

# Appendix G

## HIGHWAY CAPACITY SOFTWARE REPORTS – PREFERRED ALTERNATIVE 2

- I-526 Eastbound
  - 2030 No Build AM Peak Hour (6-lane Freeway)
  - 2050 No Build AM Peak Hour (8-lane Freeway)
  - 2030 No Build PM Peak Hour (6-lane Freeway)
  - 2050 No Build PM Peak Hour (8-lane Freeway)
  - 2030 Alternative 2 AM Peak Hour (6-lane Freeway)
  - 2050 Alternative 2 AM Peak Hour (8-lane Freeway)
  - 2030 Alternative 2 PM Peak Hour (6-lane Freeway)
  - 2050 Alternative 2 PM Peak Hour (8-lane Freeway)
- I-526 Westbound
  - 2030 No Build AM Peak Hour (6-lane Freeway)
  - 2050 No Build AM Peak Hour (8-lane Freeway)
  - 2030 No Build PM Peak Hour (6-lane Freeway)
  - 2050 No Build PM Peak Hour (8-lane Freeway)
  - 2030 Alternative 2 AM Peak Hour (6-lane Freeway)
  - 2050 Alternative 2 AM Peak Hour (8-lane Freeway)
  - 2030 Alternative 2 PM Peak Hour (6-lane Freeway)
  - 2050 Alternative 2 PM Peak Hour (8-lane Freeway)

I-526

Eastbound

# HCS7 Freeway Facilities Report

## Project Information

Analyst	KCole	Date	06/01/2022
Agency	CDM Smith	Analysis Year	2030 Existing Geometry
Jurisdiction	SCDOT	Time Analyzed	AM DHV
Project Description	I-526 Long Point Road Interchange IMR/IJR	Units	U.S. Customary

## Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	17
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	5.74		

## Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	EB - Btw Clements Ferry and Seven Farms	1973	2
2	Diverge	Diverge	EB Diverge - Seven Farms Off Ramp	1500	2
3	Basic	Basic	EB - Btw Seven Farms Off and On Ramps	980	2
4	Merge	Merge	EB Merge - Seven Farms On Ramp	1500	2
5	Basic	Basic	EB - Between Seven Farms and Truck Lane	710	2
6	Diverge	Diverge	EB Diverge - Truck Lane Begin	1500	2
7	Basic	Basic	EB - Truck Lane	1790	2
8	Merge	Merge	EB Merge - Truck Lane End	1500	2
9	Basic	Basic	EB - Truck Lane to Long Point	7727	2
10	Diverge	Diverge	EB Diverge - Long Point Off Ramp	1500	2
11	Basic	Basic	EB - Btw Long Point Off and On Ramp	1420	2
12	Merge	Merge	EB Merge - Long Point on Ramp (Cloverleaf)	1500	2
13	Basic	Basic	EB - Btw Long Point On Ramps	625	2
14	Merge	Merge	EB Merge - Long Point On Ramp	1500	2
15	Basic	Basic	EB - Btw Long Point and US 17	1816	2
16	Diverge	Diverge	EB Diverge - US 17 Off Ramp	1500	2
17	Basic	Basic	EB - Btw US 17 Off Ramps	1273	2

## 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	0.94	0.877	4236	4612	0.99	37.3	56.8	F

### Segment 2: 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	Freeway	Ramp	
1	0.94	0.94	0.877	0.980	4236	1244	4550	1936	0.93	0.64	55.4	55.4	38.2	33.8	F

**Segment 3: Basic**

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.877	2992	4612	0.69	66.5	22.4	C

**Segment 4: 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	Freeway	Ramp	
1	0.94	0.94	0.877	0.980	4117	1125	4550	1936	0.90	0.58	56.3	56.3	36.6	28.5	D

**Segment 5: Basic**

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.877	4117	4612	0.96	57.9	35.6	E

**Segment 6: 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	Freeway	Ramp	
1	0.94	0.94	0.877	0.513	4117	674	4550	1936	0.90	0.35	55.1	55.1	37.4	27.1	C

**Segment 7: Basic**

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.952	3443	4612	0.81	64.4	26.7	D

**Segment 8: 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	Freeway	Ramp	
1	0.94	0.94	0.952	0.513	4117	674	4550	1936	0.90	0.35	56.0	56.0	36.8	28.6	D

**Segment 9: Basic**

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.877	4117	4612	0.96	57.9	35.6	E

**Segment 10: 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	Freeway	Ramp	
1	0.94	0.94	0.877	0.820	4117	2054	4550	2033	0.90	1.01	50.6	55.2	45.0	37.8	F

**Segment 11: Basic**

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.952	2063	4612	0.50	66.5	15.1	B

Segment 12: 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	Freeway	Ramp	
1	0.94	0.94	0.952	0.980	2664	601	4550	1936	0.59	0.31	59.9	59.9	22.2	20.3	C

Segment 13: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.94		0.952		2664		4612		0.63		66.7		19.6		C

Segment 14: 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	Freeway	Ramp	
1	0.94	0.94	0.952	0.943	3022	358	4550	2130	0.66	0.17	59.4	59.4	25.4	25.1	C

Segment 15: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.94		0.952		3022		4612		0.71		66.8		22.6		C

Segment 16: 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	Freeway	Ramp	
1	0.94	0.94	0.962	0.962	3022	1536	4550	1936	0.66	0.79	54.7	54.7	27.6	28.3	D

Segment 17: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.94		0.962		1486		4612		0.37		66.8		10.9		A

### Facility Analysis Results

AP	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	56.0	32.1	29.0	6.20	F

### Facility Overall Results

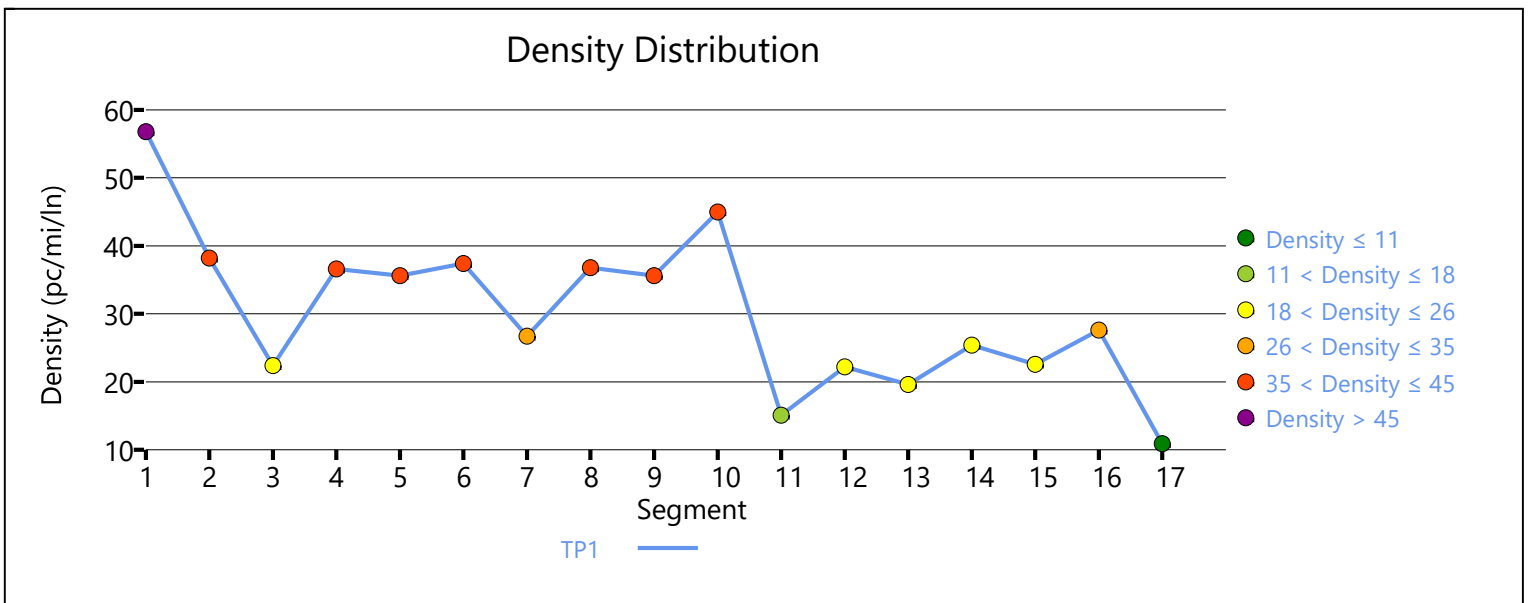
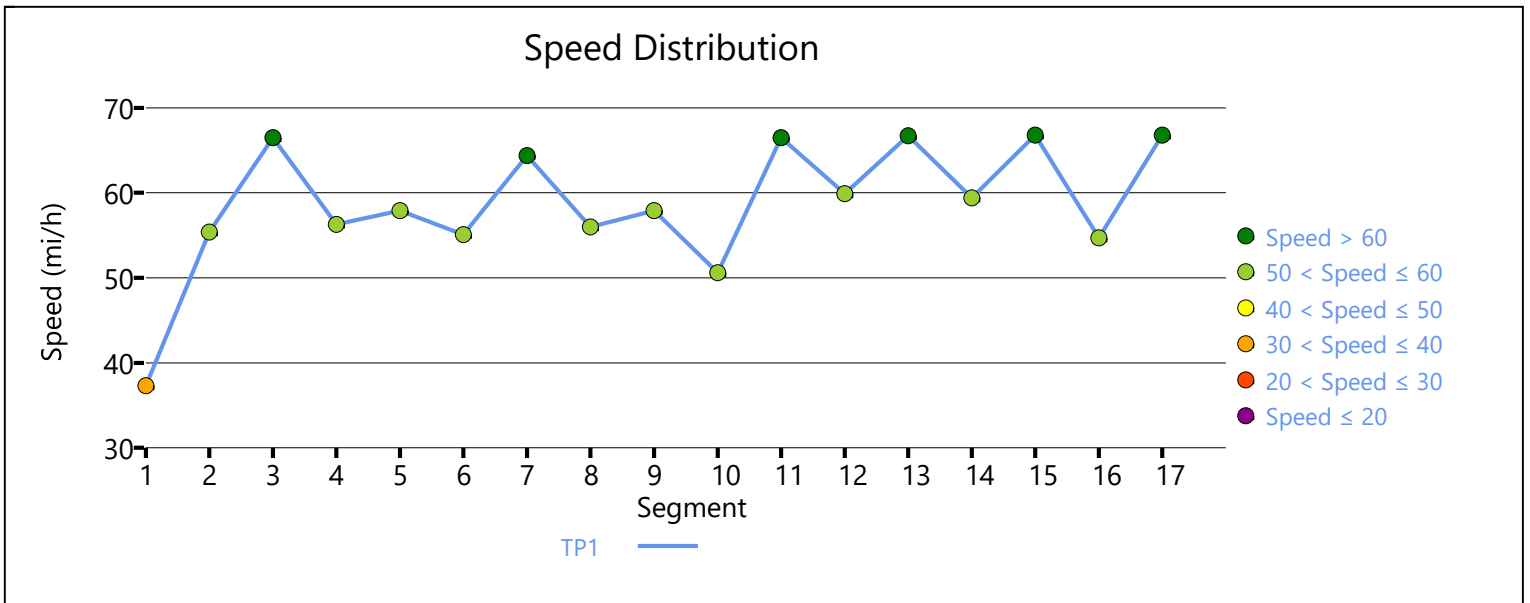
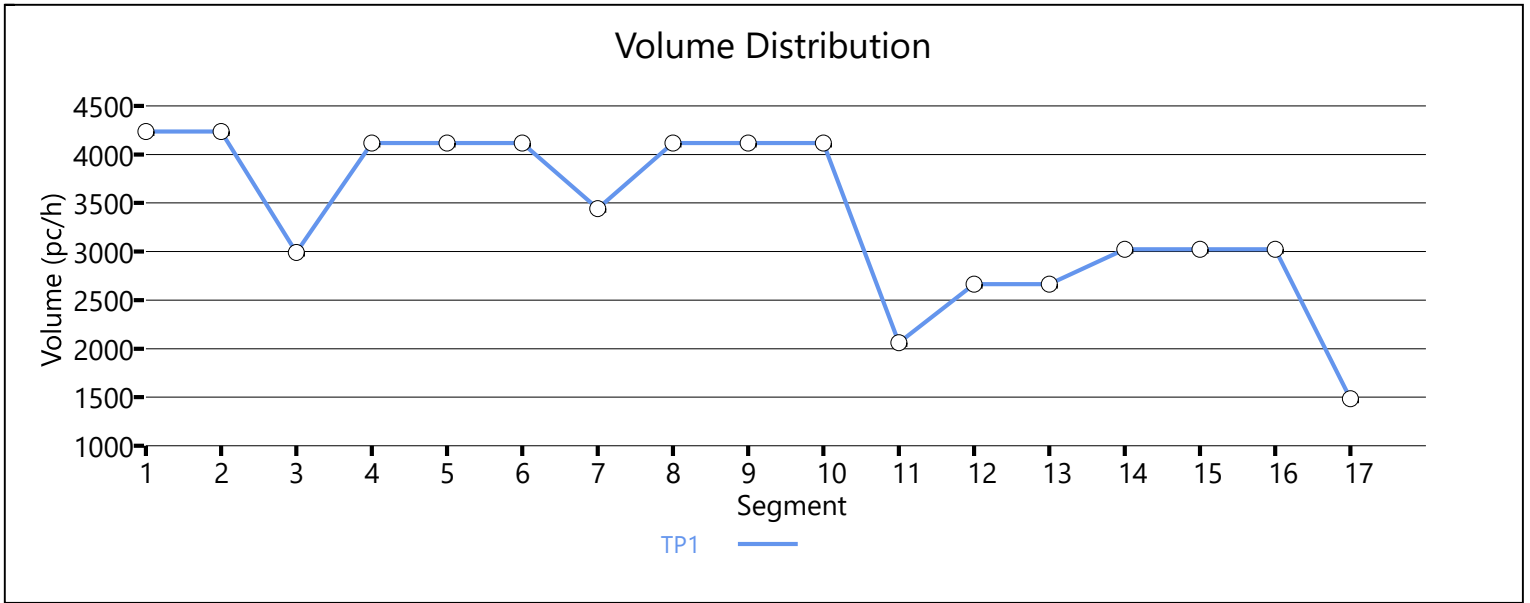
Space Mean Speed, mi/h	56.0	Density, veh/mi/ln	29.0
Average Travel Time, min	6.20	Density, pc/mi/ln	32.1

### Messages

WARNING 1	Oversaturated conditions currently exist in boundary analysis period 1. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.
WARNING 2	Queue extends past the beginning of the facility on analysis period 1. Consider expanding the length of the facility to account for these vehicles performance and affect on upstream segments.
WARNING 3	Diverge capacity is less than diverge demand for analysis period 1 on segment 10. This may result in an off-ramp queue affecting the mainline flow. This is not currently modeled in HCM methodologies. Use caution when reviewing results.

### Comments

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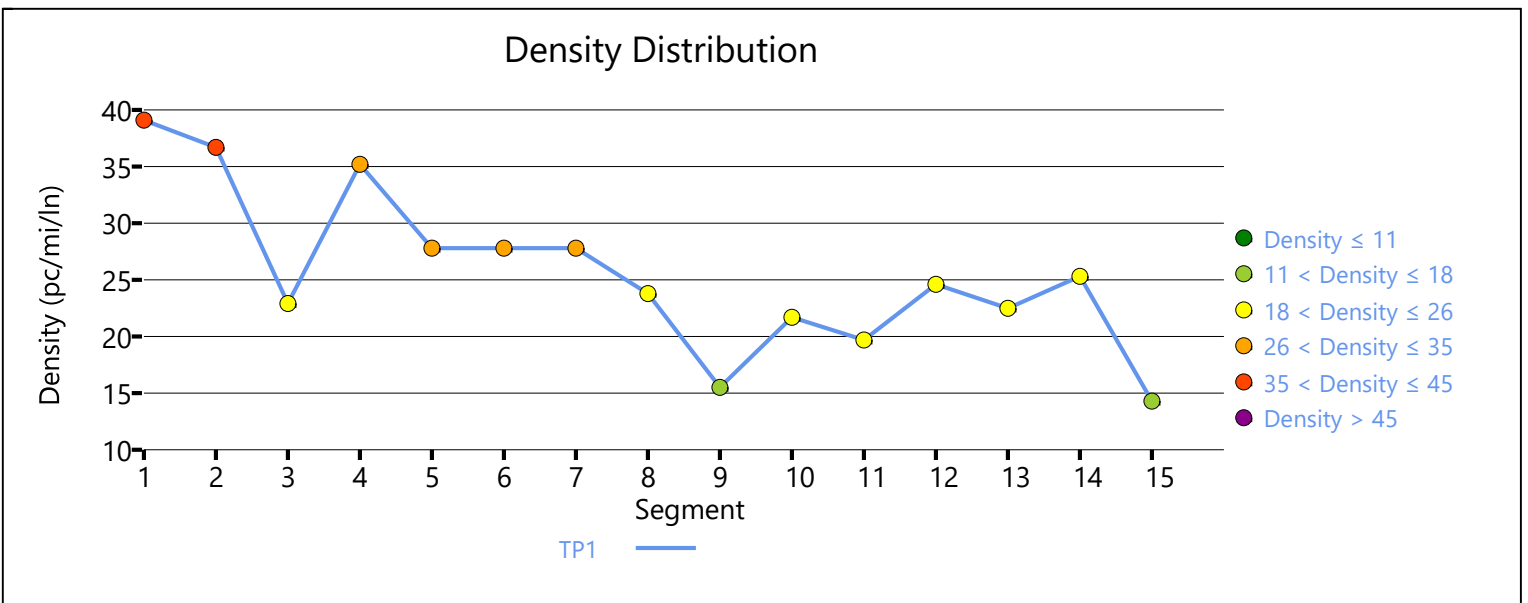
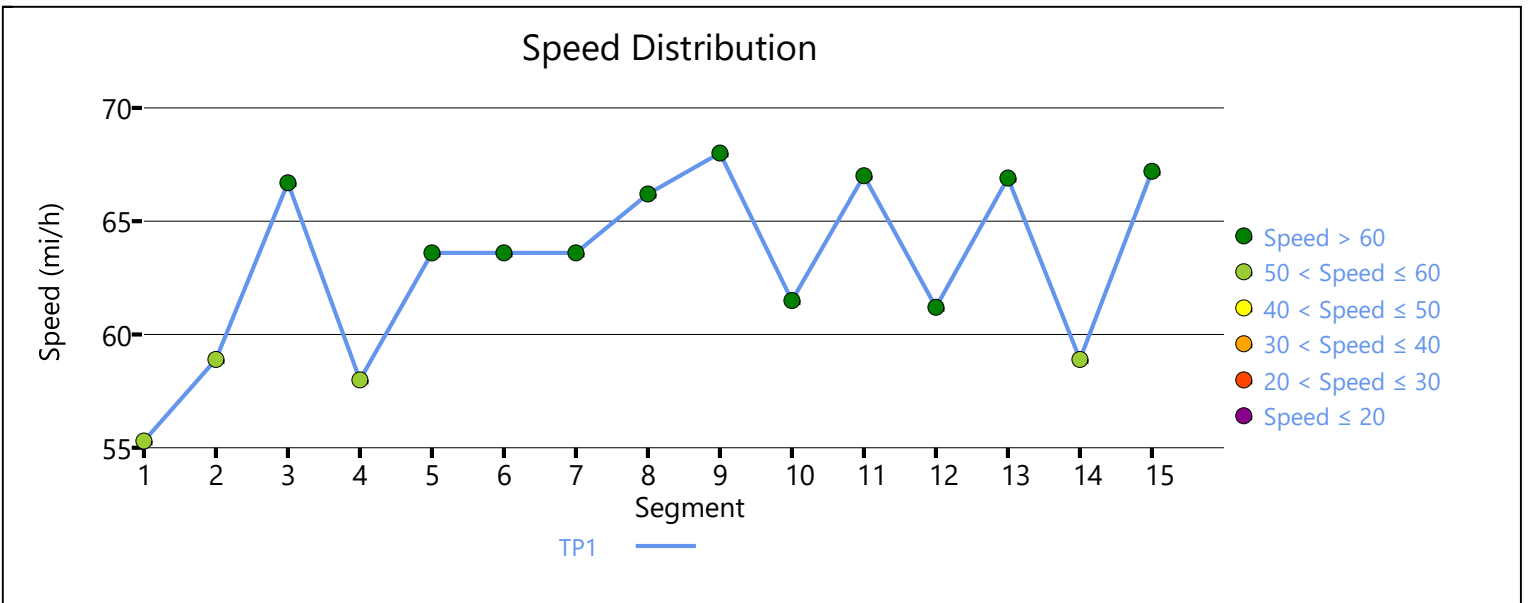
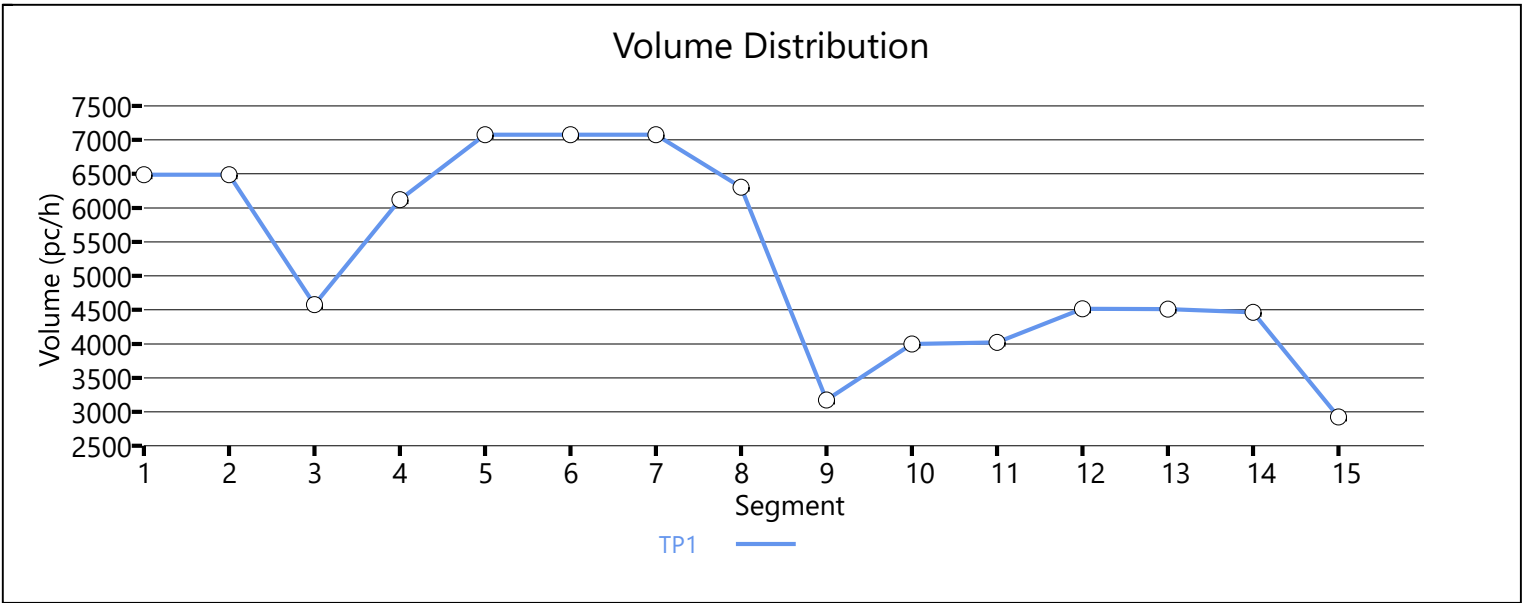




1	0.94	0.94	0.877	0.980	6486	1709	6824	1936	0.95	0.88	58.9	54.3	36.7	33.4	D
<b>Segment 3: Basic</b>															
<b>AP</b>	<b>PHF</b>		<b>fHV</b>		<b>Flow Rate (pc/h)</b>		<b>Capacity (pc/h)</b>		<b>d/c Ratio</b>		<b>Speed (mi/h)</b>		<b>Density (pc/mi/ln)</b>		<b>LOS</b>
1	0.94		0.877		4577		6917		0.66		66.7		22.9		C
<b>Segment 4: Merge</b>															
<b>AP</b>	<b>PHF</b>		<b>fHV</b>		<b>Flow Rate (pc/h)</b>		<b>Capacity (pc/h)</b>		<b>d/c Ratio</b>		<b>Speed (mi/h)</b>		<b>Density (pc/mi/ln)</b>		<b>LOS</b>
	<b>F</b>	<b>R</b>	<b>F</b>	<b>R</b>	<b>Freeway</b>	<b>Ramp</b>	<b>Freeway</b>	<b>Ramp</b>	<b>F</b>	<b>R</b>	<b>F</b>	<b>R</b>	<b>Freeway</b>	<b>Ramp</b>	
1	0.94	0.94	0.877	0.980	6121	1544	6824	1936	0.90	0.80	58.0	55.9	35.2	28.8	D
<b>Segment 5: Basic</b>															
<b>AP</b>	<b>PHF</b>		<b>fHV</b>		<b>Flow Rate (pc/h)</b>		<b>Capacity (pc/h)</b>		<b>d/c Ratio</b>		<b>Speed (mi/h)</b>		<b>Density (pc/mi/ln)</b>		<b>LOS</b>
1	0.94		0.781		7076		9223		0.77		63.6		27.8		D
<b>Segment 6: Basic</b>															
<b>AP</b>	<b>PHF</b>		<b>fHV</b>		<b>Flow Rate (pc/h)</b>		<b>Capacity (pc/h)</b>		<b>d/c Ratio</b>		<b>Speed (mi/h)</b>		<b>Density (pc/mi/ln)</b>		<b>LOS</b>
1	0.94		0.781		7076		9223		0.77		63.6		27.8		D
<b>Segment 7: Basic</b>															
<b>AP</b>	<b>PHF</b>		<b>fHV</b>		<b>Flow Rate (pc/h)</b>		<b>Capacity (pc/h)</b>		<b>d/c Ratio</b>		<b>Speed (mi/h)</b>		<b>Density (pc/mi/ln)</b>		<b>LOS</b>
1	0.94		0.781		7076		9223		0.77		63.6		27.8		D
<b>Segment 8: Diverge</b>															
<b>AP</b>	<b>PHF</b>		<b>fHV</b>		<b>Flow Rate (pc/h)</b>		<b>Capacity (pc/h)</b>		<b>d/c Ratio</b>		<b>Speed (mi/h)</b>		<b>Density (pc/mi/ln)</b>		<b>LOS</b>
	<b>F</b>	<b>R</b>	<b>F</b>	<b>R</b>	<b>Freeway</b>	<b>Ramp</b>	<b>Freeway</b>	<b>Ramp</b>	<b>F</b>	<b>R</b>	<b>F</b>	<b>R</b>	<b>Freeway</b>	<b>Ramp</b>	
1	0.94	0.94	0.877	0.820	6302	3057	9223	2033	0.68	1.50	66.2	66.2	23.8	23.8	C
<b>Segment 9: Basic</b>															
<b>AP</b>	<b>PHF</b>		<b>fHV</b>		<b>Flow Rate (pc/h)</b>		<b>Capacity (pc/h)</b>		<b>d/c Ratio</b>		<b>Speed (mi/h)</b>		<b>Density (pc/mi/ln)</b>		<b>LOS</b>
1	0.94		0.952		3172		6917		0.46		68.0		15.5		B
<b>Segment 10: Merge</b>															
<b>AP</b>	<b>PHF</b>		<b>fHV</b>		<b>Flow Rate (pc/h)</b>		<b>Capacity (pc/h)</b>		<b>d/c Ratio</b>		<b>Speed (mi/h)</b>		<b>Density (pc/mi/ln)</b>		<b>LOS</b>
	<b>F</b>	<b>R</b>	<b>F</b>	<b>R</b>	<b>Freeway</b>	<b>Ramp</b>	<b>Freeway</b>	<b>Ramp</b>	<b>F</b>	<b>R</b>	<b>F</b>	<b>R</b>	<b>Freeway</b>	<b>Ramp</b>	
1	0.94	0.94	0.952	0.980	3998	826	6824	1936	0.59	0.43	61.5	59.8	21.7	20.8	C
<b>Segment 11: Basic</b>															
<b>AP</b>	<b>PHF</b>		<b>fHV</b>		<b>Flow Rate (pc/h)</b>		<b>Capacity (pc/h)</b>		<b>d/c Ratio</b>		<b>Speed (mi/h)</b>		<b>Density (pc/mi/ln)</b>		<b>LOS</b>
1	0.94		0.952		4023		6917		0.58		67.0		19.7		C
<b>Segment 12: Merge</b>															
<b>AP</b>	<b>PHF</b>		<b>fHV</b>		<b>Flow Rate (pc/h)</b>		<b>Capacity (pc/h)</b>		<b>d/c Ratio</b>		<b>Speed (mi/h)</b>		<b>Density (pc/mi/ln)</b>		<b>LOS</b>
	<b>F</b>	<b>R</b>	<b>F</b>	<b>R</b>	<b>Freeway</b>	<b>Ramp</b>	<b>Freeway</b>	<b>Ramp</b>	<b>F</b>	<b>R</b>	<b>F</b>	<b>R</b>	<b>Freeway</b>	<b>Ramp</b>	



1	0.94	0.94	0.952	0.943	4514	491	6824	2130	0.66	0.23	61.2	59.7	24.6	24.0	C
<b>Segment 13: Basic</b>															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.94		0.952		4509		6917		0.65		66.9		22.5		C
<b>Segment 14: Diverge</b>															
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	Freeway	Ramp	
1	0.94	0.94	0.962	0.962	4462	1536	6824	1936	0.65	0.79	58.9	54.7	25.3	30.0	D
<b>Segment 15: Basic</b>															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.94		0.962		2926		6917		0.42		67.2		14.3		B
<b>Facility Analysis Results</b>															
AP	Speed, mi/h		Density, pc/mi/ln		Density, veh/mi/ln		Travel Time, min		LOS						
1	62.5		26.9		22.7		5.50		F						
<b>Facility Overall Results</b>															
Space Mean Speed, mi/h					62.5			Density, veh/mi/ln				22.7			
Average Travel Time, min					5.50			Density, pc/mi/ln				26.9			
<b>Messages</b>															
WARNING 1					Oversaturated conditions currently exist in boundary analysis period 1. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.										
WARNING 2					Diverge capacity is less than diverge demand for analysis period 1 on segment 8. This may result in an off-ramp queue affecting the mainline flow. This is not currently modeled in HCM methodologies. Use caution when reviewing results.										
<b>Comments</b>															



# HCS7 Freeway Facilities Report

## Project Information

Analyst	KCole	Date	06/01/2022
Agency	CDM Smith	Analysis Year	2030 Existing Geometry
Jurisdiction	SCDOT	Time Analyzed	PM DHV
Project Description	I-526 Long Point Road Interchange IMR/IJR	Units	U.S. Customary

## Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	17
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	5.74		

## Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	EB - Btw Clements Ferry and Seven Farms	1973	2
2	Diverge	Diverge	EB Diverge - Seven Farms Off Ramp	1500	2
3	Basic	Basic	EB - Btw Seven Farms Off and On Ramps	980	2
4	Merge	Merge	EB Merge - Seven Farms On Ramp	1500	2
5	Basic	Basic	EB - Between Seven Farms and Truck Lane	710	2
6	Diverge	Diverge	EB Diverge - Truck Lane Begin	1500	2
7	Basic	Basic	EB - Truck Lane	1790	2
8	Merge	Merge	EB Merge - Truck Lane End	1500	2
9	Basic	Basic	EB - Truck Lane to Long Point	7727	2
10	Diverge	Diverge	EB Diverge - Long Point Off Ramp	1500	2
11	Basic	Basic	EB - Btw Long Point Off and On Ramp	1420	2
12	Merge	Merge	EB Merge - Long Point on Ramp (Cloverleaf)	1500	2
13	Basic	Basic	EB - Btw Long Point On Ramps	625	2
14	Merge	Merge	EB Merge - Long Point On Ramp	1500	2
15	Basic	Basic	EB - Btw Long Point and US 17	1816	2
16	Diverge	Diverge	EB Diverge - US 17 Off Ramp	1500	2
17	Basic	Basic	EB - Btw US 17 Off Ramps	1273	2

## 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	0.94	0.962	4052	4612	0.88	58.7	34.5	D

### Segment 2: 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	Freeway	Ramp	
1	0.94	0.94	0.962	0.980	3984	718	4550	1936	0.88	0.37	56.6	56.6	35.2	31.6	D

**Segment 3: Basic**

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.94		0.962		3170		4612		0.72		21.4		74.2		F

**Segment 4: 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	Freeway	Ramp	
1	0.94	0.94	0.962	0.980	4236	1588	4550	1936	0.93	0.82	55.5	55.5	38.2	29.3	F

**Segment 5: Basic**

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.94		0.962		4236		4612		1.07		56.5		37.5		F

**Segment 6: 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	Freeway	Ramp	
1	0.94	0.94	0.962	0.513	4236	249	4550	1936	0.93	0.13	56.1	56.1	37.8	28.1	F

**Segment 7: Basic**

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.94		0.980		3987		4612		1.03		59.4		33.6		F

**Segment 8: 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	Freeway	Ramp	
1	0.94	0.94	0.980	0.513	4236	249	4550	1936	0.93	0.13	55.2	55.2	38.4	29.7	F

**Segment 9: Basic**

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.94		0.962		4236		4612		1.07		56.5		37.5		F

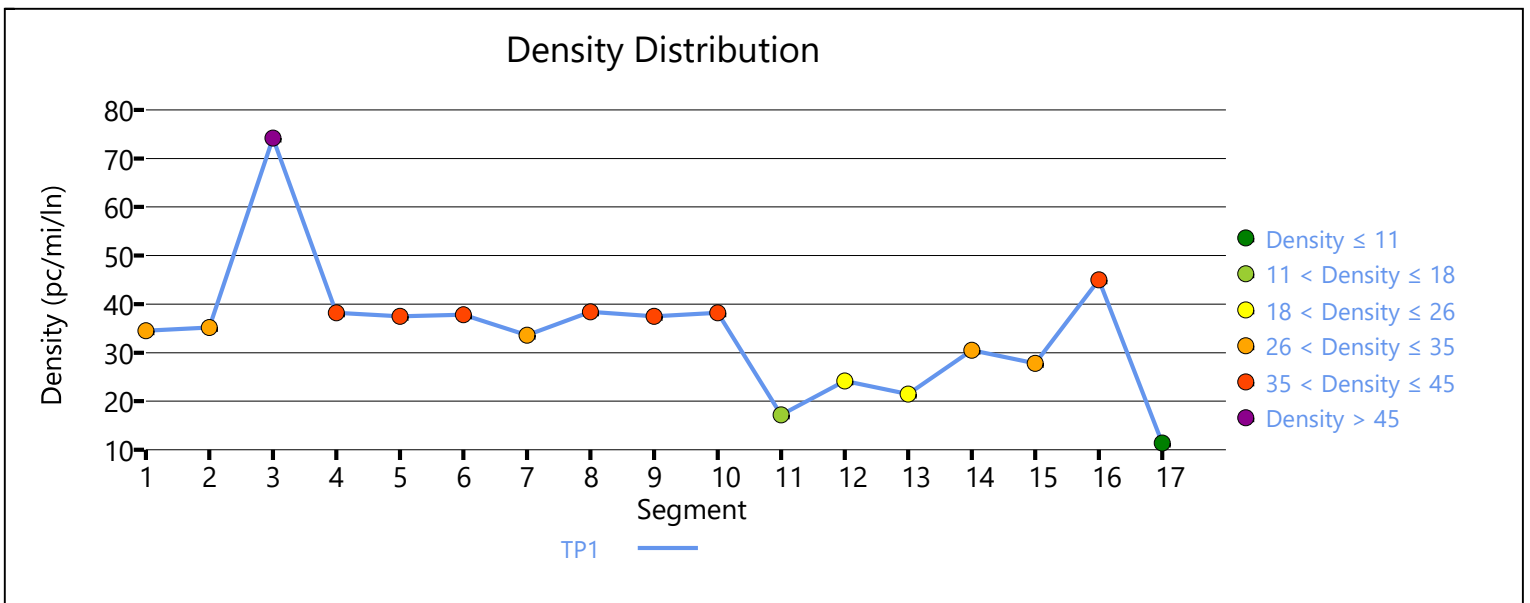
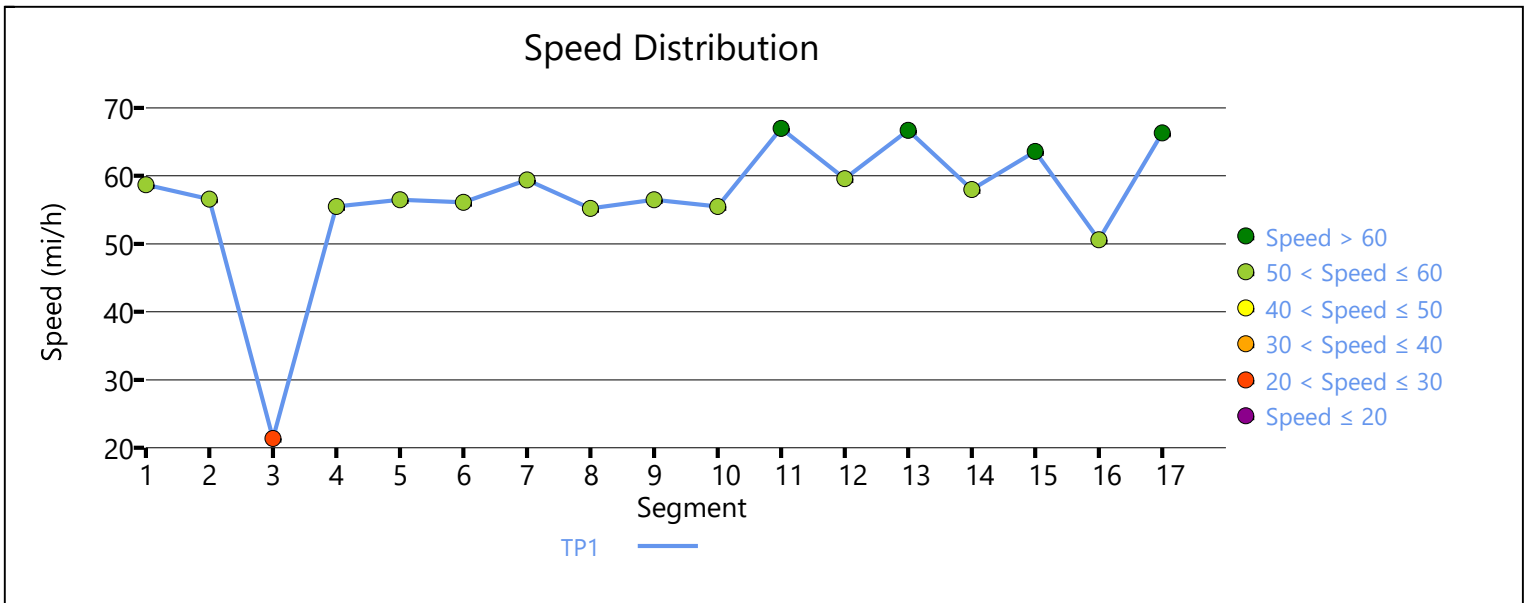
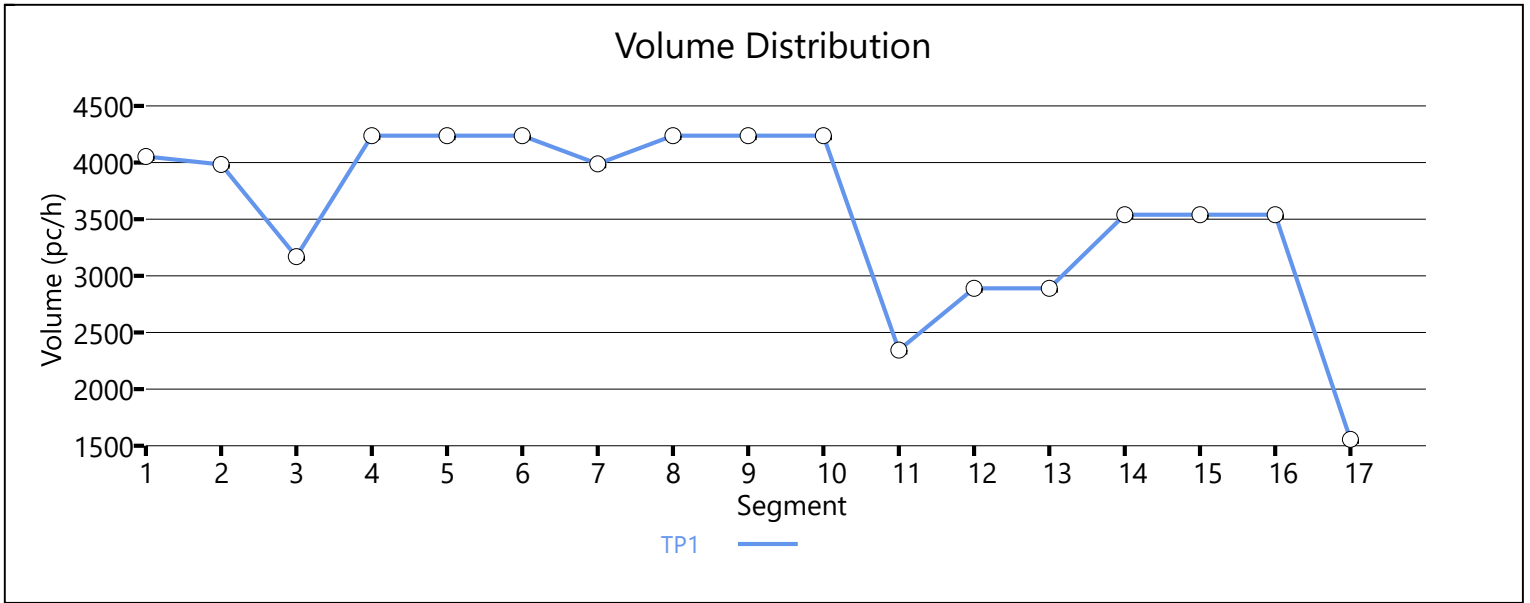
**Segment 10: Diverge**

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	Freeway	Ramp	
1	0.94	0.94	0.962	0.976	4236	1892	4550	2033	0.93	0.93	55.5	55.5	38.2	38.8	F

**Segment 11: Basic**

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.94		0.962		2344		4612		0.66		67.0		17.2		B

Segment 12: 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	Freeway	Ramp	
1	0.94	0.94	0.962	0.980	2890	546	4550	1936	0.64	0.28	59.6	59.6	24.2	22.1	C
Segment 13: 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	Freeway	Ramp	
1	0.94		0.962		2890		4612		0.78		66.7		21.5		C
Segment 14: 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	Freeway	Ramp	
1	0.94	0.94	0.962	0.980	3540	650	4550	2130	0.78	0.31	58.0	58.0	30.5	29.0	D
Segment 15: 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	Freeway	Ramp	
1	0.94		0.962		3540		4612		0.92		63.6		27.8		D
Segment 16: 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	Freeway	Ramp	
1	0.94	0.94	0.962	0.962	3540	1984	4550	1936	0.78	1.02	50.6	53.7	45.0	32.7	F
Segment 17: 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	Freeway	Ramp	
1	0.94		0.962		1556		4612		0.49		66.3		11.4		B
Facility Analysis Results															
AP	Speed, mi/h		Density, pc/mi/ln		Density, veh/mi/ln		Travel Time, min		LOS						
1	54.9		34.7		33.4		6.30		F						
Facility Overall Results															
Space Mean Speed, mi/h					54.9			Density, veh/mi/ln			33.4				
Average Travel Time, min					6.30			Density, pc/mi/ln			34.7				
Messages															
WARNING 1					Oversaturated conditions currently exist in boundary analysis period 1. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.										
WARNING 2					Diverge capacity is less than diverge demand for analysis period 1 on segment 16. This may result in an off-ramp queue affecting the mainline flow. This is not currently modeled in HCM methodologies. Use caution when reviewing results.										
Comments															

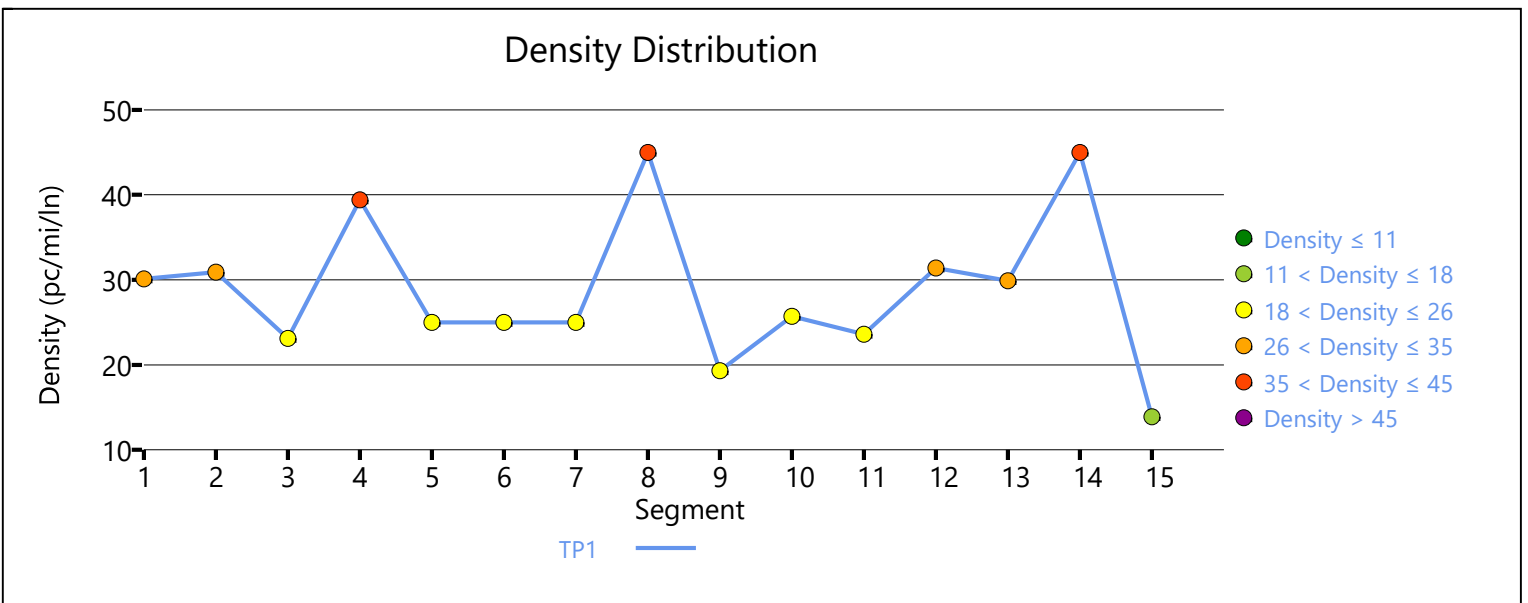
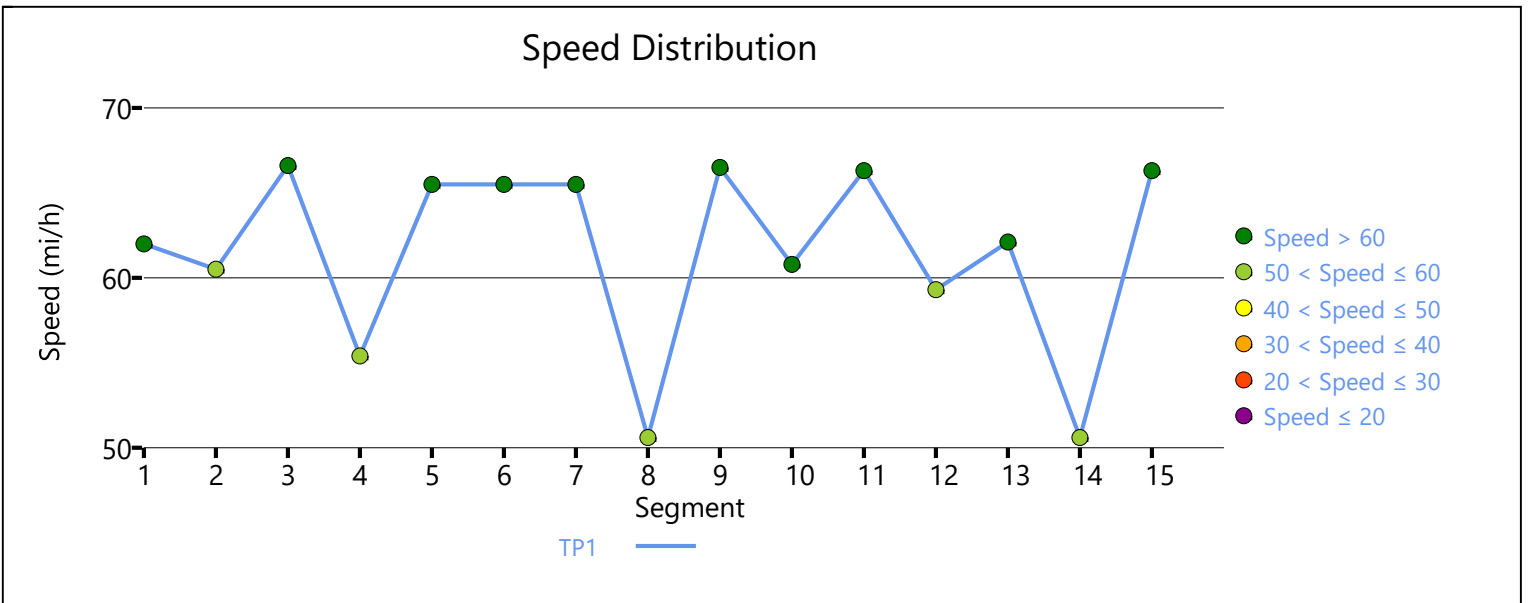
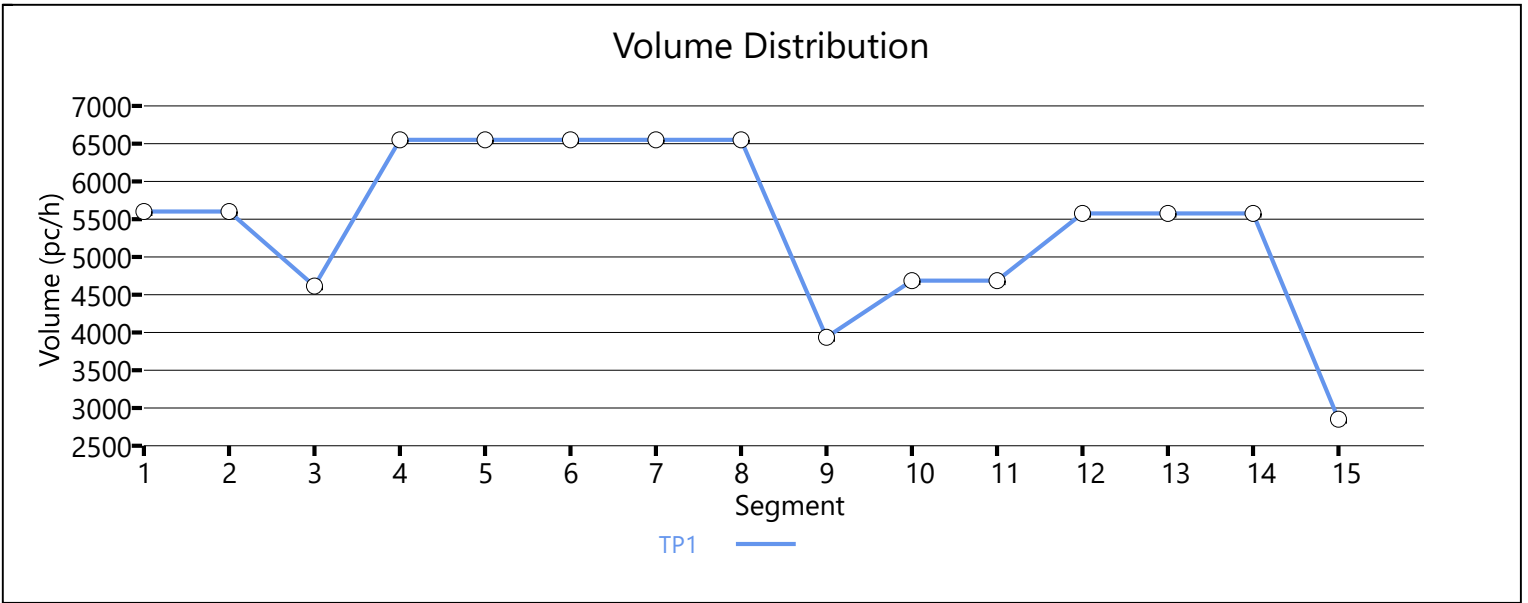




1	0.94	0.94	0.962	0.980	5602	986	6824	1936	0.82	0.51	60.5	56.0	30.9	28.7	D
<b>Segment 3: Basic</b>															
<b>AP</b>	<b>PHF</b>		<b>fHV</b>		<b>Flow Rate (pc/h)</b>		<b>Capacity (pc/h)</b>		<b>d/c Ratio</b>		<b>Speed (mi/h)</b>		<b>Density (pc/mi/ln)</b>		<b>LOS</b>
1	0.94		0.962		4616		6917		0.66		66.6		23.1		C
<b>Segment 4: Merge</b>															
<b>AP</b>	<b>PHF</b>		<b>fHV</b>		<b>Flow Rate (pc/h)</b>		<b>Capacity (pc/h)</b>		<b>d/c Ratio</b>		<b>Speed (mi/h)</b>		<b>Density (pc/mi/ln)</b>		<b>LOS</b>
	<b>F</b>	<b>R</b>	<b>F</b>	<b>R</b>	<b>Freeway</b>	<b>Ramp</b>	<b>Freeway</b>	<b>Ramp</b>	<b>F</b>	<b>R</b>	<b>F</b>	<b>R</b>	<b>Freeway</b>	<b>Ramp</b>	
1	1.00	1.00	0.962	0.980	6552	1936	6824	1936	0.96	1.06	55.4	52.7	39.4	31.7	D
<b>Segment 5: Basic</b>															
<b>AP</b>	<b>PHF</b>		<b>fHV</b>		<b>Flow Rate (pc/h)</b>		<b>Capacity (pc/h)</b>		<b>d/c Ratio</b>		<b>Speed (mi/h)</b>		<b>Density (pc/mi/ln)</b>		<b>LOS</b>
1	0.94		0.926		6552		9223		0.75		65.5		25.0		C
<b>Segment 6: Basic</b>															
<b>AP</b>	<b>PHF</b>		<b>fHV</b>		<b>Flow Rate (pc/h)</b>		<b>Capacity (pc/h)</b>		<b>d/c Ratio</b>		<b>Speed (mi/h)</b>		<b>Density (pc/mi/ln)</b>		<b>LOS</b>
1	0.94		0.926		6552		9223		0.75		65.5		25.0		C
<b>Segment 7: Basic</b>															
<b>AP</b>	<b>PHF</b>		<b>fHV</b>		<b>Flow Rate (pc/h)</b>		<b>Capacity (pc/h)</b>		<b>d/c Ratio</b>		<b>Speed (mi/h)</b>		<b>Density (pc/mi/ln)</b>		<b>LOS</b>
1	0.94		0.926		6552		9223		0.75		65.5		25.0		C
<b>Segment 8: Diverge</b>															
<b>AP</b>	<b>PHF</b>		<b>fHV</b>		<b>Flow Rate (pc/h)</b>		<b>Capacity (pc/h)</b>		<b>d/c Ratio</b>		<b>Speed (mi/h)</b>		<b>Density (pc/mi/ln)</b>		<b>LOS</b>
	<b>F</b>	<b>R</b>	<b>F</b>	<b>R</b>	<b>Freeway</b>	<b>Ramp</b>	<b>Freeway</b>	<b>Ramp</b>	<b>F</b>	<b>R</b>	<b>F</b>	<b>R</b>	<b>Freeway</b>	<b>Ramp</b>	
1	0.94	0.94	0.962	0.976	6552	2617	9099	2033	0.72	1.29	50.6	50.6	45.0	45.0	F
<b>Segment 9: Basic</b>															
<b>AP</b>	<b>PHF</b>		<b>fHV</b>		<b>Flow Rate (pc/h)</b>		<b>Capacity (pc/h)</b>		<b>d/c Ratio</b>		<b>Speed (mi/h)</b>		<b>Density (pc/mi/ln)</b>		<b>LOS</b>
1	0.94		0.962		3935		6917		0.58		66.5		19.3		C
<b>Segment 10: Merge</b>															
<b>AP</b>	<b>PHF</b>		<b>fHV</b>		<b>Flow Rate (pc/h)</b>		<b>Capacity (pc/h)</b>		<b>d/c Ratio</b>		<b>Speed (mi/h)</b>		<b>Density (pc/mi/ln)</b>		<b>LOS</b>
	<b>F</b>	<b>R</b>	<b>F</b>	<b>R</b>	<b>Freeway</b>	<b>Ramp</b>	<b>Freeway</b>	<b>Ramp</b>	<b>F</b>	<b>R</b>	<b>F</b>	<b>R</b>	<b>Freeway</b>	<b>Ramp</b>	
1	0.94	0.94	0.962	0.980	4685	750	6824	1936	0.69	0.39	60.8	59.1	25.7	23.8	C
<b>Segment 11: Basic</b>															
<b>AP</b>	<b>PHF</b>		<b>fHV</b>		<b>Flow Rate (pc/h)</b>		<b>Capacity (pc/h)</b>		<b>d/c Ratio</b>		<b>Speed (mi/h)</b>		<b>Density (pc/mi/ln)</b>		<b>LOS</b>
1	0.94		0.962		4685		6917		0.69		66.3		23.6		C
<b>Segment 12: Merge</b>															
<b>AP</b>	<b>PHF</b>		<b>fHV</b>		<b>Flow Rate (pc/h)</b>		<b>Capacity (pc/h)</b>		<b>d/c Ratio</b>		<b>Speed (mi/h)</b>		<b>Density (pc/mi/ln)</b>		<b>LOS</b>
	<b>F</b>	<b>R</b>	<b>F</b>	<b>R</b>	<b>Freeway</b>	<b>Ramp</b>	<b>Freeway</b>	<b>Ramp</b>	<b>F</b>	<b>R</b>	<b>F</b>	<b>R</b>	<b>Freeway</b>	<b>Ramp</b>	



1	0.94	0.94	0.962	0.980	5578	893	6824	2130	0.82	0.42	59.3	57.5	31.4	30.0	D
<b>Segment 13: Basic</b>															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.94		0.962		5578		6917		0.83		62.1		29.9		D
<b>Segment 14: Diverge</b>															
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	Freeway	Ramp	
1	0.94	0.94	0.962	0.962	5578	2725	6824	1936	0.82	1.41	50.6	51.9	45.0	37.9	F
<b>Segment 15: Basic</b>															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.94		0.962		2853		6917		0.43		66.3		13.9		B
<b>Facility Analysis Results</b>															
AP	Speed, mi/h		Density, pc/mi/ln		Density, veh/mi/ln		Travel Time, min		LOS						
1	61.9		28.0		26.5		5.60		F						
<b>Facility Overall Results</b>															
Space Mean Speed, mi/h					61.9			Density, veh/mi/ln			26.5				
Average Travel Time, min					5.60			Density, pc/mi/ln			28.0				
<b>Messages</b>															
WARNING 1					Oversaturated conditions currently exist in boundary analysis period 1. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.										
WARNING 2					Merge capacity is less than merge demand for analysis period 1 on segment 4.										
WARNING 3					Diverge capacity is less than diverge demand for analysis period 1 on segment 8. This may result in an off-ramp queue affecting the mainline flow. This is not currently modeled in HCM methodologies. Use caution when reviewing results.										
WARNING 4					Diverge capacity is less than diverge demand for analysis period 1 on segment 14. This may result in an off-ramp queue affecting the mainline flow. This is not currently modeled in HCM methodologies. Use caution when reviewing results.										
<b>Comments</b>															



# HCS7 Freeway Facilities Report

## Project Information

Analyst	KCole	Date	06/01/2022
Agency	CDM Smith	Analysis Year	2030 Alternative 2 Geometry w CD
Jurisdiction	SCDOT	Time Analyzed	AM DHV
Project Description	I-526 Long Point Road Interchange IAR	Units	U.S. Customary

## Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	13
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	5.52		

## Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	EB - Btw Clements Ferry and Seven Farms	1973	2
2	Diverge	Diverge	EB Diverge - Seven Farms Off Ramp	1500	2
3	Basic	Basic	EB - Btw Seven Farms Off and On Ramps	980	2
4	Merge	Merge	EB Merge - Seven Farms On Ramp	1500	2
5	Basic	Basic	EB - Truck Lane	8700	3
6	Diverge	Diverge	EB Diverge - Port Offramp CD Rd	1500	3
7	Basic	Basic	EB - Between CD Rd and On Ramp	4800	2
8	Merge	Merge	EB Merge - Long Point on Ramp (Cloverleaf)	1500	2
9	Basic	Basic	EB - Btw Long Point On Ramps	625	2
10	Merge	Merge	EB Merge - Long Point On Ramp	1500	2
11	Basic	Basic	EB - Btw Long Point and US 17	1816	2
12	Diverge	Diverge	EB Diverge - US 17 Off Ramp	1500	2
13	Basic	Basic	EB - Btw US 17 Off Ramps	1273	2

## Facility Segment Data

### Segment 1: Basic

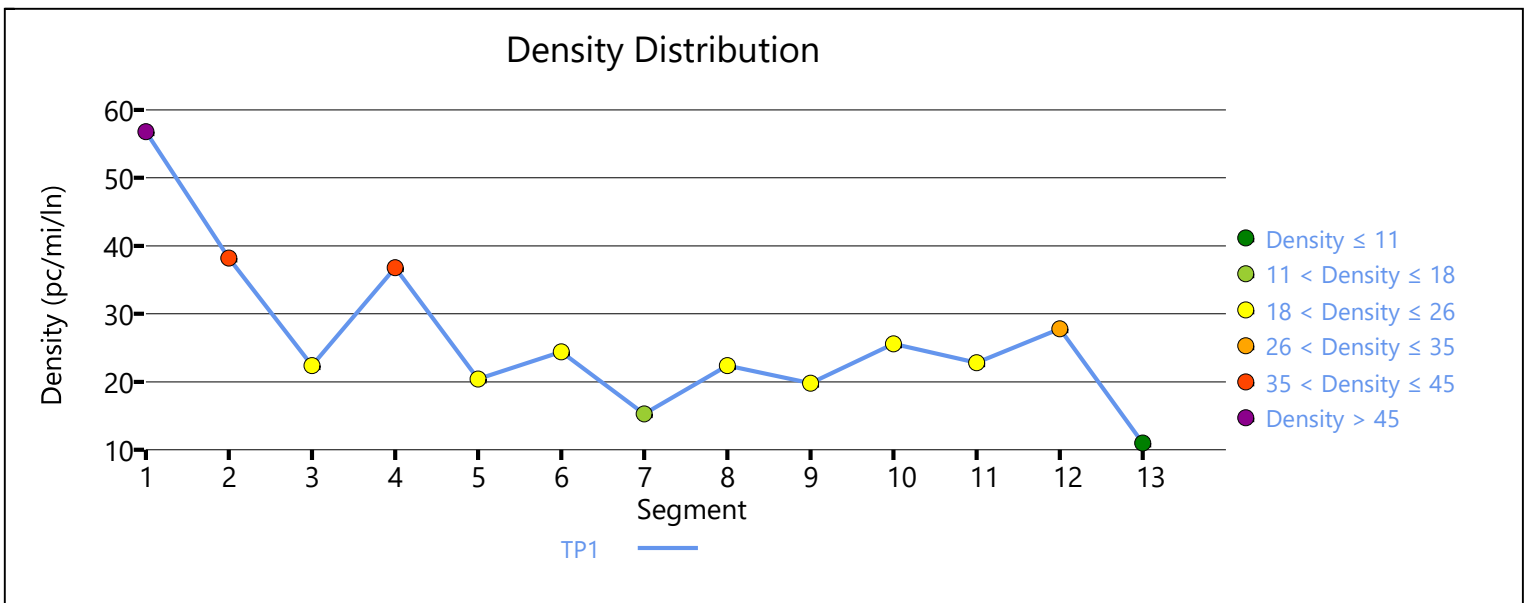
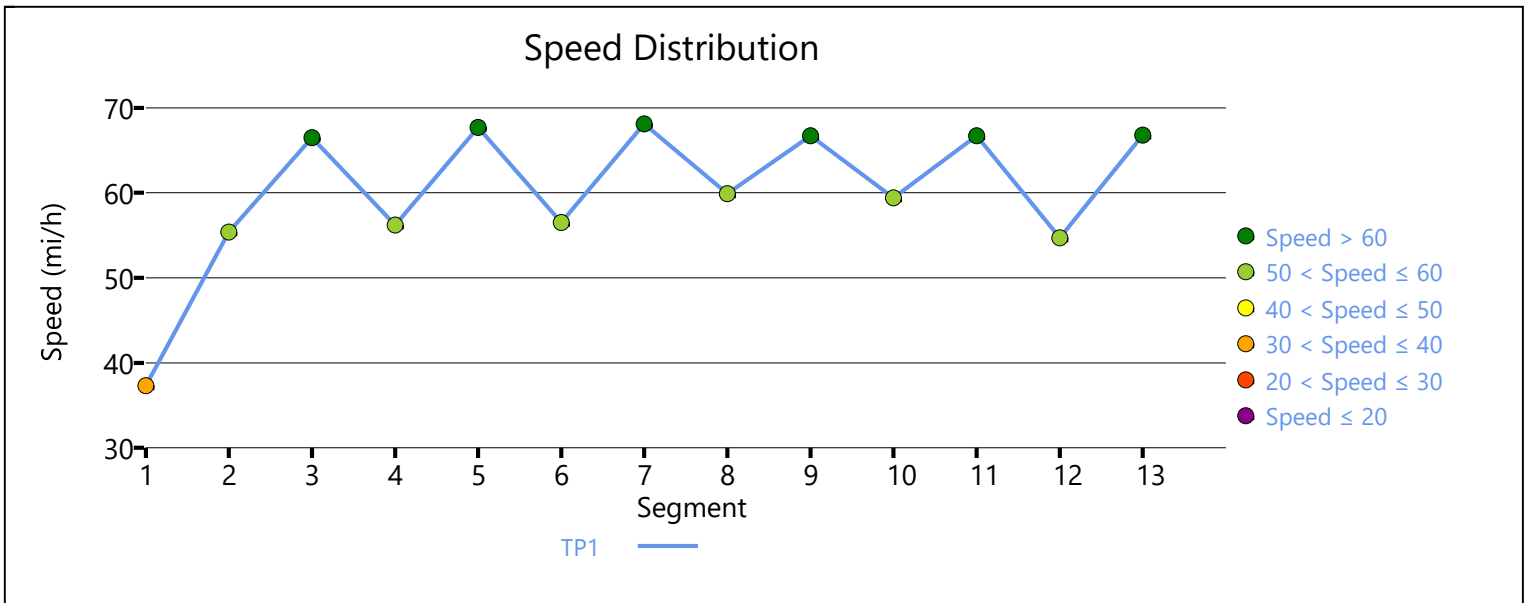
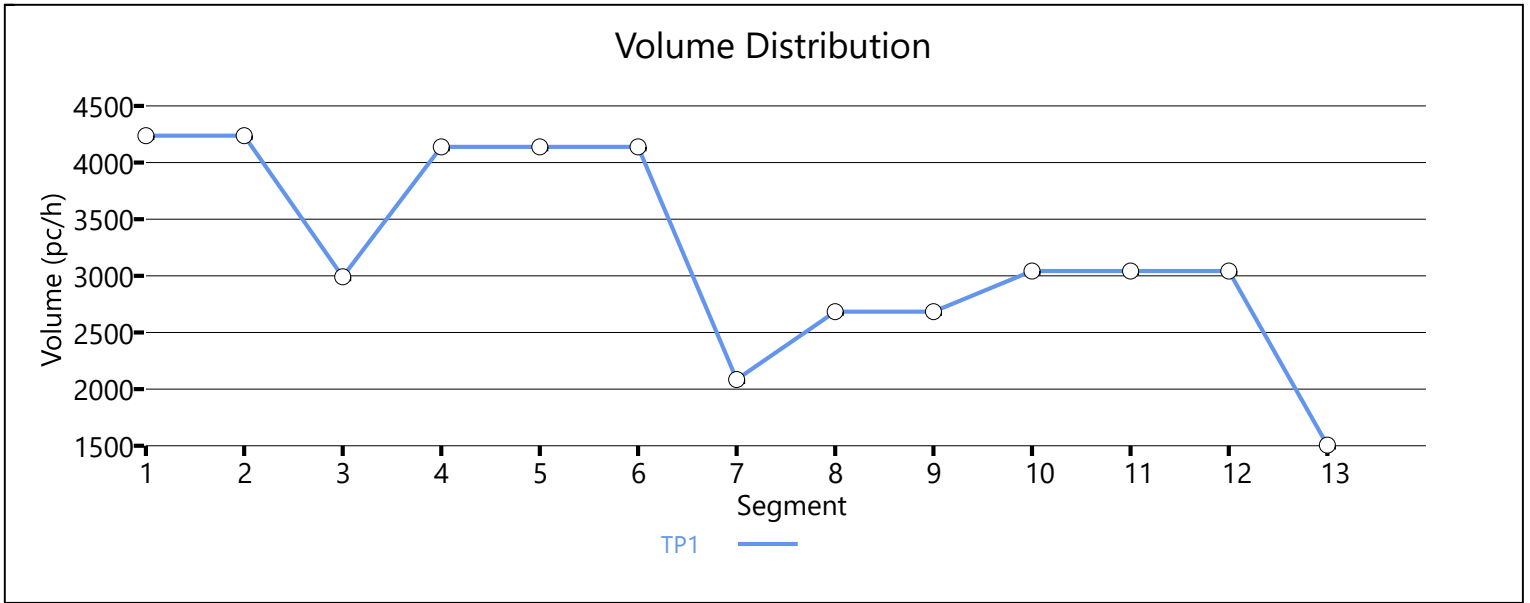
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.94		0.877		4236		4612		0.99		37.3		56.8		F

### Segment 2: 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	Freeway	Ramp	
1	0.94	0.94	0.877	0.980	4236	1244	4550	1936	0.93	0.64	55.4	55.4	38.2	33.8	F

Segment 3: Basic																
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS	
1	0.94		0.877		2992		4612		0.69		66.5		22.4		C	
Segment 4: 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	Freeway	Ramp		
1	0.94	0.94	0.877	0.962	4138	1146	4550	1936	0.91	0.59	56.2	56.2	36.8	28.7	D	
Segment 5: Basic																
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS	
1	0.94		0.781		4138		6917		0.72		67.7		20.4		C	
Segment 6: 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	Freeway	Ramp		
1	0.94	0.94	0.877	0.820	4138	2054	6824	3872	0.61	0.53	56.5	51.8	24.4	16.5	B	
Segment 7: Basic																
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS	
1	0.94		0.952		2084		4612		0.50		68.1		15.3		B	
Segment 8: 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	Freeway	Ramp		
1	0.94	0.94	0.952	0.980	2685	601	4550	1936	0.59	0.31	59.9	59.9	22.4	20.5	C	
Segment 9: Basic																
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS	
1	0.94		0.952		2685		4612		0.63		66.7		19.8		C	
Segment 10: 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	Freeway	Ramp		
1	0.94	0.94	0.952	0.943	3043	358	4550	2130	0.67	0.17	59.4	59.4	25.6	25.3	C	
Segment 11: Basic																
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS	
1	0.94		0.952		3043		4612		0.71		66.7		22.8		C	
Segment 12: 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	Freeway	Ramp		

1	0.94	0.94	0.962	0.962	3043	1536	4550	1936	0.67	0.79	54.7	54.7	27.8	28.4	D		
Segment 13: Basic																	
AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS									
1	0.94	0.962	1507	4612	0.37	66.8	11.0	B									
Facility Analysis Results																	
AP	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS												
1	59.6	24.0	20.9	5.60	F												
Facility Overall Results																	
Space Mean Speed, mi/h			59.6			Density, veh/mi/ln			20.9								
Average Travel Time, min			5.60			Density, pc/mi/ln			24.0								
Messages																	
WARNING 1				Oversaturated conditions currently exist in boundary analysis period 1. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.													
WARNING 2				Queue extends past the beginning of the facility on analysis period 1. Consider expanding the length of the facility to account for these vehicles performance and affect on upstream segments.													
Comments																	



# HCS7 Freeway Facilities Report

## Project Information

Analyst	KCole	Date	06/01/2022
Agency	CDM Smith	Analysis Year	2050 Alternative 2 8-Lane Geometry
Jurisdiction	SCDOT	Time Analyzed	AM DHV
Project Description	I-526 Long Point Road Interchange IMR/IJR	Units	U.S. Customary

## Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	15
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	5.69		

## Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	EB - Btw Clements Ferry and Seven Farms	1973	3
2	Diverge	Diverge	EB Diverge - Seven Farms Off Ramp	1500	3
3	Basic	Basic	EB - Btw Seven Farms Off and On Ramps	980	3
4	Merge	Merge	EB Merge - Seven Farms On Ramp	1500	3
5	Basic	Basic	EB - Between Seven Farms and Truck Lane	9250	4
6	Diverge	Basic	EB Diverge - Truck Lane Begin	1500	4
7	Basic	Basic	EB - Truck Lane	2200	3
8	Diverge	Diverge	EB Diverge - Long Point Off Ramp	1500	3
9	Basic	Basic	EB - Btw Long Point Off and On Ramp	1420	3
10	Merge	Merge	EB Merge - Long Point on Ramp (Cloverleaf)	1500	3
11	Basic	Basic	EB - Btw Long Point On Ramps	625	3
12	Merge	Merge	EB Merge - Long Point On Ramp	1500	3
13	Basic	Basic	EB - Btw Long Point and US 17	1816	3
14	Diverge	Diverge	EB Diverge - US 17 Off Ramp	1500	3
15	Basic	Basic	EB - Btw US 17 Off Ramps	1273	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	0.94	0.877	6486	6917	0.94	55.3	39.1	E

### Segment 2: Diverge

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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	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.877	0.980	6486	1709	6824	1936	0.95	0.88	58.9	54.3	36.7	33.4	D
<b>Segment 3: Basic</b>															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio	Speed (mi/h)		Density (pc/mi/ln)		LOS	
1	0.94		0.877		4577		6917		0.66	66.7		22.9		C	
<b>Segment 4: Merge</b>															
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	Freeway	Ramp	
1	0.94	0.94	0.877	0.962	6150	1573	6824	1936	0.90	0.81	56.7	54.3	36.2	30.5	D
<b>Segment 5: Basic</b>															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio	Speed (mi/h)		Density (pc/mi/ln)		LOS	
1	0.94		0.781		7076		9223		0.77	63.6		27.8		D	
<b>Segment 6: Diverge</b>															
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	Freeway	Ramp	
1	0.94	0.94	0.877	0.513	6302	1682	9223	1936	0.68	0.87	66.2	66.2	23.8	23.8	C
<b>Segment 7: Basic</b>															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio	Speed (mi/h)		Density (pc/mi/ln)		LOS	
1	0.94		0.952		4899		6917		0.71	65.5		24.9		C	
<b>Segment 8: Diverge</b>															
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	Freeway	Ramp	
1	0.94	0.94	0.952	0.980	4899	1677	6824	2033	0.72	0.83	60.2	56.1	27.1	21.6	C
<b>Segment 9: Basic</b>															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio	Speed (mi/h)		Density (pc/mi/ln)		LOS	
1	0.94		0.952		3172		6917		0.46	67.4		15.5		B	
<b>Segment 10: Merge</b>															
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	Freeway	Ramp	
1	0.94	0.94	0.952	0.980	3998	826	6824	1936	0.59	0.43	61.5	59.8	21.7	20.8	C
<b>Segment 11: Basic</b>															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio	Speed (mi/h)		Density (pc/mi/ln)		LOS	
1	0.94		0.952		4023		6917		0.58	67.0		19.7		C	
<b>Segment 12: Merge</b>															



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	Freeway	Ramp	
1	0.94	0.94	0.952	0.943	4514	491	6824	2130	0.66	0.23	61.2	59.7	24.6	24.0	C

### Segment 13: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.952	4509	6917	0.65	66.9	22.5	C

### Segment 14: 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	Freeway	Ramp	
1	0.94	0.94	0.962	0.962	4462	1536	6824	1936	0.65	0.79	58.9	54.7	25.3	30.0	D

### Segment 15: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.962	2926	6917	0.42	67.2	14.3	B

### Facility Analysis Results

AP	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	62.3	26.6	23.1	5.50	D

### Facility Overall Results

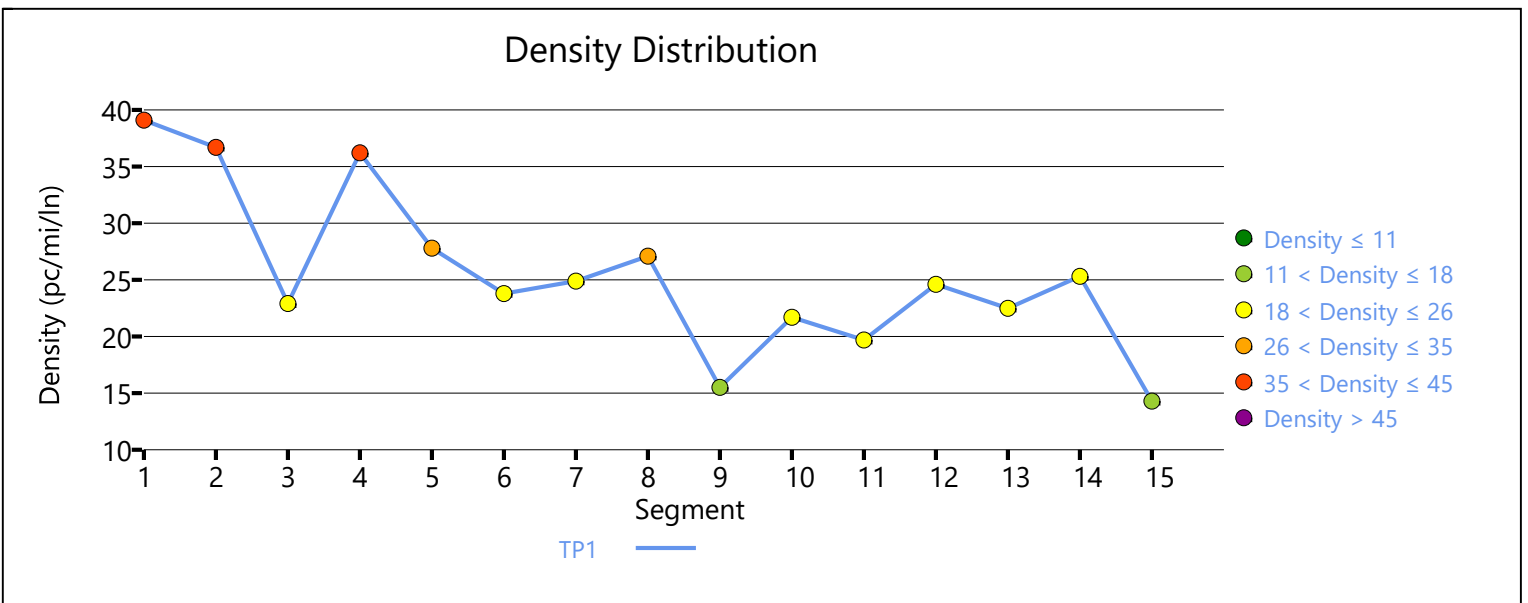
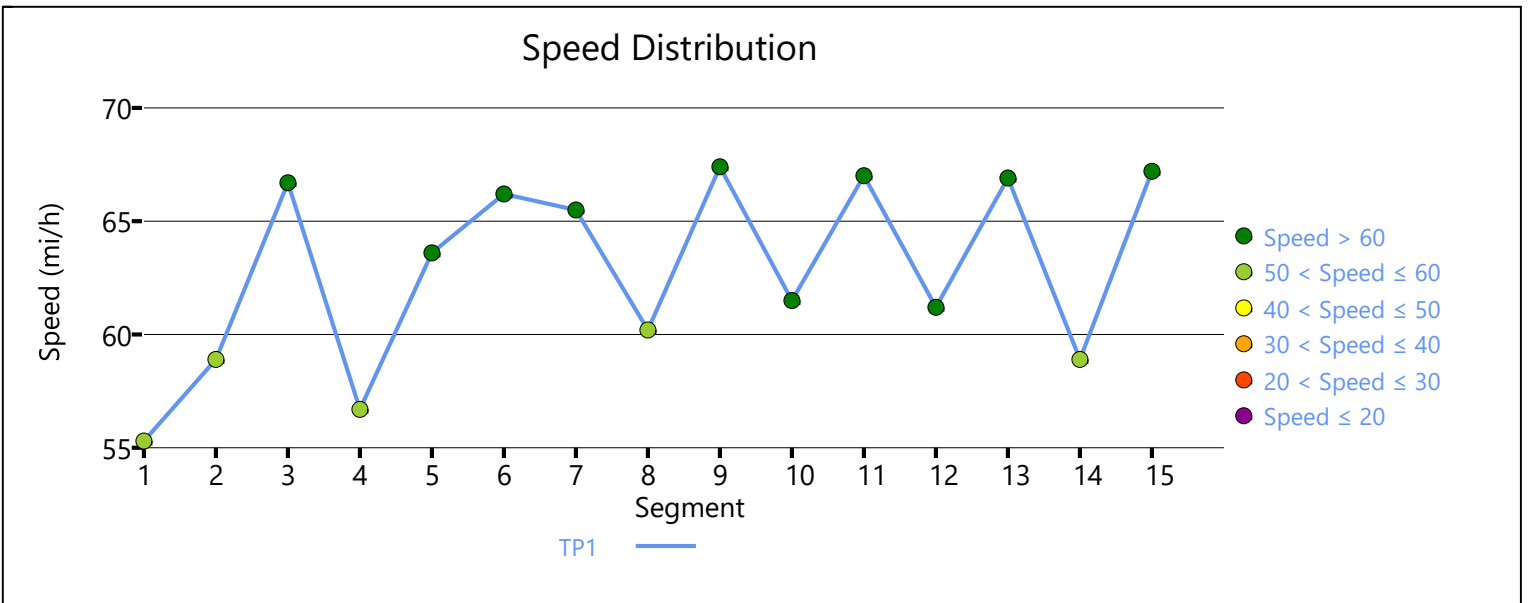
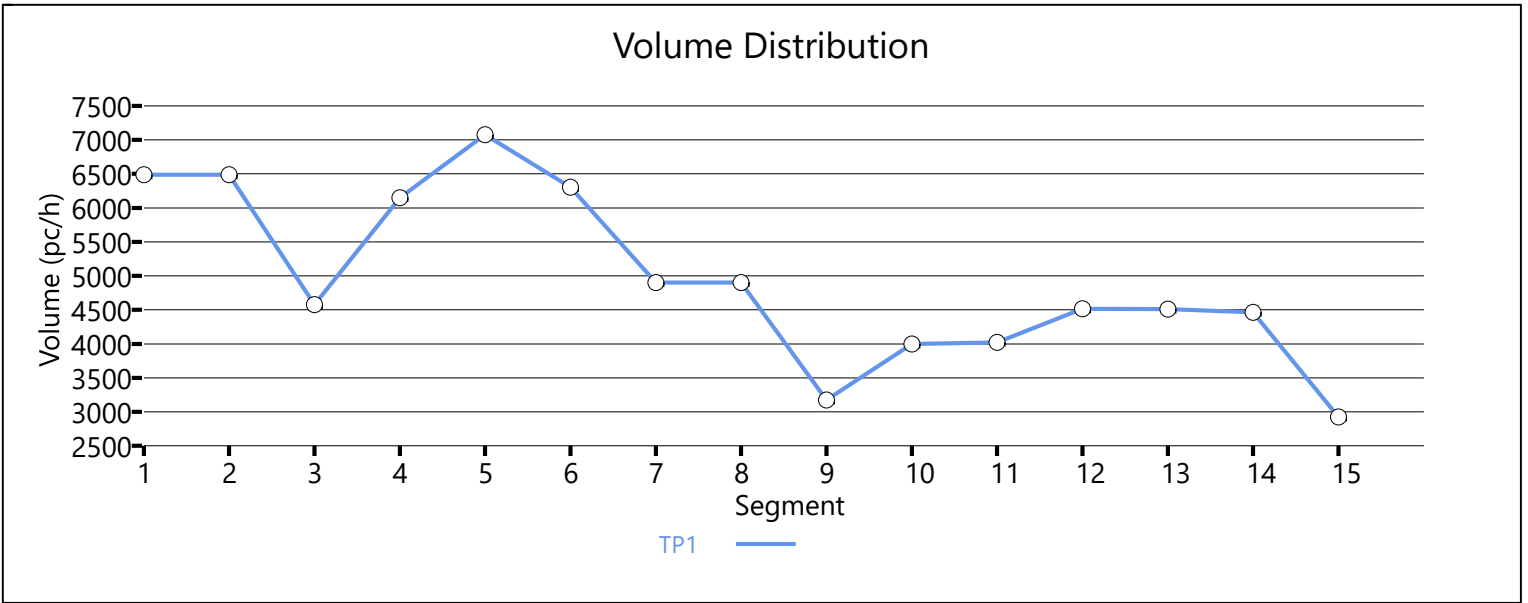
Space Mean Speed, mi/h	62.3	Density, veh/mi/ln	23.1
Average Travel Time, min	5.50	Density, pc/mi/ln	26.6

### Messages

ERROR 1	The number of trucks for segment 6 in analysis period 1 smaller than the number of trucks on off-ramp. Please verify truck percentages.
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### Comments

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# HCS7 Freeway Facilities Report

## Project Information

Analyst	KCole	Date	06/01/2022
Agency	CDM Smith	Analysis Year	2030 Alternative 2 Geometry w CD
Jurisdiction	SCDOT	Time Analyzed	PM DHV
Project Description	I-526 Long Point Road Interchange IAR	Units	U.S. Customary

## Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	13
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	5.52		

## Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	EB - Btw Clements Ferry and Seven Farms	1973	2
2	Diverge	Diverge	EB Diverge - Seven Farms Off Ramp	1500	2
3	Basic	Basic	EB - Btw Seven Farms Off and On Ramps	980	2
4	Merge	Merge	EB Merge - Seven Farms On Ramp	1500	2
5	Basic	Basic	EB - Truck Lane	8700	3
6	Diverge	Diverge	EB Diverge - Port Offramp CD Rd	1500	3
7	Basic	Basic	EB - Between CD Rd and On Ramp	4800	2
8	Merge	Merge	EB Merge - Long Point on Ramp (Cloverleaf)	1500	2
9	Basic	Basic	EB - Btw Long Point On Ramps	625	2
10	Merge	Merge	EB Merge - Long Point On Ramp	1500	2
11	Basic	Basic	EB - Btw Long Point and US 17	1816	2
12	Diverge	Diverge	EB Diverge - US 17 Off Ramp	1500	2
13	Basic	Basic	EB - Btw US 17 Off Ramps	1273	2

## Facility Segment Data

### Segment 1: Basic

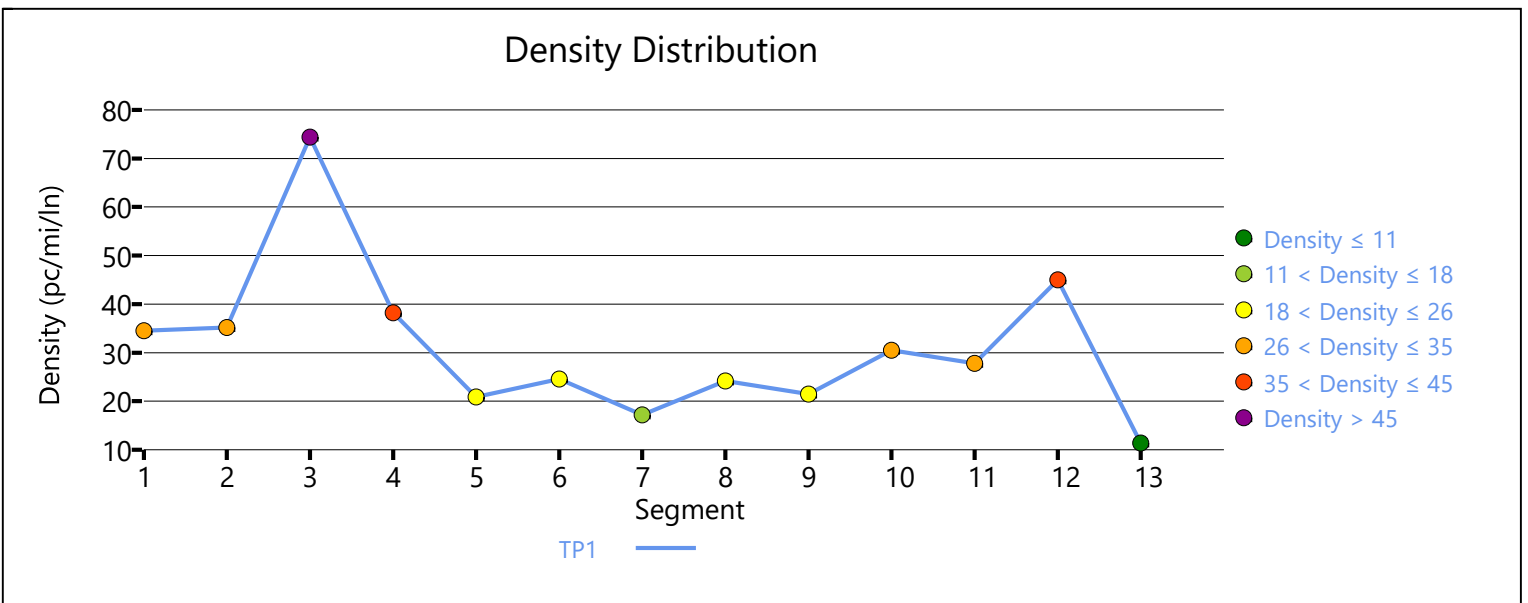
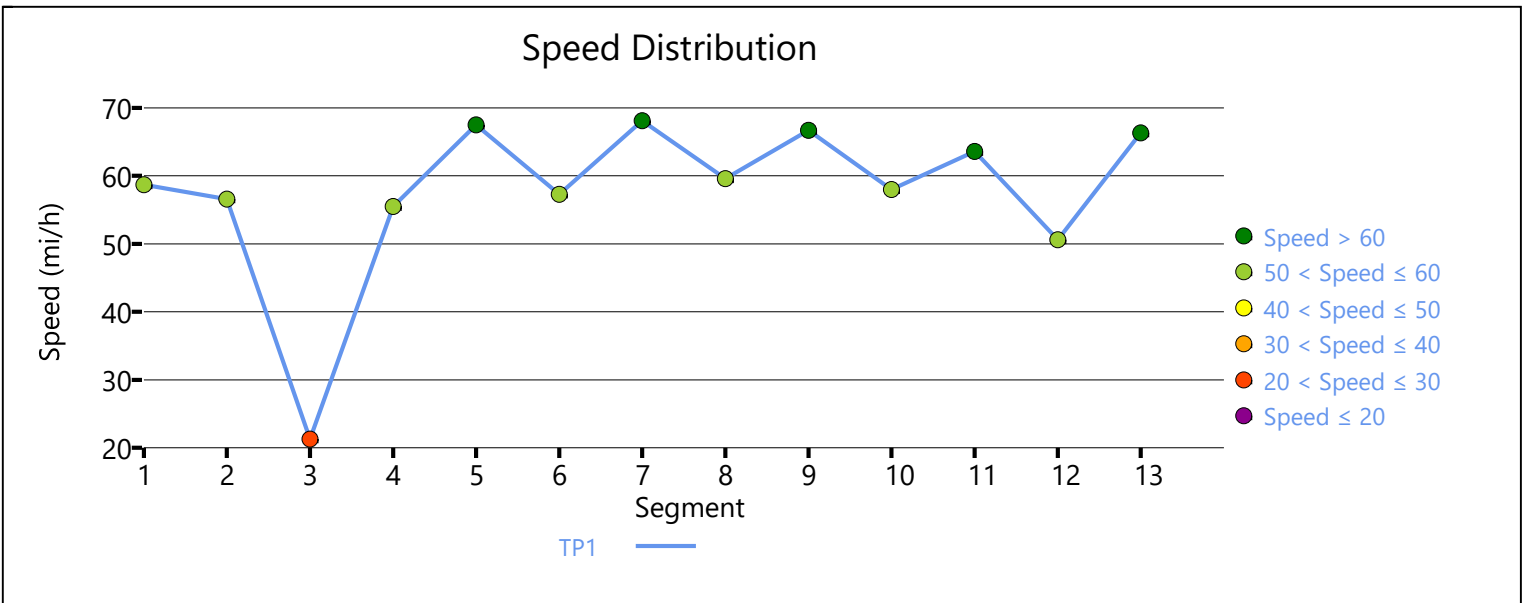
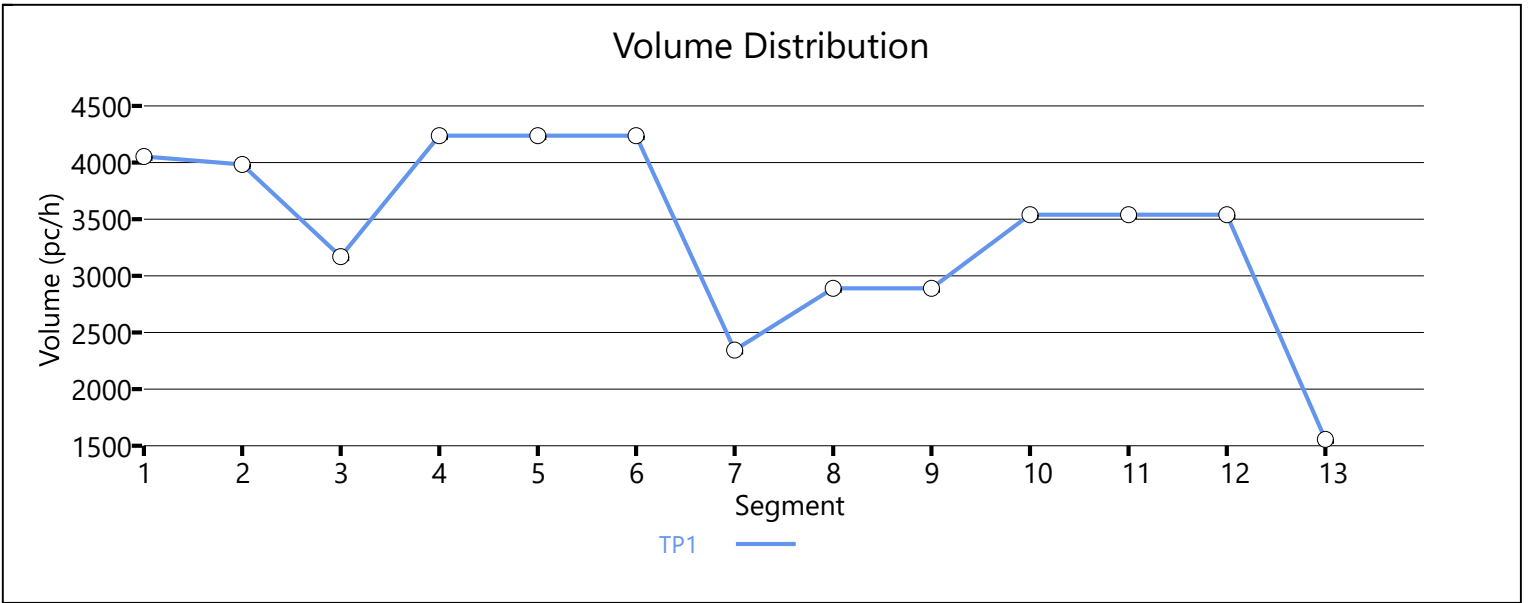
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.94		0.962		4052		4612		0.88		58.7		34.5		D

### Segment 2: 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	Freeway	Ramp	
1	0.94	0.94	0.962	0.980	3983	718	4550	1936	0.88	0.37	56.6	56.6	35.2	31.6	D

Segment 3: Basic																
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS	
1	0.94		0.962		3169		4612		0.72		21.3		74.4		F	
Segment 4: 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	Freeway	Ramp		
1	0.94	0.94	0.962	0.962	4236	1618	4550	1936	0.93	0.84	55.5	55.5	38.2	29.2	F	
Segment 5: Basic																
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS	
1	0.94		0.926		4236		6917		0.74		67.5		20.9		C	
Segment 6: 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	Freeway	Ramp		
1	0.94	0.94	0.962	0.976	4236	1892	6824	3872	0.62	0.49	57.3	52.2	24.6	16.1	B	
Segment 7: Basic																
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS	
1	0.94		0.962		2344		4612		0.66		68.1		17.2		B	
Segment 8: 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	Freeway	Ramp		
1	0.94	0.94	0.962	0.980	2890	546	4550	1936	0.64	0.28	59.6	59.6	24.2	22.1	C	
Segment 9: Basic																
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS	
1	0.94		0.962		2890		4612		0.78		66.7		21.5		C	
Segment 10: 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	Freeway	Ramp		
1	0.94	0.94	0.962	0.980	3540	650	4550	2130	0.78	0.31	58.0	58.0	30.5	29.0	D	
Segment 11: Basic																
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS	
1	0.94		0.962		3540		4612		0.92		63.6		27.8		D	
Segment 12: 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	Freeway	Ramp		

1	0.94	0.94	0.962	0.962	3540	1984	4550	1936	0.78	1.02	50.6	53.7	45.0	32.7	F
Segment 13: Basic															
AP	PHF	fHV	Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio	Speed (mi/h)		Density (pc/mi/ln)		LOS			
1	0.94	0.962	1556		4612		0.49	66.3		11.4		B			
Facility Analysis Results															
AP	Speed, mi/h		Density, pc/mi/ln		Density, veh/mi/ln		Travel Time, min		LOS						
1	58.7		26.0		24.7		5.60		F						
Facility Overall Results															
Space Mean Speed, mi/h				58.7				Density, veh/mi/ln				24.7			
Average Travel Time, min				5.60				Density, pc/mi/ln				26.0			
Messages															
WARNING 1				Oversaturated conditions currently exist in boundary analysis period 1. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.											
WARNING 2				Diverge capacity is less than diverge demand for analysis period 1 on segment 12. This may result in an off-ramp queue affecting the mainline flow. This is not currently modeled in HCM methodologies. Use caution when reviewing results.											
Comments															



# HCS7 Freeway Facilities Report

## Project Information

Analyst	KCole	Date	06/01/2022
Agency	CDM Smith	Analysis Year	2050 Alternative 2 8-Lane Geometry
Jurisdiction	SCDOT	Time Analyzed	PM DHV
Project Description	I-526 Long Point Road Interchange IMR/IJR	Units	U.S. Customary

## Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	14
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	5.32		

## Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Diverge	Diverge	EB Diverge - Seven Farms Off Ramp	1500	3
2	Basic	Basic	EB - Btw Seven Farms Off and On Ramps	980	3
3	Merge	Merge	EB Merge - Seven Farms On Ramp	1500	3
4	Basic	Basic	EB - Between Seven Farms and Truck Lane	9250	4
5	Diverge	Diverge	EB Diverge - Truck Lane Begin	1500	4
6	Basic	Basic	EB - Truck Lane	2200	4
7	Diverge	Diverge	EB Diverge - Long Point Off Ramp	1500	4
8	Basic	Basic	EB - Btw Long Point Off and On Ramp	1420	4
9	Merge	Merge	EB Merge - Long Point on Ramp (Cloverleaf)	1500	4
10	Basic	Basic	EB - Btw Long Point On Ramps	625	4
11	Merge	Merge	EB Merge - Long Point On Ramp	1500	4
12	Basic	Basic	EB - Btw Long Point and US 17	1816	4
13	Diverge	Diverge	EB Diverge - US 17 Off Ramp	1500	4
14	Basic	Basic	EB - Btw US 17 Off Ramps	1273	4

## Facility Segment Data

### Segment 1: 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	Freeway	Ramp	
1	0.94	0.94	0.962	0.980	5602	986	6824	1936	0.82	0.51	60.5	56.0	30.9	28.7	D

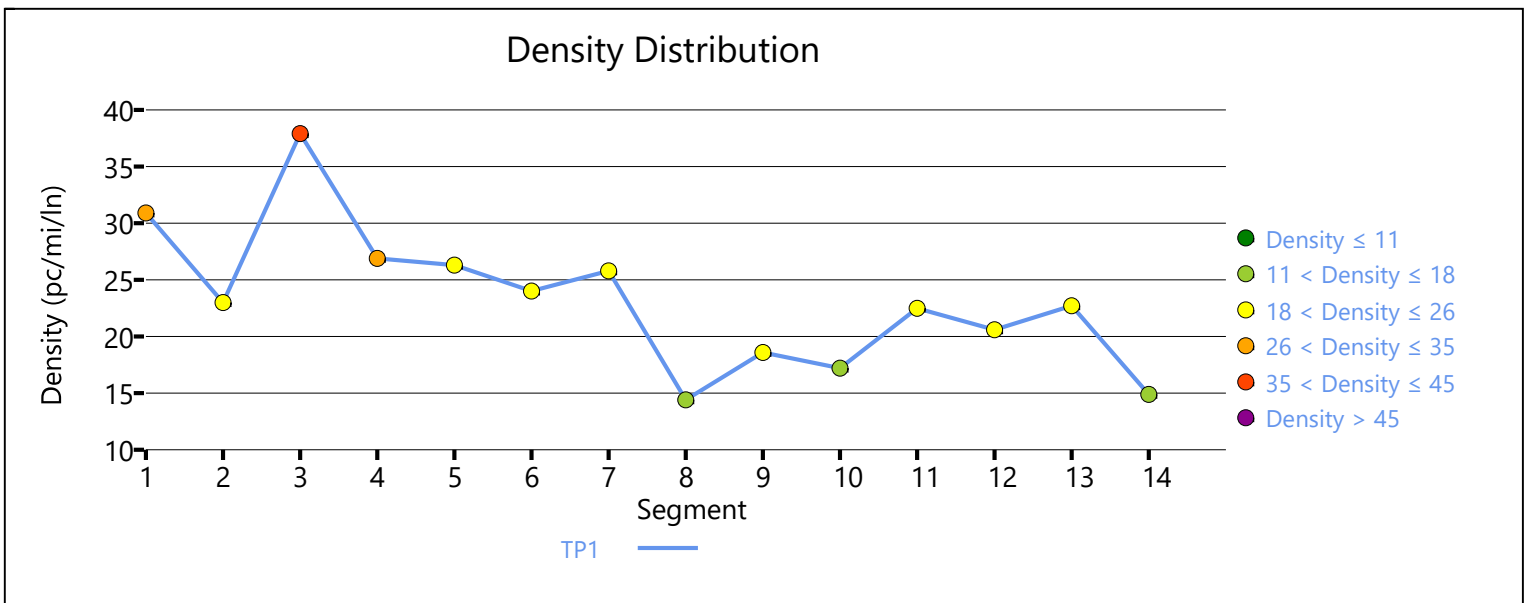
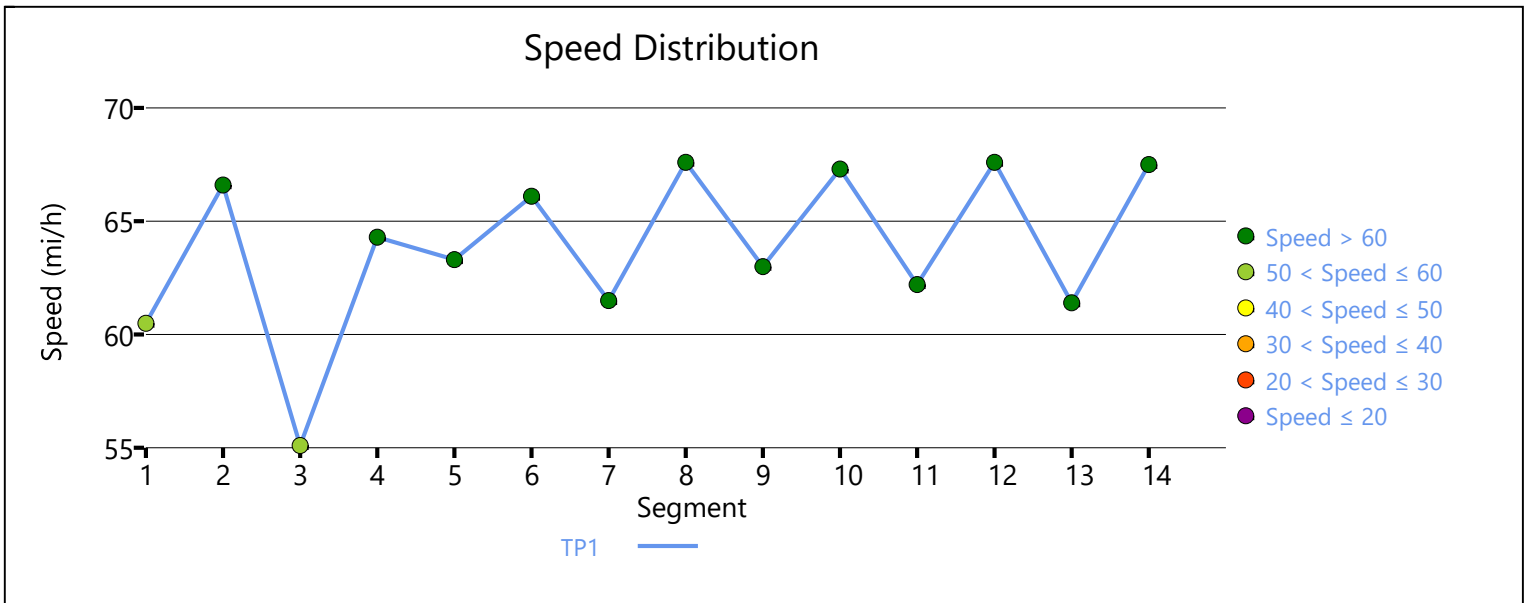
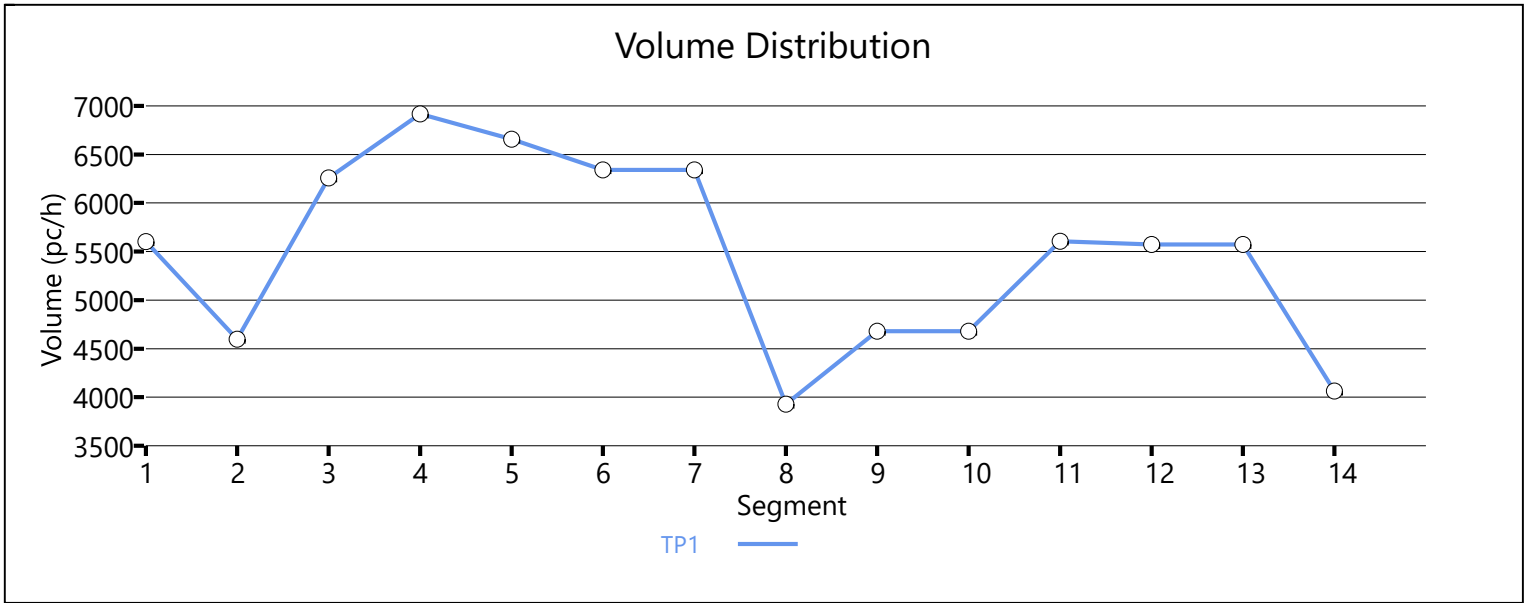
### Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.962	4598	6917	0.66	66.6	23.0	C

Segment 3: 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	Freeway	Ramp	
1	1.00	1.00	0.962	0.962	6258	1936	6824	1936	0.92	1.08	55.1	52.5	37.9	31.9	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
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94		0.926		6916		9223		0.75		64.3		26.9		D
Segment 5: 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	Freeway	Ramp	
1	0.94	0.94	0.962	0.513	6657	369	9099	1936	0.73	0.19	63.3	55.8	26.3	18.4	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
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94		0.980		6342		9223		0.69		66.1		24.0		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	Freeway	Ramp	
1	0.94	0.94	0.980	0.980	6342	2413	9099	4066	0.70	0.59	61.5	54.3	25.8	20.3	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	Freeway	Ramp	
1	0.94		0.980		3929		9223		0.43		67.6		14.4		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	Freeway	Ramp	
1	0.94	0.94	0.980	0.980	4679	750	9099	1936	0.51	0.39	63.0	60.4	18.6	17.6	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
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94		0.980		4679		9223		0.51		67.3		17.2		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	Freeway	Ramp	
1	0.94	0.94	0.980	0.943	5607	928	9099	2130	0.62	0.44	62.2	59.8	22.5	23.1	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
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	



1	0.94	0.980	5572	9223	0.60	67.6	20.6	C							
<b>Segment 13: Diverge</b>															
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	Freeway	Ramp	
1	0.94	0.94	0.980	0.980	5572	1508	9099	1936	0.61	0.78	61.4	54.8	22.7	30.5	D
<b>Segment 14: Basic</b>															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.94	0.980	4064	9223	0.44	67.5	14.9	B							
<b>Facility Analysis Results</b>															
AP	Speed, mi/h		Density, pc/mi/ln		Density, veh/mi/ln		Travel Time, min		LOS						
1	63.6		24.3		23.2		5.00		C						
<b>Facility Overall Results</b>															
Space Mean Speed, mi/h			63.6			Density, veh/mi/ln			23.2						
Average Travel Time, min			5.00			Density, pc/mi/ln			24.3						
<b>Messages</b>															
WARNING 1			Beginning and ending the facility with a basic freeway segment is highly recommended. Use caution when interpreting results of a Freeway Facility without a basic segment bounding the beginning and end of the facility.												
WARNING 2			Merge capacity is less than merge demand for analysis period 1 on segment 3.												
<b>Comments</b>															



I-526

Westbound

# HCS7 Freeway Facilities Report

## Project Information

Analyst	KCole	Date	06/01/2022
Agency	CDM Smith	Analysis Year	2030 WB Existing Geometry
Jurisdiction	SCDOT	Time Analyzed	AM DHV
Project Description	I-526 Long Point Road Interchange IMR/IJR	Units	U.S. Customary

## Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	17
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	6.19		

## Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	WB - US 17	2600	2
2	Merge	Merge	WB Merge - US 17 On Ramp	1500	2
3	Basic	Basic	WB Btw Mathis Ferry and Long Point	2455	2
4	Diverge	Diverge	WB Diverge - Long Point Off Ramp	1500	2
5	Basic	Basic	WB - Long Point btw Off and On Ramp	1400	2
6	Merge	Merge	WB Merge - Long Point On Ramp (Cloverleaf)	1500	2
7	Basic	Basic	WB Btw Long Point On Ramps	320	2
8	Merge	Merge	WB Merge - Long Point On Ramp	1500	2
9	Basic	Basic	WB - Long Point to Truck Climbing Lane	6038	2
10	Diverge	Diverge	WB Diverge - Truck Lane Begin	1500	2
11	Basic	Basic	WB - Wando Bridge Truck Climbing Lane	1900	3
12	Merge	Merge	WB Merge - Truck Lane End	1500	2
13	Basic	Basic	WB - Truck Climbing Lane to Seven Farms	1817	2
14	Diverge	Diverge	WB Diverge - Seven Farms Off Ramp	1500	2
15	Basic	Basic	WB Btw Off and On Ramps	920	2
16	Merge	Merge	WB Merge - Seven Farms On Ramp	1500	2
17	Basic	Basic	WB Btw Seven Farms and Clements Ferry	3215	2

## 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	0.94	0.962	1695	4612	0.37	68.2	12.4	B

### Segment 2: 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	Freeway	Ramp	
1	0.94	0.94	0.962	0.971	3478	1783	4550	1839	0.76	0.97	57.1	57.1	30.5	29.3	D
<b>Segment 3: Basic</b>															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.94		0.962		3478		4612		0.76		64.1		27.1		D
<b>Segment 4: Diverge</b>															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.94	0.94	0.962	0.952	3429	1039	4550	2130	0.75	0.49	60.9	60.9	28.2	31.4	D
<b>Segment 5: Basic</b>															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.94		0.962		2166		4612		0.53		15.2		71.3		F
<b>Segment 6: Merge</b>															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.94	0.94	0.962	0.495	3197	1466	4550	1839	0.86	0.80	19.3	56.1	82.9	29.3	F
<b>Segment 7: Basic</b>															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.94		0.877		3167		4612		0.77		17.6		89.8		F
<b>Segment 8: Merge</b>															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.94	0.94	0.877	0.980	4236	1777	4550	1936	0.93	0.92	54.8	54.8	38.6	31.4	F
<b>Segment 9: Basic</b>															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.94		0.877		4236		4612		1.20		56.5		37.5		F
<b>Segment 10: Diverge</b>															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.94	0.94	0.781	0.385	4236	1161	4550	2130	0.93	0.54	60.6	60.6	35.0	28.1	F
<b>Segment 11: Basic</b>															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.94		0.909		3075		6917		0.70		67.7		15.0		B

Segment 12: 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	Freeway	Ramp	
1	0.94	0.94	0.952	0.556	3879	804	4550	2130	0.85	0.38	58.8	58.8	33.0	26.7	F

Segment 13: 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	Freeway	Ramp	
1	0.94		0.877		3879		4612		1.20		60.6		32.0		F

Segment 14: 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	Freeway	Ramp	
1	0.94	0.94	0.877	0.962	3879	1230	4550	2033	0.85	0.60	58.8	58.8	33.0	30.4	F

Segment 15: 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	Freeway	Ramp	
1	0.94		0.877		2649		4612		0.90		66.9		19.5		C

Segment 16: 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	Freeway	Ramp	
1	0.94	0.94	0.877	0.980	3370	721	4550	2033	0.74	0.35	60.0	60.0	28.1	22.8	F

Segment 17: 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	Freeway	Ramp	
1	0.94		0.877		3370		4612		1.08		64.9		26.0		F

### Facility Analysis Results

AP	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	50.1	33.3	30.3	7.40	F

### Facility Overall Results

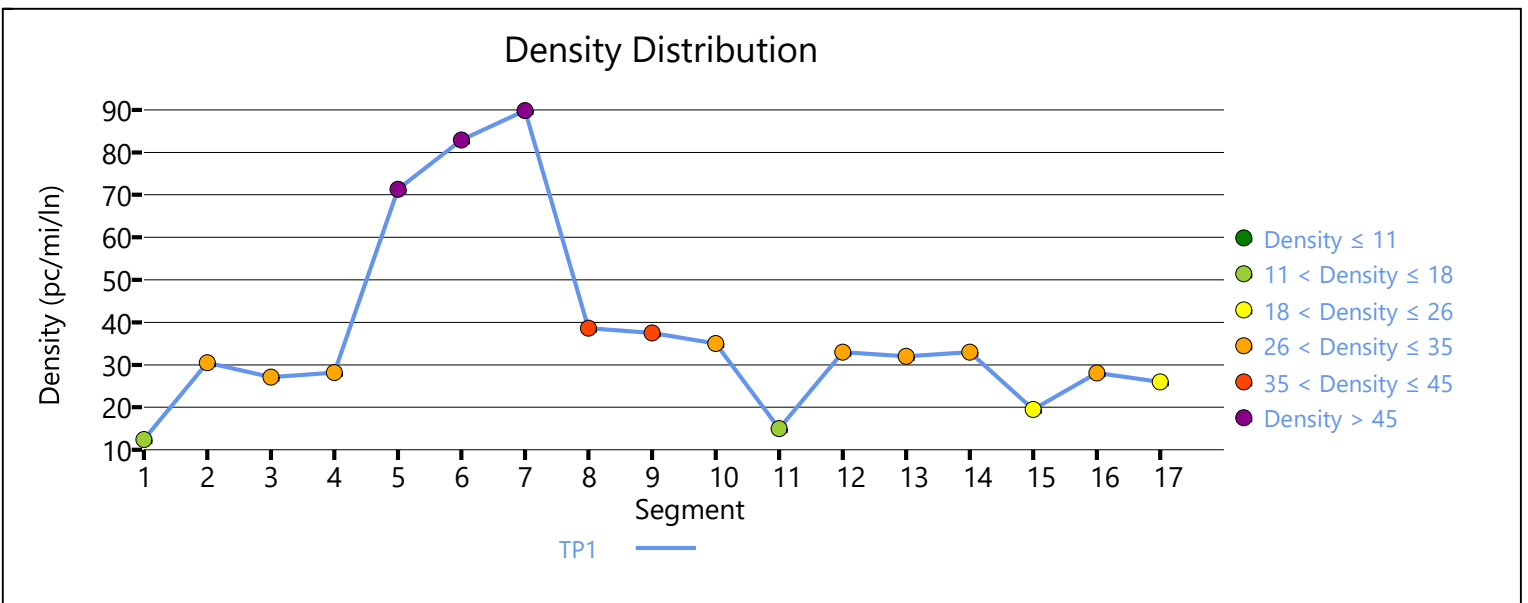
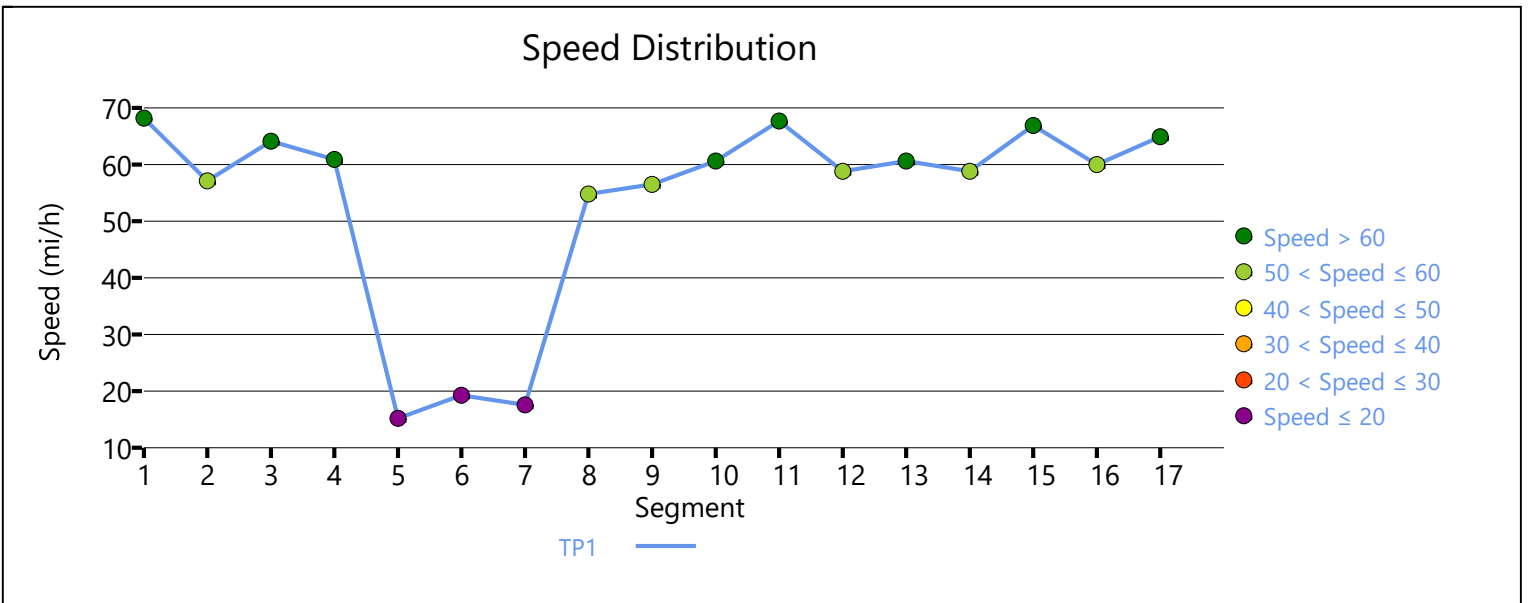
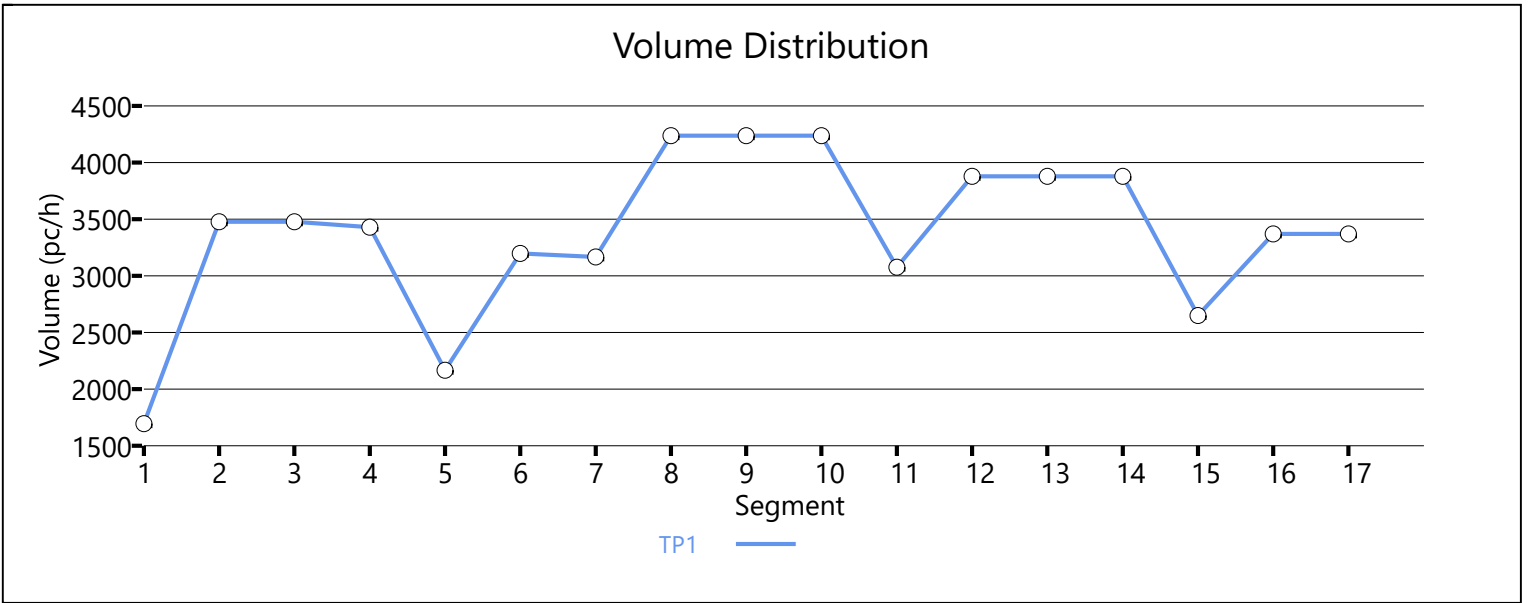
Space Mean Speed, mi/h	50.1	Density, veh/mi/ln	30.3
Average Travel Time, min	7.40	Density, pc/mi/ln	33.3

### Messages

WARNING 1	Oversaturated conditions currently exist in boundary segment 17. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.
WARNING 2	Oversaturated conditions currently exist in boundary analysis period 1. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.

### Comments

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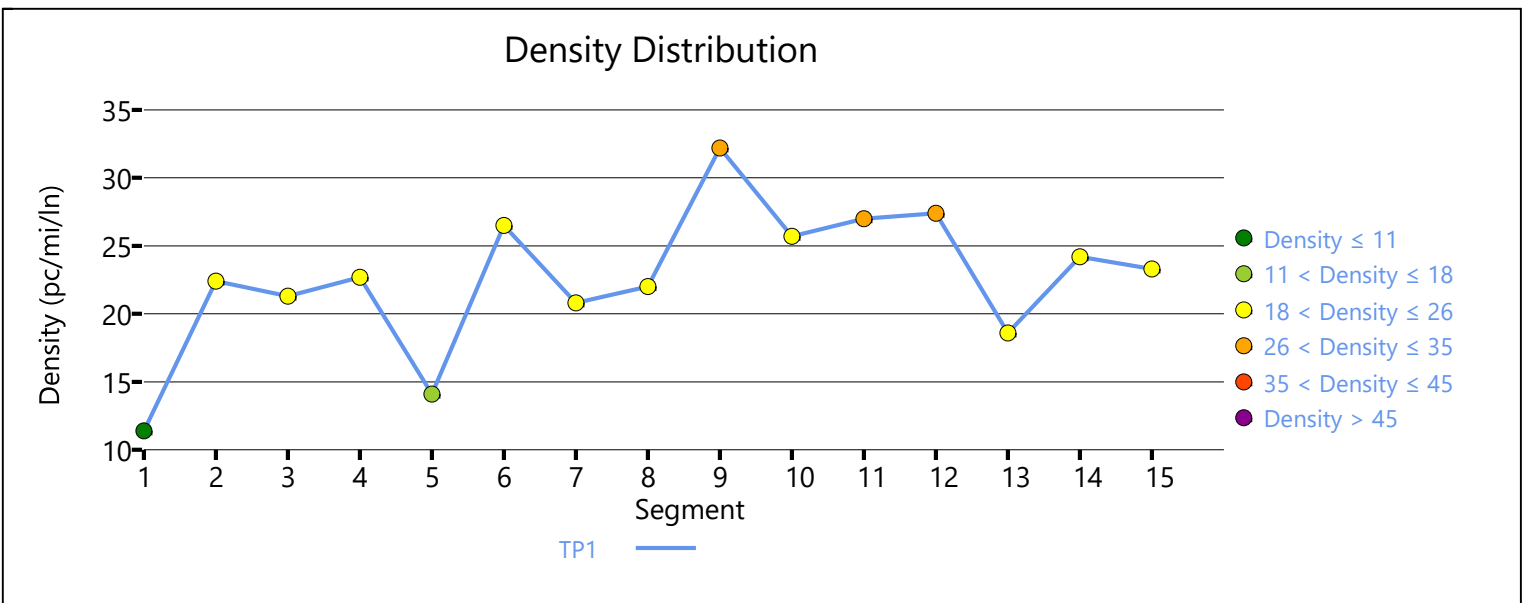
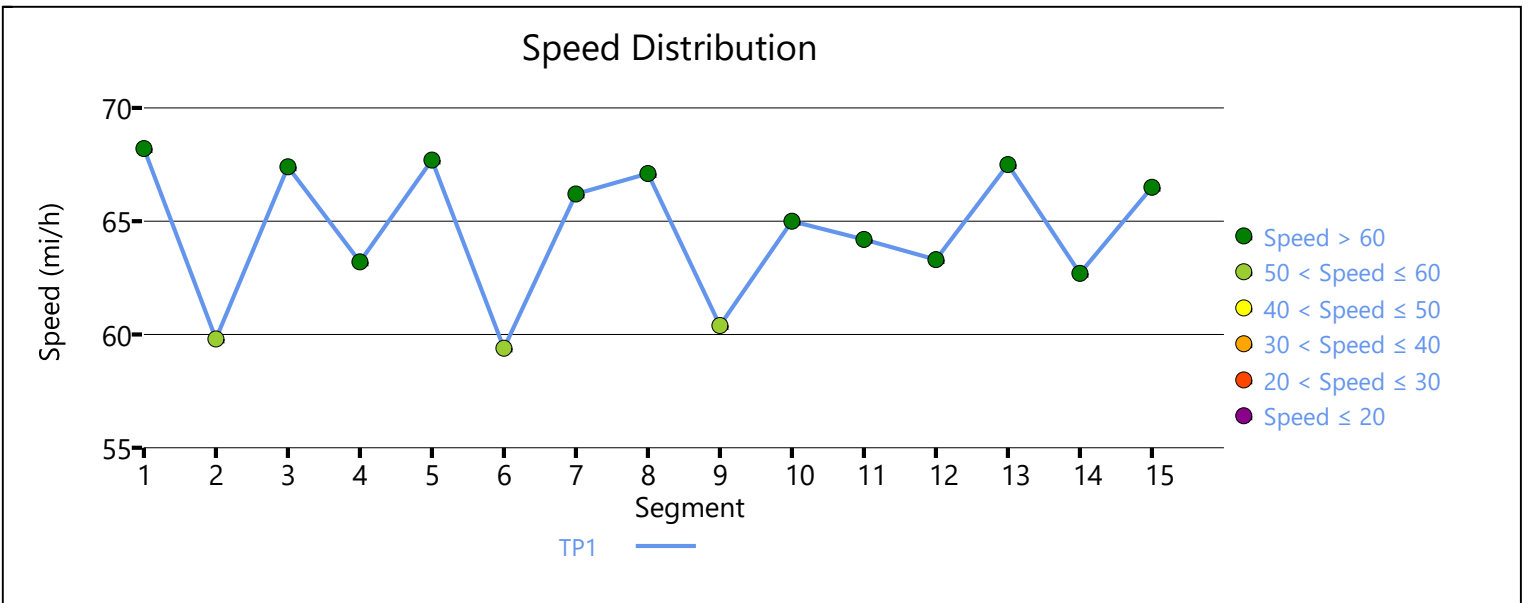
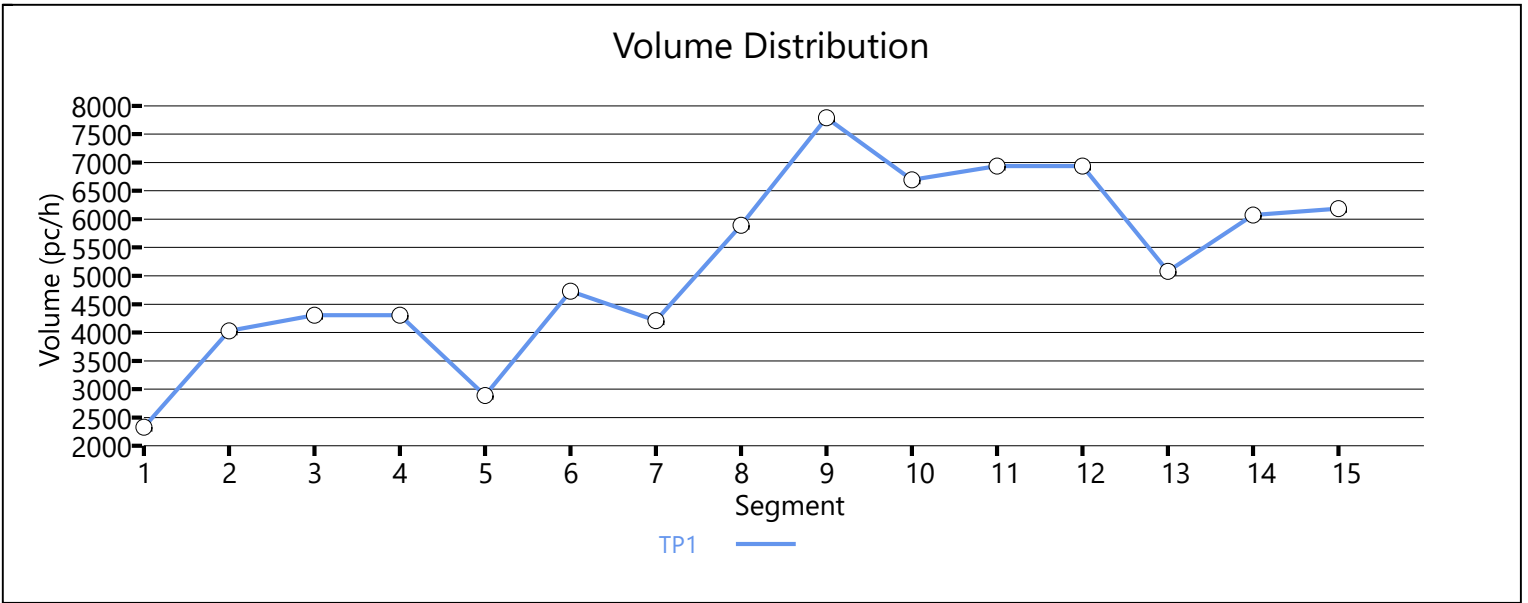






1	1.00	1.00	0.962	0.971	4027	1839	6824	1839	0.59	1.25	59.8	58.1	22.4	26.6	C
<b>Segment 3: Basic</b>															
<b>AP</b>	<b>PHF</b>		<b>fHV</b>		<b>Flow Rate (pc/h)</b>		<b>Capacity (pc/h)</b>		<b>d/c Ratio</b>		<b>Speed (mi/h)</b>		<b>Density (pc/mi/ln)</b>		<b>LOS</b>
1	0.94		0.962		4303		6917		0.62		67.4		21.3		C
<b>Segment 4: Diverge</b>															
<b>AP</b>	<b>PHF</b>		<b>fHV</b>		<b>Flow Rate (pc/h)</b>		<b>Capacity (pc/h)</b>		<b>d/c Ratio</b>		<b>Speed (mi/h)</b>		<b>Density (pc/mi/ln)</b>		<b>LOS</b>
	<b>F</b>	<b>R</b>	<b>F</b>	<b>R</b>	<b>Freeway</b>	<b>Ramp</b>	<b>Freeway</b>	<b>Ramp</b>	<b>F</b>	<b>R</b>	<b>F</b>	<b>R</b>	<b>Freeway</b>	<b>Ramp</b>	
1	0.94	0.94	0.962	0.952	4303	1428	6824	2130	0.63	0.67	63.2	59.9	22.7	28.8	D
<b>Segment 5: Basic</b>															
<b>AP</b>	<b>PHF</b>		<b>fHV</b>		<b>Flow Rate (pc/h)</b>		<b>Capacity (pc/h)</b>		<b>d/c Ratio</b>		<b>Speed (mi/h)</b>		<b>Density (pc/mi/ln)</b>		<b>LOS</b>
1	0.94		0.962		2890		6917		0.42		67.7		14.1		B
<b>Segment 6: Merge</b>															
<b>AP</b>	<b>PHF</b>		<b>fHV</b>		<b>Flow Rate (pc/h)</b>		<b>Capacity (pc/h)</b>		<b>d/c Ratio</b>		<b>Speed (mi/h)</b>		<b>Density (pc/mi/ln)</b>		<b>LOS</b>
	<b>F</b>	<b>R</b>	<b>F</b>	<b>R</b>	<b>Freeway</b>	<b>Ramp</b>	<b>Freeway</b>	<b>Ramp</b>	<b>F</b>	<b>R</b>	<b>F</b>	<b>R</b>	<b>Freeway</b>	<b>Ramp</b>	
1	0.94	0.94	0.962	0.495	4729	1839	6824	1839	0.69	1.28	59.4	57.6	26.5	26.4	C
<b>Segment 7: Basic</b>															
<b>AP</b>	<b>PHF</b>		<b>fHV</b>		<b>Flow Rate (pc/h)</b>		<b>Capacity (pc/h)</b>		<b>d/c Ratio</b>		<b>Speed (mi/h)</b>		<b>Density (pc/mi/ln)</b>		<b>LOS</b>
1	0.94		0.877		4208		6917		0.61		66.2		20.8		C
<b>Segment 8: Merge</b>															
<b>AP</b>	<b>PHF</b>		<b>fHV</b>		<b>Flow Rate (pc/h)</b>		<b>Capacity (pc/h)</b>		<b>d/c Ratio</b>		<b>Speed (mi/h)</b>		<b>Density (pc/mi/ln)</b>		<b>LOS</b>
	<b>F</b>	<b>R</b>	<b>F</b>	<b>R</b>	<b>Freeway</b>	<b>Ramp</b>	<b>Freeway</b>	<b>Ramp</b>	<b>F</b>	<b>R</b>	<b>F</b>	<b>R</b>	<b>Freeway</b>	<b>Ramp</b>	
1	1.00	1.00	0.877	0.980	5892	1936	9223	1936	0.64	1.00	67.1	67.1	22.0	22.0	C
<b>Segment 9: Basic</b>															
<b>AP</b>	<b>PHF</b>		<b>fHV</b>		<b>Flow Rate (pc/h)</b>		<b>Capacity (pc/h)</b>		<b>d/c Ratio</b>		<b>Speed (mi/h)</b>		<b>Density (pc/mi/ln)</b>		<b>LOS</b>
1	0.94		0.781		7789		9223		0.84		60.4		32.2		D
<b>Segment 10: Basic</b>															
<b>AP</b>	<b>PHF</b>		<b>fHV</b>		<b>Flow Rate (pc/h)</b>		<b>Capacity (pc/h)</b>		<b>d/c Ratio</b>		<b>Speed (mi/h)</b>		<b>Density (pc/mi/ln)</b>		<b>LOS</b>
1	0.94		0.909		6692		9223		0.73		65.0		25.7		C
<b>Segment 11: Basic</b>															
<b>AP</b>	<b>PHF</b>		<b>fHV</b>		<b>Flow Rate (pc/h)</b>		<b>Capacity (pc/h)</b>		<b>d/c Ratio</b>		<b>Speed (mi/h)</b>		<b>Density (pc/mi/ln)</b>		<b>LOS</b>
1	0.94		0.877		6936		9223		0.75		64.2		27.0		D
<b>Segment 12: Diverge</b>															
<b>AP</b>	<b>PHF</b>		<b>fHV</b>		<b>Flow Rate (pc/h)</b>		<b>Capacity (pc/h)</b>		<b>d/c Ratio</b>		<b>Speed (mi/h)</b>		<b>Density (pc/mi/ln)</b>		<b>LOS</b>
	<b>F</b>	<b>R</b>	<b>F</b>	<b>R</b>	<b>Freeway</b>	<b>Ramp</b>	<b>Freeway</b>	<b>Ramp</b>	<b>F</b>	<b>R</b>	<b>F</b>	<b>R</b>	<b>Freeway</b>	<b>Ramp</b>	

1	0.94	0.94	0.877	0.962	6936	1691	9099	2033	0.76	0.83	63.3	57.7	27.4	31.3	D
<b>Segment 13: Basic</b>															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.94		0.877		5081		9223		0.55		67.5		18.6		C
<b>Segment 14: Merge</b>															
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	Freeway	Ramp	
1	0.94	0.94	0.877	0.980	6071	990	9099	2033	0.67	0.49	62.7	60.9	24.2	20.0	B
<b>Segment 15: Basic</b>															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.94		0.877		6188		9223		0.67		66.5		23.3		C
<b>Facility Analysis Results</b>															
AP	Speed, mi/h		Density, pc/mi/ln		Density, veh/mi/ln		Travel Time, min		LOS						
1	63.8		24.6		21.5		5.80		C						
<b>Facility Overall Results</b>															
Space Mean Speed, mi/h					63.8			Density, veh/mi/ln				21.5			
Average Travel Time, min					5.80			Density, pc/mi/ln				24.6			
<b>Messages</b>															
WARNING 1					Merge capacity is less than merge demand for analysis period 1 on segment 2.										
WARNING 2					Merge capacity is less than merge demand for analysis period 1 on segment 6.										
<b>Comments</b>															



# HCS7 Freeway Facilities Report

## Project Information

Analyst	KCole	Date	06/01/2022
Agency	CDM Smith	Analysis Year	2030 WB Existing Geometry
Jurisdiction	SCDOT	Time Analyzed	PM DHV
Project Description	I-526 Long Point Road Interchange IMR/IJR	Units	U.S. Customary

## Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	17
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	6.19		

## Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	WB - US 17	2600	2
2	Merge	Merge	WB Merge - US 17 On Ramp	1500	2
3	Basic	Basic	WB Btw Mathis Ferry and Long Point	2455	2
4	Diverge	Diverge	WB Diverge - Long Point Off Ramp	1500	2
5	Basic	Basic	WB - Long Point btw Off and On Ramp	1400	2
6	Merge	Merge	WB Merge - Long Point On Ramp (Cloverleaf)	1500	2
7	Basic	Basic	WB Btw Long Point On Ramps	320	2
8	Merge	Merge	WB Merge - Long Point On Ramp	1500	2
9	Basic	Basic	WB - Long Point to Truck Climbing Lane	6038	2
10	Diverge	Diverge	WB Diverge - Truck Lane Begin	1500	2
11	Basic	Basic	WB - Wando Bridge Truck Climbing Lane	1900	3
12	Merge	Merge	WB Merge - Truck Lane End	1500	2
13	Basic	Basic	WB - Truck Climbing Lane to Seven Farms	1817	2
14	Diverge	Diverge	WB Diverge - Seven Farms Off Ramp	1500	2
15	Basic	Basic	WB Btw Off and On Ramps	920	2
16	Merge	Merge	WB Merge - Seven Farms On Ramp	1500	2
17	Basic	Basic	WB Btw Seven Farms and Clements Ferry	3215	2

## Facility Segment Data

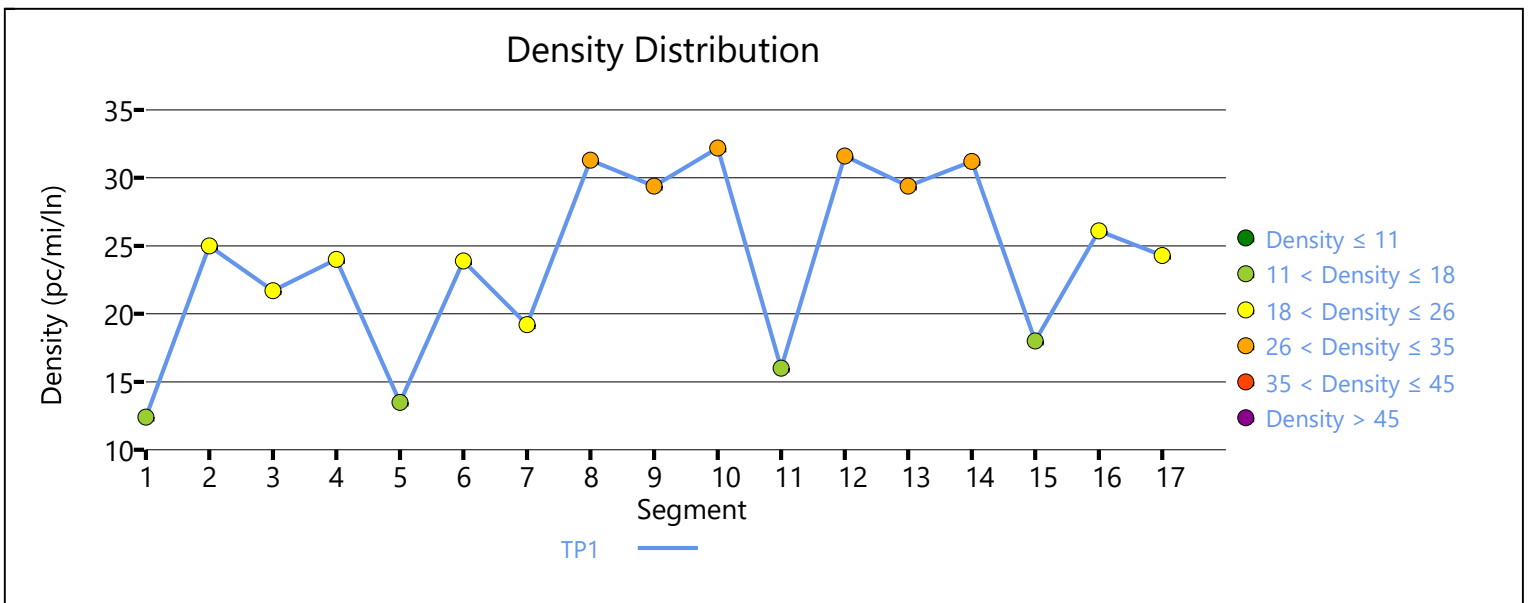
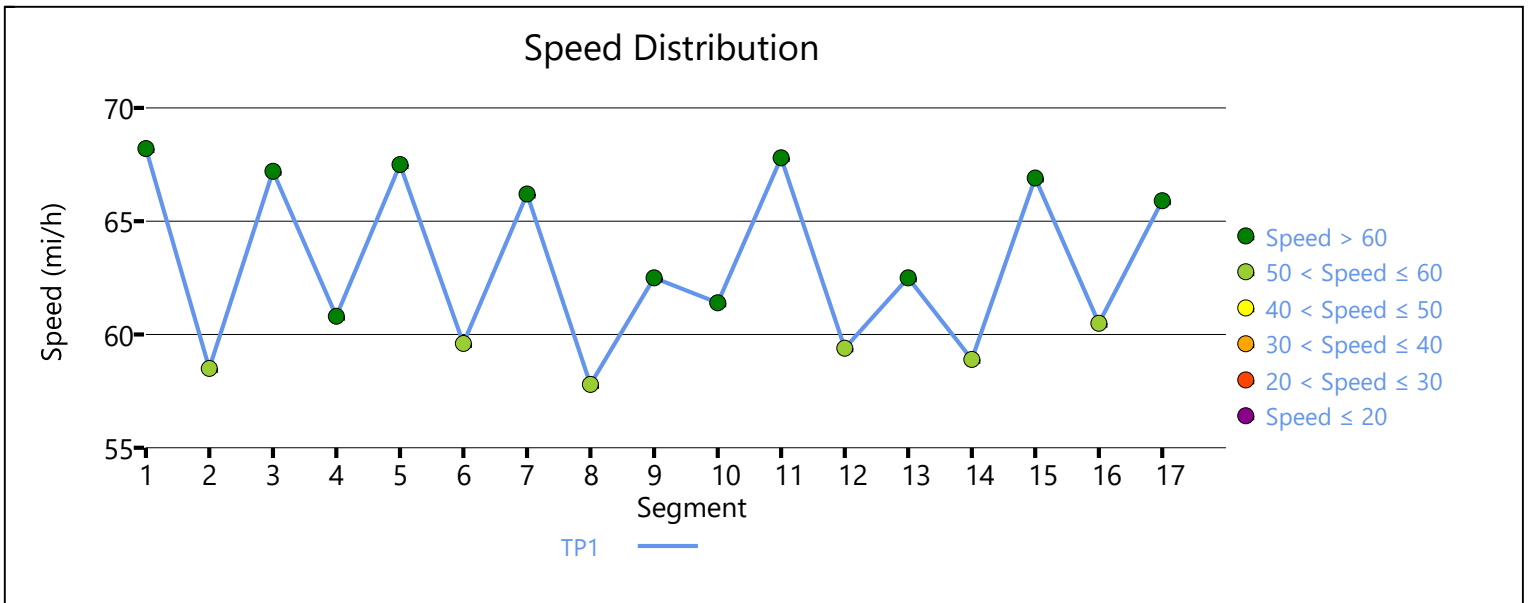
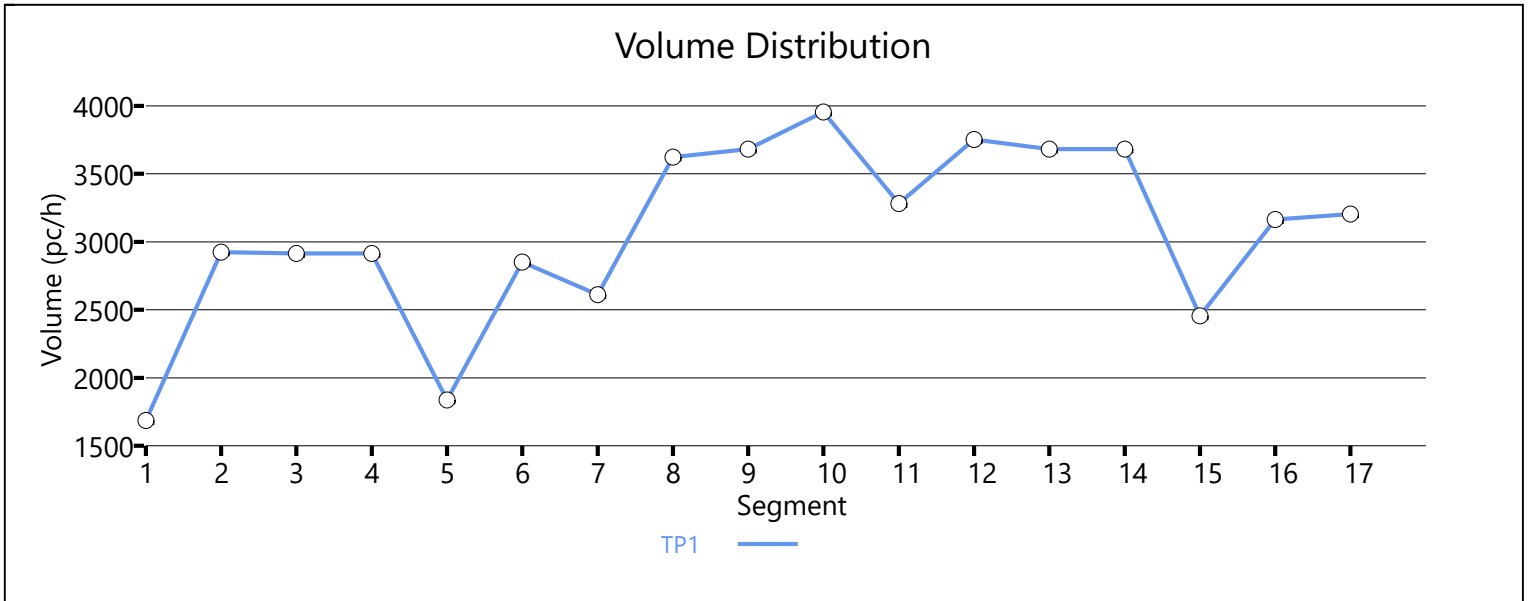
### Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	1686	4612	0.37	68.2	12.4	B

### Segment 2: 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	Freeway	Ramp	
1	0.94	0.94	0.980	0.971	2925	1239	4550	1839	0.64	0.67	58.5	58.5	25.0	25.3	C
<b>Segment 3: Basic</b>															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.94		0.980		2914		4612		0.63		67.2		21.7		C
<b>Segment 4: Diverge</b>															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.94	0.94	0.980	0.980	2914	1076	4550	2130	0.64	0.51	60.8	60.8	24.0	27.0	C
<b>Segment 5: Basic</b>															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.94		0.980		1838		4612		0.40		67.5		13.5		B
<b>Segment 6: Merge</b>															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.94	0.94	0.980	0.610	2851	1013	4550	1839	0.63	0.55	59.6	59.6	23.9	21.0	C
<b>Segment 7: Basic</b>															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.94		0.926		2612		4612		0.57		66.2		19.2		C
<b>Segment 8: Merge</b>															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.94	0.94	0.926	0.980	3622	1010	4550	1936	0.80	0.52	57.8	57.8	31.3	26.9	C
<b>Segment 9: Basic</b>															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.94		0.926		3681		4612		0.80		62.5		29.4		D
<b>Segment 10: Diverge</b>															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.94	0.94	0.862	0.385	3954	818	4550	2130	0.87	0.38	61.4	61.4	32.2	25.7	C
<b>Segment 11: Basic</b>															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.94		0.943		3281		6917		0.47		67.8		16.0		B

Segment 12: 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	Freeway	Ramp	
1	0.94	0.94	0.971	0.556	3752	566	4550	2130	0.82	0.27	59.4	59.4	31.6	25.8	C
Segment 13: 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	Freeway	Ramp	
1	0.94		0.926		3681		4612		0.80		62.5		29.4		D
Segment 14: 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	Freeway	Ramp	
1	0.94	0.94	0.926	0.962	3681	1180	4550	2033	0.81	0.58	58.9	58.9	31.2	28.7	D
Segment 15: 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	Freeway	Ramp	
1	0.94		0.926		2455		4612		0.53		66.9		18.0		B
Segment 16: 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	Freeway	Ramp	
1	0.94	0.94	0.926	0.980	3164	709	4550	2033	0.70	0.35	60.5	60.5	26.1	21.2	C
Segment 17: 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	Freeway	Ramp	
1	0.94		0.926		3205		4612		0.69		65.9		24.3		C
Facility Analysis Results															
AP	Speed, mi/h				Density, pc/mi/ln				Density, veh/mi/ln				Travel Time, min		LOS
1	62.7				24.4				22.9				5.90		C
Facility Overall Results															
Space Mean Speed, mi/h					62.7				Density, veh/mi/ln				22.9		
Average Travel Time, min					5.90				Density, pc/mi/ln				24.4		
Messages															
Comments															

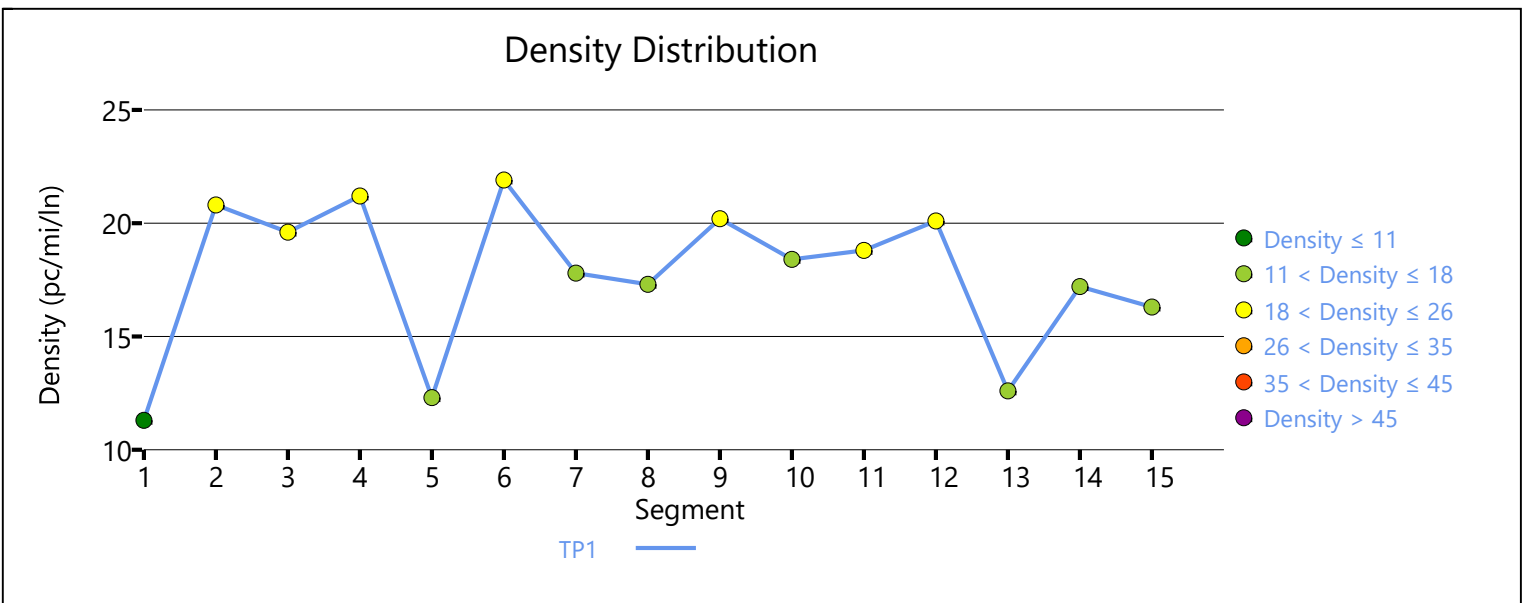
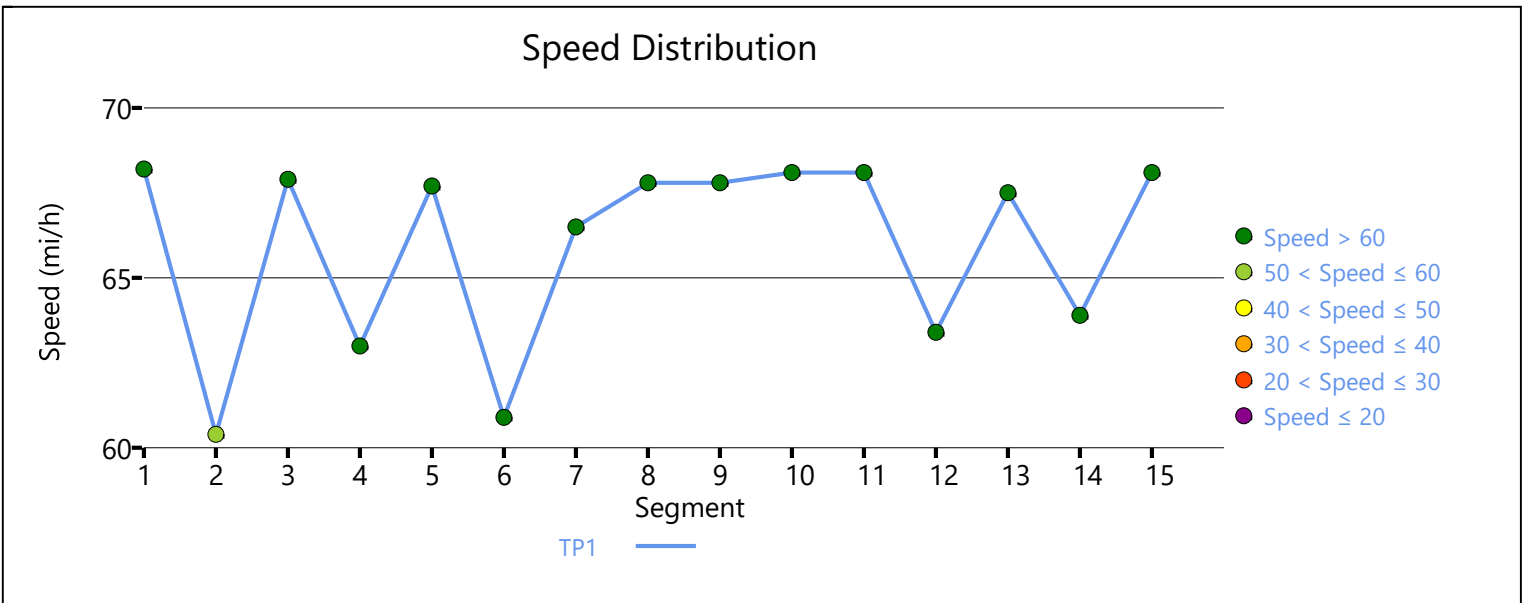
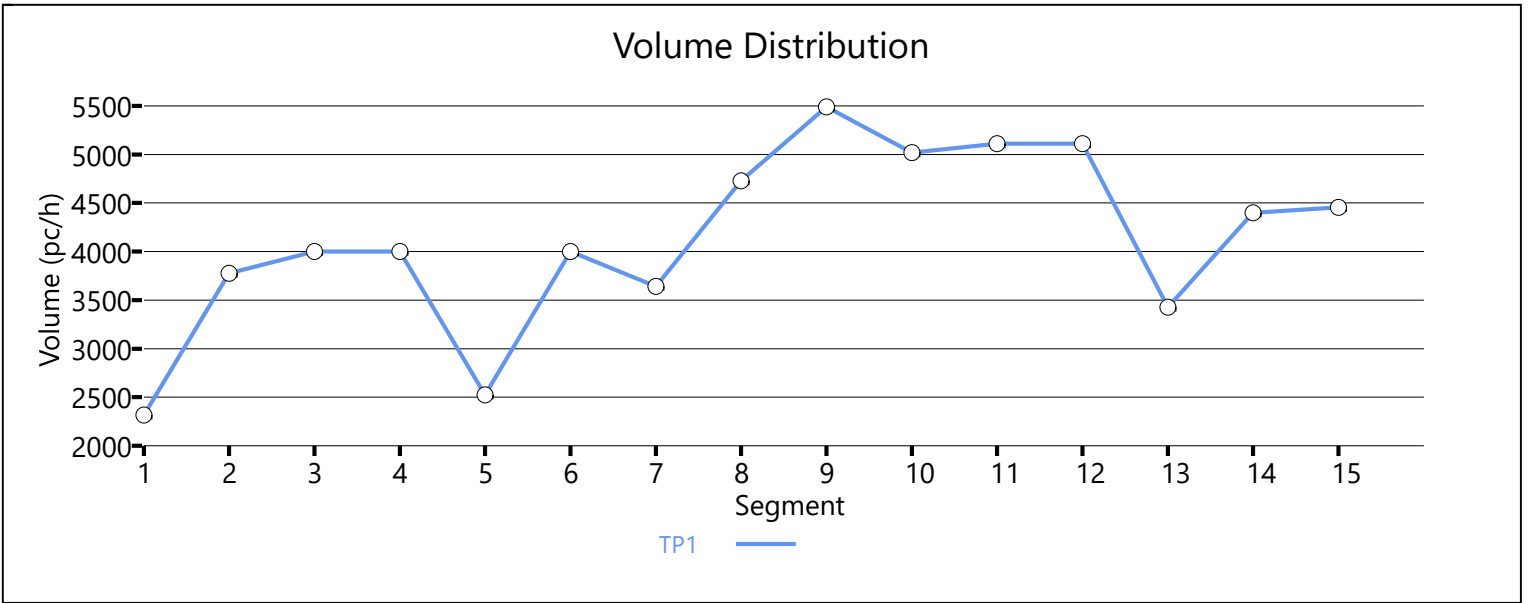






1	1.00	1.00	0.980	0.971	3777	1599	6824	1839	0.55	0.87	60.4	58.6	20.8	24.8	C
<b>Segment 3: Basic</b>															
<b>AP</b>	<b>PHF</b>		<b>fHV</b>		<b>Flow Rate (pc/h)</b>		<b>Capacity (pc/h)</b>		<b>d/c Ratio</b>		<b>Speed (mi/h)</b>		<b>Density (pc/mi/ln)</b>		<b>LOS</b>
1	0.94		0.980		4002		6917		0.58		67.9		19.6		C
<b>Segment 4: Diverge</b>															
<b>AP</b>	<b>PHF</b>		<b>fHV</b>		<b>Flow Rate (pc/h)</b>		<b>Capacity (pc/h)</b>		<b>d/c Ratio</b>		<b>Speed (mi/h)</b>		<b>Density (pc/mi/ln)</b>		<b>LOS</b>
	<b>F</b>	<b>R</b>	<b>F</b>	<b>R</b>	<b>Freeway</b>	<b>Ramp</b>	<b>Freeway</b>	<b>Ramp</b>	<b>F</b>	<b>R</b>	<b>F</b>	<b>R</b>	<b>Freeway</b>	<b>Ramp</b>	
1	0.94	0.94	0.980	0.980	4002	1479	6824	2130	0.59	0.69	63.0	59.8	21.2	27.5	C
<b>Segment 5: Basic</b>															
<b>AP</b>	<b>PHF</b>		<b>fHV</b>		<b>Flow Rate (pc/h)</b>		<b>Capacity (pc/h)</b>		<b>d/c Ratio</b>		<b>Speed (mi/h)</b>		<b>Density (pc/mi/ln)</b>		<b>LOS</b>
1	0.94		0.980		2524		6917		0.36		67.7		12.3		B
<b>Segment 6: Merge</b>															
<b>AP</b>	<b>PHF</b>		<b>fHV</b>		<b>Flow Rate (pc/h)</b>		<b>Capacity (pc/h)</b>		<b>d/c Ratio</b>		<b>Speed (mi/h)</b>		<b>Density (pc/mi/ln)</b>		<b>LOS</b>
	<b>F</b>	<b>R</b>	<b>F</b>	<b>R</b>	<b>Freeway</b>	<b>Ramp</b>	<b>Freeway</b>	<b>Ramp</b>	<b>F</b>	<b>R</b>	<b>F</b>	<b>R</b>	<b>Freeway</b>	<b>Ramp</b>	
1	0.94	0.94	0.980	0.610	3999	1475	6824	1839	0.59	0.80	60.9	59.3	21.9	22.0	C
<b>Segment 7: Basic</b>															
<b>AP</b>	<b>PHF</b>		<b>fHV</b>		<b>Flow Rate (pc/h)</b>		<b>Capacity (pc/h)</b>		<b>d/c Ratio</b>		<b>Speed (mi/h)</b>		<b>Density (pc/mi/ln)</b>		<b>LOS</b>
1	0.94		0.926		3643		6917		0.53		66.5		17.8		B
<b>Segment 8: Merge</b>															
<b>AP</b>	<b>PHF</b>		<b>fHV</b>		<b>Flow Rate (pc/h)</b>		<b>Capacity (pc/h)</b>		<b>d/c Ratio</b>		<b>Speed (mi/h)</b>		<b>Density (pc/mi/ln)</b>		<b>LOS</b>
	<b>F</b>	<b>R</b>	<b>F</b>	<b>R</b>	<b>Freeway</b>	<b>Ramp</b>	<b>Freeway</b>	<b>Ramp</b>	<b>F</b>	<b>R</b>	<b>F</b>	<b>R</b>	<b>Freeway</b>	<b>Ramp</b>	
1	1.00	1.00	0.926	0.980	4727	1303	9223	1936	0.51	0.67	67.8	68.2	17.3	17.3	B
<b>Segment 9: Basic</b>															
<b>AP</b>	<b>PHF</b>		<b>fHV</b>		<b>Flow Rate (pc/h)</b>		<b>Capacity (pc/h)</b>		<b>d/c Ratio</b>		<b>Speed (mi/h)</b>		<b>Density (pc/mi/ln)</b>		<b>LOS</b>
1	0.94		0.862		5489		9223		0.60		67.8		20.2		C
<b>Segment 10: Basic</b>															
<b>AP</b>	<b>PHF</b>		<b>fHV</b>		<b>Flow Rate (pc/h)</b>		<b>Capacity (pc/h)</b>		<b>d/c Ratio</b>		<b>Speed (mi/h)</b>		<b>Density (pc/mi/ln)</b>		<b>LOS</b>
1	0.94		0.943		5018		9223		0.54		68.1		18.4		C
<b>Segment 11: Basic</b>															
<b>AP</b>	<b>PHF</b>		<b>fHV</b>		<b>Flow Rate (pc/h)</b>		<b>Capacity (pc/h)</b>		<b>d/c Ratio</b>		<b>Speed (mi/h)</b>		<b>Density (pc/mi/ln)</b>		<b>LOS</b>
1	0.94		0.926		5110		9223		0.55		68.1		18.8		C
<b>Segment 12: Diverge</b>															
<b>AP</b>	<b>PHF</b>		<b>fHV</b>		<b>Flow Rate (pc/h)</b>		<b>Capacity (pc/h)</b>		<b>d/c Ratio</b>		<b>Speed (mi/h)</b>		<b>Density (pc/mi/ln)</b>		<b>LOS</b>
	<b>F</b>	<b>R</b>	<b>F</b>	<b>R</b>	<b>Freeway</b>	<b>Ramp</b>	<b>Freeway</b>	<b>Ramp</b>	<b>F</b>	<b>R</b>	<b>F</b>	<b>R</b>	<b>Freeway</b>	<b>Ramp</b>	

1	0.94	0.94	0.926	0.962	5110	1621	9099	2033	0.56	0.80	63.4	57.9	20.1	24.1	C
<b>Segment 13: Basic</b>															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.94		0.926		3426		9223		0.37		67.5		12.6		B
<b>Segment 14: Merge</b>															
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	Freeway	Ramp	
1	0.94	0.94	0.926	0.980	4400	974	9099	2033	0.48	0.48	63.9	61.9	17.2	14.7	B
<b>Segment 15: Basic</b>															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.94		0.926		4456		9223		0.48		68.1		16.3		B
<b>Facility Analysis Results</b>															
AP	Speed, mi/h		Density, pc/mi/ln		Density, veh/mi/ln		Travel Time, min		LOS						
1	66.6		18.1		16.8		5.60		C						
<b>Facility Overall Results</b>															
Space Mean Speed, mi/h					66.6			Density, veh/mi/ln				16.8			
Average Travel Time, min					5.60			Density, pc/mi/ln				18.1			
<b>Messages</b>															
<b>Comments</b>															



# HCS7 Freeway Facilities Report

## Project Information

Analyst	KCole	Date	06/01/2022
Agency	CDM Smith	Analysis Year	2050 WB Alternative 2 Geometry w/ CD Road WWT add lane
Jurisdiction	SCDOT	Time Analyzed	AM DHV
Project Description	I-526 Long Point Road Interchange IMR/IJR	Units	U.S. Customary

## Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	15
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	6.33		

## Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	WB - US 17	2600	2
2	Merge	Merge	WB Merge - US 17 On Ramp	1500	2
3	Basic	Basic	WB Btw Mathis Ferry and Long Point	2455	2
4	Diverge	Diverge	WB Diverge - Long Point Off Ramp	1500	2
5	Basic	Basic	WB - Long Point btw Off and CD On Ramp	3410	2
6	Merge	Merge	WB Merge - Long Point CD On Ramp	1500	2
7	Basic	Basic	WB btw LPR and WWT ramp	1930	3
8	Basic	Basic	WB btw LPR and WWT ramp	1555	2
9	Merge	Basic	WB - Add WWT Ramp	1500	3
10	Basic	Basic	WB - Add WWT Ramp to Truck Lane end	5865	3
11	Basic	Basic	WB - Truck Lane end to Seven Farms Ramp	2450	2
12	Diverge	Diverge	WB Diverge - Seven Farms Off Ramp	1500	2
13	Basic	Basic	WB Btw Off and On Ramps	920	2
14	Merge	Merge	WB Merge - Seven Farms On Ramp	1500	2
15	Basic	Basic	WB Btw Seven Farms and Clements Ferry	3215	2

## 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	0.94	0.962	1695	4612	0.37	68.2	12.4	B

### Segment 2: 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	Freeway	Ramp	
1	1.00	1.00	0.962	0.971	3371	1676	4550	1839	0.74	0.91	57.4	57.4	29.4	28.6	D

**Segment 3: Basic**

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.962	3371	4612	0.76	64.9	26.0	C

**Segment 4: 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	Freeway	Ramp	
1	0.94	0.94	0.962	0.952	3371	1039	4550	2130	0.74	0.49	60.9	60.9	27.7	30.9	D

**Segment 5: Basic**

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.962	2332	4612	0.53	68.1	17.1	B

**Segment 6: 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	Freeway	Ramp	
1	0.94	0.94	0.877	0.980	4367	2035	4550	3872	0.96	0.53	54.4	54.4	40.1	29.3	F

**Segment 7: Basic**

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.962	4367	6917	0.66	67.2	21.7	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	0.94	0.962	4367	4612	0.98	54.8	39.8	E

**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	Freeway	Ramp	
1	0.94	0.94	0.962	0.526	5155	898	6824	2033	0.76	0.44	60.1	60.1	28.6	28.6	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	0.94	0.781	4281	6917	0.90	20.1	71.1	F

**Segment 11: Basic**

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.877	4236	4612	1.20	37.7	56.2	F

**Segment 12: 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	Freeway	Ramp	
1	0.94	0.94	0.877	0.962	4236	1230	4550	2033	0.93	0.60	58.8	58.8	36.0	33.5	F

### Segment 13: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.877	3006	4612	0.90	66.9	22.5	C

### Segment 14: 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	Freeway	Ramp	
1	0.94	0.94	0.877	0.980	3727	721	4550	2033	0.82	0.35	58.7	58.7	31.7	25.6	F

### Segment 15: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.877	3727	4612	1.08	62.0	30.1	F

### Facility Analysis Results

AP	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	43.2	38.7	33.3	8.80	F

### Facility Overall Results

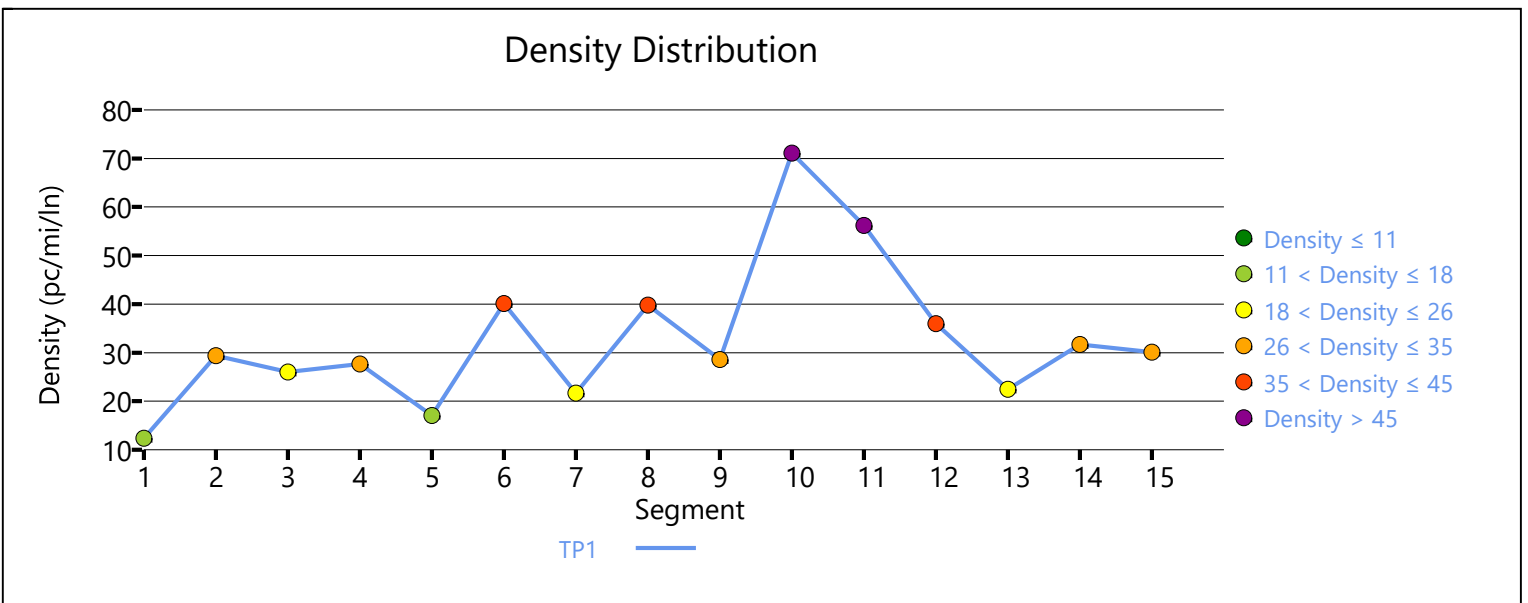
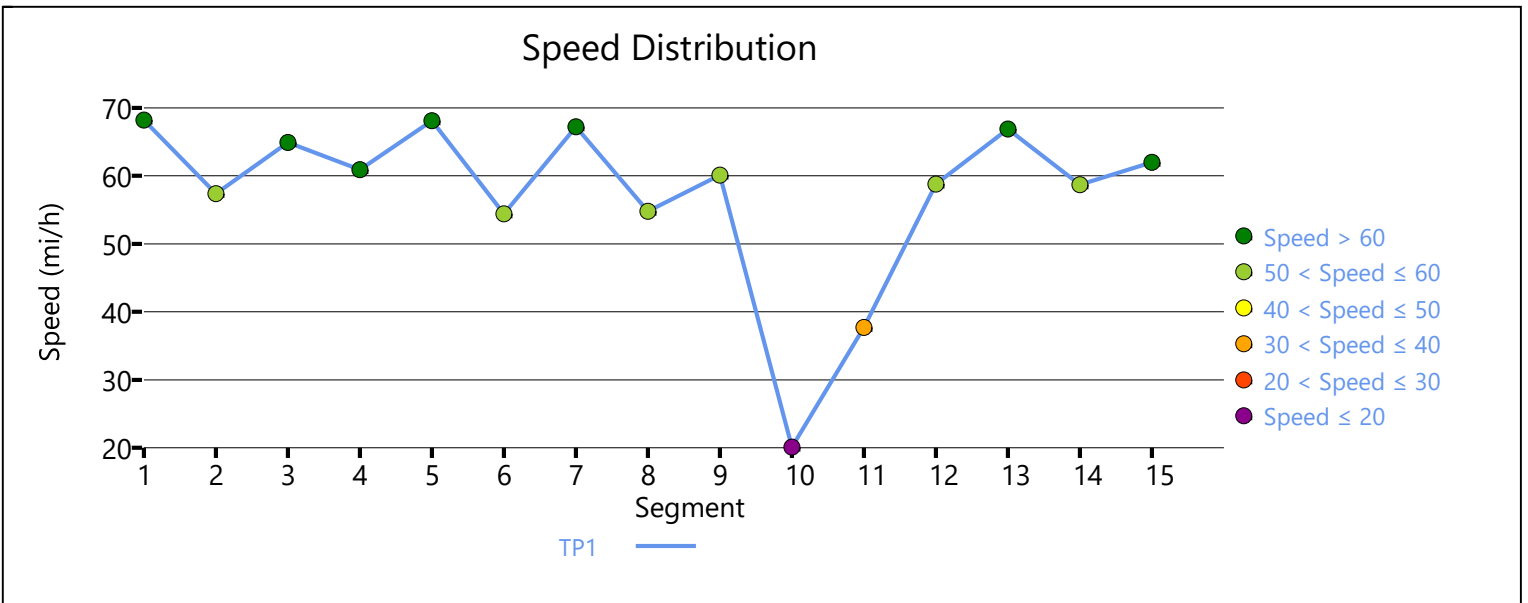
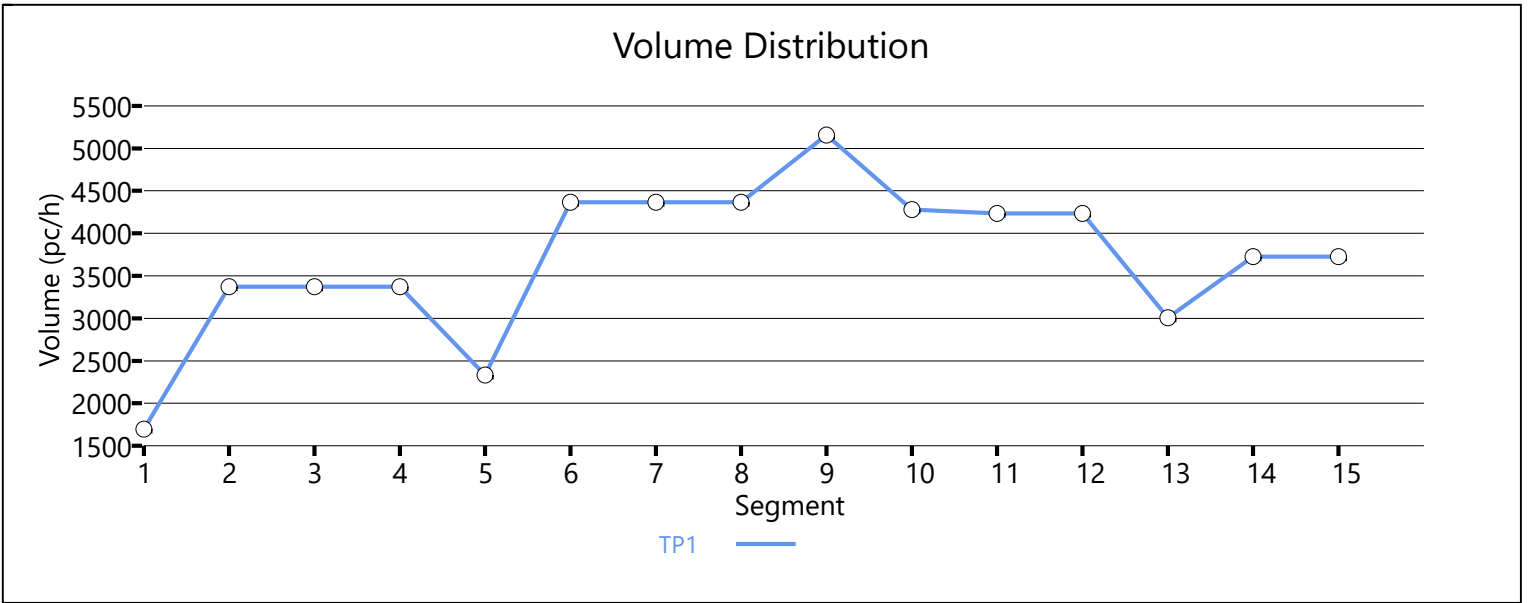
Space Mean Speed, mi/h	43.2	Density, veh/mi/ln	33.3
Average Travel Time, min	8.80	Density, pc/mi/ln	38.7

### Messages

WARNING 1	Oversaturated conditions currently exist in boundary segment 15. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.
WARNING 2	Oversaturated conditions currently exist in boundary analysis period 1. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.

### Comments

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# HCS7 Freeway Facilities Report

## Project Information

Analyst	KCole	Date	06/01/2022
Agency	CDM Smith	Analysis Year	2050 Alternative 2 CD 8-Lane Geometry
Jurisdiction	SCDOT	Time Analyzed	AM DHV
Project Description	I-526 Long Point Road Interchange IMR/IJR	Units	U.S. Customary

## Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	13
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	5.69		

## Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	EB - Btw Clements Ferry and Seven Farms	1973	3
2	Diverge	Diverge	EB Diverge - Seven Farms Off Ramp	1500	3
3	Basic	Basic	EB - Btw Seven Farms Off and On Ramps	980	3
4	Merge	Merge	EB Merge - Seven Farms On Ramp	1500	3
5	Basic	Basic	EB - Between Seven Farms and WWT/LPR CD	9250	4
6	Diverge	Diverge	EB Diverge - WWT/LPR CD Ramp	1500	4
7	Basic	Basic	EB - Btw CD Ramp and Loop On Ramp	5120	3
8	Merge	Merge	EB Merge - Long Point on Ramp (Cloverleaf)	1500	3
9	Basic	Basic	EB - Btw Long Point On Ramps	625	3
10	Merge	Merge	EB Merge - Long Point On Ramp	1500	3
11	Basic	Basic	EB - Btw Long Point and US 17	1816	3
12	Diverge	Diverge	EB Diverge - US 17 Off Ramp	1500	3
13	Basic	Basic	EB - Btw US 17 Off Ramps	1273	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	0.94		0.877	6486		6917		0.94	55.3		39.1		E

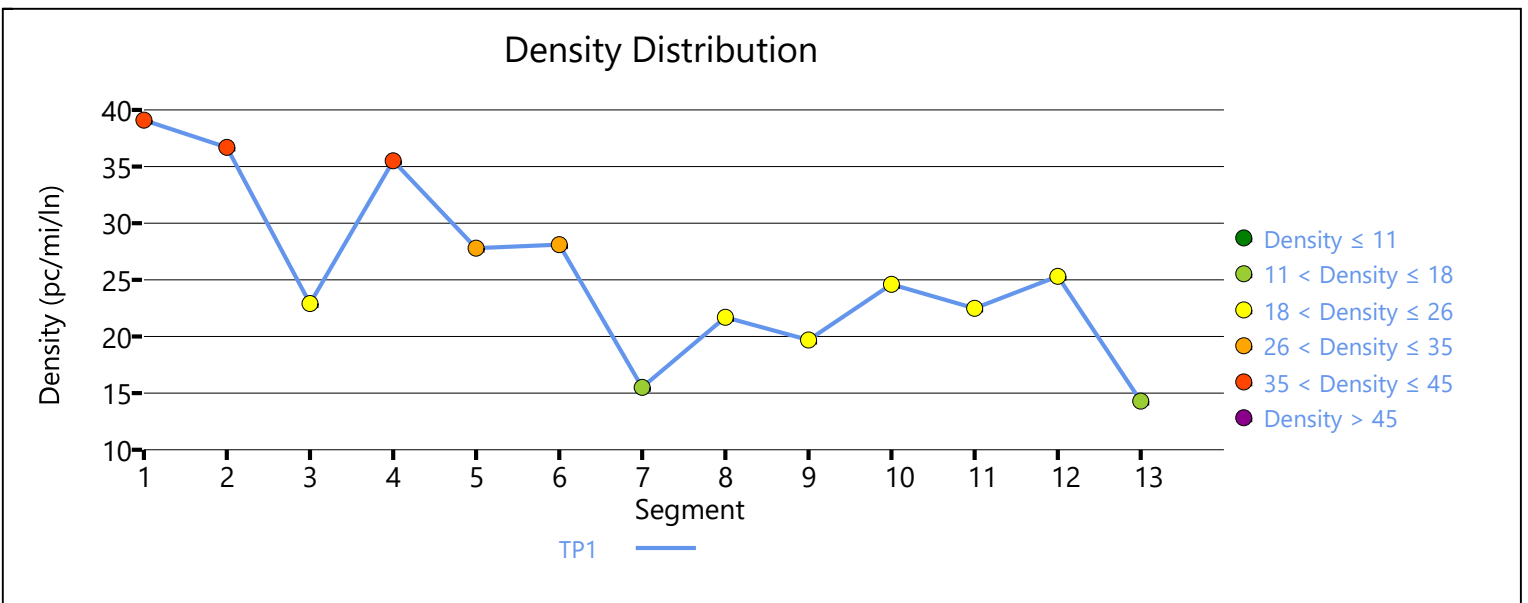
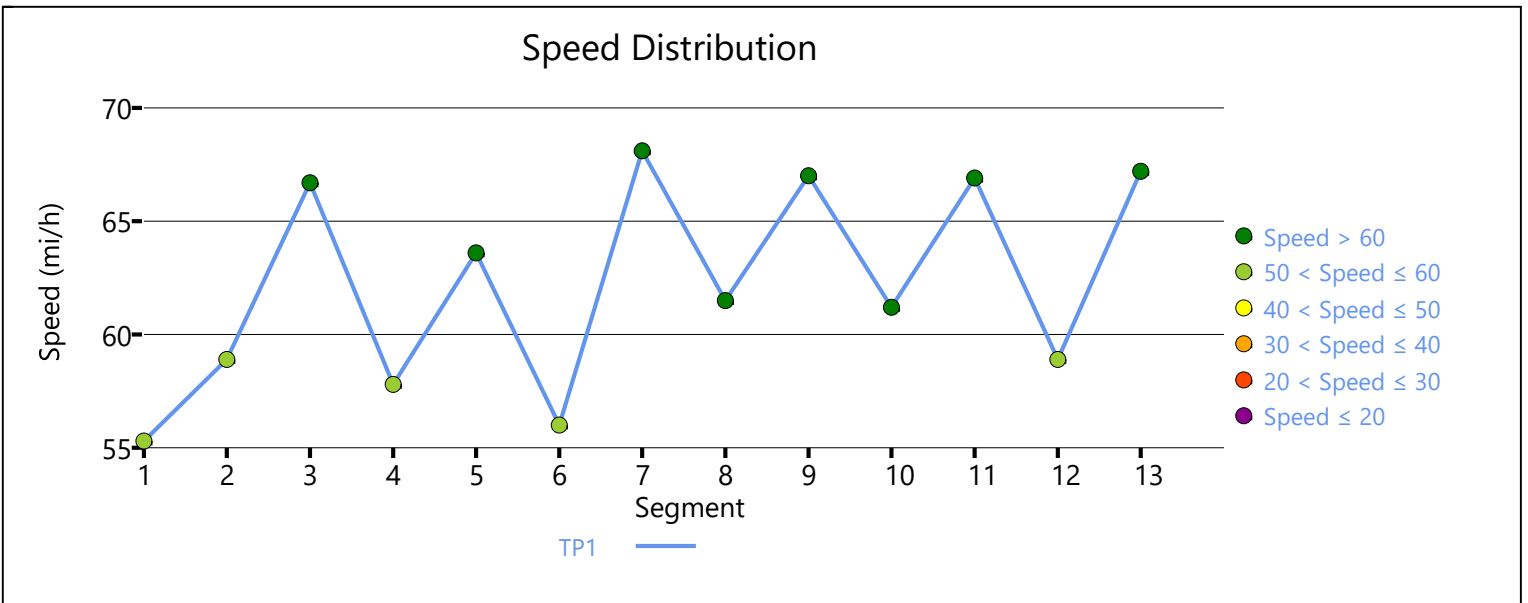
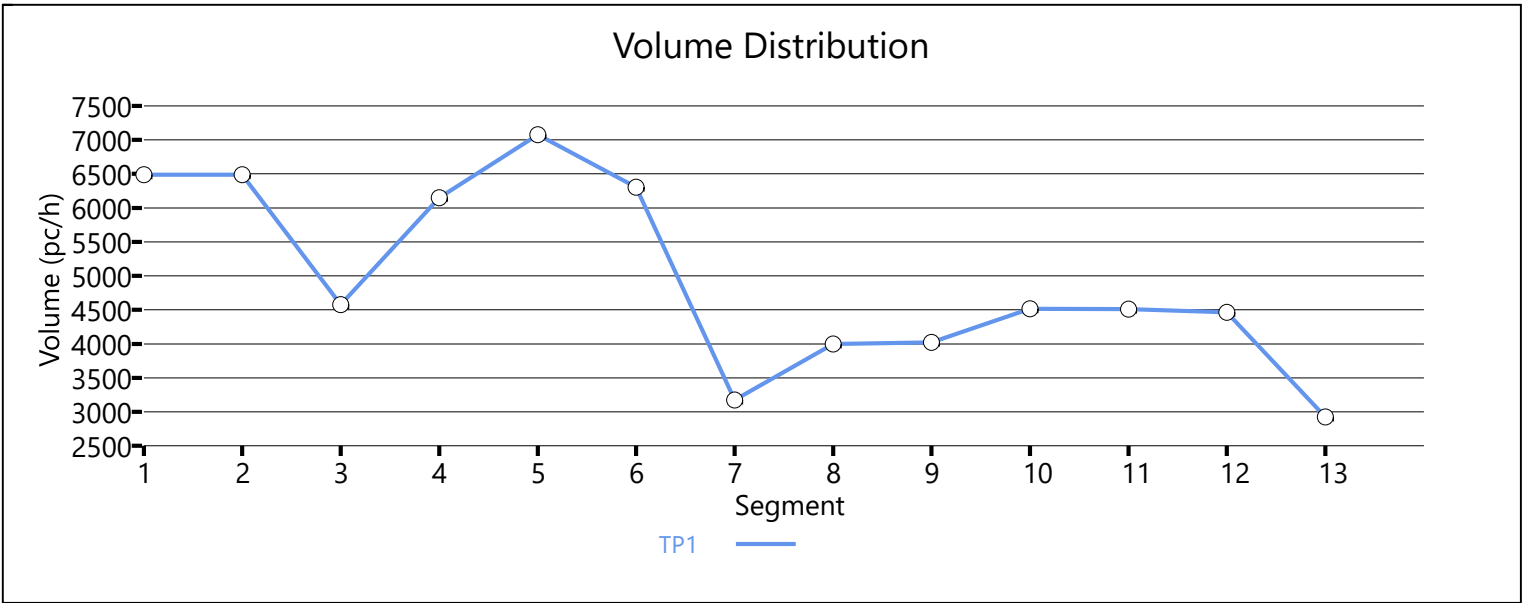
### Segment 2: Diverge

AP	PHF		fHV	Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS	
	F	R		Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp		
1	0.94	0.94	0.877	0.980	6486	1709	6824	1936	0.95	0.88	58.9	54.3	36.7	33.4	D



Segment 3: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.94		0.877		4577		6917		0.66		66.7		22.9		C
Segment 4: 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	Freeway	Ramp	
1	0.94	0.94	0.877	0.962	6150	1573	6824	1936	0.90	0.81	57.8	55.7	35.5	29.1	D
Segment 5: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.94		0.781		7076		9223		0.77		63.6		27.8		D
Segment 6: 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	Freeway	Ramp	
1	0.94	0.94	0.877	0.645	6302	3886	9099	4066	0.69	0.96	56.0	50.9	28.1	29.6	D
Segment 7: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.94		0.952		3172		6917		0.46		68.1		15.5		B
Segment 8: 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	Freeway	Ramp	
1	0.94	0.94	0.952	0.980	3998	826	6824	1936	0.59	0.43	61.5	59.8	21.7	20.8	C
Segment 9: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.94		0.952		4023		6917		0.58		67.0		19.7		C
Segment 10: 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	Freeway	Ramp	
1	0.94	0.94	0.952	0.943	4514	491	6824	2130	0.66	0.23	61.2	59.7	24.6	24.0	C
Segment 11: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.94		0.952		4509		6917		0.65		66.9		22.5		C
Segment 12: 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	Freeway	Ramp	

1	0.94	0.94	0.962	0.962	4462	1536	6824	1936	0.65	0.79	58.9	54.7	25.3	30.0	D
Segment 13: Basic															
AP	PHF	fHV	Flow Rate (pc/h)			Capacity (pc/h)		d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)			LOS		
1	0.94	0.962	2926			6917		0.42	67.2	14.3			B		
Facility Analysis Results															
AP	Speed, mi/h		Density, pc/mi/ln			Density, veh/mi/ln		Travel Time, min			LOS				
1	62.1		25.7			22.2		5.50			C				
Facility Overall Results															
Space Mean Speed, mi/h				62.1				Density, veh/mi/ln				22.2			
Average Travel Time, min				5.50				Density, pc/mi/ln				25.7			
Messages															
ERROR 1				The number of trucks for segment 6 in analysis period 1 smaller than the number of trucks on off-ramp. Please verify truck percentages.											
Comments															



# HCS7 Freeway Facilities Report

## Project Information

Analyst	KCole	Date	06/01/2022
Agency	CDM Smith	Analysis Year	2050 WB Alternative 2 Geometry w/ CD Road WWT add lane
Jurisdiction	SCDOT	Time Analyzed	PM DHV
Project Description	I-526 Long Point Road Interchange IMR/IJR	Units	U.S. Customary

## Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	15
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	6.33		

## Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	WB - US 17	2600	2
2	Merge	Merge	WB Merge - US 17 On Ramp	1500	2
3	Basic	Basic	WB Btw Mathis Ferry and Long Point	2455	2
4	Diverge	Diverge	WB Diverge - Long Point Off Ramp	1500	2
5	Basic	Basic	WB - Long Point btw Off and CD On Ramp	3410	2
6	Merge	Merge	WB Merge - Long Point CD On Ramp	1500	2
7	Basic	Basic	WB btw LPR and WWT ramp	1930	3
8	Basic	Basic	WB btw LPR and WWT ramp	1555	2
9	Merge	Basic	WB - Add WWT Ramp	1500	3
10	Basic	Basic	WB - Add WWT Ramp to Truck Lane end	5865	3
11	Basic	Basic	WB - Truck Lane end to Seven Farms Ramp	2450	2
12	Diverge	Diverge	WB Diverge - Seven Farms Off Ramp	1500	2
13	Basic	Basic	WB Btw Off and On Ramps	920	2
14	Merge	Merge	WB Merge - Seven Farms On Ramp	1500	2
15	Basic	Basic	WB Btw Seven Farms and Clements Ferry	3215	2

## 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	0.94	0.980	1686	4612	0.37	68.2	12.4	B

### Segment 2: 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	Freeway	Ramp	
1	0.94	0.94	0.980	0.971	2925	1239	4550	1839	0.64	0.67	58.5	58.5	25.0	25.3	C

**Segment 3: Basic**

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	2914	4612	0.63	67.2	21.7	C

**Segment 4: 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	Freeway	Ramp	
1	0.94	0.94	0.980	0.980	2914	1076	4550	2130	0.64	0.51	60.8	60.8	24.0	27.0	C

**Segment 5: Basic**

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	1838	4612	0.40	68.1	13.5	B

**Segment 6: 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	Freeway	Ramp	
1	0.94	0.94	0.962	0.980	3241	1369	4550	3872	0.71	0.35	59.9	59.9	27.1	20.8	C

**Segment 7: Basic**

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.962	3267	6917	0.47	67.7	16.0	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	0.94	1.000	3143	4612	0.68	66.2	23.7	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	Freeway	Ramp	
1	0.94	0.94	0.962	0.526	3773	506	6917	2033	0.55	0.25	68.0	68.1	18.5	18.5	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	0.94	0.862	3954	6917	0.57	68.0	19.4	C

**Segment 11: Basic**

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.926	3681	4612	0.80	62.5	29.4	D

**Segment 12: 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	Freeway	Ramp	
1	0.94	0.94	0.926	0.962	3681	1180	4550	2033	0.81	0.58	58.9	58.9	31.2	28.7	D

### Segment 13: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.926	2455	4612	0.53	66.9	18.0	B

### Segment 14: 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	Freeway	Ramp	
1	0.94	0.94	0.926	0.980	3164	709	4550	2033	0.70	0.35	60.5	60.5	26.1	21.2	C

### Segment 15: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.926	3205	4612	0.69	65.9	24.3	C

### Facility Analysis Results

AP	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	65.0	20.9	19.5	5.80	C

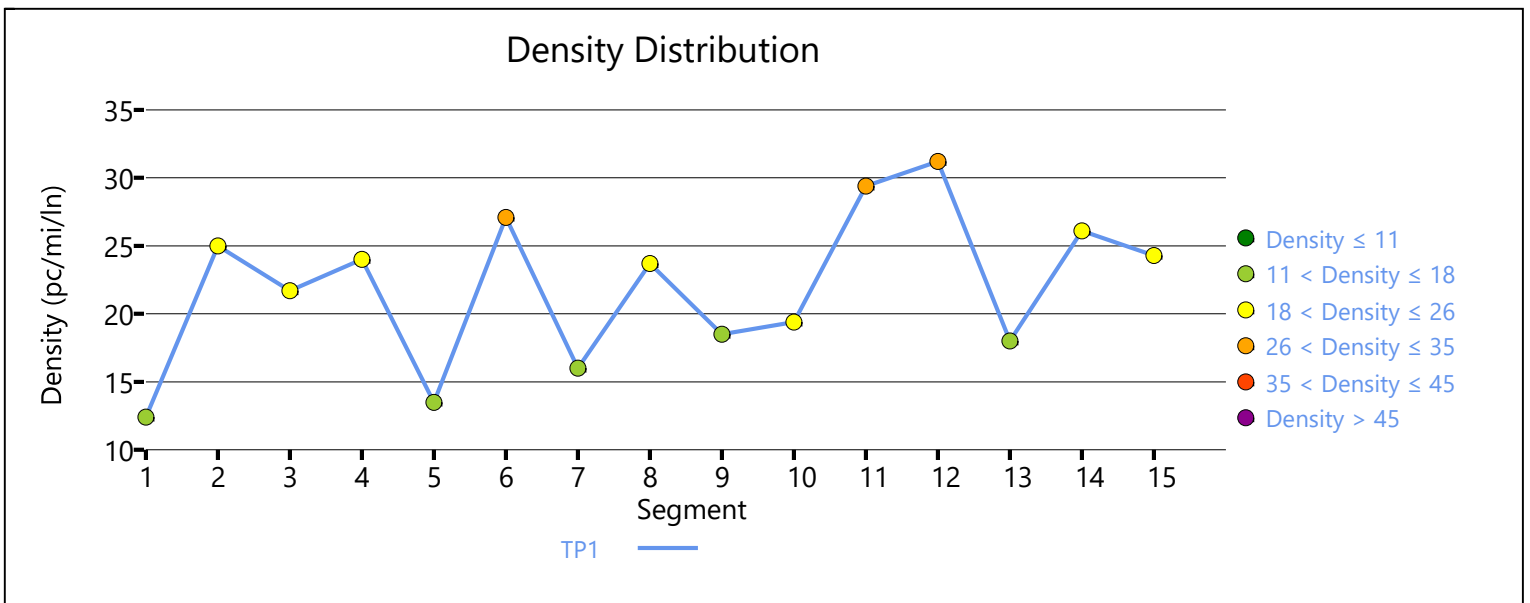
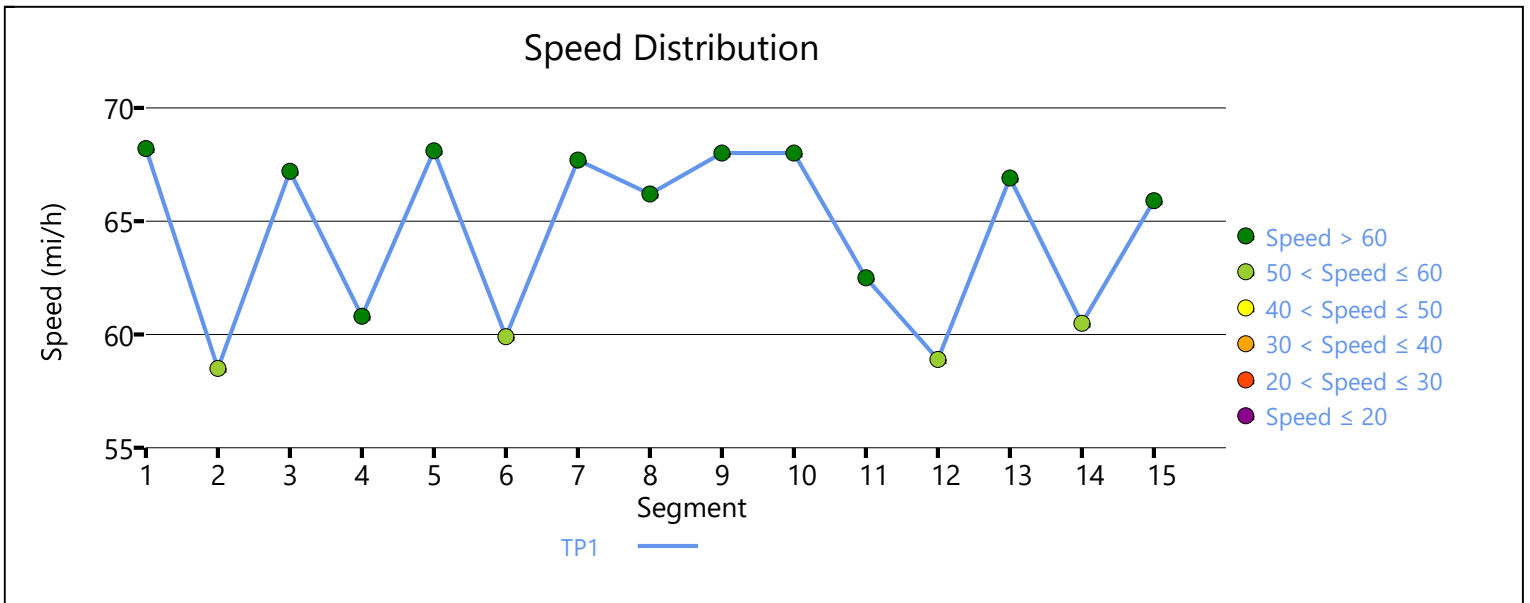
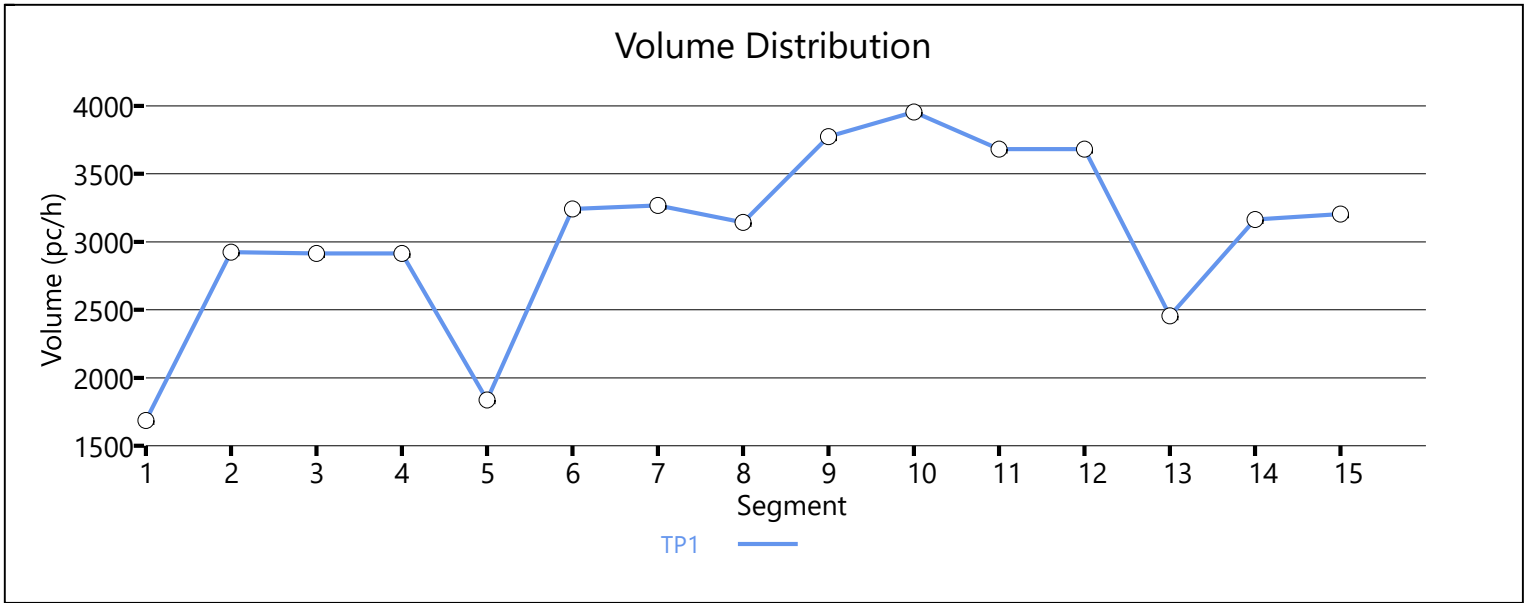
### Facility Overall Results

Space Mean Speed, mi/h	65.0	Density, veh/mi/ln	19.5
Average Travel Time, min	5.80	Density, pc/mi/ln	20.9

### Messages

### Comments

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# HCS7 Freeway Facilities Report

## Project Information

Analyst	KCole	Date	06/01/2022
Agency	CDM Smith	Analysis Year	2050 Alternative 2 CD 8-Lane Geometry
Jurisdiction	SCDOT	Time Analyzed	PM DHV
Project Description	I-526 Long Point Road Interchange IMR/IJR	Units	U.S. Customary

## Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	12
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	5.32		

## Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Diverge	Diverge	EB Diverge - Seven Farms Off Ramp	1500	3
2	Basic	Basic	EB - Btw Seven Farms Off and On Ramps	980	3
3	Merge	Merge	EB Merge - Seven Farms On Ramp	1500	3
4	Basic	Basic	EB - Between Seven Farms and WWT/LPR CD	9250	4
5	Diverge	Diverge	EB Diverge - WWT/LPR CD Ramp	1500	4
6	Basic	Basic	EB - Btw CD Ramp and Loop On Ramp	5120	4
7	Merge	Merge	EB Merge - Long Point on Ramp (Cloverleaf)	1500	4
8	Basic	Basic	EB - Btw Long Point On Ramps	625	4
9	Merge	Merge	EB Merge - Long Point On Ramp	1500	4
10	Basic	Basic	EB - Btw Long Point and US 17	1816	4
11	Diverge	Diverge	EB Diverge - US 17 Off Ramp	1500	4
12	Basic	Basic	EB - Btw US 17 Off Ramps	1273	4

## Facility Segment Data

### Segment 1: 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	Freeway	Ramp	
1	0.94	0.94	0.962	0.980	5602	986	6824	1936	0.82	0.51	60.5	56.0	30.9	28.7	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	0.94	0.962	4598	6917	0.66	66.6	23.0	C

### Segment 3: 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	Freeway	Ramp	
1	1.00	1.00	0.962	0.962	6258	1936	6824	1936	0.92	1.08	56.5	54.1	36.9	30.5	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	0.94	0.926	6916	9223	0.75	64.3	26.9	D

#### Segment 5: 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	Freeway	Ramp	
1	0.94	0.94	0.962	0.935	6657	2732	9099	4066	0.73	0.67	60.7	53.6	27.4	23.0	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	0.94	0.980	3929	9223	0.43	68.2	14.4	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	Freeway	Ramp	
1	0.94	0.94	0.980	0.980	4679	750	9099	1936	0.51	0.39	63.0	60.4	18.6	17.6	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	0.94	0.980	4679	9223	0.51	67.3	17.2	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	Freeway	Ramp	
1	0.94	0.94	0.980	0.943	5607	928	9099	2130	0.62	0.44	62.2	59.8	22.5	23.1	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	0.94	0.980	5572	9223	0.60	67.6	20.6	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	Freeway	Ramp	
1	0.94	0.94	0.980	0.980	5572	1508	9099	1936	0.61	0.78	61.4	54.8	22.7	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	0.94	0.980	4064	9223	0.44	67.5	14.9	B

## Facility Analysis Results

AP	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	63.9	22.9	21.8	5.00	C

## Facility Overall Results

Space Mean Speed, mi/h	63.9	Density, veh/mi/ln	21.8
Average Travel Time, min	5.00	Density, pc/mi/ln	22.9

## Messages

WARNING 1	Beginning and ending the facility with a basic freeway segment is highly recommended. Use caution when interpreting results of a Freeway Facility without a basic segment bounding the beginning and end of the facility.
WARNING 2	Merge capacity is less than merge demand for analysis period 1 on segment 3.

## Comments

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