70.0	40.0	110.0	40.0
Total Split (%)	46.7%	46.7%	26.7%	73.3%	26.7%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.0
All-Red Time (s)	2.0	2.0	2.2	2.0	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	7.0	6.8	6.3
Lead/Lag	Lead	Lead	Lag		
Lead/Lag Optimize?	Yes	Yes	Yes		
Recall Mode	Min	Min	None	C-Min	None
Act Effct Green (s)	67.4	67.4	106.0	106.2	30.7
Actuated g/C Ratio	0.45	0.45	0.71	0.71	0.20
w/c Ratio	0.78	0.53	0.80	0.40	0.91
Control Delay (s/veh)	40.6	91	51.6	8.7	72.3
Queue Delay	1.2	0.0	30.8	0.2	0.3
Total Delay (s/veh)	41.8	91	82.4	8.9	72.6
LOS	D	A	F	A	E
Approach Delay (s/veh)	32.7			28.9	72.6
Approach LOS	C			C	E
Queue Length 50th (ft)	540	60	243	165	262
Queue Length 95th (ft)	638	167	#370	222	#430
Internal Link Dist (ft)	2673			327	1520
Turn Bay Length (ft)		270			
Base Capacity (vph)	1516	865	466	2388	413
Starvation Cap Reductn	0	0	115	577	0
Spillback Cap Reductn	147	0	0	0	3
Storage Cap Reductn	0	0	0	0	0
Reduced w/c Ratio	0.87	0.53	1.03	0.53	0.85

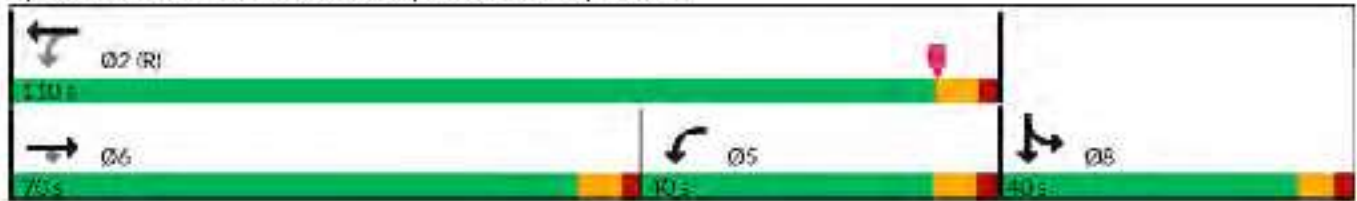
Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 97 (65%), Referenced to phase 2:WBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 0.91
 Intersection Signal Delay (s/veh): 35.4
 Intersection Capacity Utilization: 85.9%
 Analysis Period (min): 15

Intersection LOS: D
 ICU Level of Service: E

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

Splits and Phases: 42 I-75 SB On-ramp/I-75 SB Off-ramp & US 27



HCM 7th Signalized Intersection Summary
 43: I-75 NB Off-ramp/I-75 NB On-ramp & US 27

2030 Build Conditions
 Timing Plan AM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	1238	0	0	953	174	308	0	468	0	0	0
Future Volume (veh/h)	115	1238	0	0	953	174	308	0	468	0	0	0
Initial Q (Cb), veh	0	0	0	0	0	0	0	0	0			
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/hln	1693	1811	0	0	1811	1693	1796	0	1796			
Adj Flow Rate, veh/h	121	1303	0	0	1003	183	324	0	493			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95			
Percent Heavy Veh, %	14	6	0	0	6	14	7	0	7			
Cap, veh/h	328	2378	0	0	2963	857	727	0	587			
Arrive On Green	0.04	0.69	0.00	0.00	0.60	0.60	0.22	0.00	0.22			
Sat Flow, veh/h	1612	3532	0	0	5107	1434	3319	0	2879			
Grp Volume(s), veh/h	121	1303	0	0	1003	183	324	0	493			
Grp Sat Flow(s), veh/hln	1612	1721	0	0	1648	1434	1659	0	1340			
Q Serve(g_s), s	4.2	28.2	0.0	0.0	15.4	8.8	127	0.0	26.4			
Cycle Q Clear(g_c), s	4.2	28.2	0.0	0.0	15.4	8.8	127	0.0	26.4			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(s), veh/h	328	2378	0	0	2963	857	727	0	587			
W/C Ratio(%)	0.37	0.55	0.00	0.00	0.34	0.21	0.45	0.00	0.84			
Avail Cap(c_s), veh/h	413	2378	0	0	2963	857	960	0	775			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.53	0.53	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	11.2	11.5	0.0	0.0	15.3	13.9	507	0.0	56.1			
Incr Delay (d2), s/veh	0.4	0.2	0.0	0.0	0.3	0.6	0.6	0.0	7.3			
Initial Q Delay(dB), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%), veh/ln	2.8	14.4	0.0	0.0	9.9	5.5	92	0.0	14.6			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	11.5	11.7	0.0	0.0	15.6	14.5	513	0.0	63.3			
LnGrp LOS	B	B			B	B	D		E			
Approach Vol, veh/h		1424			1186			817				
Approach Delay, s/veh		11.7			15.4			58.6				
Approach LOS		B			B			E				
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+R)q, s	14.1	965		39.5		110.5						
Change Period (Y+R)q, s	7.7	6.9		6.6		6.9						
Max Green Setting (Gmax), s	14.3	71.1		43.4		93.1						
Max Q Clear Time (g_c+I), s	6.2	17.4		28.4		30.2						
Green Ext Time (p_c), s	0.2	15.7		4.4		22.6						
Intersection Summary												
HCM 7th Control Delay, s/veh				24.2								
HCM 7th LOS				C								
Notes												
User approved pedestrian interval to be less than phase max green.												

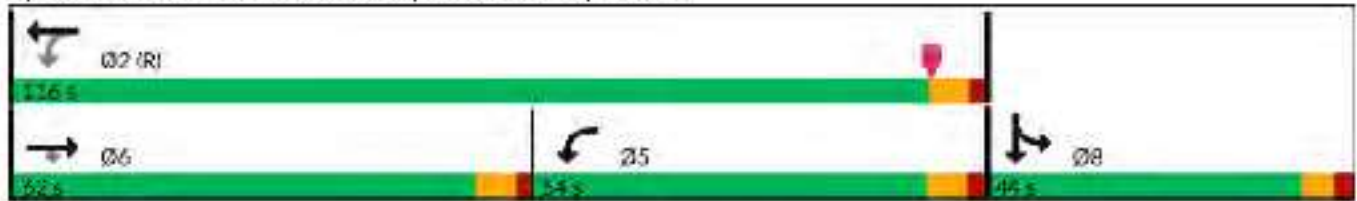


Lane Group	EBT	EBR	WBL	WBT	SBT
Lane Configurations	↑↑	↗	↖	↑↑	↓
Traffic Volume (vph)	896	390	417	1502	0
Future Volume (vph)	896	390	417	1502	0
Lane Group Flow (vph)	943	411	439	1581	381
Turn Type	NA	Perm	pm+pt	NA	NA
Protected Phases	6		5	2	8
Permitted Phases		6	2		
Detector Phase	6	6	5	2	8
Switch Phase					
Minimum Initial (s)	15.0	15.0	5.0	15.0	8.0
Minimum Split (s)	31.0	31.0	12.0	22.0	15.0
Total Split (s)	62.0	62.0	54.0	116.0	44.0
Total Split (%)	38.8%	38.8%	33.8%	72.5%	27.5%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.0
All-Red Time (s)	2.0	2.0	2.2	2.0	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	7.0	6.8	6.3
Lead/Lag	Lead	Lead	Lag		
Lead/Lag Optimize?	Yes	Yes	Yes		
Recall Mode	Min	Min	None	C-Min	None
Act Effct Green (s)	63.0	63.0	109.4	109.6	37.3
Actuated g/C Ratio	0.39	0.39	0.68	0.69	0.23
w/c Ratio	0.71	0.52	0.81	0.68	0.91
Control Delay (s/veh)	46.0	10.4	45.2	13.3	73.6
Queue Delay	0.7	0.0	0.0	0.2	0.3
Total Delay (s/veh)	46.7	10.4	45.2	13.6	73.8
LOS	D	B	D	B	E
Approach Delay (s/veh)	35.7			20.4	73.8
Approach LOS	D			C	E
Queue Length 50th (ft)	45.4	52	307	321	314
Queue Length 95th (ft)	562	163	427	404	4521
Internal Link Dist (ft)	2673			327	1520
Turn Bay Length (ft)		270			
Base Capacity (vph)	1329	787	618	2340	435
Starvation Cap Reductn	0	0	0	199	0
Spillback Cap Reductn	142	0	0	0	2
Storage Cap Reductn	0	0	0	0	0
Reduced w/c Ratio	0.79	0.52	0.71	0.74	0.88

Intersection Summary	
Cycle Length:	160
Actuated Cycle Length:	160
Offset:	40 (25%), Referenced to phase 2:WBT, Start of Yellow
Natural Cycle:	70
Control Type:	Actuated-Coordinated
Maximum w/c Ratio:	0.91
Intersection Signal Delay (s/veh):	31.4
Intersection LOS:	C
Intersection Capacity Utilization:	85.6%
ICU Level of Service:	E
Analysis Period (min):	15

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

Splits and Phases: 42 I-75 SB On-ramp/I-75 SB Off-ramp & US 27



HCM 7th Signalized Intersection Summary
 43: I-75 NB Off-ramp/I-75 NB On-ramp & US 27

2030 Build Conditions
 Timing Plan PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↗			↗	↘	↘		↗			
Traffic Volume (veh/h)	89	1010	0	0	1471	195	448	0	338	0	0	0
Future Volume (veh/h)	89	1010	0	0	1471	195	448	0	338	0	0	0
Initial Q (Cb), veh	0	0	0	0	0	0	0	0	0			
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/hln	1693	1811	0	0	1811	1693	1796	0	1796			
Adj Flow Rate, veh/h	94	1063	0	0	1548	205	472	0	356			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95			
Percent Heavy Veh, %	14	6	0	0	6	14	7	0	7			
Cap, veh/h	221	2553	0	0	3277	951	576	0	465			
Arrive On Green	0.03	0.74	0.00	0.00	0.66	0.66	0.17	0.00	0.17			
Sat Flow, veh/h	1612	3532	0	0	5107	1434	3319	0	2879			
Grp Volume(s), veh/h	94	1063	0	0	1548	205	472	0	356			
Grp Sat Flow(s), veh/hln	1612	1721	0	0	1648	1434	1659	0	1340			
Q Serve(g_s), s	2.9	185	0.0	0.0	24.6	9.0	21.9	0.0	20.3			
Cycle Q Clear(g_c), s	2.9	185	0.0	0.0	24.6	9.0	21.9	0.0	20.3			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(s), veh/h	221	2553	0	0	3277	951	576	0	465			
WC Ratio(%)	0.42	0.42	0.00	0.00	0.47	0.22	0.82	0.00	0.77			
Avail Cap(c_s), veh/h	335	2553	0	0	3277	951	734	0	593			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.64	0.64	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	10.9	7.7	0.0	0.0	13.2	10.6	63.7	0.0	63.0			
Incr Delay (d2), s/veh	0.8	0.1	0.0	0.0	0.5	0.5	6.6	0.0	5.4			
Initial Q Delay(dI), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%), veh/ln	1.9	10.0	0.0	0.0	14.2	5.5	15.0	0.0	11.7			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	11.7	7.8	0.0	0.0	13.7	11.1	70.3	0.0	68.4			
LnGrp LOS	B	A			B	B	E		E			
Approach Vol, veh/h		1157			1753			828				
Approach Delay, s/veh		8.1			13.4			69.5				
Approach LOS		A			B			E				
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+R)q, s	12.7	11.29		34.4		125.6						
Change Period (Y+R)q, s	7.7	6.9		6.6		6.9						
Max Green Setting (Gmax), s	16.3	87.1		35.4		111.1						
Max Q Clear Time (g_c+I), s	4.9	26.6		23.9		20.5						
Green Ext Time (p_q), s	0.1	30.7		3.9		16.7						

Intersection Summary

HCM 7th Control Delay, s/veh 24.2
 HCM 7th LOS C

Notes

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



Lane Group	EBT	EBR	WBL	WBT	SBT
Lane Configurations	↑↑	↗	↖	↑↑	↓
Traffic Volume (vph)	847	440	282	1243	0
Future Volume (vph)	847	440	282	1243	0
Lane Group Flow (vph)	864	449	288	1268	340
Turn Type	NA	Perm	pm+pt	NA	NA
Protected Phases	6		5	2	8
Permitted Phases		6	2		
Detector Phase	6	6	5	2	8
Switch Phase					
Minimum Initial (s)	15.0	15.0	5.0	15.0	8.0
Minimum Split (s)	31.0	31.0	12.0	22.0	15.0
Total Split (s)	70.0	70.0	38.0	106.0	34.0
Total Split (%)	50.0%	50.0%	25.7%	75.7%	24.3%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.0
All-Red Time (s)	2.0	2.0	2.2	2.0	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	7.0	6.8	6.3
Lead/Lag	Lead	Lead	Lag		
Lead/Lag Optimize?	Yes	Yes	Yes		
Recall Mode	Min	Min	None	C-Min	None
Act Effct Green (s)	70.5	70.5	96.4	96.6	30.3
Actuated g/C Ratio	0.50	0.50	0.69	0.69	0.22
w/c Ratio	0.49	0.46	0.59	0.53	0.82
Control Delay (s/veh)	25.7	3.7	20.9	9.4	54.7
Queue Delay	0.1	0.0	0.0	0.4	0.2
Total Delay (s/veh)	25.8	3.7	20.9	9.8	54.8
LOS	C	A	C	A	D
Approach Delay (s/veh)	18.2			11.8	54.8
Approach LOS	B			B	D
Queue Length 50th (ft)	273	0	65	155	227
Queue Length 95th (ft)	378	64	127	318	329
Internal Link Dist (ft)	2673			327	1520
Turn Bay Length (ft)		270			
Base Capacity (vph)	1763	995	607	2496	431
Starvation Cap Reductn	0	0	0	639	0
Spillback Cap Reductn	165	0	0	0	3
Storage Cap Reductn	0	0	0	0	0
Reduced w/c Ratio	0.54	0.46	0.47	0.68	0.79

Intersection Summary
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 66 (47%), Referenced to phase 2:WBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 0.82
 Intersection Signal Delay (s/veh): 19.0
 Intersection Capacity Utilization: 79.0%
 Analysis Period (min): 15
 Intersection LOS: B
 ICU Level of Service: D

Splits and Phases: 42 I-75 SB On-ramp/I-75 SB Off-ramp & US 27



HCM 7th Signalized Intersection Summary
 43: I-75 NB Off-ramp/I-75 NB On-ramp & US 27

2030 Build Conditions
 Timing Plan: Weekend

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	944	0	0	1142	147	383	0	271	0	0	0
Future Volume (veh/h)	79	944	0	0	1142	147	383	0	271	0	0	0
Initial Q (Cb), veh	0	0	0	0	0	0	0	0	0			
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/hln	1752	1841	0	0	1841	1752	1841	0	1841			
Adj Flow Rate, veh/h	81	973	0	0	1177	152	395	0	279			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97			
Percent Heavy Veh, %	10	4	0	0	4	10	4	0	4			
Cap, veh/h	324	2626	0	0	3325	982	519	0	419			
Arrive On Green	0.03	0.75	0.00	0.00	0.66	0.66	0.15	0.00	0.15			
Sat Flow, veh/h	1668	3589	0	0	5191	1485	3401	0	2745			
Grp Volume(s), veh/h	81	973	0	0	1177	152	395	0	279			
Grp Sat Flow(s), veh/hln	1668	1749	0	0	1675	1485	1700	0	1373			
Q Serve(g_s), s	2.1	13.4	0.0	0.0	14.5	5.4	15.6	0.0	13.4			
Cycle Q Clear(g_c), s	2.1	13.4	0.0	0.0	14.5	5.4	15.6	0.0	13.4			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(s), veh/h	324	2626	0	0	3325	982	519	0	419			
WC Ratio(%)	0.25	0.37	0.00	0.00	0.35	0.15	0.76	0.00	0.67			
Avail Cap(c_s), veh/h	414	2626	0	0	3325	982	860	0	694			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.86	0.86	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	7.4	6.0	0.0	0.0	10.5	8.9	56.9	0.0	55.9			
Incr Delay (d2), s/veh	0.3	0.1	0.0	0.0	0.3	0.3	3.3	0.0	2.6			
Initial Q Delay(dB), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%), veh/ln	1.3	7.9	0.0	0.0	9.2	3.3	11.3	0.0	8.4			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	7.7	6.1	0.0	0.0	10.8	9.3	60.2	0.0	58.5			
LnGrp LOS	A	A			B	A	E		E			
Approach Vol, veh/h		1054			1329			674				
Approach Delay, s/veh		6.2			10.6			59.5				
Approach LOS		A			B			E				
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rq), s	12.5	99.5		28.0		112.0						
Change Period (Y+Rq), s	7.7	6.9		6.6		6.9						
Max Green Setting (Gmax), s	12.3	71.1		35.4		91.1						
Max Q Clear Time (g_c+I), s	4.1	165		17.6		15.4						
Green Ext Time (p_c), s	0.1	19.2		3.8		14.2						
Intersection Summary												
HCM 7th Control Delay, s/veh				19.9								
HCM 7th LOS				B								
Notes												
User approved pedestrian interval to be less than phase max green.												

SR 326 Summary Tables

47: NW 44TH AVE/I-75 SB Off-ramp & SR 326

Approach	Movement	AM Peak Hour			PM Peak Hour			WKND Peak Hour		
		V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)
Westbound	Left	0.18	12.1 (B)	25	0.12	14.9 (B)	25	0.09	12.2 (B)	25
	Through	0.16	0.0 (A)	0	0.20	0.1 (A)	0	0.16	11.3 (B)	100
	Approach	0.16	1.8 (A)	-	0.19	1.7 (A)	-	0.15	11.4 (B)	-
Northbound	Left	0.35	54.2 (D)	75	0.74	64.7 (E)	175	0.47	58.8 (E)	75
	Right	0.78	68.3 (E)	150	0.66	62.9 (E)	25	0.70	67.9 (E)	125
	Approach	0.63	63.3 (E)	-	0.71	63.9 (E)	-	0.60	63.9 (E)	-
Eastbound	TH/RT	0.54	19.0 (B)	325	0.39	21.9 (C)	250	0.26	16.8 (B)	150
	Approach	0.54	19.0 (B)	-	0.39	21.9 (C)	-	0.26	16.9 (B)	-
Southbound	LT/TH	0.50	52.0 (D)	125	0.48	43.0 (D)	200	0.47	45.6 (D)	175
	Right	0.85	86.5 (F)	250	0.86	63.4 (E)	350	0.81	56.0 (E)	275
	Approach	0.64	66.9 (E)	-	0.64	52.1 (D)	-	0.61	50.1 (D)	-
Overall Intersection		0.49	27.4 (C)	-	0.46	31.7 (C)	-	0.38	31.0 (C)	-

48: Shell Driveway & SR 326 & I-75 SB On-Ramp

Approach	Movement	AM Peak Hour			PM Peak Hour			WKND Peak Hour		
		V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)
Westbound	Left	0.09	10.0 (A)	25	0.03	8.9 (A)	25	0.03	8.3 (A)	25
Northbound	Right	0.11	10.2 (B)	25	0.08	9.7 (A)	25	0.06	9.4 (A)	25

49: I-75 NB Off-ramp/I-75 NB On-ramp & SR 326

Approach	Movement	AM Peak Hour			PM Peak Hour			WKND Peak Hour		
		V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)
Westbound	Left	0.74	47.0 (D)	300	0.78	44.9 (D)	350	0.77	42.6 (D)	375
	TH/RT	0.32	25.7 (C)	150	0.28	19.4 (B)	125	0.18	18.7 (B)	100
	Right Approach	0.45	4.6 (A)	75	0.28	3.2 (A)	50	0.32	3.1 (A)	50
		0.55	30.3 (C)	-	0.57	31.6 (C)	-	0.57	30.5 (C)	-
Northbound	Left	0.21	33.1 (C)	100	0.27	37.0 (D)	125	0.22	34.4 (C)	100
	Right	0.52	15.6 (B)	250	0.49	14.6 (B)	225	0.50	12.1 (B)	225
	Approach	0.46	19.0 (B)	-	0.44	19.6 (B)	-	0.45	16.3 (B)	-
Eastbound	Left	0.56	19.2 (B)	200	0.42	18.7 (B)	125	0.33	21.2 (C)	100
	Through	0.50	33.1 (C)	175	0.57	40.8 (D)	175	0.48	43.1 (D)	200
	Approach	0.52	28.2 (C)	-	0.53	35.5 (D)	-	0.44	37.7 (D)	-
Overall Intersection		0.51	26.1 (C)	-	0.52	28.5 (C)	-	0.51	26.6 (C)	-

SR 326 Synchro Reports

HCM 7th Signalized Intersection Summary
 47: NW 44TH AVE/I-75 SB Off-ramp & SR 326

2030 Build Conditions
 Timing Plan AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↓		↘	↑↑			↙	↗	↘	↙	↗
Traffic Volume (veh/h)	0	851	70	52	298	0	49	0	89	164	5	127
Future Volume (veh/h)	0	851	70	52	298	0	49	0	89	164	5	127
Initial Q (Cb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/hln	0	1678	1678	1678	1678	0	1752	1900	1752	1707	1707	1707
Adj Flow Rate, veh/h	0	896	74	55	314	0	52	0	94	177	0	134
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	15	15	15	15	0	10	0	10	13	13	13
Cap, veh/h	0	1666	138	308	2012	0	147	0	120	352	0	157
Arrive On Green	0.00	0.56	0.56	0.07	1.00	0.00	0.08	0.00	0.08	0.11	0.00	0.11
Sat Flow, veh/h	0	3065	246	1598	3272	0	1810	0	1485	3252	0	1447
Grp Volume(s), veh/h	0	479	491	55	314	0	52	0	94	177	0	134
Grp Sat Flow(s), veh/hln	0	1594	1633	1598	1594	0	1810	0	1485	1626	0	1447
Q Serve(g_s), s	0.0	22.8	22.8	1.7	0.0	0.0	3.3	0.0	7.5	6.2	0.0	10.9
Cycle Q Clear(g_c), s	0.0	22.8	22.8	1.7	0.0	0.0	3.3	0.0	7.5	6.2	0.0	10.9
Prop In Lane	0.00		0.15	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(s), veh/h	0	891	913	308	2012	0	147	0	120	352	0	157
WC Ratio(%)	0.00	0.54	0.54	0.18	0.16	0.00	0.35	0.00	0.78	0.50	0.00	0.85
Avail Cap(c_s), veh/h	0	891	913	325	2012	0	240	0	197	363	0	162
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	16.7	16.7	11.8	0.0	0.0	52.2	0.0	54.1	50.4	0.0	52.6
Incr Delay (d2), s/veh	0.0	2.3	2.3	0.3	0.0	0.0	2.1	0.0	14.3	1.6	0.0	33.9
Initial Q Delay(dB), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%), veh/ln	0.0	12.9	13.2	1.0	0.0	0.0	2.8	0.0	5.9	4.7	0.0	9.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	19.0	19.0	12.1	0.0	0.0	54.2	0.0	68.3	52.0	0.0	86.5
LnGrp LOS		B	B	B	A		D		E	D		F
Approach Vol, veh/h		970			369			146				311
Approach Delay, s/veh		19.0			1.8			63.3				66.9
Approach LOS		B			A			E				E
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+R)q, s	8.7	73.9		20.6		82.6		16.8				
Change Period (Y+R)q, s	4.5	6.8		7.6		6.8		7.1				
Max Green Setting (Gmax), s	5.5	59.2		13		69.2		15.9				
Max Q Clear Time (g_c+I), s	3.7	24.8		12.9		2.0		9.5				
Green Ext Time (p_q), s	0.0	6.6		0.1		2.0		0.4				

Intersection Summary												
HCM 7th Control Delay, s/veh				27.4								
HCM 7th LOS				C								

Notes
 User approved pedestrian interval to be less than phase max green.
 User approved volume balancing among the lanes for turning movement.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection										
Int Delay, s/veh	0.9									
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER
Lane Configurations		↑↑		↑	↑↑	↑		↑		
Traffic Vol, veh/h	0	1063	52	68	350	116	0	78	0	0
Future Vol, veh/h	0	1063	52	68	350	116	0	78	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None	-	-
Storage Length	-	-	0	240	-	100	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	92	92
Heavy Vehicles, %	0	15	8	2	15	100	0	8	2	2
Mvmt Flow	0	1108	55	72	368	122	0	82	0	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	-	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.14
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.22
Pot Cap-1 Maneuver	0	-	793
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	0
Mov Cap-1 Maneuver	-	-	793
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	1.27	10.23
HCM LOS			B

Minor Lane/Major Mvmt	NBLnl	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	771	-	-	793	-	-
HCM Lane V/C Ratio	0.107	-	-	0.09	-	-
HCM Control Delay (s/veh)	10.2	-	-	1.0	-	-
HCM Lane LOS	B	-	-	A	-	-
HCM 95th %tile Q(veh)	0.4	-	-	0.3	-	-

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

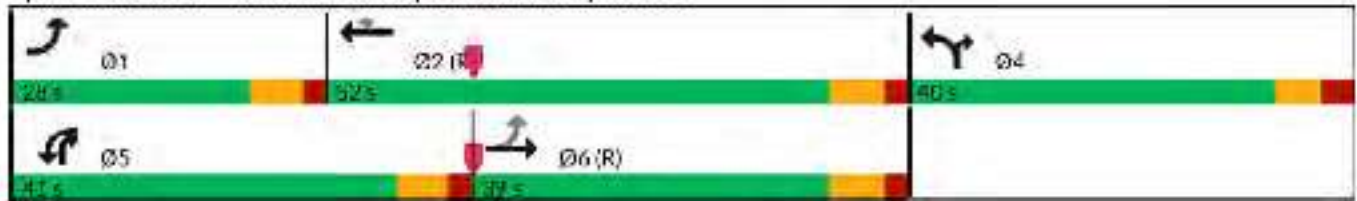


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	238	439	607	347	333	187	763
Future Volume (vph)	238	439	607	347	333	187	763
Lane Group Flow (vph)	251	462	639	365	351	197	803
Turn Type	pm+pt	NA	Prot	NA	Perm	Prot	pt+ov
Protected Phases	1	6	5	2		4	45
Permitted Phases	6				2		
Detector Phase	1	6	5	2	2	4	45
Switch Phase							
Minimum Initial (s)	6.0	16.0	5.0	16.0	16.0	10.0	
Minimum Split (s)	12.8	24.9	11.8	24.9	24.9	25.1	
Total Split (s)	28.0	39.0	41.0	52.0	52.0	40.0	
Total Split (%)	23.3%	32.5%	34.2%	43.3%	43.3%	33.3%	
Yellow Time (s)	4.8	4.9	4.8	4.9	4.9	4.1	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	3.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.8	6.9	6.8	6.9	6.9	7.1	
Lead/Lag	Lead	Lag	Lead	Lag	Lag		
Lead/Lag Optimize?	Yes	Yes	Yes	Yes	Yes		
Recall Mode	None	C-Min	None	C-Min	C-Min	None	
Act Effct Green (s)	50.5	35.4	29.6	49.9	49.9	34.3	70.6
Actuated g/C Ratio	0.42	0.30	0.25	0.42	0.42	0.29	0.59
w/c Ratio	0.56	0.50	0.74	0.32	0.46	0.21	0.52
Control Delay (s/veh)	19.2	33.1	47.0	25.7	4.6	33.1	15.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	19.2	33.1	47.0	25.7	4.6	33.1	15.6
LOS	B	C	D	C	A	C	B
Approach Delay (s/veh)		28.2		30.3			
Approach LOS		C		C			
Queue Length 50th (ft)	7.2	125	234	101	0	58	186
Queue Length 95th (ft)	180	172	286	146	62	92	231
Internal Link Dist (ft)		553		1985			
Turn Bay Length (ft)	225		435		260		420
Base Capacity (vph)	528	951	998	1127	778	986	1628
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced w/c Ratio	0.48	0.49	0.64	0.32	0.46	0.21	0.49

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 9 (8%), Referenced to phase 2WBT and 6EBTL, Start of Green
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 0.74
 Intersection Signal Delay (s/veh): 26.1
 Intersection Capacity Utilization: 51.7%
 Analysis Period (min): 15
 Intersection LOS: C
 ICU Level of Service: A

Splits and Phases: 49. I-75 NB Off-ramp/I-75 NB On-ramp & SR 326



HCM 7th Signalized Intersection Summary
 47: NW 44TH AVE/I-75 SB Off-ramp & SR 326

2030 Build Conditions
 Timing Plan PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↓		↘	↑↑			↙	↗	↘	↙	↗
Traffic Volume (veh/h)	0	483	75	41	321	0	96	0	70	291	13	240
Future Volume (veh/h)	0	483	75	41	321	0	96	0	70	291	13	240
Initial Q (Cb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1678	1678	1678	1678	0	1752	1900	1752	1707	1707	1707
Adj Flow Rate, veh/h	0	508	79	43	338	0	101	0	74	316	0	253
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	15	15	15	15	0	10	0	10	13	13	13
Cap, veh/h	0	1309	203	374	1729	0	137	0	112	659	0	293
Arrive On Green	0.00	0.47	0.47	0.06	1.00	0.00	0.08	0.00	0.08	0.20	0.00	0.20
Sat Flow, veh/h	0	2850	428	1598	3272	0	1810	0	1485	3252	0	1447
Grp Volume(s), veh/h	0	292	295	43	338	0	101	0	74	316	0	253
Grp Sat Flow(s), veh/h/ln	0	1594	1601	1598	1594	0	1810	0	1485	1626	0	1447
Q Serve(g_s), s	0.0	14.2	14.3	1.6	0.0	0.0	6.6	0.0	5.8	10.3	0.0	20.3
Cycle Q Clear(g_c), s	0.0	14.2	14.3	1.6	0.0	0.0	6.6	0.0	5.8	10.3	0.0	20.3
Prop In Lane	0.00		0.27	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(s), veh/h	0	754	757	374	1729	0	137	0	112	659	0	293
W/C Ratio(%)	0.00	0.39	0.39	0.12	0.20	0.00	0.74	0.00	0.66	0.48	0.00	0.86
Avail Cap(c_s), veh/h	0	754	757	396	1729	0	240	0	197	824	0	367
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	20.4	20.4	14.8	0.0	0.0	54.3	0.0	53.9	42.2	0.0	46.2
Incr Delay (d2), s/veh	0.0	1.5	1.5	0.1	0.1	0.0	10.4	0.0	9.0	0.8	0.0	17.2
Initial Q Delay(dB), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%), veh/ln	0.0	9.1	9.2	1.0	0.0	0.0	6.1	0.0	0.5	7.6	0.0	13.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	21.9	21.9	14.9	0.1	0.0	64.7	0.0	62.9	43.0	0.0	63.4
LnGrp LOS		C	C	B	A		E		E	D		E
Approach Vol, veh/h		567			381			175				569
Approach Delay, s/veh		21.9			1.7			63.9				52.1
Approach LOS		C			A			E				D
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rq), s	8.3	63.6		31.9		71.9		16.2				
Change Period (Y+Rq), s	4.5	6.8		7.6		6.8		7.1				
Max Green Setting (Gmax), s	5.5	42.2		30		52.2		15.9				
Max Q Clear Time (g_c+I), s	3.6	16.3		22.3		2.0		8.6				
Green Ext Time (p_c), s	0.0	3.4		2.1		2.2		0.6				

Intersection Summary		
HCM 7th Control Delay, s/veh		31.7
HCM 7th LOS		C

Notes
 User approved pedestrian interval to be less than phase max green.
 User approved volume balancing among the lanes for turning movement.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection										
Int Delay, s/veh	0.6									
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER
Lane Configurations		↑↓		↑	↑↑	↑		↑		
Traffic Vol, veh/h	0	817	30	29	362	143	0	67	0	0
Future Vol, veh/h	0	817	30	29	362	143	0	67	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None	-	-
Storage Length	-	-	0	240	-	100	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	92	92
Heavy Vehicles, %	0	15	14	3	15	100	0	6	2	2
Mvmt Flow	0	860	32	31	381	151	0	71	0	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	-	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.16
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.23
Pot Cap-1 Maneuver	0	-	965
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	0
Mov Cap-1 Maneuver	-	-	965
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.48	9.65
HCM LOS			A

Minor Lane/Major Mvmt	NBLnl	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	844	-	-	965	-	-
HCM Lane V/C Ratio	0.084	-	-	0.032	-	-
HCM Control Delay (s/veh)	9.7	-	-	8.9	-	-
HCM Lane LOS	A	-	-	A	-	-
HCM 95th %ile Q(veh)	0.3	-	-	0.1	-	-

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



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	156	496	749	326	212	208	736
Future Volume (vph)	156	496	749	326	212	208	736
Lane Group Flow (vph)	164	512	788	343	223	219	775
Turn Type	pm+pt	NA	Prot	NA	Perm	Prot	pt+ov
Protected Phases	1	6	5	2		4	45
Permitted Phases	6				2		
Detector Phase	1	6	5	2	2	4	45
Switch Phase							
Minimum Initial (s)	6.0	16.0	5.0	16.0	16.0	10.0	
Minimum Split (s)	12.8	24.9	11.8	24.9	24.9	25.1	
Total Split (s)	19.0	38.0	46.0	65.0	65.0	36.0	
Total Split (%)	15.8%	31.7%	38.3%	54.2%	54.2%	30.0%	
Yellow Time (s)	4.8	4.9	4.8	4.9	4.9	4.1	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	3.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.8	6.9	6.8	6.9	6.9	7.1	
Lead/Lag	Lead	Lag	Lead	Lag	Lag		
Lead/Lag Optimize?	Yes	Yes	Yes	Yes	Yes		
Recall Mode	None	C-Min	None	C-Min	C-Min	None	
Act Effct Green (s)	44.8	34.2	34.6	58.4	58.4	30.4	71.8
Actuated gC Ratio	0.37	0.29	0.29	0.49	0.49	0.25	0.60
w/c Ratio	0.42	0.57	0.78	0.28	0.28	0.27	0.49
Control Delay (s/veh)	18.7	40.8	44.9	19.4	3.2	37.0	14.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	18.7	40.8	44.9	19.4	3.2	37.0	14.6
LOS	B	D	D	B	A	D	B
Approach Delay (s/veh)		35.5		31.6			
Approach LOS		D		C			
Queue Length 50th (ft)	56	199	286	85	0	68	168
Queue Length 95th (ft)	104	163	342	114	41	107	219
Internal Link Dist (ft)		553		1985			
Turn Bay Length (ft)	225		435		260		420
Base Capacity (vph)	410	908	1143	1234	798	823	1646
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced w/c Ratio	0.40	0.56	0.69	0.28	0.28	0.27	0.47

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 20 (17%), Referenced to phase 2:WBT and 6:EBTL, Start of Green	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum w/c Ratio: 0.78	
Intersection Signal Delay (s/veh): 28.5	Intersection LOS: C
Intersection Capacity Utilization: 65.5%	ICU Level of Service: B
Analysis Period (min): 15	

Splits and Phases: 49. I-75 NB Off-ramp/I-75 NB On-ramp & SR 326



HCM 7th Signalized Intersection Summary
 47: NW 44TH AVE/I-75 SB Off-ramp & SR 326

2030 Build Conditions
 Timing Plan: Weekend



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↓		↘	↑↑			↙	↗	↘	↙	↗
Traffic Volume (veh/h)	0	340	80	44	292	0	49	0	64	257	6	198
Future Volume (veh/h)	0	340	80	44	292	0	49	0	64	257	6	198
Initial Q (Cb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/hln	0	1752	1841	1841	1752	0	1841	1900	1841	1767	1767	1767
Adj Flow Rate, veh/h	0	358	84	46	307	0	52	0	67	275	0	208
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	10	4	4	10	0	4	0	4	9	9	9
Cap, veh/h	0	1388	322	529	1956	0	111	0	95	579	0	258
Arrive On Green	0.00	0.52	0.52	0.03	0.59	0.00	0.06	0.00	0.06	0.17	0.00	0.17
Sat Flow, veh/h	0	2770	622	1753	3416	0	1810	0	1560	3365	0	1497
Grp Volume(s), veh/h	0	221	221	46	307	0	52	0	67	275	0	208
Grp Sat Flow(s), veh/hln	0	1664	1640	1753	1664	0	1810	0	1560	1682	0	1497
Q Serve(g_s), s	0.0	8.8	9.0	1.4	5.0	0.0	3.3	0.0	5.1	8.8	0.0	16.0
Cycle Q Clear(g_c), s	0.0	8.8	9.0	1.4	5.0	0.0	3.3	0.0	5.1	8.8	0.0	16.0
Prop In Lane	0.00		0.38	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(s), veh/h	0	861	849	529	1956	0	111	0	95	579	0	258
WC Ratio(%)	0.00	0.26	0.26	0.09	0.16	0.00	0.47	0.00	0.70	0.47	0.00	0.81
Avail Cap(c_s), veh/h	0	861	849	567	1956	0	270	0	233	1077	0	479
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	16.1	16.2	12.1	11.2	0.0	54.5	0.0	55.3	44.8	0.0	47.8
Incr Delay (d2), s/veh	0.0	0.7	0.7	0.1	0.0	0.0	4.4	0.0	12.6	0.9	0.0	8.2
Initial Q Delay(dB), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%), veh/ln	0.0	6.0	6.1	0.9	3.1	0.0	3.0	0.0	4.2	6.8	0.0	10.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	16.8	16.9	12.2	11.3	0.0	58.8	0.0	67.9	45.6	0.0	56.0
LnGrp LOS		B	B	B	B		E		E	D		E
Approach Vol, veh/h		442			353			119				483
Approach Delay, s/veh		16.9			11.4			63.9				50.1
Approach LOS		B			B			E				D
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rq), s	8.4	68.9		28.3		77.3		14.4				
Change Period (Y+Rq), s	4.5	6.8		7.6		6.8		7.1				
Max Green Setting (Gmax), s	6.5	31.2		3.8		42.2		17.9				
Max Q Clear Time (g_c+I), s	3.4	11.0		18.0		7.0		7.1				
Green Ext Time (p_q), s	0.0	23		2.6		1.9		0.4				

Intersection Summary

HCM 7th Control Delay, s/veh 31.0
 HCM 7th LOS C

Notes

- User approved pedestrian interval to be less than phase max green.
- User approved volume balancing among the lanes for turning movement.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection										
Int Delay, s/veh	0.6									
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER
Lane Configurations		↑↑		↑	↑↑	↑		↑		
Traffic Vol, veh/h	0	632	33	26	336	72	0	53	0	0
Future Vol, veh/h	0	632	33	26	336	72	0	53	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None	-	-
Storage Length	-	-	0	240	-	100	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	92	92
Heavy Vehicles, %	0	10	17	1	10	100	0	12	2	2
Mvmt Flow	0	665	35	27	354	76	0	56	0	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	-	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.21
Pot Cap-1 Maneuver	0	-	1104
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	0
Mov Cap-1 Maneuver	-	-	1104
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.5	9.37
HCM LOS			A

Minor Lane/Major Mvmt	NBLnl	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	880	-	-	1104	-	-
HCM Lane V/C Ratio	0.063	-	-	0.025	-	-
HCM Control Delay (s/veh)	9.4	-	-	8.3	-	-
HCM Lane LOS	A	-	-	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-	-

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

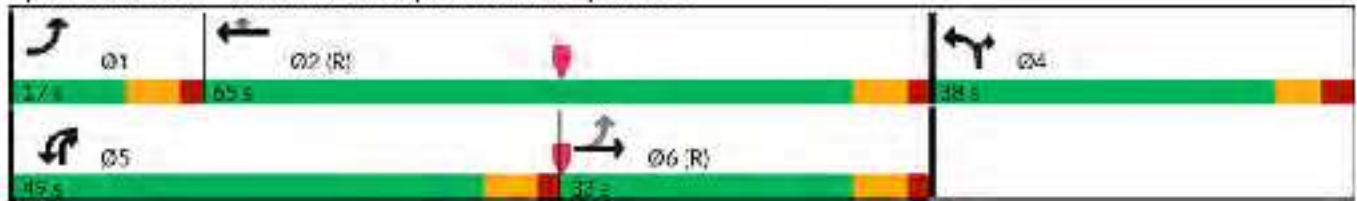


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	122	376	824	238	262	196	840
Future Volume (vph)	122	376	824	238	262	196	840
Lane Group Flow (vph)	124	384	841	243	267	200	857
Turn Type	pm+pt	NA	Prot	NA	Perm	Prot	pt+ov
Protected Phases	1	6	5	2		4	45
Permitted Phases	6				2		
Detector Phase	1	6	5	2	2	4	45
Switch Phase							
Minimum Initial (s)	6.0	16.0	5.0	16.0	16.0	10.0	
Minimum Split (s)	12.8	24.9	11.8	24.9	24.9	25.1	
Total Split (s)	17.0	33.0	49.0	65.0	65.0	38.0	
Total Split (%)	14.2%	27.5%	40.8%	54.2%	54.2%	31.7%	
Yellow Time (s)	4.8	4.9	4.8	4.9	4.9	4.1	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	3.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.8	6.9	6.8	6.9	6.9	7.1	
Lead/Lag	Lead	Lag	Lead	Lag	Lag		
Lead/Lag Optimize?	Yes	Yes	Yes	Yes	Yes		
Recall Mode	None	C-Min	None	C-Min	C-Min	None	
Act Effct Green (s)	37.9	28.9	37.2	57.1	57.1	33.1	77.1
Actuated g/C Ratio	0.32	0.24	0.31	0.48	0.48	0.28	0.64
w/c Ratio	0.33	0.48	0.77	0.18	0.32	0.22	0.50
Control Delay (s/veh)	21.2	43.1	42.6	18.7	3.1	34.4	121
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	21.2	43.1	42.6	18.7	3.1	34.4	121
LOS	C	D	D	B	A	C	B
Approach Delay (s/veh)		37.7		30.5			
Approach LOS		D		C			
Queue Length 50th (ft)	23	122	301	57	0	59	168
Queue Length 95th (ft)	78	190	356	80	44	95	217
Internal Link Dist (ft)		553		1985			
Turn Bay Length (ft)	225		435		260		420
Base Capacity (vph)	393	816	1231	1355	860	911	1835
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced w/c Ratio	0.32	0.47	0.68	0.18	0.31	0.22	0.47

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 39 (33%), Referenced to phase 2:WBT and 6:EBTL, Start of Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 0.77
 Intersection Signal Delay (s/veh): 26.6
 Intersection Capacity Utilization: 57.2%
 Analysis Period (min): 15
 Intersection LOS: C
 ICU Level of Service: B

Splits and Phases: 49. I-75 NB Off-ramp/I-75 NB On-ramp & SR 326



**APPENDIX AA – 2040 BUILD SYNCHRO OUTPUT
REPORTS**

SR 40 Summary Tables

36: I-75 SB On-Ramp/I-75 SB Off-Ramp & SR 40

Approach	Movement	AM Peak Hour			PM Peak Hour			WKND Peak Hour		
		V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)
Westbound	Left	0.76	44.9 (D)	325	0.88	78.8 (E)	475	0.76	41.3 (D)	350
	Through	0.56	79.7 (E)	600	0.63	62.8 (E)	475	0.35	5.0 (A)	150
	Approach	0.59	74.1 (E)	-	0.68	66.1 (E)	-	0.46	14.6 (B)	-
Eastbound	Through	0.54	24.1 (C)	400	0.75	39.6 (D)	600	0.40	17.5 (B)	325
	Right	0.26	3.2 (A)	50	0.50	5.2 (A)	100	0.17	3.1 (A)	50
	Approach	0.50	21.1 (C)	-	0.69	32.0 (C)	-	0.37	15.7 (B)	-
Southbound	Left	0.55	54.4 (D)	200	0.36	49.0 (D)	150	0.65	64.4 (E)	175
	Right	0.96	79.6 (E)	450	0.96	79.6 (E)	450	0.65	22.8 (C)	150
	Approach	0.75	66.9 (E)	-	0.72	67.3 (E)	-	0.65	45.5 (D)	-
Overall Intersection		0.58	50.7 (D)	-	0.69	51.4 (D)	-	0.45	20.1 (C)	-

37: I-75 NB Off-Ramp/I-75 NB On-Ramp & SR 40

Approach	Movement	AM Peak Hour			PM Peak Hour			WKND Peak Hour		
		V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)
Westbound	Through	0.72	50.8 (D)	450	0.63	25.1 (C)	475	0.36	14.0 (B)	250
	Right	0.47	4.8 (A)	75	0.41	3.1 (A)	75	0.28	2.2 (A)	50
	Approach	0.67	40.9 (D)	-	0.59	20.9 (C)	-	0.34	11.5 (B)	-
Northbound	Left	0.23	33.1 (C)	125	0.39	58.1 (E)	125	0.41	55.7 (E)	125
	Right	0.99	73.6 (E)	700	0.86	64.2 (E)	275	0.85	56.5 (E)	250
	Approach	0.75	60.9 (E)	-	0.66	61.6 (E)	-	0.66	56.2 (E)	-
Eastbound	Left	0.89	54.7 (D)	300	0.86	85.5 (F)	375	0.61	13.4 (B)	75
	Through	0.79	24.9 (C)	700	0.55	4.4 (A)	150	0.46	4.1 (A)	50
	Approach	0.80	29.0 (C)	-	0.60	18.3 (B)	-	0.48	5.6 (A)	-
Overall Intersection		0.74	39.8 (D)	-	0.60	24.2 (C)	-	0.45	15.1 (B)	-

SR 40 Synchro Reports

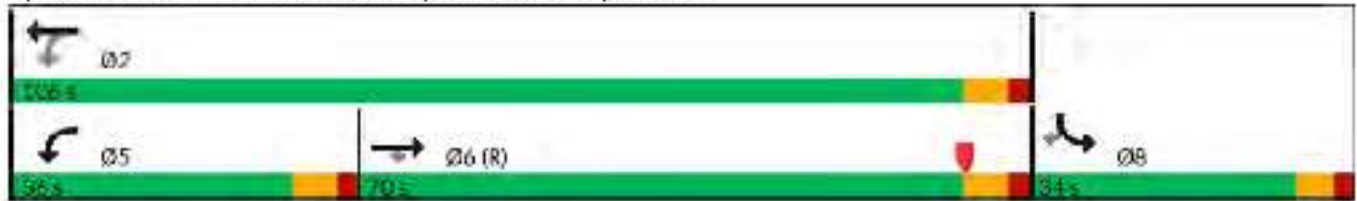
	→	↘	↙	←	↘	↙
Lane Group	EBT	EBR	WBL	WBT	SBL	SBR
Lane Configurations	↑↑↑	↗	↖	↑↑	↘↖	↗
Traffic Volume (vph)	1329	222	244	1279	319	318
Future Volume (vph)	1329	222	244	1279	319	318
Lane Group Flow (vph)	1399	234	257	1346	336	335
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	6		5	2	8	
Permitted Phases		6	2			8
Detector Phase	6	6	5	2	8	8
Switch Phase						
Minimum Initial (s)	15.0	15.0	5.0	15.0	8.0	8.0
Minimum Split (s)	28.8	28.8	11.8	25.8	38.1	38.1
Total Split (s)	70.0	70.0	36.0	106.0	34.0	34.0
Total Split (%)	50.0%	50.0%	25.7%	75.7%	24.3%	24.3%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.1	4.1
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.1	6.1
Lead/Lag	Lag	Lag	Lead			
Lead/Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	Min	Max	None	None
Act Effct Green (s)	74.3	74.3	99.8	99.8	27.3	27.3
Actuated g/C Ratio	0.53	0.53	0.71	0.71	0.20	0.20
w/c Ratio	0.54	0.26	0.76	0.56	0.55	0.96
Control Delay (s/veh)	23.7	3.2	43.9	30.3	54.4	79.6
Queue Delay	0.4	0.0	1.1	49.4	0.0	0.0
Total Delay (s/veh)	24.1	3.2	44.9	79.7	54.4	79.6
LOS	C	A	D	E	D	E
Approach Delay (s/veh)	21.1			74.1		
Approach LOS	C			E		
Queue Length 50th (ft)	300	0	218	505	142	234
Queue Length 95th (ft)	400	48	310	581	194	#428
Internal Link Dist (ft)	257.9			286		
Turn Bay Length (ft)		400			375	375
Base Capacity (vph)	257.2	898	448	2404	628	355
Starvation Cap Reductn	0	0	60	1244	0	0
Spillback Cap Reductn	594	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced w/c Ratio	0.71	0.26	0.66	1.16	0.54	0.94

Intersection Summary

Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 91 (65%), Referenced to phase 6EBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 0.96
 Intersection Signal Delay (s/veh): 50.7
 Intersection LOS: D
 Intersection Capacity Utilization: 82.3%
 ICU Level of Service: E
 Analysis Period (min): 15

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

Splits and Phases: 36 I-75 SB On-Ramp/I-75 SB Off-Ramp & SR 40





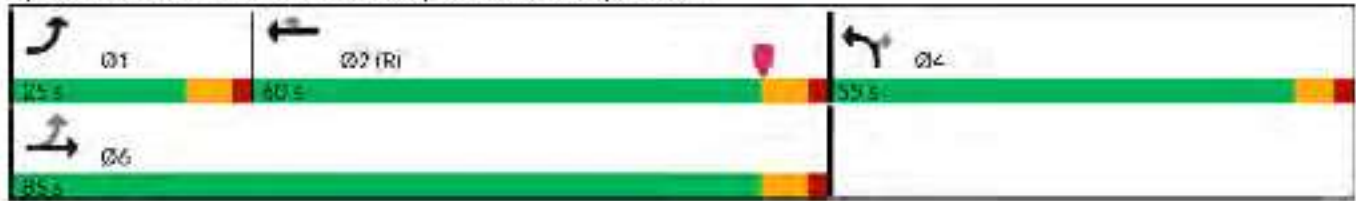
Lane Group	EBL	EBT	WBT	WBR	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	226	1422	1286	355	237	519
Future Volume (vph)	226	1422	1286	355	237	519
Lane Group Flow (vph)	238	1497	1354	374	249	546
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	1	6	2		4	
Permitted Phases	6			2		4
Detector Phase	1	6	2	2	4	4
Switch Phase						
Minimum Initial (s)	5.0	15.0	15.0	15.0	5.0	5.0
Minimum Split (s)	11.8	24.8	24.8	24.8	34.2	34.2
Total Split (s)	25.0	85.0	60.0	60.0	55.0	55.0
Total Split (%)	17.9%	60.7%	42.9%	42.9%	39.3%	39.3%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.2	4.2
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.2	6.2
Lead/Lag	Lead		Lag	Lag		
Lead/Lag Optimize?	Yes		Yes	Yes		
Recall Mode	Min	Max	C-Max	C-Max	None	None
Act Effct Green (s)	78.2	78.2	54.1	54.1	48.8	48.8
Actuated g/C Ratio	0.56	0.56	0.39	0.39	0.35	0.35
w/c Ratio	0.89	0.79	0.72	0.47	0.23	0.99
Control Delay (s/veh)	52.4	22.0	39.3	4.8	33.0	73.6
Queue Delay	2.3	2.9	11.5	0.0	0.1	0.0
Total Delay (s/veh)	54.7	24.9	50.8	4.8	33.1	73.6
LOS	D	C	D	A	C	E
Approach Delay (s/veh)		29.0	40.9			
Approach LOS		C	D			
Queue Length 50th (ft)	154	586	384	0	82	437
Queue Length 95th (ft)	#289	676	442	68	117	#688
Internal Link Dist (ft)		296	2337			
Turn Bay Length (ft)				425	370	370
Base Capacity (vph)	276	1902	1889	791	1099	553
Starvation Cap Reductn	8	290	0	0	0	0
Spillback Cap Reductn	0	0	528	0	269	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced w/c Ratio	0.89	0.93	0.99	0.47	0.30	0.99

Intersection Summary

Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 125 (89%), Referenced to phase 2/WBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 0.99
 Intersection Signal Delay (s/veh): 39.8
 Intersection LOS: D
 Intersection Capacity Utilization: 82.3%
 ICU Level of Service: E
 Analysis Period (min): 15

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

Splits and Phases: 37: I-75 NB Off-Ramp/I-75 NB On-Ramp & SR 40



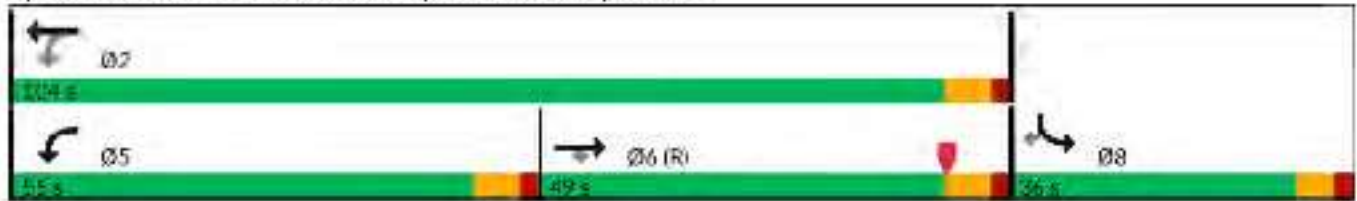


Lane Group	EBT	EBR	WBL	WBT	SBL	SBR
Lane Configurations	↑↑↑	↗	↖	↑↑	↘	↙
Traffic Volume (vph)	1413	400	378	1417	223	333
Future Volume (vph)	1413	400	378	1417	223	333
Lane Group Flow (vph)	1487	421	398	1492	235	351
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	6		5	2	8	
Permitted Phases		6	2			8
Detector Phase	6	6	5	2	8	8
Switch Phase						
Minimum Initial (s)	15.0	15.0	5.0	15.0	8.0	8.0
Minimum Split (s)	28.8	28.8	11.8	25.8	38.1	38.1
Total Split (s)	49.0	49.0	55.0	104.0	36.0	36.0
Total Split (%)	35.0%	35.0%	39.3%	74.3%	25.7%	25.7%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.1	4.1
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.1	6.1
Lead/Lag	Lag	Lag	Lead			
Lead/Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	Min	Max	None	None
Act Effct Green (s)	57.3	57.3	97.8	97.8	29.3	29.3
Actuated g/C Ratio	0.41	0.41	0.70	0.70	0.21	0.21
w/c Ratio	0.75	0.50	0.88	0.63	0.36	0.96
Control Delay (s/veh)	39.6	5.2	70.4	19.4	48.9	79.6
Queue Delay	0.0	0.0	8.4	43.4	0.1	0.0
Total Delay (s/veh)	39.6	5.2	78.8	62.8	49.0	79.6
LOS	D	A	E	E	D	E
Approach Delay (s/veh)	32.0			66.1		
Approach LOS	C			E		
Queue Length 50th (ft)	423	0	359	380	94	252
Queue Length 95th (ft)	#588	81	466	466	136	#449
Internal Link Dist (ft)	257.9			286		
Turn Bay Length (ft)		400			375	375
Base Capacity (vph)	1982	849	608	2356	673	371
Starvation Cap Reductn	0	0	171	984	0	0
Spillback Cap Reductn	11	0	0	0	47	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced w/c Ratio	0.75	0.50	0.91	1.09	0.38	0.95

Intersection Summary
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 91 (65%), Referenced to phase 6EBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 0.96
 Intersection Signal Delay (s/veh): 51.4
 Intersection Capacity Utilization: 71.3%
 Analysis Period (min): 15
 Intersection LOS: D
 ICU Level of Service: C

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

Splits and Phases: 36 I-75 SB On-Ramp/I-75 SB Off-Ramp & SR 40





Lane Group	EBL	EBT	WBT	WBR	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	281	1355	1609	383	186	242
Future Volume (vph)	281	1355	1609	383	186	242
Lane Group Flow (vph)	293	1411	1676	399	194	252
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	1	6	2		4	
Permitted Phases	6			2		4
Detector Phase	1	6	2	2	4	4
Switch Phase						
Minimum Initial (s)	5.0	15.0	15.0	15.0	5.0	5.0
Minimum Split (s)	11.8	24.8	24.8	24.8	34.2	34.2
Total Split (s)	32.0	108.0	76.0	76.0	32.0	32.0
Total Split (%)	22.9%	77.1%	54.3%	54.3%	22.9%	22.9%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.2	4.2
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.2	6.2
Lead/Lag	Lead		Lag	Lag		
Lead/Lag Optimize?	Yes		Yes	Yes		
Recall Mode	Min	Max	C-Max	C-Max	None	None
Act Effct Green (s)	105.1	105.1	75.9	75.9	21.9	21.9
Actuated g/C Ratio	0.75	0.75	0.54	0.54	0.16	0.16
w/c Ratio	0.86	0.55	0.63	0.41	0.39	0.86
Control Delay (s/veh)	84.2	4.1	24.9	3.1	54.5	64.2
Queue Delay	1.3	0.3	0.2	0.0	3.6	0.0
Total Delay (s/veh)	85.5	4.4	25.1	3.1	58.1	64.2
LOS	F	A	C	A	E	E
Approach Delay (s/veh)		183	20.9			
Approach LOS		B	C			
Queue Length 50th (ft)	166	78	413	0	81	152
Queue Length 95th (ft)	m#354	127	475	54	118	#275
Internal Link Dist (ft)		296	2337			
Turn Bay Length (ft)				425	370	370
Base Capacity (vph)	371	2556	2651	970	581	331
Starvation Cap Reductn	15	467	0	0	0	0
Spillback Cap Reductn	0	0	263	0	298	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced w/c Ratio	0.82	0.68	0.70	0.41	0.69	0.76

Intersection Summary

Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 125 (89%), Referenced to phase 2/WBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 0.86
 Intersection Signal Delay (s/veh): 24.2
 Intersection Capacity Utilization: 71.3%
 Analysis Period (min): 15
 Intersection LOS: C
 ICU Level of Service: C

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal

Splits and Phases: 37: I-75 NB Off-Ramp/I-75 NB On-Ramp & SR 40



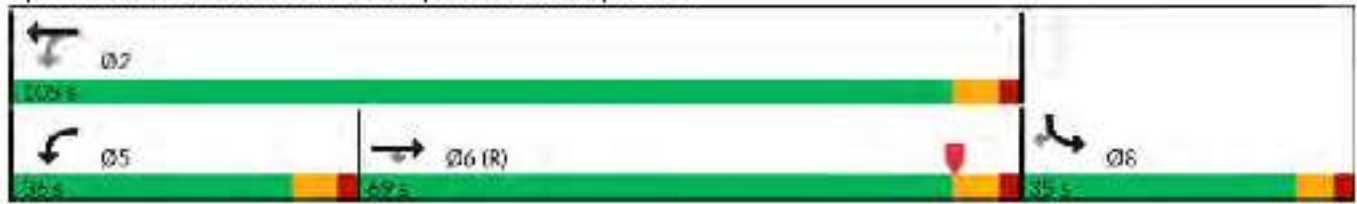
	→	↘	↙	←	↘	↙
Lane Group	EBT	EBR	WBL	WBT	SBL	SBR
Lane Configurations	↑↑↑	↗	↖	↑↑	↘↖	↗
Traffic Volume (vph)	1131	158	333	924	273	226
Future Volume (vph)	1131	158	333	924	273	226
Lane Group Flow (vph)	1166	163	343	953	281	233
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	6		5	2	8	
Permitted Phases		6	2			8
Detector Phase	6	6	5	2	8	8
Switch Phase						
Minimum Initial (s)	15.0	15.0	5.0	15.0	8.0	8.0
Minimum Split (s)	28.8	28.8	11.8	25.8	38.1	38.1
Total Split (s)	69.0	69.0	36.0	105.0	35.0	35.0
Total Split (%)	49.3%	49.3%	25.7%	75.0%	25.0%	25.0%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.1	4.1
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.1	6.1
Lead/Lag	Lag	Lag	Lead			
Lead/Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	Min	Max	None	None
Act Effct Green (s)	82.5	82.5	108.6	108.6	18.5	18.5
Actuated g/C Ratio	0.59	0.59	0.78	0.78	0.13	0.13
w/c Ratio	0.40	0.17	0.76	0.35	0.65	0.65
Control Delay (s/veh)	17.5	3.1	39.7	4.6	64.4	22.8
Queue Delay	0.0	0.0	1.6	0.4	0.0	0.0
Total Delay (s/veh)	17.5	3.1	41.3	5.0	64.4	22.8
LOS	B	A	D	A	E	C
Approach Delay (s/veh)	15.7			14.6		
Approach LOS	B			B		
Queue Length 50th (ft)	195	0	175	96	127	41
Queue Length 95th (ft)	306	39	341	134	169	127
Internal Link Dist (ft)	257.9			286		
Turn Bay Length (ft)		400			375	375
Base Capacity (vph)	2940	973	550	2693	681	456
Starvation Cap Reductn	0	0	85	107.2	0	0
Spillback Cap Reductn	94	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced w/c Ratio	0.41	0.17	0.74	0.59	0.41	0.51

Intersection Summary

Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 91 (65%), Referenced to phase 6EBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 0.76
 Intersection Signal Delay (s/veh): 20.1
 Intersection Capacity Utilization: 64.5%
 Analysis Period (min): 15

Intersection LOS: C
 ICU Level of Service: C

Splits and Phases: 36 I-75 SB On-Ramp/I-75 SB Off-Ramp & SR 40



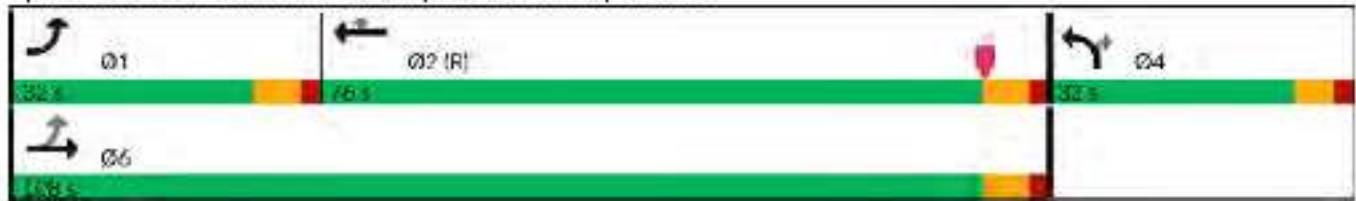


Lane Group	EBL	EBT	WBT	WBR	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	228	1176	1069	292	188	259
Future Volume (vph)	228	1176	1069	292	188	259
Lane Group Flow (vph)	238	1225	1114	304	196	270
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	1	6	2		4	
Permitted Phases	6			2		4
Detector Phase	1	6	2	2	4	4
Switch Phase						
Minimum Initial (s)	5.0	15.0	15.0	15.0	5.0	5.0
Minimum Split (s)	11.8	24.8	24.8	24.8	34.2	34.2
Total Split (s)	32.0	108.0	76.0	76.0	32.0	32.0
Total Split (%)	22.9%	77.1%	54.3%	54.3%	22.9%	22.9%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.2	4.2
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.2	6.2
Lead/Lag	Lead		Lag	Lag		
Lead/Lag Optimize?	Yes		Yes	Yes		
Recall Mode	Min	Max	C-Max	C-Max	None	None
Act Effct Green (s)	106.4	106.4	87.6	87.6	20.6	20.6
Actuated g/C Ratio	0.76	0.76	0.63	0.63	0.15	0.15
w/c Ratio	0.61	0.46	0.36	0.28	0.41	0.85
Control Delay (s/veh)	13.3	4.0	14.0	2.2	55.6	56.5
Queue Delay	0.1	0.1	0.0	0.0	0.1	0.0
Total Delay (s/veh)	13.4	4.1	14.0	2.2	55.7	56.5
LOS	B	A	B	A	E	E
Approach Delay (s/veh)		5.6	11.5			
Approach LOS		A	B			
Queue Length 50th (ft)	15	289	173	0	83	140
Queue Length 95th (ft)	75	43	240	42	119	243
Internal Link Dist (ft)		296	2337			
Turn Bay Length (ft)				425	370	370
Base Capacity (vph)	518	2539	3120	1067	608	368
Starvation Cap Reductn	23	391	0	0	0	0
Spillback Cap Reductn	0	0	28	0	34	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced w/c Ratio	0.48	0.54	0.36	0.28	0.34	0.73

Intersection Summary

Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 125 (89%), Referenced to phase 2/WBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 0.85
 Intersection Signal Delay (s/veh): 15.1
 Intersection Capacity Utilization: 64.5%
 Analysis Period (min): 15
 Intersection LOS: B
 ICU Level of Service: C

Splits and Phases: 37: I-75 NB Off-Ramp/I-75 NB On-Ramp & SR 40



US 27 Summary Tables

42: I-75 SB On-ramp/I-75 SB Off-ramp & US 27

Approach	Movement	AM Peak Hour			PM Peak Hour			WKND Peak Hour		
		V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)
Westbound	Left	0.99	124.7 (F)	575	0.95	92.7 (F)	650	0.87	100.6 (F)	150
	Through	0.47	12.6 (B)	275	0.77	24.5 (C)	475	0.70	18.2 (B)	300
	Approach	0.61	43.7 (D)	-	0.81	40.0 (D)	-	0.73	33.6 (C)	-
Eastbound	Through	0.92	98.3 (F)	775	0.88	108.1 (F)	625	0.72	39.0 (D)	450
	Right	0.66	13.1 (B)	275	0.68	15.1 (B)	250	0.59	4.6 (A)	75
	Approach	0.84	72.6 (E)	-	0.81	76.6 (E)	-	0.67	26.6 (C)	-
Southbound	LT/TH/RT Approach	1.19	148.2 (F)	750	1.19	147.6 (F)	900	0.90	60.5 (E)	750
		1.19	148.2 (F)	-	1.19	147.6 (F)	-	0.90	60.5 (E)	-
Overall Intersection		0.80	70.9 (E)	-	0.86	66.6 (E)	-	0.73	34.3 (C)	-

43: I-75 NB Off-ramp/I-75 NB On-ramp & US 27

Approach	Movement	AM Peak Hour			PM Peak Hour			WKND Peak Hour		
		V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)
Westbound	Through	0.39	19.4 (B)	300	0.53	17.6 (B)	425	0.42	13.6 (B)	300
	Right	0.32	19.1 (B)	225	0.31	15.0 (B)	225	0.24	12.0 (B)	150
	Approach	0.38	19.3 (B)	-	0.50	17.3 (B)	-	0.39	13.4 (B)	-
Northbound	Left	0.54	50.6 (D)	300	0.87	72.6 (E)	475	0.79	59.0 (E)	350
	Right	0.85	62.7 (E)	400	0.74	65.2 (E)	325	0.65	55.2 (E)	250
	Approach	0.71	57.4 (E)	-	0.82	69.6 (E)	-	0.73	57.5 (E)	-
Eastbound	Left	0.60	14.8 (B)	125	0.67	19.5 (B)	100	0.45	10.9 (B)	75
	Through	0.62	14.2 (B)	425	0.47	9.9 (A)	300	0.45	8.1 (A)	275
	Approach	0.62	14.3 (B)	-	0.49	10.9 (B)	-	0.45	8.4 (A)	-
Overall Intersection		0.56	26.7 (C)	-	0.57	27.4 (C)	-	0.49	21.4 (C)	-

US 27 Synchro Reports



Lane Group	EBT	EBR	WBL	WBT	SBT
Lane Configurations	↑↑	↑	↓	↑↑	↓
Traffic Volume (vph)	1241	536	395	1031	0
Future Volume (vph)	1241	536	395	1031	0
Lane Group Flow (vph)	1306	564	416	1085	490
Turn Type	NA	Perm	pm+pt	NA	NA
Protected Phases	6		5	2	8
Permitted Phases		6	2		
Detector Phase	6	6	5	2	8
Switch Phase					
Minimum Initial (s)	15.0	15.0	5.0	15.0	8.0
Minimum Split (s)	31.0	31.0	12.0	22.0	15.0
Total Split (s)	70.0	70.0	40.0	110.0	40.0
Total Split (%)	46.7%	46.7%	26.7%	73.3%	26.7%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.0
All-Red Time (s)	2.0	2.0	2.2	2.0	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	7.0	6.8	6.3
Lead/Lag	Lead	Lead	Lag		
Lead/Lag Optimize?	Yes	Yes	Yes		
Recall Mode	Min	Min	None	C-Min	None
Act Effct Green (s)	63.2	63.2	103.0	103.2	33.7
Actuated g/C Ratio	0.42	0.42	0.69	0.69	0.22
w/c Ratio	0.92	0.66	0.99	0.47	1.19
Control Delay (s/veh)	52.3	13.1	88.1	12.2	148.0
Queue Delay	46.0	0.0	36.5	0.4	0.2
Total Delay (s/veh)	98.3	13.1	124.7	12.6	148.2
LOS	F	B	F	B	F
Approach Delay (s/veh)	72.6			43.7	148.2
Approach LOS	E			D	F
Queue Length 50th (ft)	63.0	1.20	35.8	22.4	~514
Queue Length 95th (ft)	#753	258	#563	27.2	#742
Internal Link Dist (ft)	2673			327	1520
Turn Bay Length (ft)		270			
Base Capacity (vph)	1421	857	421	2321	412
Starvation Cap Reductn	0	0	63	660	0
Spillback Cap Reductn	333	0	0	0	8
Storage Cap Reductn	0	0	0	0	0
Reduced w/c Ratio	1.20	0.66	1.16	0.65	1.21

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 97 (65%), Referenced to phase 2:WBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 1.19
 Intersection Signal Delay (s/veh): 70.9
 Intersection Capacity Utilization: 99.6%
 Analysis Period (min): 15

Intersection LOS: E
 ICU Level of Service: F

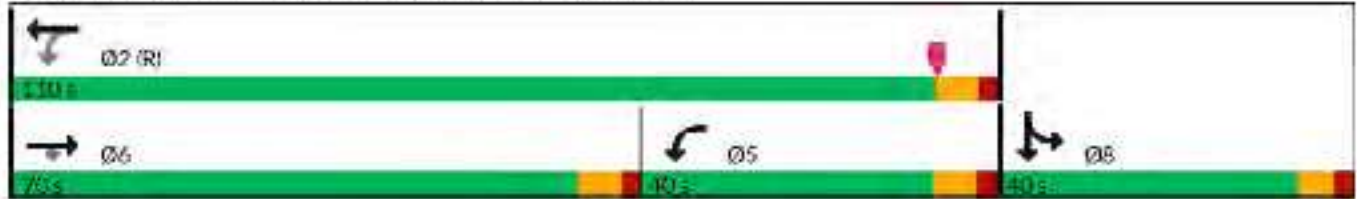
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 42 I-75 SB On-ramp/I-75 SB Off-ramp & US 27



HCM 7th Signalized Intersection Summary
 43: I-75 NB Off-ramp/I-75 NB On-ramp & US 27

2040 Build Conditions
 Timing Plan AM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	179	1365	0	0	1014	240	412	0	520	0	0	0
Future Volume (veh/h)	179	1365	0	0	1014	240	412	0	520	0	0	0
Initial Q (Cb), veh	0	0	0	0	0	0	0	0	0			
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/hln	1693	1811	0	0	1811	1693	1796	0	1796			
Adj Flow Rate, veh/h	188	1437	0	0	1067	253	434	0	547			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95			
Percent Heavy Veh, %	14	6	0	0	6	14	7	0	7			
Cap, veh/h	313	2305	0	0	2744	796	797	0	644			
Arrive On Green	0.06	0.67	0.00	0.00	0.56	0.56	0.24	0.00	0.24			
Sat Flow, veh/h	1612	3532	0	0	5107	1434	3319	0	2679			
Grp Volume(s), veh/h	188	1437	0	0	1067	253	434	0	547			
Grp Sat Flow(s), veh/hln	1612	1721	0	0	1648	1434	1659	0	1340			
Q Serve(g_s), s	7.3	35.5	0.0	0.0	18.4	14.3	17.1	0.0	29.2			
Cycle Q Clear(g_c), s	7.3	35.5	0.0	0.0	18.4	14.3	17.1	0.0	29.2			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(s), veh/h	313	2305	0	0	2744	796	797	0	644			
WC Ratio(%)	0.60	0.62	0.00	0.00	0.39	0.32	0.54	0.00	0.85			
Avail Cap(c_s), veh/h	364	2305	0	0	2744	796	960	0	775			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.27	0.27	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	14.3	14.0	0.0	0.0	18.9	18.0	49.8	0.0	54.4			
Incr Delay (d2), s/veh	0.6	0.2	0.0	0.0	0.4	1.0	0.8	0.0	8.3			
Initial Q Delay(dB), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%), veh/ln	4.1	16.6	0.0	0.0	11.6	8.7	11.7	0.0	16.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	14.8	14.2	0.0	0.0	19.4	19.1	50.6	0.0	62.7			
LnGrp LOS	B	B			B	B	D		E			
Approach Vol, veh/h		1625			1320			981				
Approach Delay, s/veh		14.3			19.3			57.4				
Approach LOS		B			B			E				
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rq), s	17.2	90.2		42.6		107.4						
Change Period (Y+Rq), s	7.7	6.9		6.6		6.9						
Max Green Setting (Gmax), s	14.3	71.1		43.4		93.1						
Max Q Clear Time (g_c+I), s	9.3	20.4		31.2		37.5						
Green Ext Time (p_c), s	0.2	17.7		4.8		25.5						
Intersection Summary												
HCM 7th Control Delay, s/veh				26.7								
HCM 7th LOS				C								
Notes												
User approved pedestrian interval to be less than phase max green.												



Lane Group	EBT	EBR	WBL	WBT	SBT
Lane Configurations	↑↑	↗	↖	↑↑	↓
Traffic Volume (vph)	961	494	478	1625	0
Future Volume (vph)	961	494	478	1625	0
Lane Group Flow (vph)	1012	520	503	1711	539
Turn Type	NA	Perm	pm+pt	NA	NA
Protected Phases	6		5	2	8
Permitted Phases		6	2		
Detector Phase	6	6	5	2	8
Switch Phase					
Minimum Initial (s)	15.0	15.0	5.0	15.0	8.0
Minimum Split (s)	31.0	31.0	12.0	22.0	15.0
Total Split (s)	62.0	62.0	54.0	116.0	44.0
Total Split (%)	38.8%	38.8%	33.8%	72.5%	27.5%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.0
All-Red Time (s)	2.0	2.0	2.2	2.0	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	7.0	6.8	6.3
Lead/Lag	Lead	Lead	Lag		
Lead/Lag Optimize?	Yes	Yes	Yes		
Recall Mode	Min	Min	None	C-Min	None
Act Effct Green (s)	54.4	54.4	105.5	105.7	41.2
Actuated g/C Ratio	0.34	0.34	0.66	0.66	0.26
w/c Ratio	0.88	0.68	0.95	0.77	1.19
Control Delay (s/veh)	59.8	15.1	64.0	17.3	147.4
Queue Delay	48.4	0.0	28.8	7.2	0.1
Total Delay (s/veh)	108.1	15.1	92.7	24.5	147.6
LOS	F	B	F	C	F
Approach Delay (s/veh)	76.6			40.0	147.6
Approach LOS	E			D	F
Queue Length 50th (ft)	522	107	438	420	~652
Queue Length 95th (ft)	616	249	#638	458	#891
Internal Link Dist (ft)	2673			327	1520
Turn Bay Length (ft)		270			
Base Capacity (vph)	1164	770	559	2302	454
Starvation Cap Reductn	0	0	79	555	0
Spillback Cap Reductn	336	0	0	0	7
Storage Cap Reductn	0	0	0	0	0
Reduced w/c Ratio	1.22	0.68	1.05	0.98	1.21

Intersection Summary	
Cycle Length: 160	
Actuated Cycle Length: 160	
Offset: 40 (25%), Referenced to phase 2:WBTL, Start of Yellow	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum w/c Ratio: 1.19	
Intersection Signal Delay (s/veh): 66.6	Intersection LOS: E
Intersection Capacity Utilization: 103.5%	ICU Level of Service: G
Analysis Period (min): 15	

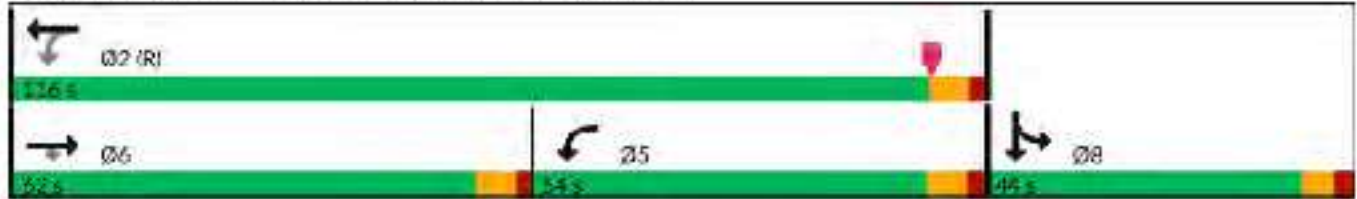
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 42 I-75 SB On-ramp/I-75 SB Off-ramp & US 27



HCM 7th Signalized Intersection Summary
 43: I-75 NB Off-ramp/I-75 NB On-ramp & US 27

2040 Build Conditions
 Timing Plan PM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	132	1109	0	0	1555	264	548	0	379	0	0	0
Future Volume (veh/h)	132	1109	0	0	1555	264	548	0	379	0	0	0
Initial Q (Cb), veh	0	0	0	0	0	0	0	0	0			
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/hln	1693	1811	0	0	1811	1693	1796	0	1796			
Adj Flow Rate, veh/h	139	1167	0	0	1637	278	577	0	399			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95			
Percent Heavy Veh, %	14	6	0	0	6	14	7	0	7			
Cap, veh/h	208	2462	0	0	3081	894	664	0	536			
Arrive On Green	0.04	0.72	0.00	0.00	0.62	0.62	0.20	0.00	0.20			
Sat Flow, veh/h	1612	3532	0	0	5107	1434	3319	0	2879			
Grp Volume(s), veh/h	139	1167	0	0	1637	278	577	0	399			
Grp Sat Flow(s), veh/hln	1612	1721	0	0	1648	1434	1659	0	1340			
Q Serve(g_s), s	4.8	23.4	0.0	0.0	29.8	14.5	26.9	0.0	22.4			
Cycle Q Clear(g_c), s	4.8	23.4	0.0	0.0	29.8	14.5	26.9	0.0	22.4			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(s), veh/h	208	2462	0	0	3081	894	664	0	536			
WC Ratio(%)	0.67	0.47	0.00	0.00	0.53	0.31	0.87	0.00	0.74			
Avail Cap(c_s), veh/h	302	2462	0	0	3081	894	734	0	593			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.35	0.35	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	18.2	9.8	0.0	0.0	17.0	14.1	61.9	0.0	60.1			
Incr Delay (d2), s/veh	1.3	0.1	0.0	0.0	0.7	0.9	107	0.0	5.1			
Initial Q Delay(d0), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%), veh/ln	4.0	11.5	0.0	0.0	17.0	8.7	18.2	0.0	12.7			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	19.5	9.9	0.0	0.0	17.6	15.0	72.6	0.0	65.2			
LnGrp LOS	B	A			B	B	E		E			
Approach Vol, veh/h		1306			1915			976				
Approach Delay, s/veh		10.9			17.3			69.6				
Approach LOS		B			B			E				
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+R), s	14.7	106.6		38.6		121.4						
Change Period (Y+R), s	7.7	6.9		6.6		6.9						
Max Green Setting (Gmax), s	16.3	87.1		35.4		111.1						
Max Q Clear Time (g_c+I), s	6.8	31.8		28.9		25.4						
Green Ext Time (p_c), s	0.2	3.27		3.1		19.7						
Intersection Summary												
HCM 7th Control Delay, s/veh				27.4								
HCM 7th LOS				C								
Notes												
User approved pedestrian interval to be less than phase max green.												

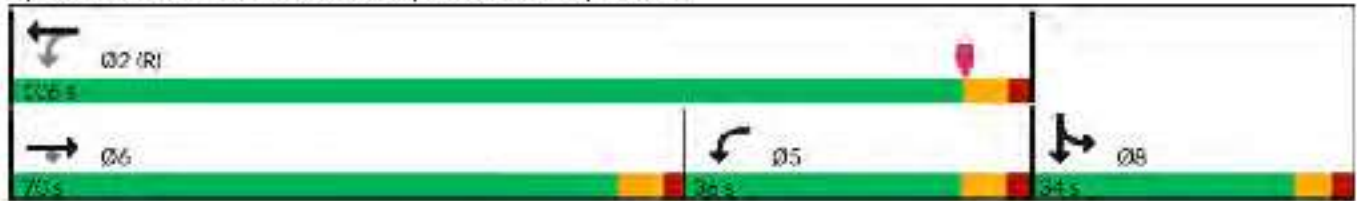


Lane Group	EBT	EBR	WBL	WBT	SBT
Lane Configurations	↑↑	↗	↖	↑↑	↓
Traffic Volume (vph)	977	548	328	1429	0
Future Volume (vph)	977	548	328	1429	0
Lane Group Flow (vph)	997	559	335	1458	498
Turn Type	NA	Perm	pm+pt	NA	NA
Protected Phases	6		5	2	8
Permitted Phases		6	2		
Detector Phase	6	6	5	2	8
Switch Phase					
Minimum Initial (s)	15.0	15.0	5.0	15.0	8.0
Minimum Split (s)	31.0	31.0	12.0	22.0	15.0
Total Split (s)	70.0	70.0	36.0	106.0	34.0
Total Split (%)	50.0%	50.0%	25.7%	75.7%	24.3%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.0
All-Red Time (s)	2.0	2.0	2.2	2.0	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	7.0	6.8	6.3
Lead/Lag	Lead	Lead	Lag		
Lead/Lag Optimize?	Yes	Yes	Yes		
Recall Mode	Min	Min	None	C-Min	None
Act Effct Green (s)	56.0	56.0	83.9	84.1	42.8
Actuated g/C Ratio	0.40	0.40	0.60	0.60	0.31
w/c Ratio	0.72	0.59	0.87	0.70	0.90
Control Delay (s/veh)	38.1	4.6	53.1	17.9	59.8
Queue Delay	0.9	0.0	47.4	0.4	0.8
Total Delay (s/veh)	39.0	4.6	100.6	18.2	60.5
LOS	D	A	F	B	E
Approach Delay (s/veh)	26.6			33.6	60.5
Approach LOS	C			C	E
Queue Length 50th (ft)	391	0	179	333	379
Queue Length 95th (ft)	435	66	144	281	#738
Internal Link Dist (ft)	2673			327	1520
Turn Bay Length (ft)		270			
Base Capacity (vph)	1566	994	482	2459	553
Starvation Cap Reductn	0	0	170	432	0
Spillback Cap Reductn	292	0	0	0	6
Storage Cap Reductn	0	0	0	0	0
Reduced w/c Ratio	0.78	0.56	1.07	0.72	0.91

Intersection Summary
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 66 (47%), Referenced to phase 2:WBT, Start of Yellow
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 0.90
 Intersection Signal Delay (s/veh): 34.3
 Intersection Capacity Utilization 87.3%
 Analysis Period (min): 15
 Intersection LOS: C
 ICU Level of Service F

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

Splits and Phases: 42: I-75 SB On-ramp/I-75 SB Off-ramp & US 27



HCM 7th Signalized Intersection Summary
 43: I-75 NB Off-ramp/I-75 NB On-ramp & US 27

2040 Build Conditions
 Timing Plan: Weekend



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	1109	0	0	1287	212	470	0	310	0	0	0
Future Volume (veh/h)	120	1109	0	0	1287	212	470	0	310	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/hln	1752	1841	0	0	1841	1752	1841	0	1841			
Adj Flow Rate, veh/h	124	1143	0	0	1327	219	485	0	320			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97			
Percent Heavy Veh, %	10	4	0	0	4	10	4	0	4			
Cap, veh/h	274	2529	0	0	3154	932	614	0	496			
Arrive On Green	0.04	0.72	0.00	0.00	0.63	0.63	0.18	0.00	0.18			
Sat Flow, veh/h	1668	3589	0	0	5191	1485	3401	0	2745			
Grp Volume(s), veh/h	124	1143	0	0	1327	219	485	0	320			
Grp Sat Flow(s), veh/hln	1668	1749	0	0	1675	1485	1700	0	1373			
Q Serve(g_s), s	3.6	18.8	0.0	0.0	18.7	9.0	19.1	0.0	15.1			
Cycle Q Clear(g_c), s	3.6	18.8	0.0	0.0	18.7	9.0	19.1	0.0	15.1			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(s), veh/h	274	2529	0	0	3154	932	614	0	496			
WC Ratio(%)	0.45	0.45	0.00	0.00	0.42	0.24	0.79	0.00	0.65			
Avail Cap(c_s), veh/h	353	2529	0	0	3154	932	860	0	694			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.63	0.63	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	10.2	8.0	0.0	0.0	13.2	11.4	54.8	0.0	53.2			
Incr Delay (d2), s/veh	0.7	0.1	0.0	0.0	0.4	0.6	4.2	0.0	2.0			
Initial Q Delay(dB), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%), veh/ln	2.4	10.1	0.0	0.0	11.5	5.6	13.4	0.0	9.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	10.9	8.1	0.0	0.0	13.6	12.0	59.0	0.0	55.2			
LnGrp LOS	B	A			B	B	E		E			
Approach Vol, veh/h		1287			1546			805				
Approach Delay, s/veh		8.4			13.4			57.5				
Approach LOS		A			B			E				
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+R)q, s	13.4	94.8		31.9		108.1						
Change Period (Y+R)q, s	7.7	6.9		6.6		6.9						
Max Green Setting (Gmax), s	12.3	71.1		35.4		91.1						
Max Q Clear Time (g_c+I), s	5.6	20.7		21.1		20.8						
Green Ext Time (p_c), s	0.2	23.0		4.2		18.4						

Intersection Summary

HCM 7th Control Delay, s/veh	21.4
HCM 7th LOS	C

Notes

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

SR 326 Summary Tables

47: NW 44TH AVE/I-75 SB Off-ramp & SR 326

Approach	Movement	AM Peak Hour			PM Peak Hour			WKND Peak Hour		
		V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)
Westbound	Left	0.31	20.0 (B)	50	0.26	27.5 (C)	50	0.12	17.5 (B)	50
	Through	0.20	0.1 (A)	0	0.27	34.9 (C)	225	0.23	16.6 (B)	150
	Approach	0.22	2.9 (A)	-	0.27	34.0 (C)	-	0.22	16.7 (B)	-
Northbound	Left	0.57	62.2 (E)	125	0.87	87.8 (F)	275	0.55	57.7 (E)	125
	Right	1.37	274.9 (F)	400	0.52	55.8 (E)	125	0.76	66.6 (E)	150
	Approach	1.10	203.3 (F)	-	0.75	77.2 (E)	-	0.66	62.5 (E)	-
Eastbound	TH/RT	0.77	30.7 (C)	525	0.76	43.6 (D)	450	0.37	24.2 (C)	225
	Approach	0.77	30.7 (C)	-	0.76	43.6 (D)	-	0.37	24.3 (C)	-
Southbound	LT/TH	0.44	45.1 (D)	175	0.45	34.9 (C)	225	0.41	39.4 (D)	200
	Right	0.90	77.8 (E)	350	0.96	74.8 (E)	575	0.94	77.6 (E)	475
	Approach	0.65	60.6 (E)	-	0.69	54.2 (D)	-	0.67	58.7 (E)	-
Overall Intersection		0.67	46.5 (D)	-	0.65	49.1 (D)	-	0.47	38.7 (D)	-

48: Shell Driveway & SR 326 & I-75 SB On-Ramp

Approach	Movement	AM Peak Hour			PM Peak Hour			WKND Peak Hour		
		V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)
Westbound	Left	0.17	14.7 (B)	25	0.05	11.1 (B)	25	0.03	8.6 (A)	25
Northbound	Right	0.30	22.4 (B)	50	0.18	15.6 (B)	25	0.09	11.0 (B)	25

49: I-75 NB Off-ramp/I-75 NB On-ramp & SR 326

Approach	Movement	AM Peak Hour			PM Peak Hour			WKND Peak Hour		
		V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)	V/C	Delay (s) [LOS]	95% Queue (ft)
Westbound	Left	0.79	45.6 (D)	375	0.83	43.6 (D)	450	0.84	42.4 (D)	450
	TH/RT	0.40	32.7 (C)	150	0.29	22.6 (C)	125	0.19	21.4 (C)	100
	Right	0.62	6.5 (A)	100	0.38	3.9 (A)	75	0.43	3.8 (A)	75
	Approach	0.66	31.1 (C)	-	0.64	32.2 (C)	-	0.66	30.9 (C)	-
Northbound	Left	0.33	34.9 (C)	150	0.40	39.1 (D)	175	0.35	35.4 (D)	150
	Right	0.60	14.5 (B)	350	0.56	13.1 (B)	275	0.59	10.8 (B)	300
	Approach	0.54	19.4 (B)	-	0.52	19.9 (B)	-	0.53	16.5 (B)	-
Eastbound	Left	0.79	28.2 (C)	250	0.65	21.9 (C)	175	0.56	30.6 (C)	125
	Through	0.63	42.2 (D)	200	0.68	45.3 (D)	225	0.63	58.4 (E)	225
	Approach	0.70	35.8 (D)	-	0.67	37.2 (D)	-	0.61	48.8 (D)	-
Overall Intersection		0.63	28.1 (C)	-	0.60	28.9 (C)	-	0.60	28.1 (C)	-

SR 326 Synchro Reports

HCM 7th Signalized Intersection Summary
 47: NW 44TH AVE/I-75 SB Off-ramp & SR 326

2040 Build Conditions
 Timing Plan AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↓		↘	↑↑			↙	↗	↘	↙	↗
Traffic Volume (veh/h)	0	1071	117	58	348	0	65	0	127	236	6	215
Future Volume (veh/h)	0	1071	117	58	348	0	65	0	127	236	6	215
Initial Q (Cb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1678	1678	1678	1678	0	1752	1900	1752	1707	1707	1707
Adj Flow Rate, veh/h	0	1127	123	61	366	0	68	0	134	252	0	226
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	15	15	15	15	0	10	0	10	13	13	13
Cap, veh/h	0	1470	160	195	1851	0	119	0	98	567	0	252
Arrive On Green	0.00	0.51	0.51	0.07	1.00	0.00	0.07	0.00	0.07	0.17	0.00	0.17
Sat Flow, veh/h	0	2983	316	1598	3272	0	1810	0	1485	3252	0	1447
Grp Volume(s), veh/h	0	619	631	61	366	0	68	0	134	252	0	226
Grp Sat Flow(s), veh/h/ln	0	1594	1621	1598	1594	0	1810	0	1485	1626	0	1447
Q Serve(g_s), s	0.0	37.6	37.7	2.1	0.0	0.0	4.4	0.0	7.9	8.3	0.0	18.3
Cycle Q Clear(g_c), s	0.0	37.6	37.7	2.1	0.0	0.0	4.4	0.0	7.9	8.3	0.0	18.3
Prop In Lane	0.00		0.19	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(s), veh/h	0	808	822	195	1851	0	119	0	98	567	0	252
W/C Ratio(%)	0.00	0.77	0.77	0.31	0.20	0.00	0.57	0.00	1.37	0.44	0.00	0.90
Avail Cap(c_s), veh/h	0	808	822	210	1851	0	119	0	98	607	0	270
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	23.8	23.9	19.0	0.0	0.0	54.4	0.0	56.0	44.3	0.0	48.5
Incr Delay (d2), s/veh	0.0	6.8	6.8	0.9	0.1	0.0	7.8	0.0	218.9	0.8	0.0	29.3
Initial Q Delay(dB), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%), veh/ln	0.0	20.8	21.2	1.3	0.0	0.0	4.1	0.0	15.1	6.2	0.0	13.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	30.7	30.7	20.0	0.1	0.0	62.2	0.0	274.9	46.1	0.0	77.8
LnGrp LOS		C	C	B	A		E		F	D		E
Approach Vol, veh/h		1250			427			202				478
Approach Delay, s/veh		30.7			2.9			208.3				60.6
Approach LOS		C			A			F				E
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rq), s	8.8	67.6		28.5		76.5		15.0				
Change Period (Y+Rq), s	4.5	6.8		7.6		6.8		7.1				
Max Green Setting (Gmax), s	5.5	58.2		22		68.2		7.9				
Max Q Clear Time (g_c+I), s	4.1	39.7		20.3		2.0		9.9				
Green Ext Time (p_q), s	0.0	7.7		0.6		2.4		0.0				

Intersection Summary		
HCM 7th Control Delay, s/veh		46.5
HCM 7th LOS		D

Notes
 User approved pedestrian interval to be less than phase max green.
 User approved volume balancing among the lanes for turning movement.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection										
Int Delay, s/veh	0.8									
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER
Lane Configurations		↑↑		↑	↑↑	↑		↑		
Traffic Vol, veh/h	0	1380	55	71	406	145	0	82	0	0
Future Vol, veh/h	0	1380	55	71	406	145	0	82	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None	-	-
Storage Length	-	-	0	240	-	100	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	92	92
Heavy Vehicles, %	0	15	8	2	15	100	0	8	2	2
Mvmt Flow	0	1453	58	75	427	153	0	86	0	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	-	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.14
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.22
Pot Cap-1 Maneuver	0	-	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	0
Mov Cap-1 Maneuver	-	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	1.38	11.01
HCM LOS			B

Minor Lane/Major Mvmt	NBLnl	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	685	-	-	582	-	-
HCM Lane V/C Ratio	0.126	-	-	0.128	-	-
HCM Control Delay (s/veh)	11	-	-	12.1	-	-
HCM Lane LOS	B	-	-	B	-	-
HCM 95th %tile Q(veh)	0.4	-	-	0.4	-	-

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

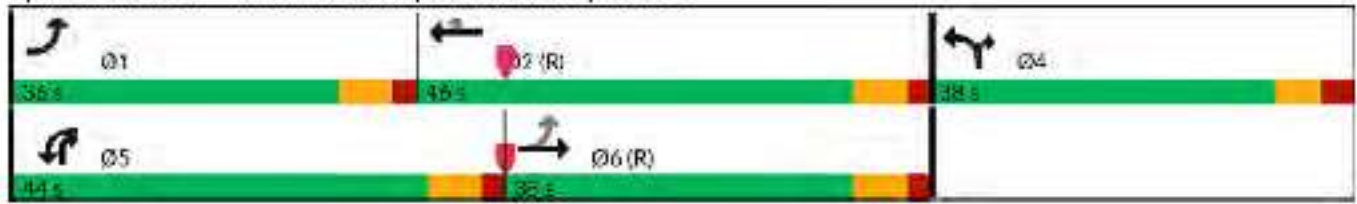


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	389	457	763	319	468	303	969
Future Volume (vph)	389	457	763	319	468	303	969
Lane Group Flow (vph)	409	481	803	336	493	319	1020
Turn Type	pm+pt	NA	Prot	NA	Perm	Prot	pt+ov
Protected Phases	1	6	5	2		4	45
Permitted Phases	6				2		
Detector Phase	1	6	5	2	2	4	45
Switch Phase							
Minimum Initial (s)	6.0	16.0	5.0	16.0	16.0	10.0	
Minimum Split (s)	12.8	24.9	11.8	24.9	24.9	25.1	
Total Split (s)	36.0	38.0	44.0	46.0	46.0	38.0	
Total Split (%)	30.0%	31.7%	36.7%	38.3%	38.3%	31.7%	
Yellow Time (s)	4.8	4.9	4.8	4.9	4.9	4.1	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	3.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.8	6.9	6.8	6.9	6.9	7.1	
Lead/Lag	Lead	Lag	Lead	Lag	Lag		
Lead/Lag Optimize?	Yes	Yes	Yes	Yes	Yes		
Recall Mode	None	C-Min	None	C-Min	C-Min	None	
Act Effct Green (s)	52.5	28.9	34.7	40.2	40.2	35.5	77.1
Actuated gC Ratio	0.44	0.24	0.29	0.34	0.34	0.30	0.64
w/c Ratio	0.79	0.63	0.79	0.40	0.62	0.33	0.60
Control Delay (s/veh)	28.2	421	45.6	32.7	6.5	34.9	145
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	28.2	421	45.6	32.7	6.5	34.9	145
LOS	C	D	D	C	A	C	B
Approach Delay (s/veh)		35.7		31.1			
Approach LOS		D		C			
Queue Length 50th (ft)	17.2	146	287	105	0	98	225
Queue Length 95th (ft)	24.9	198	35.9	15.0	87	148	328
Internal Link Dist (ft)		553		1985			
Turn Bay Length (ft)	225		435		260		420
Base Capacity (vph)	591	829	1085	838	791	960	1744
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced w/c Ratio	0.69	0.58	0.74	0.40	0.62	0.33	0.58

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 20 (17%), Referenced to phase 2:WBT and 6:EBTL, Start of Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 0.79
 Intersection Signal Delay (s/veh): 28.1
 Intersection Capacity Utilization: 61.9%
 Analysis Period (min): 15
 Intersection LOS: C
 ICU Level of Service: B

Splits and Phases: 49. I-75 NB Off-ramp/I-75 NB On-ramp & SR 326



HCM 7th Signalized Intersection Summary
 47: NW 44TH AVE/I-75 SB Off-ramp & SR 326

2040 Build Conditions
 Timing Plan PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↓		↘	↑↑			↙	↗	↘	↙	↗
Traffic Volume (veh/h)	0	713	113	45	343	0	148	0	73	405	13	389
Future Volume (veh/h)	0	713	113	45	343	0	148	0	73	405	13	389
Initial Q (Cb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1678	1678	1678	1678	0	1752	1900	1752	1707	1707	1707
Adj Flow Rate, veh/h	0	751	119	47	361	0	156	0	77	436	0	409
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	15	15	15	15	0	10	0	10	13	13	13
Cap, veh/h	0	932	156	178	1361	0	179	0	147	959	0	427
Arrive On Green	0.00	0.36	0.36	0.01	0.14	0.00	0.10	0.00	0.10	0.29	0.00	0.29
Sat Flow, veh/h	0	2840	437	1598	3272	0	1810	0	1485	3252	0	1447
Grp Volume(s), veh/h	0	434	436	47	361	0	156	0	77	436	0	409
Grp Sat Flow(s), veh/h/ln	0	1594	1599	1598	1594	0	1810	0	1485	1626	0	1447
Q Serve(g_s), s	0.0	28.9	28.9	2.2	12.1	0.0	10.2	0.0	5.9	13.1	0.0	33.3
Cycle Q Clear(g_c), s	0.0	28.9	28.9	2.2	12.1	0.0	10.2	0.0	5.9	13.1	0.0	33.3
Prop In Lane	0.00		0.27	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(s), veh/h	0	568	570	178	1361	0	179	0	147	959	0	427
WC Ratio(%)	0.00	0.76	0.76	0.26	0.27	0.00	0.87	0.00	0.52	0.46	0.00	0.96
Avail Cap(c_s), veh/h	0	568	570	199	1361	0	179	0	147	959	0	427
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	34.2	34.2	26.8	34.8	0.0	53.3	0.0	51.4	34.5	0.0	41.6
Incr Delay (d2), s/veh	0.0	9.4	9.4	0.8	0.1	0.0	34.5	0.0	4.5	0.5	0.0	33.2
Initial Q Delay(dB), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%), veh/ln	0.0	17.9	18.0	1.5	8.8	0.0	105	0.0	4.3	9.0	0.0	22.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	43.6	43.6	27.5	34.9	0.0	87.8	0.0	55.8	34.9	0.0	74.8
LnGrp LOS		D	D	C	C		F		E	C		E
Approach Vol, veh/h		870			408			233				845
Approach Delay, s/veh		43.6			34.0			77.2				54.2
Approach LOS		D			C			E				D
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rq), s	8.5	49.6		43.0		58.0		19.0				
Change Period (Y+Rq), s	4.5	6.8		7.6		6.8		7.1				
Max Green Setting (Gmax), s	5.5	41.2		35		51.2		11.9				
Max Q Clear Time (g_c+I), s	4.2	30.9		35.3		14.1		12.2				
Green Ext Time (p_q), s	0.0	3.7		0.0		2.3		0.0				

Intersection Summary		
HCM 7th Control Delay, s/veh		49.1
HCM 7th LOS		D

Notes
 User approved pedestrian interval to be less than phase max green.
 User approved volume balancing among the lanes for turning movement.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection										
Int Delay, s/veh	0.6									
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER
Lane Configurations		↑↑		↑	↑↑	↑		↑		
Traffic Vol, veh/h	0	1163	32	31	388	176	0	71	0	0
Future Vol, veh/h	0	1163	32	31	388	176	0	71	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None	-	-
Storage Length	-	-	0	240	-	100	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	92	92
Heavy Vehicles, %	0	15	14	3	15	100	0	6	2	2
Mvmt Flow	0	1224	34	33	408	185	0	75	0	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	-	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.16
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.23
Pot Cap-1 Maneuver	0	-	721
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	0
Mov Cap-1 Maneuver	-	-	721
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.63	10.27
HCM LOS			B

Minor Lane/Major Mvmt	NBLnl	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	758	-	-	721	-	-
HCM Lane V/C Ratio	0.099	-	-	0.045	-	-
HCM Control Delay (s/veh)	10.3	-	-	10.2	-	-
HCM Lane LOS	B	-	-	B	-	-
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-	-

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

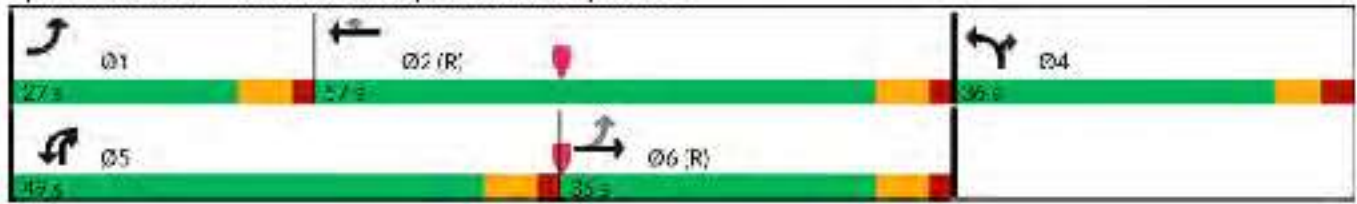


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	253	478	922	274	279	321	911
Future Volume (vph)	253	478	922	274	279	321	911
Lane Group Flow (vph)	266	503	971	288	294	338	959
Turn Type	pm+pt	NA	Prot	NA	Perm	Prot	pt+ov
Protected Phases	1	6	5	2		4	45
Permitted Phases	6				2		
Detector Phase	1	6	5	2	2	4	45
Switch Phase							
Minimum Initial (s)	6.0	16.0	5.0	16.0	16.0	10.0	
Minimum Split (s)	12.8	24.9	11.8	24.9	24.9	25.1	
Total Split (s)	27.0	35.0	49.0	57.0	57.0	36.0	
Total Split (%)	22.5%	29.2%	40.8%	47.5%	47.5%	30.0%	
Yellow Time (s)	4.8	4.9	4.8	4.9	4.9	4.1	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	3.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.8	6.9	6.8	6.9	6.9	7.1	
Lead/Lag	Lead	Lag	Lead	Lag	Lag		
Lead/Lag Optimize?	Yes	Yes	Yes	Yes	Yes		
Recall Mode	None	C-Min	None	C-Min	C-Min	None	
Act Effct Green (s)	43.1	28.1	40.1	53.4	53.4	31.0	77.9
Actuated gC Ratio	0.36	0.23	0.33	0.45	0.45	0.26	0.65
w/c Ratio	0.65	0.68	0.83	0.29	0.38	0.40	0.56
Control Delay (s/veh)	21.8	45.5	43.8	22.6	3.9	39.1	13.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	21.8	45.5	43.8	22.6	3.9	39.1	13.1
LOS	C	D	D	C	A	D	B
Approach Delay (s/veh)		37.3		32.2			
Approach LOS		D		C			
Queue Length 50th (ft)	103	142	345	72	0	112	206
Queue Length 95th (ft)	171	217	427	112	52	160	275
Internal Link Dist (ft)		553		1985			
Turn Bay Length (ft)	225		435		260		420
Base Capacity (vph)	479	759	1231	978	776	836	1753
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced w/c Ratio	0.56	0.66	0.79	0.29	0.38	0.40	0.56

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 30 (25%), Referenced to phase 2:WBT and 6:EBTL, Start of Green
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 0.83
 Intersection Signal Delay (s/veh): 28.9
 Intersection Capacity Utilization: 63.5%
 Analysis Period (min): 15
 Intersection LOS: C
 ICU Level of Service: B

Splits and Phases: 49. I-75 NB Off-ramp/I-75 NB On-ramp & SR 326



HCM 7th Signalized Intersection Summary
 47: NW 44TH AVE/I-75 SB Off-ramp & SR 326

2040 Build Conditions
 Timing Plan: Weekend



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↓		↘	↑↑			↙	↗	↘	↙	↗
Traffic Volume (veh/h)	0	362	138	47	372	0	76	0	90	302	7	313
Future Volume (veh/h)	0	362	138	47	372	0	76	0	90	302	7	313
Initial Q (Cb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1752	1841	1841	1752	0	1841	1900	1841	1767	1767	1767
Adj Flow Rate, veh/h	0	381	145	49	392	0	80	0	95	323	0	329
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	10	4	4	10	0	4	0	4	9	9	9
Cap, veh/h	0	1031	387	400	1686	0	145	0	125	788	0	351
Arrive On Green	0.00	0.44	0.44	0.03	0.51	0.00	0.08	0.00	0.08	0.23	0.00	0.23
Sat Flow, veh/h	0	2465	889	1753	3416	0	1810	0	1560	3365	0	1497
Grp Volume(s), veh/h	0	266	260	49	392	0	80	0	95	323	0	329
Grp Sat Flow(s), veh/h/ln	0	1664	1592	1753	1664	0	1810	0	1560	1682	0	1497
Q Serve(g_s), s	0.0	12.9	13.2	1.8	7.9	0.0	5.1	0.0	7.2	9.8	0.0	25.9
Cycle Q Clear(g_c), s	0.0	12.9	13.2	1.8	7.9	0.0	5.1	0.0	7.2	9.8	0.0	25.9
Prop In Lane	0.00		0.56	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(s), veh/h	0	725	693	400	1686	0	145	0	125	788	0	351
WC Ratio(%)	0.00	0.37	0.37	0.12	0.23	0.00	0.55	0.00	0.76	0.41	0.00	0.94
Avail Cap(c_s), veh/h	0	725	693	436	1686	0	240	0	207	796	0	354
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	22.8	22.9	17.4	16.6	0.0	53.1	0.0	54.1	38.9	0.0	45.1
Incr Delay (d2), s/veh	0.0	1.4	1.5	0.1	0.1	0.0	4.6	0.0	12.5	0.5	0.0	3.25
Initial Q Delay(dB), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%), veh/ln	0.0	8.8	8.7	1.3	5.2	0.0	4.5	0.0	5.8	7.4	0.0	18.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	24.2	24.4	17.5	16.6	0.0	57.7	0.0	66.6	39.4	0.0	77.6
LnGrp LOS		C	C	B	B		E		E	D		E
Approach Vol, veh/h		526			441			175				652
Approach Delay, s/veh		24.3			16.7			62.5				58.7
Approach LOS		C			B			E				E
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rq), s	8.5	59.0		35.7		67.6		16.7				
Change Period (Y+Rq), s	4.5	6.8		7.6		6.8		7.1				
Max Green Setting (Gmax), s	6.5	43.2		28		54.2		15.9				
Max Q Clear Time (g_c+I), s	3.8	15.2		27.9		9.9		9.2				
Green Ext Time (p_c), s	0.0	3.0		0.2		2.5		0.5				

Intersection Summary		
HCM 7th Control Delay, s/veh		38.7
HCM 7th LOS		D

Notes
 User approved pedestrian interval to be less than phase max green.
 User approved volume balancing among the lanes for turning movement.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection										
Int Delay, s/veh	0.6									
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER
Lane Configurations		↑↑		↑	↑↑	↑		↑		
Traffic Vol, veh/h	0	724	34	28	419	88	0	56	0	0
Future Vol, veh/h	0	724	34	28	419	88	0	56	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None	-	-
Storage Length	-	-	0	240	-	100	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	92	92
Heavy Vehicles, %	0	10	17	1	10	8	0	12	2	2
Mvmt Flow	0	762	36	29	441	98	0	59	0	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	-	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.21
Pot Cap-1 Maneuver	0	-	1025
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	0
Mov Cap-1 Maneuver	-	-	1025
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.46	9.48
HCM LOS			A

Minor Lane/Major Mvmt	NBLnl	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	863	-	-	1025	-	-
HCM Lane V/C Ratio	0.068	-	-	0.029	-	-
HCM Control Delay (s/veh)	9.5	-	-	8.6	-	-
HCM Lane LOS	A	-	-	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-	-

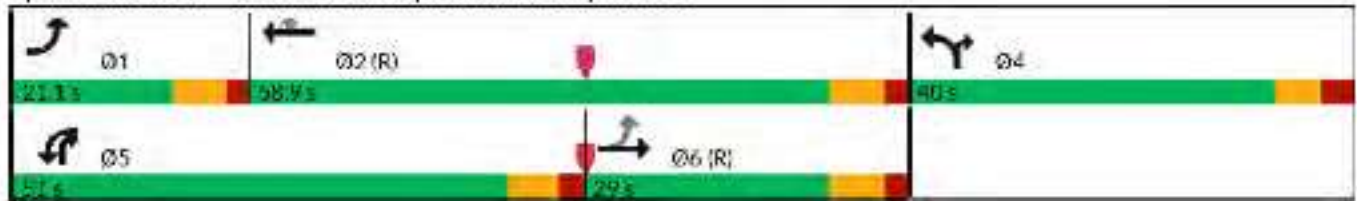
Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined \: All major volume in platoon



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	200	377	1011	209	358	326	1036
Future Volume (vph)	200	377	1011	209	358	326	1036
Lane Group Flow (vph)	204	385	1032	213	365	333	1108
Turn Type	pm+pt	NA	Prot	NA	Perm	Prot	pt+ov
Protected Phases	1	6	5	2		4	45
Permitted Phases	6				2		
Detector Phase	1	6	5	2	2	4	45
Switch Phase							
Minimum Initial (s)	6.0	16.0	5.0	16.0	16.0	10.0	
Minimum Split (s)	12.8	24.9	11.8	24.9	24.9	25.1	
Total Split (s)	21.1	29.0	51.0	58.9	58.9	40.0	
Total Split (%)	17.6%	24.2%	42.5%	49.1%	49.1%	33.3%	
Yellow Time (s)	4.8	4.9	4.8	4.9	4.9	4.1	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	3.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.8	6.9	6.8	6.9	6.9	7.1	
Lead/Lag	Lead	Lag	Lead	Lag	Lag		
Lead/Lag Optimize?	Yes	Yes	Yes	Yes	Yes		
Recall Mode	None	C-Min	None	C-Min	C-Min	None	
Act Effct Green (s)	34.1	22.0	42.4	52.4	52.4	34.8	84.0
Actuated gC Ratio	0.28	0.18	0.35	0.44	0.44	0.29	0.70
w/c Ratio	0.56	0.63	0.84	0.19	0.43	0.35	0.59
Control Delay (s/veh)	30.5	58.4	42.4	21.4	3.8	35.4	10.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	30.5	58.4	42.4	21.4	3.8	35.4	10.8
LOS	C	E	D	C	A	D	B
Approach Delay (s/veh)		48.7		30.9			
Approach LOS		D		C			
Queue Length 50th (ft)	7.9	158	365	51	0	106	220
Queue Length 95th (ft)	123	210	450	80	55	150	285
Internal Link Dist (ft)		553		1985			
Turn Bay Length (ft)	225		435		260		420
Base Capacity (vph)	396	626	1289	111.2	853	957	1917
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced w/c Ratio	0.52	0.62	0.80	0.19	0.43	0.35	0.58

Intersection Summary
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 31 (26%), Referenced to phase 2:WBT and 6:EBTL, Start of Green
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 0.84
 Intersection Signal Delay (s/veh): 28.1
 Intersection Capacity Utilization: 66.2%
 Analysis Period (min): 15
 Intersection LOS: C
 ICU Level of Service: C

Splits and Phases: 49. I-75 NB Off-ramp/I-75 NB On-ramp & SR 326



**APPENDIX BB – FUTURE COMPARATIVE SAFETY
ANALYSIS**

ISATe No-Build Mainline Inputs

Input Worksheet for Freeway Segments							
Clear	Echo Input Values	Check Input Values	Segment 1	Segment 2	Segment 3	Segment 4	
	(View results in Column AV)	(View results in Advisory Messages)	Study Period	Study Period	Study Period	Study Period	
Basic Roadway Data							
Number of through lanes (n):			6	6	6	6	
Freeway segment description:			SR 200 to SR 40	SR 40 to US 27	US 27 to SW 40th St	SW 40th St to SR 328	
Segment length (L), mi:			1.915152	0.84072	1.645076	1.488258	
Alignment Data							
Horizontal Curve Data ↖ See note							
1	Horizontal curve in segment?:		No	No	Both Dir.	Both Dir.	
	Curve radius (R ₁), ft:				3282	3922	
	Length of curve (L _{c1}), mi:				0.334091	0.194886	
	Length of curve in segment (L _{c1,seg}), mi:				0.334091	0.194886	
2	Horizontal curve in segment?:				Both Dir.	No	
	Curve radius (R ₂), ft:				3282		
	Length of curve (L _{c2}), mi:				0.307197		
	Length of curve in segment (L _{c2,seg}), mi:				0.116667		
3	Horizontal curve in segment?:				No		
	Curve radius (R ₃), ft:						
	Length of curve (L _{c3}), mi:						
	Length of curve in segment (L _{c3,seg}), mi:						
Cross Section Data							
Lane width (W _l), ft:			12	12	12	12	
Outside shoulder width (W _s), ft:			10	10	10	10	
Inside shoulder width (W _{is}), ft:			10	10	10	10	
Median width (W _m), ft:			40	40	40	40	
Rumble strips on outside shoulders?:			Yes	Yes	Yes	Yes	
	Length of rumble strips for travel in increasing milepost direction, mi:		1.567045	0.549811	1.475568	1.356629	
	Length of rumble strips for travel in decreasing milepost direction, mi:		1.618561	0.563636	1.517235	1.142235	
Rumble strips on inside shoulders?:			Yes	Yes	Yes	Yes	
	Length of rumble strips for travel in increasing milepost direction, mi:		1.888447	0.84072	1.645076	1.488258	
	Length of rumble strips for travel in decreasing milepost direction, mi:		1.888447	0.84072	1.645076	1.488258	
Presence of barrier in median:			Offset	Offset	Offset	Offset	
1	Length of barrier (L _{ba1}), mi:		1.915152	0.84072	1.645076	1.488258	
	Distance from edge of traveled way to barrier face (W _{distn1}), ft:		10	10	10	10	
2	Length of barrier (L _{ba2}), mi:						
	Distance from edge of traveled way to barrier face (W _{distn2}), ft:						
3	Length of barrier (L _{ba3}), mi:						
	Distance from edge of traveled way to barrier face (W _{distn3}), ft:						
4	Length of barrier (L _{ba4}), mi:						
	Distance from edge of traveled way to barrier face (W _{distn4}), ft:						
5	Length of barrier (L _{ba5}), mi:						
	Distance from edge of traveled way to barrier face (W _{distn5}), ft:						
Median barrier width (W _b), ft:			3	3	3	3	
Nearest distance from edge of traveled way to barrier face (W _{near}), ft:			10	10	10	10	
Roadside Data							
Clear zone width (W _{cz}), ft:			30	30	30	30	
Presence of barrier on roadside:			Some	None	None	Some	
1	Length of barrier (L _{ra1}), mi:		0.396686			0.067803	

	Distance from edge of traveled way to barrier face ($W_{offo,1}$), ft	10			10
2	Length of barrier ($L_{ba,2}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{offo,2}$), ft				
3	Length of barrier ($L_{ba,3}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{offo,3}$), ft				
4	Length of barrier ($L_{ba,4}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{offo,4}$), ft				
5	Length of barrier ($L_{ba,5}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{offo,5}$), ft				
Distance from edge of traveled way to barrier face, increasing milepost ($W_{offi,c}$), ft					
Distance from edge of traveled way to barrier face, decreasing milepost ($W_{offd,c}$), ft					
Ramp Access Data					
Travel in Increasing Milepost Direction					
Entrance Ramp	Ramp entrance in segment? (If yes, indicate type.):	S-C Lane	S-C Lane	S-C Lane	S-C Lane
	Distance from begin milepost to upstream entrance ramp gore ($X_{ba,u}$), mi:				
	Length of ramp entrance ($L_{ra,inc}$), mi:	0.210227	0.092803	0.175189	0.3
	Length of ramp entrance in segment ($L_{ra,seg,inc}$), mi:	0.210227	0.092803	0.168561	0.3
	Entrance side?:	Right	Right	Right	Right
Exit Ramp	Ramp exit in segment? (If yes, indicate type.):	S-C Lane	S-C Lane	S-C Lane	S-C Lane
	Distance from end milepost to downstream exit ramp gore ($X_{ba,d}$), mi:				
	Length of ramp exit ($L_{ra,dec}$), mi:	0.125947	0.131061	0.296023	0.130682
	Length of ramp exit in segment ($L_{ra,seg,dec}$), mi:	0.111742	0.126894	0.296023	0.130682
	Exit side?:	Right	Right	Right	Right
Weave	Type B weave in segment?:	No	No	No	No
	Length of weaving section ($L_{wev,inc}$), mi:				
	Length of weaving section in segment ($L_{wev,seg,inc}$), mi:				
Travel in Decreasing Milepost Direction					
Entrance Ramp	Ramp entrance in segment? (If yes, indicate type.):	S-C Lane	S-C Lane	S-C Lane	S-C Lane
	Distance from end milepost to upstream entrance ramp gore ($X_{ba,u}$), mi:				
	Length of ramp entrance ($L_{ra,dec}$), mi:	0.207197	0.158712	0.3	0.21553
	Length of ramp entrance in segment ($L_{ra,seg,dec}$), mi:	0.207197	0.158712	0.274242	0.21553
	Entrance side?:	Right	Right	Right	Right
Exit Ramp	Ramp exit in segment? (If yes, indicate type.):	S-C Lane	S-C Lane	S-C Lane	S-C Lane
	Distance from begin milepost to downstream exit ramp gore ($X_{ba,d}$), mi:				
	Length of ramp exit ($L_{ra,dec}$), mi:	0.046402	0.132576	0.119318	0.3
	Length of ramp exit in segment ($L_{ra,seg,dec}$), mi:	0.046402	0.111364	0.119318	0.3
	Exit side?:	Right	Right	Right	Right
Weave	Type B weave in segment?:	No	No	No	No
	Length of weaving section ($L_{wev,dec}$), mi:				
	Length of weaving section in segment ($L_{wev,seg,dec}$), mi:				
Traffic Data					
		Year			
Proportion of AADT during high-volume hours (P_{hv}):					
Freeway Segment Data		2030	120800	120500	108800
Average daily traffic (AADT _{tr}) by year, veh/d:		2031			
(enter data only for those years for which it is available, leave other years blank)		2032			
		2033			
		2034			
		2035			
		2036			
		2037			
		2038			

	2039				
	2040	142500	142500	130900	122200
	2041				
	2042				
	2043				
	2044				
	2045				
	2046				
	2047				
	2048				
	2049				
	2050				
	2051				
	2052				
	2053				
Entrance Ramp Data for Travel in Increasing Milepost Dir.	Year				
Average daily traffic (AADT _{entr}) by year, veh/d: (enter data only for those years for which it is available, leave other years blank.)	2030	9400	6100	3700	3200
	2031				
	2032				
	2033				
	2034				
	2035				
	2036				
	2037				
	2038				
	2039				
	2040	10500	7000	5000	3900
	2041				
	2042				
	2043				
	2044				
	2045				
	2046				
	2047				
	2048				
	2049				
	2050				
	2051				
	2052				
	2053				
Exit Ramp Data for Travel in Increasing Milepost Direction	Year				
Average daily traffic (AADT _{exit}) by year, veh/d: (enter data only for those years for which it is available, leave other years blank.)	2030	6500	9700	6900	13000
	2031				
	2032				
	2033				
	2034				
	2035				
	2036				
	2037				
	2038				
	2039				
	2040	7100	11000	8400	16500
	2041				
	2042				
	2043				

	2044				
	2045				
	2046				
	2047				
	2048				
	2049				
	2050				
	2051				
	2052				
	2053				
Entrance Ramp Data for Travel in Decreasing Milepost Dir.		Year			
Average daily traffic (AADT _{amb}) by year, veh/d: (enter data only for those years for which it is available, leave other years blank.)	2030	6500	9900	6700	5100
	2031				
	2032				
	2033				
	2034				
	2035				
	2036				
	2037				
	2038				
	2039				
	2040	7000	11000	8100	6600
	2041				
	2042				
	2043				
	2044				
	2045				
	2046				
	2047				
	2048				
	2049				
	2050				
	2051				
	2052				
	2053				
Exit Ramp Data for Travel in Decreasing Milepost Direction		Year			
Average daily traffic (AADT _{amb}) by year, veh/d: (enter data only for those years for which it is available, leave other years blank.)	2030	9100	6200	4200	3200
	2031				
	2032				
	2033				
	2034				
	2035				
	2036				
	2037				
	2038				
	2039				
	2040	10000	7200	5400	3900

ISATe No-Build Mainline Outputs

Output Summary								
<i>General Information:</i>								
Project description:		I75 Mainline North Section PTAR						
Analyst:	RMK	Date:	12/2/2023	Area type:	Urban			
First year of analysis:	2030							
Last year of analysis:	2040							
<i>Crash Data Description</i>								
Freeway segments	Segment or crash data available?	No	First year of crash data:					
	Project level crash data available?	No	Last year of crash data:					
Ramp segments	Segment or crash data available?	No	First year of crash data:					
	Project level crash data available?	No	Last year of crash data:					
Ramp terminals	Segment or crash data available?	No	First year of crash data:					
	Project level crash data available?	No	Last year of crash data:					
<i>Estimated Crash Statistics</i>								
<i>Crashes for Entire Facility</i>		Total	K	A	B	C	PDO	
Estimated number of crashes during Study Period, crashes:		2532.1	12.0	32.5	176.2	508.4	1803.0	
Estimated average crash rate, during Study Period, crashes/yr:		230.2	1.1	3.0	16.0	46.2	163.9	
<i>Crashes by Facility Component</i>		Nbr. Sites	Total	K	A	B	C	PDO
Freeway segments, crashes:		4	2532.1	12.0	32.5	176.2	508.4	1803.0
Ramp segments, crashes:		0	0.0	0.0	0.0	0.0	0.0	0.0
Crossroad ramp terminals, crashes:		0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Crashes for Entire Facility by Year</i>		Year	Total	K	A	B	C	PDO
Estimated number of crashes during the Study Period, crashes:		2030	201.3	1.0	2.6	14.3	41.2	142.2
		2031	206.9	1.0	2.7	14.6	42.2	146.4
Total Present Value: \$137,755,819		2032	212.5	1.0	2.8	15.0	43.2	150.6
		2033	218.3	1.0	2.8	15.3	44.2	154.9
		2034	224.0	1.1	2.9	15.7	45.2	159.3
		2035	229.9	1.1	3.0	16.0	46.2	163.6
		2036	235.8	1.1	3.0	16.4	47.2	168.1
		2037	241.8	1.1	3.1	16.7	48.2	172.6
		2038	247.8	1.2	3.2	17.1	49.3	177.1
		2039	253.9	1.2	3.2	17.4	50.3	181.7
		2040	260.0	1.2	3.3	17.8	51.4	186.4
		2041						
		2042						
		2043						
		2044						
		2045						
		2046						
		2047						
		2048						
		2049						
		2050						
		2051						
		2052						
		2053						
<i>Distribution of Crashes for Entire Facility</i>								
Crash Type	Crash Type Category	Estimated Number of Crashes During the Study Period						
		Total	K	A	B	C	PDO	
Multiple vehicle	Head-on crashes:	6.9	0.1	0.2	1.0	2.9	2.7	
	Right angle crashes:	41.3	0.3	0.7	3.9	11.2	25.2	
	Rear-end crashes:	1330.8	6.9	18.5	100.4	290.1	964.8	
	Sideswipe crashes:	472.0	1.7	4.5	24.8	71.1	370.1	
	Other multiple-vehicle crashes:	48.2	0.3	0.7	3.9	11.2	32.1	
	Total multiple-vehicle crashes:	1949.2	9.1	24.7	133.8	336.5	1395.1	
Single vehicle	Crashes with animal:	9.1	0.0	0.0	0.1	0.3	8.7	
	Crashes with fixed object:	419.3	2.1	5.6	30.4	87.4	293.7	
	Crashes with other object:	67.6	0.2	0.4	2.3	6.7	58.0	
	Crashes with parked vehicle:	8.1	0.0	0.1	0.8	1.8	5.8	
	Other single-vehicle crashes:	78.7	0.6	1.7	9.0	25.7	41.7	
	Total single-vehicle crashes:	582.9	2.9	7.8	42.4	121.8	407.9	
Total crashes:		2532.1	12.0	32.5	176.2	508.4	1803.0	

ISATe Build Mainline Inputs

Input Worksheet for Freeway Segments							
Clear	Echo Input Values (View results in Column AV)	Check Input Values (View results in Advisory Messages)	Segment 1 Study Period	Segment 2 Study Period	Segment 3 Study Period	Segment 4 Study Period	
Basic Roadway Data							
Number of through lanes (n):			8	8	8	8	
Freeway segment description:			SR 200 to SR 40	SR 40 to US 27	US 27 to SW 40th St	SW 40th St to SR 328	
Segment length (L), mi:			1.915152	0.84072	1.645076	1.488258	
Alignment Data							
Horizontal Curve Data See note							
1	Horizontal curve in segment?:		No	No	Both Dir.	Both Dir.	
	Curve radius (R ₁), ft:				3282	3922	
	Length of curve (L _{c1}), mi:				0.334091	0.194886	
	Length of curve in segment (L _{c1,seg}), mi:				0.334091	0.194886	
2	Horizontal curve in segment?:				Both Dir.	No	
	Curve radius (R ₂), ft:				3282		
	Length of curve (L _{c2}), mi:				0.307197		
	Length of curve in segment (L _{c2,seg}), mi:				0.116667		
3	Horizontal curve in segment?:				No		
	Curve radius (R ₃), ft:						
	Length of curve (L _{c3}), mi:						
	Length of curve in segment (L _{c3,seg}), mi:						
Cross Section Data							
Lane width (W _l), ft:			12	12	12	12	
Outside shoulder width (W _s), ft:			10	10	10	10	
Inside shoulder width (W _{is}), ft:			10	10	10	10	
Median width (W _m), ft:			40	40	40	40	
Rumble strips on outside shoulders?:			Yes	Yes	Yes	Yes	
	Length of rumble strips for travel in increasing milepost direction, mi:		1.567045	0.549811	1.475568	1.356629	
	Length of rumble strips for travel in decreasing milepost direction, mi:		1.618561	0.563636	1.517235	1.142235	
Rumble strips on inside shoulders?:			Yes	Yes	Yes	Yes	
	Length of rumble strips for travel in increasing milepost direction, mi:		1.888447	0.84072	1.645076	1.488258	
	Length of rumble strips for travel in decreasing milepost direction, mi:		1.888447	0.84072	1.645076	1.488258	
Presence of barrier in median:			Offset	Offset	Offset	Offset	
1	Length of barrier (L _{ba1}), mi:		1.915152	0.84072	1.645076	1.488258	
	Distance from edge of traveled way to barrier face (W _{distn1}), ft:		10	10	10	10	
2	Length of barrier (L _{ba2}), mi:						
	Distance from edge of traveled way to barrier face (W _{distn2}), ft:						
3	Length of barrier (L _{ba3}), mi:						
	Distance from edge of traveled way to barrier face (W _{distn3}), ft:						
4	Length of barrier (L _{ba4}), mi:						
	Distance from edge of traveled way to barrier face (W _{distn4}), ft:						
5	Length of barrier (L _{ba5}), mi:						
	Distance from edge of traveled way to barrier face (W _{distn5}), ft:						
Median barrier width (W _b), ft:			3	3	3	3	
Nearest distance from edge of traveled way to barrier face (W _{near}), ft:			10	10	10	10	
Roadside Data							
Clear zone width (W _{cz}), ft:			30	30	30	30	
Presence of barrier on roadside:			Some	None	None	Some	
1	Length of barrier (L _{ra1}), mi:		0.396686			0.067803	

	Distance from edge of traveled way to barrier face ($W_{offo,1}$), ft	10			10	
2	Length of barrier ($L_{ba,2}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{offo,2}$), ft					
3	Length of barrier ($L_{ba,3}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{offo,3}$), ft					
4	Length of barrier ($L_{ba,4}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{offo,4}$), ft					
5	Length of barrier ($L_{ba,5}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{offo,5}$), ft					
Distance from edge of traveled way to barrier face, increasing milepost (W_{offic}), ft						
Distance from edge of traveled way to barrier face, decreasing milepost (W_{offdc}), ft						
Ramp Access Data						
<i>Travel in Increasing Milepost Direction</i>						
Entrance Ramp	Ramp entrance in segment? (If yes, indicate type.):	Lane Add	Lane Add	Lane Add	Lane Add	
	Distance from begin milepost to upstream entrance ramp gore ($X_{ba,u}$), mi:					
	Length of ramp entrance ($L_{ra,inc}$), mi:					
	Length of ramp entrance in segment ($L_{ra,seg,inc}$), mi:					
	Entrance side?:					
Exit Ramp	Ramp exit in segment? (If yes, indicate type.):	Lane Drop	Lane Drop	Lane Drop	Lane Drop	
	Distance from end milepost to downstream exit ramp gore ($X_{ba,d}$), mi:					
	Length of ramp exit ($L_{ra,inc}$), mi:					
	Length of ramp exit in segment ($L_{ra,seg,inc}$), mi:					
	Exit side?:					
Weave	Type B weave in segment?:	No	No	No	No	
	Length of weaving section ($L_{wev,inc}$), mi:					
	Length of weaving section in segment ($L_{wev,seg,inc}$), mi:					
<i>Travel in Decreasing Milepost Direction</i>						
Entrance Ramp	Ramp entrance in segment? (If yes, indicate type.):	Lane Add	Lane Add	Lane Add	Lane Add	
	Distance from end milepost to upstream entrance ramp gore ($X_{ba,u}$), mi:					
	Length of ramp entrance ($L_{ra,dec}$), mi:					
	Length of ramp entrance in segment ($L_{ra,seg,dec}$), mi:					
	Entrance side?:					
Exit Ramp	Ramp exit in segment? (If yes, indicate type.):	Lane Drop	Lane Drop	Lane Drop	Lane Drop	
	Distance from begin milepost to downstream exit ramp gore ($X_{ba,d}$), mi:					
	Length of ramp exit ($L_{ra,dec}$), mi:					
	Length of ramp exit in segment ($L_{ra,seg,dec}$), mi:					
	Exit side?:					
Weave	Type B weave in segment?:	No	No	No	No	
	Length of weaving section ($L_{wev,dec}$), mi:					
	Length of weaving section in segment ($L_{wev,seg,dec}$), mi:					
Traffic Data		Year				
Proportion of AADT during high-volume hours (P_{hv}):						
Freeway Segment Data		2030	120800	120500	108800	101600
Average daily traffic (AADT _{tr}) by year, veh/d:		2031				
(enter data only for those years for which it is available, leave other years blank)		2032				
		2033				
		2034				
		2035				
		2036				
		2037				
		2038				

	2039				
	2040	142500	142500	130900	122200
	2041				
	2042				
	2043				
	2044				
	2045				
	2046				
	2047				
	2048				
	2049				
	2050				
	2051				
	2052				
	2053				
Entrance Ramp Data for Travel in Increasing Milepost Dir.	Year				
Average daily traffic (AADT _{entr}) by year, veh/d: (enter data only for those years for which it is available, leave other years blank.)	2030	9400	6100	3700	3200
	2031				
	2032				
	2033				
	2034				
	2035				
	2036				
	2037				
	2038				
	2039				
	2040	10500	7000	5000	3900
	2041				
	2042				
	2043				
	2044				
	2045				
	2046				
	2047				
	2048				
	2049				
	2050				
	2051				
	2052				
	2053				
Exit Ramp Data for Travel in Increasing Milepost Direction	Year				
Average daily traffic (AADT _{exit}) by year, veh/d: (enter data only for those years for which it is available, leave other years blank.)	2030	6500	9700	6900	13000
	2031				
	2032				
	2033				
	2034				
	2035				
	2036				
	2037				
	2038				
	2039				
	2040	7100	11000	8400	16500
	2041				
	2042				
	2043				

	2044				
	2045				
	2046				
	2047				
	2048				
	2049				
	2050				
	2051				
	2052				
	2053				
Entrance Ramp Data for Travel in Decreasing Milepost Dir.		Year			
Average daily traffic (AADT _{amb}) by year, veh/d: (enter data only for those years for which it is available, leave other years blank.)	2030	6500	9900	6700	5100
	2031				
	2032				
	2033				
	2034				
	2035				
	2036				
	2037				
	2038				
	2039				
	2040	7000	11000	8100	6600
	2041				
	2042				
	2043				
	2044				
	2045				
	2046				
	2047				
	2048				
	2049				
2050					
2051					
2052					
2053					
Exit Ramp Data for Travel in Decreasing Milepost Direction		Year			
Average daily traffic (AADT _{amb}) by year, veh/d: (enter data only for those years for which it is available, leave other years blank.)	2030	9100	6200	4200	3200
	2031				
	2032				
	2033				
	2034				
	2035				
	2036				
	2037				
	2038				
	2039				
	2040	10000	7200	5400	3900
	2041				
	2042				
	2043				
	2044				
	2045				
	2046				
	2047				
	2048				
	2049				
2050					
2051					
2052					
2053					

ISATe Build Mainline Outputs

Output Summary								
<i>General Information:</i>								
Project description:	I-75 Mainline Build							
Analyst:	RMK	Date:	12/2/2023	Area type:	Urban			
First year of analysis:	2030							
Last year of analysis:	2040							
<i>Crash Data Description</i>								
Freeway segments	Segment or crash data available?	No	First year of crash data:					
	Project level crash data available?	No	Last year of crash data:					
Ramp segments	Segment or crash data available?	No	First year of crash data:					
	Project level crash data available?	No	Last year of crash data:					
Ramp terminals	Segment or crash data available?	No	First year of crash data:					
	Project level crash data available?	No	Last year of crash data:					
<i>Estimated Crash Statistics</i>								
<i>Crashes for Entire Facility</i>		Total	K	A	B	C	PDO	
Estimated number of crashes during Study Period, crashes:		2210.2	13.1	34.7	188.9	421.0	1552.6	
Estimated average crash year, during Study Period, crashes/yr:		200.9	1.2	3.2	17.2	38.3	141.1	
<i>Crashes by Facility Component</i>		Nbr. Sites	Total	K	A	B	C	PDO
Freeway segments, crashes:		4	2210.2	13.1	34.7	188.9	421.0	1552.6
Ramp segments, crashes:		0	0.0	0.0	0.0	0.0	0.0	0.0
Crossroad ramp terminals, crashes:		0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Crashes for Entire Facility by Year</i>		Year	Total	K	A	B	C	PDO
Estimated number of crashes during the Study Period, crashes:		2030	175.3	1.1	2.8	15.3	34.1	121.9
		2031	180.2	1.1	2.9	15.7	35.0	125.6
Total Present Value: \$140,353,120		2032	185.2	1.1	2.9	16.1	35.8	129.3
		2033	190.3	1.1	3.0	16.4	36.6	133.1
		2034	195.4	1.2	3.1	16.8	37.4	137.0
		2035	200.6	1.2	3.1	17.2	38.2	140.9
		2036	205.9	1.2	3.2	17.5	39.1	144.8
		2037	211.2	1.2	3.3	17.9	39.9	148.8
		2038	216.6	1.3	3.4	18.3	40.8	152.9
		2039	222.0	1.3	3.4	18.7	41.6	157.0
		2040	227.5	1.3	3.5	19.1	42.5	161.1
		2041						
		2042						
		2043						
		2044						
		2045						
		2046						
		2047						
		2048						
		2049						
		2050						
		2051						
		2052						
		2053						
<i>Distribution of Crashes for Entire Facility</i>								
Crash Type	Crash Type Category	Estimated Number of Crashes During the Study Period						
		Total	K	A	B	C	PDO	
Multiple vehicle	Head-on crashes:	6.0	0.1	0.2	1.1	2.4	2.1	
	Right angle crashes:	34.1	0.3	0.8	4.2	9.5	19.3	
	Rear-end crashes:	1096.4	7.1	18.8	102.8	229.3	738.4	
	Sideswipe crashes:	370.6	1.7	4.5	24.8	55.0	284.7	
	Other multiple-vehicle crashes:	40.5	0.3	0.8	4.2	9.5	25.7	
	Total multiple-vehicle crashes:	1547.4	9.5	25.1	136.9	305.8	1070.2	
Single vehicle	Crashes with animal:	11.3	0.0	0.0	0.2	0.5	10.6	
	Crashes with fixed object:	475.6	2.6	6.9	37.8	83.2	345.4	
	Crashes with other object:	76.2	0.2	0.5	2.7	5.9	67.0	
	Crashes with parked vehicle:	10.4	0.1	0.1	0.8	1.7	7.7	
	Other single-vehicle crashes:	89.1	0.8	2.0	10.8	24.0	51.6	
	Total single-vehicle crashes:	662.8	3.6	9.6	52.1	115.2	482.4	
Total crashes:		2210.2	13.1	34.7	188.9	421.0	1552.6	



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