Interstate Route I-91 Corridor Planning Study

Springfield, Massachusetts

APPENDIX A



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Prepared in cooperation with the Massachusetts Department of Transportation and the U.S. Department of Transportation. The views and opinions of the Pioneer Valley Planning Commission expressed herein do not reflect those of the Massachusetts Department of Transportation or the U.S. Department of Transportation.

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Table 1 –Interstate Highway Historic Average Annual Daily Traffic Volume Along the I-91 Corridor.

Site Code	Community	Facility	Location	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
	WEST												
2797 L	SPRINGFIELD	RTE.I- 91	NORTH OF RTE.5	77,453	77,600	80,371	75,350	74,605	73,721	71,189	67,011	71,080	71,102
	WEST												
2258	SPRINGFIELD	RTE.I- 91	AT CONNECTICUT RIVER	78,436	76,800	84,800	84,982	77,600	83,100	82,454	73,000	71,100	75,270
2252	CHICOPEE	RTE.I-391	NORTH OF RTE.I-91	53,244	54,548	54,528	54,763	37,700	37,704	37,114	37,358	37,000	39,540
2257	CHICOPEE	RTE.I- 91	AT SPRINGFIELD C.L.	101,700	101,893	105,532	119,400	116,685	119,424	103,700	103,387	103,433	126,353
2157	SPRINGFIELD	RTE.I- 91	NORTH OF RTE.20	99,913	98,974	111,700	111,940	106,620	110,400	109,542	109,733	95,700	105,204
2255	SPRINGFIELD	RTE.I- 91	NORTH OF RTE.I-291	96,854	91,000	92,714	91,391	92,800	92,809	91,357	90,500	90,383	98,190
2246	SPRINGFIELD	RTE I-291	E/O I-91	88,740	89,746	93,127	93,528	93,500	93,514	91,977	91,421	91,000	98,070
2253	SPRINGFIELD	RTE.I- 91	0.8 km NORTH OF RTE.5	94,845	93,927	97,466	107,100	104,665	107,122	89,900	89,628	89,668	98,000
			0.8 km SOUTH OF										
0026 L	LONGMEADOW	RTE.I- 91	SPRINGFIELD C.L.	75,441	74,711	77,526	77,859	72,100	72,107	73,070	75,312	76,382	72,949

Table 2 - Historic Average Annual Daily Traffic Volume Along the I-91 Corridor.

							F	Averag	e Daily	Traffic	C			
Site Code	Community	Street	Location	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
2189		Court St.	W/O Main St.	3,100	3,107	2,400	2,399	2,500	2,445	3,000	2,989	2,964	3,201	2,535
2190	Springfield	Longhill St.	S/O Sumner Ave.	20,841	21,500	21,437	24,000	23,970	20,600	20,213	20,440	20,818	22,092	
2191	Springfield	RTE. 5	@ AGAWAM T.L.	56,800	52,800	60,900	50,500	50,600	46,300	54,100	54,100	48,000	52,783	
2201	Agawam	RTE. 57	W/O RTE.5	41,700	38,700	40,600	44,300	37,000	39,000	38,600	36,800	31,300	32,642	
2202	Agawam	RTE. 5	N/O RTE. 57	29,120	30,100	29,503	29,122	28,500	28,806	27,428	30,700	30,808	32,841	
2207	West Springfield	MEMORIAL BRIDGE	OVER CONNECTICUT RIVER	22,928	23,297	22,372	23,800	23,457	24,312	21,000	20,918	21,148	27,116	
2226	Agawam	RTE. 5	OVER RTE.57	20,731	20,897	18,200	17,904	17,676	19,600	19,232	19,448	20,800	22,020	
2253	Springfield	RTE.I- 91	0.8 km N/O RTE.5	94,845	93,927	97,466	107,100	104,665	107,122	89,900	89,628	89,668	98,000	
2453	Springfield	RTE. 5	N/O LONGMEADOW T.L.	30,792	30,900	30,287	29,896	29,800	30,120	28,679	29,100	29,203	29,732	
2799	Springfield	Mill St.	E/O Pine St.	6,700	6,487	5,600	5,666	6,100	6,073	5,500	5,456	5,300	5,694	5,526
2823	Springfield	MAIN ST.	S/O BROAD ST.	18,102	17,900	17,545	17,318	16,900	17,082	16,265	13,200	13,247		
2824	Springfield	CHESTNUT ST.	N/O LIBERTY ST.	11,805	18,800	18,427	18,189	18,100	18,295	17,419	15,800	15,856		
2825	Springfield	DWIGHT ST.	N/O BRIDGE ST.	12,100	14,900	14,604	14,416	11,300	11,421	10,875	11,700	11,741		
2826	Springfield	MAIN ST.	N/O EMERY ST.	12,100	13,000	12,742	15,578	12,000	12,129	11,549	15,100	15,153		
2828	Springfield	EAST COLUMBUS AVE.	N/O COURT ST.	13,379	9,900	9,704	9,578	9,100	9,198	8,758	8,994	9,354		
2829	Springfield	STATE ST.	W/O MAIN ST.								10,000			
2830	Springfield	STATE ST.	E/O CHESTNUT ST.								16,500			
2841	Springfield	WEST COLUMBUS AVE.	N/O EMERY ST.	8,034	2,700	2,682	2,724	1,800	1,784	1,732	2,800	2,810		
2843	Springfield	HAMPDEN ST.	BTWN. EAST COLUMBUS & MAIN STS.	4,364	4,399	3,000	2,951	2,914	2,900	2,845	2,877	2,100		
2871	Springfield	BELMONT AVE.	E/O WOODSIDE TER.	10,428	9,600	9,410	9,288	10,700	10,815	10,298	10,800	10,838		
9298	Springfield	West Columbus Ave.	N/O Union Ave.					11,992						
9299	Springfield	East Columbus Ave.	S/O Broad St.					10,684						
9300	Springfield	East Columbus Ave.	N/O Union St.					9,443						
9458	Agawam	Meadow St.	E/O Main St.							2,607				
9514	Longmeadow	Converse St.	W/O Laurel St.								11,817			
9515	Longmeadow	Converse St.	E/O Laurel St.								16,004			
9516	Longmeadow	Laurel St.	N/O Converse St.								12,225			
9517	Longmeadow	Laurel St.	S/O Converse St.								6,293			
11001			N/O Riverfront Park				154							
26		RTE.I- 91	0.8 km S/O SPRINGFIELD C.L.	75,441	74,711	77,526	77,859	72,100	72,107	73,070	75,312	76,382	72,949	
R15506	Springfield	I-91	I-91 North Holyoke/Greenfield On-Ramp								13,381			
R15507	Springfield	I-91	Exit 5 Broad St								2,028			
R15508	Springfield	I-91	Exit 6 Springfield Center								3,202			
R15509		I-91	Union Street On-Ramp								9,789			
R15510		I-91	State St On-Ramp NB								4,351			
R15601		I-91	Exit 7 Columbus Ave Downtown Springfield								6,768			
R15602		I-91	Exit 6 Union Street								5,159			
R15603		I-91	Union Street On-Ramp(W Columbus to I-91								3,956			
R15604		I-91	Exit 4 Route 83 South Main Street/East Longmeadow								8,820			
R15605		I-91	Exit 3 North to Route 5 and 57 Agawam								6,076			
R15606		I-91	Route 5 South Hartford Conn On-Ramp								5,227			
R15607		I-91	North to Route 5 and 57 Agawam								9,571			
S002	Agawam	RIVER RD.	NEAR SOUTH END BRIDGE						9,100					

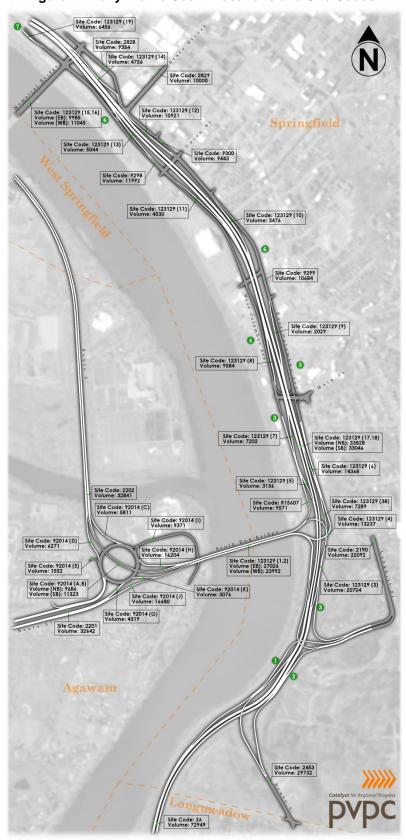


Figure 1 - Daily Traffic Count Locations and Site Codes.

Table 3 - List of Available Daily Counts.

Community	Count Locations Street	Location
Springfield	Court Street	West of Main Street
Springfield	Longhill Street	South of Sumner Avenue
Springfield	Route 5	At Agawam Town Line
Agawam	Route 57	West of Route 5
Agawam	Route 5	North of Route 57
Vest Springfield	Memorial Bridge	Over Connecticut River
Agawam	Route 5	Over Route 57
Springfield	I- 91	0.8 km North of Route 5
Springfield	Route 5	North of Longmeadow Town Line
Springfield	Mill Street	South of Pine Street
Springfield	Main Street	South of Broad Street
Springfield	Chestnut Street.	North of Liberty Street
Springfield Springfield	Dwight Street Main Street	North of Bridge Street North of Emery Street
Springfield	East Columbus Avenue	North of Court Street
Springfield	State Street	West of Main Street.
Springfield	State Street	South of Chestnut Street
Springfield	West Columbus Avenue	North of Emery Street
Springfield	Hampden Street	Between East Columbus Avenue & Main Street
Springfield	Belmont Avenue	South of Woodside Terrace
Springfield	West Columbus Avenue	North of Union Avenue
Springfield	East Columbus Avenue	South of Broad Street
Springfield	East Columbus Avenue	North of Union Street
Agawam	Meadow Street	South of Main Street
Longmeadow	Converse Street	West of Laurel Street
Longmeadow	Converse Street	South of Laurel Street
Longmeadow	Laurel Street	North of Converse Street
Longmeadow	Laurel Street	South of Converse Street
Springfield	Connecticut Riverwalk and Bikeway	
Longmeadow	I-91	0.8 km South of Springfield City Line
Springfield	I-91	I-91 North Holyoke/Greenfield On-Ramp
Springfield	I-91	Exit 5 Broad Street
Springfield	I-91 I-91	Exit 6 Springfield Center Union Street On-Ramp
Springfield Springfield	I-91	State St On-Ramp northbound
Springfield	I-91	Exit 7 Columbus Avenue Downtown Springfield
Springfield	I-91	Exit 6 Union Street
Springfield	I-91	Union Street On-Ramp (West Columbus Avenue to I-91)
Springfield	I-91	Exit 4 Route 83 South Main Street/East Longmeadow
Springfield	I-91	Exit 3 North to Route 5 and 57 Agawam
Springfield	I-91	Route 5 South Hartford Conn on-ramp
Springfield	I-91	North to Route 5 and 57 Agawam
Agawam	River Road	Near the South End Bridge
Agawam	Route 5	Over Rotary
Agawam	Route 5 northbound	On-Ramp from Rotary
Agawam	Route 5 southbound	Off-Ramp into Rotary
Agawam	Meadow Street West	Into Rotary
Agawam	Route 57 eastbound	Into Rotary
Agawam	Route 5 northbound	Off-Ramp into Rotary
Agawam	Meadow Street East	South of Rotary
Agawam	Route 57 eastbound	To Route 5 southbound
Agawam	Route 5 southbound	On-Ramp from Rotary
Springfield	Route 5	On South End Bridge
Springfield Springfield	I-91 northbound Exit 3	Before Split To East Columbus Avenue & I-91 northbound
Springfield Springfield	Route 5 eastbound Ramp I-91 southbound On-Ramp	From West Columbus Avenue & 1-91 northbound From West Columbus Avenue South of Main St
Springfield	I-91 northbound On-Ramp	From Route 5 eastbound & East Columbus Avenue
Springfield	I-91 southbound Exit 3	To West Columbus Avenue
Springfield	I-91 southbound Exit 3	To West Columbus Avenue North of Main Street
Springfield	I-91 northbound Exit 5	To East Columbus Avenue & Broad Street
Springfield	I-91 northbound Exit 6	To East Columbus Avenue & Union Street
Springfield	I-91 southbound On-Ramp	From West Columbus Avenue South of Union Street
Springfield	I-91 northbound On-Ramp	From East Columbus Avenue North of Union Street
Springfield	I-91 southbound Exit 6	To West Columbus Avenue & Union Street
Springfield	I-91 northbound On-Ramp	From East/West Columbus Avenue North of Streetate Stre
Springfield	Memorial Avenue	On Memorial Bridge
Springfield	I-91	North of South End Bridge
Springfield	I-91 southbound Exit 7	To West Columbus Avenue & Boland Way
Springneid		

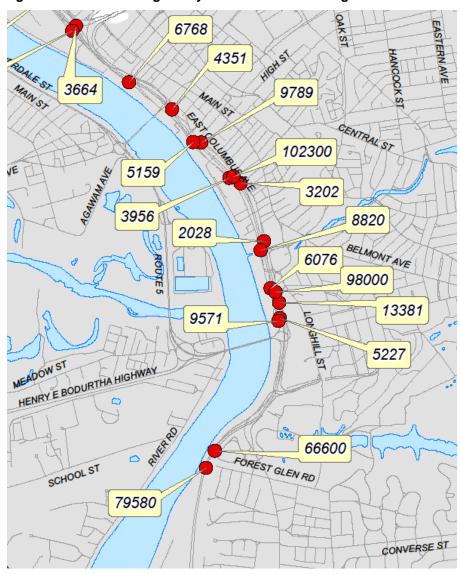


Figure 2 - Recent Average Daily Traffic Volumes Along the I-91 Corridor.

Figure 3 - Daily Traffic Count Volumes and Site Codes.

Daily Traffic Counts

26: I-91 0.8 km S/O Springfield C.L.

2190: Longhill St. S/O Sumner Ave

2201: Rt. 57 W/O Rt. 5

2202: Rt. 5 N/O Rt. 57

2226: Rt. 5 over Rt. 57

2453: Rt. 5 N/O Longmeadow T.L.

2828: East Columbus Ave. N/O

2829: State St. W/O Main St.

9298: West Columbus Ave N/O Union St.

9299: East Columbus Ave. S/O Broad St.

9300: East Columbus Ave. N/O Union St.

R15607: I-91 [South] to Rt. 5 & 57

92014:

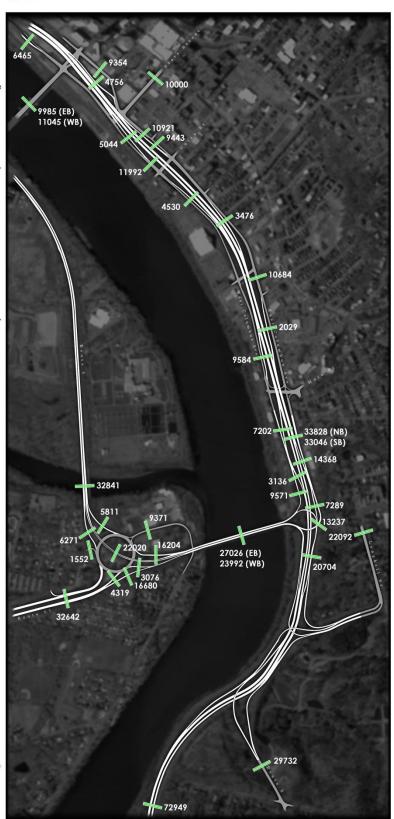
C - Rt. 5 NB on-ramp from rotary D - Rt. 5 SB off-ramp into rotary E - Meadow St. West into rotary G - Rt. 57 EB into rotary H - Rt. 5 NB off-ramp into rotary I - Meadow St. East E/O rotary J - Rt. 57 EB to Rt. 5 SB K - Rt. 5 SB on-ramp from rotary

123129:

1 - Rt. 5 WB on South End Bridge 2 - " " EB " " " " 3 - I-91 NB Exit 3 Before Split 4 - Rt. 5 EB Ramp to East Columbus Ave. & I-91 NB 5 - I-91 SB on-ramp from West Columbus Ave. S/O Main St. 6 - I-91 NB on-ramp from Rt. 5 EB & East Columbus Ave. 7 - I-91 SB Exit 3 to West Columbus Ave. 8 - I-91 SB Exit 4 to West Columbus Ave. N/O Main St. 9 - I-91 NB Exit 5 to East Columbus Ave. & Broad St. 10 - I-91 NB Exit 6 to East Columbus Ave. & Union St. 11 - I-91 SB on-ramp from West Columbus Ave. S/O Union St. 12 - I-91 NB on-ramp from East Columbus Ave N/O Union St. 13 - I-91 SB Exit 6 to West Columbus Ave. & Union St. 14 - I-91 NB on-ramp from East/ West Columbus Ave. N/O State 15 - Memorial Ave WB on 15 - Memoria. . Memorial Bridge "EB" 16 - "

17 - I-91 SB N/O South End Bridge 18 - " NB " " " " 19 - I-91 SB Exit 7 to West

19 - 1-91 SB Exit 7 to West Columbus Ave & Boland Way 38 - 1-91 NB Exit 3 N/O Rt. 5 WB Split



123129 (I) 5565 123129 (J) 123129 (G) 123129 (H) Springfield 123129 (E) 123129 (C) 123129 (D) 5562 123129 (B) 123129 (A) 5574 5561

Figure 4 - Turning Movement Count Locations.

Figure 5 - Interstate I-91 Directional Hourly Traffic Volumes Near Exit 9 in Springfield.

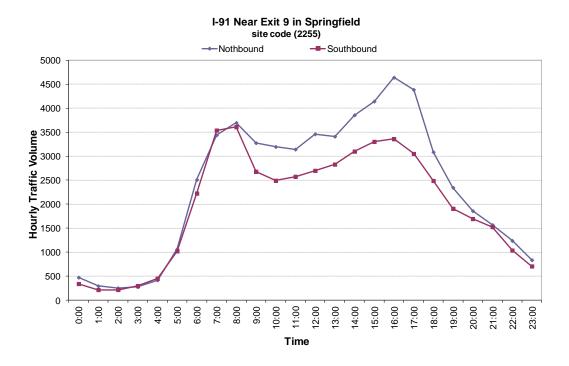


Figure 6 - Interstate I-91 Directional Hourly Traffic Volumes Near Exit 10 in Springfield.

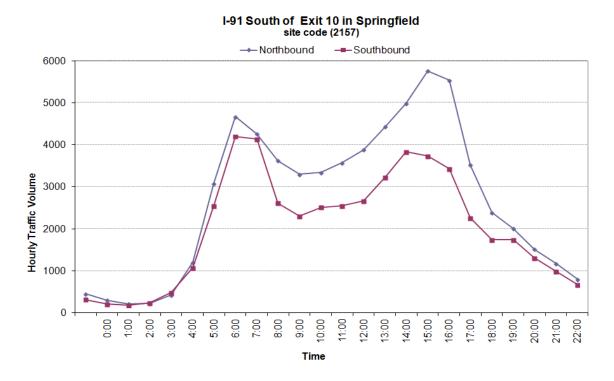


Figure 7 - Interstate I-91 Directional Hourly Traffic Volumes Near Exit 11 in Chicopee.

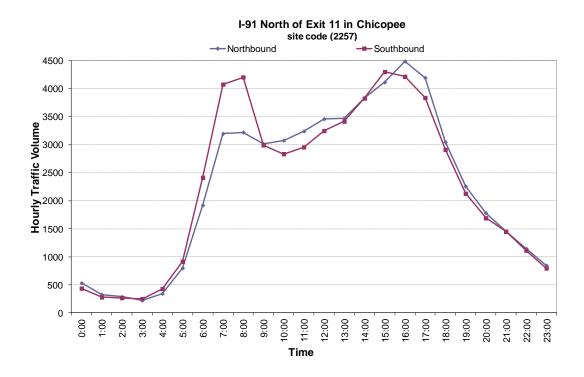


Figure 8 - Interstate I-91 Directional Hourly Traffic Volumes Between Exits 11 and 12 in West Springfield.

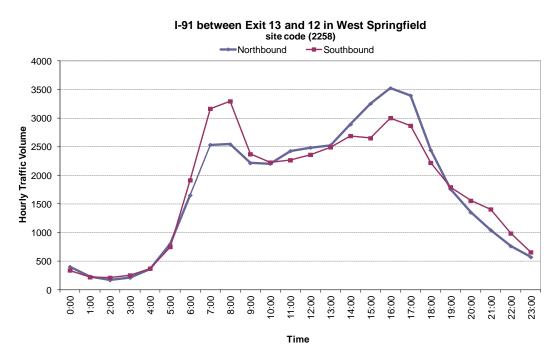
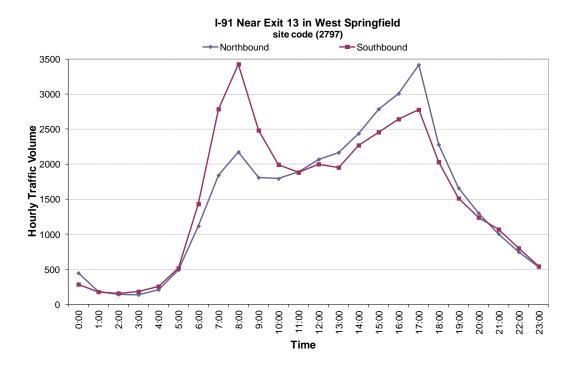


Figure 9 - Interstate I-91 Directional Hourly Traffic Volumes Near Exit 13 in West Springfield.



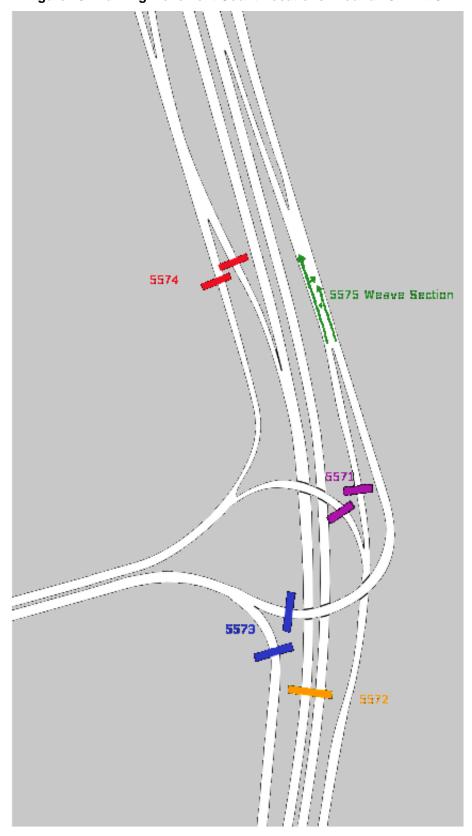


Figure 10 - Turning Movement Count Locations Around I-91 Exit 3.

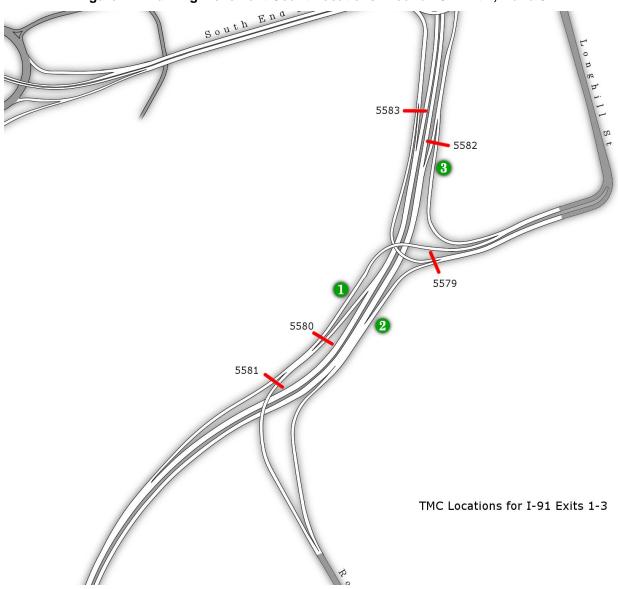


Figure 11 - Turning Movement Count Locations Around I-91 Exit 1, 2 and 3.

1-91 Exits 1-3 Peak Hour Volumes 1-91 Exits 1-3 Peak Hour Volumes 7:15 to 8:15 AM Peak Hour 4:30 to 5:30 PM Peak Hour

Figure 12 - Turning Movement Counts Around I-91 Exit 1, 2 and 3 (AM and PM Peak Hour Volumes).

Table 4 - Vehicle Classifications on Local Streets.

						\	/ehicle	Classif	ications					
Site Code	Community	Street	Location	Direction	Bikes	Cars & Trailers		Buses	2 Axle 6 Tire	3 Axle Single		Total	Heavy	% Heavy
2189	Springfield	Court St	W/O Main St	WB	20			2	4	6		1,257		1.03%
	opgo.c	00001	,	EB	38	1,109			6		2	1,249		1.76%
2190	Springfield	Longhill Rd	S/O Sumner Ave	NB	113	8,263	1,082	21	167	45	94	9,785		3.34%
	Spg.io.a			28	935	9,024	887	11	112			11,183		3.01%
2799	Springfield	Mill St	E/O Pine St	WB	39	2,789		12	69	16	9	3,236		3.28%
2.00	Opinignoid	171111 OC	2,01 1110 01	EB	25	2,082	231	10	42	8	14	2,412		3.07%
9298	Springfield	West Columbus Ave	N/O Union St	SB -	404 -	10,003	1,093 -	87 -	158 -	153 -	214 -	12,112 -	612	5.05%
9299	Springfield	East Columbus Ave	S/O Broad St	NB -	292 -	9,164 -	1,103 -	97 -	210 -	137 -	118 -	11,121	562	5.05%
9300	Springfield	East Columbus Ave	N/O Union St	NB -	300	8,276	735 -	51 -	116 -	100	144	9,722	411	4.23%
2.172			=/0.14 : 0:	EB	207	1,087	95	9	9	4	2	1,413	24	1.70%
9458	Agawam	Meadow St	E/O Main St	WB	7	1,069		3	16	6	4	1,232		2.35%
0544		0 0	W/O I I O	EB	176	5,443		34	481	61	146			8.43%
9514	Longmeadow	Converse St	W/O Laurel St	WB	69	2,520		22	112	36	102	3,398		8.00%
0545		0	E/O I 1 Ot	EB	555	5,604	1,486	26	403	111	88	8,273	628	7.59%
9515	Longmeadow	Converse St	E/O Laurel St	WB	204	6,596	1,016	29	155	86	110	8,196	380	4.64%
9516	Longmondow	Laurel St	N/O Converse St	NB	655	6,713	1,835	22	246	379	78	9,928	725	7.30%
9316	Longmeadow	Laurer St	IN/O Converse St	SB	79	2,223	301	2	33	40	16	2,694	91	3.38%
9517	Longmondow	Laurel St	S/O Converse St	SB	25	1,577	257	2	36	19	5	1,921	62	3.23%
9317	Longmeadow	Laurer St	S/O Converse St	NB	26	3,971	519	5	54	9	14	4,598	82	1.78%

Table 5 - Local Traffic Categorized by Speed.

								Vehicu	lar Spe	eds (M	iles Pe	r Hour)			
Site Code	Community	Street	Location	Direction	1-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50	51-55	56-60	> 60	Total
2189	Springfield	Court St	W/O Main St	WB	635	279	224	104	10	5	0	0	0	0	0	1,257
2109	Springileid	Court St	VV/O IVIAIII St	EB	705	281	195	63	5	0	0	0	0	0	0	1,249
2190	Springfield	Longhill Rd	S/O Sumner Ave	NB	199	36	263	1,736	4,278	2,672	535	67	8	0	0	9,794
2130	Opringilicia	Longilli ita	o/o odminer /wo	SB	463	45	362	2,891	4,667	2,216	525	71	15	0	0	11,255
2799	Springfield	Mill St	E/O Pine St	WB	78	27	466	1,530	968	156	8	2	1	0	0	3,236
2.00	opgc.c	61	- / 0 1 m/2 0 1	EB	87	20	144	928	1,021	191	17	4	0	0	0	2,412
9298	Springfield	West Columbus Ave	N/O Union St	SB	1,427	1,136	2,438	3,103	2,164	1,209	543	129	28	8	4	12,189
			.,, .	-	-	-	-	-	-	-	-	-	-	-	-	-
9299	Springfield	East Columbus Ave	S/O Broad St	NB	3,743	2,464	2,236	1,312	877	372	94	30	2	0	0	11,130
				-	-	-	-	-	-	-	-	-	-	-	-	-
9300	Springfield	East Columbus Ave	N/O Union St	NB	305	105	1,052	3,902	2,853	1,070	356	66	12	1	1	9,723
				- EB	-	- 17	-	-	-	-	-	-	-	-	1	- 4 44 4
9458	Agawam	Meadow St	E/O Main St	WB	326 76		77 62	355	511	121	5 36	7	0	0	•	1,414
				EB	2,269	19 380	942	252 1,834	532 2,053	247 898	158	24	2	0	0	1,233 8,560
9514	Longmeadow	Converse St	W/O Laurel St	WB	566	27	121	448	1,255	812	150	2 4 18	4	0	0	3,398
				EB	1,202	37	253	1,647	3,022	1,350	516	186	37	16	2	8,268
9515	Longmeadow	Converse St	E/O Laurel St	WB	1,472	368	774		2,665	926	143	13	6	0	0	8,220
				NR	1,682	148	597	3,551	3,349	524	63	6	2	0	0	9,922
9516	Longmeadow	Laurel St	N/O Converse St	SB	878	325	500	611	317	57	8	1	0	0	0	2,697
				SB	66	5	45	259	833	600	101	10	2	0	0	1,921
9517	Longmeadow	Laurel St	S/O Converse St	NB	151	107	378	1,385		613	73	3	0	1	0	4,598

THE COMMONWEALTH OF MASSACHUSETTS HIGHWAY DEPARTMENT SPECIAL SPEED REGULATION # 7379-B

Highway Location:

LONGMEADOW, SPRINGFIELD, CHICOPEE,

WEST SPRINGFIELD, HOLYOKE,

EASTHAMPTON, NORTHAMPTON, HATFIELD,

WHATELY, DEERFIELD, GREENFIELD &

BERNARDSTON

Authority In Control:

COMMONWEALTH OF MASSACHUSETTS

HIGHWAY DEPARTMENT

Name of Highway (s):

INTERSTATE ROUTE 91

In accordance with the provisions of Chapter 90, Section 18, of the General Laws (Ter. Ed.) as amended, the following Special Speed Regulation is hereby promulgated:

Special Speed Regulation number 7379-A, dated January 14, 1994 is hereby amended by striking out the Regulation in its entirety and inserting in place thereof the following revisions and addenda.

That the following speed limits are established at which motor vehicles may be operated in the areas described:

NORTHBOUND

Beginning in Longmeadow at the Connecticut-Massachusetts State Border Thence northerly

3.25 miles at 55 miles per hour to the Springfield City Line.

Thence northerly in Springfield

- 0.04 miles at 55 miles per hour
- 0.75 miles at 45 miles per hour
- 1.33 miles at 55 miles per hour
- 1.30 miles at 50 miles per hour
- 1.11 miles at 55 miles per hour
- 0.18 miles at 50 miles per hour to the Chicopee City Line.

Thence northerly in Chicopee

- 0.54 miles at 50 miles per hour
- 0.13 miles at 55 miles per hour to the West Springfield Town Line.

Thence northerly in West Springfield

- 1.52 miles at 55 miles per hour
- 1.42 miles at 65 miles per hour to the Holyoke City Line.

Thence northerly in Holyoke

9.29 miles at 65 miles per hour to the Easthampton Town Line.

Thence northerly in Easthampton

0.48 miles at 65 miles per hour to the Northampton City Line.

Thence northerly in Northampton

6.01 miles at 65 miles per hour to the Hatfield Town Line.

Thence northerly in Hatfield

3.77 miles at 65 miles per hour to the Whately Town Line.

Thence northerly in Whately

3.87 miles at 65 miles per hour to the Deerfield Town Line.

Thence northerly in Deerfield

7.01 miles at 65 miles per hour to the Greenfield Town Line.

Thence northerly in Greenfield

7.11 miles at 65 miles per hour to the Bernardston Town Line.

Thence northerly in Bernardston

5.80 miles at 65 miles per hour ending at the Massachusetts/ Vermont State Line; the total distance being 54.90 miles.

SOUTHBOUND

Beginning in Bernardston at the Vermont/Massachusetts State Line.

Thence southerly in Bernardston

5.80 miles at 65 miles per hour to the Greenfield Town Line.

Thence southerly in Greenfield

7.11 miles at 65 miles per hour to the Deerfield Town Line.

Thence southerly in Deerfield

7.01 miles at 65 miles per hour to the Whately Town Line.

Thence southerly in Whately

3.87 miles at 65 miles per hour to the Hatfield Town Line.

Thence southerly in Hatfield

3.77 miles at 65 miles per hour to the Northampton City Line.

Thence southerly in Northampton

6.01 miles at 65 miles per hour to the Easthampton Town Line.

Thence southerly in Easthampton

0.48 miles at 65 miles per hour to the Holyoke City Line.

Thence southerly in Holyoke

9.29 miles at 65 miles per hour to the West Springfield Town Line.

Thence southerly in West Springfield

1.42 miles at 65 miles per hour

1.52 miles at 55 miles per hour to the Chicopee City Line.

Thence southerly in Chicopee

0.13 miles at 55 miles per hour

0.54 miles at 50 miles per hour to the Springfield City Line.

Thence southerly in Springfield

0.18 miles at 50 miles per hour

1.29 miles at 55 miles per hour

1.35 miles at 50 miles per hour

1.10 miles at 55 miles per hour

0.75 miles at 45 miles per hour

0.04 miles at 55 miles per hour to the Longmeadow Town Line.

Thence southerly in Longmeadow

3.25 miles at 55 miles per hour ending at the Massachusetts/ Connecticut State Line; the total distance being 54.90 miles. Operation of a motor vehicle at a rate of speed in excess of these limits shall be prima facie evidence that such speed is greater than is reasonable and proper.

The provisions of this regulation shall not, however, abrogate in any sense Chapter 90, Section 14, of the General Laws (Ter. Ed.).

The Highway Department and the Registry of Motor Vehicles, acting jointly, do hereby certify that this regulation is consistent with the public interest.

Standard signs must be erected at the beginning of each zone.

DATE: December 27, 1995

FOR THE HIGHWAY PEPARTMENT

.. (Ship of

Traffic Engineer

FOR THE DEGLESTRY OF MOTOR VEHICLES

DV.

Chief Denuty Registrar

THE COMMONWEALTH OF MASSACHUSETTS HIGHWAY DEPARTMENT SPECIAL SPEED REGULATION #7379-C

Highway Location: LONGMEADOW & SPRINGFIELD

Authority In Control:

COMMONWEALTH OF MASSACHUSETTS

HIGHWAY DEPARTMENT

Name of Highway (s):

INTERSTATE ROUTE 91

In accordance with the provisions of Chapter 90, Section 18, of the General Laws (Ter. Ed.) as amended, the following Special Speed Regulation is hereby promulgated:

Special Speed Regulation Number 7379-B, dated December 27, 1995, is hereby amended in Springfield and Longmeadow as follows:

That the following speed limits are established at which motor vehicles may be operated in the areas described:

LONGMEADOW-NORTHBOUND

By striking out the clauses reading:

3.25 miles at 55 miles per hour to the Springfield City Line.

And inserting in place thereof:

2.98 miles at 65 miles per hour

0.27 miles at 55 miles per hour to the Springfield City Line.

SPRINGFIELD - SOUTHBOUND

By striking out the clause reading:

0.04 miles at 55 miles per hour to the Longmeadow Town Line.

And inserting in place thereof:

0.04 miles at 65 miles per hour to the Longmeadow Town Line.

LONGMEADOW - SOUTHBOUND

By striking out the clause reading:

3.25 miles at 55 miles per hour ending at the Massachusetts/Connecticut State Line; the total distance being 54.90 miles.

And inserting in place thereof:

3.25 miles at 65 miles per hour ending at the Massachusetts/Connecticut State Line; the total distance being 54.90 miles.

Operation of a motor vehicle at a rate of speed in excess of these limits shall be prima facie evidence that such speed is greater than is reasonable and proper.

The provisions of this regulation shall not, however, abrogate in any sense Chapter 90, Section 14, of the General Laws (Ter. Ed.).

The Highway Department and the Registry of Motor Vehicles, acting jointly, do hereby certify that this regulation is consistent with the public interest.

Standard signs must be erected at the beginning of each zone.

DATE: 2/16/96,

FOR THE MICHARY D

BY .

Traffic Eng√neer

FOR THE REGISTRE OF MOTOR VEHICLES

Figure 13 - Carbon Dioxide Levels Along I-91 Northbound During the Morning Peak Hour.

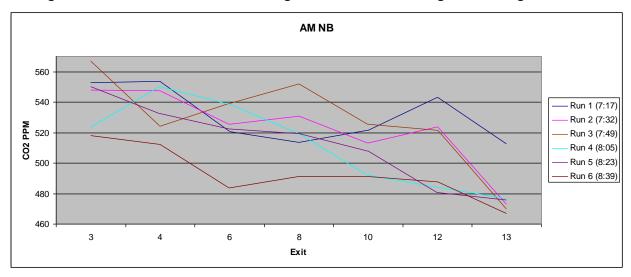


Figure 14 - Carbon Dioxide Levels Along I-91 Southbound During the Morning Peak Hour.

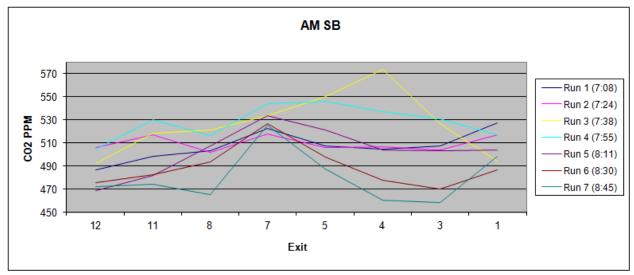


Figure 15 - Carbon Dioxide Levels Along I-91 Northbound During the Afternoon Peak Hour.

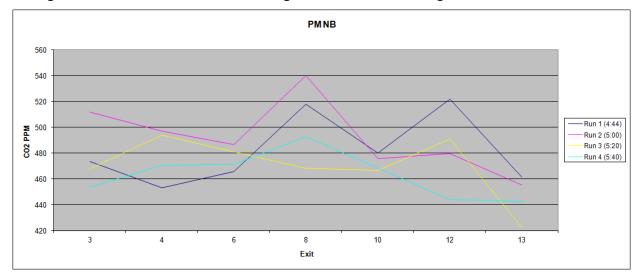


Figure 16 - Carbon Dioxide Levels Along I-91 Southbound During the Afternoon Peak Hour.

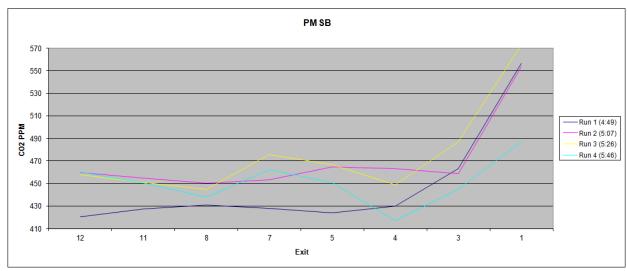


Figure 17 - Carbon Dioxide Levels Along I-91 Northbound During Off-Peak Hour.

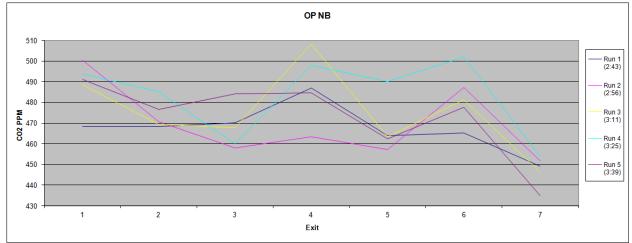
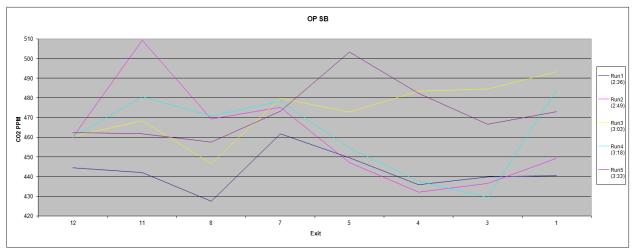


Figure 18 - Carbon Dioxide Levels Along I-91 Southbound During Off-Peak Hour.



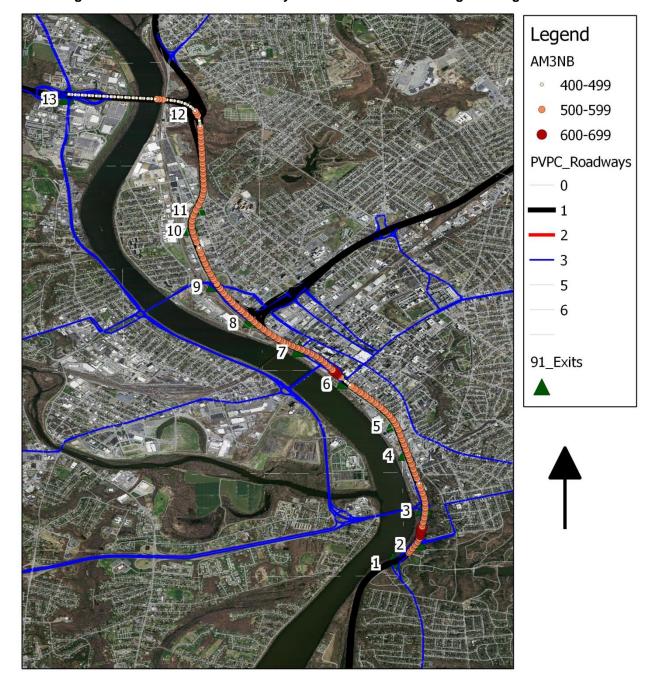


Figure 19 - Carbon Dioxide Intensity on I-91 Northbound During Morning Peak Hour.

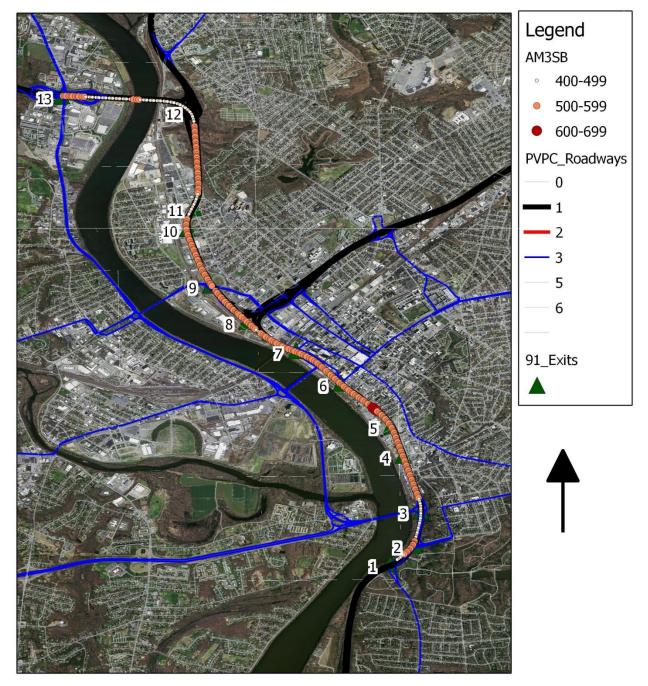


Figure 20 - Carbon Dioxide Intensity on I-91 Southbound During Morning Peak Hour.

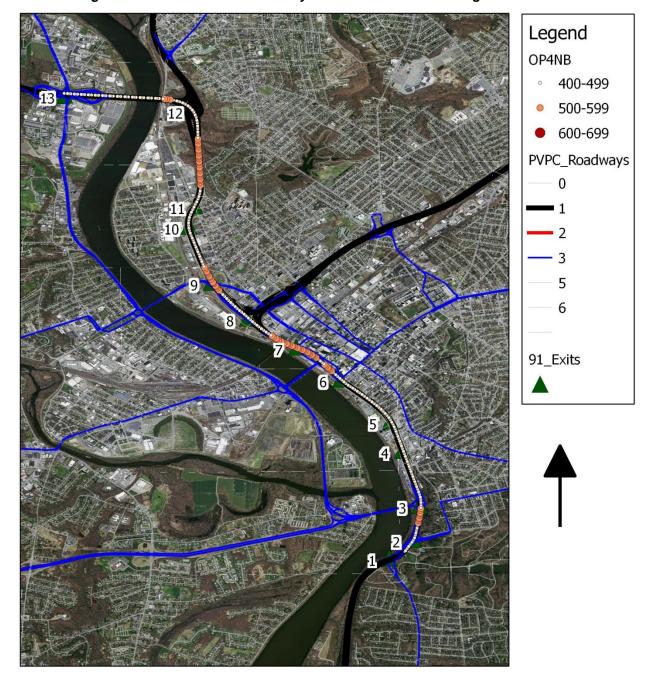


Figure 21 - Carbon Dioxide Intensity on I-91 Northbound During Off Peak Hour.

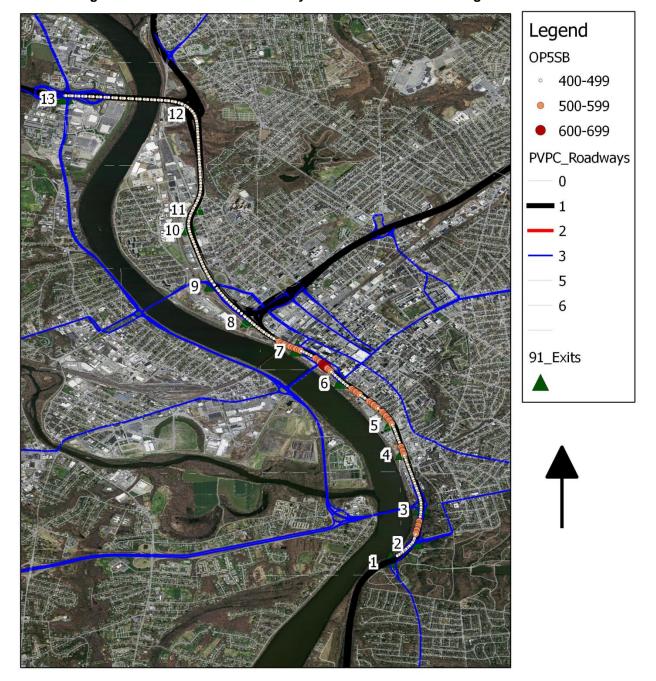


Figure 22 - Carbon Dioxide Intensity on I-91 Southbound During Off Peak Hour.

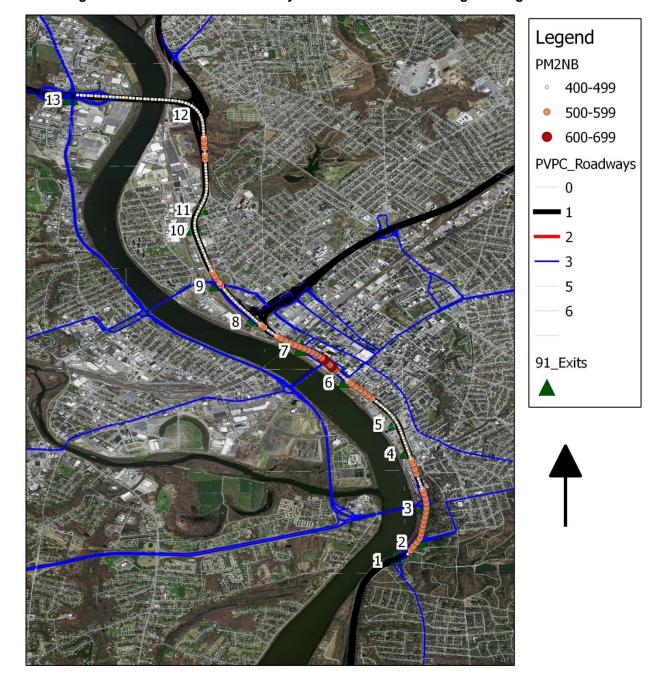


Figure 23 - Carbon Dioxide Intensity on I-91 Northbound During Evening Peak Hour.

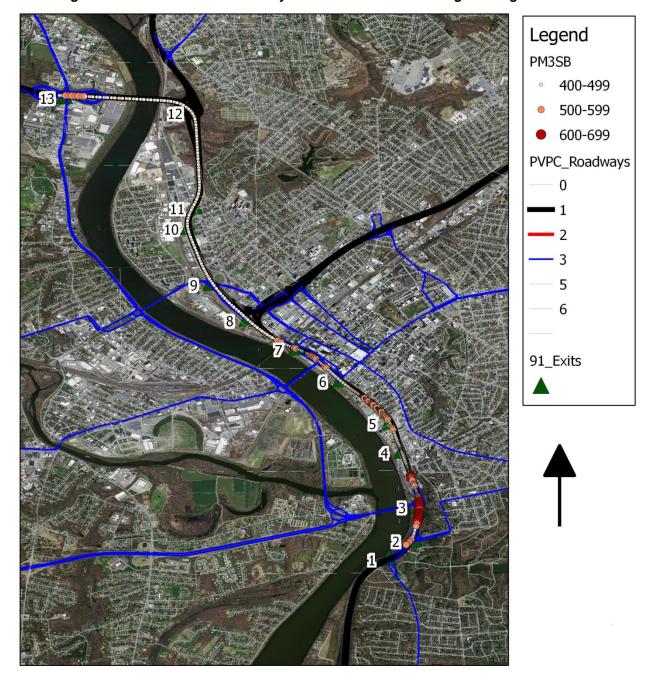


Figure 24 - Carbon Dioxide Intensity on I-91 Southbound During Evening Peak Hour.

Table 6 - Weave Analysis Report for Morning Peak Hour at Location 1: I-91 Southbound Exit 4 off-ramps and Exit 3 on-ramps.

		F	REEWAY	WEAVI	NG WOR	KSHEE	Г		
General	Informatio	on			Site Info	rmation			
Analyst Agency/Con Date Perford Analysis Tin	med	RA PVPC 8/2/201 AM Pea			Freeway/Dir Weaving Seg Analysis Yea	gment Location	SB 1- We 2013	st Columbus	Avenue/Exit3
Project Desc	cription I-91 Cor	rridor							
Inputs									
Weaving se	mber of lanes, N gment length, L _s	3		404ft	Segment typ		S _{MIN}		C-D Roadway Multilane Highways
Freeway fre	e-flow speed, FF	-S		40 mph	Freeway max	ximum capac	ity, C _{IFL}		2100
					Terrain type				Leve
Convers	sions to po	T				-			1
	V (veh/h)	PHF	Truck (%)	RV (%)	E _T	E _R	f _{HV}	fp	v (pc/h)
V _{FF}	218	0.94	5	0	1,5	1.2	0.976	1.00	238
V_{RF}	494	0.94	7	0	1.5	1.2	0.966	1.00	544
V_{FR}	111	0.82	5	0	1.5	1.2	0.976	1.00	139
V_{RR}	0	0.90	0	0	1.5	1.2	1.000	1.00	0
V _{NW}	238							V =	899
V _w	683								
VR	0.742								
Configu	ration Cha	aracterist	tics						
Minimum m	aneuver lanes, l	N _{WI}		2 lc	Minimum we	eaving lane c	hanges, LC _{MIN}		683 lc/h
Interchange	e density, ID			1.0 int/mi	Weaving lan	e changes, L	.C _w		711 lc/h
Minimum R	F lane changes,	LC _{RF}		1 lc/pc	Non-weaving	g lane chang	es, LC _{NW}		0 lc/h
Minimum F	R lane changes,	LC _{FR}		1 lc/pc	Total lane ch	hanges, LC _{AL}	L		711 lc/h
Minimum R	R lane changes,	, LC _{RR}		lc/pc	Non-weaving	g vehicle inde	ex, I _{NW}		10
Weavin	g Segment	t Speed,	Density,	Level of	Service,	and Car	oacity		
	egment flow rate			899 veh/h		ensity factor,			0.353
	egment capacity,			2548 veh/h	Weaving se	gment speed	, S		36.1 mph
	egment v/c ratio	**		0.353		aving speed,	**		37.4 mpl
Weaving se	egment density,	D	1	2.8 pc/mi/ln	Average nor	n-weaving sp	eed, S _{NW}		32.9 mph
Level of Se	rvice, LOS			В	Maximum w	eaving length	ı, L _{max}		10784 f
Notes									
a. Weaving s Chapter 13,	segments longer to "Freeway Merge a es that exceed the	and Diverge Se	gments".			solated merge	and diverge ar	eas using the	procedures of

Table 7 - Weave Analysis Report for Afternoon Peak Hour at Location 1: I-91 Southbound Exit 4 off-ramps and Exit 3 on-ramps.

Analyst	type minimum speed maximum capa //pe E R 1.2 1.2 1.2	tion 1- We 2013		C-D Roadway Multilane Highways 30 2100 Leve v (pc/h) 630 629 473 46
Agency/Company	type minimum spee maximum capa /pe E R 1.2 1.2 1.2	d, S _{MIN} acity, C _{IFL} f _{HV} 0.995 0.971 0.985	fp 1.00 1.00 1.00	C-D Roadway Multilan Highway 3 210 Leve v (pc/h) 630 629 473 46
Weaving configuration One-Sided 40 drift Segment 2 does not 10 drift Freeway 2 does not 10 drift Freeway 3 drift Freeway 4 drift <	minimum speed maximum capa pe E R 1.2 1.2 1.2	f _{HV} 0.995 0.971 0.985	fp 1.00 1.00 1.00	V (pc/h) 630 629 473
Weaving segment length, L _s	minimum speed maximum capa pe E R 1.2 1.2 1.2	f _{HV} 0.995 0.971 0.985	fp 1.00 1.00 1.00	V (pc/h) 630 629 473
Conversions to pc/h Under Base Conditions	E R 1.2 1.2	f _{HV} 0.995 0.971 0.985	1.00 1.00 1.00 1.00	v (pc/h) 630 629 473
Conversions to pc/h Under Base Conditions	E _R 1.2 1.2	f _{HV} 0.995 0.971 0.985	1.00 1.00 1.00 1.00	v (pc/h) 630 629 473
Conversions to pc/h Under Base Conditions V (veh/h) PHF Truck (%) RV (%) E T I I I I I I I I I I I I I I I I I I	E _R 1.2 1.2 1.2	0.995 0.971 0.985	1.00 1.00 1.00 1.00	v (pc/h) 630 629 473 46
V (veh/h) PHF Truck (%) RV (%) E T V _{FF} 552 0.88 1 0 1.5 V _{RF} 531 0.87 6 0 1.5 V _{FR} 359 0.77 3 0 1.5 V _{RR} 30 0.68 7 0 1.5 V _{NW} 1102 V 0.620 V 0.620 V 2 Ic Minimum maneuver lanes, N _{WL} 2 Ic Minimum linterchange density, ID 1.0 int/mi Weavin Weavin Minimum RF lane changes, LC _{RF} 1 Ic/pc Non-we Minimum Total lane Total lane	1.2 1.2 1.2	0.995 0.971 0.985	1.00 1.00 1.00 1.00	630 629 473 46
V _{FF} 552 0.88 1 0 1.5 V _{RF} 531 0.87 6 0 1.5 V _{FR} 359 0.77 3 0 1.5 V _{RR} 30 0.68 7 0 1.5 V _{NW} 676 0.620 0	1.2 1.2 1.2	0.995 0.971 0.985	1.00 1.00 1.00 1.00	630 629 473 46
V _{RF} 531 0.87 6 0 1.5 V _{FR} 359 0.77 3 0 1.5 V _{RR} 30 0.68 7 0 1.5 V _{NW} 676 0 0.620 0 0.620 0 0.620 0 0.620 0 0.620 0 0.620 0 0.620 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0 0.00 0 0.00 0 0.00 0 0.00 0 0 0.00 0 0 0.00 0 <th< td=""><td>1.2</td><td>0.971 0.985</td><td>1.00 1.00 1.00</td><td>473 46</td></th<>	1.2	0.971 0.985	1.00 1.00 1.00	473 46
VFR 359 0.77 3 0 1.5 V _{RR} 30 0.68 7 0 1.5 V _{NW} 676 0 0.620	1.2	0.985	1.00	46
V _{RR} 30 0.68 7 0 1.5 V _{NW} 676 5 676	_	0.966	_	
V _{NW} 676 V _W 1102 VR 0.620 Configuration Characteristics Minimum maneuver lanes, N _{WL} 2 lc Minimum Interchange density, ID 1.0 int/mi Weaving Non-weight Minimum RF lane changes, LC _{RF} 1 lc/pc Non-weight Total land Minimum FR lane changes, LC _{FR} 1 lc/pc Total land	1.2		V =	_
V _W 1102 VR 0.620 Configuration Characteristics Minimum maneuver lanes, N _{WL} 2 lc Minimum language Interchange density, ID 1.0 int/mi Weaving Minimum RF lane changes, LC _{RF} 1 lc/pc Non-weaving Minimum FR lane changes, LC _{FR} 1 lc/pc Total language				1770
VR 0.620 Configuration Characteristics Minimum maneuver lanes, N _{WL} 2 lc Minimu Interchange density, ID 1.0 int/mi Weavin Minimum RF lane changes, LC _{RF} 1 lc/pc Non-we Minimum FR lane changes, LC _{FR} 1 lc/pc Total la				
$\begin{array}{cccccccccccccccccccccccccccccccccccc$				
Minimum RF Iane changes, LC _{RF} 1 Ic/pc Non-we Minimum FR Iane changes, LC _{FR} 1 Ic/pc Total Ia	n weaving lane	changes, LC _{MI}	١	1102 lc/t
Minimum FR lane changes, LC _{FR} 1 lc/pc Total la	lane changes,	LC _w		1130 lc/l
	aving lane chan	iges, LC _{NW}		0 lc/t
	e changes, LC	ALL		1130 lc/l
Minimum RR lane changes, LC _{RR} Ic/pc Non-we	aving vehicle in	dex, I _{NW}		27
Weaving Segment Speed, Density, Level of Servi	e, and Ca	pacity		
I Weaving Segment now rate, v	intensity facto			0.509
Weaving segment capacity, c _w 2832 veh/h Weaving	segment spee			32.7 mpl
vveaving segment v/c ratio 0.025				36.6 mpl
	weaving speed			27.8 mpl
Level of Service, LOS C Maximu	weaving speed non-weaving s	ath, Lv		9260 1
Notes a. Weaving segments longer than the calculated maximum length should be treated	weaving speed	, MAX		

Table 8 - Weave Analysis Report for Morning Peak Hour at Location 2: I-91 Northbound on-ramp near Exit 3.

_			REEWAY									
General	Informatio	on			Site Info	rmation						
Analyst Agency/Con Date Perforr Analysis Tim	med	R.A. PVPC 8/2/201 AM Pea			Freeway/Dir of Travel NB Weaving Segment Location Analysis Year NB 2:E.Columbus Ave&Exit3on-ramp 2013							
Project Desc	cription I-91 Cor	ridor										
Inputs												
Weaving se	nfiguration mber of lanes, N gment length, L _s e-flow speed, FF			330ft	Segment typo Freeway min Freeway max Terrain type	imum speed,			C-D Roadway Multilan Highway 3 210 Lev			
Convers	sions to po	/h Unde	Base Co	nditions								
	V (veh/h)	PHF	Truck (%)	RV (%)	E _T	ER	f _{HV}	fp	v (pc/h)			
V _{FF}	365	0.90	2	0	1.5	1.2	0.990	1.00	410			
V _{RF}	168	0.98	2	0	1.5	1.2	0.990	1.00	173			
V _{FR}	997	0.89	3	0	1.5	1.2	0.985	1.00	1137			
V _{RR}	524	0.89	1	0	1.5	1.2	0.995	1.00	592			
V _{NW}	1002							V =	2290			
V _W	1310											
VR	0.567											
Configu	iration Cha	aracterist	tics									
Minimum m	naneuver lanes, l	N _{WL}		2 lc	Minimum we	eaving lane c	hanges, LC _{MIN}	ı	1310 lc			
Interchange	e density, ID			1.0 int/mi	Weaving lan	ne changes, L	.C _w		1325 lc			
Minimum R	F lane changes,	LC_{RF}		1 lc/pc	Non-weaving	g lane chang	es, LC _{NW}		0 lc			
Minimum F	R lane changes,	LC _{FR}		1 lc/pc	Total lane cl	hanges, LC _{AL}	L		1325 lc			
Minimum R	R lane changes	, LC _{RR}		lc/pc	Non-weaving	g vehicle inde	ex, I _{NW}		3			
Weavin	g Segment	t Speed,	Density,	Level of	Service,	and Cap	oacity					
	egment flow rate			2290 veh/h	Weaving into	ensity factor,	W		0.67			
Weaving se	egment capacity	C _w		2903 veh/h		gment speed			30.2 mp			
	egment v/c ratio	_	_	0.789		aving speed,	**		36.0 mp			
	egment density,	D	3	8.2 pc/mi/ln	_	n-weaving sp			25.0 mp			
Level of Se	ervice, LOS			E	Maximum w	eaving lengtl	n, L _{MAX}		8615			
Notes	segments longer t	b 4b 1- 1	de describerras de	anath chard	ho trooted on I	polated marra	and diverse o	rese using the	procedures of			
Chapter 13.	segments longer to "Freeway Merge a les that exceed the	and Diverge Se	egments".			adiated inerge	and antolgo a	. Jac sonig ale	p. 000 XQ. 000 0			

Table 9 - Weave Analysis Report for Afternoon Peak Hour at Location 2: I-91 Northbound on-ramp near Exit 3.

			REEWAY									
Genera	l Informatio	on			Site Info	rmation						
Analyst Agency/Cor Date Perfor Analysis Tir	med ne Period	R.A. PVPC 8/2/201 PM Pe			Freeway/Dir of Travel Weaving Segment Location Analysis Year NB 2:E.Columbus Ave&Exit3on- ramp 2013							
nputs	cription I-91 Cor	IIQUI										
Weaving co Weaving nu Weaving se Freeway fre	umber of lanes, N egment length, L _s ee-flow speed, FF	-S		330ft 40 mph	Segment typo Freeway min Freeway max Terrain type	imum speed,			C-D Roadway Multilane Highways 30 2100 Leve			
Conver	sions to po						f .	٤.	y (no/h)			
	V (veh/h)	PHF	Truck (%)	RV (%)	E _T	E _R	f _{HV}	fp 4.00	v (pc/h)			
V _{FF}	317	0.90	2	0	1.5	1.2	0.990	1.00	356			
V _{RF}	162	0.95	1	0	1.5	1.2	0.995	1.00	171			
V _{FR}	792	0.88	3	0	1.5	1.2	0.985	1.00	914			
V_{RR}	299	0.95	1	0	1.5	1.2	0.995	1.00	316			
V _{NW}	672							V =	1740			
v _w	1085											
VR	0.618											
Configu	ration Cha	aracteris	tics									
Minimum n	naneuver lanes, l	N _{WL}		2 lc	Minimum we	eaving lane c	hanges, LC _{MIN}		1085 lc/h			
Interchang	e density, ID			1.0 int/mi	Weaving lan	ie changes, L	.C _w		1100 lc/h			
Minimum F	RF lane changes,	LC _{RF}		1 lc/pc	Non-weaving	g lane chang	es, LC _{NW}		0 lc/t			
Minimum F	R lane changes,	LC _{FR}		1 lc/pc	Total lane ch	hanges, LC _{AL}	L		1100 lc/h			
Minimum F	RR lane changes	, LC _{RR}		lc/pc	Non-weaving	g vehicle inde	ex, I _{NW}		22			
Weavin	g Segmen	Speed,	Density,	Level of	Service,	and Cap	pacity					
	egment flow rate			1740 veh/h		ensity factor,			0.584			
	egment capacity			2810 veh/h	1	gment speed			32.6 mph			
Weaving s	egment v/c ratio	_		0.619	1 *	aving speed,			36.3 mp			
	egment density,	D	2	7.0 pc/mi/ln	Average nor	n-weaving sp	eed, S _{NW}		28.0 mpl			
Level of Se	ervice, LOS			С	Maximum w	reaving length	n, L _{MAX}		9232 f			
Notes												
Chapter 13,	segments longer t "Freeway Merge : nes that exceed the	and Diverge S	egments",			solated merge	and diverge ar	eas using the	procedures of			

Table 10 - Weave Analysis Report for Morning Peak Hour at Location 3: I-91 Southbound Exit 3 on-ramp and Exit 1 off-ramp.

Analyst R.A. Agency/Company PVPC Date Performed 8/12/2013 Analysis Time Period AM Peak Project Description I-91 Corridor Study Inputs	Freeway/Dir of Weaving Seg Analysis Year Segment type Freeway mini Freeway max Terrain type	of Travel ment Locatio r	SB 3:I-91 2013	off&on-ramp	near Exit 1
Agency/Company PVPC Date Performed 8/12/2013 Analysis Time Period AM Peak Project Description I-91 Corridor Study Inputs Weaving configuration Weaving number of lanes, N 3 Weaving segment length, L _s 950ft Freeway free-flow speed, FFS 50 mph Conversions to pc/h Under Base Conditions V (veh/h) PHF Truck (%) RV (%) V _{FF} 1241 0.87 1 0 V _{RF} 865 0.89 3 0 V _{FR} 929 0.87 4 0 V _{RR} 45 0.87 3 0 V _{NW} 1487 0 0 V _W 2075 0 0 0	Weaving Seg Analysis Year Segment type Freeway mini	ment Locatio	n 3:I-91	off&on-ramp	near Exit 1
Neaving configuration One-Sided	Freeway mini Freeway max				
Weaving configuration One-Sided Weaving number of lanes, N Weaving segment length, L _s 950ft 50 mph Freeway free-flow speed, FFS 50 mph Conversions to pc/h Under Base Conditions V (veh/h) PHF Truck (%) RV (%) V _{FF} 1241 0.87 1 0 V _{RF} 865 0.89 3 0 V _{FR} 929 0.87 4 0 V _{RR} 45 0.87 3 0 V _{NW} 1487 0 0 0 V _W 2075 0 0 0 0	Freeway mini Freeway max				
Weaving number of lanes, N 3 Weaving segment length, L _s 950ft Freeway free-flow speed, FFS 50 mph Conversions to pc/h Under Base Conditions V (veh/h) PHF Truck (%) RV (%) V _{FF} 1241 0.87 1 0 V _{RF} 865 0.89 3 0 V _{FR} 929 0.87 4 0 V _{RR} 45 0.87 3 0 V _{NW} 1487 0 0 0 V _W 2075 0 0 0 0	Freeway mini Freeway max				
V (veh/h) PHF Truck (%) RV (%) V _{FF} 1241 0.87 1 0 V _{RF} 865 0.89 3 0 V _{FR} 929 0.87 4 0 V _{RR} 45 0.87 3 0 V _{NW} 1487 V _W 2075		imum speed,	*******		Freeway 40 2100 Leve
V (veh/h) PHF Truck (%) RV (%) V _{FF} 1241 0.87 1 0 V _{RF} 865 0.89 3 0 V _{FR} 929 0.87 4 0 V _{RR} 45 0.87 3 0 V _{NW} 1487 V _W 2075					
V _{RF} 865 0.89 3 0 V _{FR} 929 0.87 4 0 V _{RR} 45 0.87 3 0 V _{NW} 1487 V _W 2075	E _T	ER	f _{HV}	fр	v (pc/h)
V _{RF} 865 0.89 3 0 V _{FR} 929 0.87 4 0 V _{RR} 45 0.87 3 0 V _{NW} 1487 V _W 2075	1.5	1.2	0.995	1.00	1434
V _{FR} 929 0.87 4 0 V _{RR} 45 0.87 3 0 V _{NW} 1487 V _W 2075	1.5	1.2	0.985	1.00	986
V _{RR} 45 0.87 3 0 V _{NW} 1487 V _W 2075	1.5	1.2	0.980	1.00	1089
V _{NW} 1487 V _W 2075	1.5	1.2	0.985	1.00	53
V _W 2075				V =	3545
Configuration Characteristics					
Minimum maneuver lanes, N _{WL} 2 Ic	Minimum we	aving lane cl	nanges, LC _{MIN}		1089 lc/l
Interchange density, ID 1.0 int/mi	Weaving lan	e changes, L	.C _w		1245 lc/h
Minimum RF lane changes, LC _{RF} 0 lc/pc	Non-weaving	g lane chang	es, LC _{NW}		243 lc/l
Minimum FR lane changes, LC _{FR} 1 lc/pc	Total lane ch	nanges, LC _{AL}	L		1488 lc/h
Minimum RR lane changes, LC _{RR} lc/pc	Non-weaving	g vehicle inde	ex, I _{NW}		141
Weaving Segment Speed, Density, Level of	Service,	and Cap	acity		
Weaving segment flow rate, v 3545 veh/h	Weaving inte	ensity factor,	W		0.32
Weaving segment capacity, c _w 4099 veh/h	Weaving seg	gment speed	, 8		42.2 mpl
Weaving segment v/c ratio 0.865	Average we		**		47.6 mpl
Weaving segment density, D 28.1 pc/mi/ln		n-weaving sp			36.5 mpl
Level of Service, LOS D	Maximum w	eaving length	ı, L _{MAX}		8807
Notes a. Weaving segments longer than the calculated maximum length should					

Table 11 - Weave Analysis Report for Afternoon Peak Hour at Location 3: I-91 Southbound Exit 3 on-ramp and Exit 1 off-ramp.

		F	REEWAY	WEAV	NG WOF	RKSHEE	Г		
Genera	Information	on			Site Info	rmation			
	med	R.A. PVPC 8/12/20 PM Pea rridor Study			Freeway/Dir Weaving Seç Analysis Yea	gment Location	SB on 3:I-91 2013	off&on-ramp	near Exit 1
Inputs									
Weaving se Freeway fre	mber of lanes, N gment length, L e-flow speed, Ff	S		One-Sided 3 950ft 50 mph	Freeway ma: Terrain type	imum speed, ximum capac			Freeway 40 2100 Leve
Conver	sions to po	h Unde	r Base Co	ndition					
	V (veh/h)	PHF	Truck (%)	RV (%)	E _T	E _R	f _{HV}	fp	v (pc/h)
V _{FF}	· 1241	0.94	8	0	1.5	1.2	0.962	1.00	1373
V_{RF}	468	0.90	2	0	1.5	1.2	0.990	1.00	525
V _{FR}	1257	0.95	1	0	1.5	1.2	0.995	1.00	1330
V _{RR}	338	0.93	1	0	1.5	1.2	0.995	1.00	365
V _{NW}	1738							V =	3455
v _w	1855								
VR	0.516								
Configu	iration Cha	aracteris	tics						
Minimum m	naneuver lanes, l	N _{WL}		2 lc	Minimum we	eaving lane cl	nanges, LC _{MIN}		1330 lc/h
Interchange	e density, ID			1.0 int/mi	Weaving lan	ne changes, L	.C _w		1486 lc/h
Minimum R	F lane changes,	LC _{RF}		0 lc/pc	Non-weaving	g lane chang	es, LC _{NW}		295 lc/h
Minimum F	R lane changes,	LC _{FR}		1 lc/pc	Total lane cl	hanges, LC _{AL}	L		1781 lc/h
Minimum R	R lane changes,	, LC _{RR}		lc/pc	Non-weaving	g vehicle inde	ex, I _{NW}		165
Weavin	g Segment	Speed.	Density,	Level of	Service,	and Cap	acity		
	egment flow rate			3455 veh/h		ensity factor,			0.371
and the contract of the contra	egment capacity,	-		4470 veh/h	Weaving se	gment speed	, S		40.2 mph
Weaving se	egment v/c ratio	-		0.773	Average we	aving speed,	S _w		47.3 mph
	egment density,	D	2	9.8 pc/mi/ln	Average nor	n-weaving sp	eed, S _{NW}		34.7 mph
Level of Se	rvice, LOS			D	Maximum w	eaving length	ı, L _{max}		8017 f
Notes									
Chapter 13,	segments longer to "Freeway Merge a es that exceed the	and Diverge Se	egments",			solated merge	and diverge ar	eas using the	procedures of

Table 12 - Weave Analysis Report for Morning Peak Hour at Location 4: I-91 Southbound on and off-ramps at Exit 1.

_			REEWAY	WEAV			Τ		
Genera	l Informati	on			Site Info	rmation			
11254-8754-0	rmed me Period	R.A. PVPC 8/23/20 AM	013		Freeway/Dir Weaving Seg Analysis Yea	ment Location	SB on 4: Exit 2013	1 on & off-ra	amps
	scription I-91 Co	rridor Study							
Inputs		5-/							
Weaving n Weaving s	onfiguration umber of lanes, N egment length, L ee-flow speed, F	S	- R	One-Sided 2 300ft 40 mph	Segment typ Freeway min Freeway max Terrain type	imum speed			Freewa 30 210 Leve
Conve	rsions to p	c/h Unde	r Base Co	ndition	S				
	V (veh/h)	PHF	Truck (%)	RV (%)	E _T	E _R	f _{HV}	fp	v (pc/h)
V _{FF}	342	0.90	1	0	1.5	1.2	0.995	1.00	382
V_{RF}	1	0.25	50	0	1.5	1.2	0.800	1.00	5
V_{FR}	18	0.71	0	0	1.5	1.2	1.000	1.00	25
V _{RR}	867	0.88	5	0	1.5	1.2	0.976	1.00	1010
V _{NW}	1392							V =	
v _w	30								
VR	0.021								
Config	uration Ch	aracteris	tics						
Minimum i	naneuver lanes,	N _{WL}		2 lc	Minimum we	eaving lane c	hanges, LC _{MIN}		30 lc/h
Interchang	je density, ID			1.0 int/mi	Weaving lan	e changes, L	.C _w		30 lc/h
Minimum 9	RF lane changes	, LC _{RF}		1 lc/pc	Non-weaving	g lane chang	es, LC _{NW}		64 lc/r
Minimum i	FR lane changes	, LC _{FR}		1 lc/pc	Total lane ch	nanges, ŁC _{AL}	L		94 lc/t
Minimum I	RR lane changes	, LC _{RR}		lc/pc	Non-weaving	g vehicle inde	ex, I _{NW}		42
Weavir	ng Segmen	t Speed,	Density,	Level of	Service,	and Cap	acity		
	egment flow rate			veh/h	Weaving inte	ensity factor,	W		0.090
Weaving s	egment capacity	, C _w		veh/h	Weaving seg	gment speed	, S		36.4 mph
_	egment v/c ratio				Average we		**		39.2 mpl
_	segment density,	D	1	9.5 pc/mi/ln	Average nor				36.4 mpl
Level of S	ervice, LOS			В	Maximum w	eaving length	ı, L _{max}		2791 f
Notes									
Chapter 13,	segments longer t "Freeway Merge : nes that exceed th	and Diverge So	egments".			solated merge	and diverge an	eas using the	procedures of

Table 13 - Weave Analysis Report for Afternoon Peak Hour at Location 4: I-91 Southbound on and off-ramps at Exit 1.

			REEWAY	/ WEAV	NG WOF	RKSHEE	Т		
General	Informatio	on			Site Info	rmation			
	ned	R.A. PVPC 8/23/20 PM ridor Study	13		Freeway/Dir Weaving Se Analysis Yea	gment Locati	SB on 4: Exil 2013	t 1 on & off-ra	ımps
Inputs									
Weaving seg Freeway free	mber of lanes, N gment length, L _s e-flow speed, FF	rs .		40 mpn	Freeway ma Terrain type	nimum speed ximum capad	10000		Freeway 30 2100 Leve
Convers	ions to po							Y	
	V (veh/h)	PHF	Truck (%)	RV (%)	E _T	ER	f _{HV}	fp	v (pc/h)
V_{FF}	266	0.82	2	0	1.5	1.2	0.990	1.00	328
V _{RF}	- 4	0.33	0	0	1.5	1.2	1.000	1.00	12
V _{FR}	46	0.74	0	0	1.5	1.2	1.000	1.00	62
V _{RR}	1370	0.95	2	0	1.5	1.2	0.990	1.00	1457
V _{NW}	1785					4	•	V =	1841
v _w	74								
VR	0.040								
Configu	ration Cha	racterist	ics						
Minimum m	aneuver lanes, N	√wı.		2 lc	Minimum we	eaving lane c	hanges, LC _{MIN}		74 lc/h
Interchange	density, ID			1.0 int/mi	Weaving lan	ne changes, L	_C _w		74 lc/h
Minimum RI	ane changes,	LC _{RF}		1 lc/pc	Non-weaving	g lane chang	es, LC _{NW}		145 lc/h
Minimum FF	R lane changes,	LC _{FR}		1 lc/pc	Total lane ch	hanges, LC	1		219 lc/h
Minimum Ri	R lane changes,	LC _{RR}		lc/pc	Non-weaving	g vehicle inde	ex, I _{NW}		54
Weaving	Segment	Speed,	Density, I	Level of	Service,	and Car	pacity		
Weaving se	gment flow rate,	v		1841 veh/h	Weaving into	ensity factor,	W		0.176
	gment capacity,			3754 veh/h	Weaving se	gment speed	, S		35.1 mph
Weaving se	gment v/c ratio			0.490	Average we	aving speed,	S _w		38.5 mph
_	gment density, [)	20	6.5 pc/mi/ln	Average nor	n-weaving sp	eed, S _{NW}		35.0 mph
Level of Ser	vice, LOS			С	Maximum w	eaving length	n, L _{max}		2965 f
Notes									
Chapter 13, "	egments longer the Freeway Merge a es that exceed the	nd Diverge Se	gments".			solated merge	and diverge are	eas using the	procedures of

Table 14 - Weave Analysis Report for Morning Peak Hour at Location 5: I-91 Northbound near Exit 2.

		F	REEWAY	WEAV	NG WOF	RKSHEE	T					
Genera	I Information	on			Site Info	rmation						
	med	R.A. PVPC 8/23/20 AM	113		Freeway/Dir of Travel NB Weaving Segment Location 5: Exit 2 on and off-ramps Analysis Year 2013							
Inputs												
Weaving se	onfiguration umber of lanes, N egment length, L _s ee-flow speed, Ff	3		One-Sided 4 300ft 50 mph	Erooway ma	nimum speed ximum capad			Freewa 4 210 Leve			
Conver	sions to po	/h Unde	r Base Co		-				_			
	V (veh/h)	PHF	Truck (%)	RV (%)	E _T	ER	f _{HV}	fp	v (pc/h)			
V _{FF}	679	0.91	6	0	1.5	1.2	0.971	1.00	769			
V_{RF}	1294	0.91	· 2	0	1.5	1.2	0.990	1.00	1436			
V _{FR}	167	0.79	4	0	1.5	1.2	0.980	1.00	216			
V _{RR}	48	0.90	4	0	1.5	1.00	54					
V _{NW}	823							V =	2403			
v _w	1652											
VR	0.667											
Configu	uration Cha	aracteris	tics									
Minimum n	naneuver lanes, l	N _{WL}		2 lc	Minimum we	eaving lane c	hanges, LC _{MIN}		1652 lc/l			
Interchange	e density, ID			1.0 int/mi	Weaving lar	ne changes, L	_C _w		1652 lc/l			
Minimum F	RF lane changes,	LC _{RF}		1 lc/pc	Non-weavin	g lane chang	es, LC _{NW}		0 lc/l			
Minimum F	R lane changes,	LC _{FR}		1 lc/pc	Total lane c	hanges, LC _{AL}	L		1652 lc/l			
Minimum F	RR,lane changes,	LC _{RR}		lc/pc	Non-weavin	g vehicle inde	ex, I _{NW}		25			
Weavin	g Segment	Speed,	Density,	Level of	Service,	and Cap	oacity					
Weaving se	egment flow rate,	. v		2403 veh/h	Weaving int	ensity factor,	W		0.86			
Weaving s	egment capacity,	C _w		3491 veh/h	Weaving se	gment speed	l, S		41.4 mpl			
Weaving se	egment v/c ratio			0.688	Average we	aving speed,	S _w		45.4 mpl			
-	egment density, I	D	1	5.0 pc/mi/ln	Average no	n-weaving sp	eed, S _{NW}		35.1 mpl			
Level of Se	ervice, LOS			В	Maximum w	eaving length	h, L _{MAX}		9849			
Notes					-							
Chapter 13.	segments longer the "Freeway Merge a les that exceed the	and Diverge Se	gments",			solated merge	and diverge an	eas using the	procedures of			

Table 15 - Weave Analysis Report for Afternoon Peak Hour at Location 5: I-91 Northbound near Exit 2.

		F	REEWAY	/ WEAV	NG WOR	KSHEE	Т		
Genera	I Informatio	on			Site Info	rmation			٠
Analyst Agency/Co Date Perfor Analysis Ti Project Des	rmed	R.A. PVPC 8/23/20 PM ridor Study	113		Freeway/Dir Weaving Seg Analysis Yea	ment Location	NB on 5: Exi 2013	t 2 on and off	f-ramps
Weaving co Weaving no Weaving so Freeway fro	onfiguration umber of lanes, N egment length, L _s ee-flow speed, FF	rs .		One-Sided 4 300ft 50 mph	Segment typ Freeway min Freeway max Terrain type	imum speed	141114		Freeway 40 2100 Leve
Conver	sions to po					-	Ι,		I (==#5)
	V (veh/h)	PHF	Truck (%)	RV (%)	EŢ	E _R	f _{HV}	fp	v (pc/h)
V _{FF}	985	0.88	3	0	1.5	1.2	0.985	1.00	1136
V _{RF}	948	0.92	2	0	1.5	1.2	0.990	1.00	1041
V _{FR}	311	0.91	3	0	1.5	1.2	0.985	1.00	347
V _{RR}	34	0.90	2	0	1.5	1.2	0.990	1.00	38
V _{NW}	1174							V =	2525
V _w	1388								
VR	0.542								
Config	uration Cha	racterist	ics						
Minimum r	naneuver lanes, N	\ _{WL}		2 lc	Minimum we	aving lane c	hanges, LC _{MIN}		1388 lc/h
Interchang	e density, ID			1.0 int/mi	Weaving lan	e changes, L	.C _w		1388 lc/h
Minimum F	RF lane changes,	LC _{RF}		1 lc/pc	Non-weaving	g lane chang	es, LC _{NW}		0 lc/h
Minimum F	R lane changes,	LC _{FR}		1 lc/pc	Total lane ch	nanges, LC _{AL}	L		1388 lc/h
Minimum F	RR lane changes,	LC _{RR}		lc/pc	Non-weaving	g vehicle inde	ex, I _{NW}		35
Weavin	g Segment	Speed,	Density, I	Level of	Service,	and Car	acity		
Weaving s	egment flow rate,	٧		2525 veh/h	Weaving inte	ensity factor,	W		0.757
	egment capacity,			4365 veh/h	Weaving seg	gment speed	, S		41.2 mph
Weaving s	egment v/c ratio			0.578	Average wea	aving speed,	S _w		45.7 mph
	egment density, [)	1	5.5 pc/mi/ln	Average nor	n-weaving sp	eed, S _{NW}		36.9 mph
Level of Se	ervice, LOS			В	Maximum w	eaving length	i, L _{max}		8319 ft
Notes					***************************************				
Chapter 13,	segments longer th "Freeway Merge a nes that exceed the	nd Diverge Se	gments",			solated merge	and diverge ar	eas using the	procedures of

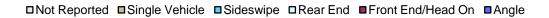
Table 16 - Comprehensive Crash Data by Highway Segment, 2007 to 2009 (Part 1).

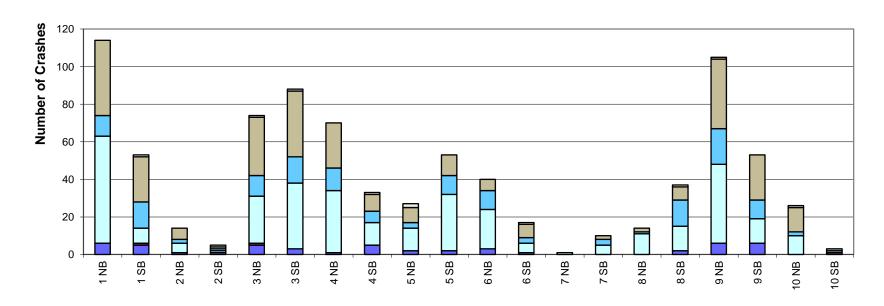
				Severity					Mar	ner of Collisi	on			Weather Conditions										Percent
Segment	Direction	Fatal Injury	Non-Fatal Injury	Property Damage Only	Unknown	Totals	Angle	Front End/ Head On	Rear End	Sideswipe / Same Direction	Single Vehicle	Not Reported	Totals	Clear	Cloudy	Rain	Sleet / Freezing Rain	Snow	Fog / Smoke	High Winds	Not Reported	Totals		of Total
	NB	0	33	75	6	114	6	0	57	11	40	0	114	81	9	10	2	8	1	0	3	114	407	
	SB	0	14	37	2	53	5	1	8	14	24	1	53	22	6	1	4	16	0	0	4	53	167	
_	Unknown	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		20%
1	NB %	0%	29%	66%	5%	100%	5%	0%	50%	10%	35%	0%	100%	71%	8%	9%	2%	7%	1%	0%	3%	100%	68%	
	SB %	0%	26%	70%	4%	100%	9%	2%	15%	26%	45%	2%	100%	42%	11%	2%	8%	30%	0%	0%	8%	100%	32%	
	Unknown %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	NB	0	4	10	0	14	1	0	5	2	6	0	14	7	2	2	1	0	0	0	2	14	19	
	SB	0	2	3	0	5	1	0	1	1	1	1	5	1	2	1	0	1	0	0	0	5	10	
2	Unknown	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0		2%
_	NB %	0%	29%	71%	0%	100%	7%	0%	36%	14%	43%	0%	100%	50%	14%	14%	7%	0%	0%	0%	14%	100%	74%	
	SB %	0%	40%	60%	0%	100%	20%	0%	20%	20%	20%	20%	100%	20%	40%	20%	0%	20%	0%	0%	0%	100%	26%	
	Unknown %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	NB	0	17	52	5	74	5	1	25	11	31	1	74	36	12	14	1	6	1	0	4	74	165	
	SB	1	20	59	8	88	3	0	35	14	35	1	88	52	14	8	1	6	0	0	7	88		
3	Unknown	0	1	1	1	3	0	1	1	0	1	0	3	3	0	0	0	0	0	0	0	3		19%
	NB %	0%	23%	70%	7%	100%	7%	1%	34%	15%	42%	1%	100%	49%	16%	19%	1%	8%	1%	0%	5%	100%	45%	
	SB %	1%	23%	67%	9%	100%	3%	0%	40%	16%	40%	1%	100%	59%	16%	9%	1%	7%	0%	0%	8%	100%	53%	
	Unknown %	0%	33%	33%	33%	100%	0%	33%	33%	0%	33%	0%	100%	100%	0%	0%	0%	0%	0%	0%	0%	100%	2%	
	NB	0	21	45	4	70	1	0	33	12	24	0	70	42	11	12	0	0	0	0	5	70	104	
	SB	0	7	23	3	33	5	0	12	6	9	1	33	23	6	2	0	1	0	0	1	33		
4	Unknown	0	0	0	1_	1	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1		12%
	NB %	0%	30%	64%	6%	100%	1%	0%	47%	17%	34%	0%	100%	60%	16%	17%	0%	0%	0%	0%	7%	100%	67%	
	SB %	0%	21%	70%	9%	100%	15%	0%	36%	18%	27%	3%	100%	70%	18%	6%	0%	3%	0%	0%	3%	100%	32%	
	Unknown %	0%	0%	0%	100%	100%	100%	0%	0%	0%	0%	0%	100%	100%	0%	0%	0%	0%	0%	0%	0%	100%	1%	
	NB	0	6	19	2	27	2	0	12	3	8	2	27	17	1	4	0	2	0	0	3	27	80	
	SB	1	18	33	1	53	2	0	30	10	11	0	53	40	3	3	0	3	0	0	4	53		00/
5	Unknown NB %	0%	0 22%	0 70%	0 7%	100%	7%	0 0%	0 44%	0 11%	30%	0 7%	100%	63%	<u> </u>	15%	00/	70/	0	<u> </u>	11%	100%	34%	9%
	SB %	2%	34%	70% 62%	7% 2%	100%	4%	0%	44% 57%	11%	30% 21%	7% 0%	100%	75%	4% 6%		0% 0%	7% 6%	0% 0%		8%	100%	34% 66%	
																6%				0%		ĺ		
	Unknown %	0%	0%	0%	<u>0%</u> 1		0% 3	<u>0%</u> 0	0%	0%	0%	0% 0	40	0%	0%	0%	0%	<u>0%</u> 4	<u>0%</u> 0	0%	0%	0%	0%	
	NB SB	0	12 5	27 11	1	40 17	3	0	21 5	10	6 7	1	40 17	26 12	3 2	0	0	3	0	0	6	40 17	58	
	Unknown	0	0	1	0	Ì	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0	1		7%
6	NB %	0%	30%	68%	3%	100%	8%	0%	53%	25%	15%	0%	100%	65%	8%	0%	0%	10%	0%	3%	15%	100%	69%	1 /0
	SB %	0%	29%	65%	6%	100%	6%	0%	29%	18%	41%	6%		71%	12%	0%	0%	18%	0%	0%	0%	100%	29%	
	Unknown %	0%	0%		0%		0%	0%	0%	100%	0%	0%	100%	0%	100%	0%	0%		0%	0%	0%	100%	2%	
<u> </u>	JIKIIOWII /0	U /0	U /0	100 /6	0 /0	10076	0 /0	0 /0	U /0	10076	U /0	U /0	100 /6	U /0	100 /0	U /0	070	U /0	U /0	U /0	0 /0	100 /6	Z /0	

Table 16 Comprehensive Crash Data by Highway Segment, 2007 to 2009 (Part 2).

				Severity					Mar	ner of Collision	on						Weather	Condi	tions				Totals	Percent
Segment	Direction	Fatal Injury	Non-Fatal Injury	Property Damage Only	Unknown	Totals	Angle	Front End/ Head On	Rear End	Sideswipe / Same Direction	Single Vehicle	Not Reported	Totals	Clear	Cloudy	Rain	Sleet / Freezing Rain	Snow	Fog / Smoke	High Winds	Not Reported	Totals		of Total
	NB	0	0	1	0	1	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	1	12	
	SB	0	2	8	0	10	0	0	5	3	2	0	10	4	1	3	0	2	0	0	0	10		
7	Unknown	0	0	0	1	1	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	1		1%
•	NB %	0%	0%	100%	0%	100%	0%	0%	100%	0%	0%	0%	100%	100%	0%	0%	0%	0%	0%	0%	0%	100%	8%	
	SB %	0%	20%	80%	0%	100%	0%	0%	50%	30%	20%	0%	100%	40%	10%	30%	0%	20%	0%	0%	0%	100%	83%	
	Unknown %	0%	0%	0%	100%	100%	0%	0%	100%	0%	0%	0%	100%	100%	0%	0%	0%	0%	0%	0%	0%	100%	8%	
	NB	0	6	6	2	14	0	0	11	1	2	0	14	11	1	1	0	0	0	0	1	14	52	
	SB	0	8	28	1	37	2	0	13	14	7	1	37	22	7	6	0	0	0	0	2	37	02	
8	Unknown	0	0	1	0	1	0	0	0	1	0	0	1	1	0	0	0	0	0	0	0	1		6%
0	NB %	0%	43%	43%	14%	100%	0%	0%	79%	7%	14%	0%	100%	79%	7%	7%	0%	0%	0%	0%	7%	100%	27%	
	SB %	0%	22%	76%	3%	100%	5%	0%	35%	38%	19%	3%	100%	59%	19%	16%	0%	0%	0%	0%	5%	100%	71%	
	Unknown %	0%	0%	100%	0%	100%	0%	0%	0%	100%	0%	0%	100%	100%	0%	0%	0%	0%	0%	0%	0%	100%	2%	
	NB	0	27	68	10	105	6	0	42	19	37	1	105	63	14	6	2	15	0	0	5	105	167	
	SB	0	14	36	3	53	6	0	13	10	24	0	53	31	7	6	1	6	0	0	2	53	107	
9	Unknown	0	3	6	0	9	0	0	0	1	7	1	9	5	0	1	0	2	0	0	1	9		20%
9	NB %	0%	26%	65%	10%	100%	6%	0%	40%	18%	35%	1%	100%	60%	13%	6%	2%	14%	0%	0%	5%	100%	63%	
	SB %	0%	26%	68%	6%	100%	11%	0%	25%	19%	45%	0%	100%	58%	13%	11%	2%	11%	0%	0%	4%	100%	32%	
	Unknown %	0%	33%	67%	0%	100%	0%	0%	0%	11%	78%	11%	100%	56%	0%	11%	0%	22%	0%	0%	11%	100%	5%	
	NB	0	7	19	0	26	0	0	10	2	13	1	26	16	3	2	2	2	0	0	1	26	32	
	SB	0	1	2	0	3	0	1	0	1	1	0	3	1	0	0	0	1	0	0	1	3	32	
10	Unknown	0	3	0	0	3	0	0	3	0	0	0	3	2	1	0	0	0	0	0	0	3		4%
10	NB %	0%	27%	73%	0%	100%	0%	0%	38%	8%	50%	4%	100%	62%	12%	8%	8%	8%	0%	0%	4%	100%	81%	
	SB %	0%	33%	67%	0%	100%	0%	33%	0%	33%	33%	0%	100%	33%	0%	0%	0%	33%	0%	0%	33%	100%	9%	
	Unknown %	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%	0%	100%	67%	33%	0%	0%	0%	0%	0%	0%	100%	9%	
Totals	Count	2	220	550	52	856	50	3	331	147	282	11	856	502	102	80	12	75	2	1	50	856	856	100%
		0%	26%	64%	6%	100%	6%	0%	39%	17%	33%	1%	100%	59%	12%	9%	1%	9%	0%	0%	6%	100%	100%	

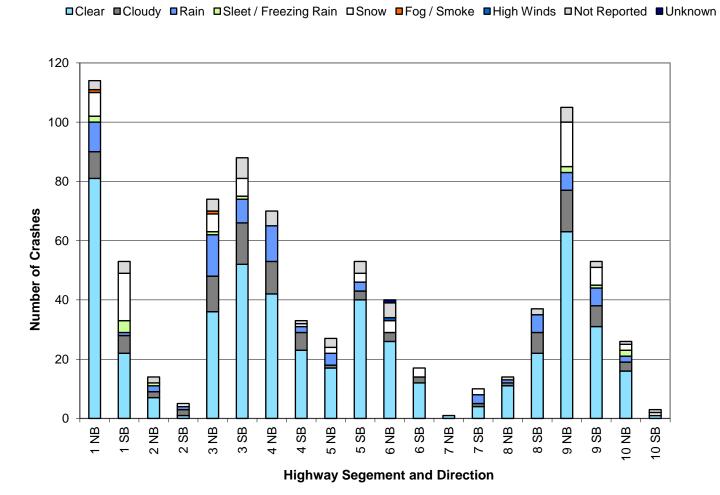
Figure 25 - Crashes Categorized by Manner of Collision.





Highway Segment and Direction

Figure 26 - Crashes Categorized by Weather Conditions.



turn left onto East Columbus it's trailer got caught on the vehicle to its left collision 45-Vehicle taking right on to Main from East columbus was stopped in traffic and was collision 6 - vehicle traveling east on . Main stattempted to make a left turn on to East Columbus Ave but failed to yield to a cor passing steright through the intersection going West on Main St. at time of accident collision 9 - vehicle traveling North on East Columbus Ave attempted to make a left turn onto Man st from a Straight Only lans. collision to - vehicles brakes were no working properly and road was avoid hitting other vehicles collision 11 - vehicle turning right on to Man st isian 14. vehicle turning left onto Each columbus from Main St. failed to stop for Stop sign and collided vehicle North bound on East columbus Ave. ision 18 - vehicle traveling wrong direction on . a st callided with vehicle traveling from West indus Ave to East Columbus Ave on Moin St. sion 12,13,15, and 17 - vahicle driving East on Mainst red light at intersection of Main and East Columbus Air 2 in 20 th vehicle turning left onto East Columbus Ave a main St failed to grant right of way North bound traffic on East Columbus Ave and collided. sion 21 - vehicle briving Northon East columbus true can red it at intersection of Main Stand Columbus Ave

Figure 27 - Collision Diagram for Main Street at East Columbus Avenue Intersection.

Figure 28 - Collision Diagram for Main Street at West Columbus Avenue Intersection.

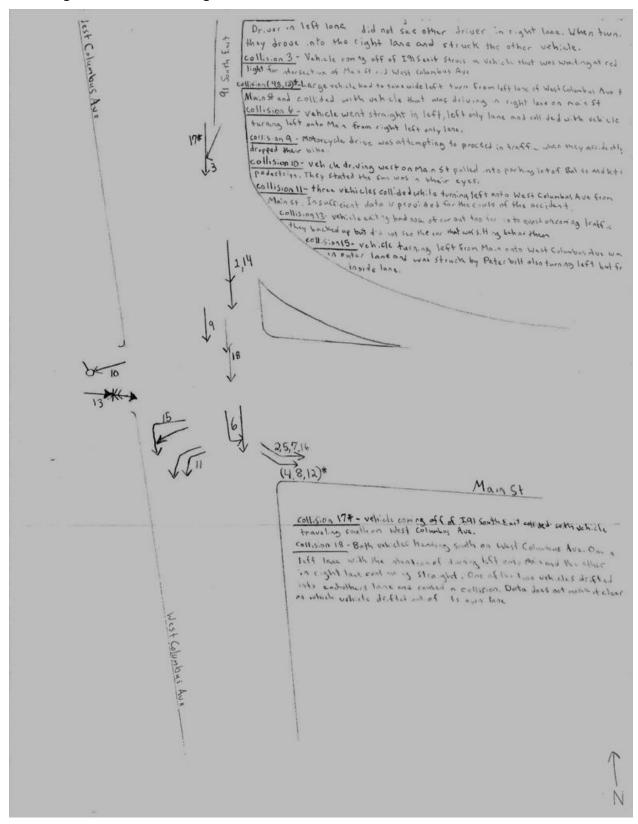


Figure 29 - Collision Diagram for Main Street at Longhill Street Intersection.

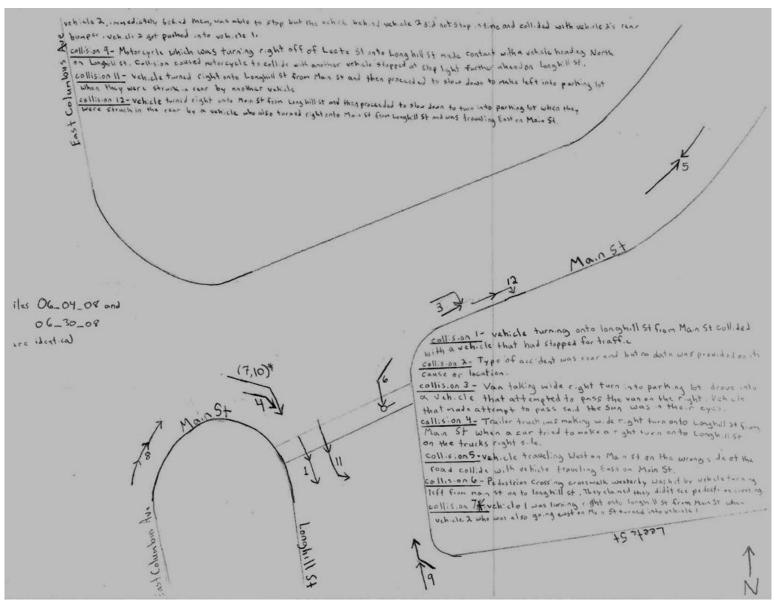


Figure 30 - Collision Diagram for Mill Street at East Columbus Avenue Intersection.

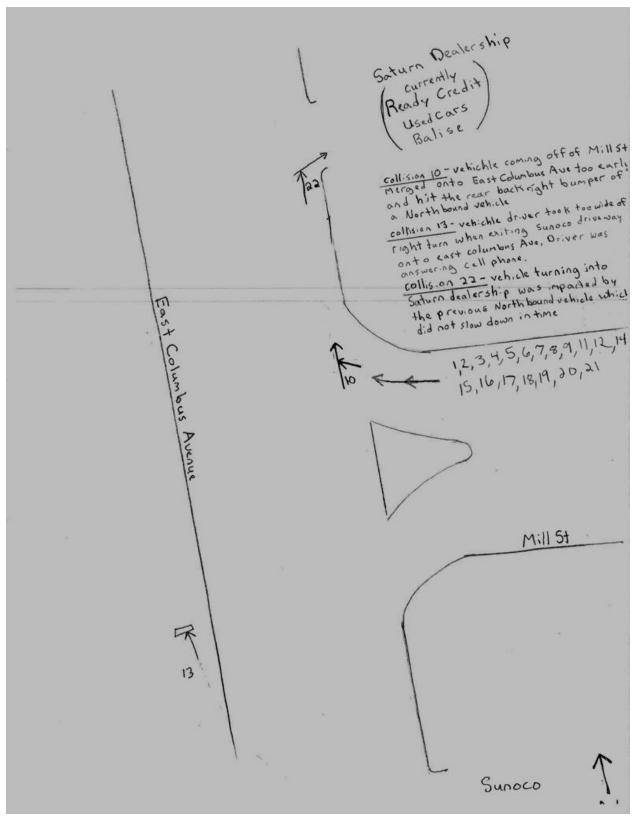


Figure 31 - Collision Diagram for Broad Street at East Columbus Avenue Intersection.

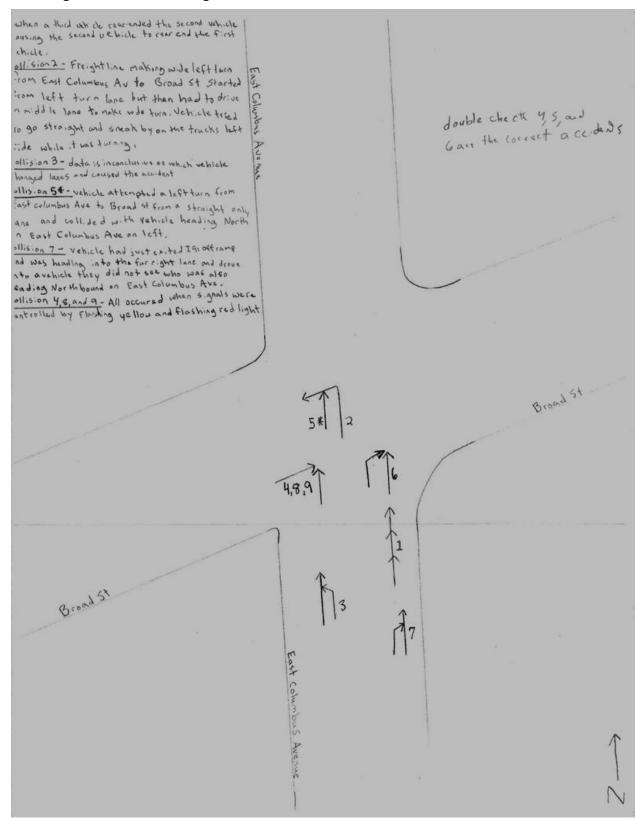
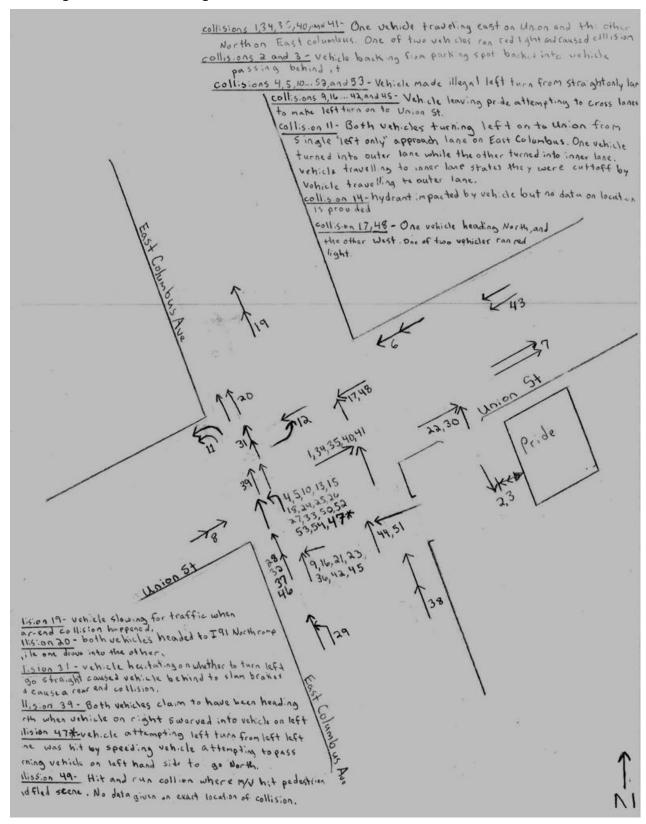


Figure 32 - Collision Diagram for Union Street at East Columbus Avenue Intersection.



Collision II- vehicle in left most lane wanted to go straight but realized they had to switch lanes to late and in the but realized they had to switch lanes to late and in the afterpot, they collided with a vehicle turning left onto Unic afterpot, they collided with a vehicle turning left off of Collisions 13, lle, 20, and 21-Both Jehicles turning left off of Collisions 13, lle, 20, and 21-Both Jehicles turning left off of Collisions 13, lle, 20, and 21-Both Jehicles turning left off of Collisions 13, lle, 20, and 21-Both Jehicles turning left of the collisions of Collisions Ave on to Union st when vehicle in including with other vehicles turning left onto the collisions.

Figure 33 - Collision Diagram for Union Street at West Columbus Avenue Intersection.

going west on state stand coll bet with vehicle going North on East columbus collision 2 padestrian walked into Irwas right of way to vehicle traveling straight throug into red querned State of , web, che heading West on State and web, che heading North on East columbus collided in intersection. collis on 10 - vehicle heading North on State St busin to turn ight onto East columbons Ave when they collided with the trailer tatruck who was East Bound on State St and turning left head North on East Columbus Ave.

Figure 34 - Collision Diagram for State Street at East Columbus Avenue Intersection.

Collision 1- Both relices turning left when the trailer of one web cle collided with the other.

- collision 2 - rehicle 1 turned left from west Columbus anto States they proceeded to drue straight from state st when their signal turned green and coll ded with sethick I who was passing in front of them. collision 3- No sufficient data provide on location of accident vehicle traveling in middle lane switched to right lane and cutoff vehicle in the process which had to recristo the early to avoid contact with the other collision 5 - vehicle exiting 1915 ramp ranned into book of car slowing down for condensed traffic at State St and West Columbus Ave intersection. Collision on 03.01.09 States that is occurred at state st but diagram Suggest it occurred at Memorial

Figure 35 - Collision Diagram for State Street at West Columbus Avenue Intersection.

- File 07-02-09 contains add toral crash From Boyst -Only counted 34 crashes East columbus Ave Parking Garage collision 1,3, and 5 reports contain in Sufficient data on location collision 2-back tear bunger of carrier ight lane was struck by carrier left lane when trying to drive around a parked car collision 24 - vehicle driving West on Boland Way attempted a lef turn on to east columbus (which is a one way) and collided with collision 22 - vehicle in front vehicle driving east on Boland Way. collision 14 - vehicle driving west on Boland Way lost control slowed down due to heavy traff. 6 of vehicle due to wet surface and hit aconcrete post and vehicle in rear was not collision 31 - vehicule advancing West through intersection on able to slow down in time due Boland way was struck by wehicle traveling East on Boland way to wet road conditions. attempting to turn left on red turn signal collision 27 - insufficient data explaining situation collision 17 - vehicle in far right lane began to drift into vehicle in left lane. Insufficient data provided

Figure 36 - Collision Diagram for Boland Way at East Columbus Avenue Intersection.

ision I and 2 vehicle coming off of and governor by flashing red and stopped it . It's relieve proceeded into intersection ias hit by rehide approaching from West nous Avenue governed by a flashing yellow. .5.6 . 3 - Both vehides stopped to allow an sency visite to pass. After it passed vehicle in e proceeded to dease assuming the vehicle infront had , begun to drive, but it had not. isian 6 - Vehicle I who was stack in gueue in far left lage Buland way, attempted to buyout queue by switching to middle lane collision 13 - first which in queue at intersection reversed into truck No reason ; num for reverse manequer. in so doing collided with vehicle 2 who had a green light a Menor at bridge to grocked into middle law of Boland way. collision 15 - Broke down wehicle partied on side of west sions 5,12,14 - typical rear end collisions Columbus Ave left driver door \$1, ghtly open. On coming we have sion 7- vehicle suddenly braking to make left collision 17- websile in far left lane traveling at right I coused vehicles in rear to collide! did not realize lane was ending and when clowing 5:09 9- vehicle turning right on red off of wint bridge failed to check for traffic down to merge into right lane their vehicle ing left from Boland Way and callided. lost control due the wet road surface and stid into parking lot entrance island. Parking

Figure 37 - Collision Diagram for Boland Way at West Columbus Avenue Intersection.