

Appendix M

- *HCS Analysis Reports*
- *Turn Lane Warrant Analysis*

Intersection Capacity Tables

INTER-SECTION	TIME OF DAY	DESCRIPTION	LANES (NOTES)	DELAY (LEVEL OF SERVICE)												Intersection Delay/LOS				
				Eastbound				Westbound				Northbound					Southbound			
				Left Turn Lane(s)	Through Lane Groups	Right Turn Lane(s)	Approach	Left Turn Lane(s)	Through Lane Groups	Right Turn Lane(s)	Approach	Left Turn Lane(s)	Through Lane Groups	Right Turn Lane(s)	Approach		Left Turn Lane(s)	Through Lane Groups	Right Turn Lane(s)	Approach
(10) SR 94 (Ridge Rd) & SR 3 (Ledge Rd)	AM PEAK	2030 NO BUILD	EXISTING CONDITIONS	39.0 (D)	237.1 (F)	207.6 (F)		39.4 (D)		39.4 (D)	132.9 (F)	7.4 (A)		152.3 (F)	8.8 (A)	17.6 (B)		17.4 (B)	91.8 (F)	
		2030 NO BUILD	ALT A	49.1 (D)	134.7 (F)	292.1 (F)		59.1 (E)		59.1 (E)	132.8 (F)	10.3 (B)		143.9 (F)	14.3 (B)	132.1 (F)		129.1 (F)	171.1 (F)	
		2030 NO BUILD	ALT B	12.8 (B)		12.8 (B)		4.9 (A)		4.9 (A)	4.5 (A)	4.6 (A)		4.5 (A)		8.2 (A)		8.2 (A)	6.5 (A)	
		2030 BUILD	EXISTING CONDITIONS	25.4 (C)	29.2 (C)	28.1 (C)		25.7 (C)		25.7 (C)	24.2 (C)	5.4 (A)		12.1 (B)	6.3 (A)	9.5 (A)		9.5 (A)	13.9 (B)	
		2030 BUILD	ALT B	7.5 (A)		7.5 (A)		4.5 (A)		4.5 (A)	3.8 (A)	4.6 (A)		4.3 (A)		7.2 (A)		7.2 (A)	6.1 (A)	
		2030 ALT 3 BUILD	EXISTING CONDITIONS	33.7 (C)	39.7 (D)	38.0 (D)		34.0 (C)		34.0 (C)	26.2 (C)	4.8 (A)		15.0 (B)	5.6 (A)	8.4 (A)		8.3 (A)	15.9 (B)	
		2030 ALT 3 BUILD	ALT B		7.5 (A)	7.5 (A)		4.9 (A)		4.9 (A)	4.5 (A)	4.6 (A)		4.5 (A)		8.2 (A)		8.2 (A)	6.5 (A)	
		2030 ALT 4 BUILD	EXISTING CONDITIONS	39.0 (D)	237.1 (F)	207.6 (F)		39.4 (D)		39.4 (D)	134.7 (F)	7.4 (A)		152.3 (F)	8.8 (A)	18.4 (B)		18.1 (B)	71.3 (E)	
		2030 ALT 4 BUILD	ALT B		12.8 (B)	12.8 (B)		4.5 (A)		4.5 (A)	3.8 (A)	4.6 (A)		4.3 (A)		7.2 (A)		7.2 (A)	8.3 (A)	
		2050 NO BUILD	EXISTING CONDITIONS	39.0 (D)	266.4 (F)	233.9 (F)		39.7 (D)		39.7 (D)	141.7 (F)	7.7 (A)		166.4 (F)	9.4 (A)	17.1 (B)		16.9 (B)	90.0 (F)	
		2050 NO BUILD	ALT A	49.2 (D)	170.6 (F)	324.6 (F)		60.6 (E)		60.6 (E)	190.3 (F)	10.7 (B)		133.0 (F)	14.3 (B)	184.1 (F)		160.6 (F)	187.8 (F)	
		2050 NO BUILD	ALT B	14.9 (B)		14.9 (B)		5.2 (A)		5.2 (A)	4.4 (A)	5.0 (A)		4.7 (A)		8.7 (A)		8.7 (A)	9.4 (A)	
		2050 BUILD	EXISTING CONDITIONS	28.8 (C)	34.6 (C)	33.0 (C)		29.3 (C)		29.3 (C)	27.8 (C)	5.5 (A)		12.1 (B)	6.6 (A)	10.3 (B)		10.2 (B)	15.3 (B)	
		2050 BUILD	ALT A	49.2 (D)	59.1 (E)	56.5 (E)		60.6 (E)		60.6 (E)	82.3 (F)	10.7 (B)		32.0 (C)	14.3 (B)	56.9 (E)		55.9 (E)	50.8 (D)	
		2050 BUILD	ALT B	8.3 (A)		8.3 (A)		4.8 (A)		4.8 (A)	3.8 (A)	5.0 (A)		4.6 (A)		7.6 (A)		7.6 (A)	6.6 (A)	
		2050 ALT 3 BUILD	EXISTING CONDITIONS	39.8 (D)	54.9 (D)	50.9 (D)		40.5 (D)		40.5 (D)	37.3 (D)	5.3 (A)		18.8 (B)	6.4 (A)	10.1 (B)		10.0 (A)	20.2 (C)	
	2050 ALT 3 BUILD	ALT B		8.3 (A)	8.3 (A)		5.2 (A)		5.2 (A)	4.4 (A)	5.0 (A)		4.7 (A)		8.7 (A)		8.7 (A)	6.9 (A)		
	2050 ALT 4 BUILD	EXISTING CONDITIONS	39.0 (D)	266.4 (F)	233.9 (F)		39.7 (D)		39.7 (D)	141.7 (F)	7.7 (A)		166.4 (F)	9.4 (A)	17.8 (B)		17.6 (B)	75.0 (E)		
	2050 ALT 4 BUILD	ALT B		14.9 (B)	14.9 (B)		4.8 (A)		4.8 (A)	3.8 (A)	5.0 (A)		4.6 (A)		7.6 (A)		7.6 (A)	9.2 (A)		
	PM PEAK	2030 NO BUILD	EXISTING CONDITIONS	43.1 (D)	113.0 (F)	96.7 (F)		45.3 (D)		45.3 (D)	137.1 (F)	6.7 (A)		77.6 (E)	9.3 (A)	8.1 (A)		8.1 (A)	55.9 (E)	
		2030 NO BUILD	ALT A	59.3 (E)	32.8 (C)	39.0 (D)		88.3 (F)		88.3 (F)	122.1 (F)	13.7 (B)		72.6 (E)	34.8 (C)	123.5 (F)		119.5 (F)		
		2030 NO BUILD	ALT B	8.0 (A)		8.0 (A)		9.4 (A)		9.4 (A)	7.1 (A)	6.2 (A)		6.7 (A)		13.4 (B)		13.4 (B)	8.4 (A)	
		2030 BUILD	EXISTING CONDITIONS	38.6 (D)	43.6 (D)	41.9 (D)		40.9 (D)		40.9 (D)	23.7 (C)	4.7 (A)		14.1 (B)	6.5 (A)	5.3 (A)		5.3 (A)	16.4 (B)	
		2030 BUILD	ALT B	6.4 (A)		6.4 (A)		8.5 (A)		8.5 (A)	6.1 (A)	6.2 (A)		6.2 (A)		11.2 (B)		11.2 (B)	7.5 (A)	
		2030 ALT 3 BUILD	EXISTING CONDITIONS	46.0 (D)	52.4 (D)	50.1 (D)		48.8 (D)		48.8 (D)	48.7 (D)	4.5 (A)		28.5 (C)	6.2 (A)	5.0 (A)		5.0 (A)	24.9 (C)	
		2030 ALT 3 BUILD	ALT B		6.4 (A)	6.4 (A)		9.4 (A)		9.4 (A)	7.1 (A)	6.2 (A)		6.7 (A)		13.4 (B)		13.4 (B)	8.3 (A)	
		2030 ALT 4 BUILD	EXISTING CONDITIONS	42.4 (D)	89.6 (F)	78.6 (E)		44.5 (D)		44.5 (D)	81.4 (F)	7.4 (A)		44.0 (D)	10.2 (B)	9.0 (A)		9.0 (A)	37.6 (D)	
		2030 ALT 4 BUILD	ALT B		8.0 (A)	8.0 (A)		8.5 (A)		8.5 (A)	6.1 (A)	6.2 (A)		6.2 (A)		11.2 (B)		11.2 (B)	7.7 (A)	
2050 NO BUILD		EXISTING CONDITIONS	43.1 (D)	128.9 (F)	107.2 (F)		45.3 (D)		45.3 (D)	131.4 (F)	7.0 (A)		71.3 (E)	10.2 (B)	8.0 (A)		8.1 (A)	55.4 (E)		
2050 NO BUILD		ALT A	59.3 (E)	33.2 (C)	39.1 (D)		88.5 (F)		88.5 (F)	122.2 (F)	14.4 (B)		70.0 (E)	34.9 (C)	127.0 (F)		120.4 (F)	133.3 (F)		
2050 NO BUILD		ALT B	8.8 (A)		8.8 (A)		9.9 (A)		9.9 (A)	7.1 (A)	6.7 (A)		6.9 (A)		14.8 (B)		14.8 (B)	9.0 (A)		
2050 BUILD	EXISTING CONDITIONS	44.3 (D)	53.1 (D)	50.1 (D)		46.9 (D)		46.9 (D)	32.7 (C)	5.0 (A)		17.9 (B)	7.2 (A)	5.6 (A)		5.6 (A)	19.5 (B)			
2050 BUILD	ALT A	58.9 (E)	32.3 (C)	41.1 (D)		76.8 (E)		76.8 (E)	66.6 (E)	11.8 (B)		37.3 (D)	28.9 (C)	134.9 (F)		132.0 (F)	73.8 (E)			
2050 BUILD	ALT B	7.0 (A)		7.0 (A)		8.9 (A)		8.9 (A)	6.1 (A)	6.7 (A)		6.5 (A)		12.2 (B)		12.2 (B)	8.0 (A)			
2050 ALT 3 BUILD	EXISTING CONDITIONS	45.6 (D)	55.8 (E)	52.4 (D)		48.3 (D)		48.3 (D)	72.3 (E)	5.0 (A)		39.7 (D)	7.2 (A)	5.5 (A)		5.6 (A)	30.7 (C)			
2050 ALT 3 BUILD	ALT B		7.0 (A)	7.0 (A)		9.9 (A)		9.9 (A)	7.1 (A)	6.7 (A)		6.9 (A)		14.8 (B)		14.8 (B)	8.8 (A)			
2050 ALT 4 BUILD	EXISTING CONDITIONS	42.4 (D)	101.3 (F)	88.0 (F)		44.5 (D)		44.5 (D)	77.7 (E)	7.7 (A)		40.3 (D)	11.2 (B)	8.9 (A)		9.0 (A)	37.9 (D)			
2050 ALT 4 BUILD	ALT B		8.8 (A)	8.8 (A)		8.9 (A)		8.9 (A)	6.1 (A)	6.7 (A)		6.5 (A)		12.2 (B)		12.2 (B)	8.3 (A)			

TABLE A - Capacity Analyses Summary

INTER-SECTION	TIME OF DAY	DESCRIPTION	LANES (NOTES)	DELAY (LEVEL OF SERVICE)																Intersection Delay/LOS
				Eastbound				Westbound				Northbound				Southbound				
				Left Turn Lane(s)	Through Lane Groups	Right Turn Lane(s)	Approach	Left Turn Lane(s)	Through Lane Groups	Right Turn Lane(s)	Approach	Left Turn Lane(s)	Through Lane Groups	Right Turn Lane(s)	Approach	Left Turn Lane(s)	Through Lane Groups	Right Turn Lane(s)	Approach	
(20) SR 606 (Weymouth Rd) & SR 3	AM PEAK	2050 NO BUILD	EXISTING CONDITIONS	8.2 (A)			2.5 (A)										10.6 (B)		10.6 (B)	
		2050 BUILD	EXISTING CONDITIONS	8.0 (A)			4.1 (A)											9.9 (A)		9.9 (A)
	PM PEAK	2050 NO BUILD	EXISTING CONDITIONS	9.5 (A)			3.7 (A)											14.9 (B)		14.9 (B)
		2050 BUILD	EXISTING CONDITIONS	9.0 (A)			4.5 (A)											13.2 (B)		13.2 (B)

TABLE B - Capacity Analyses Summary

INTER-SECTION	TIME OF DAY	DESCRIPTION	LANES (NOTES)	DELAY (LEVEL OF SERVICE)																		
				Eastbound				Westbound				Northbound				Southbound				Intersection		
				Left Turn Lane(s)	Through Lane Groups	Right Turn Lane(s)	Approach	Left Turn Lane(s)	Through Lane Groups	Right Turn Lane(s)	Approach	Left Turn Lane(s)	Through Lane Groups	Right Turn Lane(s)	Approach	Left Turn Lane(s)	Through Lane Groups	Right Turn Lane(s)	Approach			
(30) SR 3 & W 130th St	AM PEAK	2030 NO BUILD	EXISTING CONDITIONS	8.4 (A)			1.4 (A)											31.5 (D)		31.5 (D)		
		2030 NO BUILD	WITH SBRT LANE	8.4 (A)			1.4 (A)											40.0 (E)	10.1 (B)	24.2 (C)		
		2030 NO BUILD	ALT B		8.5 (A)		8.5 (A)	4.1 (A)	4.3 (A)		4.2 (A)								5.5 (A)		5.5 (A)	6.6 (A)
		2030 BUILD	EXISTING CONDITIONS	8.2 (A)			2.2 (A)												17.5 (C)		17.5 (C)	
		2030 BUILD	WITH SBRT LANE	8.2 (A)			2.2 (A)												20.9 (C)	9.8 (A)	15.0 (C)	
		2030 ALT 3 BUILD	EXISTING CONDITIONS	8.4 (A)			2.3 (A)												20.2 (C)		20.2 (C)	
		2030 ALT 4 BUILD	EXISTING CONDITIONS	8.2 (A)			1.3 (A)												25.6 (D)		25.6 (D)	
		2050 NO BUILD	EXISTING CONDITIONS	8.5 (A)			1.6 (A)												37.1 (E)		37.1 (E)	
		2050 NO BUILD	WITH SBRT LANE	8.5 (A)			1.6 (A)												47.1 (E)	10.4 (B)	25.1 (D)	
		2050 NO BUILD	ALT B		9.0 (A)		9.0 (A)	4.2 (A)	4.4 (A)		4.3 (A)								5.9 (A)		5.9 (A)	7.0 (A)
		2050 BUILD	EXISTING CONDITIONS	8.2 (A)			2.5 (A)												19.0 (C)		19.0 (C)	
		2050 BUILD	WITH SBRT LANE	8.2 (A)			2.5 (A)												23.3 (C)	10.0 (A)	15.3 (C)	
	2050 BUILD	ALT B		6.0 (A)		6.0 (A)	3.9 (A)	4.0 (A)		4.0 (A)								5.4 (A)		5.4 (A)	5.2 (A)	
	2050 ALT 3 BUILD	EXISTING CONDITIONS	8.5 (A)			2.6 (A)												22.4 (C)		22.4 (C)		
	2050 ALT 4 BUILD	EXISTING CONDITIONS	8.2 (A)			1.5 (A)												28.9 (D)		28.9 (D)		
	PM PEAK	2030 NO BUILD	EXISTING CONDITIONS	9.9 (A)			2.7 (A)												38.0 (E)		38.0 (E)	
		2030 NO BUILD	WITH SBRT LANE	9.9 (A)			2.7 (A)												61.6 (F)	12.5 (B)	22.3 (C)	
		2030 NO BUILD	ALT B		8.0 (A)		8.0 (A)	5.5 (A)	5.9 (A)		5.7 (A)								7.1 (A)		7.1 (A)	6.8 (A)
		2030 BUILD	EXISTING CONDITIONS	9.4 (A)			3.1 (A)												24.3 (C)		24.3 (C)	
		2030 BUILD	WITH SBRT LANE	9.4 (A)			3.1 (A)												39.1 (E)	11.8 (B)	17.2 (C)	
		2030 ALT 3 BUILD	EXISTING CONDITIONS	9.9 (A)			3.3 (A)												30.7 (D)		30.7 (D)	
		2030 ALT 4 BUILD	EXISTING CONDITIONS	9.4 (A)			2.6 (A)												28.8 (D)		28.8 (D)	
		2050 NO BUILD	EXISTING CONDITIONS	10.4 (B)			3.1 (A)												60.9 (F)		60.9 (F)	
		2050 NO BUILD	WITH SBRT LANE	10.4 (B)			3.1 (A)												91.8 (F)	13.1 (B)	28.1 (D)	
2050 NO BUILD		ALT B		8.7 (A)		8.7 (A)	6.0 (A)	6.4 (A)		6.2 (A)								7.6 (A)		7.6 (A)	7.4 (A)	
2050 BUILD		EXISTING CONDITIONS		9.8 (A)		3.5 (A)												32.8 (D)		32.8 (D)		
2050 BUILD		WITH SBRT LANE		9.8 (A)		3.5 (A)												53.8 (F)	12.3 (B)	20.2 (C)		
2050 BUILD	ALT B		7.3 (A)		7.3 (A)	5.5 (A)	5.9 (A)		5.7 (A)								6.8 (A)		6.8 (A)	6.5 (A)		
2050 ALT 3 BUILD	EXISTING CONDITIONS	10.4 (B)			3.7 (A)												45.3 (E)		45.3 (E)			
2050 ALT 4 BUILD	EXISTING CONDITIONS	9.8 (A)			2.9 (A)												41.5 (E)		41.5 (E)			

TABLE C - Capacity Analyses Summary

INTER-SECTION	TIME OF DAY	DESCRIPTION	LANES (NOTES)	DELAY (LEVEL OF SERVICE)																	
				Eastbound				Westbound				Northbound				Southbound				Intersection Delay/LOS	
				Left Turn Lane(s)	Through Lane Groups	Right Turn Lane(s)	Approach	Left Turn Lane(s)	Through Lane Groups	Right Turn Lane(s)	Approach	Left Turn Lane(s)	Through Lane Groups	Right Turn Lane(s)	Approach	Left Turn Lane(s)	Through Lane Groups	Right Turn Lane(s)	Approach		
(40) SR 3 & I-71 NB Ramps	AM PEAK	2030 NO BUILD	EXISTING CONDITIONS	80.7 (F)	3.6 (A)		54.1 (D)		85.8 (F)	73.4 (E)	80.0 (E)		60.7 (E)	55.3 (E)	58.2 (E)					62.1 (E)	
		2030 NO BUILD	W/ DUAL EB LT LANES	44.0 (D)	3.6 (A)		30.1 (C)		39.6 (D)	45.0 (D)	42.1 (D)		54.7 (D)	54.6 (D)	54.6 (D)						35.1 (D)
		2030 NO BUILD	W/ DUAL EB LEFT TURN LANES AND WB RT LANE*	44.0 (D)	3.6 (A)		30.1 (C)		35.0 (C)	42.8 (D)	37.9 (D)		54.7 (D)	54.6 (D)	54.6 (D)						33.9 (C)
		2030 BUILD	EXISTING CONDITIONS	80.7 (F)	2.6 (A)		63.4 (E)		84.6 (F)	77.5 (E)	81.2 (F)		56.1 (E)	55.3 (E)	55.7 (E)						68.9 (E)
		2030 BUILD	W/ DUAL EB LT LANES	44.0 (D)	2.6 (A)		34.9 (C)		24.3 (C)	22.9 (C)	23.6 (C)		54.7 (D)	54.6 (D)	54.6 (D)						32.3 (C)
		2030 BUILD	W/ DUAL EB LEFT TURN LANES AND WB RT LANE*	44.0 (D)	2.6 (A)		34.9 (C)		22.0 (C)	17.5 (B)	20.9 (C)		54.7 (D)	54.6 (D)	54.6 (D)						31.4 (C)
		2030 ALT 3 BUILD	EXISTING CONDITIONS	80.7 (F)	2.6 (A)		63.4 (E)		88.9 (F)	76.4 (E)	83.1 (F)		56.1 (E)	55.3 (E)	55.7 (E)						69.5 (E)
		2030 ALT 4 BUILD	EXISTING CONDITIONS	80.7 (F)	3.6 (A)		54.1 (D)		75.6 (E)	68.6 (E)	72.2 (E)		56.1 (E)	55.3 (E)	55.7 (E)						59.6 (E)
		2050 NO BUILD	EXISTING CONDITIONS	98.5 (F)	3.7 (A)		65.8 (E)		102.4 (F)	89.5 (F)	96.3 (F)		61.3 (E)	61.3 (E)	61.3 (E)						74.6 (E)
		2050 NO BUILD	W/ DUAL EB LT LANES	43.9 (D)	3.7 (A)		30.1 (C)		41.5 (D)	46.7 (D)	43.9 (D)		55.7 (E)	55.8 (E)	55.7 (E)						35.8 (D)
		2050 NO BUILD	W/ DUAL EB LEFT TURN LANES AND WB RT LANE*	43.9 (D)	3.7 (A)		30.1 (C)		36.6 (D)	44.2 (D)	39.5 (D)		55.7 (E)	55.8 (E)	55.7 (E)						34.5 (C)
		2050 BUILD	EXISTING CONDITIONS	98.5 (F)	2.7 (A)		76.8 (E)		89.2 (F)	81.6 (F)	85.6 (F)		61.3 (E)	61.3 (E)	61.3 (E)						78.6 (E)
		2050 BUILD	W/ DUAL EB LT LANES	43.9 (D)	2.7 (A)		34.6 (C)		26.2 (C)	24.3 (C)	25.3 (C)		55.7 (E)	55.8 (E)	55.7 (E)						33.0 (C)
		2050 BUILD	W/ DUAL EB LEFT TURN LANES AND WB RT LANE*	43.9 (D)	2.7 (A)		34.6 (C)		23.6 (C)	18.3 (B)	22.3 (C)		55.7 (E)	55.8 (E)	55.7 (E)						32.0 (C)
	2050 ALT 3 BUILD	EXISTING CONDITIONS	98.5 (F)	2.7 (A)		76.8 (E)		102.4 (F)	89.5 (F)	96.3 (F)		61.3 (E)	61.3 (E)	61.3 (E)						82.1 (F)	
	2050 ALT 4 BUILD	EXISTING CONDITIONS	98.5 (F)	3.7 (A)		65.8 (E)		89.2 (F)	81.6 (F)	85.6 (F)		61.3 (E)	61.3 (E)	61.3 (E)						71.4 (E)	
	PM PEAK	2030 NO BUILD	EXISTING CONDITIONS	23.3 (C)	9.3 (A)		17.2 (B)		19.0 (B)	19.2 (B)	19.1 (B)		42.7 (D)	46.7 (D)	45.0 (D)						21.1 (C)
		2030 NO BUILD	W/ DUAL EB LT LANES	41.7 (D)	10.5 (B)		28.0 (C)		18.2 (B)	18.4 (B)	18.3 (B)		43.4 (D)	46.7 (D)	45.3 (D)						26.5 (C)
		2030 NO BUILD	W/ DUAL EB LEFT TURN LANES AND WB RT LANE*	41.7 (D)	10.5 (B)		28.0 (C)		16.2 (B)	14.7 (B)	15.9 (B)		43.4 (D)	46.7 (D)	45.3 (D)						25.6 (C)
		2030 BUILD	EXISTING CONDITIONS	15.8 (B)	8.1 (A)		12.9 (B)		16.2 (B)	16.3 (B)	16.2 (B)		42.7 (D)	46.7 (D)	45.0 (D)						18.2 (B)
		2030 BUILD	W/ DUAL EB LT LANES	8.6 (A)	9.4 (A)		8.9 (A)		10.6 (B)	10.6 (B)	10.6 (B)		42.7 (D)	46.7 (D)	45.0 (D)						13.8 (B)
		2030 BUILD	W/ DUAL EB LEFT TURN LANES AND WB RT LANE*	5.7 (A)	9.4 (A)		7.1 (A)		10.0 (A)	8.4 (A)	9.9 (A)		42.7 (D)	46.7 (D)	45.0 (D)						12.6 (B)
		2030 ALT 3 BUILD	EXISTING CONDITIONS	21.7 (C)	8.2 (A)		16.6 (B)		18.0 (B)	18.2 (B)	18.1 (B)		42.7 (D)	46.7 (D)	45.0 (D)						20.7 (C)
		2030 ALT 4 BUILD	EXISTING CONDITIONS	14.6 (B)	9.5 (A)		12.3 (B)		14.7 (B)	14.8 (B)	14.8 (B)		42.7 (D)	46.7 (D)	45.0 (D)						17.2 (B)
		2050 NO BUILD	EXISTING CONDITIONS	29.4 (C)	10.1 (B)		20.7 (C)		24.7 (C)	25.0 (C)	24.9 (C)		41.4 (D)	45.9 (D)	44.0 (D)						25.2 (C)
		2050 NO BUILD	W/ DUAL EB LT LANES	41.4 (D)	11.7 (B)		28.1 (C)		20.2 (C)	20.4 (C)	20.3 (C)		41.4 (D)	45.9 (D)	44.0 (D)						27.2 (C)
		2050 NO BUILD	W/ DUAL EB LEFT TURN LANES AND WB RT LANE*	41.4 (D)	11.7 (B)		28.2 (C)		17.7 (B)	16.0 (B)	17.3 (B)		41.4 (D)	45.9 (D)	44.0 (D)						26.2 (C)
		2050 BUILD	EXISTING CONDITIONS	20.9 (C)	8.7 (A)		16.2 (B)		18.8 (B)	18.9 (B)	18.8 (B)		41.4 (D)	45.9 (D)	44.0 (D)						21.0 (C)
2050 BUILD		W/ DUAL EB LT LANES	10.0 (A)	10.4 (B)		10.2 (B)		11.8 (B)	11.8 (B)	11.8 (B)		41.4 (D)	45.9 (D)	44.0 (D)						15.2 (B)	
2050 BUILD		W/ DUAL EB LEFT TURN LANES AND WB RT LANE*	6.6 (A)	10.4 (B)		8.0 (A)		11.1 (B)	9.2 (A)	10.9 (B)		41.4 (D)	45.9 (D)	44.0 (D)						13.7 (B)	
2050 ALT 3 BUILD	EXISTING CONDITIONS	28.6 (C)	8.7 (A)		20.9 (C)		24.6 (C)	24.9 (C)	24.7 (C)		41.4 (D)	45.9 (D)	44.0 (D)						25.4 (C)		
2050 ALT 4 BUILD	EXISTING CONDITIONS	21.8 (C)	10.1 (B)		16.5 (B)		18.9 (B)	19.0 (B)	19.0 (B)		41.4 (D)	45.9 (D)	44.0 (D)						21.0 (C)		

TABLE D - Capacity Analyses Summary
 *Analyzed with HCS 2026. All other scenarios were analyzed with HCS 2025.

INTER-SECTION	TIME OF DAY	DESCRIPTION	LANES (NOTES)	DELAY (LEVEL OF SERVICE)																Intersection Delay/LOS
				Eastbound				Westbound				Northbound				Southbound				
				Left Turn Lane(s)	Through Lane Groups	Right Turn Lane(s)	Approach	Left Turn Lane(s)	Through Lane Groups	Right Turn Lane(s)	Approach	Left Turn Lane(s)	Through Lane Groups	Right Turn Lane(s)	Approach	Left Turn Lane(s)	Through Lane Groups	Right Turn Lane(s)	Approach	
(50) SR 3 & I-71 SB Ramps	AM PEAK	2030 NO BUILD	EXISTING CONDITIONS	16.3 (B)	8.4 (A)	8.2 (A)	8.3 (A)	41.4 (D)	19.2 (B)		22.5 (C)					50.1 (D)	13.4 (B)	21.6 (C)	17.2 (B)	
		2030 BUILD	EXISTING CONDITIONS	16.6 (B)	8.8 (A)	7.9 (A)	8.3 (A)	40.5 (D)	19.9 (B)		23.0 (C)					47.6 (D)	13.4 (B)	18.6 (B)	17.7 (B)	
		2030 ALT 3 BUILD	EXISTING CONDITIONS	16.5 (B)	8.7 (A)	7.9 (A)	8.3 (A)	40.4 (D)	19.9 (B)		23.0 (C)					47.6 (D)	13.4 (B)	18.6 (B)	17.6 (B)	
		2030 ALT 4 BUILD	EXISTING CONDITIONS	16.3 (B)	8.4 (A)	8.2 (A)	8.3 (A)	41.4 (D)	19.9 (B)		23.1 (C)					50.1 (D)	13.4 (B)	21.6 (C)	17.4 (B)	
		2050 NO BUILD	EXISTING CONDITIONS	16.5 (B)	8.9 (A)	8.7 (A)	8.8 (A)	41.3 (D)	20.0 (B)		23.0 (C)					49.8 (D)	13.5 (B)	21.8 (C)	17.6 (B)	
		2050 BUILD	EXISTING CONDITIONS	17.2 (B)	9.5 (A)	8.5 (A)	9.0 (A)	40.4 (D)	20.0 (B)		22.8 (C)					47.3 (D)	13.5 (B)	19.0 (B)	17.8 (B)	
		2050 ALT 3 BUILD	EXISTING CONDITIONS	17.2 (B)	9.5 (A)	8.5 (A)	9.0 (A)	40.4 (D)	20.0 (B)		22.8 (C)					47.3 (D)	13.5 (B)	19.0 (B)	17.8 (B)	
		2050 ALT 4 BUILD	EXISTING CONDITIONS	16.5 (B)	8.9 (A)	8.7 (A)	8.8 (A)	41.3 (D)	20.0 (B)		23.0 (C)					49.8 (D)	13.5 (B)	21.8 (C)	17.6 (B)	
	PM PEAK	2030 NO BUILD	EXISTING CONDITIONS	27.9 (C)	20.9 (C)	20.8 (C)	20.9 (C)	31.6 (C)	35.5 (D)		35.0 (C)					36.1 (D)	40.2 (D)	39.7 (D)	32.5 (C)	
		2030 BUILD	EXISTING CONDITIONS	28.1 (C)	21.8 (C)	21.4 (C)	21.6 (C)	31.8 (C)	35.8 (D)		35.3 (D)					35.1 (D)	40.2 (D)	39.6 (D)	32.6 (C)	
		2030 ALT 3 BUILD	EXISTING CONDITIONS	28.1 (C)	20.9 (C)	20.6 (C)	20.7 (C)	31.5 (C)	35.7 (D)		35.2 (D)					35.1 (D)	40.2 (D)	39.6 (D)	32.5 (C)	
		2030 ALT 4 BUILD	EXISTING CONDITIONS	28.0 (C)	20.6 (C)	20.5 (C)	20.6 (C)	31.3 (C)	35.8 (D)		35.3 (D)					36.1 (D)	40.2 (D)	39.7 (D)	32.5 (C)	
		2050 NO BUILD	EXISTING CONDITIONS	28.0 (C)	21.5 (C)	21.3 (C)	21.4 (C)	32.5 (C)	33.7 (C)		33.5 (C)					37.2 (D)	49.3 (D)	47.7 (D)	35.9 (D)	
		2050 BUILD	EXISTING CONDITIONS	28.1 (C)	21.8 (C)	21.4 (C)	21.6 (C)	32.5 (C)	34.5 (C)		34.2 (C)					35.6 (D)	49.3 (D)	47.8 (D)	36.0 (D)	
		2050 ALT 3 BUILD	EXISTING CONDITIONS	28.1 (C)	21.8 (C)	21.4 (C)	21.6 (C)	32.5 (C)	33.7 (C)		33.5 (C)					35.6 (D)	49.3 (D)	47.8 (D)	35.9 (D)	
		2050 ALT 4 BUILD	EXISTING CONDITIONS	28.0 (C)	21.5 (C)	21.3 (C)	21.4 (C)	32.5 (C)	34.5 (C)		34.2 (C)					37.1 (D)	49.3 (D)	47.7 (D)	36.0 (D)	

TABLE E - Capacity Analyses Summary

INTER-SECTION	TIME OF DAY	DESCRIPTION	LANES (NOTES)	DELAY (LEVEL OF SERVICE)																
				Eastbound				Westbound				Northbound				Southbound				Intersection
				Left Turn Lane(s)	Through Lane Groups	Right Turn Lane(s)	Approach	Left Turn Lane(s)	Through Lane Groups	Right Turn Lane(s)	Approach	Left Turn Lane(s)	Through Lane Groups	Right Turn Lane(s)	Approach	Left Turn Lane(s)	Through Lane Groups	Right Turn Lane(s)	Approach	Delay/LOS
(60) SR 3 & Hamilton Rd/Old Weymouth Rd	AM PEAK	2050 NO BUILD	EXISTING CONDITIONS	24.1 (C)	20.0 (B)	20.1 (C)	20.1 (C)	21.0 (C)	13.0 (B)	12.3 (B)	13.2 (B)		29.8 (C)		29.8 (C)		41.6 (D)		41.6 (D)	22.4 (C)
	PM PEAK	2050 NO BUILD	EXISTING CONDITIONS	10.9 (B)	6.5 (A)	6.5 (A)	6.6 (A)	16.0 (B)	8.7 (A)	17.4 (B)	10.9 (B)		35.3 (D)		35.3 (D)		40.8 (D)		40.8 (D)	13.2 (B)

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TABLE F - Capacity Analyses Summary

INTER-SECTION	TIME OF DAY	DESCRIPTION	LANES (NOTES)	DELAY (LEVEL OF SERVICE)																
				Eastbound				Westbound				Northbound				Southbound				Intersection
				Left Turn Lane(s)	Through Lane Groups	Right Turn Lane(s)	Approach	Left Turn Lane(s)	Through Lane Groups	Right Turn Lane(s)	Approach	Left Turn Lane(s)	Through Lane Groups	Right Turn Lane(s)	Approach	Left Turn Lane(s)	Through Lane Groups	Right Turn Lane(s)	Approach	Delay/LOS
(70) SR 3 & Foskett Rd/Remsen Rd	AM PEAK	2030 NO BUILD	EXISTING CONDITIONS		25.3 (C)		25.3 (C)		7.8 (A)		7.8 (A)		33.1 (C)		33.1 (C)		35.6 (D)		35.6 (D)	21.6 (C)
		2030 NO BUILD	W/ IMPROVEMENTS	9.8 (A)	26.1 (C)		26.0 (C)	40.7 (D)	7.7 (A)		8.2 (A)		38.1 (D)		38.1 (D)		40.8 (D)		40.8 (D)	23.0 (C)
		2050 NO BUILD	EXISTING CONDITIONS		34.5 (C)		34.5 (C)		8.5 (A)		8.5 (A)		32.9 (C)		32.9 (C)		35.6 (D)		35.6 (D)	26.7 (C)
		2050 NO BUILD	W/ IMPROVEMENTS	10.9 (B)	34.1 (C)		33.9 (C)	49.6 (D)	8.4 (A)		9.1 (A)		37.9 (D)		37.9 (D)		40.8 (D)		40.8 (D)	27.4 (C)
	PM PEAK	2030 NO BUILD	EXISTING CONDITIONS		12.0 (B)		12.0 (B)		21.3 (C)		21.3 (C)		30.6 (C)		30.6 (C)		25.6 (C)		25.6 (C)	19.6 (B)
		2030 NO BUILD	W/ IMPROVEMENTS	29.7 (C)	11.7 (B)		12.2 (B)	18.1 (B)	22.8 (C)		22.8 (C)		30.6 (C)		30.6 (C)		25.6 (C)		25.6 (C)	20.3 (C)
		2050 NO BUILD	EXISTING CONDITIONS		14.3 (B)		14.3 (B)		26.1 (C)		26.1 (C)		31.6 (C)		31.6 (C)		25.2 (C)		25.2 (C)	22.7 (C)
		2050 NO BUILD	W/ IMPROVEMENTS	35.1 (D)	13.8 (B)		14.4 (B)	21.1 (C)	29.3 (C)		29.2 (C)		31.6 (C)		31.6 (C)		25.2 (C)		25.2 (C)	24.1 (C)

TABLE G - Capacity Analyses Summary

INTER-SECTION	TIME OF DAY	DESCRIPTION	LANES (NOTES)	DELAY (LEVEL OF SERVICE)																Intersection Delay/LOS
				Eastbound				Westbound				Northbound				Southbound				
				Left Turn Lane(s)	Through Lane Groups	Right Turn Lane(s)	Approach	Left Turn Lane(s)	Through Lane Groups	Right Turn Lane(s)	Approach	Left Turn Lane(s)	Through Lane Groups	Right Turn Lane(s)	Approach	Left Turn Lane(s)	Through Lane Groups	Right Turn Lane(s)	Approach	
(220) SR 94 (Ridge Rd) & Remsen Rd/Melody Ln	AM PEAK	2050 NO BUILD	EXISTING CONDITIONS		25.8 (D)		25.8 (D)		15.1 (C)		15.1 (C)	8.1 (A)	0.1 (A)	0.1 (A)	0.3 (A)	8.3 (A)	0.3 (A)	0.3 (A)	1.1 (A)	
	PM PEAK	2050 NO BUILD	EXISTING CONDITIONS		29.9 (D)		29.9 (D)		23.1 (C)		23.1 (C)	8.5 (A)	0.1 (A)	0.1 (A)	0.3 (A)	8.6 (A)	0.9 (A)	0.9 (A)	1.8 (A)	

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TABLE H - Capacity Analyses Summary

INTER-SECTION	TIME OF DAY	DESCRIPTION	LANES (NOTES)	DELAY (LEVEL OF SERVICE)																				
				Eastbound				Westbound				Northbound				Southbound				Intersection				
				Left Turn Lane(s)	Through Lane Group(s)	Right Turn Lane(s)	Approach	Left Turn Lane(s)	Through Lane Group(s)	Right Turn Lane(s)	Approach	Left Turn Lane(s)	Through Lane Group(s)	Right Turn Lane(s)	Approach	Left Turn Lane(s)	Through Lane Group(s)	Right Turn Lane(s)	Approach					
(230) SR 94 (Ridge Rd) & I-271 NB Ramps	AM PEAK	2030 NO BUILD	EXISTING CONDITIONS			140.4 (F)		140.4 (F)										18.9 (C)	18.0 (C)		18.7 (C)			
		2030 NO BUILD	ALT B			12.1 (B)		12.1 (B)							14.8 (B)	10.1 (B)		13.1 (B)		24.4 (C)		24.4 (C)	21.2 (C)	
		2030 BUILD	EXISTING CONDITIONS			891.5 (F)		891.5 (F)											12.2 (B)	8.2 (A)		10.9 (B)		
		2030 BUILD	ALT B			9.0 (A)		9.0 (A)							19.2 (C)			19.2 (C)		12.4 (B)		12.4 (B)	14.4 (B)	
		2030 ALT 3 BUILD	EXISTING CONDITIONS			891.5 (F)		891.5 (F)											12.2 (B)	8.2 (A)		10.9 (B)		
		2030 ALT 3 BUILD	ALT B				9.0 (A)	9.0 (A)										19.2 (C)	19.2 (C)		12.4 (B)		12.4 (B)	14.4 (B)
		2030 ALT 4 BUILD	EXISTING CONDITIONS			140.4 (F)		140.4 (F)											18.9 (C)	18.0 (C)		18.7 (C)		
		2030 ALT 4 BUILD	ALT B				12.1 (B)	12.1 (B)											43.7 (E)	43.7 (E)		24.4 (C)	24.4 (C)	29.2 (D)
		2050 NO BUILD	EXISTING CONDITIONS																22.8 (C)	22.8 (C)		22.8 (C)		
		2050 NO BUILD	ALT B			13.8 (B)		13.8 (B)							19.0 (C)	10.4 (B)		16.3 (C)		31.4 (D)		31.4 (D)	27.0 (D)	
		2050 NO BUILD	ALT C			10.4 (B)		10.4 (B)							12.3 (B)	13.2 (B)		12.8 (B)		14.8 (B)		14.8 (B)	14.0 (B)	
		2050 BUILD	EXISTING CONDITIONS			1717.9 (F)		1717.9 (F)											13.3 (B)	9.9 (A)		12.1 (B)		
		2050 BUILD	ALT B			10.1 (B)		10.1 (B)							25.3 (D)			25.3 (D)		14.2 (B)		14.2 (B)	17.5 (C)	
		2050 ALT 3 BUILD	EXISTING CONDITIONS			1717.9 (F)		1717.9 (F)											13.3 (B)	9.9 (A)		12.1 (B)		
	2050 ALT 3 BUILD	ALT B				10.1 (B)	10.1 (B)										25.3 (D)	25.3 (D)		14.2 (B)		14.2 (B)	17.5 (C)	
	2050 ALT 4 BUILD	EXISTING CONDITIONS																22.8 (C)	22.8 (C)		22.8 (C)			
	2050 ALT 4 BUILD	ALT B				13.8 (B)	13.8 (B)											68.8 (F)	68.8 (F)		31.4 (D)	31.4 (D)	40.9 (E)	
	PM PEAK	2030 NO BUILD	EXISTING CONDITIONS			153.4 (F)		153.4 (F)											9.6 (A)	3.5 (A)		5.7 (A)		
		2030 NO BUILD	ALT B			7.7 (A)		7.7 (A)							7.7 (A)	4.3 (A)		7.0 (A)		9.8 (A)		9.8 (A)	8.7 (A)	
		2030 BUILD	EXISTING CONDITIONS			56.4 (F)		56.4 (F)											9.1 (A)	2.1 (A)		3.9 (A)		
		2030 BUILD	ALT B			6.8 (A)		6.8 (A)							8.5 (A)			8.5 (A)		8.3 (A)		8.3 (A)	8.3 (A)	
		2030 ALT 3 BUILD	EXISTING CONDITIONS			56.4 (F)		56.4 (F)											9.1 (A)	2.1 (A)		3.9 (A)		
		2030 ALT 3 BUILD	ALT B				6.8 (A)	6.8 (A)							8.5 (A)	8.5 (A)				8.3 (A)		8.3 (A)	8.3 (A)	
		2030 ALT 4 BUILD	EXISTING CONDITIONS			149.5 (F)		149.5 (F)											9.6 (A)	3.5 (A)		5.7 (A)		
		2030 ALT 4 BUILD	ALT B				7.7 (A)	7.7 (A)										10.2 (B)	10.2 (B)		9.8 (A)	9.8 (A)	9.9 (A)	
		2050 NO BUILD	EXISTING CONDITIONS			361.7 (F)		361.7 (F)											9.8 (A)	3.8 (A)		5.7 (A)		
		2050 NO BUILD	ALT B			8.7 (A)		8.7 (A)							8.4 (A)	4.4 (A)		7.7 (A)		10.7 (B)		10.7 (B)	9.5 (A)	
		2050 NO BUILD	ALT C			9.9 (A)		9.9 (A)							6.9 (A)	4.4 (A)		6.3 (A)		12.8 (B)		12.8 (B)	10.5 (B)	
2050 BUILD		EXISTING CONDITIONS			113.0 (F)		113.0 (F)											9.2 (A)	2.2 (A)		3.8 (A)			
2050 BUILD		ALT B			7.7 (A)		7.7 (A)							9.3 (A)			9.3 (A)		9.0 (A)		9.0 (A)	9.0 (A)		
2050 ALT 3 BUILD		EXISTING CONDITIONS			113.0 (F)		113.0 (F)											9.2 (A)	2.2 (A)		3.8 (A)			
2050 ALT 3 BUILD	ALT B				7.7 (A)	7.7 (A)										9.3 (A)	9.3 (A)		9.0 (A)		9.0 (A)	9.0 (A)		
2050 ALT 4 BUILD	EXISTING CONDITIONS			355.1 (F)		355.1 (F)											9.8 (A)	3.8 (A)		5.7 (A)				
2050 ALT 4 BUILD	ALT B				8.7 (A)	8.7 (A)											11.4 (B)	11.4 (B)		10.7 (B)	10.7 (B)	10.8 (B)		

☐ = Analysis could not report value.

TABLE I - Capacity Analyses Summary

INTER-SECTION	TIME OF DAY	DESCRIPTION	LANES (NOTES)	DELAY (LEVEL OF SERVICE)												Intersection Delay/LOS									
				Eastbound				Westbound				Northbound					Southbound								
				Left Turn Lane(s)	Through Lane Groups	Right Turn Lane(s)	Approach	Left Turn Lane(s)	Through Lane Groups	Right Turn Lane(s)	Approach	Left Turn Lane(s)	Through Lane Groups	Right Turn Lane(s)	Approach		Left Turn Lane(s)	Through Lane Groups	Right Turn Lane(s)	Approach					
(240) SR 94 (Ridge Rd) & I-271 SE Ramps	AM PEAK	2030 NO BUILD	EXISTING CONDITIONS							84.7 (F)		84.7 (F)			17.5 (B)		17.5 (B)			60.5 (E)		60.5 (E)		58.9 (E)	
		2030 NO BUILD	ATL A							29.9 (C)	21.5 (C)	23.3 (C)			13.4 (B)		13.4 (B)			28.3 (C)	20.4 (C)	20.4 (C)		19.9 (B)	
		2030 NO BUILD	ALT B							4.6 (A)	1.0 (A)				4.7 (A)	4.7 (A)	18.9 (C)			3.4 (A)	17.8 (C)			12.4 (B)	
		2030 BUILD	EXISTING CONDITIONS							39.3 (D)		39.3 (D)			12.5 (B)		12.5 (B)			16.0 (B)		16.0 (B)		20.2 (C)	
		2030 BUILD	ALT A							23.1 (C)	14.6 (B)	16.6 (B)			16.5 (B)		16.5 (B)			21.9 (C)	9.6 (A)	9.6 (A)		12.5 (B)	
		2030 BUILD	ALT B							4.6 (A)	1.1 (A)				4.7 (A)	4.7 (A)				16.3 (C)	16.3 (C)			10.9 (B)	
		2030 ALT 3 BUILD	EXISTING CONDITIONS							41.6 (D)		41.6 (D)			8.4 (A)		8.4 (A)			20.0 (B)		20.0 (B)		23.0 (C)	
		2030 ALT 3 BUILD	ALT B							4.6 (A)	1.0 (A)				4.7 (A)	4.7 (A)				14.2 (B)	14.2 (B)			9.4 (A)	
		2030 ALT 4 BUILD	EXISTING CONDITIONS							64.4 (E)		64.4 (E)			23.1 (F)		23.1 (F)			53.3 (D)		53.3 (D)		53.0 (F)	
		2030 ALT 4 BUILD	ALT B							4.6 (A)	1.1 (A)				4.7 (A)	4.7 (A)				39.5 (E)	39.5 (E)			27.0 (D)	
		2050 NO BUILD	EXISTING CONDITIONS							84.7 (F)		84.7 (F)			29.3 (C)		29.3 (C)			90.0 (F)		90.0 (F)		79.1 (E)	
		2050 NO BUILD	ALT A							39.6 (D)	31.1 (C)	32.9 (C)			13.5 (B)		13.5 (B)			37.3 (D)	24.9 (C)	24.9 (C)		24.5 (C)	
		2050 NO BUILD	ALT B							4.9 (A)	1.0 (A)				5.1 (A)	5.1 (A)	24.4 (C)			3.5 (A)	22.6 (C)			15.6 (C)	
		2050 BUILD	EXISTING CONDITIONS							63.7 (E)		63.7 (E)			27.3 (C)		27.3 (C)			23.8 (C)		23.8 (C)		32.1 (C)	
	2050 BUILD	ALT A							23.4 (C)	14.8 (B)	16.9 (B)			18.1 (B)		18.1 (B)			22.1 (C)	11.3 (B)	11.3 (B)		13.7 (B)		
	2050 BUILD	ALT B							4.9 (A)	1.2 (A)				5.1 (A)	5.1 (A)				21.9 (C)	21.9 (C)			14.5 (B)		
	2050 ALT 3 BUILD	EXISTING CONDITIONS							72.9 (E)		72.9 (E)			12.4 (B)		12.4 (B)			28.8 (C)		28.8 (C)		35.1 (D)		
	2050 ALT 3 BUILD	ALT B							4.9 (A)	1.0 (A)				5.1 (A)	5.1 (A)				18.4 (C)	18.4 (C)			12.0 (B)		
	2050 ALT 4 BUILD	EXISTING CONDITIONS							64.4 (E)		64.4 (E)			23.7 (F)		23.7 (F)			80.8 (F)		80.8 (F)		120.2 (F)		
	2050 ALT 4 BUILD	ALT B							4.9 (A)	1.2 (A)				5.1 (A)	5.1 (A)				82.3 (F)	82.3 (F)			41.9 (E)		
	PM PEAK	2030 NO BUILD	EXISTING CONDITIONS								231.2 (F)		231.2 (F)			182.9 (F)		182.9 (F)			82.7 (F)		82.7 (F)		157.4 (F)
		2030 NO BUILD	ATL A								23.5 (C)	20.7 (C)	21.1 (C)			27.4 (C)		27.4 (C)			26.5 (C)	13.4 (B)	13.5 (B)		20.1 (C)
		2030 NO BUILD	ALT B								6.1 (A)	0.9 (A)				5.5 (A)	5.5 (A)	9.4 (A)		3.7 (A)	8.8 (A)			4.3 (A)	
		2030 BUILD	EXISTING CONDITIONS								205.8 (F)		205.8 (F)			172.9 (F)		172.9 (F)			47.2 (D)		47.2 (D)		199.4 (F)
		2030 BUILD	ALT A								26.7 (C)	24.7 (C)	25.0 (C)			31.0 (C)		31.0 (C)			29.5 (C)	10.6 (B)	10.7 (B)		22.5 (C)
		2030 BUILD	ALT B								6.1 (A)	0.9 (A)				5.5 (A)	5.5 (A)			10.7 (B)	10.7 (B)			4.7 (A)	
		2030 ALT 3 BUILD	EXISTING CONDITIONS								224.9 (F)		224.9 (F)			43.9 (D)		43.9 (D)			48.5 (D)		48.5 (D)		135.0 (F)
		2030 ALT 3 BUILD	ALT B								6.1 (A)	0.9 (A)				5.5 (A)	5.5 (A)				9.7 (A)	9.7 (A)			4.4 (A)
2030 ALT 4 BUILD		EXISTING CONDITIONS								205.8 (F)		205.8 (F)			188.1 (F)		188.1 (F)			82.7 (F)		82.7 (F)		305.5 (F)	
2030 ALT 4 BUILD		ALT B								6.1 (A)	0.9 (A)				5.5 (A)	5.5 (A)			13.4 (B)	13.4 (B)			5.9 (A)		
2050 NO BUILD		EXISTING CONDITIONS									262.5 (F)		262.5 (F)			208.9 (F)		208.9 (F)			115.9 (F)		115.9 (F)		217.6 (F)
2050 NO BUILD		ALT A								25.3 (C)	26.5 (C)	26.3 (C)			29.3 (C)		29.3 (C)			28.2 (C)	14.9 (B)	14.9 (B)		23.4 (C)	
2050 NO BUILD		ALT B								6.6 (A)	0.9 (A)				6.0 (A)	6.0 (A)	10.5 (B)			3.8 (A)	9.8 (A)			4.8 (A)	
2050 BUILD		EXISTING CONDITIONS									238.9 (F)		238.9 (F)			197.9 (F)		197.9 (F)			66.6 (E)		66.6 (E)		355.8 (F)
2050 BUILD	ALT A									27.1 (C)	28.0 (C)	27.9 (C)			31.3 (C)		31.3 (C)			29.8 (C)	11.7 (B)	11.7 (B)		24.0 (C)	
2050 BUILD	ALT B									6.6 (A)	1.0 (A)				6.0 (A)	6.0 (A)			12.5 (B)	12.5 (B)			5.5 (A)		
2050 ALT 3 BUILD	EXISTING CONDITIONS									262.0 (F)		262.0 (F)			227.9 (F)		227.9 (F)			66.6 (E)		66.6 (E)		200.7 (F)	
2050 ALT 3 BUILD	ALT B									6.6 (A)	0.9 (A)				6.0 (A)	6.0 (A)			11.2 (B)	11.2 (B)			5.0 (A)		
2050 ALT 4 BUILD	EXISTING CONDITIONS									236.9 (F)		236.9 (F)			198.9 (F)		198.9 (F)			115.9 (F)		115.9 (F)		387.9 (F)	
2050 ALT 4 BUILD	ALT B									6.6 (A)	1.0 (A)				6.0 (A)	6.0 (A)			16.1 (C)	16.1 (C)			7.0 (A)		

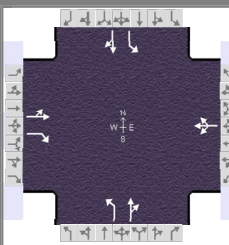
TABLE J - Capacity Analyses Summary

Interchange No Build and Interchange Build Analysis

10-SR 94 (Ridge Rd) & SR 3 (Ledge Rd)

HCS Signalized Intersection Input Data

General Information				Intersection Information			
Agency	Smart Services Inc.			Duration, h	0.250		
Analyst	TJS	Analysis Date	Jun 25, 2024	Area Type	Other		
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.95		
Urban Street	SR 94-Ridge Rd		Analysis Year	2030	Analysis Period	1 > 7:00	
Intersection	(10) SR 94 & SR 3		File Name	Signalized Capacity Group 1 (10 & 240) - 2030 N...			
Project Description	2030 No Build						



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	20	50	400	20	40	20	200	210	10	10	370	10

Signal Information											
Cycle, s	120.0	Reference Phase	2								
Offset, s	0	Reference Point	End								
Uncoordinated	Yes	Simult. Gap E/W	On	Green	81.0	25.5	0.0	0.0	0.0	0.0	
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.5	6.0	0.0	0.0	0.0	0.0	
				Red	1.0	1.0	0.0	0.0	0.0	0.0	

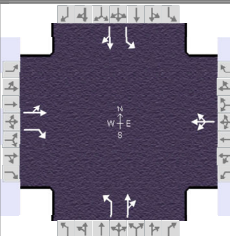
Traffic Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	20	50	400	20	40	20	200	210	10	10	370	10
Initial Queue (Q_b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s_o), veh/h	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Parking (N_m), man/h		None			None			None			None	
Heavy Vehicles (P_{HV}), %		4	4		5			8	8		3	3
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N_b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (AT)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09
Lane Width (W), ft		12.0	12.0		12.0			12.0	12.0		12.0	
Turn Bay Length, ft		0	110		0			610	0		115	0
Grade (P_g), %		0			0			0			0	
Speed Limit, mi/h	50	50	50	55	55	55	45	45	45	45	45	45

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s		25.5		25.5		81.0		81.0
Yellow Change Interval (Y), s		6.0		6.0		5.5		5.5
Red Clearance Interval (R_c), s		1.0		1.0		1.0		1.0
Minimum Green (G_{min}), s		12		12		24		24
Start-Up Lost Time (l_t), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (e), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (PT), s		2.0		2.0		2.0		2.0
Recall Mode		Off		Off		Min		Min
Dual Entry		Yes		Yes		Yes		Yes
Walk ($Walk$), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (PC), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Jun 25, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.95
Urban Street	SR 94-Ridge Rd	Analysis Year	2030	Analysis Period	1 > 7:00
Intersection	(10) SR 94 & SR 3	File Name	Signalized Capacity Group 1 (10 & 240) - 2030 N...		
Project Description	2030 No Build				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	20	50	400	20	40	20	200	210	10	10	370	10

Signal Information				Signal Timing (s)								Signal Phases							
Cycle, s	120.0	Reference Phase	2	Green	81.0	25.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Offset, s	0	Reference Point	End	Yellow	5.5	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Uncoordinated	Yes	Simult. Gap E/W	On	Red	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Force Mode	Fixed	Simult. Gap N/S	On																

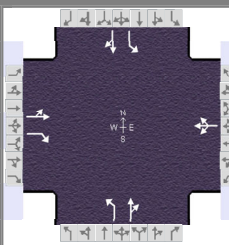
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		7.0		8.0		6.0		6.0
Phase Duration, s		32.5		32.5		87.5		87.5
Change Period, (Y+R _c), s		7.0		7.0		6.5		6.5
Max Allow Headway (MAH), s		3.2		3.2		3.5		3.5
Queue Clearance Time (g _s), s		27.5		7.2		83.0		64.2
Green Extension Time (g _e), s		0.0		1.1		0.0		4.9
Phase Call Probability		1.00		1.00		1.00		1.00
Max Out Probability		1.00		0.00		1.00		0.15

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h		74	421		84		211	232		28	1046	
Adjusted Saturation Flow Rate (s), veh/h/ln		1592	1437		1533		514	1627		1140	1701	
Queue Service Time (g _s), s		0.0	25.5		0.0		18.8	6.5		1.1	62.2	
Cycle Queue Clearance Time (g _c), s		4.3	25.5		5.2		81.0	6.5		7.6	62.2	
Green Ratio (g/C)		0.21	0.21		0.21		0.67	0.67		0.67	0.67	
Capacity (c), veh/h		377	305		363		140	1099		768	1148	
Volume-to-Capacity Ratio (X)		0.196	1.379		0.232		1.499	0.211		0.036	0.911	
Back of Queue (Q), ft/ln (95 th percentile)		81	989		93		682	94		12	572	
Back of Queue (Q), veh/ln (95 th percentile)		3.1	38.3		3.6		25.6	3.6		0.5	22.3	
Queue Storage Ratio (RQ) (95 th percentile)		0.00	8.99		0.00		1.12	0.00		0.10	0.00	
Uniform Delay (d ₁), s/veh		38.9	47.2		39.3		54.6	7.4		8.8	16.4	
Incremental Delay (d ₂), s/veh		0.1	189.8		0.1		258.2	0.0		0.0	1.2	
Initial Queue Delay (d ₃), s/veh		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Control Delay (d), s/veh		39.0	237.1		39.4		312.9	7.4		8.8	17.6	
Level of Service (LOS)		D	F		D		F	A		A	B	
Approach Delay, s/veh / LOS	207.6	F		39.4	D		152.9	F		17.4	B	
Intersection Delay, s/veh / LOS			91.8						F			

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.94	B	1.94	B	1.65	B	1.87	B
Bicycle LOS Score / LOS	1.30	A	0.63	A	1.22	A	1.16	A

HCS Signalized Intersection Input Data

General Information				Intersection Information			
Agency	Smart Services Inc.			Duration, h	0.250		
Analyst	TJS	Analysis Date	Aug 7, 2024	Area Type	Other		
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.92		
Urban Street	SR 94-Ridge Rd	Analysis Year	2030	Analysis Period	1 > 4:45		
Intersection	(10) SR 94 & SR 3	File Name	Signalized Capacity Group 1 (10 & 240) - 2030 N...				
Project Description	2030 No Build						



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	10	60	230	20	80	30	500	400	20	10	300	10

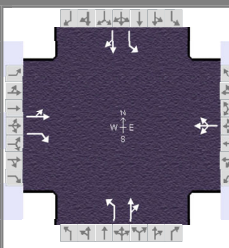
Signal Information												
Cycle, s	119.5	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	Yes	Simult. Gap E/W	On	Green	85.5	20.5	0.0	0.0	0.0	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.5	6.0	0.0	0.0	0.0	0.0		
				Red	1.0	1.0	0.0	0.0	0.0	0.0		

Traffic Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	10	60	230	20	80	30	500	400	20	10	300	10
Initial Queue (Q _b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s ₀), veh/h	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Parking (N _m), man/h		None			None			None			None	
Heavy Vehicles (P _{HV}), %		5	5		3			3	3		3	3
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N _b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (AT)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09
Lane Width (W), ft		12.0	12.0		12.0			12.0	12.0		12.0	12.0
Turn Bay Length, ft		0	110		0			610	0		115	0
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50	50	55	55	55	45	45	45	45	45	45

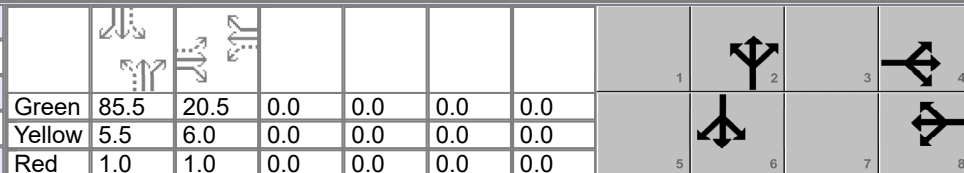
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s		20.5		20.5		85.5		85.5
Yellow Change Interval (Y), s		6.0		6.0		5.5		5.5
Red Clearance Interval (R _c), s		1.0		1.0		1.0		1.0
Minimum Green (G _{min}), s		12		12		24		24
Start-Up Lost Time (l _t), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (e), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (PT), s		2.0		2.0		2.0		2.0
Recall Mode		Off		Off		Min		Min
Dual Entry		Yes		Yes		Yes		Yes
Walk (Walk), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (PC), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

HCS Signalized Intersection Results Summary

General Information				Intersection Information		
Agency	Smart Services Inc.			Duration, h	0.250	
Analyst	TJS	Analysis Date	Aug 7, 2024	Area Type	Other	
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.92	
Urban Street	SR 94-Ridge Rd	Analysis Year	2030	Analysis Period	1 > 4:45	
Intersection	(10) SR 94 & SR 3	File Name	Signalized Capacity Group 1 (10 & 240) - 2030 N...			
Project Description	2030 No Build					

Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	10	60	230	20	80	30	500	400	20	10	300	10

Signal Information														
Cycle, s	119.5	Reference Phase	2	Green	85.5	20.5	0.0	0.0	0.0	0.0	1	2	3	4
Offset, s	0	Reference Point	End	Yellow	5.5	6.0	0.0	0.0	0.0	0.0	5	6	7	8
Uncoordinated	Yes	Simult. Gap E/W	On	Red	1.0	1.0	0.0	0.0	0.0	0.0				
Force Mode	Fixed	Simult. Gap N/S	On											

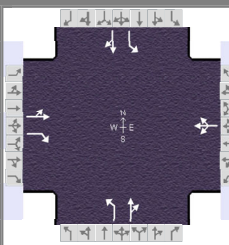
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		7.0		8.0		6.0		6.0
Phase Duration, s		27.5		27.5		92.0		92.0
Change Period, (Y+R _c), s		7.0		7.0		6.5		6.5
Max Allow Headway (MAH), s		3.1		3.1		3.7		3.7
Queue Clearance Time (g _s), s		22.5		11.4		87.5		24.6
Green Extension Time (g _e), s		0.0		0.7		0.0		6.6
Phase Call Probability		1.00		1.00		1.00		1.00
Max Out Probability		1.00		0.02		1.00		0.00

Movement Group Results	EB			WB			NB			SB			
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R	
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16	
Adjusted Flow Rate (v), veh/h		76	250		141		543	457		22	679		
Adjusted Saturation Flow Rate (s), veh/h/ln		1638	1425		1600		755	1695		927	1699		
Queue Service Time (g _s), s		0.0	20.5		1.2		62.9	12.5		1.1	22.6		
Cycle Queue Clearance Time (g _c), s		4.7	20.5		9.4		85.5	12.5		13.7	22.6		
Green Ratio (g/C)		0.17	0.17		0.17		0.72	0.72		0.72	0.72		
Capacity (c), veh/h		315	244		309		457	1212		626	1216		
Volume-to-Capacity Ratio (X)		0.241	1.023		0.457		1.188	0.377		0.035	0.558		
Back of Queue (Q), ft/ln (95 th percentile)		89	442		169		1035	171		10	203		
Back of Queue (Q), veh/ln (95 th percentile)		3.4	17.0		6.6		40.4	6.7		0.4	7.9		
Queue Storage Ratio (RQ) (95 th percentile)		0.00	4.02		0.00		1.70	0.00		0.08	0.00		
Uniform Delay (d ₁), s/veh		43.0	49.5		44.9		32.5	6.6		9.3	8.1		
Incremental Delay (d ₂), s/veh		0.1	63.5		0.4		104.7	0.1		0.0	0.0		
Initial Queue Delay (d ₃), s/veh		0.0	0.0		0.0		0.0	0.0		0.0	0.0		
Control Delay (d), s/veh		43.1	113.0		45.3		137.1	6.7		9.3	8.1		
Level of Service (LOS)		D	F		D		F	A		A	A		
Approach Delay, s/veh / LOS		96.7	F		45.3	D	77.6	E		8.1	A		
Intersection Delay, s/veh / LOS		55.9						E					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.95	B	1.95	B	1.64	B	1.86	B
Bicycle LOS Score / LOS	1.03	A	0.72	A	2.14	B	1.06	A

HCS Signalized Intersection Input Data

General Information				Intersection Information			
Agency	Smart Services Inc.			Duration, h	0.250		
Analyst	TJS	Analysis Date	Jun 27, 2024	Area Type	Other		
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.95		
Urban Street	SR 94-Ridge Rd		Analysis Year	2030	Analysis Period	1 > 7:00	
Intersection	(10) SR 94 & SR 3		File Name	Signalized Capacity Group 1 (10 & 240) - 2030 N...			
Project Description	2030 No Build Alt A						



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	20	50	400	20	40	20	200	210	10	10	370	10

Signal Information				Signal Phases										
Cycle, s	125.0	Reference Phase	2	Green	6.0	66.0	17.0	9.5	0.0	0.0	1	2	3	4
Offset, s	0	Reference Point	End	Yellow	4.0	5.5	6.0	6.0	0.0	0.0	5	6	7	8
Uncoordinated	Yes	Simult. Gap E/W	On	Red	2.0	1.0	1.0	1.0	0.0	0.0				
Force Mode	Fixed	Simult. Gap N/S	On											

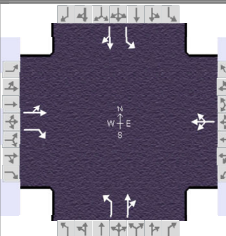
Traffic Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	20	50	400	20	40	20	200	210	10	10	370	10
Initial Queue (Q _b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s ₀), veh/h	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Parking (N _m), man/h		None			None			None			None	
Heavy Vehicles (P _{HV}), %		4	4		5			8	8		3	3
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N _b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (AT)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.28	0.28	0.28
Lane Width (W), ft		12.0	12.0		12.0			12.0	12.0		12.0	12.0
Turn Bay Length, ft		0	265		0			610	0		115	0
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50	50	55	55	55	45	45	45	45	45	45

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s		17.0		17.0	6.0	83.0		66.0
Yellow Change Interval (Y), s		6.0		6.0	4.0	5.5		5.5
Red Clearance Interval (R _c), s		1.0		1.0	2.0	1.0		1.0
Minimum Green (G _{min}), s		10		10	6	24		24
Start-Up Lost Time (lt), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (e), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (PT), s		2.0		2.0	2.0	2.0		2.0
Recall Mode		Off		Off	Max	Min		Min
Dual Entry		Yes		Yes	No	Yes		Yes
Walk (Walk), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (PC), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Jun 27, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.95
Urban Street	SR 94-Ridge Rd	Analysis Year	2030	Analysis Period	1 > 7:00
Intersection	(10) SR 94 & SR 3	File Name	Signalized Capacity Group 1 (10 & 240) - 2030 N...		
Project Description	2030 No Build Alt A				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	20	50	400	20	40	20	200	210	10	10	370	10

Signal Information				Signal Phases								
Cycle, s	125.0	Reference Phase	2									
Offset, s	0	Reference Point	End	Green	6.0	66.0	17.0	9.5	0.0	0.0		
Uncoordinated	Yes	Simult. Gap E/W	On	Yellow	4.0	5.5	6.0	6.0	0.0	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Red	2.0	1.0	1.0	1.0	0.0	0.0		

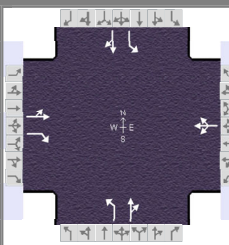
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8	5	2		6
Case Number		11.0		12.0	1.0	4.0		6.3
Phase Duration, s		24.0		16.5	12.0	84.5		72.5
Change Period, (Y+R _c), s		7.0		7.0	6.0	6.5		6.5
Max Allow Headway (MAH), s		3.2		3.0	3.0	2.9		2.9
Queue Clearance Time (g _s), s		19.0		8.5	8.0	9.8		68.0
Green Extension Time (g _e), s		0.0		0.1	0.0	3.3		0.0
Phase Call Probability		1.00		0.95	1.00	1.00		1.00
Max Out Probability		1.00		0.00	1.00	0.00		1.00

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h		74	421		84		211	232		29	1097	
Adjusted Saturation Flow Rate (s), veh/h/ln		1672	1437		1590		1563	1627		1140	1701	
Queue Service Time (g _s), s		5.0	17.0		6.5		6.0	7.8		1.5	66.0	
Cycle Queue Clearance Time (g _c), s		5.0	17.0		6.5		6.0	7.8		1.5	66.0	
Green Ratio (g/C)		0.14	0.18		0.08		0.59	0.62		0.53	0.53	
Capacity (c), veh/h		227	264		120		133	1016		660	898	
Volume-to-Capacity Ratio (X)		0.324	1.592		0.699		1.587	0.228		0.044	1.222	
Back of Queue (Q), ft/ln (95 th percentile)		95	1150		121		637	123		18	1687	
Back of Queue (Q), veh/ln (95 th percentile)		3.7	44.6		4.7		23.9	4.6		0.7	65.9	
Queue Storage Ratio (RQ) (95 th percentile)		0.00	4.34		0.00		1.04	0.00		0.15	0.00	
Uniform Delay (d ₁), s/veh		48.8	51.0		56.4		36.0	10.3		14.3	29.5	
Incremental Delay (d ₂), s/veh		0.3	283.7		2.7		296.7	0.0		0.0	102.7	
Initial Queue Delay (d ₃), s/veh		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Control Delay (d), s/veh		49.1	334.7		59.1		332.8	10.3		14.3	132.1	
Level of Service (LOS)		D	F		E		F	B		B	F	
Approach Delay, s/veh / LOS	292.1		F	59.1		E	163.9		F	129.1		F
Intersection Delay, s/veh / LOS			171.1							F		

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.96	B	1.96	B	1.66	B	1.90	B
Bicycle LOS Score / LOS	1.30	A	0.63	A	1.22	A	1.16	A

HCS Signalized Intersection Input Data

General Information				Intersection Information			
Agency	Smart Services Inc.			Duration, h	0.250		
Analyst	TJS	Analysis Date	Jun 27, 2024	Area Type	Other		
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.92		
Urban Street	SR 94-Ridge Rd	Analysis Year	2030	Analysis Period	1 > 4:45		
Intersection	(10) SR 94 & SR 3	File Name	Signalized Capacity Group 1 (10 & 240) - 2030 N...				
Project Description	2030 No Build Alt A						



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	10	60	230	20	80	30	500	400	20	10	300	10

Signal Information				Signal Phases									
Cycle, s	148.2	Reference Phase	2										
Offset, s	0	Reference Point	End	Green	40.0	48.0	19.0	14.7	0.0	0.0			
Uncoordinated	Yes	Simult. Gap E/W	On	Yellow	4.0	5.5	6.0	6.0	0.0	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Red	2.0	1.0	1.0	1.0	0.0	0.0			

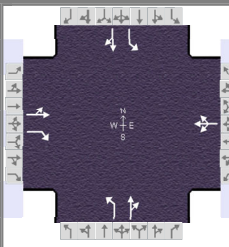
Traffic Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	10	60	230	20	80	30	500	400	20	10	300	10
Initial Queue (Q_b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s_o), veh/h	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Parking (N_m), man/h		None		0	L			None			None	
Heavy Vehicles (P_{HV}), %		3	6		3		3	3		3	4	
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N_b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (AT)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.71	0.71	0.71
Lane Width (W), ft		12.0	12.0		12.0		12.0	12.0		12.0	12.0	
Turn Bay Length, ft		0	110		0		610	0		115	0	
Grade (P_g), %		0			0			0			0	
Speed Limit, mi/h	50	50	50	55	55	55	45	45	45	45	45	45

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
	Maximum Green (G_{max}) or Phase Split, s		19.0		19.0	40.0	88.0	
Yellow Change Interval (Y), s		6.0		6.0	4.0	5.5		5.5
Red Clearance Interval (R_c), s		1.0		1.0	2.0	1.0		1.0
Minimum Green (G_{min}), s		10		10	7	24		24
Start-Up Lost Time (l_t), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (e), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (PT), s		2.0		2.0	2.0	2.0		2.0
Recall Mode		Off		Off	Off	Min		Min
Dual Entry		Yes		Yes	No	Yes		Yes
Walk ($Walk$), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (PC), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
	85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Jun 27, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.92
Urban Street	SR 94-Ridge Rd	Analysis Year	2030	Analysis Period	1 > 4:45
Intersection	(10) SR 94 & SR 3	File Name	Signalized Capacity Group 1 (10 & 240) - 2030 N...		
Project Description	2030 No Build Alt A				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	10	60	230	20	80	30	500	400	20	10	300	10

Signal Information				Signal Phases									
Cycle, s	148.2	Reference Phase	2										
Offset, s	0	Reference Point	End	Green	40.0	48.0	19.0	14.7	0.0	0.0			
Uncoordinated	Yes	Simult. Gap E/W	On	Yellow	4.0	5.5	6.0	6.0	0.0	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Red	2.0	1.0	1.0	1.0	0.0	0.0			

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8	5	2		6
Case Number		11.0		12.0	1.0	4.0		6.3
Phase Duration, s		26.0		21.7	46.0	100.5		54.5
Change Period, (Y+R _c), s		7.0		7.0	6.0	6.5		6.5
Max Allow Headway (MAH), s		3.2		2.9	3.0	3.0		3.0
Queue Clearance Time (g _s), s		21.0		14.7	42.0	22.0		50.0
Green Extension Time (g _e), s		0.0		0.1	0.0	2.5		0.0
Phase Call Probability		1.00		1.00	1.00	1.00		1.00
Max Out Probability		1.00		0.18	1.00	0.00		1.00

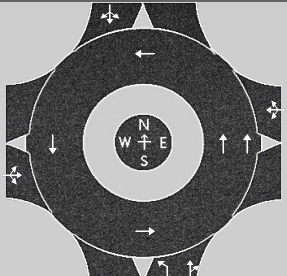
Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h		76	250		141		543	457		24	749	
Adjusted Saturation Flow Rate (s), veh/h/ln		1697	1414		1629		1628	1695		927	1686	
Queue Service Time (g _s), s		6.1	19.0		12.7		40.0	20.0		2.7	48.0	
Cycle Queue Clearance Time (g _c), s		6.1	19.0		12.7		40.0	20.0		2.7	48.0	
Green Ratio (g/C)		0.13	0.40		0.10		0.61	0.63		0.32	0.32	
Capacity (c), veh/h		218	563		162		488	1075		349	546	
Volume-to-Capacity Ratio (X)		0.350	0.444		0.874		1.114	0.425		0.069	1.372	
Back of Queue (Q), ft/ln (95 th percentile)		119	277		261		999	298		28	1727	
Back of Queue (Q), veh/ln (95 th percentile)		4.6	10.6		10.2		39.0	11.6		1.1	66.9	
Queue Storage Ratio (RQ) (95 th percentile)		0.00	2.51		0.00		1.64	0.00		0.24	0.00	
Uniform Delay (d ₁), s/veh		59.0	32.6		65.8		46.3	13.6		34.8	50.1	
Incremental Delay (d ₂), s/veh		0.4	0.2		22.5		75.7	0.1		0.0	175.6	
Initial Queue Delay (d ₃), s/veh		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Control Delay (d), s/veh		59.3	32.8		88.3		122.1	13.7		34.8	225.7	
Level of Service (LOS)		E	C		F		F	B		C	F	
Approach Delay, s/veh / LOS	39.0		D	88.3		F	72.6		E	219.8		F
Intersection Delay, s/veh / LOS	119.5						F					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.96	B	1.97	B	1.66	B	1.94	B
Bicycle LOS Score / LOS	1.03	A	0.72	A	2.14	B	1.06	A

HCS Roundabouts Report

General Information

Site Information

Analyst	TJS		Intersection	(10) SR 94 & SR 3
Agency or Co.	Smart Services, Inc		E/W Street Name	SR 3-Ledge Road
Date Performed	8/7/2024		N/S Street Name	SR 94
Analysis Year	2030		Analysis Time Period, hrs	0.25
Time Analyzed	No Build Alt B - AM Peak		Peak Hour Factor	0.95
Project Description			Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	1	0	0	0	1	0	0	1	1	0	0	0	1	0
Lane Assignment	LTR				LTR				L		TR		LTR			
Volume (V), veh/h	0	20	50	400	0	20	40	20	0	200	210	10	0	10	370	10
Percent Heavy Vehicles, %	4	4	4	4	5	5	5	5	8	8	8	8	3	3	3	3
Flow Rate (v _{PCE}), pc/h	0	22	55	438	0	22	44	22	0	227	239	11	0	11	401	11
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1				2				1				1			
Pedestrians Crossing, p/h	0				0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763			4.3276		4.5436	4.5436			4.9763	
Follow-Up Headway, s		2.6087			2.5352		2.5352	2.5352			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		515			88		227	250			423	
Entry Volume, veh/h		495			84		210	231			411	
Circulating Flow (v _c), pc/h	434			488			88			293		
Exiting Flow (v _{ex}), pc/h	77			282			283			861		
Capacity (C _{PCE}), pc/h		886			938		1311	1311			1023	
Capacity (c), veh/h		852			893		1214	1214			994	
v/c Ratio (x)		0.58			0.09		0.17	0.19			0.41	

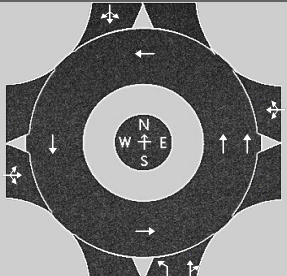
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		12.8			4.9		4.5	4.6			8.2	
Lane LOS		B			A		A	A			A	
95% Queue Length, Q ₉₅ (veh)		3.8			0.3		0.6	0.7			2.1	
95% Queue Length, Q ₉₅ (ft)		98.0			7.8		16.0	18.6			53.8	
Approach Delay, s/veh LOS	12.8		B	4.9		A	4.5		A	8.2		A
Intersection Delay, s/veh LOS	8.5						A					

HCS Roundabouts Report

General Information

Site Information

Analyst	TJS		Intersection	(10) SR 94 & SR 3
Agency or Co.	Smart Services, Inc		E/W Street Name	SR 3-Ledge Road
Date Performed	6/27/2024		N/S Street Name	SR 94
Analysis Year	2030		Analysis Time Period, hrs	0.25
Time Analyzed	No Build Alt B - PM Peak		Peak Hour Factor	0.92
Project Description			Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	1	0	0	0	1	0	0	1	1	0	0	0	1	0
Lane Assignment	LTR				LTR				L		TR		LTR			
Volume (V), veh/h	0	10	60	230	0	20	80	30	0	500	400	20	0	10	300	10
Percent Heavy Vehicles, %	5	5	5	5	3	3	3	3	3	3	3	3	3	3	3	3
Flow Rate (v _{PCE}), pc/h	0	11	68	262	0	22	90	34	0	560	448	22	0	11	336	11
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1				2				1				1			
Pedestrians Crossing, p/h	0				0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763			4.3276		4.5436	4.5436			4.9763	
Follow-Up Headway, s		2.6087			2.5352		2.5352	2.5352			2.6087	

Flow Computations, Capacity and v/c Ratios

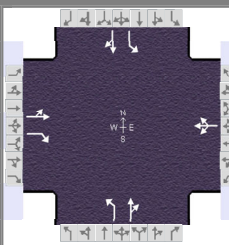
Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		341			146		560	470			358	
Entry Volume, veh/h		325			142		544	456			348	
Circulating Flow (v _c), pc/h	369			1019			90			672		
Exiting Flow (v _{ex}), pc/h	101			661			493			620		
Capacity (C _{PCE}), pc/h		947			597		1308	1308			695	
Capacity (c), veh/h		902			580		1270	1270			675	
v/c Ratio (x)		0.36			0.24		0.43	0.36			0.51	

Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		8.0			9.4		7.1	6.2			13.4	
Lane LOS		A			A		A	A			B	
95% Queue Length, Q ₉₅ (veh)		1.6			1.0		2.2	1.7			3.0	
95% Queue Length, Q ₉₅ (ft)		41.6			25.6		56.3	43.5			76.8	
Approach Delay, s/veh LOS	8.0	A		9.4	A		6.7	A		13.4	B	
Intersection Delay, s/veh LOS	8.4						A					

HCS Signalized Intersection Input Data

General Information				Intersection Information			
Agency	Smart Services Inc.			Duration, h	0.250		
Analyst	TJS	Analysis Date	Aug 7, 2024		Area Type	Other	
Jurisdiction	ODOT	Time Period	AM Peak		PHF	0.95	
Urban Street	SR 94-Ridge Rd		Analysis Year	2030		Analysis Period	1 > 7:00
Intersection	(10) SR 94 & SR 3		File Name	Signalized Capacity Group 1 (10 & 240) - 2030 B...			
Project Description	2030 Build						



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (<i>v</i>), veh/h	20	50	170	20	40	20	120	210	10	10	370	10

Signal Information												
Cycle, s	70.3	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	Yes	Simult. Gap E/W	On	Green	44.8	12.0	0.0	0.0	0.0	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.5	6.0	0.0	0.0	0.0	0.0		
				Red	1.0	1.0	0.0	0.0	0.0	0.0		

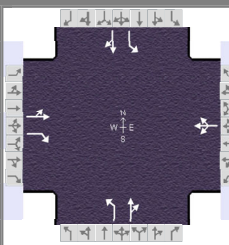
Traffic Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (<i>v</i>), veh/h	20	50	170	20	40	20	120	210	10	10	370	10
Initial Queue (<i>Q_b</i>), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (<i>s₀</i>), veh/h	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Parking (<i>N_m</i>), man/h		None			None			None			None	
Heavy Vehicles (<i>P_{HV}</i>), %		4	4		5		8	8		3	3	
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (<i>N_b</i>), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (<i>AT</i>)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (<i>I</i>)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.35	0.35	0.35
Lane Width (<i>W</i>), ft		12.0	12.0		12.0		12.0	12.0		12.0	12.0	
Turn Bay Length, ft		0	110		0		610	0		115	0	
Grade (<i>P_g</i>), %		0			0			0			0	
Speed Limit, mi/h	50	50	50	55	55	55	45	45	45	45	45	45

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
	Maximum Green (<i>G_{max}</i>) or Phase Split, s		25.5		25.5		81.0	
Yellow Change Interval (<i>Y</i>), s		6.0		6.0		5.5		5.5
Red Clearance Interval (<i>R_c</i>), s		1.0		1.0		1.0		1.0
Minimum Green (<i>G_{min}</i>), s		12		12		24		24
Start-Up Lost Time (<i>l_t</i>), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (<i>e</i>), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (<i>P_T</i>), s		2.0		2.0		2.0		2.0
Recall Mode		Off		Off		Min		Min
Dual Entry		Yes		Yes		Yes		Yes
Walk (<i>Walk</i>), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (<i>PC</i>), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Aug 7, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.95
Urban Street	SR 94-Ridge Rd	Analysis Year	2030	Analysis Period	1 > 7:00
Intersection	(10) SR 94 & SR 3	File Name	Signalized Capacity Group 1 (10 & 240) - 2030 B...		
Project Description	2030 Build				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	20	50	170	20	40	20	120	210	10	10	370	10

Signal Information				Phase Timing (s)										
Cycle, s	70.3	Reference Phase	2	Green	44.8	12.0	0.0	0.0	0.0	0.0	1	2	3	4
Offset, s	0	Reference Point	End	Yellow	5.5	6.0	0.0	0.0	0.0	0.0	5	6	7	8
Uncoordinated	Yes	Simult. Gap E/W	On	Red	1.0	1.0	0.0	0.0	0.0	0.0				
Force Mode	Fixed	Simult. Gap N/S	On											

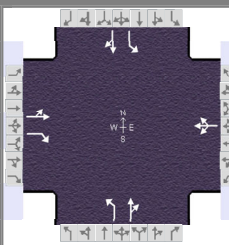
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		7.0		8.0		6.0		6.0
Phase Duration, s		19.0		19.0		51.3		51.3
Change Period, (Y+R _c), s		7.0		7.0		6.5		6.5
Max Allow Headway (MAH), s		3.1		3.1		3.2		3.2
Queue Clearance Time (g _s), s		10.3		5.2		41.4		28.2
Green Extension Time (g _e), s		0.5		0.6		3.3		3.3
Phase Call Probability		1.00		1.00		1.00		1.00
Max Out Probability		0.00		0.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h		74	179		84		126	232		23	862	
Adjusted Saturation Flow Rate (s), veh/h/ln		1613	1437		1551		611	1627		1140	1701	
Queue Service Time (g _s), s		0.0	8.3		0.0		13.4	4.2		0.6	26.2	
Cycle Queue Clearance Time (g _c), s		2.7	8.3		3.2		39.4	4.2		4.7	26.2	
Green Ratio (g/C)		0.17	0.17		0.17		0.64	0.64		0.64	0.64	
Capacity (c), veh/h		341	245		328		266	1038		763	1085	
Volume-to-Capacity Ratio (X)		0.216	0.731		0.257		0.475	0.223		0.030	0.794	
Back of Queue (Q), ft/ln (95 th percentile)		45	123		51		83	46		5	220	
Back of Queue (Q), veh/ln (95 th percentile)		1.7	4.8		2.0		3.1	1.7		0.2	8.6	
Queue Storage Ratio (RQ) (95 th percentile)		0.00	1.12		0.00		0.14	0.00		0.04	0.00	
Uniform Delay (d ₁), s/veh		25.3	27.6		25.5		23.8	5.4		6.3	9.4	
Incremental Delay (d ₂), s/veh		0.1	1.6		0.2		0.5	0.0		0.0	0.2	
Initial Queue Delay (d ₃), s/veh		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Control Delay (d), s/veh		25.4	29.2		25.7		24.2	5.4		6.3	9.5	
Level of Service (LOS)		C	C		C		C	A		A	A	
Approach Delay, s/veh / LOS	28.1		C	25.7		C	12.1		B	9.5		A
Intersection Delay, s/veh / LOS		13.9				B						

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.93	B	1.93	B	1.63	B	1.86	B
Bicycle LOS Score / LOS	0.90	A	0.63	A	1.08	A	1.16	A

HCS Signalized Intersection Input Data

General Information				Intersection Information			
Agency	Smart Services Inc.			Duration, h	0.250		
Analyst	TJS	Analysis Date	Aug 7, 2024	Area Type	Other		
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.92		
Urban Street	SR 94-Ridge Rd	Analysis Year	2030	Analysis Period	1 > 4:45		
Intersection	(10) SR 94 & SR 3	File Name	Signalized Capacity Group 1 (10 & 240) - 2030 B...				
Project Description	2030 Build						



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	10	60	130	20	80	30	410	400	20	10	300	10

Signal Information				Signal Timing (s)								Signal Phases				
Cycle, s	95.6	Reference Phase	2	Green	70.1	12.0	0.0	0.0	0.0	0.0	0.0	0.0	1	2	3	4
Offset, s	0	Reference Point	End	Yellow	5.5	6.0	0.0	0.0	0.0	0.0	0.0	0.0	5	6	7	8
Uncoordinated	Yes	Simult. Gap E/W	On	Red	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0				
Force Mode	Fixed	Simult. Gap N/S	On													

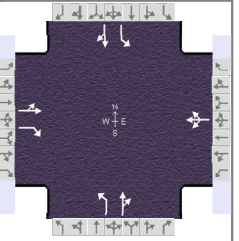
Traffic Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	10	60	130	20	80	30	410	400	20	10	300	10
Initial Queue (Q _b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s ₀), veh/h	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Parking (N _m), man/h		None			None			None			None	
Heavy Vehicles (P _{HV}), %		5	5		3			3	3		3	3
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N _b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (AT)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09
Lane Width (W), ft		12.0	12.0		12.0			12.0	12.0		12.0	12.0
Turn Bay Length, ft		0	110		0			610	0		115	0
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50	50	55	55	55	45	45	45	45	45	45

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
	Maximum Green (G _{max}) or Phase Split, s		22.5		22.5		85.5	
Yellow Change Interval (Y), s		6.0		6.0		5.5		5.5
Red Clearance Interval (R _c), s		1.0		1.0		1.0		1.0
Minimum Green (G _{min}), s		12		12		24		24
Start-Up Lost Time (l _t), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (e), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (PT), s		2.0		2.0		2.0		2.0
Recall Mode		Off		Off		Min		Min
Dual Entry		Yes		Yes		Yes		Yes
Walk (Walk), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (PC), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Aug 7, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.92
Urban Street	SR 94-Ridge Rd	Analysis Year	2030	Analysis Period	1 > 4:45
Intersection	(10) SR 94 & SR 3	File Name	Signalized Capacity Group 1 (10 & 240) - 2030 B...		
Project Description	2030 Build				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	10	60	130	20	80	30	410	400	20	10	300	10

Signal Information				Signal Timing (s)									
Cycle, s	95.6	Reference Phase	2										
Offset, s	0	Reference Point	End										
Uncoordinated	Yes	Simult. Gap E/W	On	Green	70.1	12.0	0.0	0.0	0.0	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.5	6.0	0.0	0.0	0.0	0.0			
				Red	1.0	1.0	0.0	0.0	0.0	0.0			

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		7.0		8.0		6.0		6.0
Phase Duration, s		19.0		19.0		76.6		76.6
Change Period, (Y+R _c), s		7.0		7.0		6.5		6.5
Max Allow Headway (MAH), s		3.1		3.1		3.5		3.5
Queue Clearance Time (g _s), s		11.2		10.0		65.5		16.2
Green Extension Time (g _e), s		0.5		0.5		4.5		4.9
Phase Call Probability		1.00		1.00		1.00		1.00
Max Out Probability		0.00		0.00		0.08		0.00

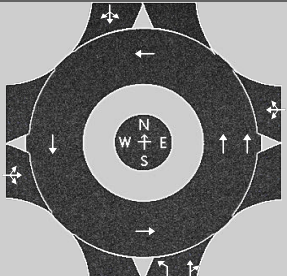
Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h		76	141		141		446	457		20	609	
Adjusted Saturation Flow Rate (s), veh/h/ln		1644	1425		1599		806	1695		927	1699	
Queue Service Time (g _s), s		0.0	9.2		3.5		49.2	9.4		0.8	14.2	
Cycle Queue Clearance Time (g _c), s		4.0	9.2		8.0		63.5	9.4		10.2	14.2	
Green Ratio (g/C)		0.13	0.13		0.13		0.73	0.73		0.73	0.73	
Capacity (c), veh/h		249	179		244		546	1243		664	1247	
Volume-to-Capacity Ratio (X)		0.306	0.791		0.579		0.816	0.367		0.030	0.488	
Back of Queue (Q), ft/ln (95 th percentile)		73	150		140		332	103		6	109	
Back of Queue (Q), veh/ln (95 th percentile)		2.8	5.8		5.5		13.0	4.0		0.2	4.3	
Queue Storage Ratio (RQ) (95 th percentile)		0.00	1.36		0.00		0.54	0.00		0.05	0.00	
Uniform Delay (d ₁), s/veh		38.3	40.6		40.1		18.5	4.6		6.5	5.3	
Incremental Delay (d ₂), s/veh		0.3	3.0		0.8		5.2	0.1		0.0	0.0	
Initial Queue Delay (d ₃), s/veh		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Control Delay (d), s/veh		38.6	43.6		40.9		23.7	4.7		6.5	5.3	
Level of Service (LOS)		D	D		D		C	A		A	A	
Approach Delay, s/veh / LOS	41.9		D	40.9		D	14.1		B	5.3		A
Intersection Delay, s/veh / LOS			16.4						B			

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.94	B	1.94	B	1.62	B	1.85	B
Bicycle LOS Score / LOS	0.85	A	0.72	A	1.98	B	1.06	A

HCS Roundabouts Report

General Information

Site Information

Analyst	TJS		Intersection	(10) SR 94 & SR 3
Agency or Co.	Smart Services, Inc		E/W Street Name	SR 3-Ledge Road
Date Performed	8/5/2024		N/S Street Name	SR 94
Analysis Year	2030		Analysis Time Period, hrs	0.25
Time Analyzed	Build Alt B - AM Peak		Peak Hour Factor	0.95
Project Description			Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	1	0	0	0	1	0	0	1	1	0	0	0	1	0
Lane Assignment	LTR				LTR				L		TR		LTR			
Volume (V), veh/h	0	20	50	170	0	20	40	20	0	120	210	10	0	10	370	10
Percent Heavy Vehicles, %	4	4	4	4	5	5	5	5	8	8	8	8	3	3	3	3
Flow Rate (v _{PCE}), pc/h	0	22	55	186	0	22	44	22	0	136	239	11	0	11	401	11
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1				2				1				1			
Pedestrians Crossing, p/h	0				0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763			4.3276		4.5436	4.5436			4.9763	
Follow-Up Headway, s		2.6087			2.5352		2.5352	2.5352			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		263			88		136	250			423	
Entry Volume, veh/h		253			84		126	231			411	
Circulating Flow (v _c), pc/h	434			397			88			202		
Exiting Flow (v _{ex}), pc/h	77			191			283			609		
Capacity (C _{PCE}), pc/h		886			1013		1311	1311			1123	
Capacity (c), veh/h		852			965		1214	1214			1090	
v/c Ratio (x)		0.30			0.09		0.10	0.19			0.38	

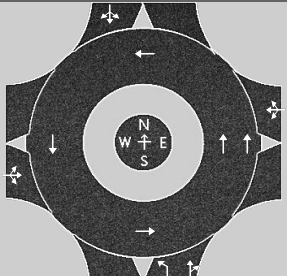
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		7.5			4.5		3.8	4.6			7.2	
Lane LOS		A			A		A	A			A	
95% Queue Length, Q ₉₅ (veh)		1.2			0.3		0.3	0.7			1.8	
95% Queue Length, Q ₉₅ (ft)		31.0			7.8		8.0	18.6			46.1	
Approach Delay, s/veh LOS	7.5	A		4.5	A		4.3	A		7.2	A	
Intersection Delay, s/veh LOS	6.1						A					

HCS Roundabouts Report

General Information

Site Information

Analyst	TJS		Intersection	(10) SR 94 & SR 3
Agency or Co.	Smart Services, Inc		E/W Street Name	SR 3-Ledge Road
Date Performed	8/5/2024		N/S Street Name	SR 94
Analysis Year	2030		Analysis Time Period, hrs	0.25
Time Analyzed	Build Alt B - PM Peak		Peak Hour Factor	0.92
Project Description			Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	1	0	0	0	1	0	0	1	1	0	0	0	1	0
Lane Assignment	LTR				LTR				L		TR		LTR			
Volume (V), veh/h	0	10	60	130	0	20	80	30	0	410	400	20	0	10	300	10
Percent Heavy Vehicles, %	5	5	5	5	3	3	3	3	3	3	3	3	3	3	3	3
Flow Rate (v _{PCE}), pc/h	0	11	68	148	0	22	90	34	0	459	448	22	0	11	336	11
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1				2				1				1			
Pedestrians Crossing, p/h	0				0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763			4.3276		4.5436	4.5436			4.9763	
Follow-Up Headway, s		2.6087			2.5352		2.5352	2.5352			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		227			146		459	470			358	
Entry Volume, veh/h		216			142		446	456			348	
Circulating Flow (v _c), pc/h	369			918			90			571		
Exiting Flow (v _{ex}), pc/h	101			560			493			506		
Capacity (C _{PCE}), pc/h		947			651		1308	1308			771	
Capacity (c), veh/h		902			632		1270	1270			748	
v/c Ratio (x)		0.24			0.22		0.35	0.36			0.46	

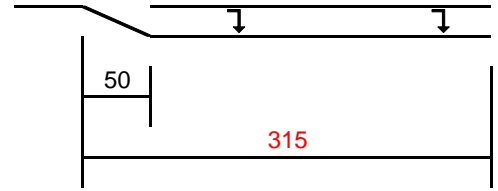
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		6.4			8.5		6.1	6.2			11.2	
Lane LOS		A			A		A	A			B	
95% Queue Length, Q ₉₅ (veh)		0.9			0.9		1.6	1.7			2.5	
95% Queue Length, Q ₉₅ (ft)		23.4			23.0		41.0	43.5			64.0	
Approach Delay, s/veh LOS	6.4	A		8.5	A		6.2	A		11.2	B	
Intersection Delay, s/veh LOS	7.5						A					

(19) SR 94 & SR 3/LEDGE ROAD - EB RT
2050 'NO BUILD' - AM PEAK

Type =	Signalized	Design Condition (Rev)=	C
Speed =	55 MPH	Storage Length (Adj) =	500 feet
Cycle Length =	120 seconds	Deceleration/Div. Taper =	165 feet
Turning Volume =	420 VPH	Turn Lane Length =	665 feet
# of Turning Lanes =	1	Through Volume =	70 VPH
Advancing Volume =	490 VPH	# of Through Lanes =	1
Turning % (>10% HIGH)	85.7% HIGH	Through vehicles per cycle =	3
Design Condition =	B or C	No Block Distance =	150 feet
Vehicles per Cycle =	14.0	Turn Lane Length (Actual) =	315 feet
Storage Length (Calc) =	500 feet		

Calculations based on 401-7E in ODOT L&D Manual. All dimensions are in feet.



Since right turn volume higher than adjacent lane volume, the adjacent lane storage was added to the deceleration/div taper distance to get the length of the right turn lane.

MED-71/271 (PID 117028)

COUNT MEMO

PREPARED BY:  SMART SERVICES

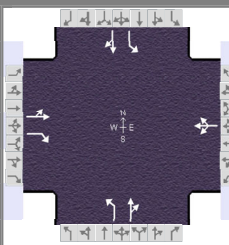
3/2024

APPENDIX

RIGHT TURN LANE CALCULATIONS

HCS Signalized Intersection Input Data

General Information					Intersection Information			
Agency	Smart Services Inc.				Duration, h	0.250		
Analyst	TJS	Analysis Date	Mar 1, 2024		Area Type	Other		
Jurisdiction	ODOT	Time Period	AM Peak		PHF	0.95		
Urban Street	SR 94-Ridge Rd		Analysis Year	2050	Analysis Period	1 > 7:00		
Intersection	(10) SR 94 & SR 3		File Name	Signalized Capacity Group 1 (10 & 240) - 2050 N...				
Project Description	2050 No Build							



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	20	50	420	30	40	20	190	250	10	10	400	10

Signal Information															
Cycle, s	120.0	Reference Phase	2												
Offset, s	0	Reference Point	End												
Uncoordinated	Yes	Simult. Gap E/W	On	Green	81.0	25.5	0.0	0.0	0.0	0.0	1		2	3	4
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.5	6.0	0.0	0.0	0.0	0.0	5		6	7	8
				Red	1.0	1.0	0.0	0.0	0.0	0.0					

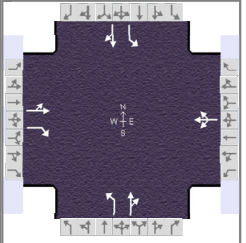
Traffic Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	20	50	420	30	40	20	190	250	10	10	400	10
Initial Queue (Q _b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s ₀), veh/h	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Parking (N _m), man/h	None			None			None			None		
Heavy Vehicles (P _{HV}), %		4	4		5		8	8		3	3	
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N _b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (AT)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09
Lane Width (W), ft		12.0	12.0		12.0		12.0	12.0		12.0	12.0	
Turn Bay Length, ft		0	110		0		610	0		115	0	
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50	50	55	55	55	45	45	45	45	45	45

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s		25.5		25.5		81.0		81.0
Yellow Change Interval (Y), s		6.0		6.0		5.5		5.5
Red Clearance Interval (R _c), s		1.0		1.0		1.0		1.0
Minimum Green (G _{min}), s		12		12		24		24
Start-Up Lost Time (l _t), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (e), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (P _T), s		2.0		2.0		2.0		2.0
Recall Mode		Off		Off		Min		Min
Dual Entry		Yes		Yes		Yes		Yes
Walk (Walk), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (P _C), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Mar 1, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.95
Urban Street	SR 94-Ridge Rd	Analysis Year	2050	Analysis Period	1 > 7:00
Intersection	(10) SR 94 & SR 3	File Name	Signalized Capacity Group 1 (10 & 240) - 2050 N...		
Project Description	2050 No Build				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	20	50	420	30	40	20	190	250	10	10	400	10

Signal Information														
Cycle, s	120.0	Reference Phase	2											
Offset, s	0	Reference Point	End											
Uncoordinated	Yes	Simult. Gap E/W	On	Green	81.0	25.5	0.0	0.0	0.0	0.0				
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.5	6.0	0.0	0.0	0.0	0.0				
				Red	1.0	1.0	0.0	0.0	0.0	0.0				

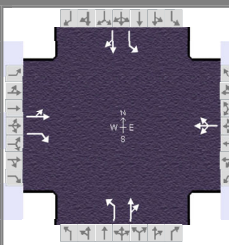
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		7.0		8.0		6.0		6.0
Phase Duration, s		32.5		32.5		87.5		87.5
Change Period, (Y+R _c), s		7.0		7.0		6.5		6.5
Max Allow Headway (MAH), s		3.2		3.2		3.4		3.4
Queue Clearance Time (g _s), s		27.5		8.0		83.0		62.2
Green Extension Time (g _e), s		0.0		1.2		0.0		4.9
Phase Call Probability		1.00		1.00		1.00		1.00
Max Out Probability		1.00		0.00		1.00		0.11

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h		74	442		95		200	274		25	1033	
Adjusted Saturation Flow Rate (s), veh/h/ln		1592	1437		1507		520	1630		1097	1702	
Queue Service Time (g _s), s		0.0	25.5		1.8		20.8	7.9		1.1	60.2	
Cycle Queue Clearance Time (g _c), s		4.3	25.5		6.0		81.0	7.9		9.0	60.2	
Green Ratio (g/C)		0.21	0.21		0.21		0.67	0.67		0.67	0.67	
Capacity (c), veh/h		377	305		360		150	1100		728	1149	
Volume-to-Capacity Ratio (X)		0.196	1.448		0.263		1.333	0.249		0.035	0.899	
Back of Queue (Q), ft/ln (95 th percentile)		81	1094		106		574	115		11	553	
Back of Queue (Q), veh/ln (95 th percentile)		3.1	42.4		4.1		21.6	4.3		0.4	21.6	
Queue Storage Ratio (RQ) (95 th percentile)		0.00	9.95		0.00		0.94	0.00		0.10	0.00	
Uniform Delay (d ₁), s/veh		38.9	47.2		39.5		53.8	7.6		9.4	16.1	
Incremental Delay (d ₂), s/veh		0.1	219.1		0.1		188.0	0.0		0.0	1.0	
Initial Queue Delay (d ₃), s/veh		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Control Delay (d), s/veh		39.0	266.4		39.7		241.7	7.7		9.4	17.1	
Level of Service (LOS)		D	F		D		F	A		A	B	
Approach Delay, s/veh / LOS		233.9	F		39.7	D		106.5	F		16.9	B
Intersection Delay, s/veh / LOS			90.0						F			

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.94	B	1.94	B	1.65	B	1.87	B
Bicycle LOS Score / LOS	1.34	A	0.64	A	1.27	A	1.22	A

HCS Signalized Intersection Input Data

General Information					Intersection Information			
Agency	Smart Services Inc.				Duration, h	0.250		
Analyst	TJS	Analysis Date	Mar 1, 2024		Area Type	Other		
Jurisdiction	ODOT	Time Period	PM Peak		PHF	0.92		
Urban Street	SR 94-Ridge Rd		Analysis Year	2050	Analysis Period	1 > 4:45		
Intersection	(10) SR 94 & SR 3		File Name	Signalized Capacity Group 1 (10 & 240) - 2050 N...				
Project Description	2050 No Build							



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	10	60	240	30	70	30	500	440	30	10	330	10

Signal Information														
Cycle, s	119.5	Reference Phase	2											
Offset, s	0	Reference Point	End											
Uncoordinated	Yes	Simult. Gap E/W	On	Green	85.5	20.5	0.0	0.0	0.0	0.0				
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.5	6.0	0.0	0.0	0.0	0.0				
				Red	1.0	1.0	0.0	0.0	0.0	0.0				

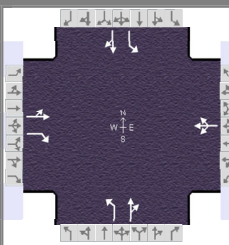
Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	10	60	240	30	70	30	500	440	30	10	330	10
Initial Queue (Q _b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s ₀), veh/h	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Parking (N _m), man/h	None			None			None			None		
Heavy Vehicles (P _{HV}), %		5	5		3		3	3		3	3	
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N _b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (AT)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09
Lane Width (W), ft		12.0	12.0		12.0		12.0	12.0		12.0	12.0	
Turn Bay Length, ft		0	110		0		610	0		115	0	
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50	50	55	55	55	45	45	45	45	45	45

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s		20.5		20.5		85.5		85.5
Yellow Change Interval (Y), s		6.0		6.0		5.5		5.5
Red Clearance Interval (R _c), s		1.0		1.0		1.0		1.0
Minimum Green (G _{min}), s		12		12		24		24
Start-Up Lost Time (l _t), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (e), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (P _T), s		2.0		2.0		2.0		2.0
Recall Mode		Off		Off		Min		Min
Dual Entry		Yes		Yes		Yes		Yes
Walk (Walk), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (P _C), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

HCS Signalized Intersection Results Summary

General Information				Intersection Information			
Agency	Smart Services Inc.			Duration, h	0.250		
Analyst	TJS	Analysis Date	Mar 1, 2024	Area Type	Other		
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.92		
Urban Street	SR 94-Ridge Rd	Analysis Year	2050	Analysis Period	1 > 4:45		
Intersection	(10) SR 94 & SR 3	File Name	Signalized Capacity Group 1 (10 & 240) - 2050 N...				
Project Description	2050 No Build						



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	10	60	240	30	70	30	500	440	30	10	330	10

Signal Information				Signal Phases								
Cycle, s	119.5	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	Yes	Simult. Gap E/W	On									
Force Mode	Fixed	Simult. Gap N/S	On									
		Green	85.5	20.5	0.0	0.0	0.0	0.0				
		Yellow	5.5	6.0	0.0	0.0	0.0	0.0				
		Red	1.0	1.0	0.0	0.0	0.0	0.0				

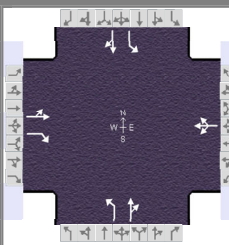
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		7.0		8.0		6.0		6.0
Phase Duration, s		27.5		27.5		92.0		92.0
Change Period, (Y+R _c), s		7.0		7.0		6.5		6.5
Max Allow Headway (MAH), s		3.1		3.1		3.6		3.6
Queue Clearance Time (g _s), s		22.5		11.5		87.5		24.2
Green Extension Time (g _e), s		0.0		0.7		0.0		6.7
Phase Call Probability		1.00		1.00		1.00		1.00
Max Out Probability		1.00		0.03		1.00		0.00

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h		76	261		141		543	511		20	672	
Adjusted Saturation Flow Rate (s), veh/h/ln		1640	1425		1572		760	1690		882	1700	
Queue Service Time (g _s), s		0.0	20.5		3.3		63.3	14.7		1.1	22.2	
Cycle Queue Clearance Time (g _c), s		4.7	20.5		9.5		85.5	14.7		15.9	22.2	
Green Ratio (g/C)		0.17	0.17		0.17		0.72	0.72		0.72	0.72	
Capacity (c), veh/h		316	244		307		463	1209		583	1216	
Volume-to-Capacity Ratio (X)		0.241	1.067		0.461		1.175	0.423		0.034	0.552	
Back of Queue (Q), ft/ln (95 th percentile)		89	480		169		1015	198		9	200	
Back of Queue (Q), veh/ln (95 th percentile)		3.4	18.5		6.6		39.6	7.7		0.4	7.8	
Queue Storage Ratio (RQ) (95 th percentile)		0.00	4.37		0.00		1.66	0.00		0.08	0.00	
Uniform Delay (d ₁), s/veh		43.0	49.5		44.9		32.2	6.9		10.2	8.0	
Incremental Delay (d ₂), s/veh		0.1	76.4		0.4		99.4	0.1		0.0	0.0	
Initial Queue Delay (d ₃), s/veh		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Control Delay (d), s/veh		43.1	125.9		45.3		131.6	7.0		10.2	8.0	
Level of Service (LOS)		D	F		D		F	A		B	A	
Approach Delay, s/veh / LOS	107.2	F		45.3	D		71.3	E		8.1	A	
Intersection Delay, s/veh / LOS	55.4						E					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.95	B	1.95	B	1.64	B	1.86	B
Bicycle LOS Score / LOS	1.04	A	0.72	A	2.23	B	1.12	A

HCS Signalized Intersection Input Data

General Information				Intersection Information			
Agency	Smart Services Inc.			Duration, h	0.250		
Analyst	TJS	Analysis Date	Jun 27, 2024	Area Type	Other		
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.95		
Urban Street	SR 94-Ridge Rd		Analysis Year	2050	Analysis Period	1 > 7:00	
Intersection	(10) SR 94 & SR 3		File Name	Signalized Capacity Group 1 (10 & 240) - 2050 N...			
Project Description	2050 No Build Alt A						



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	20	50	420	30	40	20	190	250	10	10	400	10

Signal Information											
Cycle, s	125.1	Reference Phase	2								
Offset, s	0	Reference Point	End								
Uncoordinated	Yes	Simult. Gap E/W	On								
Force Mode	Fixed	Simult. Gap N/S	On								

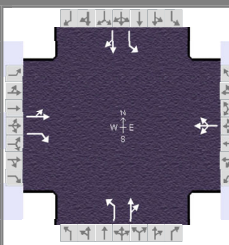
Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	20	50	420	30	40	20	190	250	10	10	400	10
Initial Queue (Q_b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s_o), veh/h	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Parking (N_m), man/h	None			None			None			None		
Heavy Vehicles (P_{HV}), %	4			5			8			3		
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N_b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (AT)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.27	0.27	0.27
Lane Width (W), ft	12.0		12.0	12.0			12.0	12.0		12.0	12.0	
Turn Bay Length, ft	0		265	0			610	0		115	0	
Grade (P_g), %	0			0				0			0	
Speed Limit, mi/h	50	50	50	55	55	55	45	45	45	45	45	45

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s		17.0		17.0	6.0	83.0		66.0
Yellow Change Interval (Y), s		6.0		6.0	4.0	5.5		5.5
Red Clearance Interval (R_c), s		1.0		1.0	2.0	1.0		1.0
Minimum Green (G_{min}), s		10		10	6	24		24
Start-Up Lost Time (l_t), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (e), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (PT), s		2.0		2.0	2.0	2.0		2.0
Recall Mode		Off		Off	Max	Min		Min
Dual Entry		Yes		Yes	No	Yes		Yes
Walk ($Walk$), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (PC), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Jun 27, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.95
Urban Street	SR 94-Ridge Rd	Analysis Year	2050	Analysis Period	1 > 7:00
Intersection	(10) SR 94 & SR 3	File Name	Signalized Capacity Group 1 (10 & 240) - 2050 N...		
Project Description	2050 No Build Alt A				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	20	50	420	30	40	20	190	250	10	10	400	10

Signal Information				Signal Phases									
Cycle, s	125.1	Reference Phase	2										
Offset, s	0	Reference Point	End										
Uncoordinated	Yes	Simult. Gap E/W	On										
Force Mode	Fixed	Simult. Gap N/S	On										
		Green		6.0	66.0	17.0	9.6	0.0	0.0				
		Yellow		4.0	5.5	6.0	6.0	0.0	0.0				
		Red		2.0	1.0	1.0	1.0	0.0	0.0				

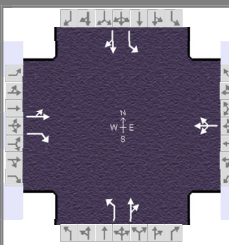
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8	5	2		6
Case Number		11.0		12.0	1.0	4.0		6.3
Phase Duration, s		24.0		16.6	12.0	84.5		72.5
Change Period, ($Y+R_c$), s		7.0		7.0	6.0	6.5		6.5
Max Allow Headway (MAH), s		3.2		3.0	3.0	2.9		2.9
Queue Clearance Time (g_s), s		19.0		9.3	8.0	11.5		68.0
Green Extension Time (g_e), s		0.0		0.1	0.0	3.8		0.0
Phase Call Probability		1.00		0.96	1.00	1.00		1.00
Max Out Probability		1.00		0.00	1.00	0.00		1.00

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h		74	442		95		200	274		28	1161	
Adjusted Saturation Flow Rate (s), veh/h/ln		1672	1437		1592		1563	1630		1097	1702	
Queue Service Time (g_s), s		5.0	17.0		7.3		6.0	9.5		1.6	66.0	
Cycle Queue Clearance Time (g_c), s		5.0	17.0		7.3		6.0	9.5		1.6	66.0	
Green Ratio (g/C)		0.14	0.18		0.08		0.59	0.62		0.53	0.53	
Capacity (c), veh/h		227	264		122		132	1016		636	898	
Volume-to-Capacity Ratio (X)		0.324	1.674		0.774		1.510	0.269		0.045	1.294	
Back of Queue (Q), ft/ln (95 th percentile)		95	1256		139		588	151		17	2010	
Back of Queue (Q), veh/ln (95 th percentile)		3.7	48.7		5.3		22.1	5.7		0.7	78.5	
Queue Storage Ratio (RQ) (95 th percentile)		0.00	4.74		0.00		0.96	0.00		0.15	0.00	
Uniform Delay (d_1), s/veh		48.9	51.1		56.7		36.0	10.7		14.3	29.6	
Incremental Delay (d_2), s/veh		0.3	319.4		3.9		264.2	0.1		0.0	134.5	
Initial Queue Delay (d_3), s/veh		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Control Delay (d), s/veh		49.2	370.5		60.6		300.3	10.7		14.3	164.1	
Level of Service (LOS)		D	F		E		F	B		B	F	
Approach Delay, s/veh / LOS	324.6	F		60.6	E		133.0	F		160.5	F	
Intersection Delay, s/veh / LOS			187.8						F			

Multimodal Results	EB	WB	NB	SB
Pedestrian LOS Score / LOS	1.96 B	1.96 B	1.66 B	1.90 B
Bicycle LOS Score / LOS	1.34 A	0.64 A	1.27 A	1.22 A

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Jun 27, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.92
Urban Street	SR 94-Ridge Rd	Analysis Year	2050	Analysis Period	1 > 4:45
Intersection	(10) SR 94 & SR 3	File Name	Signalized Capacity Group 1 (10 & 240) - 2050 N...		
Project Description	2050 No Build Alt A				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	10	60	240	30	70	30	500	440	30	10	330	10

Signal Information				Signal Phases										
Cycle, s	148.3	Reference Phase	2											
Offset, s	0	Reference Point	End	Green	40.0	48.0	19.0	14.8	0.0	0.0	1	2	3	4
Uncoordinated	Yes	Simult. Gap E/W	On	Yellow	4.0	5.5	6.0	6.0	0.0	0.0				
Force Mode	Fixed	Simult. Gap N/S	On	Red	2.0	1.0	1.0	1.0	0.0	0.0				

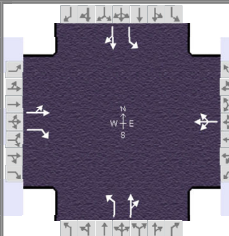
Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	10	60	240	30	70	30	500	440	30	10	330	10
Initial Queue (Q _b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s ₀), veh/h	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Parking (N _m), man/h	None			None			None			None		
Heavy Vehicles (P _{HV}), %	3			6			3			3		
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N _b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (AT)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.66	0.66	0.66
Lane Width (W), ft	12.0		12.0	12.0			12.0	12.0		12.0	12.0	
Turn Bay Length, ft	0		265	0			610	0		115	0	
Grade (P _g), %	0			0				0			0	
Speed Limit, mi/h	50	50	50	55	55	55	45	45	45	45	45	45

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s		19.0		19.0	40.0	88.0		48.0
Yellow Change Interval (Y), s		6.0		6.0	4.0	5.5		5.5
Red Clearance Interval (R _c), s		1.0		1.0	2.0	1.0		1.0
Minimum Green (G _{min}), s		10		10	7	24		24
Start-Up Lost Time (l _t), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (e), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (P _T), s		2.0		2.0	2.0	2.0		2.0
Recall Mode		Off		Off	Off	Min		Min
Dual Entry		Yes		Yes	No	Yes		Yes
Walk (Walk), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (P _C), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Jun 27, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.92
Urban Street	SR 94-Ridge Rd	Analysis Year	2050	Analysis Period	1 > 4:45
Intersection	(10) SR 94 & SR 3	File Name	Signalized Capacity Group 1 (10 & 240) - 2050 N...		
Project Description	2050 No Build Alt A				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	10	60	240	30	70	30	500	440	30	10	330	10

Signal Information												
Cycle, s	148.3	Reference Phase	2									
Offset, s	0	Reference Point	End	Green	40.0	48.0	19.0	14.8	0.0	0.0		
Uncoordinated	Yes	Simult. Gap E/W	On	Yellow	4.0	5.5	6.0	6.0	0.0	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Red	2.0	1.0	1.0	1.0	0.0	0.0		

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8	5	2		6
Case Number		11.0		12.0	1.0	4.0		6.3
Phase Duration, s		26.0		21.8	46.0	100.5		54.5
Change Period, (Y+R _c), s		7.0		7.0	6.0	6.5		6.5
Max Allow Headway (MAH), s		3.2		2.9	3.0	3.0		3.0
Queue Clearance Time (g _s), s		21.0		14.7	42.0	25.5		50.0
Green Extension Time (g _e), s		0.0		0.1	0.0	2.8		0.0
Phase Call Probability		1.00		1.00	1.00	1.00		1.00
Max Out Probability		1.00		0.19	1.00	0.00		1.00

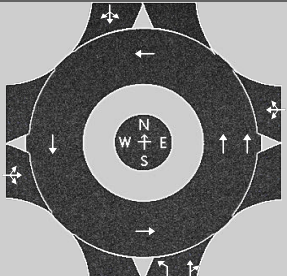
Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h		76	261		141		543	511		24	801	
Adjusted Saturation Flow Rate (s), veh/h/ln		1697	1414		1623		1628	1690		882	1686	
Queue Service Time (g _s), s		6.1	19.0		12.7		40.0	23.5		2.8	48.0	
Cycle Queue Clearance Time (g _c), s		6.1	19.0		12.7		40.0	23.5		2.8	48.0	
Green Ratio (g/C)		0.13	0.40		0.10		0.61	0.63		0.32	0.32	
Capacity (c), veh/h		217	563		162		488	1071		334	546	
Volume-to-Capacity Ratio (X)		0.350	0.464		0.875		1.114	0.477		0.071	1.467	
Back of Queue (Q), ft/ln (95 th percentile)		119	289		261		999	338		27	1987	
Back of Queue (Q), veh/ln (95 th percentile)		4.6	11.0		10.2		39.0	13.2		1.1	77.0	
Queue Storage Ratio (RQ) (95 th percentile)		0.00	1.09		0.00		1.64	0.00		0.24	0.00	
Uniform Delay (d ₁), s/veh		59.0	32.9		65.8		46.3	14.2		34.8	50.1	
Incremental Delay (d ₂), s/veh		0.4	0.2		22.7		75.9	0.1		0.0	216.9	
Initial Queue Delay (d ₃), s/veh		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Control Delay (d), s/veh		59.3	33.2		88.6		122.2	14.4		34.8	267.0	
Level of Service (LOS)		E	C		F		F	B		C	F	
Approach Delay, s/veh / LOS	39.1		D	88.6		F	70.0		E	260.4		F
Intersection Delay, s/veh / LOS	133.3						F					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.96	B	1.97	B	1.66	B	1.94	B
Bicycle LOS Score / LOS	1.04	A	0.72	A	2.23	B	1.12	A

HCS Roundabouts Report

General Information

Site Information

Analyst	TJS		Intersection	(10) SR 94 & SR 3
Agency or Co.	Smart Services, Inc		E/W Street Name	SR 3-Ledge Road
Date Performed	6/27/2024		N/S Street Name	SR 94
Analysis Year	2050		Analysis Time Period, hrs	0.25
Time Analyzed	No Build Alt B - AM Peak		Peak Hour Factor	0.95
Project Description			Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	1	0	0	0	1	0	0	1	1	0	0	0	1	0
Lane Assignment	LTR				LTR				L		TR		LTR			
Volume (V), veh/h	0	20	50	420	0	30	40	20	0	190	250	10	0	10	400	10
Percent Heavy Vehicles, %	4	4	4	4	5	5	5	5	8	8	8	8	3	3	3	3
Flow Rate (v _{PCE}), pc/h	0	22	55	460	0	33	44	22	0	216	284	11	0	11	434	11
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1				2				1				1			
Pedestrians Crossing, p/h	0				0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763			4.3276		4.5436	4.5436			4.9763	
Follow-Up Headway, s		2.6087			2.5352		2.5352	2.5352			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		537			99		216	295			456	
Entry Volume, veh/h		516			94		200	273			443	
Circulating Flow (v _c), pc/h	478			522			88			293		
Exiting Flow (v _{ex}), pc/h	77			271			328			927		
Capacity (C _{PCE}), pc/h		847			911		1311	1311			1023	
Capacity (c), veh/h		815			868		1214	1214			994	
v/c Ratio (x)		0.63			0.11		0.16	0.23			0.45	

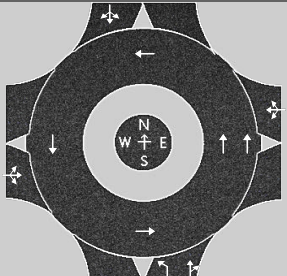
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		14.9			5.2		4.4	5.0			8.7	
Lane LOS		B			A		A	A			A	
95% Queue Length, Q ₉₅ (veh)		4.6			0.4		0.6	0.9			2.3	
95% Queue Length, Q ₉₅ (ft)		118.7			10.4		16.0	23.9			58.9	
Approach Delay, s/veh LOS	14.9		B	5.2		A	4.7		A	8.7		A
Intersection Delay, s/veh LOS	9.4						A					

HCS Roundabouts Report

General Information

Site Information

Analyst	TJS		Intersection	(10) SR 94 & SR 3
Agency or Co.	Smart Services, Inc		E/W Street Name	SR 3-Ledge Road
Date Performed	6/27/2024		N/S Street Name	SR 94
Analysis Year	2050		Analysis Time Period, hrs	0.25
Time Analyzed	No Build Alt B - PM Peak		Peak Hour Factor	0.92
Project Description			Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Number of Lanes (N)	0	0	1	0	0	0	1	0	0	1	1	0	0	0	1	0
Lane Assignment			LTR				LTR		L		TR				LTR	
Volume (V), veh/h	0	10	60	240	0	30	70	30	0	500	440	30	0	10	330	10
Percent Heavy Vehicles, %	5	5	5	5	3	3	3	3	3	3	3	3	3	3	3	3
Flow Rate (v _{PCE}), pc/h	0	11	68	274	0	34	78	34	0	560	493	34	0	11	369	11
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1				2				1				1			
Pedestrians Crossing, p/h	0				0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763			4.3276		4.5436	4.5436			4.9763	
Follow-Up Headway, s		2.6087			2.5352		2.5352	2.5352			2.6087	

Flow Computations, Capacity and v/c Ratios

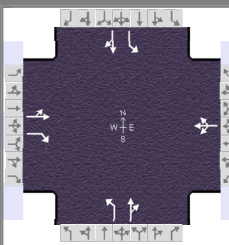
Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		353			146		560	527			391	
Entry Volume, veh/h		336			142		544	512			380	
Circulating Flow (v _c), pc/h	414			1064			90			672		
Exiting Flow (v _{ex}), pc/h	113			649			538			677		
Capacity (C _{PCE}), pc/h		905			575		1308	1308			695	
Capacity (c), veh/h		862			558		1270	1270			675	
v/c Ratio (x)		0.39			0.25		0.43	0.40			0.56	

Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		8.8			9.9		7.1	6.7			14.8	
Lane LOS		A			A		A	A			B	
95% Queue Length, Q ₉₅ (veh)		1.9			1.0		2.2	2.0			3.5	
95% Queue Length, Q ₉₅ (ft)		49.4			25.6		56.3	51.2			89.6	
Approach Delay, s/veh LOS	8.8	A		9.9	A		6.9	A		14.8	B	
Intersection Delay, s/veh LOS	9.0						A					

HCS Signalized Intersection Input Data

General Information					Intersection Information			
Agency	Smart Services Inc.				Duration, h	0.250		
Analyst	TJS	Analysis Date	Jun 6, 2024		Area Type	Other		
Jurisdiction	ODOT	Time Period	AM Peak		PHF	0.95		
Urban Street	SR 94-Ridge Rd		Analysis Year	2050	Analysis Period	1 > 7:00		
Intersection	(10) SR 94 & SR 3		File Name	Signalized Capacity Group 1 (10 & 240) - 2050 B...				
Project Description	2050 Build							



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	20	50	190	30	40	20	110	250	10	10	400	10

Signal Information													
Cycle, s	79.0	Reference Phase	2										
Offset, s	0	Reference Point	End										
Uncoordinated	Yes	Simult. Gap E/W	On	Green	52.2	13.2	0.0	0.0	0.0	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.5	6.0	0.0	0.0	0.0	0.0			
				Red	1.0	1.0	0.0	0.0	0.0	0.0			

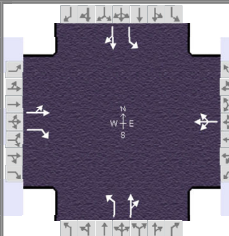
Traffic Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	20	50	190	30	40	20	110	250	10	10	400	10
Initial Queue (Q _b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s ₀), veh/h	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Parking (N _m), man/h	0	L			None			None			None	
Heavy Vehicles (P _{HV}), %		4	4		5		8	8		3	3	
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N _b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (AT)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.32	0.32	0.32
Lane Width (W), ft		12.0	12.0		12.0		12.0	12.0		12.0	12.0	
Turn Bay Length, ft		0	110		0		610	0		115	0	
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50	50	55	55	55	45	45	45	45	45	45

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s		25.5		25.5		81.0		81.0
Yellow Change Interval (Y), s		6.0		6.0		5.5		5.5
Red Clearance Interval (R _c), s		1.0		1.0		1.0		1.0
Minimum Green (G _{min}), s		12		12		24		24
Start-Up Lost Time (l _t), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (e), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (PT), s		2.0		2.0		2.0		2.0
Recall Mode		Off		Off		Min		Min
Dual Entry		Yes		Yes		Yes		Yes
Walk (Walk), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (PC), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Jun 6, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.95
Urban Street	SR 94-Ridge Rd	Analysis Year	2050	Analysis Period	1 > 7:00
Intersection	(10) SR 94 & SR 3	File Name	Signalized Capacity Group 1 (10 & 240) - 2050 B...		
Project Description	2050 Build				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	20	50	190	30	40	20	110	250	10	10	400	10

Signal Information				Signal Phases									
Cycle, s	79.0	Reference Phase	2										
Offset, s	0	Reference Point	End										
Uncoordinated	Yes	Simult. Gap E/W	On										
Force Mode	Fixed	Simult. Gap N/S	On										
		Green		52.2	13.2	0.0	0.0	0.0	0.0				
		Yellow		5.5	6.0	0.0	0.0	0.0	0.0				
		Red		1.0	1.0	0.0	0.0	0.0	0.0				

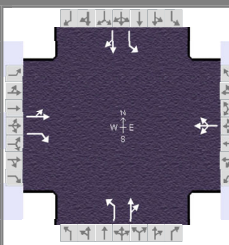
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		7.0		8.0		6.0		6.0
Phase Duration, s		20.2		20.2		58.7		58.7
Change Period, (Y+R _c), s		7.0		7.0		6.5		6.5
Max Allow Headway (MAH), s		3.1		3.1		3.2		3.2
Queue Clearance Time (g _s), s		12.6		6.1		48.5		33.9
Green Extension Time (g _e), s		0.6		0.6		3.6		3.7
Phase Call Probability		1.00		1.00		1.00		1.00
Max Out Probability		0.00		0.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h		74	200		95		116	274		23	925	
Adjusted Saturation Flow Rate (s), veh/h/ln		1610	1437		1523		576	1630		1097	1702	
Queue Service Time (g _s), s		0.0	10.6		0.4		14.7	5.4		0.7	31.9	
Cycle Queue Clearance Time (g _c), s		3.0	10.6		4.1		46.5	5.4		5.9	31.9	
Green Ratio (g/C)		0.17	0.17		0.17		0.66	0.66		0.66	0.66	
Capacity (c), veh/h		329	241		316		240	1078		744	1125	
Volume-to-Capacity Ratio (X)		0.224	0.830		0.300		0.482	0.254		0.030	0.822	
Back of Queue (Q), ft/ln (95 th percentile)		52	165		68		90	61		6	270	
Back of Queue (Q), veh/ln (95 th percentile)		2.0	6.4		2.6		3.4	2.3		0.2	10.5	
Queue Storage Ratio (RQ) (95 th percentile)		0.00	1.50		0.00		0.15	0.00		0.05	0.00	
Uniform Delay (d ₁), s/veh		28.6	31.8		29.1		27.2	5.4		6.6	9.9	
Incremental Delay (d ₂), s/veh		0.1	2.8		0.2		0.6	0.0		0.0	0.3	
Initial Queue Delay (d ₃), s/veh		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Control Delay (d), s/veh		28.7	34.6		29.3		27.7	5.5		6.6	10.2	
Level of Service (LOS)		C	C		C		C	A		A	B	
Approach Delay, s/veh / LOS	33.0		C	29.3		C	12.1		B	10.2		B
Intersection Delay, s/veh / LOS	15.3						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.93	B	1.93	B	1.63	B	1.86	B
Bicycle LOS Score / LOS	0.94	A	0.64	A	1.13	A	1.22	A

HCS Signalized Intersection Input Data

General Information				Intersection Information			
Agency	Smart Services Inc.			Duration, h	0.250		
Analyst	TJS	Analysis Date	Aug 7, 2024	Area Type	Other		
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.92		
Urban Street	SR 94-Ridge Rd	Analysis Year	2050	Analysis Period	1 > 4:45		
Intersection	(10) SR 94 & SR 3	File Name	Signalized Capacity Group 1 (10 & 240) - 2050 B...				
Project Description	2050 Build						



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	10	60	140	30	70	30	410	440	30	10	330	10

Signal Information															
Cycle, s	110.4	Reference Phase	2												
Offset, s	0	Reference Point	End												
Uncoordinated	Yes	Simult. Gap E/W	On	Green	82.9	14.0	0.0	0.0	0.0	0.0	1		2	3	4
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.5	6.0	0.0	0.0	0.0	0.0	5		6	7	8
				Red	1.0	1.0	0.0	0.0	0.0	0.0					

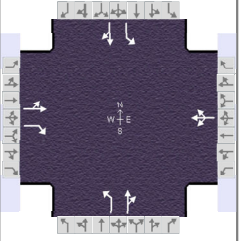
Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	10	60	140	30	70	30	410	440	30	10	330	10
Initial Queue (Q _b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s ₀), veh/h	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Parking (N _m), man/h	None			None			None			None		
Heavy Vehicles (P _{HV}), %		5	5		3		3	3		3	3	
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N _b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (AT)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09
Lane Width (W), ft		12.0	12.0		12.0		12.0	12.0		12.0	12.0	
Turn Bay Length, ft		0	110		0		610	0		115	0	
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50	50	55	55	55	45	45	45	45	45	45

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s		22.5		22.5		85.5		85.5
Yellow Change Interval (Y), s		6.0		6.0		5.5		5.5
Red Clearance Interval (R _c), s		1.0		1.0		1.0		1.0
Minimum Green (G _{min}), s		12		12		24		24
Start-Up Lost Time (l _t), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (e), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (P _T), s		2.0		2.0		2.0		2.0
Recall Mode		Off		Off		Min		Min
Dual Entry		Yes		Yes		Yes		Yes
Walk (Walk), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (P _C), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Aug 7, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.92
Urban Street	SR 94-Ridge Rd	Analysis Year	2050	Analysis Period	1 > 4:45
Intersection	(10) SR 94 & SR 3	File Name	Signalized Capacity Group 1 (10 & 240) - 2050 B...		
Project Description	2050 Build				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	10	60	140	30	70	30	410	440	30	10	330	10

Signal Information				Signal Phases								
Cycle, s	110.4	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	Yes	Simult. Gap E/W	On									
Force Mode	Fixed	Simult. Gap N/S	On									
		Green	82.9	14.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Yellow	5.5	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Red	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

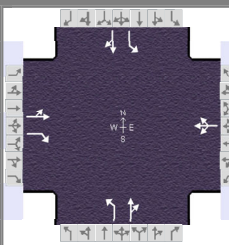
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		7.0		8.0		6.0		6.0
Phase Duration, s		21.0		21.0		89.4		89.4
Change Period, (Y+R _c), s		7.0		7.0		6.5		6.5
Max Allow Headway (MAH), s		3.1		3.1		3.5		3.5
Queue Clearance Time (g _s), s		13.5		11.4		80.3		19.2
Green Extension Time (g _e), s		0.5		0.5		2.6		5.5
Phase Call Probability		1.00		1.00		1.00		1.00
Max Out Probability		0.01		0.00		0.80		0.00

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h		76	152		141		446	511		19	655	
Adjusted Saturation Flow Rate (s), veh/h/ln		1645	1425		1572		772	1690		882	1700	
Queue Service Time (g _s), s		0.0	11.5		4.9		61.1	11.9		0.9	17.2	
Cycle Queue Clearance Time (g _c), s		4.6	11.5		9.4		78.3	11.9		12.8	17.2	
Green Ratio (g/C)		0.13	0.13		0.13		0.75	0.75		0.75	0.75	
Capacity (c), veh/h		246	181		240		524	1268		632	1276	
Volume-to-Capacity Ratio (X)		0.309	0.841		0.589		0.850	0.403		0.030	0.513	
Back of Queue (Q), ft/ln (95 th percentile)		86	197		165		420	139		7	138	
Back of Queue (Q), veh/ln (95 th percentile)		3.3	7.6		6.4		16.4	5.4		0.3	5.4	
Queue Storage Ratio (RQ) (95 th percentile)		0.00	1.79		0.00		0.69	0.00		0.06	0.00	
Uniform Delay (d ₁), s/veh		44.0	47.1		46.1		21.5	4.9		7.2	5.6	
Incremental Delay (d ₂), s/veh		0.3	6.0		0.9		11.2	0.1		0.0	0.0	
Initial Queue Delay (d ₃), s/veh		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Control Delay (d), s/veh		44.3	53.1		46.9		32.7	5.0		7.2	5.6	
Level of Service (LOS)		D	D		D		C	A		A	A	
Approach Delay, s/veh / LOS	50.1		D	46.9		D	17.9		B	5.6		A
Intersection Delay, s/veh / LOS	19.5						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.95	B	1.95	B	1.62	B	1.85	B
Bicycle LOS Score / LOS	0.86	A	0.72	A	2.07	B	1.12	A

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Jun 27, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.95
Urban Street	SR 94-Ridge Rd	Analysis Year	2050	Analysis Period	1 > 7:00
Intersection	(10) SR 94 & SR 3	File Name	Signalized Capacity Group 1 (10 & 240) - 2050 B...		
Project Description	2050 Build Alt A				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	20	50	190	30	40	20	110	250	10	10	400	10

Signal Information													
Cycle, s	125.1	Reference Phase	2										
Offset, s	0	Reference Point	End										
Uncoordinated	Yes	Simult. Gap E/W	On	Green	6.0	66.0	17.0	9.6	0.0	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	4.0	5.5	6.0	6.0	0.0	0.0			
				Red	2.0	1.0	1.0	1.0	0.0	0.0			

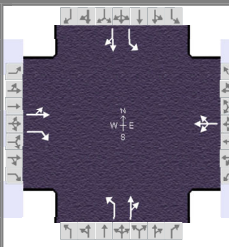
Traffic Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	20	50	190	30	40	20	110	250	10	10	400	10
Initial Queue (Q _b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s ₀), veh/h	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Parking (N _m), man/h		None			None			None			None	
Heavy Vehicles (P _{HV}), %		4	4		5			8	8		3	3
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N _b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (AT)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.40	0.40	0.40
Lane Width (W), ft		12.0	12.0		12.0			12.0	12.0		12.0	12.0
Turn Bay Length, ft		0	265		0			610	0		115	0
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50	50	55	55	55	45	45	45	45	45	45

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s		17.0		17.0	6.0	83.0		66.0
Yellow Change Interval (Y), s		6.0		6.0	4.0	5.5		5.5
Red Clearance Interval (R _c), s		1.0		1.0	2.0	1.0		1.0
Minimum Green (G _{min}), s		10		10	6	24		24
Start-Up Lost Time (l _t), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (e), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (PT), s		2.0		2.0	2.0	2.0		2.0
Recall Mode		Off		Off	Max	Min		Min
Dual Entry		Yes		Yes	No	Yes		Yes
Walk (Walk), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (PC), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Jun 27, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.95
Urban Street	SR 94-Ridge Rd	Analysis Year	2050	Analysis Period	1 > 7:00
Intersection	(10) SR 94 & SR 3	File Name	Signalized Capacity Group 1 (10 & 240) - 2050 B...		
Project Description	2050 Build Alt A				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	20	50	190	30	40	20	110	250	10	10	400	10

Signal Information				Signal Phases										
Cycle, s	125.1	Reference Phase	2											
Offset, s	0	Reference Point	End	Green	6.0	66.0	17.0	9.6	0.0	0.0				
Uncoordinated	Yes	Simult. Gap E/W	On	Yellow	4.0	5.5	6.0	6.0	0.0	0.0				
Force Mode	Fixed	Simult. Gap N/S	On	Red	2.0	1.0	1.0	1.0	0.0	0.0				

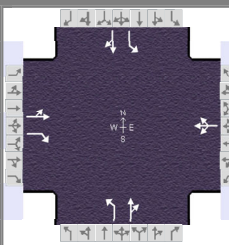
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8	5	2		6
Case Number		11.0		12.0	1.0	4.0		6.3
Phase Duration, s		24.0		16.6	12.0	84.5		72.5
Change Period, ($Y+R_c$), s		7.0		7.0	6.0	6.5		6.5
Max Allow Headway (MAH), s		3.2		3.0	3.0	2.9		2.9
Queue Clearance Time (g_s), s		18.5		9.3	6.6	11.5		68.0
Green Extension Time (g_e), s		0.0		0.1	0.0	2.6		0.0
Phase Call Probability		1.00		0.96	1.00	1.00		1.00
Max Out Probability		1.00		0.00	1.00	0.00		1.00

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h		74	200		95		116	274		23	925	
Adjusted Saturation Flow Rate (s), veh/h/ln		1672	1437		1592		1563	1630		1097	1702	
Queue Service Time (g_s), s		5.0	16.5		7.3		4.6	9.5		1.2	66.0	
Cycle Queue Clearance Time (g_c), s		5.0	16.5		7.3		4.6	9.5		1.2	66.0	
Green Ratio (g/C)		0.14	0.18		0.08		0.59	0.62		0.53	0.53	
Capacity (c), veh/h		227	264		122		133	1016		636	898	
Volume-to-Capacity Ratio (X)		0.324	0.757		0.774		0.874	0.269		0.035	1.030	
Back of Queue (Q), ft/ln (95 th percentile)		95	276		138		173	151		14	974	
Back of Queue (Q), veh/ln (95 th percentile)		3.7	10.7		5.3		6.5	5.7		0.5	38.1	
Queue Storage Ratio (RQ) (95 th percentile)		0.00	1.04		0.00		0.28	0.00		0.12	0.00	
Uniform Delay (d_1), s/veh		48.9	48.4		56.7		32.3	10.7		14.3	29.6	
Incremental Delay (d_2), s/veh		0.3	10.7		3.9		50.0	0.1		0.0	27.3	
Initial Queue Delay (d_3), s/veh		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Control Delay (d), s/veh		49.2	59.1		60.6		82.3	10.7		14.3	56.9	
Level of Service (LOS)		D	E		E		F	B		B	F	
Approach Delay, s/veh / LOS		56.5	E		60.6	E	32.0	C		55.9	E	
Intersection Delay, s/veh / LOS		50.8				D						

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.96	B	1.96	B	1.66	B	1.90	B
Bicycle LOS Score / LOS	0.94	A	0.64	A	1.13	A	1.22	A

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Aug 7, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.92
Urban Street	SR 94-Ridge Rd	Analysis Year	2050	Analysis Period	1 > 4:45
Intersection	(10) SR 94 & SR 3	File Name	Signalized Capacity Group 1 (10 & 240) - 2050 B...		
Project Description	2050 Build Alt A				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	10	60	140	30	70	30	410	440	30	10	330	10

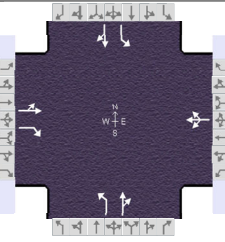
Signal Information				Phase Diagram								
Cycle, s	135.5	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	Yes	Simult. Gap E/W	On									
Force Mode	Fixed	Simult. Gap N/S	On									
Green	34.5	48.0	12.9	13.6	0.0	0.0						
Yellow	4.0	5.5	6.0	6.0	0.0	0.0						
Red	2.0	1.0	1.0	1.0	0.0	0.0						

Traffic Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	10	60	140	30	70	30	410	440	30	10	330	10
Initial Queue (Q _b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s ₀), veh/h	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Parking (N _m), man/h	None			None			None			None		
Heavy Vehicles (P _{HV}), %		3	6		3			3	3		3	4
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N _b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (AT)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.78	0.78	0.78
Lane Width (W), ft		12.0	12.0		12.0		12.0	12.0		12.0	12.0	
Turn Bay Length, ft		0	265		0		610	0		115	0	
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50	50	55	55	55	45	45	45	45	45	45

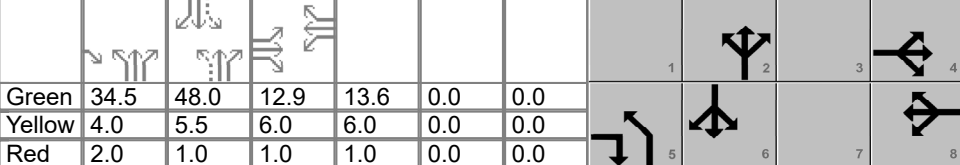
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s		19.0		19.0	40.0	88.0		48.0
Yellow Change Interval (Y), s		6.0		6.0	4.0	5.5		5.5
Red Clearance Interval (R _c), s		1.0		1.0	2.0	1.0		1.0
Minimum Green (G _{min}), s		10		10	7	24		24
Start-Up Lost Time (l _t), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (e), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (PT), s		2.0		2.0	2.0	2.0		2.0
Recall Mode		Off		Off	Off	Min		Min
Dual Entry		Yes		Yes	No	Yes		Yes
Walk (Walk), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (PC), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

HCS Signalized Intersection Results Summary

General Information				Intersection Information		
Agency	Smart Services Inc.			Duration, h	0.250	
Analyst	TJS	Analysis Date	Aug 7, 2024	Area Type	Other	
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.92	
Urban Street	SR 94-Ridge Rd	Analysis Year	2050	Analysis Period	1 > 4:45	
Intersection	(10) SR 94 & SR 3	File Name	Signalized Capacity Group 1 (10 & 240) - 2050 B...			
Project Description	2050 Build Alt A					

Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	10	60	140	30	70	30	410	440	30	10	330	10

Signal Information														
Cycle, s	135.5	Reference Phase	2	Green	34.5	48.0	12.9	13.6	0.0	0.0	1	2	3	4
Offset, s	0	Reference Point	End	Yellow	4.0	5.5	6.0	6.0	0.0	0.0	5	6	7	8
Uncoordinated	Yes	Simult. Gap E/W	On	Red	2.0	1.0	1.0	1.0	0.0	0.0				
Force Mode	Fixed	Simult. Gap N/S	On											

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8	5	2		6
Case Number		11.0		12.0	1.0	4.0		6.3
Phase Duration, s		19.9		20.6	40.5	95.0		54.5
Change Period, (Y+R _c), s		7.0		7.0	6.0	6.5		6.5
Max Allow Headway (MAH), s		3.1		2.9	3.0	3.0		3.0
Queue Clearance Time (g _s), s		12.6		13.6	34.0	22.4		50.0
Green Extension Time (g _e), s		0.2		0.1	0.5	2.4		0.0
Phase Call Probability		1.00		1.00	1.00	1.00		1.00
Max Out Probability		0.05		0.05	0.14	0.00		1.00

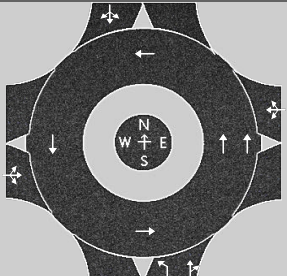
Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h		76	152		141		446	511		21	701	
Adjusted Saturation Flow Rate (s), veh/h/ln		1697	1414		1623		1628	1690		882	1686	
Queue Service Time (g _s), s		5.8	10.6		11.6		32.0	20.4		2.1	48.0	
Cycle Queue Clearance Time (g _c), s		5.8	10.6		11.6		32.0	20.4		2.1	48.0	
Green Ratio (g/C)		0.09	0.35		0.10		0.62	0.65		0.35	0.35	
Capacity (c), veh/h		161	494		163		467	1104		366	598	
Volume-to-Capacity Ratio (X)		0.473	0.308		0.865		0.954	0.463		0.056	1.173	
Back of Queue (Q), ft/ln (95 th percentile)		113	167		235		624	289		20	1230	
Back of Queue (Q), veh/ln (95 th percentile)		4.4	6.4		9.2		24.4	11.3		0.8	47.7	
Queue Storage Ratio (RQ) (95 th percentile)		0.00	0.63		0.00		1.02	0.00		0.18	0.00	
Uniform Delay (d ₁), s/veh		58.1	32.1		60.0		41.6	11.7		28.9	43.7	
Incremental Delay (d ₂), s/veh		0.8	0.1		16.8		25.1	0.1		0.0	91.3	
Initial Queue Delay (d ₃), s/veh		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Control Delay (d), s/veh		58.9	32.3		76.8		66.6	11.8		28.9	135.0	
Level of Service (LOS)		E	C		E		E	B		C	F	
Approach Delay, s/veh / LOS	41.1		D	76.8		E	37.3		D	132.0		F
Intersection Delay, s/veh / LOS		73.8				E						

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.96	B	1.97	B	1.66	B	1.93	B
Bicycle LOS Score / LOS	0.86	A	0.72	A	2.07	B	1.12	A

HCS Roundabouts Report

General Information

Site Information

Analyst	TJS		Intersection	(10) SR 94 & SR 3
Agency or Co.	Smart Services, Inc		E/W Street Name	SR 3-Ledge Road
Date Performed	6/27/2024		N/S Street Name	SR 94
Analysis Year	2050		Analysis Time Period, hrs	0.25
Time Analyzed	Build Alt B - AM Peak		Peak Hour Factor	0.95
Project Description			Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Number of Lanes (N)	0	0	1	0	0	0	1	0	0	1	1	0	0	0	1	0
Lane Assignment			LTR				LTR		L		TR				LTR	
Volume (V), veh/h	0	20	50	190	0	30	40	20	0	110	250	10	0	10	400	10
Percent Heavy Vehicles, %	4	4	4	4	5	5	5	5	8	8	8	8	3	3	3	3
Flow Rate (v _{PCE}), pc/h	0	22	55	208	0	33	44	22	0	125	284	11	0	11	434	11
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1				2				1				1			
Pedestrians Crossing, p/h	0				0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763			4.3276		4.5436	4.5436			4.9763	
Follow-Up Headway, s		2.6087			2.5352		2.5352	2.5352			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		285			99		125	295			456	
Entry Volume, veh/h		274			94		116	273			443	
Circulating Flow (v _c), pc/h	478			431			88			202		
Exiting Flow (v _{ex}), pc/h	77			180			328			675		
Capacity (C _{PCE}), pc/h		847			984		1311	1311			1123	
Capacity (c), veh/h		815			938		1214	1214			1090	
v/c Ratio (x)		0.34			0.10		0.10	0.23			0.41	

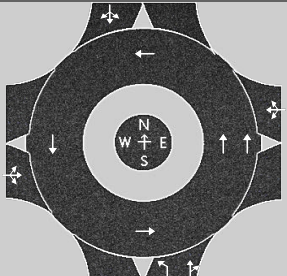
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		8.3			4.8		3.8	5.0			7.6	
Lane LOS		A			A		A	A			A	
95% Queue Length, Q ₉₅ (veh)		1.5			0.3		0.3	0.9			2.0	
95% Queue Length, Q ₉₅ (ft)		38.7			7.8		8.0	23.9			51.2	
Approach Delay, s/veh LOS	8.3		A	4.8		A	4.6		A	7.6		A
Intersection Delay, s/veh LOS	6.6						A					

HCS Roundabouts Report

General Information

Site Information

Analyst	TJS		Intersection	(10) SR 94 & SR 3
Agency or Co.	Smart Services, Inc		E/W Street Name	SR 3-Ledge Road
Date Performed	6/27/2024		N/S Street Name	SR 94
Analysis Year	2050		Analysis Time Period, hrs	0.25
Time Analyzed	Build Alt B - PM Peak		Peak Hour Factor	0.92
Project Description			Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	1	0	0	0	1	0	0	1	1	0	0	0	1	0
Lane Assignment	LTR				LTR				L		TR		LTR			
Volume (V), veh/h	0	10	60	140	0	30	70	30	0	410	440	30	0	10	330	10
Percent Heavy Vehicles, %	5	5	5	5	3	3	3	3	3	3	3	3	3	3	3	3
Flow Rate (v _{PCE}), pc/h	0	11	68	160	0	34	78	34	0	459	493	34	0	11	369	11
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1				2				1				1			
Pedestrians Crossing, p/h	0				0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763			4.3276		4.5436	4.5436			4.9763	
Follow-Up Headway, s		2.6087			2.5352		2.5352	2.5352			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		239			146		459	527			391	
Entry Volume, veh/h		228			142		446	512			380	
Circulating Flow (v _c), pc/h	414			963			90			571		
Exiting Flow (v _{ex}), pc/h	113			548			538			563		
Capacity (c _{PCE}), pc/h		905			626		1308	1308			771	
Capacity (c), veh/h		862			608		1270	1270			748	
v/c Ratio (x)		0.26			0.23		0.35	0.40			0.51	

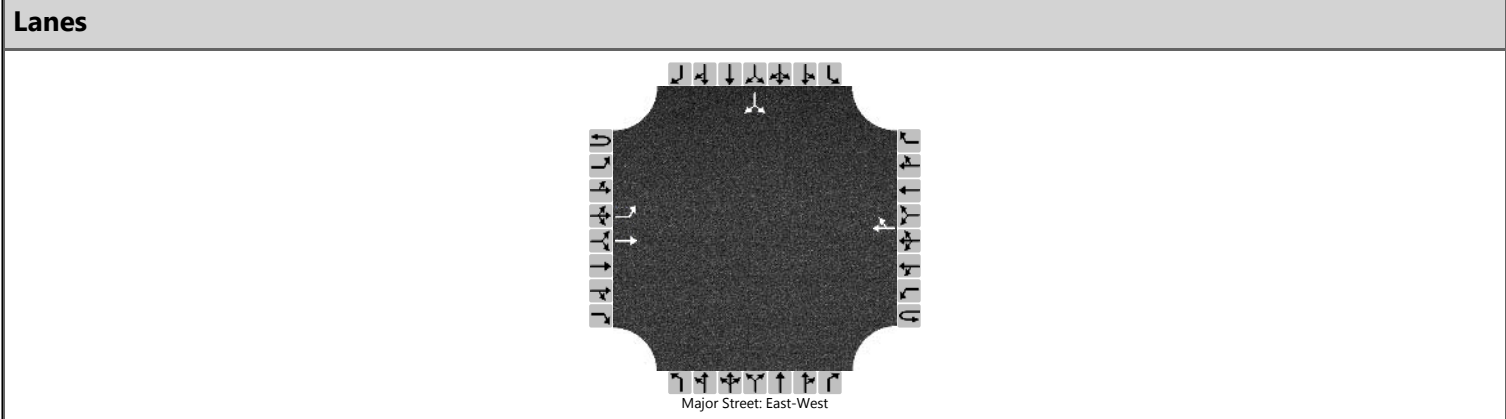
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		7.0			8.9		6.1	6.7			12.2	
Lane LOS		A			A		A	A			B	
95% Queue Length, Q ₉₅ (veh)		1.1			0.9		1.6	2.0			2.9	
95% Queue Length, Q ₉₅ (ft)		28.6			23.0		41.0	51.2			74.2	
Approach Delay, s/veh LOS	7.0	A		8.9	A		6.5	A		12.2	B	
Intersection Delay, s/veh LOS	8.0						A					

20-SR 606 (Weymouth Rd) & SR 3

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	PBW			Intersection	(20) SR 3 (Ledge Rd) & SR 606 (Weymouth Rd)		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	8/7/2024			East/West Street	SR 3 (Ledge Rd)		
Analysis Year	2050			North/South Street	SR 606 (Weymouth Rd)		
Time Analyzed	No Build - AM Peak			Peak Hour Factor	0.93		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		170	390				230	10						0		130
Percent Heavy Vehicles (%)		4												2		2
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.14												6.42		6.22
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.52		3.32

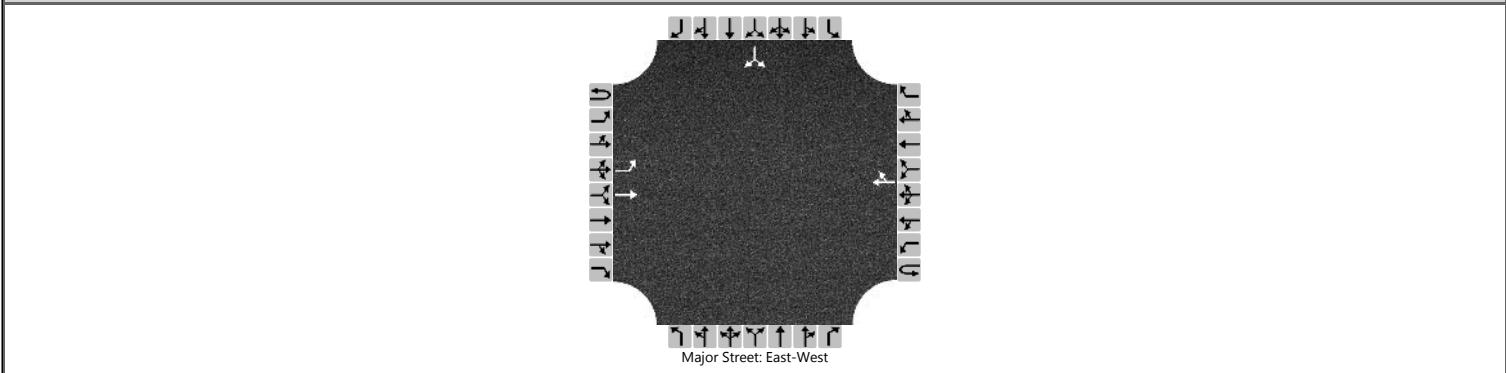
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		183														140
Capacity, c (veh/h)		1297														786
v/c Ratio		0.14														0.18
95% Queue Length, Q ₉₅ (veh)		0.5														0.6
95% Queue Length, Q ₉₅ (ft)		12.9														15.2
Control Delay (s/veh)		8.2														10.6
Level of Service (LOS)		A														B
Approach Delay (s/veh)		2.5												10.6		
Approach LOS		A												B		

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(20) SR 3 (Ledge Rd) & SR 606 (Weymouth Rd)		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	1/22/2024			East/West Street	SR 3 (Ledge Rd)		
Analysis Year	2050			North/South Street	SR 606 (Weymouth Rd)		
Time Analyzed	No Build - PM Peak			Peak Hour Factor	0.89		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		180	280				490	10						0		150
Percent Heavy Vehicles (%)		3												1		1
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												6.41		6.21
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.51		3.31

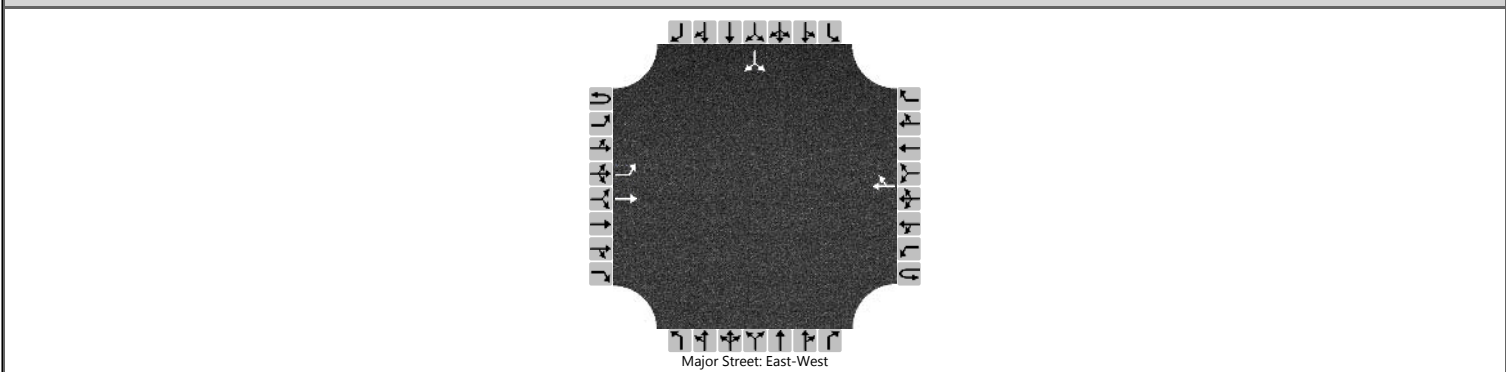
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		202														169	
Capacity, c (veh/h)		1005														532	
v/c Ratio		0.20														0.32	
95% Queue Length, Q ₉₅ (veh)		0.8														1.3	
Control Delay (s/veh)		9.5														14.9	
Level of Service (LOS)		A														B	
Approach Delay (s/veh)		3.7												14.9			
Approach LOS		A												B			

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	PBW			Intersection	(20) SR 3 (Ledge Rd) & SR 606 (Weymouth Rd)		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	6/6/2024			East/West Street	SR 3 (Ledge Rd)		
Analysis Year	2050			North/South Street	SR 606 (Weymouth Rd)		
Time Analyzed	Build - AM Peak			Peak Hour Factor	0.93		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		170	160				150	10						0		130
Percent Heavy Vehicles (%)		4												2		2
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

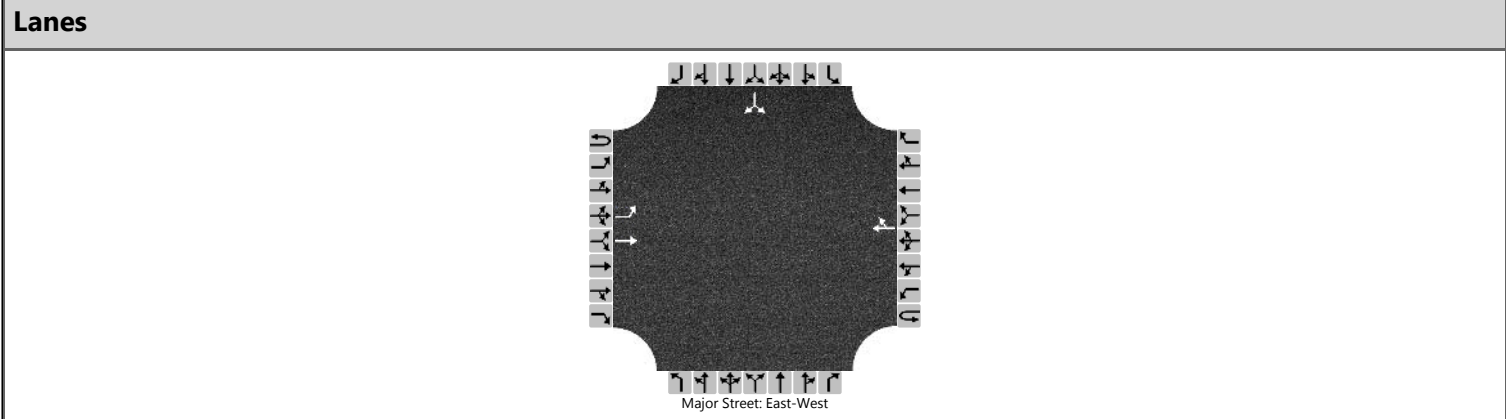
Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.14												6.42		6.22
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.52		3.32

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		183														140	
Capacity, c (veh/h)		1395														878	
v/c Ratio		0.13														0.16	
95% Queue Length, Q ₉₅ (veh)		0.5														0.6	
95% Queue Length, Q ₉₅ (ft)		12.9														15.2	
Control Delay (s/veh)		8.0														9.9	
Level of Service (LOS)		A														A	
Approach Delay (s/veh)		4.1												9.9			
Approach LOS		A												A			

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS	Intersection	(20) SR 3 (Ledge Rd) & SR 606 (Weymouth Rd)				
Agency/Co.	Smart Services Inc.	Jurisdiction	ODOT				
Date Performed	6/6/2024	East/West Street	SR 3 (Ledge Rd)				
Analysis Year	2050	North/South Street	SR 606 (Weymouth Rd)				
Time Analyzed	Build - PM Peak	Peak Hour Factor	0.89				
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25				
Project Description	I-71 & I-271 Planning Study						



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		180	180				400	10						0		150
Percent Heavy Vehicles (%)		3												1		1
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												6.41		6.21
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.51		3.31

Delay, Queue Length, and Level of Service

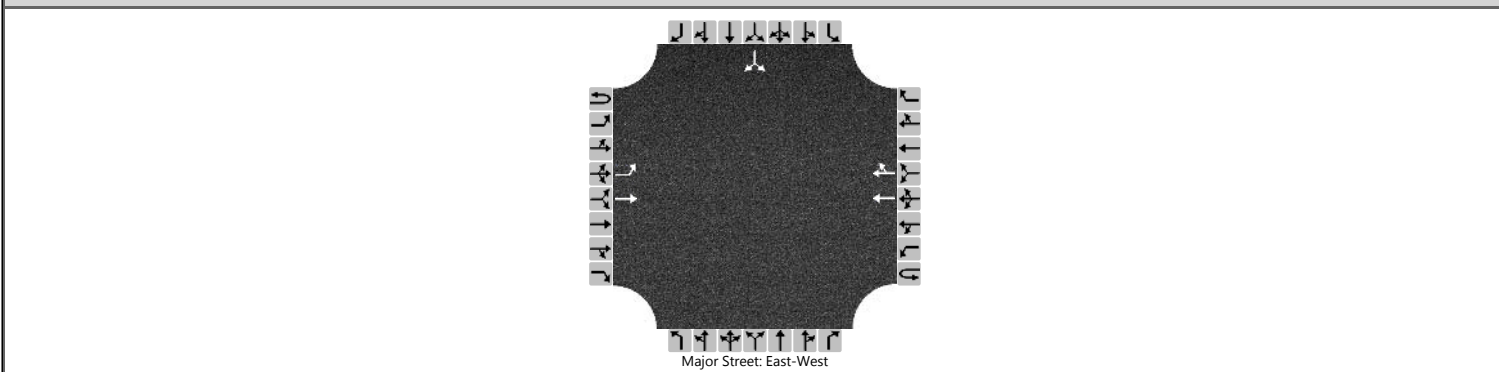
Flow Rate, v (veh/h)		202														169	
Capacity, c (veh/h)		1095														607	
v/c Ratio		0.18														0.28	
95% Queue Length, Q ₉₅ (veh)		0.7														1.1	
95% Queue Length, Q ₉₅ (ft)		17.9														27.7	
Control Delay (s/veh)		9.0														13.2	
Level of Service (LOS)		A														B	
Approach Delay (s/veh)		4.5												13.2			
Approach LOS		A												B			

30-SR 3 & W 130th St

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(30) W 130th St & SR 3		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	6/25/2024			East/West Street	SR 3		
Analysis Year	2030			North/South Street	W 130th St		
Time Analyzed	No Build - AM Peak			Peak Hour Factor	0.92		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	1	1	0	0	0	2	0		0	0	0		0	1	0
Configuration		L	T				T	TR							LR	
Volume (veh/h)	0	90	470				330	30						80		90
Percent Heavy Vehicles (%)	9	4												7		7
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.5		6.9
Critical Headway (sec)		4.18												6.94		7.04
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.24												3.57		3.37

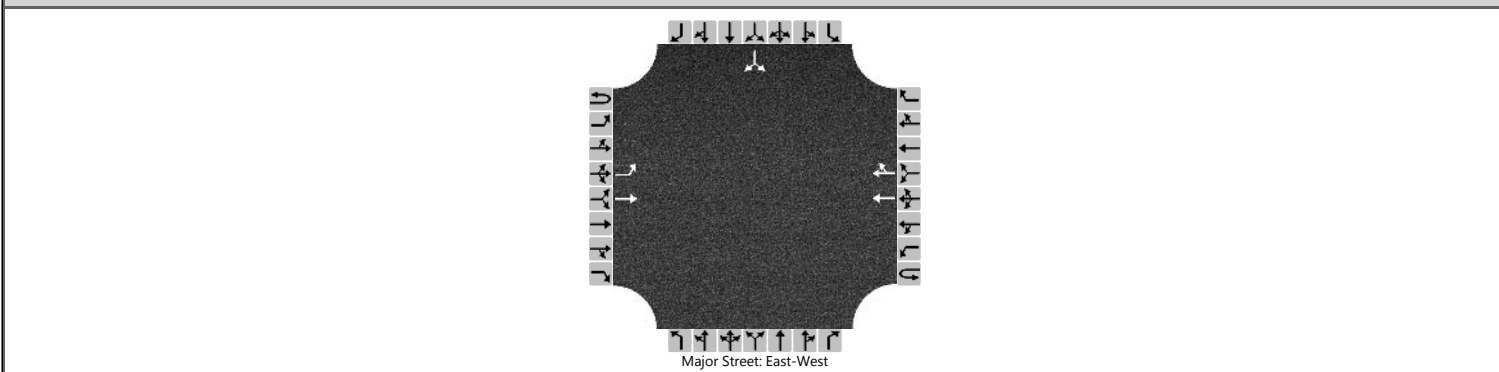
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		98													185	
Capacity, c (veh/h)		1150													314	
v/c Ratio		0.09													0.59	
95% Queue Length, Q ₉₅ (veh)		0.3													3.5	
95% Queue Length, Q ₉₅ (ft)		7.7													92.4	
Control Delay (s/veh)		8.4													31.5	
Level of Service (LOS)		A													D	
Approach Delay (s/veh)		1.4													31.5	
Approach LOS		A													D	

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(30) W 130th St & SR 3		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	6/25/2024			East/West Street	SR 3		
Analysis Year	2030			North/South Street	W 130th St		
Time Analyzed	No Build - PM Peak			Peak Hour Factor	0.89		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	1	1	0	0	0	2	0		0	0	0		0	1	0
Configuration		L	T				T	TR							LR	
Volume (veh/h)	0	150	400				500	100						40		160
Percent Heavy Vehicles (%)	3	4												3		3
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

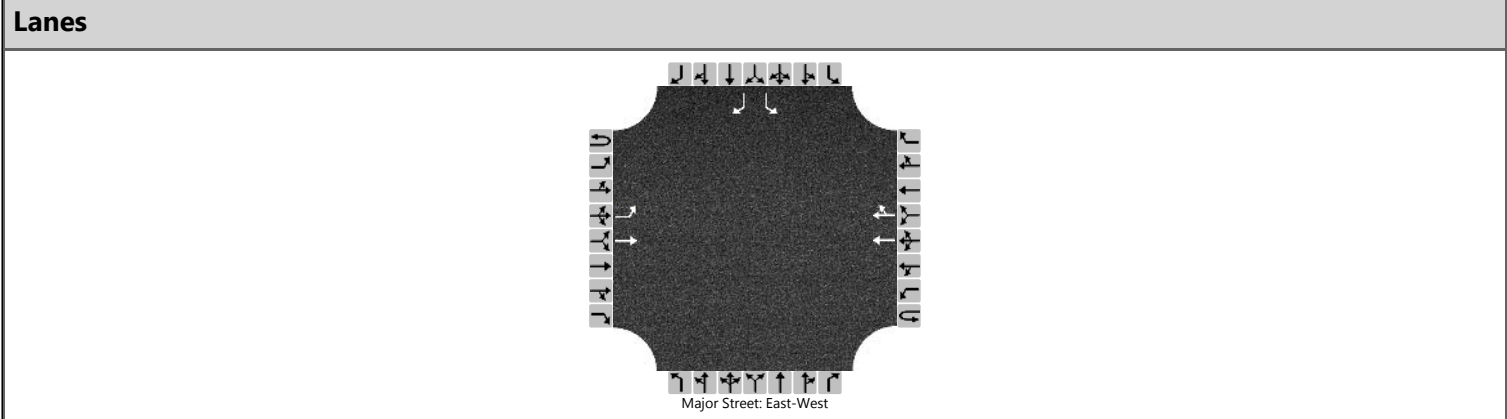
Base Critical Headway (sec)		4.1												7.5		6.9
Critical Headway (sec)		4.18												6.86		6.96
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.24												3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		168													224		
Capacity, c (veh/h)		902													323		
v/c Ratio		0.19													0.69		
95% Queue Length, Q ₉₅ (veh)		0.7													4.9		
95% Queue Length, Q ₉₅ (ft)		18.1													125.4		
Control Delay (s/veh)		9.9													38.0		
Level of Service (LOS)		A													E		
Approach Delay (s/veh)		2.7												38.0			
Approach LOS		A												E			

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(30) W 130th St & SR 3		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	6/25/2024			East/West Street	SR 3		
Analysis Year	2030			North/South Street	W 130th St		
Time Analyzed	No Build w SBRT - AM Peak			Peak Hour Factor	0.92		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	1	1	0	0	0	2	0		0	0	0		1	0	1
Configuration		L	T				T	TR						L		R
Volume (veh/h)	0	90	470				330	30						80		90
Percent Heavy Vehicles (%)	9	4												7		7
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized													No			
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.5		6.9
Critical Headway (sec)		4.18												6.94		7.04
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.24												3.57		3.37

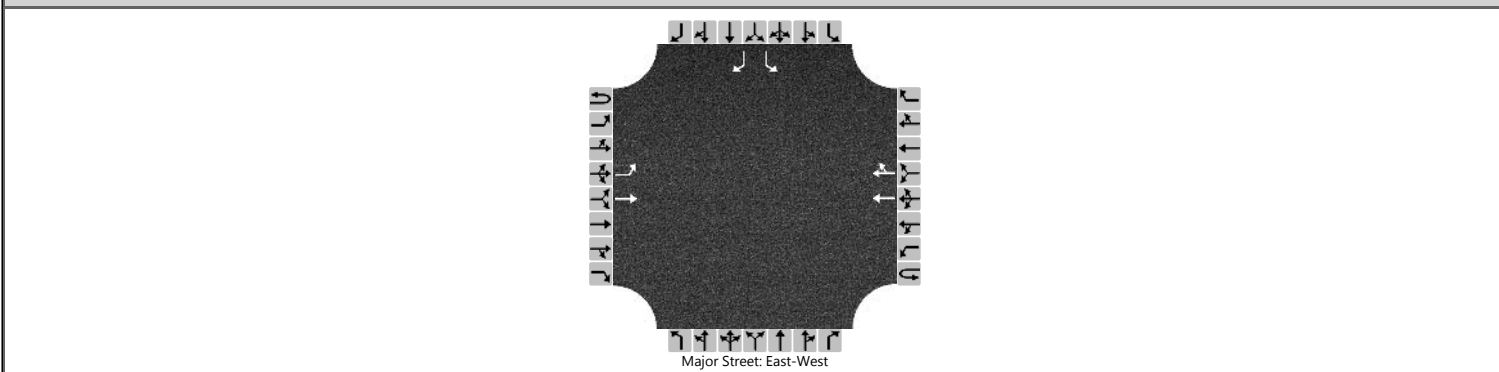
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		98												87		98	
Capacity, c (veh/h)		1150												187		797	
v/c Ratio		0.09												0.47		0.12	
95% Queue Length, Q ₉₅ (veh)		0.3												2.2		0.4	
95% Queue Length, Q ₉₅ (ft)		7.7												58.1		10.6	
Control Delay (s/veh)		8.4												40.0		10.1	
Level of Service (LOS)		A												E		B	
Approach Delay (s/veh)		1.4												24.2			
Approach LOS		A												C			

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(30) W 130th St & SR 3		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	6/25/2024			East/West Street	SR 3		
Analysis Year	2030			North/South Street	W 130th St		
Time Analyzed	No Build w SBRT - PM Peak			Peak Hour Factor	0.89		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6	7	8	9		10	11	12	
Priority																
Number of Lanes	0	1	1	0	0	0	2	0	0	0	0		1	0	1	
Configuration		L	T				T	TR						L		R
Volume (veh/h)	0	150	400				500	100					40		160	
Percent Heavy Vehicles (%)	3	4											3		3	
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized													No			
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.5		6.9
Critical Headway (sec)		4.18												6.86		6.96
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.24												3.53		3.33

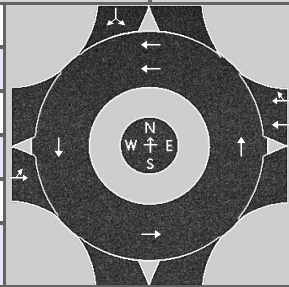
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		168												45		179	
Capacity, c (veh/h)		902												106		657	
v/c Ratio		0.19												0.42		0.27	
95% Queue Length, Q ₉₅ (veh)		0.7												1.8		1.1	
95% Queue Length, Q ₉₅ (ft)		18.1												46.1		28.2	
Control Delay (s/veh)		9.9												61.6		12.5	
Level of Service (LOS)		A												F		B	
Approach Delay (s/veh)		2.7												22.3			
Approach LOS		A												C			

HCS Roundabouts Report

General Information

Analyst	TJS
Agency or Co.	Smart Services, Inc
Date Performed	6/27/2024
Analysis Year	2030
Time Analyzed	No Build - AM Peak
Project Description	



Site Information

Intersection	(30) SR 3 & W 130th Street
E/W Street Name	SR 3-Ledge Road
N/S Street Name	W 130th Street
Analysis Time Period, hrs	0.25
Peak Hour Factor	0.92
Jurisdiction	

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Number of Lanes (N)	0	0	1	0	0	0	2	0	0	0	0	0	0	0	1	0
Lane Assignment			LT		T		TR								LR	
Volume (V), veh/h	0	90	470		0		330	30					0	80		90
Percent Heavy Vehicles, %	4	4	4		3		3	3					7	7		7
Flow Rate (v _{PCE}), pc/h	0	102	531		0		369	34					0	93		105
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1				1								2			
Pedestrians Crossing, p/h	0				0								0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763		4.5436	4.5436						4.3276	
Follow-Up Headway, s		2.6087		2.5352	2.5352						2.5352	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		633		189	214						198	
Entry Volume, veh/h		609		184	207						185	
Circulating Flow (v _c), pc/h	93			102			726			369		
Exiting Flow (v _{ex}), pc/h	624			474			136			0		
Capacity (c _{PCE}), pc/h		1255		1294	1294						1038	
Capacity (c), veh/h		1207		1256	1256						970	
v/c Ratio (x)		0.50		0.15	0.17						0.19	

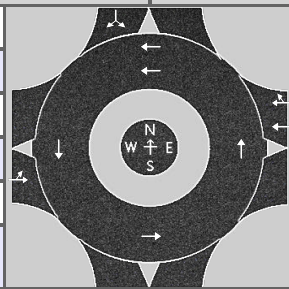
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		8.5		4.1	4.3						5.5	
Lane LOS		A		A	A						A	
95% Queue Length, Q ₉₅ (veh)		2.9		0.5	0.6						0.7	
95% Queue Length, Q ₉₅ (ft)		72.5		12.8	15.4						18.5	
Approach Delay, s/veh LOS	8.5		A	4.2		A				5.5		A
Intersection Delay, s/veh LOS	6.6						A					

HCS Roundabouts Report

General Information

Analyst	TJS
Agency or Co.	Smart Services, Inc
Date Performed	6/27/2024
Analysis Year	2030
Time Analyzed	No Build - PM Peak
Project Description	



Site Information

Intersection	(30) SR 3 & W 130th Street
E/W Street Name	SR 3-Ledge Road
N/S Street Name	W 130th Street
Analysis Time Period, hrs	0.25
Peak Hour Factor	0.89
Jurisdiction	

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Number of Lanes (N)	0	0	1	0	0	0	2	0	0	0	0	0	0	0	1	0
Lane Assignment			LT		T		TR								LR	
Volume (V), veh/h	0	150	400		0		500	100					0	40		160
Percent Heavy Vehicles, %	4	4	4		3		3	3					3	3		3
Flow Rate (v _{PCE}), pc/h	0	175	467		0		579	116					0	46		185
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1				1								2			
Pedestrians Crossing, p/h	0				0								0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763		4.5436	4.5436						4.3276	
Follow-Up Headway, s		2.6087		2.5352	2.5352						2.5352	

Flow Computations, Capacity and v/c Ratios

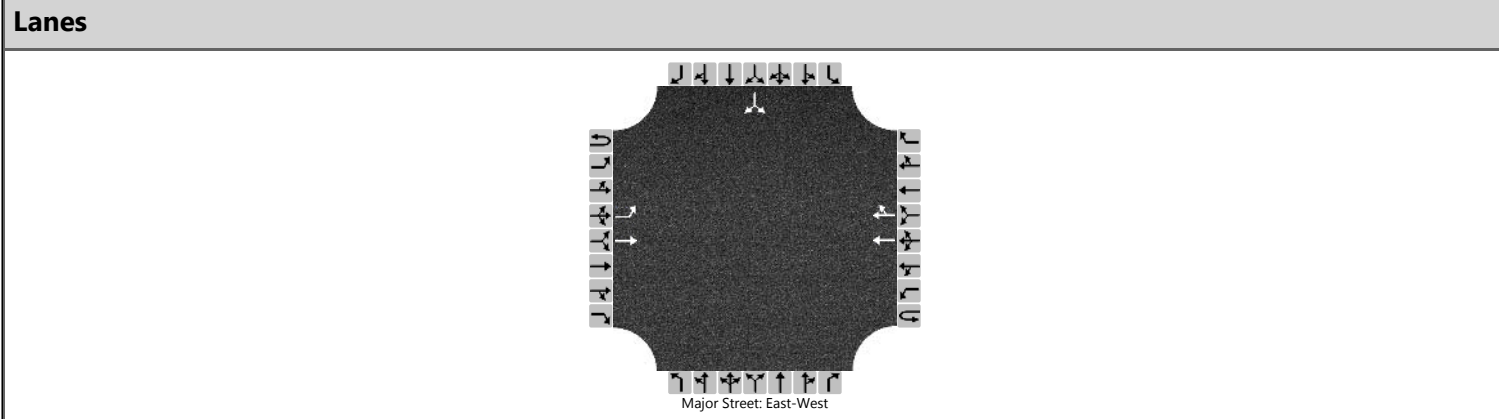
Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		642		327	368						231	
Entry Volume, veh/h		617		317	358						224	
Circulating Flow (v _c), pc/h	46			175			688			579		
Exiting Flow (v _{ex}), pc/h	513			764			291			0		
Capacity (c _{PCE}), pc/h		1317		1211	1211						868	
Capacity (c), veh/h		1266		1176	1176						843	
v/c Ratio (x)		0.49		0.27	0.30						0.27	

Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		8.0		5.5	5.9						7.1	
Lane LOS		A		A	A						A	
95% Queue Length, Q ₉₅ (veh)		2.8		1.1	1.3						1.1	
95% Queue Length, Q ₉₅ (ft)		70.0		28.2	33.3						28.2	
Approach Delay, s/veh LOS	8.0		A	5.7		A				7.1		A
Intersection Delay, s/veh LOS	6.8						A					

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(30) W 130th St & SR 3		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	8/5/2024			East/West Street	SR 3		
Analysis Year	2030			North/South Street	W 130th St		
Time Analyzed	Build - AM Peak			Peak Hour Factor	0.92		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	1	1	0	0	0	2	0		0	0	0		0	1	0
Configuration		L	T				T	TR							LR	
Volume (veh/h)	0	90	240				250	30						80		90
Percent Heavy Vehicles (%)	9	4												7		7
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

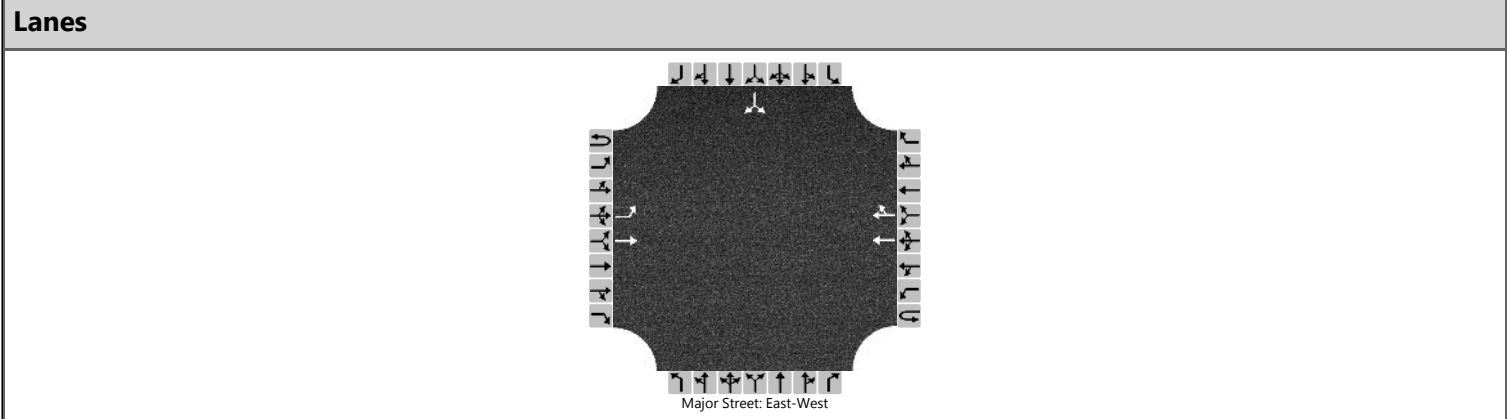
Base Critical Headway (sec)		4.1												7.5		6.9
Critical Headway (sec)		4.18												6.94		7.04
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.24												3.57		3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		98														185	
Capacity, c (veh/h)		1239														470	
v/c Ratio		0.08														0.39	
95% Queue Length, Q ₉₅ (veh)		0.3														1.8	
95% Queue Length, Q ₉₅ (ft)		7.7														47.5	
Control Delay (s/veh)		8.2														17.5	
Level of Service (LOS)		A														C	
Approach Delay (s/veh)		2.2												17.5			
Approach LOS		A												C			

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(30) W 130th St & SR 3		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	8/7/2024			East/West Street	SR 3		
Analysis Year	2030			North/South Street	W 130th St		
Time Analyzed	Build - PM Peak			Peak Hour Factor	0.89		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	1	1	0	0	0	2	0		0	0	0		0	1	0
Configuration		L	T				T	TR							LR	
Volume (veh/h)	0	150	300				410	100						40		160
Percent Heavy Vehicles (%)	3	4												3		3
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

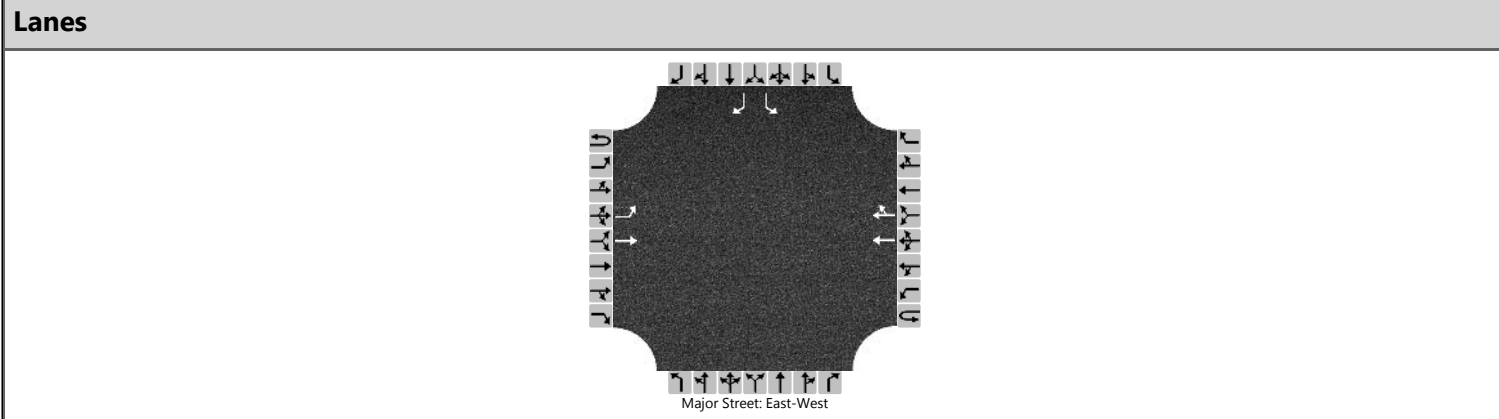
Base Critical Headway (sec)		4.1												7.5		6.9
Critical Headway (sec)		4.18												6.86		6.96
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.24												3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		168														224	
Capacity, c (veh/h)		984														405	
v/c Ratio		0.17														0.55	
95% Queue Length, Q ₉₅ (veh)		0.6														3.2	
95% Queue Length, Q ₉₅ (ft)		15.5														81.9	
Control Delay (s/veh)		9.4														24.3	
Level of Service (LOS)		A														C	
Approach Delay (s/veh)		3.1												24.3			
Approach LOS		A												C			

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(30) W 130th St & SR 3		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	8/5/2024			East/West Street	SR 3		
Analysis Year	2030			North/South Street	W 130th St		
Time Analyzed	Build w SBRT - AM Peak			Peak Hour Factor	0.92		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	1	1	0	0	0	2	0		0	0	0		1	0	1
Configuration		L	T				T	TR						L		R
Volume (veh/h)	0	90	240				250	30						80		90
Percent Heavy Vehicles (%)	9	4												7		7
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized													No			
Median Type Storage	Undivided															

Critical and Follow-up Headways

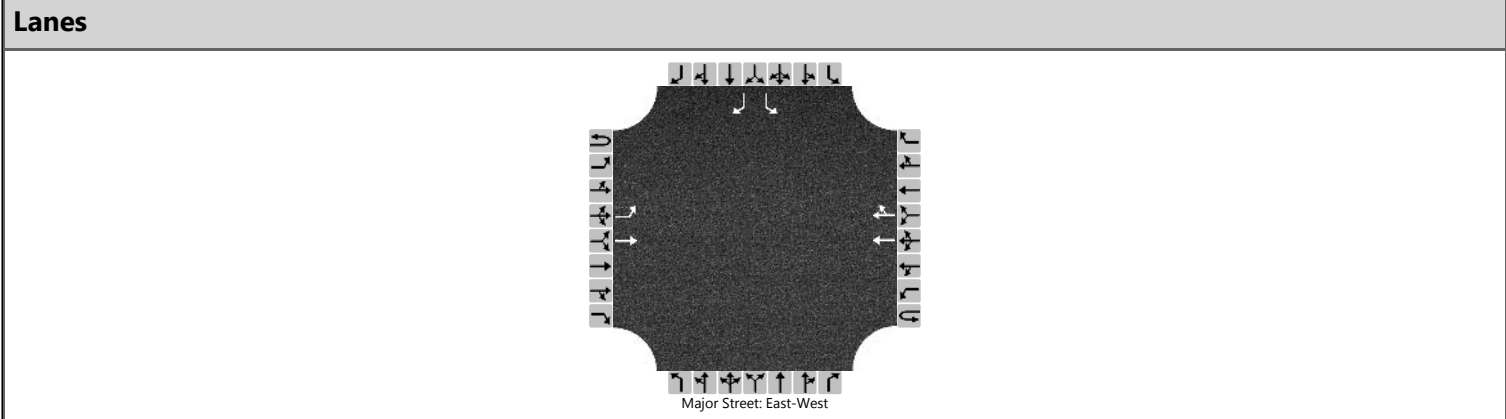
Base Critical Headway (sec)		4.1												7.5		6.9
Critical Headway (sec)		4.18												6.94		7.04
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.24												3.57		3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		98												87		98	
Capacity, c (veh/h)		1239												313		851	
v/c Ratio		0.08												0.28		0.11	
95% Queue Length, Q ₉₅ (veh)		0.3												1.1		0.4	
95% Queue Length, Q ₉₅ (ft)		7.7												29.0		10.6	
Control Delay (s/veh)		8.2												20.9		9.8	
Level of Service (LOS)		A												C		A	
Approach Delay (s/veh)		2.2												15.0			
Approach LOS		A												C			

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(30) W 130th St & SR 3		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	8/5/2024			East/West Street	SR 3		
Analysis Year	2030			North/South Street	W 130th St		
Time Analyzed	Build w SBRT - PM Peak			Peak Hour Factor	0.89		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	1	1	0	0	0	2	0		0	0	0		1	0	1
Configuration		L	T				T	TR						L		R
Volume (veh/h)	0	150	300				410	100						40		160
Percent Heavy Vehicles (%)	3	4												3		3
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized													No			
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.5		6.9
Critical Headway (sec)		4.18												6.86		6.96
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.24												3.53		3.33

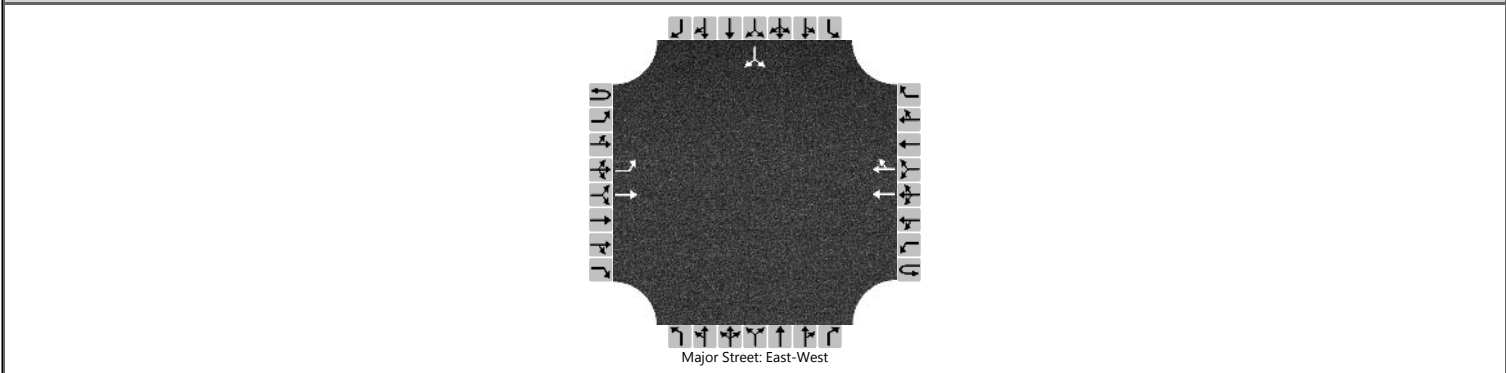
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		168												45		179	
Capacity, c (veh/h)		984												149		709	
v/c Ratio		0.17												0.30		0.25	
95% Queue Length, Q ₉₅ (veh)		0.6												1.2		1.0	
95% Queue Length, Q ₉₅ (ft)		15.5												30.7		25.6	
Control Delay (s/veh)		9.4												39.1		11.8	
Level of Service (LOS)		A												E		B	
Approach Delay (s/veh)		3.1												17.2			
Approach LOS		A												C			

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(30) W 130th St & SR 3		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	1/22/2024			East/West Street	SR 3		
Analysis Year	2050			North/South Street	W 130th St		
Time Analyzed	No Build - AM Peak			Peak Hour Factor	0.92		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6	7	8	9		10	11	12	
Priority																
Number of Lanes	0	1	1	0	0	0	2	0	0	0	0		0	1	0	
Configuration		L	T				T	TR							LR	
Volume (veh/h)	0	110	480				330	30					80		120	
Percent Heavy Vehicles (%)	9	4											7		7	
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.5		6.9
Critical Headway (sec)		4.18												6.94		7.04
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.24												3.57		3.37

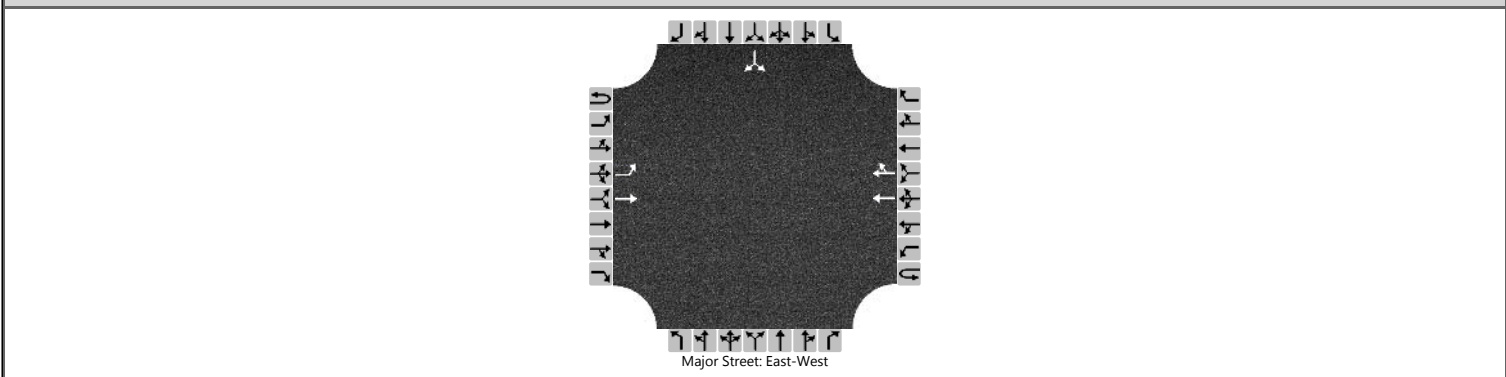
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		120														217
Capacity, c (veh/h)		1150														320
v/c Ratio		0.10														0.68
95% Queue Length, Q ₉₅ (veh)		0.3														4.7
Control Delay (s/veh)		8.5														37.1
Level of Service (LOS)		A														E
Approach Delay (s/veh)	1.6												37.1			
Approach LOS	A												E			

HCS Two-Way Stop-Control Report

General Information		Site Information	
Analyst	TJS	Intersection	(30) W 130th St & SR 3
Agency/Co.	Smart Services Inc.	Jurisdiction	ODOT
Date Performed	1/22/2024	East/West Street	SR 3
Analysis Year	2050	North/South Street	W 130th St
Time Analyzed	No Build - PM Peak	Peak Hour Factor	0.89
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	I-71 & I-271 Planning Study		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	2	0		0	0	0		0	1	0
Configuration		L	T				T	TR							LR	
Volume (veh/h)	0	180	420				530	110						40		170
Percent Heavy Vehicles (%)	3	4												3		3
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.5		6.9
Critical Headway (sec)		4.18												6.86		6.96
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.24												3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		201														235	
Capacity, c (veh/h)		867														279	
v/c Ratio		0.23														0.84	
95% Queue Length, Q ₉₅ (veh)		0.9														7.0	
Control Delay (s/veh)		10.4														60.9	
Level of Service (LOS)		B														F	
Approach Delay (s/veh)		3.1												60.9			
Approach LOS		A												F			

(30) W 130TH STREET & SR 3 - SB RT - 2050 'NO BUILD'

Critical Analysis Period: PM Peak

Type = Unsignalized Stopped Crossroad

Speed = 50 MPH

Cycle Length = 60 seconds

Turning Volume = 170 VPH

of Turning Lanes = 1

Advancing Volume = 210 VPH

Turning % (>10% HIGH) 81.0% HIGH

Design Condition = A

Vehicles per Cycle = 2.8

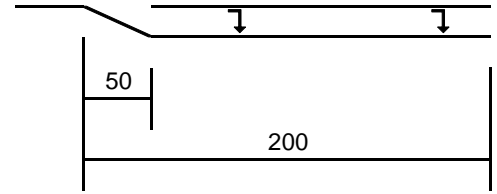
Storage Length (Calc) = 150 feet

Storage Length (Adj) = 150 feet

Deceleration/Div. Taper = 50 feet

Turn Lane Length = 200 feet

Calculations based on 401-7E in ODOT
L&D Manual. All dimensions are in feet.



MED-71/271 (PID 117028)

COUNT MEMO

PREPARED BY:  SMART SERVICES

1/2024

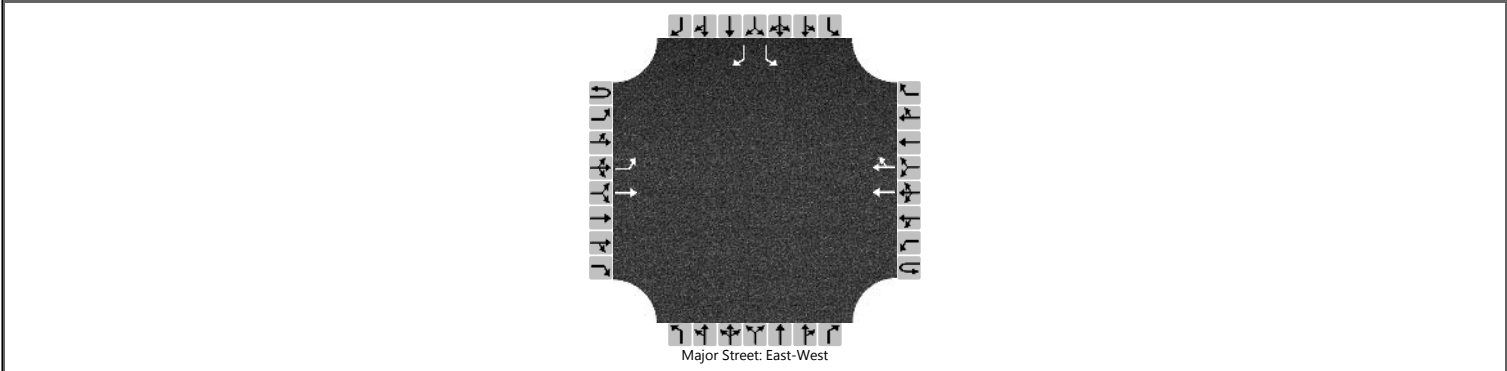
APPENDIX

RIGHT TURN LANE CALCULATIONS

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS	Intersection	(30) W 130th St & SR 3				
Agency/Co.	Smart Services Inc.	Jurisdiction	ODOT				
Date Performed	1/22/2024	East/West Street	SR 3				
Analysis Year	2050	North/South Street	W 130th St				
Time Analyzed	No Build w SBRT - AM Peak	Peak Hour Factor	0.92				
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25				
Project Description	I-71 & I-271 Planning Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	1	1	0	0	0	2	0		0	0	0		1	0	1
Configuration		L	T				T	TR						L		R
Volume (veh/h)	0	110	480				330	30						80		120
Percent Heavy Vehicles (%)	9	4												7		7
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized													No			
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1													7.5		6.9
Critical Headway (sec)		4.18													6.94		7.04
Base Follow-Up Headway (sec)		2.2													3.5		3.3
Follow-Up Headway (sec)		2.24													3.57		3.37

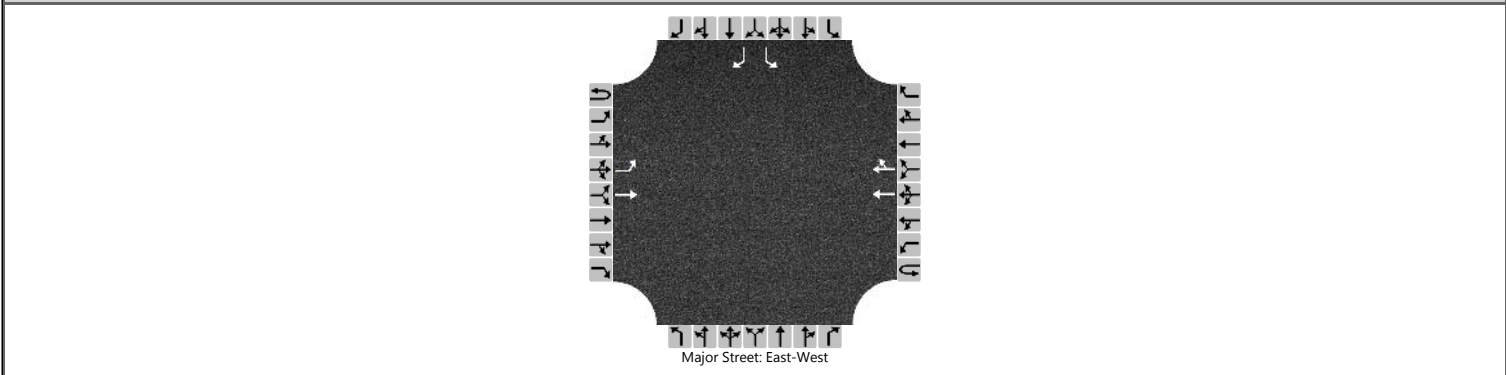
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		120													87		130	
Capacity, c (veh/h)		1150													169		797	
v/c Ratio		0.10													0.52		0.16	
95% Queue Length, Q ₉₅ (veh)		0.3													2.6		0.6	
Control Delay (s/veh)		8.5													47.1		10.4	
Level of Service (LOS)		A													E		B	
Approach Delay (s/veh)		1.6													25.1			
Approach LOS		A													D			

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(30) W 130th St & SR 3		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	1/22/2024			East/West Street	SR 3		
Analysis Year	2050			North/South Street	W 130th St		
Time Analyzed	No Build w SBRT - PM Peak			Peak Hour Factor	0.89		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	1	1	0	0	0	2	0		0	0	0		1	0	1
Configuration		L	T				T	TR						L		R
Volume (veh/h)	0	180	420				530	110						40		170
Percent Heavy Vehicles (%)	3	4												3		3
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized													No			
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.5		6.9
Critical Headway (sec)		4.18												6.86		6.96
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.24												3.53		3.33

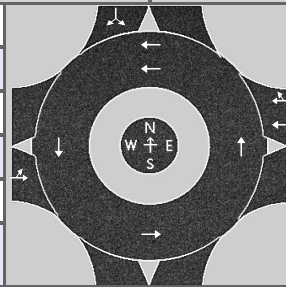
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		201												45		190
Capacity, c (veh/h)		867												82		636
v/c Ratio		0.23												0.54		0.30
95% Queue Length, Q ₉₅ (veh)		0.9												2.4		1.3
Control Delay (s/veh)		10.4												91.8		13.1
Level of Service (LOS)		B												F		B
Approach Delay (s/veh)	3.1												28.1			
Approach LOS	A												D			

HCS Roundabouts Report

General Information

Analyst	TJS
Agency or Co.	Smart Services, Inc
Date Performed	3/01/2024
Analysis Year	2050
Time Analyzed	No Build - AM Peak
Project Description	



Site Information

Intersection	(30) SR 3 & W 130th Street
E/W Street Name	SR 3-Ledge Road
N/S Street Name	W 130th Street
Analysis Time Period, hrs	0.25
Peak Hour Factor	0.92
Jurisdiction	

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Number of Lanes (N)	0	0	1	0	0	0	2	0	0	0	0	0	0	0	1	0
Lane Assignment			LT		T		TR								LR	
Volume (V), veh/h	0	110	480		0		330	30					0	80		120
Percent Heavy Vehicles, %	4	4	4		3		3	3					7	7		7
Flow Rate (v _{PCE}), pc/h	0	124	543		0		369	34					0	93		140
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1				1								2			
Pedestrians Crossing, p/h	0				0								0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763		4.5436	4.5436						4.3276	
Follow-Up Headway, s		2.6087		2.5352	2.5352						2.5352	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		667		189	214						233	
Entry Volume, veh/h		641		184	207						218	
Circulating Flow (v _c), pc/h	93			124			760			369		
Exiting Flow (v _{ex}), pc/h	636			509			158			0		
Capacity (c _{PCE}), pc/h		1255		1268	1268						1038	
Capacity (c), veh/h		1207		1232	1232						970	
v/c Ratio (x)		0.53		0.15	0.17						0.22	

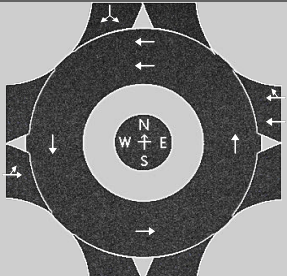
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		9.0		4.2	4.4						5.9	
Lane LOS		A		A	A						A	
95% Queue Length, Q ₉₅ (veh)		3.3		0.5	0.6						0.9	
95% Queue Length, Q ₉₅ (ft)		82.5		12.8	15.4						23.8	
Approach Delay, s/veh LOS	9.0		A	4.3		A				5.9		A
Intersection Delay, s/veh LOS	7.0						A					

HCS Roundabouts Report

General Information

Site Information

Analyst	TJS		Intersection	(30) SR 3 & W 130th Street
Agency or Co.	Smart Services, Inc		E/W Street Name	SR 3-Ledge Road
Date Performed	3/01/2024		N/S Street Name	W 130th Street
Analysis Year	2050		Analysis Time Period, hrs	0.25
Time Analyzed	No Build - PM Peak		Peak Hour Factor	0.89
Project Description			Jurisdiction	

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	1	0	0	0	2	0	0	0	0	0	0	0	1	0
Lane Assignment	LT				T	TR							LR			
Volume (V), veh/h	0	180	420		0		530	110					0	40		170
Percent Heavy Vehicles, %	4	4	4		3		3	3					3	3		3
Flow Rate (v _{PCE}), pc/h	0	210	491		0		613	127					0	46		197
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1				1								2			
Pedestrians Crossing, p/h	0				0								0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763		4.5436	4.5436						4.3276	
Follow-Up Headway, s		2.6087		2.5352	2.5352						2.5352	

Flow Computations, Capacity and v/c Ratios

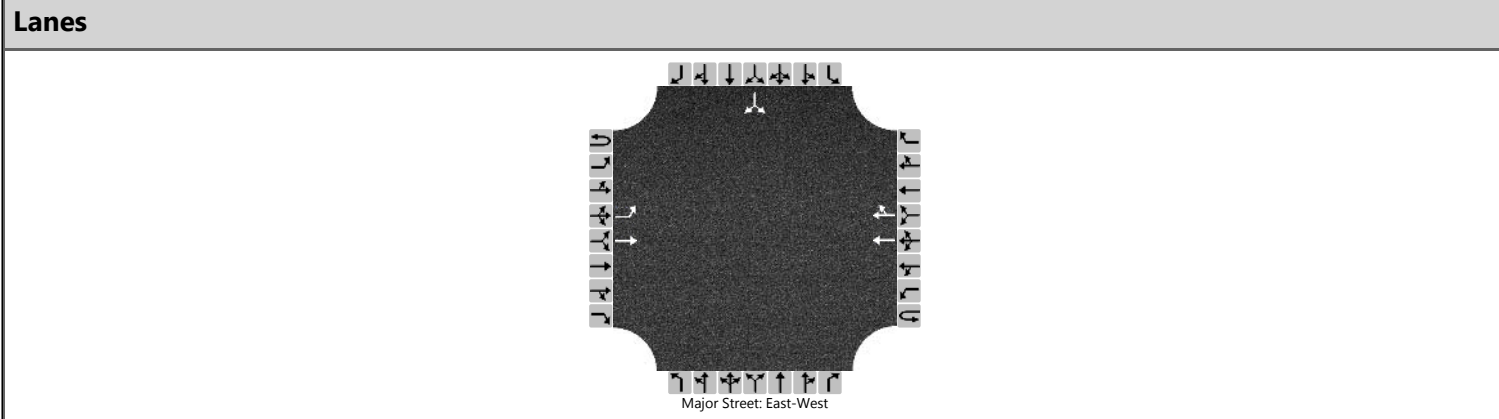
Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		701		348	392						243	
Entry Volume, veh/h		674		338	381						236	
Circulating Flow (v _c), pc/h	46			210			747			613		
Exiting Flow (v _{ex}), pc/h	537			810			337			0		
Capacity (c _{PCE}), pc/h		1317		1173	1173						843	
Capacity (c), veh/h		1266		1139	1139						819	
v/c Ratio (x)		0.53		0.30	0.33						0.29	

Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		8.7		6.0	6.4						7.6	
Lane LOS		A		A	A						A	
95% Queue Length, Q ₉₅ (veh)		3.3		1.2	1.5						1.2	
95% Queue Length, Q ₉₅ (ft)		82.5		30.7	38.4						30.7	
Approach Delay, s/veh LOS	8.7		A	6.2		A				7.6		A
Intersection Delay, s/veh LOS	7.4						A					

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(30) W 130th St & SR 3		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	7/3/2024			East/West Street	SR 3		
Analysis Year	2050			North/South Street	W 130th St		
Time Analyzed	Build - AM Peak			Peak Hour Factor	0.92		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	1	1	0	0	0	2	0		0	0	0		0	1	0
Configuration		L	T				T	TR							LR	
Volume (veh/h)	0	110	250				250	30						80		120
Percent Heavy Vehicles (%)	9	4												7		7
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

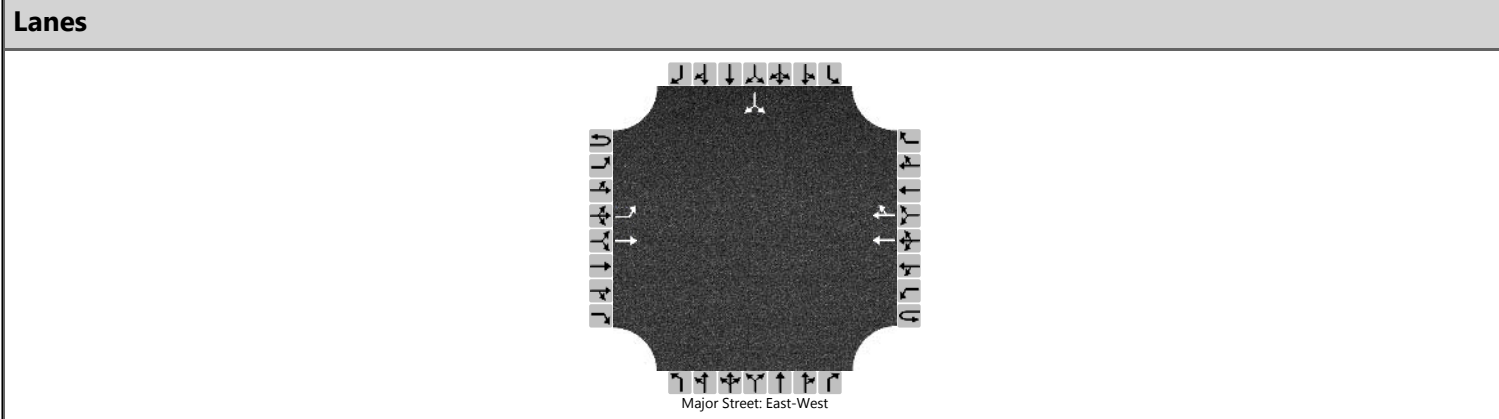
Base Critical Headway (sec)		4.1												7.5		6.9
Critical Headway (sec)		4.18												6.94		7.04
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.24												3.57		3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		120														217	
Capacity, c (veh/h)		1239														472	
v/c Ratio		0.10														0.46	
95% Queue Length, Q ₉₅ (veh)		0.3														2.4	
95% Queue Length, Q ₉₅ (ft)		7.7														63.4	
Control Delay (s/veh)		8.2														19.0	
Level of Service (LOS)		A														C	
Approach Delay (s/veh)		2.5												19.0			
Approach LOS		A												C			

HCS Two-Way Stop-Control Report

General Information		Site Information	
Analyst	TJS	Intersection	(30) W 130th St & SR 3
Agency/Co.	Smart Services Inc.	Jurisdiction	ODOT
Date Performed	6/27/2024	East/West Street	SR 3
Analysis Year	2050	North/South Street	W 130th St
Time Analyzed	Build - PM Peak	Peak Hour Factor	0.89
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	I-71 & I-271 Planning Study		



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	1	1	0	0	0	2	0		0	0	0		0	1	0
Configuration		L	T				T	TR							LR	
Volume (veh/h)	0	180	320				440	110						40		170
Percent Heavy Vehicles (%)	3	4												3		3
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

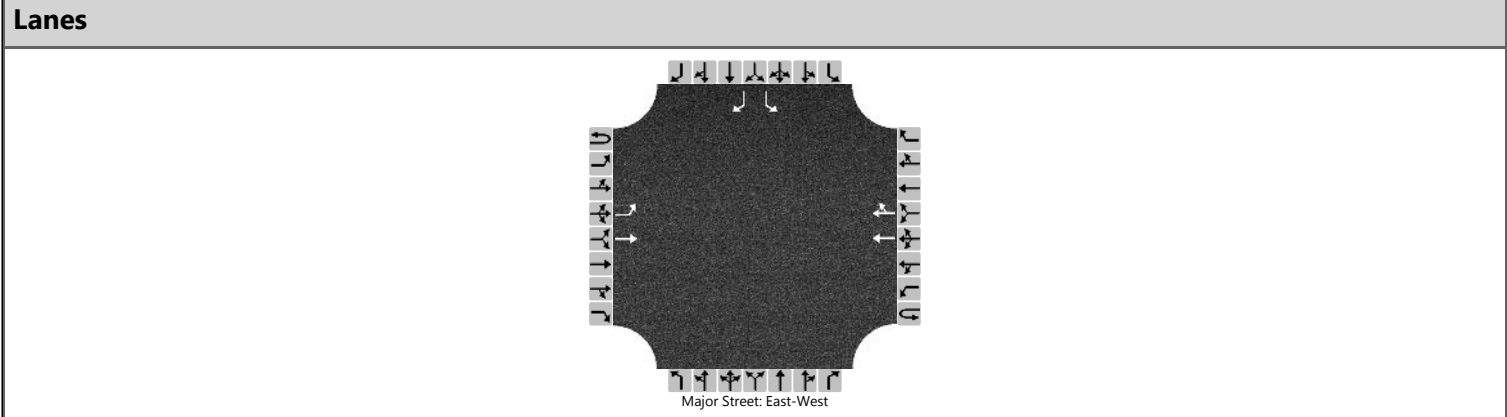
Base Critical Headway (sec)		4.1												7.5		6.9
Critical Headway (sec)		4.18												6.86		6.96
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.24												3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		201														235	
Capacity, c (veh/h)		947														356	
v/c Ratio		0.21														0.66	
95% Queue Length, Q ₉₅ (veh)		0.8														4.5	
95% Queue Length, Q ₉₅ (ft)		20.6														115.2	
Control Delay (s/veh)		9.8														32.8	
Level of Service (LOS)		A														D	
Approach Delay (s/veh)		3.5												32.8			
Approach LOS		A												D			

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(30) W 130th St & SR 3		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	6/6/2024			East/West Street	SR 3		
Analysis Year	2050			North/South Street	W 130th St		
Time Analyzed	Build w SBRT - AM Peak			Peak Hour Factor	0.92		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	1	1	0	0	0	2	0		0	0	0		1	0	1
Configuration		L	T				T	TR						L		R
Volume (veh/h)	0	110	250				250	30						80		120
Percent Heavy Vehicles (%)	9	4												7		7
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized													No			
Median Type Storage	Undivided															

Critical and Follow-up Headways

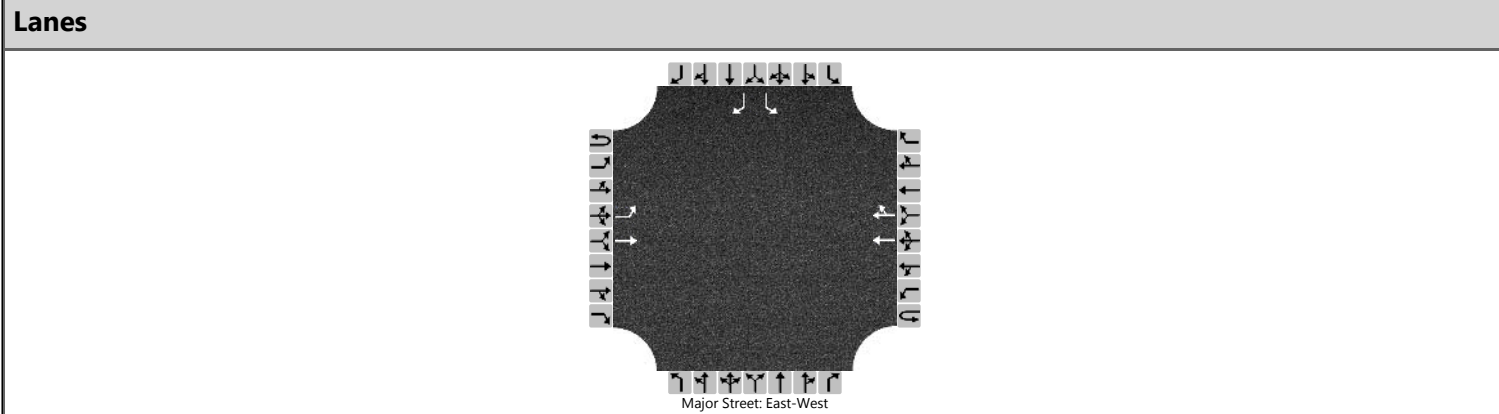
Base Critical Headway (sec)		4.1												7.5		6.9
Critical Headway (sec)		4.18												6.94		7.04
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.24												3.57		3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		120												87		130	
Capacity, c (veh/h)		1239												283		851	
v/c Ratio		0.10												0.31		0.15	
95% Queue Length, Q ₉₅ (veh)		0.3												1.3		0.5	
95% Queue Length, Q ₉₅ (ft)		7.7												34.3		13.2	
Control Delay (s/veh)		8.2												23.3		10.0	
Level of Service (LOS)		A												C		A	
Approach Delay (s/veh)		2.5												15.3			
Approach LOS		A												C			

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(30) W 130th St & SR 3		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	6/6/2024			East/West Street	SR 3		
Analysis Year	2050			North/South Street	W 130th St		
Time Analyzed	Build w SBRT - PM Peak			Peak Hour Factor	0.89		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	2	0		0	0	0		1	0	1
Configuration		L	T				T	TR						L		R
Volume (veh/h)	0	180	320				440	110						40		170
Percent Heavy Vehicles (%)	3	4												3		3
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized													No			
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.5		6.9
Critical Headway (sec)		4.18												6.86		6.96
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.24												3.53		3.33

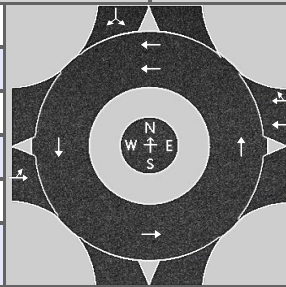
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		201												45		190	
Capacity, c (veh/h)		947												117		685	
v/c Ratio		0.21												0.38		0.28	
95% Queue Length, Q ₉₅ (veh)		0.8												1.6		1.1	
95% Queue Length, Q ₉₅ (ft)		20.6												41.0		28.2	
Control Delay (s/veh)		9.8												53.8		12.3	
Level of Service (LOS)		A												F		B	
Approach Delay (s/veh)		3.5												20.2			
Approach LOS		A												C			

HCS Roundabouts Report

General Information

Analyst	TJS
Agency or Co.	Smart Services, Inc
Date Performed	6/27/2024
Analysis Year	2050
Time Analyzed	Build Alt B - AM Peak
Project Description	



Site Information

Intersection	(30) SR 3 & W 130th Street
E/W Street Name	SR 3-Ledge Road
N/S Street Name	W 130th Street
Analysis Time Period, hrs	0.25
Peak Hour Factor	0.92
Jurisdiction	

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Number of Lanes (N)	0	0	1	0	0	0	2	0	0	0	0	0	0	0	1	0
Lane Assignment			LT		T		TR								LR	
Volume (V), veh/h	0	110	250		0		250	30					0	80		120
Percent Heavy Vehicles, %	4	4	4		3		3	3					7	7		7
Flow Rate (v _{PCE}), pc/h	0	124	283		0		280	34					0	93		140
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1				1								2			
Pedestrians Crossing, p/h	0				0								0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763		4.5436	4.5436						4.3276	
Follow-Up Headway, s		2.6087		2.5352	2.5352						2.5352	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		407		148	166						233	
Entry Volume, veh/h		391		143	162						218	
Circulating Flow (v _c), pc/h	93			124			500			280		
Exiting Flow (v _{ex}), pc/h	376			420			158			0		
Capacity (c _{PCE}), pc/h		1255		1268	1268						1119	
Capacity (c), veh/h		1207		1232	1232						1046	
v/c Ratio (x)		0.32		0.12	0.13						0.21	

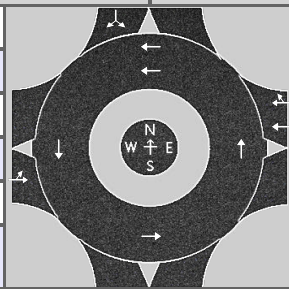
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		6.0		3.9	4.0						5.4	
Lane LOS		A		A	A						A	
95% Queue Length, Q ₉₅ (veh)		1.4		0.4	0.5						0.8	
95% Queue Length, Q ₉₅ (ft)		35.0		10.2	12.8						21.1	
Approach Delay, s/veh LOS	6.0		A	4.0		A				5.4		A
Intersection Delay, s/veh LOS	5.2						A					

HCS Roundabouts Report

General Information

Analyst	TJS
Agency or Co.	Smart Services, Inc
Date Performed	6/27/2024
Analysis Year	2050
Time Analyzed	Build Alt B - PM Peak
Project Description	



Site Information

Intersection	(30) SR 3 & W 130th Street
E/W Street Name	SR 3-Ledge Road
N/S Street Name	W 130th Street
Analysis Time Period, hrs	0.25
Peak Hour Factor	0.89
Jurisdiction	

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Number of Lanes (N)	0	0	1	0	0	0	2	0	0	0	0	0	0	0	1	0
Lane Assignment			LT		T		TR								LR	
Volume (V), veh/h	0	180	320		0		440	110					0	40		170
Percent Heavy Vehicles, %	4	4	4		3		3	3					3	3		3
Flow Rate (v _{PCE}), pc/h	0	210	374		0		509	127					0	46		197
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1				1								2			
Pedestrians Crossing, p/h	0				0								0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763		4.5436	4.5436						4.3276	
Follow-Up Headway, s		2.6087		2.5352	2.5352						2.5352	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		584		299	337						243	
Entry Volume, veh/h		562		290	327						236	
Circulating Flow (v _c), pc/h	46			210			630			509		
Exiting Flow (v _{ex}), pc/h	420			706			337			0		
Capacity (c _{PCE}), pc/h		1317		1173	1173						921	
Capacity (c), veh/h		1266		1139	1139						894	
v/c Ratio (x)		0.44		0.25	0.29						0.26	

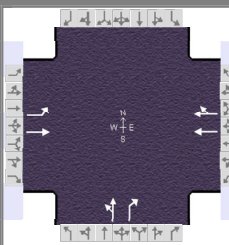
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		7.3		5.5	5.9						6.8	
Lane LOS		A		A	A						A	
95% Queue Length, Q ₉₅ (veh)		2.3		1.0	1.2						1.1	
95% Queue Length, Q ₉₅ (ft)		57.5		25.6	30.7						28.2	
Approach Delay, s/veh LOS	7.3		A	5.7		A				6.8		A
Intersection Delay, s/veh LOS	6.5						A					

40-SR 3 & I-71 NB Ramps

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Jul 2, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.90
Urban Street	SR 3/Weymouth Rd	Analysis Year	2030	Analysis Period	1 > 7:15
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2030 No B...		
Project Description	2030 No Build				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	950	500			260	160	70	0	60			

Signal Information				Phase Diagram								
Cycle, s	120.0	Reference Phase	2									
Offset, s	15	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On									
Force Mode	Fixed	Simult. Gap N/S	On									
		Green	66.8	25.8	9.9	0.0	0.0	0.0				
		Yellow	5.2	5.2	4.1	0.0	0.0	0.0				
		Red	1.0	1.0	1.0	0.0	0.0	0.0				

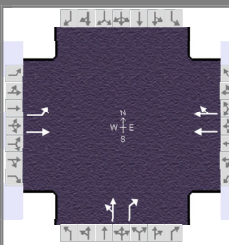
Traffic Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	950	500			260	160	70	0	60			
Initial Queue (Q _b), veh/h	0	0			0	0	0	0	0			
Base Saturation Flow Rate (s ₀), veh/h	1750	1750			1750	1900	1900	1750	1750			
Parking (N _m), man/h		None			None		0	L				
Heavy Vehicles (P _{HV}), %	3	3			3		6	6				
Ped / Bike / RTOR, /h	0	0		0	0	0	0	0	0	0	0	
Buses (N _b), buses/h	0	0	0	0	0	0	0	0	0			
Arrival Type (AT)	3	3			3	3	3	3	3			
Upstream Filtering (I)	1.00	1.00			0.09	0.09	1.00	1.00	1.00			
Lane Width (W), ft	12.0	12.0			12.0		12.0	12.0				
Turn Bay Length, ft	650	650			675		1325	130				
Grade (P _g), %		0			0		0				0	
Speed Limit, mi/h	50	50			50	50	35	35	35			

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s	72.0	104.0		32.0		16.0		
Yellow Change Interval (Y), s	5.2	5.2		5.2		4.1		
Red Clearance Interval (R _c), s	1.0	1.0		1.0		1.0		
Minimum Green (G _{min}), s	7	20		20		10		
Start-Up Lost Time (l _t), s	2.0	2.0		2.0	2.0	2.0		
Extension of Effective Green (e), s	2.0	2.0		2.0	2.0	2.0		
Passage (P _T), s	2.0	2.0		2.0		2.0		
Recall Mode	Off	Min		Min		Off		
Dual Entry	No	Yes		Yes		Yes		
Walk (Walk), s		0.0				0.0		0.0
Pedestrian Clearance Time (P _C), s		0.0				0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0				0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0				9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0		No	0.0	0	No		0	
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0			
Pedestrian Signal / Occupied Parking	No		0.50			0.50	No		0.50	No		

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Jul 2, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.90
Urban Street	SR 3/Weymouth Rd	Analysis Year	2030	Analysis Period	1 > 7:15
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2030 No B...		
Project Description	2030 No Build				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	950	500			260	160	70	0	60			

Signal Information				Signal Phases							
Cycle, s	120.0	Reference Phase	2	1	2	3	4	5	6	7	8
Offset, s	15	Reference Point	End	Green	66.8	25.8	9.9	0.0	0.0	0.0	
Uncoordinated	No	Simult. Gap E/W	On	Yellow	5.2	5.2	4.1	0.0	0.0	0.0	
Force Mode	Fixed	Simult. Gap N/S	On	Red	1.0	1.0	1.0	0.0	0.0	0.0	

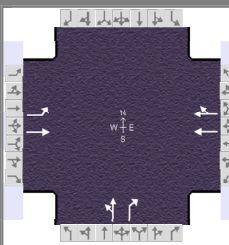
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	1.0	4.0		8.3		11.0		
Phase Duration, s	73.0	105.0		32.0		15.0		
Change Period, ($Y+R_c$), s	6.2	6.2		6.2		5.1		
Max Allow Headway (MAH), s	3.0	0.0		0.0		3.3		
Queue Clearance Time (g_s), s	68.8					8.3		
Green Extension Time (g_e), s	0.0	0.0		0.0		0.1		
Phase Call Probability	1.00					0.99		
Max Out Probability	1.00					1.00		

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16	3	8	18			
Adjusted Flow Rate (v), veh/h	1056	556			400	351		78	67			
Adjusted Saturation Flow Rate (s), veh/h/ln	1628	1709			1709	1490		1430	1414			
Queue Service Time (g_s), s	66.8	10.2			15.3	25.8		6.3	5.4			
Cycle Queue Clearance Time (g_c), s	66.8	10.2			15.3	25.8		6.3	5.4			
Green Ratio (g/C)	0.79	0.82			0.22	0.22		0.08	0.08			
Capacity (c), veh/h	966	1407			367	320		118	117			
Volume-to-Capacity Ratio (X)	1.093	0.395			1.088	1.095		0.658	0.571			
Back of Queue (Q), ft/ln (95 th percentile)	1345	96			425	267		118	94			
Back of Queue (Q), veh/ln (95 th percentile)	52.5	3.8			16.6	10.7		4.5	3.6			
Queue Storage Ratio (RQ) (95 th percentile)	2.07	0.15			0.63	0.41		0.09	0.72			
Uniform Delay (d_1), s/veh	23.0	2.8			41.4	25.4		53.4	53.0			
Incremental Delay (d_2), s/veh	57.7	0.8			44.3	47.9		7.3	2.3			
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0	0.0		0.0	0.0			
Control Delay (d), s/veh	80.7	3.6			85.8	73.4		60.7	55.3			
Level of Service (LOS)	F	A			F	F		E	E			
Approach Delay, s/veh / LOS	54.1	D		80.0	E		58.2	E	0.0			
Intersection Delay, s/veh / LOS	62.1						E					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.60	B	1.43	A	1.96	B	2.15	B
Bicycle LOS Score / LOS	3.15	C	0.87	A	0.73	A		

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Jul 2, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.89
Urban Street	SR 3/Weymouth Rd	Analysis Year	2030	Analysis Period	1 > 4:45
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2030 No B...		
Project Description	2030 No Build				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	550	430			520	140	90	0	120			

Signal Information				Phase Diagram									
Cycle, s	100.0	Reference Phase	2	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Offset, s	54	Reference Point	End	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Uncoordinated	No	Simult. Gap E/W	On	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Force Mode	Fixed	Simult. Gap N/S	On	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
				Green	22.5	48.5	11.4	0.0	0.0	0.0			
				Yellow	5.2	5.2	4.1	0.0	0.0	0.0			
				Red	1.0	1.0	1.0	0.0	0.0	0.0			

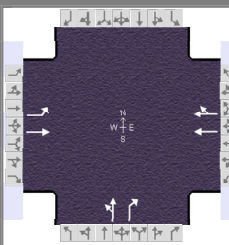
Traffic Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	550	430			520	140	90	0	120			
Initial Queue (Q _b), veh/h	0	0			0	0	0	0	0			
Base Saturation Flow Rate (s ₀), veh/h	1750	1750			1750	1900	1900	1750	1750			
Parking (N _m), man/h		None			None			None				
Heavy Vehicles (P _{HV}), %	3	3			3			2	2			
Ped / Bike / RTOR, /h	0	0		0	0	0	0	0	0	0	0	
Buses (N _b), buses/h	0	0	0	0	0	0	0	0	0			
Arrival Type (AT)	3	3			3	3	3	3	3			
Upstream Filtering (I)	0.86	0.86			1.00	1.00	1.00	1.00	1.00			
Lane Width (W), ft	12.0	12.0			12.0			12.0	12.0			
Turn Bay Length, ft	650	650			675			1325	130			
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50			50	50	35	35	35			

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s	36.0	63.0		27.0		37.0		
Yellow Change Interval (Y), s	5.2	5.2		5.2		4.1		
Red Clearance Interval (R _c), s	1.0	1.0		1.0		1.0		
Minimum Green (G _{min}), s	7	20		20		10		
Start-Up Lost Time (l _t), s	2.0	2.0		2.0	2.0	2.0		
Extension of Effective Green (e), s	2.0	2.0		2.0	2.0	2.0		
Passage (PT), s	2.0	2.0		2.0		2.0		
Recall Mode	Off	Min		Min		Off		
Dual Entry	No	Yes		Yes		Yes		
Walk (Walk), s		0.0				0.0		0.0
Pedestrian Clearance Time (PC), s		0.0				0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0				0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0				9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0		No	0.0	0	No		0	
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0			
Pedestrian Signal / Occupied Parking	No		0.50			0.50	No		0.50	No		

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Jul 2, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.89
Urban Street	SR 3/Weymouth Rd	Analysis Year	2030	Analysis Period	1 > 4:45
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2030 No B...		
Project Description	2030 No Build				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	550	430			520	140	90	0	120			

Signal Information				Signal Phases										
Cycle, s	100.0	Reference Phase	2	Green	22.5	48.5	11.4	0.0	0.0	0.0	1	2	3	4
Offset, s	54	Reference Point	End	Yellow	5.2	5.2	4.1	0.0	0.0	0.0	5	6	7	8
Uncoordinated	No	Simult. Gap E/W	On	Red	1.0	1.0	1.0	0.0	0.0	0.0				
Force Mode	Fixed	Simult. Gap N/S	On											

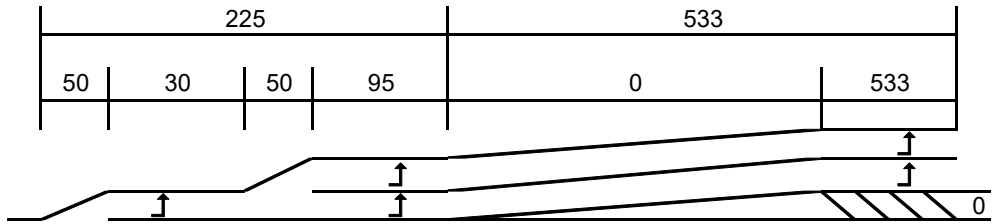
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	1.0	4.0		8.3		11.0		
Phase Duration, s	28.7	83.5		54.7		16.5		
Change Period, ($Y+R_c$), s	6.2	6.2		6.2		5.1		
Max Allow Headway (MAH), s	3.0	0.0		0.0		3.3		
Queue Clearance Time (g_s), s	21.3					11.0		
Green Extension Time (g_e), s	1.1	0.0		0.0		0.4		
Phase Call Probability	1.00					1.00		
Max Out Probability	0.00					0.00		

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16	3	8	18			
Adjusted Flow Rate (v), veh/h	589	461			384	357		101	135			
Adjusted Saturation Flow Rate (s), veh/h/ln	1628	1709			1709	1584		1641	1460			
Queue Service Time (g_s), s	19.3	15.3			22.7	15.0		5.8	9.0			
Cycle Queue Clearance Time (g_c), s	19.3	15.3			22.7	15.0		5.8	9.0			
Green Ratio (g/C)	0.73	0.77			0.49	0.49		0.11	0.11			
Capacity (c), veh/h	622	1320			828	767		188	167			
Volume-to-Capacity Ratio (X)	0.947	0.349			0.464	0.466		0.539	0.807			
Back of Queue (Q), ft/ln (95 th percentile)	282	229			245	227		108	153			
Back of Queue (Q), veh/ln (95 th percentile)	11.0	9.0			9.6	9.1		4.3	6.0			
Queue Storage Ratio (RQ) (95 th percentile)	0.43	0.35			0.36	0.34		0.08	1.18			
Uniform Delay (d_1), s/veh	17.2	8.7			17.1	17.2		41.8	43.2			
Incremental Delay (d_2), s/veh	6.0	0.6			1.9	2.0		0.9	3.5			
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0	0.0		0.0	0.0			
Control Delay (d), s/veh	23.3	9.3			19.0	19.2		42.7	46.7			
Level of Service (LOS)	C	A			B	B		D	D			
Approach Delay, s/veh / LOS	17.2	B		19.1	B		45.0	D		0.0		
Intersection Delay, s/veh / LOS	21.1						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.61	B	1.38	A	1.95	B	2.15	B
Bicycle LOS Score / LOS	2.30	B	1.10	A	0.88	A		

(27) I-71 NB RAMPS & SR 3 - EB LT - 2050 'NO BUILD' (AM PEAK)

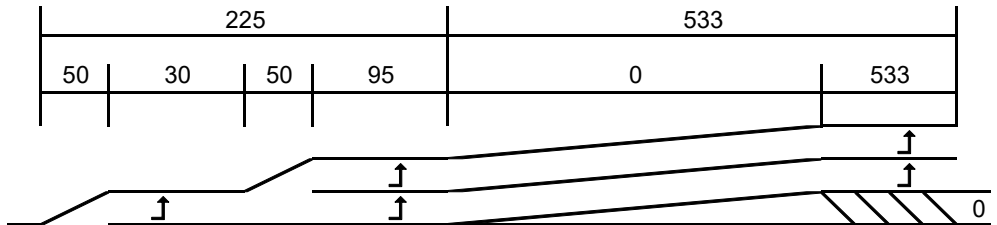
Type = Signalized
 Speed = 50 MPH
 Cycle Length = 120 seconds
 Turning Volume = 990 VPH
 # of Turning Lanes = 2
 Vehicles per Cycle = 33
 Storage Length (Calc) = 1065 feet
 8:1 Taper = 0 feet
 L1 = 225 feet
 L2 = 145 feet



NOTE: Calculations based on 401-12E in ODOT L&D Manual. All dimensions are in feet.

(28) I-71 NB RAMPS & SR 3 - EB LT - 2050 'BUILD' (AM PEAK)

Type = Signalized
 Speed = 50 MPH
 Cycle Length = 120 seconds
 Turning Volume = 990 VPH
 # of Turning Lanes = 2
 Vehicles per Cycle = 33
 Storage Length (Calc) = 1065 feet
 8:1 Taper = 0 feet
 L1 = 225 feet
 L2 = 145 feet



NOTE: Calculations based on 401-12E in ODOT L&D Manual. All dimensions are in feet.

MED-71/271 (PID 117028)
COUNT MEMO

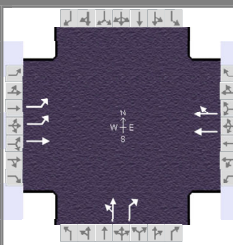
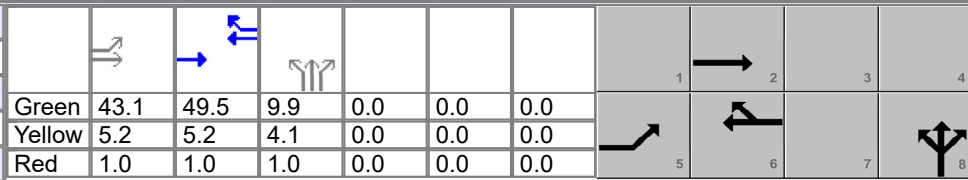
PREPARED BY:  SMART SERVICES

8/2024

APPENDIX

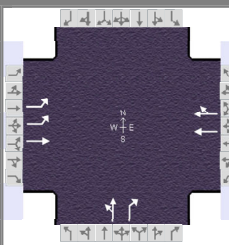
DUAL LEFT TURN CALCULATIONS

HCS Signalized Intersection Input Data

General Information					Intersection Information											
Agency	Smart Services Inc.				Duration, h	0.250										
Analyst	TJS	Analysis Date	Jul 2, 2024		Area Type	Other										
Jurisdiction	ODOT	Time Period	AM Peak		PHF	0.90										
Urban Street	SR 3/Weymouth Rd		Analysis Year	2030	Analysis Period	1 > 7:15										
Intersection	(40) SR 3 & I-71 NB Ra...		File Name	Signalized Capacity Group 2 (20-70) - 2030 No B...												
Project Description	2030 No Build w Imp															
Demand Information					EB			WB			NB			SB		
Approach Movement					L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h					950	500			260	160	70	0	60			
Signal Information																
Cycle, s	120.0	Reference Phase	2		Green	43.1	49.5	9.9	0.0	0.0	0.0					
Offset, s	34	Reference Point	End		Yellow	5.2	5.2	4.1	0.0	0.0	0.0					
Uncoordinated	No	Simult. Gap E/W	On		Red	1.0	1.0	1.0	0.0	0.0	0.0					
Force Mode	Fixed	Simult. Gap N/S	On													
Traffic Information					EB			WB			NB			SB		
Approach Movement					L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h					950	500			260	160	70	0	60			
Initial Queue (Q _b), veh/h					0	0			0	0	0	0	0			
Base Saturation Flow Rate (s ₀), veh/h					1750	1750			1750	1900	1900	1750	1750			
Parking (N _m), man/h					None			None			None					
Heavy Vehicles (P _{HV}), %					3	3			3			6	6			
Ped / Bike / RTOR, /h					0	0		0	0	0	0	0	0	0	0	
Buses (N _b), buses/h					0	0	0	0	0	0	0	0	0			
Arrival Type (AT)					3	3			3	3	3	3	3			
Upstream Filtering (I)					1.00	1.00			0.09	0.09	1.00	1.00	1.00			
Lane Width (W), ft					12.0	12.0			12.0			12.0	12.0			
Turn Bay Length, ft					650	650			675			1325	130			
Grade (P _g), %						0			0			0			0	
Speed Limit, mi/h					50	50			50	50	35	35	35			
Phase Information					EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT				
Maximum Green (G _{max}) or Phase Split, s					50.0	90.0		40.0		30.0						
Yellow Change Interval (Y), s					5.2	5.2		5.2		4.1						
Red Clearance Interval (R _c), s					1.0	1.0		1.0		1.0						
Minimum Green (G _{min}), s					7	20		20		10						
Start-Up Lost Time (l _t), s					2.0	2.0		2.0	2.0	2.0						
Extension of Effective Green (e), s					2.0	2.0		2.0	2.0	2.0						
Passage (P _T), s					2.0	2.0		2.0		2.0						
Recall Mode					Off	Min		Min		Off						
Dual Entry					No	Yes		Yes		Yes						
Walk (Walk), s						0.0				0.0		0.0				
Pedestrian Clearance Time (P _C), s						0.0				0.0		0.0				
Multimodal Information					EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius					0.0	No	25.0				0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft					9.0	12.0	0.0				9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft					0.0	0	No	0.0		No	0.0	0	No		0	
Width Outside / Bike Lane / Shoulder, ft					12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0			
Pedestrian Signal / Occupied Parking					No	0.50			0.50		No	0.50		No		

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Jul 2, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.90
Urban Street	SR 3/Weymouth Rd	Analysis Year	2030	Analysis Period	1 > 7:15
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2030 No B...		
Project Description	2030 No Build w Imp				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	950	500			260	160	70	0	60			

Signal Information				Phase Diagram									
Cycle, s	120.0	Reference Phase	2										
Offset, s	34	Reference Point	End										
Uncoordinated	No	Simult. Gap E/W	On										
Force Mode	Fixed	Simult. Gap N/S	On										
		Green		43.1	49.5	9.9	0.0	0.0	0.0				
		Yellow		5.2	5.2	4.1	0.0	0.0	0.0				
		Red		1.0	1.0	1.0	0.0	0.0	0.0				

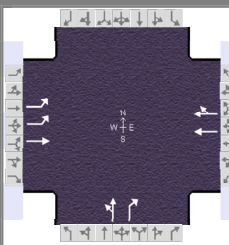
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	2.0	4.0		8.3		11.0		
Phase Duration, s	49.3	105.0		55.7		15.0		
Change Period, (Y+R _c), s	6.2	6.2		6.2		5.1		
Max Allow Headway (MAH), s	3.0	0.0		0.0		3.3		
Queue Clearance Time (g _s), s	40.5					7.7		
Green Extension Time (g _e), s	2.6	0.0		0.0		0.2		
Phase Call Probability	1.00					0.99		
Max Out Probability	0.00					0.00		

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16	3	8	18			
Adjusted Flow Rate (v), veh/h	1056	556			403	354		78	67			
Adjusted Saturation Flow Rate (s), veh/h/ln	1580	1709			1709	1490		1589	1414			
Queue Service Time (g _s), s	38.5	10.2			14.0	27.4		5.7	5.4			
Cycle Queue Clearance Time (g _c), s	38.5	10.2			14.0	27.4		5.7	5.4			
Green Ratio (g/C)	0.36	0.82			0.41	0.41		0.08	0.08			
Capacity (c), veh/h	1136	1407			704	614		131	117			
Volume-to-Capacity Ratio (X)	0.929	0.395			0.572	0.576		0.592	0.570			
Back of Queue (Q), ft/ln (95 th percentile)	548	96			339	319		109	93			
Back of Queue (Q), veh/ln (95 th percentile)	21.4	3.8			13.2	12.7		4.1	3.6			
Queue Storage Ratio (RQ) (95 th percentile)	0.84	0.15			0.50	0.48		0.08	0.72			
Uniform Delay (d ₁), s/veh	37.0	2.8			39.3	44.7		53.1	53.0			
Incremental Delay (d ₂), s/veh	7.1	0.8			0.3	0.4		1.6	1.6			
Initial Queue Delay (d ₃), s/veh	0.0	0.0			0.0	0.0		0.0	0.0			
Control Delay (d), s/veh	44.0	3.6			39.6	45.0		54.7	54.6			
Level of Service (LOS)	D	A			D	D		D	D			
Approach Delay, s/veh / LOS	30.1	C		42.1	D		54.6	D	0.0			
Intersection Delay, s/veh / LOS	35.1						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.60	B	1.69	B	1.96	B	2.32	B
Bicycle LOS Score / LOS	3.15	C	0.87	A	0.73	A		

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Jul 2, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.89
Urban Street	SR 3/Weymouth Rd	Analysis Year	2030	Analysis Period	1 > 4:45
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2030 No B...		
Project Description	2030 No Build w Imp				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	550	430			520	140		90	0	120		

Signal Information				Phase Diagram										
Cycle, s	100.0	Reference Phase	2	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	
Offset, s	38	Reference Point	End	Green	21.6	49.5	11.4	0.0	0.0	0.0	1	2	3	4
Uncoordinated	No	Simult. Gap E/W	On	Yellow	5.2	5.2	4.1	0.0	0.0	0.0	↗	↖		
Force Mode	Fixed	Simult. Gap N/S	On	Red	1.0	1.0	1.0	0.0	0.0	0.0	↘	↙	↕	↕

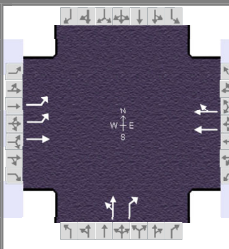
Traffic Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	550	430			520	140		90	0	120		
Initial Queue (Q _b), veh/h	0	0			0	0		0	0	0		
Base Saturation Flow Rate (s ₀), veh/h	1750	1750			1750	1900		1900	1750	1750		
Parking (N _m), man/h	0	L			None			0	L			
Heavy Vehicles (P _{HV}), %	3	3			3			2	2			
Ped / Bike / RTOR, /h	0	0			0	0	0	0	0	0	0	0
Buses (N _b), buses/h	0	0	0	0	0	0	0	0	0	0		
Arrival Type (AT)	3	3			3	3		3	3	3		
Upstream Filtering (I)	0.85	0.85			1.00	1.00		1.00	1.00	1.00		
Lane Width (W), ft	12.0	12.0			12.0			12.0	12.0			
Turn Bay Length, ft	650	650			675			1325	130			
Grade (P _g), %		0			0			0				0
Speed Limit, mi/h	50	50			50	50		35	35	35		

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s	36.0	63.0		27.0		37.0		
Yellow Change Interval (Y), s	5.2	5.2		5.2		4.1		
Red Clearance Interval (R _c), s	1.0	1.0		1.0		1.0		
Minimum Green (G _{min}), s	7	20		20		10		
Start-Up Lost Time (l _t), s	2.0	2.0		2.0	2.0	2.0		
Extension of Effective Green (e), s	2.0	2.0		2.0	2.0	2.0		
Passage (PT), s	2.0	2.0		2.0		2.0		
Recall Mode	Off	Min		Min		Off		
Dual Entry	No	Yes		Yes		Yes		
Walk (Walk), s		0.0				0.0		0.0
Pedestrian Clearance Time (PC), s		0.0				0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0				0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0				9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0		No	0.0	0	No		0	
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0			
Pedestrian Signal / Occupied Parking	No		0.50			0.50	No		0.50	No		

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Jul 2, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.89
Urban Street	SR 3/Weymouth Rd	Analysis Year	2030	Analysis Period	1 > 4:45
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2030 No B...		
Project Description	2030 No Build w Imp				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	550	430			520	140	90	0	120			

Signal Information													
Cycle, s	100.0	Reference Phase	2										
Offset, s	38	Reference Point	End										
Uncoordinated	No	Simult. Gap E/W	On	Green	21.6	49.5	11.4	0.0	0.0	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.2	5.2	4.1	0.0	0.0	0.0			
				Red	1.0	1.0	1.0	0.0	0.0	0.0			

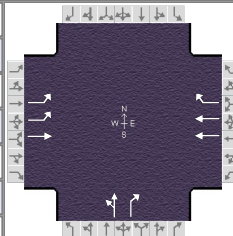
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	2.0	4.0		8.3		11.0		
Phase Duration, s	27.8	83.5		55.7		16.5		
Change Period, ($Y+R_c$), s	6.2	6.2		6.2		5.1		
Max Allow Headway (MAH), s	3.0	0.0		0.0		3.3		
Queue Clearance Time (g_s), s	20.3					11.0		
Green Extension Time (g_e), s	1.3	0.0		0.0		0.4		
Phase Call Probability	1.00					1.00		
Max Out Probability	0.00					0.00		

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16	3	8	18			
Adjusted Flow Rate (v), veh/h	592	463			384	357		101	135			
Adjusted Saturation Flow Rate (s), veh/h/ln	1580	1709			1709	1584		1477	1460			
Queue Service Time (g_s), s	18.3	16.5			22.7	14.7		6.5	9.0			
Cycle Queue Clearance Time (g_c), s	18.3	16.5			22.7	14.7		6.5	9.0			
Green Ratio (g/C)	0.22	0.77			0.49	0.49		0.11	0.11			
Capacity (c), veh/h	683	1320			845	783		169	167			
Volume-to-Capacity Ratio (X)	0.867	0.350			0.454	0.456		0.599	0.807			
Back of Queue (Q), ft/ln (95 th percentile)	287	272			239	222		109	153			
Back of Queue (Q), veh/ln (95 th percentile)	11.2	10.6			9.4	8.9		4.3	6.0			
Queue Storage Ratio (RQ) (95 th percentile)	0.44	0.42			0.35	0.34		0.08	1.18			
Uniform Delay (d_1), s/veh	40.5	9.9			16.5	16.5		42.1	43.2			
Incremental Delay (d_2), s/veh	1.1	0.6			1.8	1.9		1.3	3.5			
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0	0.0		0.0	0.0			
Control Delay (d), s/veh	41.7	10.5			18.2	18.4		43.4	46.7			
Level of Service (LOS)	D	B			B	B		D	D			
Approach Delay, s/veh / LOS	28.0	C		18.3	B		45.3	D		0.0		
Intersection Delay, s/veh / LOS	26.5						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.61	B	1.67	B	1.95	B	2.31	B
Bicycle LOS Score / LOS	2.30	B	1.10	A	0.88	A		

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Oct 27, 2025	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.90
Urban Street	SR 3/Weymouth Rd	Analysis Year	2030	Analysis Period	1 > 7:15
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2030 No B...		
Project Description	2030 No Build w Imp and WB RT lane				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	950	500			260	160	70	0	60			

Signal Information													
Cycle, s	120.0	Reference Phase	2										
Offset, s	34	Reference Point	End										
Uncoordinated	No	Simult. Gap E/W	On	Green	43.1	49.5	9.9	0.0	0.0	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.2	5.2	4.1	0.0	0.0	0.0			
				Red	1.0	1.0	1.0	0.0	0.0	0.0			

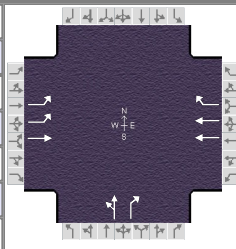
Traffic Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	950	500			260	160	70	0	60			
Initial Queue (Q _b), veh/h	0	0			0	0	0	0	0			
Base Saturation Flow Rate (s ₀), veh/h	1750	1750			1750	1900	1900	1750	1750			
Parking (N _m), man/h		None			None			None				
Heavy Vehicles (P _{HV}), %	3	3			3	0		6	6			
Ped / Bike / RTOR, /h	0	0		0	0	0	0	0	0	0	0	
Buses (N _b), buses/h	0	0	0	0	0	0	0	0	0			
Arrival Type (AT)	3	3			3	3	3	3	3			
Upstream Filtering (I)		1.00			0.09			1.00			1.00	
Lane Width (W), ft	12.0	12.0			12.0	12.0		12.0	12.0			
Turn Bay Length, ft	650	650			675	365		1325	130			
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50			50	50	35	35	35			

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s	50.0	90.0		40.0		30.0		
Yellow Change Interval (Y), s	5.2	5.2		5.2		4.1		
Red Clearance Interval (R _c), s	1.0	1.0		1.0		1.0		
Minimum Green (G _{min}), s	7	20		20		10		
Start-Up Lost Time (I _t), s	2.0	2.0		2.0	2.0	2.0		
Extension of Effective Green (e), s	2.0	2.0		2.0	2.0	2.0		
Passage (PT), s	2.0	2.0		2.0		2.0		
Recall Mode	Off	Min		Min		Off		
Dual Entry	No	Yes		Yes		Yes		
Walk (Walk), s		0.0				0.0		0.0
Pedestrian Clearance Time (PC), s		0.0				0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0				0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0				9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0		No	0.0	0	No		0	
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0			
Pedestrian Signal / Occupied Parking	No		0.50			0.50	No		0.50	No		

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Oct 27, 2025	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.90
Urban Street	SR 3/Weymouth Rd	Analysis Year	2030	Analysis Period	1 > 7:15
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2030 No B...		
Project Description	2030 No Build w Imp and WB RT lane				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	950	500			260	160	70	0	60			

Signal Information				Phase Diagram								
Cycle, s	120.0	Reference Phase	2									
Offset, s	34	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On									
Force Mode	Fixed	Simult. Gap N/S	On									
		Green	43.1	49.5	9.9	0.0	0.0	0.0				
		Yellow	5.2	5.2	4.1	0.0	0.0	0.0				
		Red	1.0	1.0	1.0	0.0	0.0	0.0				

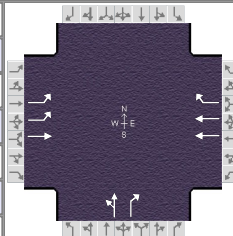
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	2.0	4.0		7.3		11.0		
Phase Duration, s	49.3	105.0		55.7		15.0		
Change Period, (Y+R _c), s	6.2	6.2		6.2		5.1		
Max Allow Headway (MAH), s	3.0	0.0		0.0		3.3		
Queue Clearance Time (g _s), s	40.5					7.7		
Green Extension Time (g _e), s	2.6	0.0		0.0		0.2		
Phase Call Probability	1.00					0.99		
Max Out Probability	0.00					0.00		

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16	3	8	18			
Adjusted Flow Rate (v), veh/h	1056	556		469	288		78	67				
Adjusted Saturation Flow Rate (s), veh/h/ln	1580	1709		1627	1610		1589	1414				
Queue Service Time (g _s), s	38.5	10.2		15.1	20.7		5.7	5.4				
Cycle Queue Clearance Time (g _c), s	38.5	10.2		15.1	20.7		5.7	5.4				
Green Ratio (g/C)	0.36	0.82		0.41	0.41		0.08	0.08				
Capacity (c), veh/h	1136	1407		1341	664		131	117				
Volume-to-Capacity Ratio (X)	0.929	0.395		0.349	0.435		0.592	0.570				
Back of Queue (Q), ft/ln (95 th percentile)	548	96		196	280		109	93				
Back of Queue (Q), veh/ln (95 th percentile)	21.4	3.8		7.6	11.2		4.1	3.6				
Queue Storage Ratio (RQ) (95 th percentile)	0.84	0.15		0.29	0.77		0.08	0.72				
Uniform Delay (d ₁), s/veh	37.0	2.8		34.9	42.6		53.1	53.0				
Incremental Delay (d ₂), s/veh	7.1	0.8		0.1	0.2		1.6	1.6				
Initial Queue Delay (d ₃), s/veh	0.0	0.0		0.0	0.0		0.0	0.0				
Control Delay (d), s/veh	44.0	3.6		35.0	42.8		54.7	54.6				
Level of Service (LOS)	D	A		C	D		D	D				
Approach Delay, s/veh / LOS	30.1	C		37.9	D		54.6	D		0.0		
Intersection Delay, s/veh / LOS	33.9						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.60	B	1.69	B	2.15	B	2.32	B
Bicycle LOS Score / LOS	3.15	C	0.87	A	0.73	A		

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Oct 27, 2025	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.89
Urban Street	SR 3/Weymouth Rd	Analysis Year	2030	Analysis Period	1 > 4:45
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2030 No B...		
Project Description	2030 No Build w Imp and WB RT lane				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	550	430			520	140	90	0	120			

Signal Information												
Cycle, s	100.0	Reference Phase	2									
Offset, s	38	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On									
Force Mode	Fixed	Simult. Gap N/S	On									
		Green	21.6	49.5	11.4	0.0	0.0	0.0				
		Yellow	5.2	5.2	4.1	0.0	0.0	0.0				
		Red	1.0	1.0	1.0	0.0	0.0	0.0				

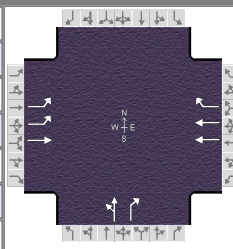
Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	550	430			520	140	90	0	120			
Initial Queue (Q _b), veh/h	0	0			0	0	0	0	0			
Base Saturation Flow Rate (s ₀), veh/h	1750	1750			1750	1900	1900	1750	1750			
Parking (N _m), man/h	0	L			None		0	L				
Heavy Vehicles (P _{HV}), %	3	3			3	0		2	2			
Ped / Bike / RTOR, /h	0	0		0	0	0	0	0	0	0	0	
Buses (N _b), buses/h	0	0	0	0	0	0	0	0	0			
Arrival Type (AT)	3	3			3	3	3	3	3			
Upstream Filtering (I)		0.85			1.00			1.00			1.00	
Lane Width (W), ft	12.0	12.0			12.0	12.0		12.0	12.0			
Turn Bay Length, ft	650	650			675	365		1325	130			
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50			50	50		35	35		35	

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s	36.0	63.0		27.0		37.0		
Yellow Change Interval (Y), s	5.2	5.2		5.2		4.1		
Red Clearance Interval (R _c), s	1.0	1.0		1.0		1.0		
Minimum Green (G _{min}), s	7	20		20		10		
Start-Up Lost Time (I _t), s	2.0	2.0		2.0	2.0	2.0		
Extension of Effective Green (e), s	2.0	2.0		2.0	2.0	2.0		
Passage (PT), s	2.0	2.0		2.0		2.0		
Recall Mode	Off	Min		Min		Off		
Dual Entry	No	Yes		Yes		Yes		
Walk (Walk), s		0.0				0.0		0.0
Pedestrian Clearance Time (PC), s		0.0				0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0				0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0				9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0		No	0.0	0	No		0	
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0			
Pedestrian Signal / Occupied Parking	No		0.50			0.50	No		0.50	No		

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Oct 27, 2025	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.89
Urban Street	SR 3/Weymouth Rd	Analysis Year	2030	Analysis Period	1> 4:45
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2030 No B...		
Project Description	2030 No Build w Imp and WB RT lane				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	550	430			520	140	90	0	120			

Signal Information				Phase Diagram									
Cycle, s	100.0	Reference Phase	2										
Offset, s	38	Reference Point	End										
Uncoordinated	No	Simult. Gap E/W	On										
Force Mode	Fixed	Simult. Gap N/S	On										
		Green	21.6	49.5	11.4	0.0	0.0	0.0					
		Yellow	5.2	5.2	4.1	0.0	0.0	0.0					
		Red	1.0	1.0	1.0	0.0	0.0	0.0					

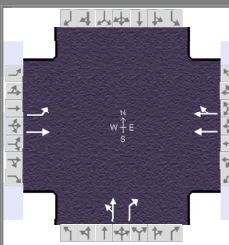
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	2.0	4.0		7.3		11.0		
Phase Duration, s	27.8	83.5		55.7		16.5		
Change Period, (Y+R _c), s	6.2	6.2		6.2		5.1		
Max Allow Headway (MAH), s	3.0	0.0		0.0		3.3		
Queue Clearance Time (g _s), s	20.3					11.0		
Green Extension Time (g _e), s	1.3	0.0		0.0		0.4		
Phase Call Probability	1.00					1.00		
Max Out Probability	0.00					0.00		

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16	3	8	18			
Adjusted Flow Rate (v), veh/h	592	463			584	157		101	135			
Adjusted Saturation Flow Rate (s), veh/h/ln	1580	1709			1627	1610		1477	1460			
Queue Service Time (g _s), s	18.3	16.5			11.1	5.5		6.5	9.0			
Cycle Queue Clearance Time (g _c), s	18.3	16.5			11.1	5.5		6.5	9.0			
Green Ratio (g/C)	0.22	0.77			0.49	0.49		0.11	0.11			
Capacity (c), veh/h	683	1320			1609	796		169	167			
Volume-to-Capacity Ratio (X)	0.867	0.350			0.363	0.198		0.599	0.807			
Back of Queue (Q), ft/ln (95 th percentile)	287	273			175	86		109	153			
Back of Queue (Q), veh/ln (95 th percentile)	11.2	10.7			6.8	3.4		4.3	6.0			
Queue Storage Ratio (RQ) (95 th percentile)	0.44	0.42			0.26	0.24		0.08	1.18			
Uniform Delay (d ₁), s/veh	40.6	9.9			15.6	14.2		42.1	43.2			
Incremental Delay (d ₂), s/veh	1.1	0.6			0.6	0.6		1.3	3.5			
Initial Queue Delay (d ₃), s/veh	0.0	0.0			0.0	0.0		0.0	0.0			
Control Delay (d), s/veh	41.7	10.5			16.2	14.7		43.4	46.7			
Level of Service (LOS)	D	B			B	B		D	D			
Approach Delay, s/veh / LOS	28.0		C	15.9		B	45.3		D	0.0		
Intersection Delay, s/veh / LOS	25.6						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.61	B	1.67	B	2.15	B	2.31	B
Bicycle LOS Score / LOS	2.30	B	1.10	A	0.88	A		

HCS Signalized Intersection Input Data

General Information				Intersection Information			
Agency	Smart Services Inc.			Duration, h	0.250		
Analyst	TJS	Analysis Date	Jul 16, 2024	Area Type	Other		
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.90		
Urban Street	SR 3/Weymouth Rd	Analysis Year	2030	Analysis Period	1 > 7:15		
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2030 Build...				
Project Description	2030 Build						



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	950	270			260	80	70	0	60			

Signal Information														
Cycle, s	120.0	Reference Phase	2											
Offset, s	15	Reference Point	End	Green	66.8	25.8	9.9	0.0	0.0	0.0				
Uncoordinated	No	Simult. Gap E/W	On	Yellow	5.2	5.2	4.1	0.0	0.0	0.0				
Force Mode	Fixed	Simult. Gap N/S	On	Red	1.0	1.0	1.0	0.0	0.0	0.0				

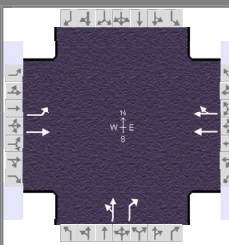
Traffic Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	950	270			260	80	70	0	60			
Initial Queue (Q _b), veh/h	0	0			0	0	0	0	0			
Base Saturation Flow Rate (s ₀), veh/h	1750	1750			1750	1900	1900	1750	1750			
Parking (N _m), man/h		None			None			None				
Heavy Vehicles (P _{HV}), %	3	3			3			6	6			
Ped / Bike / RTOR, /h	0	0		0	0	0	0	0	0	0	0	
Buses (N _b), buses/h	0	0	0	0	0	0	0	0	0			
Arrival Type (AT)	3	3			3	3	3	3	3			
Upstream Filtering (I)	1.00	1.00			0.09	0.09	1.00	1.00	1.00			
Lane Width (W), ft	12.0	12.0			12.0			12.0	12.0			
Turn Bay Length, ft	650	650			675			1325	130			
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50			50	50	35	35	35			

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s	72.0	104.0		32.0		16.0		
Yellow Change Interval (Y), s	5.2	5.2		5.2		4.1		
Red Clearance Interval (R _c), s	1.0	1.0		1.0		1.0		
Minimum Green (G _{min}), s	7	20		20		10		
Start-Up Lost Time (l _t), s	2.0	2.0		2.0	2.0	2.0		
Extension of Effective Green (e), s	2.0	2.0		2.0	2.0	2.0		
Passage (PT), s	2.0	2.0		2.0		2.0		
Recall Mode	Off	Min		Min		Off		
Dual Entry	No	Yes		Yes		Yes		
Walk (Walk), s		0.0				0.0		0.0
Pedestrian Clearance Time (PC), s		0.0				0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0				0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0				9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0		No	0.0	0	No		0	
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0			
Pedestrian Signal / Occupied Parking	No		0.50			0.50	No		0.50	No		

HCS Signalized Intersection Results Summary

General Information				Intersection Information			
Agency	Smart Services Inc.			Duration, h	0.250		
Analyst	TJS	Analysis Date	Jul 16, 2024	Area Type	Other		
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.90		
Urban Street	SR 3/Weymouth Rd	Analysis Year	2030	Analysis Period	1 > 7:15		
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2030 Build...				
Project Description	2030 Build						



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	950	270			260	80	70	0	60			

Signal Information				Signal Phases									
Cycle, s	120.0	Reference Phase	2	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Offset, s	15	Reference Point	End	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Uncoordinated	No	Simult. Gap E/W	On	Green	66.8	25.8	9.9	0.0	0.0	0.0	↔	↔	↔
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.2	5.2	4.1	0.0	0.0	0.0	↔	↔	↔
				Red	1.0	1.0	1.0	0.0	0.0	0.0	↔	↔	↔

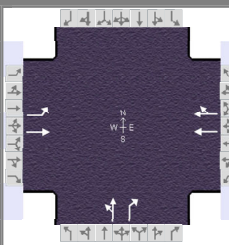
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	1.0	4.0		8.3		11.0		
Phase Duration, s	73.0	105.0		32.0		15.0		
Change Period, ($Y+R_c$), s	6.2	6.2		6.2		5.1		
Max Allow Headway (MAH), s	3.0	0.0		0.0		3.3		
Queue Clearance Time (g_s), s	68.8					7.7		
Green Extension Time (g_e), s	0.0	0.0		0.0		0.1		
Phase Call Probability	1.00					0.99		
Max Out Probability	1.00					1.00		

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16	3	8	18			
Adjusted Flow Rate (v), veh/h	1056	300			401	370		78	67			
Adjusted Saturation Flow Rate (s), veh/h/ln	1628	1709			1709	1570		1589	1414			
Queue Service Time (g_s), s	66.8	4.5			12.1	25.8		5.7	5.4			
Cycle Queue Clearance Time (g_c), s	66.8	4.5			12.1	25.8		5.7	5.4			
Green Ratio (g/C)	0.79	0.82			0.22	0.22		0.08	0.08			
Capacity (c), veh/h	966	1407			367	338		131	117			
Volume-to-Capacity Ratio (X)	1.093	0.213			1.092	1.096		0.592	0.571			
Back of Queue (Q), ft/ln (95 th percentile)	1346	42			410	305		111	94			
Back of Queue (Q), veh/ln (95 th percentile)	52.6	1.6			16.0	12.2		4.2	3.6			
Queue Storage Ratio (RQ) (95 th percentile)	2.07	0.06			0.61	0.46		0.08	0.72			
Uniform Delay (d_1), s/veh	23.0	2.3			38.3	29.3		53.1	53.0			
Incremental Delay (d_2), s/veh	57.7	0.3			46.3	48.2		3.0	2.3			
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0	0.0		0.0	0.0			
Control Delay (d), s/veh	80.7	2.6			84.6	77.5		56.1	55.3			
Level of Service (LOS)	F	A			F	F		E	E			
Approach Delay, s/veh / LOS	63.4	E			81.2	F		55.7	E		0.0	
Intersection Delay, s/veh / LOS	68.9						E					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.60	B	1.43	A	1.96	B	2.15	B
Bicycle LOS Score / LOS	2.72	C	0.80	A	0.73	A		

HCS Signalized Intersection Input Data

General Information				Intersection Information			
Agency	Smart Services Inc.			Duration, h	0.250		
Analyst	TJS	Analysis Date	Jul 16, 2024	Area Type	Other		
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.89		
Urban Street	SR 3/Weymouth Rd	Analysis Year	2030	Analysis Period	1 > 4:45		
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2030 Build...				
Project Description	2030 Build						



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	550	330			520	50	90	0	120			

Signal Information				Phase Diagram										
Cycle, s	100.0	Reference Phase	2	↔	↔	↔	↔	↔	↔	↔	↔	↔		
Offset, s	54	Reference Point	End	Green	20.3	50.8	11.4	0.0	0.0	0.0	1	2	3	4
Uncoordinated	No	Simult. Gap E/W	On	Yellow	5.2	5.2	4.1	0.0	0.0	0.0	5	6	7	8
Force Mode	Fixed	Simult. Gap N/S	On	Red	1.0	1.0	1.0	0.0	0.0	0.0	↗	↖	↗	↖

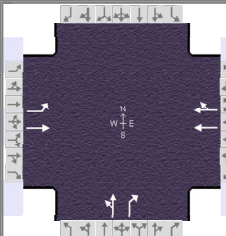
Traffic Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	550	330			520	50	90	0	120			
Initial Queue (Q _b), veh/h	0	0			0	0	0	0	0			
Base Saturation Flow Rate (s ₀), veh/h	1750	1750			1750	1900	1900	1750	1750			
Parking (N _m), man/h		None			None			None				
Heavy Vehicles (P _{HV}), %	3	3			3			2	2			
Ped / Bike / RTOR, /h	0	0		0	0	0	0	0	0	0	0	
Buses (N _b), buses/h	0	0	0	0	0	0	0	0	0			
Arrival Type (AT)	3	3			3	3	3	3	3			
Upstream Filtering (I)	0.85	0.85			1.00	1.00	1.00	1.00	1.00			
Lane Width (W), ft	12.0	12.0			12.0			12.0	12.0			
Turn Bay Length, ft	650	650			675			1325	130			
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50			50	50	35	35	35			

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s	36.0	63.0		27.0		37.0		
Yellow Change Interval (Y), s	5.2	5.2		5.2		4.1		
Red Clearance Interval (R _c), s	1.0	1.0		1.0		1.0		
Minimum Green (G _{min}), s	7	20		20		10		
Start-Up Lost Time (l _t), s	2.0	2.0		2.0	2.0	2.0		
Extension of Effective Green (e), s	2.0	2.0		2.0	2.0	2.0		
Passage (PT), s	2.0	2.0		2.0		2.0		
Recall Mode	Off	Min		Min		Off		
Dual Entry	No	Yes		Yes		Yes		
Walk (Walk), s		0.0				0.0		0.0
Pedestrian Clearance Time (PC), s		0.0				0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0				0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0				9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0		No	0.0	0	No		0	
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0			
Pedestrian Signal / Occupied Parking	No		0.50			0.50	No		0.50	No		

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Jul 16, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.89
Urban Street	SR 3/Weymouth Rd	Analysis Year	2030	Analysis Period	1 > 4:45
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2030 Build...		
Project Description	2030 Build				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	550	330			520	50	90	0	120			

Signal Information				Phase Diagram									
Cycle, s	100.0	Reference Phase	2	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Offset, s	54	Reference Point	End	Green	20.3	50.8	11.4	0.0	0.0	0.0	0.0	0.0	0.0
Uncoordinated	No	Simult. Gap E/W	On	Yellow	5.2	5.2	4.1	0.0	0.0	0.0	0.0	0.0	0.0
Force Mode	Fixed	Simult. Gap N/S	On	Red	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0

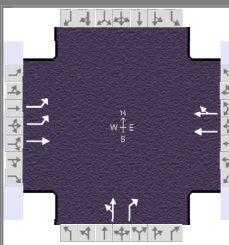
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	1.0	4.0		8.3		11.0		
Phase Duration, s	26.5	83.5		57.0		16.5		
Change Period, ($Y+R_c$), s	6.2	6.2		6.2		5.1		
Max Allow Headway (MAH), s	3.0	0.0		0.0		3.3		
Queue Clearance Time (g_s), s	19.1					11.0		
Green Extension Time (g_e), s	1.2	0.0		0.0		0.4		
Phase Call Probability	1.00					1.00		
Max Out Probability	0.00					0.00		

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16	3	8	18			
Adjusted Flow Rate (v), veh/h	605	363			325	316		101	135			
Adjusted Saturation Flow Rate (s), veh/h/ln	1628	1709			1709	1656		1641	1460			
Queue Service Time (g_s), s	17.1	11.3			18.6	11.6		5.8	9.0			
Cycle Queue Clearance Time (g_c), s	17.1	11.3			18.6	11.6		5.8	9.0			
Green Ratio (g/C)	0.73	0.77			0.51	0.51		0.11	0.11			
Capacity (c), veh/h	654	1320			867	840		188	167			
Volume-to-Capacity Ratio (X)	0.926	0.275			0.374	0.376		0.539	0.807			
Back of Queue (Q), ft/ln (95 th percentile)	212	153			196	188		108	153			
Back of Queue (Q), veh/ln (95 th percentile)	8.3	6.0			7.6	7.5		4.3	6.0			
Queue Storage Ratio (RQ) (95 th percentile)	0.33	0.23			0.29	0.28		0.08	1.18			
Uniform Delay (d_1), s/veh	12.2	7.6			15.0	15.0		41.8	43.2			
Incremental Delay (d_2), s/veh	3.6	0.4			1.2	1.3		0.9	3.5			
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0	0.0		0.0	0.0			
Control Delay (d), s/veh	15.8	8.1			16.2	16.3		42.7	46.7			
Level of Service (LOS)	B	A			B	B		D	D			
Approach Delay, s/veh / LOS	12.9	B		16.2	B		45.0	D		0.0		
Intersection Delay, s/veh / LOS	18.2						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.61	B	1.38	A	1.95	B	2.15	B
Bicycle LOS Score / LOS	2.12	B	1.02	A	0.88	A		

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Aug 5, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.90
Urban Street	SR 3/Weymouth Rd	Analysis Year	2030	Analysis Period	1 > 7:15
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2030 Build...		
Project Description	2030 Build w Imp				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	950	270			260	80	70	0	60			

Signal Information				Phase Diagram									
Cycle, s	120.0	Reference Phase	2	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Offset, s	34	Reference Point	End	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Uncoordinated	No	Simult. Gap E/W	On	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Force Mode	Fixed	Simult. Gap N/S	On	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
				Green	43.1	49.5	9.9	0.0	0.0	0.0			
				Yellow	5.2	5.2	4.1	0.0	0.0	0.0			
				Red	1.0	1.0	1.0	0.0	0.0	0.0			

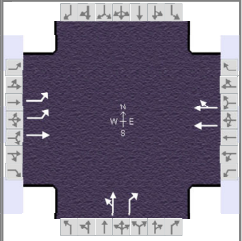
Traffic Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	950	270			260	80	70	0	60			
Initial Queue (Q _b), veh/h	0	0			0	0	0	0	0			
Base Saturation Flow Rate (s ₀), veh/h	1750	1750			1750	1900	1900	1750	1750			
Parking (N _m), man/h		None			None			None				
Heavy Vehicles (P _{HV}), %	3	3			3			6	6			
Ped / Bike / RTOR, /h	0	0		0	0	0	0	0	0	0	0	
Buses (N _b), buses/h	0	0	0	0	0	0	0	0	0			
Arrival Type (AT)	3	3			3	3	3	3	3			
Upstream Filtering (I)	1.00	1.00			0.12	0.12	1.00	1.00	1.00			
Lane Width (W), ft	12.0	12.0			12.0			12.0	12.0			
Turn Bay Length, ft	650	650			675			1325	130			
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50			50	50	35	35	35			

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s	50.0	90.0		40.0		30.0		
Yellow Change Interval (Y), s	5.2	5.2		5.2		4.1		
Red Clearance Interval (R _c), s	1.0	1.0		1.0		1.0		
Minimum Green (G _{min}), s	7	20		20		10		
Start-Up Lost Time (l _t), s	2.0	2.0		2.0	2.0	2.0		
Extension of Effective Green (e), s	2.0	2.0		2.0	2.0	2.0		
Passage (PT), s	2.0	2.0		2.0		2.0		
Recall Mode	Off	Min		Min		Off		
Dual Entry	No	Yes		Yes		Yes		
Walk (Walk), s		0.0				0.0		0.0
Pedestrian Clearance Time (PC), s		0.0				0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0				0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0				9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0		No	0.0	0	No		0	
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0			
Pedestrian Signal / Occupied Parking	No		0.50			0.50	No		0.50	No		

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Aug 5, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.90
Urban Street	SR 3/Weymouth Rd	Analysis Year	2030	Analysis Period	1 > 7:15
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2030 Build...		
Project Description	2030 Build w Imp				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	950	270			260	80	70	0	60			

Signal Information				Signal Phases										
Cycle, s	120.0	Reference Phase	2	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	
Offset, s	34	Reference Point	End	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	
Uncoordinated	No	Simult. Gap E/W	On	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	
Force Mode	Fixed	Simult. Gap N/S	On	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	
				Green	43.1	49.5	9.9	0.0	0.0	0.0	1	2	3	4
				Yellow	5.2	5.2	4.1	0.0	0.0	0.0	5	6	7	8
				Red	1.0	1.0	1.0	0.0	0.0	0.0				

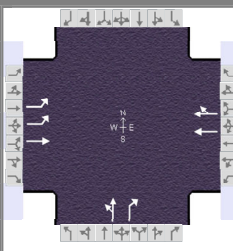
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	2.0	4.0		8.3		11.0		
Phase Duration, s	49.3	105.0		55.7		15.0		
Change Period, ($Y+R_c$), s	6.2	6.2		6.2		5.1		
Max Allow Headway (MAH), s	3.0	0.0		0.0		3.3		
Queue Clearance Time (g_s), s	40.5					7.7		
Green Extension Time (g_e), s	2.6	0.0		0.0		0.2		
Phase Call Probability	1.00					0.99		
Max Out Probability	0.00					0.00		

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Assigned Movement	5	2			6	16	3	8	18			
Adjusted Flow Rate (v), veh/h	1056	300			405	373		78	67			
Adjusted Saturation Flow Rate (s), veh/h/ln	1580	1709			1709	1570		1589	1414			
Queue Service Time (g_s), s	38.5	4.5			11.0	19.9		5.7	5.4			
Cycle Queue Clearance Time (g_c), s	38.5	4.5			11.0	19.9		5.7	5.4			
Green Ratio (g/C)	0.36	0.82			0.41	0.41		0.08	0.08			
Capacity (c), veh/h	1136	1407			704	647		131	117			
Volume-to-Capacity Ratio (X)	0.929	0.213			0.575	0.577		0.592	0.570			
Back of Queue (Q), ft/ln (95 th percentile)	548	42			230	195		109	93			
Back of Queue (Q), veh/ln (95 th percentile)	21.4	1.6			9.0	7.8		4.1	3.6			
Queue Storage Ratio (RQ) (95 th percentile)	0.84	0.06			0.34	0.30		0.08	0.72			
Uniform Delay (d_1), s/veh	37.0	2.3			23.9	22.4		53.1	53.0			
Incremental Delay (d_2), s/veh	7.1	0.3			0.4	0.5		1.6	1.6			
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0	0.0		0.0	0.0			
Control Delay (d), s/veh	44.0	2.6			24.3	22.9		54.7	54.6			
Level of Service (LOS)	D	A			C	C		D	D			
Approach Delay, s/veh / LOS	34.9	C		23.6	C		54.6	D	0.0			
Intersection Delay, s/veh / LOS	32.3						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.60	B	1.69	B	1.96	B	2.32	B
Bicycle LOS Score / LOS	2.72	C	0.80	A	0.73	A		

HCS Signalized Intersection Input Data

General Information				Intersection Information			
Agency	Smart Services Inc.			Duration, h	0.250		
Analyst	TJS	Analysis Date	Aug 5, 2024		Area Type	Other	
Jurisdiction	ODOT	Time Period	PM Peak		PHF	0.89	
Urban Street	SR 3/Weymouth Rd		Analysis Year	2030		Analysis Period	1 > 4:45
Intersection	(40) SR 3 & I-71 NB Ra...		File Name	Signalized Capacity Group 2 (20-70) - 2030 Build...			
Project Description	2030 Build w Imp						



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	550	330			520	50	90	0	120			

Signal Information				Phase Diagram								
Cycle, s	100.0	Reference Phase	2									
Offset, s	38	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On									
Force Mode	Fixed	Simult. Gap N/S	On									
		Green	10.8	60.2	11.4	0.0	0.0	0.0				
		Yellow	5.2	5.2	4.1	0.0	0.0	0.0				
		Red	1.0	1.0	1.0	0.0	0.0	0.0				

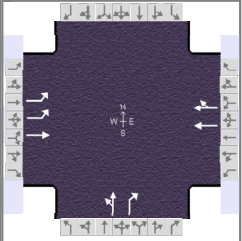
Traffic Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	550	330			520	50	90	0	120			
Initial Queue (Q _b), veh/h	0	0			0	0	0	0	0			
Base Saturation Flow Rate (s _o), veh/h	1750	1750			1750	1750	1750	1750	1750			
Parking (N _m), man/h		None			None			None				
Heavy Vehicles (P _{HV}), %	3	3			3			2	2			
Ped / Bike / RTOR, /h	0	0		0	0	0	0	0	0	0	0	
Buses (N _b), buses/h	0	0	0	0	0	0	0	0	0			
Arrival Type (AT)	3	3			3	3	3	3	3			
Upstream Filtering (I)	0.84	0.84			1.00	1.00	1.00	1.00	1.00			
Lane Width (W), ft	12.0	12.0			12.0			12.0	12.0			
Turn Bay Length, ft	650	650			675			1325	130			
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50			50	50	35	35	35			

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s	36.0	63.0		27.0		37.0		
Yellow Change Interval (Y), s	5.2	5.2		5.2		4.1		
Red Clearance Interval (R _c), s	1.0	1.0		1.0		1.0		
Minimum Green (G _{min}), s	7	20		20		10		
Start-Up Lost Time (l _t), s	2.0	2.0		2.0	2.0	2.0		
Extension of Effective Green (e), s	2.0	2.0		2.0	2.0	2.0		
Passage (PT), s	2.0	2.0		2.0		2.0		
Recall Mode	Off	Min		Min		Off		
Dual Entry	No	Yes		Yes		Yes		
Walk (Walk), s		0.0				0.0		0.0
Pedestrian Clearance Time (PC), s		0.0				0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0				0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0				9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0		No	0.0	0	No		0	
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0			
Pedestrian Signal / Occupied Parking	No		0.50			0.50	No		0.50	No		

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Aug 5, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.89
Urban Street	SR 3/Weymouth Rd	Analysis Year	2030	Analysis Period	1 > 4:45
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2030 Build...		
Project Description	2030 Build w Imp				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	550	330			520	50		90	0	120		

Signal Information				Phase Diagram										
Cycle, s	100.0	Reference Phase	2	↔	↔↔	↔↔	↔↔	↔↔	↔↔	↔↔	↔↔	↔↔	↔↔	
Offset, s	38	Reference Point	End	Green	10.8	60.2	11.4	0.0	0.0	0.0	1	2	3	4
Uncoordinated	No	Simult. Gap E/W	On	Yellow	5.2	5.2	4.1	0.0	0.0	0.0	↗	↖		
Force Mode	Fixed	Simult. Gap N/S	On	Red	1.0	1.0	1.0	0.0	0.0	0.0	↘	↙	↕	↕

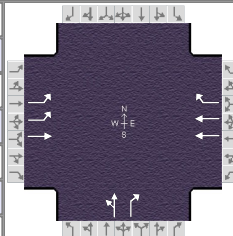
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	1.0	4.0		8.3		11.0		
Phase Duration, s	17.0	83.5		66.4		16.5		
Change Period, (Y+R _c), s	6.2	6.2		6.2		5.1		
Max Allow Headway (MAH), s	3.0	0.0		0.0		3.3		
Queue Clearance Time (g _s), s	9.3					11.0		
Green Extension Time (g _e), s	1.6	0.0		0.0		0.4		
Phase Call Probability	1.00					1.00		
Max Out Probability	0.00					0.00		

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16	3	8	18			
Adjusted Flow Rate (v), veh/h	677	406			325	316		101	135			
Adjusted Saturation Flow Rate (s), veh/h/ln	1580	1709			1709	1656		1641	1460			
Queue Service Time (g _s), s	7.3	13.8			18.6	9.4		5.8	9.0			
Cycle Queue Clearance Time (g _c), s	7.3	13.8			18.6	9.4		5.8	9.0			
Green Ratio (g/C)	0.73	0.77			0.60	0.60		0.11	0.11			
Capacity (c), veh/h	1138	1320			1029	997		188	167			
Volume-to-Capacity Ratio (X)	0.595	0.308			0.315	0.317		0.539	0.807			
Back of Queue (Q), ft/ln (95 th percentile)	75	204			144	138		108	153			
Back of Queue (Q), veh/ln (95 th percentile)	2.9	8.0			5.6	5.5		4.3	6.0			
Queue Storage Ratio (RQ) (95 th percentile)	0.11	0.31			0.21	0.21		0.08	1.18			
Uniform Delay (d ₁), s/veh	8.5	8.9			9.8	9.8		41.8	43.2			
Incremental Delay (d ₂), s/veh	0.2	0.5			0.8	0.8		0.9	3.5			
Initial Queue Delay (d ₃), s/veh	0.0	0.0			0.0	0.0		0.0	0.0			
Control Delay (d), s/veh	8.6	9.4			10.6	10.6		42.7	46.7			
Level of Service (LOS)	A	A			B	B		D	D			
Approach Delay, s/veh / LOS	8.9	A		10.6	B		45.0	D		0.0		
Intersection Delay, s/veh / LOS	13.8						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.61	B	1.66	B	1.95	B	2.31	B
Bicycle LOS Score / LOS	2.12	B	1.02	A	0.88	A		

HCS Signalized Intersection Input Data

General Information				Intersection Information			
Agency	Smart Services Inc.			Duration, h	0.250		
Analyst	TJS	Analysis Date	Oct 27, 2025	Area Type	Other		
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.90		
Urban Street	SR 3/Weymouth Rd	Analysis Year	2030	Analysis Period	1 > 7:15		
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2030 Build...				
Project Description	2030 Build w Imp and WB RT lane						



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	950	270			260	80	70	0	60			

Signal Information														
Cycle, s	120.0	Reference Phase	2											
Offset, s	34	Reference Point	End											
Uncoordinated	No	Simult. Gap E/W	On											
Force Mode	Fixed	Simult. Gap N/S	On											
				Green	43.1	49.5	9.9	0.0	0.0	0.0	1	2	3	4
				Yellow	5.2	5.2	4.1	0.0	0.0	0.0	5	6	7	8
				Red	1.0	1.0	1.0	0.0	0.0	0.0				

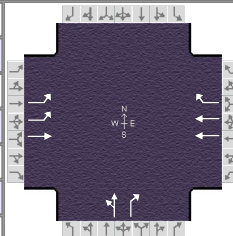
Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	950	270			260	80	70	0	60			
Initial Queue (Q _b), veh/h	0	0			0	0	0	0	0			
Base Saturation Flow Rate (s ₀), veh/h	1750	1750			1750	1900	1900	1750	1750			
Parking (N _m), man/h	None			None			None					
Heavy Vehicles (P _{HV}), %	3	3			3	0		6	6			
Ped / Bike / RTOR, /h	0	0		0	0	0	0	0	0	0	0	
Buses (N _b), buses/h	0	0	0	0	0	0	0	0	0			
Arrival Type (AT)	3	3			3	3	3	3	3			
Upstream Filtering (I)		1.00			0.12			1.00			1.00	
Lane Width (W), ft	12.0	12.0			12.0	12.0		12.0	12.0			
Turn Bay Length, ft	650	650			675	365		1325	130			
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50			50	50		35	35		35	

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s	50.0	90.0		40.0		30.0		
Yellow Change Interval (Y), s	5.2	5.2		5.2		4.1		
Red Clearance Interval (R _c), s	1.0	1.0		1.0		1.0		
Minimum Green (G _{min}), s	7	20		20		10		
Start-Up Lost Time (I _t), s	2.0	2.0		2.0	2.0	2.0		
Extension of Effective Green (e), s	2.0	2.0		2.0	2.0	2.0		
Passage (PT), s	2.0	2.0		2.0		2.0		
Recall Mode	Off	Min		Min		Off		
Dual Entry	No	Yes		Yes		Yes		
Walk (Walk), s		0.0				0.0		0.0
Pedestrian Clearance Time (PC), s		0.0				0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0				0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0				9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0		No	0.0	0	No		0	
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0			
Pedestrian Signal / Occupied Parking	No		0.50			0.50	No		0.50	No		

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Oct 27, 2025	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.90
Urban Street	SR 3/Weymouth Rd	Analysis Year	2030	Analysis Period	1 > 7:15
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2030 Build...		
Project Description	2030 Build w Imp and WB RT lane				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	950	270			260	80	70	0	60			

Signal Information				Phase Diagram									
Cycle, s	120.0	Reference Phase	2	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Offset, s	34	Reference Point	End	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Uncoordinated	No	Simult. Gap E/W	On	Green	43.1	49.5	9.9	0.0	0.0	0.0	0.0	0.0	0.0
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.2	5.2	4.1	0.0	0.0	0.0	0.0	0.0	0.0
				Red	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0

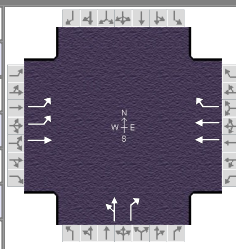
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	2.0	4.0		7.3		11.0		
Phase Duration, s	49.3	105.0		55.7		15.0		
Change Period, (Y+R _c), s	6.2	6.2		6.2		5.1		
Max Allow Headway (MAH), s	3.0	0.0		0.0		3.3		
Queue Clearance Time (g _s), s	40.5					7.7		
Green Extension Time (g _e), s	2.6	0.0		0.0		0.2		
Phase Call Probability	1.00					0.99		
Max Out Probability	0.00					0.00		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16	3	8	18			
Adjusted Flow Rate (v), veh/h	1056	300			595	183		78	67			
Adjusted Saturation Flow Rate (s), veh/h/ln	1580	1709			1627	1610		1589	1414			
Queue Service Time (g _s), s	38.5	4.5			14.4	7.2		5.7	5.4			
Cycle Queue Clearance Time (g _c), s	38.5	4.5			14.4	7.2		5.7	5.4			
Green Ratio (g/C)	0.36	0.82			0.41	0.41		0.08	0.08			
Capacity (c), veh/h	1136	1407			1341	664		131	117			
Volume-to-Capacity Ratio (X)	0.929	0.213			0.444	0.276		0.592	0.570			
Back of Queue (Q), ft/ln (95 th percentile)	548	42			159	83		109	93			
Back of Queue (Q), veh/ln (95 th percentile)	21.4	1.6			6.2	3.3		4.1	3.6			
Queue Storage Ratio (RQ) (95 th percentile)	0.84	0.06			0.24	0.23		0.08	0.72			
Uniform Delay (d ₁), s/veh	37.0	2.3			21.8	17.4		53.1	53.0			
Incremental Delay (d ₂), s/veh	7.1	0.3			0.1	0.1		1.6	1.6			
Initial Queue Delay (d ₃), s/veh	0.0	0.0			0.0	0.0		0.0	0.0			
Control Delay (d), s/veh	44.0	2.6			22.0	17.5		54.7	54.6			
Level of Service (LOS)	D	A			C	B		D	D			
Approach Delay, s/veh / LOS	34.9	C		20.9	C		54.6	D		0.0		
Intersection Delay, s/veh / LOS	31.4						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.60	B	1.69	B	2.15	B	2.32	B
Bicycle LOS Score / LOS	2.72	C	0.80	A	0.73	A		

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Oct 27, 2025	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.89
Urban Street	SR 3/Weymouth Rd	Analysis Year	2030	Analysis Period	1 > 4:45
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2030 Build...		
Project Description	2030 Build w Imp and WB RT lane				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	550	330			520	50	90	0	120			

Signal Information														
Cycle, s	100.0	Reference Phase	2											
Offset, s	38	Reference Point	End											
Uncoordinated	No	Simult. Gap E/W	On											
Force Mode	Fixed	Simult. Gap N/S	On											
				Green	10.8	60.2	11.4	0.0	0.0	0.0				
				Yellow	5.2	5.2	4.1	0.0	0.0	0.0				
				Red	1.0	1.0	1.0	0.0	0.0	0.0				

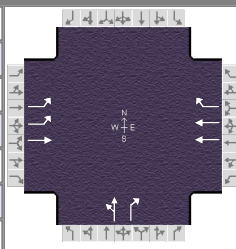
Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	550	330			520	50	90	0	120			
Initial Queue (Q _b), veh/h	0	0			0	0	0	0	0			
Base Saturation Flow Rate (s ₀), veh/h	1750	1750			1750	1750	1750	1750	1750			
Parking (N _m), man/h	None			None			None					
Heavy Vehicles (P _{HV}), %	3	3			3	0		2	2			
Ped / Bike / RTOR, /h	0	0		0	0	0	0	0	0	0	0	
Buses (N _b), buses/h	0	0	0	0	0	0	0	0	0			
Arrival Type (AT)	3	3			3	3	3	3	3			
Upstream Filtering (I)		0.84			1.00			1.00			1.00	
Lane Width (W), ft	12.0	12.0			12.0	12.0		12.0	12.0			
Turn Bay Length, ft	650	650			675	365		1325	130			
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50			50	50		35	35		35	

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s	36.0	63.0		27.0		37.0		
Yellow Change Interval (Y), s	5.2	5.2		5.2		4.1		
Red Clearance Interval (R _c), s	1.0	1.0		1.0		1.0		
Minimum Green (G _{min}), s	7	20		20		10		
Start-Up Lost Time (I _t), s	2.0	2.0		2.0	2.0	2.0		
Extension of Effective Green (e), s	2.0	2.0		2.0	2.0	2.0		
Passage (P _T), s	2.0	2.0		2.0		2.0		
Recall Mode	Off	Min		Min		Off		
Dual Entry	No	Yes		Yes		Yes		
Walk (Walk), s		0.0				0.0		0.0
Pedestrian Clearance Time (P _C), s		0.0				0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0				0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0				9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0		No	0.0	0	No		0	
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0			
Pedestrian Signal / Occupied Parking	No		0.50			0.50	No		0.50	No		

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Oct 27, 2025	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.89
Urban Street	SR 3/Weymouth Rd	Analysis Year	2030	Analysis Period	1 > 4:45
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2030 Build...		
Project Description	2030 Build w Imp and WB RT lane				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	550	330			520	50	90	0	120			

Signal Information				Phase Diagram														
Cycle, s	100.0	Reference Phase	2															
Offset, s	38	Reference Point	End															
Uncoordinated	No	Simult. Gap E/W	On															
Force Mode	Fixed	Simult. Gap N/S	On															
		Green	10.8	60.2	11.4	0.0	0.0	0.0										
		Yellow	5.2	5.2	4.1	0.0	0.0	0.0										
		Red	1.0	1.0	1.0	0.0	0.0	0.0										

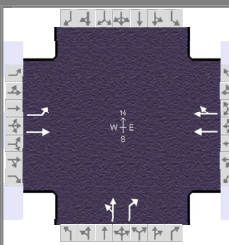
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	1.0	4.0		7.3		11.0		
Phase Duration, s	17.0	83.5		66.4		16.5		
Change Period, ($Y+R_c$), s	6.2	6.2		6.2		5.1		
Max Allow Headway (MAH), s	3.0	0.0		0.0		3.3		
Queue Clearance Time (g_s), s	9.2					11.0		
Green Extension Time (g_e), s	1.6	0.0		0.0		0.4		
Phase Call Probability	1.00					1.00		
Max Out Probability	0.00					0.00		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16	3	8	18			
Adjusted Flow Rate (v), veh/h	677	406			584	56		101	135			
Adjusted Saturation Flow Rate (s), veh/h/ln	1580	1709			1627	1483		1641	1460			
Queue Service Time (g_s), s	7.2	13.8			8.7	1.6		5.8	9.0			
Cycle Queue Clearance Time (g_c), s	7.2	13.8			8.7	1.6		5.8	9.0			
Green Ratio (g/C)	0.73	0.77			0.60	0.60		0.11	0.11			
Capacity (c), veh/h	1335	1320			1960	893		188	167			
Volume-to-Capacity Ratio (X)	0.507	0.308			0.298	0.063		0.539	0.807			
Back of Queue (Q), ft/ln (95 th percentile)	74	204			124	21		108	153			
Back of Queue (Q), veh/ln (95 th percentile)	2.9	8.0			4.9	0.8		4.3	6.0			
Queue Storage Ratio (RQ) (95 th percentile)	0.11	0.31			0.18	0.06		0.08	1.18			
Uniform Delay (d_1), s/veh	5.6	8.9			9.6	8.2		41.8	43.2			
Incremental Delay (d_2), s/veh	0.1	0.5			0.4	0.1		0.9	3.5			
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0	0.0		0.0	0.0			
Control Delay (d), s/veh	5.7	9.4			10.0	8.4		42.7	46.7			
Level of Service (LOS)	A	A			B	A		D	D			
Approach Delay, s/veh / LOS	7.1	A		9.9	A		45.0	D		0.0		
Intersection Delay, s/veh / LOS	12.6						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.61	B	1.66	B	2.15	B	2.31	B
Bicycle LOS Score / LOS	2.12	B	1.02	A	0.88	A		

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Feb 7, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.90
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 7:15
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2050 No B...		
Project Description	2050 No Build				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	990	520			280	170	80	0	70			

Signal Information				Phase Diagram										
Cycle, s	120.0	Reference Phase	2	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	
Offset, s	15	Reference Point	End	Green	66.7	25.8	10.0	0.0	0.0	0.0	1	2	3	4
Uncoordinated	No	Simult. Gap E/W	On	Yellow	5.2	5.2	4.1	0.0	0.0	0.0	5	6	7	8
Force Mode	Fixed	Simult. Gap N/S	On	Red	1.0	1.0	1.0	0.0	0.0	0.0				

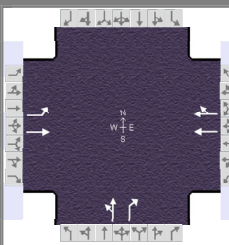
Traffic Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	990	520			280	170	80	0	70			
Initial Queue (Q _b), veh/h	0	0			0	0	0	0	0			
Base Saturation Flow Rate (s ₀), veh/h	1750	1750			1750	1900	1900	1750	1750			
Parking (N _m), man/h		None			None			None				
Heavy Vehicles (P _{HV}), %	3	3			3			6	6			
Ped / Bike / RTOR, /h	0	0		0	0	0	0	0	0	0	0	
Buses (N _b), buses/h	0	0	0	0	0	0	0	0	0			
Arrival Type (AT)	3	3			3	3	3	3	3			
Upstream Filtering (I)	1.00	1.00			0.09	0.09	1.00	1.00	1.00			
Lane Width (W), ft	12.0	12.0			12.0			12.0	12.0			
Turn Bay Length, ft	650	650			675			1325	130			
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50			50	50	35	35	35			

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s	72.0	104.0		32.0		16.0		
Yellow Change Interval (Y), s	5.2	5.2		5.2		4.1		
Red Clearance Interval (R _c), s	1.0	1.0		1.0		1.0		
Minimum Green (G _{min}), s	7	20		20		10		
Start-Up Lost Time (l _t), s	2.0	2.0		2.0	2.0	2.0		
Extension of Effective Green (e), s	2.0	2.0		2.0	2.0	2.0		
Passage (P _T), s	2.0	2.0		2.0		2.0		
Recall Mode	Off	Min		Min		Off		
Dual Entry	No	Yes		Yes		Yes		
Walk (Walk), s		0.0				0.0		0.0
Pedestrian Clearance Time (P _C), s		0.0				0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0				0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0				9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0		No	0.0	0	No		0	
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0			
Pedestrian Signal / Occupied Parking	No		0.50			0.50	No		0.50	No		

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Feb 7, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.90
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 7:15
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2050 No B...		
Project Description	2050 No Build				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	990	520			280	170	80	0	70			

Signal Information													
Cycle, s	120.0	Reference Phase	2										
Offset, s	15	Reference Point	End										
Uncoordinated	No	Simult. Gap E/W	On	Green	66.7	25.8	10.0	0.0	0.0	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.2	5.2	4.1	0.0	0.0	0.0			
				Red	1.0	1.0	1.0	0.0	0.0	0.0			

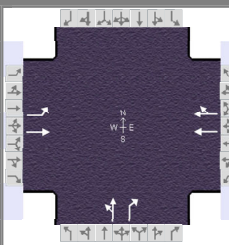
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	1.0	4.0		8.3		11.0		
Phase Duration, s	72.9	104.9		32.0		15.1		
Change Period, ($Y+R_c$), s	6.2	6.2		6.2		5.1		
Max Allow Headway (MAH), s	3.0	0.0		0.0		3.3		
Queue Clearance Time (g_s), s	68.7					8.5		
Green Extension Time (g_e), s	0.0	0.0		0.0		0.1		
Phase Call Probability	1.00					1.00		
Max Out Probability	1.00					1.00		

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16	3	8	18			
Adjusted Flow Rate (v), veh/h	1100	578			415	364		89	78			
Adjusted Saturation Flow Rate (s), veh/h/ln	1628	1709			1709	1492		1589	1414			
Queue Service Time (g_s), s	66.7	10.9			16.6	25.8		6.5	6.4			
Cycle Queue Clearance Time (g_c), s	66.7	10.9			16.6	25.8		6.5	6.4			
Green Ratio (g/C)	0.79	0.82			0.22	0.22		0.08	0.08			
Capacity (c), veh/h	965	1406			367	321		132	117			
Volume-to-Capacity Ratio (X)	1.140	0.411			1.128	1.134		0.674	0.663			
Back of Queue (Q), ft/ln (95 th percentile)	1539	101			483	314		136	119			
Back of Queue (Q), veh/ln (95 th percentile)	60.1	3.9			18.9	12.6		5.2	4.5			
Queue Storage Ratio (RQ) (95 th percentile)	2.37	0.16			0.72	0.48		0.10	0.91			
Uniform Delay (d_1), s/veh	23.0	2.8			41.0	25.1		53.4	53.4			
Incremental Delay (d_2), s/veh	75.5	0.9			61.4	64.4		7.9	7.9			
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0	0.0		0.0	0.0			
Control Delay (d), s/veh	98.5	3.7			102.4	89.5		61.3	61.3			
Level of Service (LOS)	F	A			F	F		E	E			
Approach Delay, s/veh / LOS	65.8	E		96.3	F		61.3	E	0.0			
Intersection Delay, s/veh / LOS	74.6						E					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.60	B	1.43	A	1.96	B	2.15	B
Bicycle LOS Score / LOS	3.26	C	0.90	A	0.76	A		

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Feb 8, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.89
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 4:45
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2050 No B...		
Project Description	2050 No Build				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	570	460			550	150	100	0	140			

Signal Information				Phase Diagram										
Cycle, s	100.0	Reference Phase	2	↔	↔↔	↔↔	↔↔	↔↔	↔↔	↔↔	↔↔	↔↔	↔↔	
Offset, s	54	Reference Point	End	Green	26.9	42.6	13.0	0.0	0.0	0.0	1	2	3	4
Uncoordinated	No	Simult. Gap E/W	On	Yellow	5.2	5.2	4.1	0.0	0.0	0.0	5	6	7	8
Force Mode	Fixed	Simult. Gap N/S	On	Red	1.0	1.0	1.0	0.0	0.0	0.0				

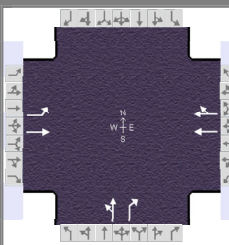
Traffic Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	570	460			550	150	100	0	140			
Initial Queue (Q _b), veh/h	0	0			0	0	0	0	0			
Base Saturation Flow Rate (s ₀), veh/h	1750	1750			1750	1900	1900	1750	1750			
Parking (N _m), man/h		None			None			None				
Heavy Vehicles (P _{HV}), %	3	3			3			2	2			
Ped / Bike / RTOR, /h	0	0		0	0	0	0	0	0	0	0	
Buses (N _b), buses/h	0	0	0	0	0	0	0	0	0			
Arrival Type (AT)	3	3			3	3	3	3	3			
Upstream Filtering (I)	0.84	0.84			1.00	1.00	1.00	1.00	1.00			
Lane Width (W), ft	12.0	12.0			12.0			12.0	12.0			
Turn Bay Length, ft	650	650			675			1325	130			
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50			50	50	35	35	35			

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s	36.0	63.0		27.0		37.0		
Yellow Change Interval (Y), s	5.2	5.2		5.2		4.1		
Red Clearance Interval (R _c), s	1.0	1.0		1.0		1.0		
Minimum Green (G _{min}), s	7	20		20		10		
Start-Up Lost Time (l _t), s	2.0	2.0		2.0	2.0	2.0		
Extension of Effective Green (e), s	2.0	2.0		2.0	2.0	2.0		
Passage (PT), s	2.0	2.0		2.0		2.0		
Recall Mode	Off	Min		Min		Off		
Dual Entry	No	Yes		Yes		Yes		
Walk (Walk), s		0.0				0.0		0.0
Pedestrian Clearance Time (PC), s		0.0				0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0				0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0				9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0		No	0.0	0	No		0	
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0			
Pedestrian Signal / Occupied Parking	No		0.50			0.50	No		0.50	No		

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Feb 8, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.89
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 4:45
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2050 No B...		
Project Description	2050 No Build				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	570	460			550	150	100	0	140			

Signal Information													
Cycle, s	100.0	Reference Phase	2										
Offset, s	54	Reference Point	End										
Uncoordinated	No	Simult. Gap E/W	On	Green	26.9	42.6	13.0	0.0	0.0	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.2	5.2	4.1	0.0	0.0	0.0			
				Red	1.0	1.0	1.0	0.0	0.0	0.0			

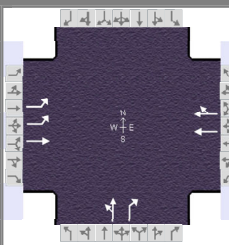
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	1.0	4.0		8.3		11.0		
Phase Duration, s	33.1	81.9		48.8		18.1		
Change Period, ($Y+R_c$), s	6.2	6.2		6.2		5.1		
Max Allow Headway (MAH), s	3.0	0.0		0.0		3.3		
Queue Clearance Time (g_s), s	25.7					12.5		
Green Extension Time (g_e), s	1.1	0.0		0.0		0.5		
Phase Call Probability	1.00					1.00		
Max Out Probability	0.00					0.00		

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16	3	8	18			
Adjusted Flow Rate (v), veh/h	599	484			408	379		112	157			
Adjusted Saturation Flow Rate (s), veh/h/ln	1628	1709			1709	1582		1641	1460			
Queue Service Time (g_s), s	23.7	16.3			24.5	18.1		6.4	10.5			
Cycle Queue Clearance Time (g_c), s	23.7	16.3			24.5	18.1		6.4	10.5			
Green Ratio (g/C)	0.71	0.76			0.43	0.43		0.13	0.13			
Capacity (c), veh/h	633	1294			728	674		213	190			
Volume-to-Capacity Ratio (X)	0.947	0.374			0.560	0.562		0.526	0.828			
Back of Queue (Q), ft/ln (95 th percentile)	339	254			295	274		118	178			
Back of Queue (Q), veh/ln (95 th percentile)	13.2	9.9			11.5	10.9		4.6	7.0			
Queue Storage Ratio (RQ) (95 th percentile)	0.52	0.39			0.44	0.42		0.09	1.37			
Uniform Delay (d_1), s/veh	20.7	9.4			21.6	21.7		40.6	42.4			
Incremental Delay (d_2), s/veh	8.7	0.7			3.1	3.4		0.7	3.5			
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0	0.0		0.0	0.0			
Control Delay (d), s/veh	29.4	10.1			24.7	25.0		41.4	45.9			
Level of Service (LOS)	C	B			C	C		D	D			
Approach Delay, s/veh / LOS	20.7	C		24.9	C		44.0	D		0.0		
Intersection Delay, s/veh / LOS	25.2						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.62	B	1.39	A	1.95	B	2.15	B
Bicycle LOS Score / LOS	2.40	B	1.14	A	0.93	A		

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Mar 1, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.90
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 7:15
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2050 No B...		
Project Description	2050 No Build w Imp				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	990	520			280	170	80	0	70			

Signal Information												
Cycle, s	120.0	Reference Phase	2									
Offset, s	34	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On									
Force Mode	Fixed	Simult. Gap N/S	On									
		Green	44.8	47.7	10.0	0.0	0.0	0.0				
		Yellow	5.2	5.2	4.1	0.0	0.0	0.0				
		Red	1.0	1.0	1.0	0.0	0.0	0.0				

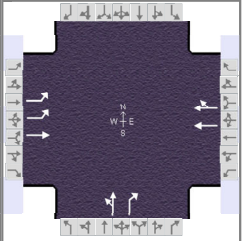
Traffic Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	990	520			280	170	80	0	70			
Initial Queue (Q _b), veh/h	0	0			0	0	0	0	0			
Base Saturation Flow Rate (s ₀), veh/h	1750	1750			1750	1900	1900	1750	1750			
Parking (N _m), man/h		None			None			None				
Heavy Vehicles (P _{HV}), %	3	3			3			6	6			
Ped / Bike / RTOR, /h	0	0		0	0	0	0	0	0	0	0	
Buses (N _b), buses/h	0	0	0	0	0	0	0	0	0			
Arrival Type (AT)	3	3			3	3	3	3	3			
Upstream Filtering (I)	1.00	1.00			0.09	0.09	1.00	1.00	1.00			
Lane Width (W), ft	12.0	12.0			12.0			12.0	12.0			
Turn Bay Length, ft	650	650			675			1325	130			
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50			50	50	35	35	35			

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s	50.0	90.0		40.0		30.0		
Yellow Change Interval (Y), s	5.2	5.2		5.2		4.1		
Red Clearance Interval (R _c), s	1.0	1.0		1.0		1.0		
Minimum Green (G _{min}), s	7	20		20		10		
Start-Up Lost Time (l _t), s	2.0	2.0		2.0	2.0	2.0		
Extension of Effective Green (e), s	2.0	2.0		2.0	2.0	2.0		
Passage (P _T), s	2.0	2.0		2.0		2.0		
Recall Mode	Off	Min		Min		Off		
Dual Entry	No	Yes		Yes		Yes		
Walk (Walk), s		0.0				0.0		0.0
Pedestrian Clearance Time (P _C), s		0.0				0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0				0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0				9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0		No	0.0	0	No		0	
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0			
Pedestrian Signal / Occupied Parking	No		0.50			0.50	No		0.50	No		

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Mar 1, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.90
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 7:15
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2050 No B...		
Project Description	2050 No Build w Imp				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	990	520			280	170	80	0	70			

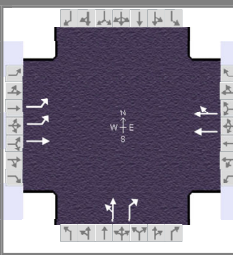
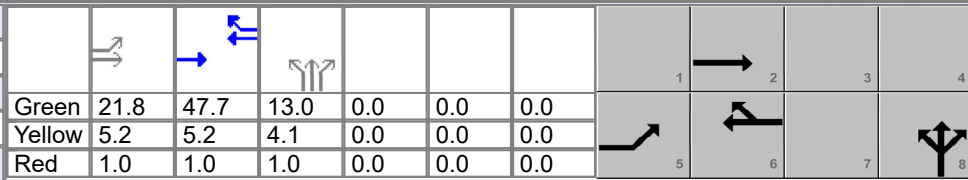
Signal Information				Phase Diagram										
Cycle, s	120.0	Reference Phase	2	↔	→	↔	↕	↕	↕	↕	↕	↕	↕	
Offset, s	34	Reference Point	End	Green	44.8	47.7	10.0	0.0	0.0	0.0	1	2	3	4
Uncoordinated	No	Simult. Gap E/W	On	Yellow	5.2	5.2	4.1	0.0	0.0	0.0	↗	↖		↕
Force Mode	Fixed	Simult. Gap N/S	On	Red	1.0	1.0	1.0	0.0	0.0	0.0	↘	↙		↕

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	2.0	4.0		8.3		11.0		
Phase Duration, s	51.0	104.9		53.9		15.1		
Change Period, ($Y+R_c$), s	6.2	6.2		6.2		5.1		
Max Allow Headway (MAH), s	3.0	0.0		0.0		3.3		
Queue Clearance Time (g_s), s	42.1					8.5		
Green Extension Time (g_e), s	2.7	0.0		0.0		0.3		
Phase Call Probability	1.00					1.00		
Max Out Probability	0.01					0.00		

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16	3	8	18			
Adjusted Flow Rate (v), veh/h	1100	578			415	364		89	78			
Adjusted Saturation Flow Rate (s), veh/h/ln	1580	1709			1709	1492		1589	1414			
Queue Service Time (g_s), s	40.1	10.9			15.2	28.3		6.5	6.4			
Cycle Queue Clearance Time (g_c), s	40.1	10.9			15.2	28.3		6.5	6.4			
Green Ratio (g/C)	0.37	0.82			0.40	0.40		0.08	0.08			
Capacity (c), veh/h	1180	1406			680	594		132	117			
Volume-to-Capacity Ratio (X)	0.932	0.411			0.610	0.613		0.674	0.663			
Back of Queue (Q), ft/ln (95 th percentile)	568	101			354	330		126	110			
Back of Queue (Q), veh/ln (95 th percentile)	22.2	3.9			13.8	13.2		4.8	4.2			
Queue Storage Ratio (RQ) (95 th percentile)	0.87	0.16			0.52	0.50		0.09	0.85			
Uniform Delay (d_1), s/veh	36.1	2.8			41.1	46.3		53.4	53.4			
Incremental Delay (d_2), s/veh	7.8	0.9			0.4	0.4		2.2	2.4			
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0	0.0		0.0	0.0			
Control Delay (d), s/veh	43.9	3.7			41.5	46.7		55.7	55.8			
Level of Service (LOS)	D	A			D	D		E	E			
Approach Delay, s/veh / LOS	30.1	C		43.9	D		55.7	E	0.0			
Intersection Delay, s/veh / LOS	35.8						D					

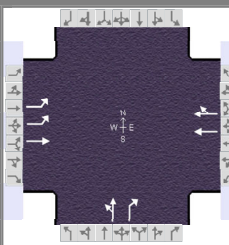
Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.60	B	1.70	B	1.96	B	2.32	B
Bicycle LOS Score / LOS	3.26	C	0.90	A	0.76	A		

HCS Signalized Intersection Input Data

General Information					Intersection Information											
Agency	Smart Services Inc.				Duration, h	0.250										
Analyst	TJS	Analysis Date	Mar 1, 2024		Area Type	Other										
Jurisdiction	ODOT	Time Period	PM Peak		PHF	0.89										
Urban Street	SR 3/Weymouth Rd		Analysis Year	2050	Analysis Period	1 > 4:45										
Intersection	(40) SR 3 & I-71 NB Ra...		File Name	Signalized Capacity Group 2 (20-70) - 2050 No B...												
Project Description	2050 No Build w Imp															
Demand Information					EB			WB			NB			SB		
Approach Movement					L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h					570	460			550	150	100	0	140			
Signal Information																
Cycle, s	100.0	Reference Phase	2		Green	21.8	47.7	13.0	0.0	0.0	0.0					
Offset, s	38	Reference Point	End		Yellow	5.2	5.2	4.1	0.0	0.0	0.0					
Uncoordinated	No	Simult. Gap E/W	On		Red	1.0	1.0	1.0	0.0	0.0	0.0					
Force Mode	Fixed	Simult. Gap N/S	On													
Traffic Information					EB			WB			NB			SB		
Approach Movement					L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h					570	460			550	150	100	0	140			
Initial Queue (Q _b), veh/h					0	0			0	0	0	0	0			
Base Saturation Flow Rate (s ₀), veh/h					1750	1750			1750	1900	1900	1750	1750			
Parking (N _m), man/h					None			None			None					
Heavy Vehicles (P _{HV}), %					3	3			3			2	2			
Ped / Bike / RTOR, /h					0	0		0	0	0	0	0	0	0	0	
Buses (N _b), buses/h					0	0	0	0	0	0	0	0	0			
Arrival Type (AT)					3	3			3	3	3	3	3			
Upstream Filtering (I)					0.84	0.84			1.00	1.00	1.00	1.00	1.00			
Lane Width (W), ft					12.0	12.0			12.0			12.0	12.0			
Turn Bay Length, ft					650	650			675			1325	130			
Grade (P _g), %						0			0			0			0	
Speed Limit, mi/h					50	50			50	50	35	35	35			
Phase Information					EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT				
Maximum Green (G _{max}) or Phase Split, s					36.0	63.0		27.0		37.0						
Yellow Change Interval (Y), s					5.2	5.2		5.2		4.1						
Red Clearance Interval (R _c), s					1.0	1.0		1.0		1.0						
Minimum Green (G _{min}), s					7	20		20		10						
Start-Up Lost Time (l _t), s					2.0	2.0		2.0	2.0	2.0						
Extension of Effective Green (e), s					2.0	2.0		2.0	2.0	2.0						
Passage (P _T), s					2.0	2.0		2.0		2.0						
Recall Mode					Off	Min		Min		Off						
Dual Entry					No	Yes		Yes		Yes						
Walk (Walk), s						0.0				0.0		0.0				
Pedestrian Clearance Time (P _C), s						0.0				0.0		0.0				
Multimodal Information					EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius					0.0	No	25.0				0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft					9.0	12.0	0.0				9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft					0.0	0	No	0.0		No	0.0	0	No		0	
Width Outside / Bike Lane / Shoulder, ft					12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0			
Pedestrian Signal / Occupied Parking					No	0.50			0.50		No	0.50		No		

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Mar 1, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.89
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 4:45
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2050 No B...		
Project Description	2050 No Build w Imp				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	570	460			550	150	100	0	140			

Signal Information				Phase Diagram									
Cycle, s	100.0	Reference Phase	2	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Offset, s	38	Reference Point	End	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Uncoordinated	No	Simult. Gap E/W	On	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Force Mode	Fixed	Simult. Gap N/S	On	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
				Green	21.8	47.7	13.0	0.0	0.0	0.0			
				Yellow	5.2	5.2	4.1	0.0	0.0	0.0			
				Red	1.0	1.0	1.0	0.0	0.0	0.0			

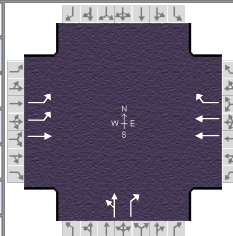
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	2.0	4.0		8.3		11.0		
Phase Duration, s	28.0	81.9		53.9		18.1		
Change Period, (Y+R _c), s	6.2	6.2		6.2		5.1		
Max Allow Headway (MAH), s	3.0	0.0		0.0		3.3		
Queue Clearance Time (g _s), s	20.5					12.5		
Green Extension Time (g _e), s	1.4	0.0		0.0		0.5		
Phase Call Probability	1.00					1.00		
Max Out Probability	0.00					0.00		

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16	3	8	18			
Adjusted Flow Rate (v), veh/h	599	484			408	379		112	157			
Adjusted Saturation Flow Rate (s), veh/h/ln	1580	1709			1709	1582		1641	1460			
Queue Service Time (g _s), s	18.5	17.9			24.5	16.5		6.4	10.5			
Cycle Queue Clearance Time (g _c), s	18.5	17.9			24.5	16.5		6.4	10.5			
Green Ratio (g/C)	0.22	0.76			0.48	0.48		0.13	0.13			
Capacity (c), veh/h	690	1294			814	754		213	190			
Volume-to-Capacity Ratio (X)	0.868	0.374			0.501	0.502		0.526	0.828			
Back of Queue (Q), ft/ln (95 th percentile)	288	293			265	246		118	178			
Back of Queue (Q), veh/ln (95 th percentile)	11.2	11.5			10.4	9.8		4.6	7.0			
Queue Storage Ratio (RQ) (95 th percentile)	0.44	0.45			0.39	0.37		0.09	1.37			
Uniform Delay (d ₁), s/veh	40.3	11.0			18.0	18.0		40.6	42.4			
Incremental Delay (d ₂), s/veh	1.1	0.7			2.2	2.4		0.7	3.5			
Initial Queue Delay (d ₃), s/veh	0.0	0.0			0.0	0.0		0.0	0.0			
Control Delay (d), s/veh	41.4	11.7			20.2	20.4		41.4	45.9			
Level of Service (LOS)	D	B			C	C		D	D			
Approach Delay, s/veh / LOS	28.1	C		20.3	C		44.0	D	0.0			
Intersection Delay, s/veh / LOS	27.2						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.62	B	1.68	B	1.95	B	2.31	B
Bicycle LOS Score / LOS	2.40	B	1.14	A	0.93	A		

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Oct 27, 2025	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.90
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 7:15
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 1 (10 & 240) - 2050 N...		
Project Description	2050 No Build w Imp and WB RT lane				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	990	520			280	170	80	0	70			

Signal Information													
Cycle, s	120.0	Reference Phase	2										
Offset, s	34	Reference Point	End										
Uncoordinated	No	Simult. Gap E/W	On	Green	44.8	47.7	10.0	0.0	0.0	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.2	5.2	4.1	0.0	0.0	0.0			
				Red	1.0	1.0	1.0	0.0	0.0	0.0			

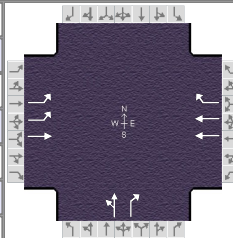
Traffic Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	990	520			280	170	80	0	70			
Initial Queue (Q_b), veh/h	0	0			0	0	0	0	0			
Base Saturation Flow Rate (s_o), veh/h	1750	1750			1750	1900	1900	1750	1750			
Parking (N_m), man/h		None			None			None				
Heavy Vehicles (P_{HV}), %	3	3			3	0		6	6			
Ped / Bike / RTOR, /h	0	0		0	0	0	0	0	0	0	0	
Buses (N_b), buses/h	0	0	0	0	0	0	0	0	0			
Arrival Type (AT)	3	3			3	3	3	3	3			
Upstream Filtering (I)		1.00			0.09			1.00			1.00	
Lane Width (W), ft	12.0	12.0			12.0	12.0		12.0	12.0			
Turn Bay Length, ft	650	650			675	365		1325	130			
Grade (P_g), %		0			0			0			0	
Speed Limit, mi/h	50	50			50	50	35	35	35			

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s	50.0	90.0		40.0		30.0		
Yellow Change Interval (Y), s	5.2	5.2		5.2		4.1		
Red Clearance Interval (R_c), s	1.0	1.0		1.0		1.0		
Minimum Green (G_{min}), s	7	20		20		10		
Start-Up Lost Time (l_t), s	2.0	2.0		2.0	2.0	2.0		
Extension of Effective Green (e), s	2.0	2.0		2.0	2.0	2.0		
Passage (PT), s	2.0	2.0		2.0		2.0		
Recall Mode	Off	Min		Min		Off		
Dual Entry	No	Yes		Yes		Yes		
Walk ($Walk$), s		0.0				0.0		0.0
Pedestrian Clearance Time (PC), s		0.0				0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0				0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0				9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0		No	0.0	0	No		0	
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0			
Pedestrian Signal / Occupied Parking	No		0.50			0.50	No		0.50	No		

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Oct 27, 2025	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.90
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 7:15
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 1 (10 & 240) - 2050 N...		
Project Description	2050 No Build w Imp and WB RT lane				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	990	520			280	170	80	0	70			

Signal Information				Phase Diagram										
Cycle, s	120.0	Reference Phase	2	↔	→	↔	↕	↕	↕	↕	↕	↕	↕	
Offset, s	34	Reference Point	End	Green	44.8	47.7	10.0	0.0	0.0	0.0	1	2	3	4
Uncoordinated	No	Simult. Gap E/W	On	Yellow	5.2	5.2	4.1	0.0	0.0	0.0	↗	↖		↕
Force Mode	Fixed	Simult. Gap N/S	On	Red	1.0	1.0	1.0	0.0	0.0	0.0	↘	↗	7	8

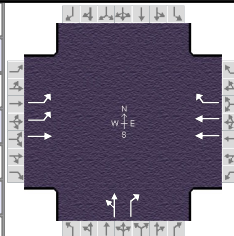
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	2.0	4.0		7.3		11.0		
Phase Duration, s	51.0	104.9		53.9		15.1		
Change Period, (Y+R _c), s	6.2	6.2		6.2		5.1		
Max Allow Headway (MAH), s	3.0	0.0		0.0		3.3		
Queue Clearance Time (g _s), s	42.1					8.5		
Green Extension Time (g _e), s	2.7	0.0		0.0		0.3		
Phase Call Probability	1.00					1.00		
Max Out Probability	0.01					0.00		

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Assigned Movement	5	2			6	16	3	8	18			
Adjusted Flow Rate (v), veh/h	1100	578			484	294		89	78			
Adjusted Saturation Flow Rate (s), veh/h/ln	1580	1709			1627	1610		1589	1414			
Queue Service Time (g _s), s	40.1	10.9			15.8	21.2		6.5	6.4			
Cycle Queue Clearance Time (g _c), s	40.1	10.9			15.8	21.2		6.5	6.4			
Green Ratio (g/C)	0.37	0.82			0.40	0.40		0.08	0.08			
Capacity (c), veh/h	1180	1406			1294	641		132	117			
Volume-to-Capacity Ratio (X)	0.932	0.411			0.374	0.459		0.674	0.663			
Back of Queue (Q), ft/ln (95 th percentile)	568	101			205	288		126	110			
Back of Queue (Q), veh/ln (95 th percentile)	22.2	3.9			8.0	11.5		4.8	4.2			
Queue Storage Ratio (RQ) (95 th percentile)	0.87	0.16			0.30	0.79		0.09	0.85			
Uniform Delay (d ₁), s/veh	36.1	2.8			36.5	44.0		53.4	53.4			
Incremental Delay (d ₂), s/veh	7.8	0.9			0.1	0.2		2.2	2.4			
Initial Queue Delay (d ₃), s/veh	0.0	0.0			0.0	0.0		0.0	0.0			
Control Delay (d), s/veh	43.9	3.7			36.6	44.2		55.7	55.8			
Level of Service (LOS)	D	A			D	D		E	E			
Approach Delay, s/veh / LOS	30.1		C		39.5		D	55.7		E		0.0
Intersection Delay, s/veh / LOS	34.5						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.60	B	1.70	B	2.15	B	2.32	B
Bicycle LOS Score / LOS	3.26	C	0.90	A	0.76	A		

HCS Signalized Intersection Input Data

General Information				Intersection Information			
Agency	Smart Services Inc.			Duration, h	0.250		
Analyst	TJS	Analysis Date	Oct 27, 2025	Area Type	Other		
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.89		
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 4:45		
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 1 (10 & 240) - 2050 N...				
Project Description	2050 No Build w Imp and WB RT lane						



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	570	460			550	150	100	0	140			

Signal Information													
Cycle, s	100.0	Reference Phase	2										
Offset, s	38	Reference Point	End										
Uncoordinated	No	Simult. Gap E/W	On	Green	21.8	47.6	13.0	0.0	0.0	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.2	5.2	4.1	0.0	0.0	0.0			
				Red	1.0	1.0	1.0	0.0	0.0	0.0			

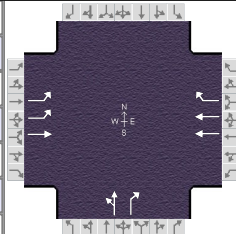
Traffic Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	570	460			550	150	100	0	140			
Initial Queue (Q _b), veh/h	0	0			0	0	0	0	0			
Base Saturation Flow Rate (s ₀), veh/h	1750	1750			1750	1900	1900	1750	1750			
Parking (N _m), man/h		None			None			None				
Heavy Vehicles (P _{HV}), %	3	3			3	0		2	2			
Ped / Bike / RTOR, /h	0	0		0	0	0	0	0	0	0	0	
Buses (N _b), buses/h	0	0	0	0	0	0	0	0	0			
Arrival Type (AT)	3	3			3	3	3	3	3			
Upstream Filtering (I)		0.84			1.00			1.00			1.00	
Lane Width (W), ft	12.0	12.0			12.0	12.0		12.0	12.0			
Turn Bay Length, ft	650	650			675	365		1325	130			
Grade (Pg), %		0			0			0			0	
Speed Limit, mi/h	50	50			50	50	35	35	35			

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s	36.0	63.0		27.0		37.0		
Yellow Change Interval (Y), s	5.2	5.2		5.2		4.1		
Red Clearance Interval (R _c), s	1.0	1.0		1.0		1.0		
Minimum Green (G _{min}), s	7	20		20		10		
Start-Up Lost Time (I _t), s	2.0	2.0		2.0	2.0	2.0		
Extension of Effective Green (e), s	2.0	2.0		2.0	2.0	2.0		
Passage (PT), s	2.0	2.0		2.0		2.0		
Recall Mode	Off	Min		Min		Off		
Dual Entry	No	Yes		Yes		Yes		
Walk (Walk), s		0.0				0.0		0.0
Pedestrian Clearance Time (PC), s		0.0				0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0				0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0				9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0		No	0.0	0	No		0	
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0			
Pedestrian Signal / Occupied Parking	No		0.50			0.50	No		0.50	No		

HCS Signalized Intersection Results Summary

General Information				Intersection Information			
Agency	Smart Services Inc.			Duration, h	0.250		
Analyst	TJS	Analysis Date	Oct 27, 2025	Area Type	Other		
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.89		
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 4:45		
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 1 (10 & 240) - 2050 N...				
Project Description	2050 No Build w Imp and WB RT lane						



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	570	460			550	150	100	0	140			

Signal Information				Phase Diagram								
Cycle, s	100.0	Reference Phase	2									
Offset, s	38	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On									
Force Mode	Fixed	Simult. Gap N/S	On									
Green	21.8	47.6	13.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	5.2	5.2	4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

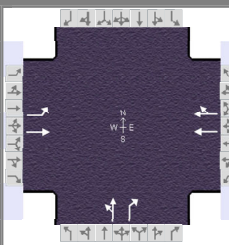
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	2.0	4.0		7.3		11.0		
Phase Duration, s	28.0	81.9		53.8		18.1		
Change Period, (Y+R _c), s	6.2	6.2		6.2		5.1		
Max Allow Headway (MAH), s	3.0	0.0		0.0		3.3		
Queue Clearance Time (g _s), s	20.5					12.5		
Green Extension Time (g _e), s	1.4	0.0		0.0		0.5		
Phase Call Probability	1.00					1.00		
Max Out Probability	0.00					0.00		

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16	3	8	18			
Adjusted Flow Rate (v), veh/h	599	484			618	169		112	157			
Adjusted Saturation Flow Rate (s), veh/h/ln	1580	1709			1627	1610		1641	1460			
Queue Service Time (g _s), s	18.5	17.9			12.3	6.1		6.4	10.5			
Cycle Queue Clearance Time (g _c), s	18.5	17.9			12.3	6.1		6.4	10.5			
Green Ratio (g/C)	0.22	0.76			0.48	0.48		0.13	0.13			
Capacity (c), veh/h	690	1294			1550	767		213	190			
Volume-to-Capacity Ratio (X)	0.868	0.374			0.399	0.220		0.526	0.828			
Back of Queue (Q), ft/ln (95 th percentile)	288	293			196	98		118	178			
Back of Queue (Q), veh/ln (95 th percentile)	11.3	11.5			7.7	3.9		4.6	7.0			
Queue Storage Ratio (RQ) (95 th percentile)	0.44	0.45			0.29	0.27		0.09	1.37			
Uniform Delay (d ₁), s/veh	40.3	11.0			16.9	15.3		40.6	42.4			
Incremental Delay (d ₂), s/veh	1.1	0.7			0.8	0.7		0.7	3.5			
Initial Queue Delay (d ₃), s/veh	0.0	0.0			0.0	0.0		0.0	0.0			
Control Delay (d), s/veh	41.4	11.7			17.7	16.0		41.4	45.9			
Level of Service (LOS)	D	B			B	B		D	D			
Approach Delay, s/veh / LOS	28.2	C		17.3	B		44.0	D	0.0			
Intersection Delay, s/veh / LOS	26.2						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.62	B	1.68	B	2.15	B	2.31	B
Bicycle LOS Score / LOS	2.40	B	1.14	A	0.93	A		

HCS Signalized Intersection Input Data

General Information				Intersection Information			
Agency	Smart Services Inc.			Duration, h	0.250		
Analyst	TJS	Analysis Date	Jun 6, 2024	Area Type	Other		
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.90		
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 7:15		
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2050 Build...				
Project Description	2050 Build						



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	990	290			280	90	80	0	70			

Signal Information				Phase Diagram									
Cycle, s	120.0	Reference Phase	2	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Offset, s	15	Reference Point	End	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Uncoordinated	No	Simult. Gap E/W	On	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Force Mode	Fixed	Simult. Gap N/S	On	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
				Green	66.7	25.8	10.0	0.0	0.0	0.0			
				Yellow	5.2	5.2	4.1	0.0	0.0	0.0			
				Red	1.0	1.0	1.0	0.0	0.0	0.0			

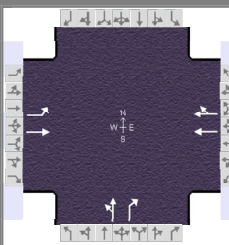
Traffic Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	990	290			280	90	80	0	70			
Initial Queue (Q _b), veh/h	0	0			0	0	0	0	0			
Base Saturation Flow Rate (s ₀), veh/h	1750	1750			1750	1900	1900	1750	1750			
Parking (N _m), man/h		None			None			None				
Heavy Vehicles (P _{HV}), %	3	3			3			6	6			
Ped / Bike / RTOR, /h	0	0		0	0	0	0	0	0	0	0	
Buses (N _b), buses/h	0	0	0	0	0	0	0	0	0			
Arrival Type (AT)	3	3			3	3	3	3	3			
Upstream Filtering (I)	1.00	1.00			0.09	0.09	1.00	1.00	1.00			
Lane Width (W), ft	12.0	12.0			12.0			12.0	12.0			
Turn Bay Length, ft	650	650			675			1325	130			
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50			50	50	35	35	35			

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s	72.0	104.0		32.0		16.0		
Yellow Change Interval (Y), s	5.2	5.2		5.2		4.1		
Red Clearance Interval (R _c), s	1.0	1.0		1.0		1.0		
Minimum Green (G _{min}), s	7	20		20		10		
Start-Up Lost Time (l _t), s	2.0	2.0		2.0	2.0	2.0		
Extension of Effective Green (e), s	2.0	2.0		2.0	2.0	2.0		
Passage (PT), s	2.0	2.0		2.0		2.0		
Recall Mode	Off	Min		Min		Off		
Dual Entry	No	Yes		Yes		Yes		
Walk (Walk), s		0.0				0.0		0.0
Pedestrian Clearance Time (PC), s		0.0				0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0				0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0				9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0		No	0.0	0	No		0	
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0			
Pedestrian Signal / Occupied Parking	No		0.50			0.50	No		0.50	No		

HCS Signalized Intersection Results Summary

General Information				Intersection Information			
Agency	Smart Services Inc.			Duration, h	0.250		
Analyst	TJS	Analysis Date	Jun 6, 2024	Area Type	Other		
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.90		
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 7:15		
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2050 Build...				
Project Description	2050 Build						



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	990	290			280	90	80	0	70			

Signal Information				Signal Phases										
Cycle, s	120.0	Reference Phase	2	→	↘	↙	↑	↓	↘	↙	↑	↓		
Offset, s	15	Reference Point	End	Green	66.7	25.8	10.0	0.0	0.0	0.0	1	2	3	4
Uncoordinated	No	Simult. Gap E/W	On	Yellow	5.2	5.2	4.1	0.0	0.0	0.0	↘	↙		
Force Mode	Fixed	Simult. Gap N/S	On	Red	1.0	1.0	1.0	0.0	0.0	0.0	↘	↙	↑	↓

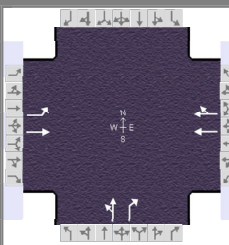
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	1.0	4.0		8.3		11.0		
Phase Duration, s	72.9	104.9		32.0		15.1		
Change Period, (Y+R _c), s	6.2	6.2		6.2		5.1		
Max Allow Headway (MAH), s	3.0	0.0		0.0		3.3		
Queue Clearance Time (g _s), s	68.7					8.5		
Green Extension Time (g _e), s	0.0	0.0		0.0		0.1		
Phase Call Probability	1.00					1.00		
Max Out Probability	1.00					1.00		

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16	3	8	18			
Adjusted Flow Rate (v), veh/h	1100	322			406	373		89	78			
Adjusted Saturation Flow Rate (s), veh/h/ln	1628	1709			1709	1566		1589	1414			
Queue Service Time (g _s), s	66.7	4.9			13.3	25.8		6.5	6.4			
Cycle Queue Clearance Time (g _c), s	66.7	4.9			13.3	25.8		6.5	6.4			
Green Ratio (g/C)	0.79	0.82			0.22	0.22		0.08	0.08			
Capacity (c), veh/h	965	1406			367	337		132	117			
Volume-to-Capacity Ratio (X)	1.140	0.229			1.104	1.107		0.674	0.663			
Back of Queue (Q), ft/ln (95 th percentile)	1539	46			426	315		136	119			
Back of Queue (Q), veh/ln (95 th percentile)	60.1	1.8			16.6	12.6		5.2	4.5			
Queue Storage Ratio (RQ) (95 th percentile)	2.37	0.07			0.63	0.48		0.10	0.91			
Uniform Delay (d ₁), s/veh	23.0	2.3			38.2	28.8		53.4	53.4			
Incremental Delay (d ₂), s/veh	75.5	0.4			51.0	52.9		7.9	7.9			
Initial Queue Delay (d ₃), s/veh	0.0	0.0			0.0	0.0		0.0	0.0			
Control Delay (d), s/veh	98.5	2.7			89.2	81.6		61.3	61.3			
Level of Service (LOS)	F	A			F	F		E	E			
Approach Delay, s/veh / LOS	76.8	E		85.6	F		61.3	E	0.0			
Intersection Delay, s/veh / LOS	78.6						E					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.60	B	1.43	A	1.96	B	2.15	B
Bicycle LOS Score / LOS	2.83	C	0.83	A	0.76	A		

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Jun 6, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.89
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 4:45
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2050 Build...		
Project Description	2050 Build				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	570	360			550	60	100	0	140			

Signal Information				Phase Diagram								
Cycle, s	100.0	Reference Phase	2									
Offset, s	54	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On									
Force Mode	Fixed	Simult. Gap N/S	On									
		Green	21.6	47.9	13.0	0.0	0.0	0.0				
		Yellow	5.2	5.2	4.1	0.0	0.0	0.0				
		Red	1.0	1.0	1.0	0.0	0.0	0.0				

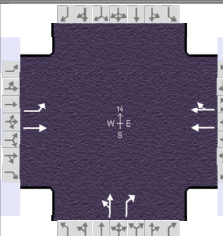
Traffic Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	570	360			550	60	100	0	140			
Initial Queue (Q _b), veh/h	0	0			0	0	0	0	0			
Base Saturation Flow Rate (s ₀), veh/h	1750	1750			1750	1900	1900	1750	1750			
Parking (N _m), man/h		None			None			None				
Heavy Vehicles (P _{HV}), %	3	3			3			2	2			
Ped / Bike / RTOR, /h	0	0		0	0	0	0	0	0	0	0	
Buses (N _b), buses/h	0	0	0	0	0	0	0	0	0			
Arrival Type (AT)	3	3			3	3	3	3	3			
Upstream Filtering (I)	0.85	0.85			1.00	1.00	1.00	1.00	1.00			
Lane Width (W), ft	12.0	12.0			12.0			12.0	12.0			
Turn Bay Length, ft	650	650			675			1325	130			
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50			50	50	35	35	35			

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s	36.0	63.0		27.0		37.0		
Yellow Change Interval (Y), s	5.2	5.2		5.2		4.1		
Red Clearance Interval (R _c), s	1.0	1.0		1.0		1.0		
Minimum Green (G _{min}), s	7	20		20		10		
Start-Up Lost Time (lt), s	2.0	2.0		2.0	2.0	2.0		
Extension of Effective Green (e), s	2.0	2.0		2.0	2.0	2.0		
Passage (PT), s	2.0	2.0		2.0		2.0		
Recall Mode	Off	Min		Min		Off		
Dual Entry	No	Yes		Yes		Yes		
Walk (Walk), s		0.0				0.0		0.0
Pedestrian Clearance Time (PC), s		0.0				0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0				0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0				9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0		No	0.0	0	No		0	
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0			
Pedestrian Signal / Occupied Parking	No		0.50			0.50	No		0.50	No		

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Jun 6, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.89
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 4:45
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2050 Build...		
Project Description	2050 Build				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	570	360			550	60	100	0	140			

Signal Information				Phase Diagram										
Cycle, s	100.0	Reference Phase	2	↔	↔↔	↔↔	↔↔	↔↔	↔↔	↔↔	↔↔	↔↔	↔↔	
Offset, s	54	Reference Point	End	Green	21.6	47.9	13.0	0.0	0.0	0.0	1	2	3	4
Uncoordinated	No	Simult. Gap E/W	On	Yellow	5.2	5.2	4.1	0.0	0.0	0.0	5	6	7	8
Force Mode	Fixed	Simult. Gap N/S	On	Red	1.0	1.0	1.0	0.0	0.0	0.0				

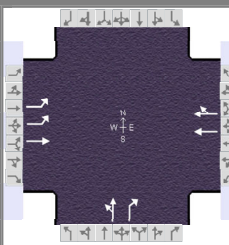
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	1.0	4.0		8.3		11.0		
Phase Duration, s	27.8	81.9		54.1		18.1		
Change Period, (Y+R _c), s	6.2	6.2		6.2		5.1		
Max Allow Headway (MAH), s	3.0	0.0		0.0		3.3		
Queue Clearance Time (g _s), s	20.4					12.5		
Green Extension Time (g _e), s	1.1	0.0		0.0		0.5		
Phase Call Probability	1.00					1.00		
Max Out Probability	0.00					0.00		

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16	3	8	18			
Adjusted Flow Rate (v), veh/h	599	378			348	337		112	157			
Adjusted Saturation Flow Rate (s), veh/h/ln	1628	1709			1709	1650		1641	1460			
Queue Service Time (g _s), s	18.4	11.9			20.3	13.4		6.4	10.5			
Cycle Queue Clearance Time (g _c), s	18.4	11.9			20.3	13.4		6.4	10.5			
Green Ratio (g/C)	0.71	0.76			0.48	0.48		0.13	0.13			
Capacity (c), veh/h	631	1294			816	788		213	190			
Volume-to-Capacity Ratio (X)	0.950	0.292			0.427	0.428		0.526	0.828			
Back of Queue (Q), ft/ln (95 th percentile)	279	171			224	214		118	178			
Back of Queue (Q), veh/ln (95 th percentile)	10.9	6.7			8.8	8.6		4.6	7.0			
Queue Storage Ratio (RQ) (95 th percentile)	0.43	0.26			0.33	0.32		0.09	1.37			
Uniform Delay (d ₁), s/veh	14.2	8.2			17.1	17.2		40.6	42.4			
Incremental Delay (d ₂), s/veh	6.7	0.5			1.6	1.7		0.7	3.5			
Initial Queue Delay (d ₃), s/veh	0.0	0.0			0.0	0.0		0.0	0.0			
Control Delay (d), s/veh	20.9	8.7			18.8	18.9		41.4	45.9			
Level of Service (LOS)	C	A			B	B		D	D			
Approach Delay, s/veh / LOS	16.2	B		18.8	B		44.0	D		0.0		
Intersection Delay, s/veh / LOS	21.0						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.62	B	1.39	A	1.95	B	2.15	B
Bicycle LOS Score / LOS	2.21	B	1.05	A	0.93	A		

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Jun 6, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.90
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 7:15
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2050 Build...		
Project Description	2050 Build w Imp				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	990	290			280	90	80	0	70			

Signal Information				Phase Diagram								
Cycle, s	120.0	Reference Phase	2									
Offset, s	34	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On									
Force Mode	Fixed	Simult. Gap N/S	On									
		Green	44.8	47.7	10.0	0.0	0.0	0.0				
		Yellow	5.2	5.2	4.1	0.0	0.0	0.0				
		Red	1.0	1.0	1.0	0.0	0.0	0.0				

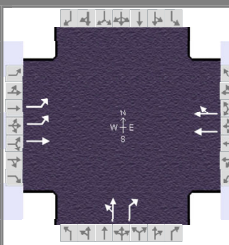
Traffic Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	990	290			280	90	80	0	70			
Initial Queue (Q _b), veh/h	0	0			0	0	0	0	0			
Base Saturation Flow Rate (s ₀), veh/h	1750	1750			1750	1900	1900	1750	1750			
Parking (N _m), man/h		None			None			None				
Heavy Vehicles (P _{HV}), %	3	3			3			6	6			
Ped / Bike / RTOR, /h	0	0		0	0	0	0	0	0	0	0	
Buses (N _b), buses/h	0	0	0	0	0	0	0	0	0			
Arrival Type (AT)	3	3			3	3	3	3	3			
Upstream Filtering (I)	1.00	1.00			0.12	0.12	1.00	1.00	1.00			
Lane Width (W), ft	12.0	12.0			12.0			12.0	12.0			
Turn Bay Length, ft	650	650			675			1325	130			
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50			50	50	35	35	35			

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s	50.0	90.0		40.0		30.0		
Yellow Change Interval (Y), s	5.2	5.2		5.2		4.1		
Red Clearance Interval (R _c), s	1.0	1.0		1.0		1.0		
Minimum Green (G _{min}), s	7	20		20		10		
Start-Up Lost Time (l _t), s	2.0	2.0		2.0	2.0	2.0		
Extension of Effective Green (e), s	2.0	2.0		2.0	2.0	2.0		
Passage (P _T), s	2.0	2.0		2.0		2.0		
Recall Mode	Off	Min		Min		Off		
Dual Entry	No	Yes		Yes		Yes		
Walk (Walk), s		0.0				0.0		0.0
Pedestrian Clearance Time (P _C), s		0.0				0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0				0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0				9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0		No	0.0	0	No		0	
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0			
Pedestrian Signal / Occupied Parking	No		0.50			0.50	No		0.50	No		

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Jun 6, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.90
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 7:15
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2050 Build...		
Project Description	2050 Build w Imp				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	990	290			280	90	80	0	70			

Signal Information				Phase Diagram								
Cycle, s	120.0	Reference Phase	2									
Offset, s	34	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On									
Force Mode	Fixed	Simult. Gap N/S	On									
		Green	44.8	47.7	10.0	0.0	0.0	0.0				
		Yellow	5.2	5.2	4.1	0.0	0.0	0.0				
		Red	1.0	1.0	1.0	0.0	0.0	0.0				

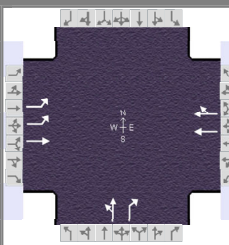
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	2.0	4.0		8.3		11.0		
Phase Duration, s	51.0	104.9		53.9		15.1		
Change Period, (Y+R _c), s	6.2	6.2		6.2		5.1		
Max Allow Headway (MAH), s	3.0	0.0		0.0		3.3		
Queue Clearance Time (g _s), s	42.1					8.5		
Green Extension Time (g _e), s	2.7	0.0		0.0		0.3		
Phase Call Probability	1.00					1.00		
Max Out Probability	0.01					0.00		

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16	3	8	18			
Adjusted Flow Rate (v), veh/h	1100	322			406	373		89	78			
Adjusted Saturation Flow Rate (s), veh/h/ln	1580	1709			1709	1566		1589	1414			
Queue Service Time (g _s), s	40.1	4.9			12.2	20.6		6.5	6.4			
Cycle Queue Clearance Time (g _c), s	40.1	4.9			12.2	20.6		6.5	6.4			
Green Ratio (g/C)	0.37	0.82			0.40	0.40		0.08	0.08			
Capacity (c), veh/h	1180	1406			680	623		132	117			
Volume-to-Capacity Ratio (X)	0.932	0.229			0.597	0.599		0.674	0.663			
Back of Queue (Q), ft/ln (95 th percentile)	568	46			243	202		126	110			
Back of Queue (Q), veh/ln (95 th percentile)	22.2	1.8			9.5	8.1		4.8	4.2			
Queue Storage Ratio (RQ) (95 th percentile)	0.87	0.07			0.36	0.31		0.09	0.85			
Uniform Delay (d ₁), s/veh	36.1	2.3			25.7	23.7		53.4	53.4			
Incremental Delay (d ₂), s/veh	7.8	0.4			0.5	0.5		2.2	2.4			
Initial Queue Delay (d ₃), s/veh	0.0	0.0			0.0	0.0		0.0	0.0			
Control Delay (d), s/veh	43.9	2.7			26.2	24.3		55.7	55.8			
Level of Service (LOS)	D	A			C	C		E	E			
Approach Delay, s/veh / LOS	34.6	C		25.3	C		55.7	E	0.0			
Intersection Delay, s/veh / LOS	33.0						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.60	B	1.70	B	1.96	B	2.32	B
Bicycle LOS Score / LOS	2.83	C	0.83	A	0.76	A		

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Jun 27, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.89
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 4:45
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2050 Build...		
Project Description	2050 Build w Imp				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	570	360			550	60	100	0	140			

Signal Information				Signal Phases							
Cycle, s	100.0	Reference Phase	2	1	2	3	4	5	6	7	8
Offset, s	38	Reference Point	End	Green	11.0	58.5	13.0	0.0	0.0	0.0	
Uncoordinated	No	Simult. Gap E/W	On	Yellow	5.2	5.2	4.1	0.0	0.0	0.0	
Force Mode	Fixed	Simult. Gap N/S	On	Red	1.0	1.0	1.0	0.0	0.0	0.0	

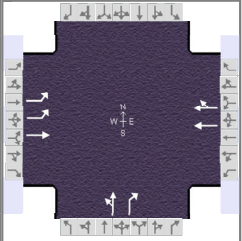
Traffic Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	570	360			550	60	100	0	140			
Initial Queue (Q _b), veh/h	0	0			0	0	0	0	0			
Base Saturation Flow Rate (s ₀), veh/h	1750	1750			1750	1750	1750	1750	1750			
Parking (N _m), man/h		None			None			None				
Heavy Vehicles (P _{HV}), %	3	3			3			2	2			
Ped / Bike / RTOR, /h	0	0		0	0	0	0	0	0	0	0	
Buses (N _b), buses/h	0	0	0	0	0	0	0	0	0			
Arrival Type (AT)	3	3			3	3	3	3	3			
Upstream Filtering (I)	0.84	0.84			1.00	1.00	1.00	1.00	1.00			
Lane Width (W), ft	12.0	12.0			12.0			12.0	12.0			
Turn Bay Length, ft	650	650			675			1325	130			
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50			50	50	35	35	35			

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s	36.0	63.0		27.0		37.0		
Yellow Change Interval (Y), s	5.2	5.2		5.2		4.1		
Red Clearance Interval (R _c), s	1.0	1.0		1.0		1.0		
Minimum Green (G _{min}), s	7	20		20		10		
Start-Up Lost Time (l _t), s	2.0	2.0		2.0	2.0	2.0		
Extension of Effective Green (e), s	2.0	2.0		2.0	2.0	2.0		
Passage (P _T), s	2.0	2.0		2.0		2.0		
Recall Mode	Off	Min		Min		Off		
Dual Entry	No	Yes		Yes		Yes		
Walk (Walk), s		0.0				0.0		0.0
Pedestrian Clearance Time (P _C), s		0.0				0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0				0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0				9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0		No	0.0	0	No		0	
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0			
Pedestrian Signal / Occupied Parking	No		0.50			0.50	No		0.50	No		

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Jun 27, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.89
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 4:45
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2050 Build...		
Project Description	2050 Build w Imp				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	570	360			550	60	100	0	140			

Signal Information				Phase Diagram									
Cycle, s	100.0	Reference Phase	2	↔	↔↔	↔↔	↔↔	↔↔	↔↔	↔↔	↔↔	↔↔	↔↔
Offset, s	38	Reference Point	End	Green	11.0	58.5	13.0	0.0	0.0	0.0	0.0	0.0	0.0
Uncoordinated	No	Simult. Gap E/W	On	Yellow	5.2	5.2	4.1	0.0	0.0	0.0	0.0	0.0	0.0
Force Mode	Fixed	Simult. Gap N/S	On	Red	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0

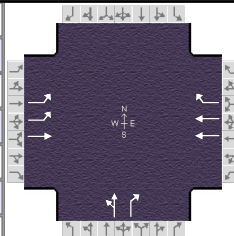
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	1.0	4.0		8.3		11.0		
Phase Duration, s	17.2	81.9		64.7		18.1		
Change Period, (Y+R _c), s	6.2	6.2		6.2		5.1		
Max Allow Headway (MAH), s	3.0	0.0		0.0		3.3		
Queue Clearance Time (g _s), s	9.4					12.5		
Green Extension Time (g _e), s	1.5	0.0		0.0		0.5		
Phase Call Probability	1.00					1.00		
Max Out Probability	0.00					0.00		

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16	3	8	18			
Adjusted Flow Rate (v), veh/h	664	419			348	337		112	157			
Adjusted Saturation Flow Rate (s), veh/h/ln	1580	1709			1709	1650		1641	1460			
Queue Service Time (g _s), s	7.4	14.7			20.3	10.7		6.4	10.5			
Cycle Queue Clearance Time (g _c), s	7.4	14.7			20.3	10.7		6.4	10.5			
Green Ratio (g/C)	0.71	0.76			0.59	0.59		0.13	0.13			
Capacity (c), veh/h	1065	1294			1000	966		213	190			
Volume-to-Capacity Ratio (X)	0.624	0.324			0.348	0.349		0.526	0.828			
Back of Queue (Q), ft/ln (95 th percentile)	83	230			168	160		118	178			
Back of Queue (Q), veh/ln (95 th percentile)	3.2	9.0			6.6	6.4		4.6	7.0			
Queue Storage Ratio (RQ) (95 th percentile)	0.13	0.35			0.25	0.24		0.09	1.37			
Uniform Delay (d ₁), s/veh	9.8	9.8			10.8	10.8		40.6	42.4			
Incremental Delay (d ₂), s/veh	0.2	0.6			1.0	1.0		0.7	3.5			
Initial Queue Delay (d ₃), s/veh	0.0	0.0			0.0	0.0		0.0	0.0			
Control Delay (d), s/veh	10.0	10.4			11.8	11.8		41.4	45.9			
Level of Service (LOS)	B	B			B	B		D	D			
Approach Delay, s/veh / LOS	10.2	B		11.8	B		44.0	D		0.0		
Intersection Delay, s/veh / LOS	15.2						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.62	B	1.66	B	1.95	B	2.31	B
Bicycle LOS Score / LOS	2.21	B	1.05	A	0.93	A		

HCS Signalized Intersection Input Data

General Information				Intersection Information			
Agency	Smart Services Inc.			Duration, h	0.250		
Analyst	TJS	Analysis Date	Oct 27, 2025	Area Type	Other		
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.90		
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 7:15		
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2050 Build...				
Project Description	2050 Build w Imp and WB RT lane						



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	990	290			280	90	80	0	70			

Signal Information													
Cycle, s	120.0	Reference Phase	2										
Offset, s	34	Reference Point	End										
Uncoordinated	No	Simult. Gap E/W	On										
Force Mode	Fixed	Simult. Gap N/S	On										
				Green	44.8	47.7	10.0	0.0	0.0	0.0			
				Yellow	5.2	5.2	4.1	0.0	0.0	0.0			
				Red	1.0	1.0	1.0	0.0	0.0	0.0			

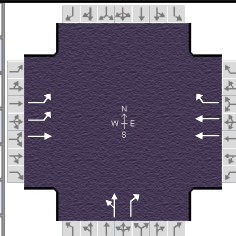
Traffic Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	990	290			280	90	80	0	70			
Initial Queue (Q _b), veh/h	0	0			0	0	0	0	0			
Base Saturation Flow Rate (s ₀), veh/h	1750	1750			1750	1900	1900	1750	1750			
Parking (N _m), man/h		None			None			None				
Heavy Vehicles (P _{HV}), %	3	3			3	0		6	6			
Ped / Bike / RTOR, /h	0	0		0	0	0	0	0	0	0	0	
Buses (N _b), buses/h	0	0	0	0	0	0	0	0	0			
Arrival Type (AT)	3	3			3	3	3	3	3			
Upstream Filtering (I)		1.00			0.12			1.00			1.00	
Lane Width (W), ft	12.0	12.0			12.0	12.0		12.0	12.0			
Turn Bay Length, ft	650	650			675	365		1325	130			
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50			50	50		35	35		35	

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s	50.0	90.0		40.0		30.0		
Yellow Change Interval (Y), s	5.2	5.2		5.2		4.1		
Red Clearance Interval (R _c), s	1.0	1.0		1.0		1.0		
Minimum Green (G _{min}), s	7	20		20		10		
Start-Up Lost Time (lt), s	2.0	2.0		2.0	2.0	2.0		
Extension of Effective Green (e), s	2.0	2.0		2.0	2.0	2.0		
Passage (PT), s	2.0	2.0		2.0		2.0		
Recall Mode	Off	Min		Min		Off		
Dual Entry	No	Yes		Yes		Yes		
Walk (Walk), s		0.0				0.0		0.0
Pedestrian Clearance Time (PC), s		0.0				0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0				0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0				9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0		No	0.0	0	No		0	
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0			
Pedestrian Signal / Occupied Parking	No		0.50			0.50	No		0.50	No		

HCS Signalized Intersection Results Summary

General Information				Intersection Information			
Agency	Smart Services Inc.			Duration, h	0.250		
Analyst	TJS	Analysis Date	Oct 27, 2025	Area Type	Other		
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.90		
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 7:15		
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2050 Build...				
Project Description	2050 Build w Imp and WB RT lane						



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	990	290			280	90	80	0	70			

Signal Information				Phase Diagram								
Cycle, s	120.0	Reference Phase	2									
Offset, s	34	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On									
Force Mode	Fixed	Simult. Gap N/S	On									
Green	44.8	47.7	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	5.2	5.2	4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

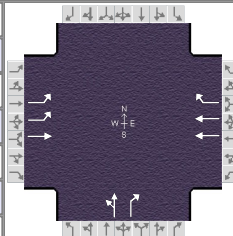
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	2.0	4.0		7.3		11.0		
Phase Duration, s	51.0	104.9		53.9		15.1		
Change Period, ($Y+R_c$), s	6.2	6.2		6.2		5.1		
Max Allow Headway (MAH), s	3.0	0.0		0.0		3.3		
Queue Clearance Time (g_s), s	42.1					8.5		
Green Extension Time (g_e), s	2.7	0.0		0.0		0.3		
Phase Call Probability	1.00					1.00		
Max Out Probability	0.01					0.00		

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16	3	8	18			
Adjusted Flow Rate (v), veh/h	1100	322			589	189		89	78			
Adjusted Saturation Flow Rate (s), veh/h/ln	1580	1709			1627	1610		1589	1414			
Queue Service Time (g_s), s	40.1	4.9			14.8	7.7		6.5	6.4			
Cycle Queue Clearance Time (g_c), s	40.1	4.9			14.8	7.7		6.5	6.4			
Green Ratio (g/C)	0.37	0.82			0.40	0.40		0.08	0.08			
Capacity (c), veh/h	1180	1406			1294	641		132	117			
Volume-to-Capacity Ratio (X)	0.932	0.229			0.455	0.296		0.674	0.663			
Back of Queue (Q), ft/ln (95 th percentile)	568	46			165	88		126	110			
Back of Queue (Q), veh/ln (95 th percentile)	22.2	1.8			6.4	3.5		4.8	4.2			
Queue Storage Ratio (RQ) (95 th percentile)	0.87	0.07			0.24	0.24		0.09	0.85			
Uniform Delay (d_1), s/veh	36.1	2.3			23.4	18.2		53.4	53.4			
Incremental Delay (d_2), s/veh	7.8	0.4			0.1	0.1		2.2	2.4			
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0	0.0		0.0	0.0			
Control Delay (d), s/veh	43.9	2.7			23.6	18.3		55.7	55.8			
Level of Service (LOS)	D	A			C	B		E	E			
Approach Delay, s/veh / LOS	34.6	C		22.3	C		55.7	E	0.0			
Intersection Delay, s/veh / LOS	32.0						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.60	B	1.70	B	2.15	B	2.32	B
Bicycle LOS Score / LOS	2.83	C	0.83	A	0.76	A		

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Oct 27, 2025	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.89
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 4:45
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2050 Build...		
Project Description	2050 Build w Imp and WB RT lane				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	570	360			550	60	100	0	140			

Signal Information													
Cycle, s	100.0	Reference Phase	2										
Offset, s	38	Reference Point	End										
Uncoordinated	No	Simult. Gap E/W	On	Green	10.9	58.5	13.0	0.0	0.0	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.2	5.2	4.1	0.0	0.0	0.0			
				Red	1.0	1.0	1.0	0.0	0.0	0.0			

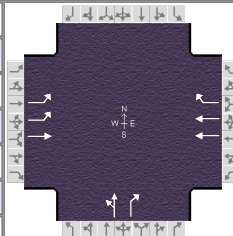
Traffic Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	570	360			550	60	100	0	140			
Initial Queue (Q _b), veh/h	0	0			0	0	0	0	0			
Base Saturation Flow Rate (s ₀), veh/h	1750	1750			1750	1750	1750	1750	1750			
Parking (N _m), man/h		None			None			None				
Heavy Vehicles (P _{HV}), %	3	3			3	0		2	2			
Ped / Bike / RTOR, /h	0	0		0	0	0	0	0	0	0	0	
Buses (N _b), buses/h	0	0	0	0	0	0	0	0	0			
Arrival Type (AT)	3	3			3	3	3	3	3			
Upstream Filtering (I)		0.84			1.00			1.00			1.00	
Lane Width (W), ft	12.0	12.0			12.0	12.0		12.0	12.0			
Turn Bay Length, ft	650	650			675	365		1325	130			
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50			50	50	35	35	35			

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s	36.0	63.0		27.0		37.0		
Yellow Change Interval (Y), s	5.2	5.2		5.2		4.1		
Red Clearance Interval (R _c), s	1.0	1.0		1.0		1.0		
Minimum Green (G _{min}), s	7	20		20		10		
Start-Up Lost Time (I _t), s	2.0	2.0		2.0	2.0	2.0		
Extension of Effective Green (e), s	2.0	2.0		2.0	2.0	2.0		
Passage (PT), s	2.0	2.0		2.0		2.0		
Recall Mode	Off	Min		Min		Off		
Dual Entry	No	Yes		Yes		Yes		
Walk (Walk), s		0.0				0.0		0.0
Pedestrian Clearance Time (PC), s		0.0				0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0				0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0				9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0		No	0.0	0	No		0	
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0			
Pedestrian Signal / Occupied Parking	No		0.50			0.50	No		0.50	No		

HCS Signalized Intersection Results Summary

General Information				Intersection Information			
Agency	Smart Services Inc.			Duration, h	0.250		
Analyst	TJS	Analysis Date	Oct 27, 2025	Area Type	Other		
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.89		
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 4:45		
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2050 Build...				
Project Description	2050 Build w Imp and WB RT lane						



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	570	360			550	60	100	0	140			

Signal Information				Phase Diagram									
Cycle, s	100.0	Reference Phase	2	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Offset, s	38	Reference Point	End	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Uncoordinated	No	Simult. Gap E/W	On	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Force Mode	Fixed	Simult. Gap N/S	On	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
				Green	10.9	58.5	13.0	0.0	0.0	0.0			
				Yellow	5.2	5.2	4.1	0.0	0.0	0.0			
				Red	1.0	1.0	1.0	0.0	0.0	0.0			

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	1.0	4.0		7.3		11.0		
Phase Duration, s	17.1	81.9		64.7		18.1		
Change Period, (Y+R _c), s	6.2	6.2		6.2		5.1		
Max Allow Headway (MAH), s	3.0	0.0		0.0		3.3		
Queue Clearance Time (g _s), s	9.4					12.5		
Green Extension Time (g _e), s	1.5	0.0		0.0		0.5		
Phase Call Probability	1.00					1.00		
Max Out Probability	0.00					0.00		

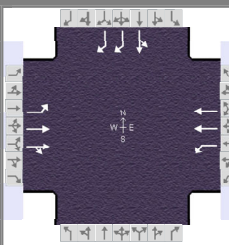
Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Assigned Movement	5	2			6	16	3	8	18			
Adjusted Flow Rate (v), veh/h	664	419			618	67		112	157			
Adjusted Saturation Flow Rate (s), veh/h/ln	1580	1709			1627	1483		1641	1460			
Queue Service Time (g _s), s	7.4	14.7			9.7	2.0		6.4	10.5			
Cycle Queue Clearance Time (g _c), s	7.4	14.7			9.7	2.0		6.4	10.5			
Green Ratio (g/C)	0.71	0.76			0.59	0.59		0.13	0.13			
Capacity (c), veh/h	1270	1294			1905	868		213	190			
Volume-to-Capacity Ratio (X)	0.523	0.324			0.324	0.078		0.526	0.828			
Back of Queue (Q), ft/ln (95 th percentile)	82	230			142	26		118	178			
Back of Queue (Q), veh/ln (95 th percentile)	3.2	9.0			5.5	1.1		4.6	7.0			
Queue Storage Ratio (RQ) (95 th percentile)	0.13	0.35			0.21	0.07		0.09	1.37			
Uniform Delay (d ₁), s/veh	6.4	9.8			10.6	9.0		40.6	42.4			
Incremental Delay (d ₂), s/veh	0.1	0.6			0.5	0.2		0.7	3.5			
Initial Queue Delay (d ₃), s/veh	0.0	0.0			0.0	0.0		0.0	0.0			
Control Delay (d), s/veh	6.6	10.4			11.1	9.2		41.4	45.9			
Level of Service (LOS)	A	B			B	A		D	D			
Approach Delay, s/veh / LOS	8.0		A	10.9		B	44.0		D	0.0		
Intersection Delay, s/veh / LOS	13.7						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.62	B	1.66	B	2.15	B	2.31	B
Bicycle LOS Score / LOS	2.21	B	1.05	A	0.93	A		

50-SR 3 & I-71 SB Ramps

HCS Signalized Intersection Input Data

General Information				Intersection Information			
Agency	Smart Services Inc.			Duration, h	0.250		
Analyst	TJS	Analysis Date	Jul 2, 2024	Area Type	Other		
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.92		
Urban Street	SR 3/Weymouth Rd	Analysis Year	2030	Analysis Period	1 > 7:15		
Intersection	(50) SR 3 & I-71 SB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2030 No B...				
Project Description	2030 No Build						



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	1	1320	100	50	280					130	2	460

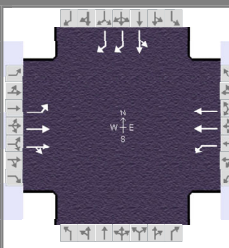
Signal Information				Phase Diagram								
Cycle, s	120.0	Reference Phase	2									
Offset, s	118	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On									
Force Mode	Fixed	Simult. Gap N/S	On									
		Green	52.8	20.9	6.5	16.8	0.0	0.0				
		Yellow	4.1	5.2	4.3	4.1	0.0	0.0				
		Red	1.0	1.0	2.3	1.0	0.0	0.0				

Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	1	1320	100	50	280					130	2	460
Initial Queue (Q_b), veh/h	0	0	0	0	0					0	0	0
Base Saturation Flow Rate (s_o), veh/h	1750	1750	1900	1750	1750					1900	1750	1750
Parking (N_m), man/h		None			None						None	
Heavy Vehicles (P_{HV}), %	3	3		5	5					9	9	
Ped / Bike / RTOR, /h	0	0	0	0	0		0	0		0	0	0
Buses (N_b), buses/h	0	0	0	0	0	0				0	0	0
Arrival Type (AT)	3	3	3	3	3					3	3	3
Upstream Filtering (I)	0.97	0.97	0.97	0.97	0.97					1.00	1.00	1.00
Lane Width (W), ft	12.0	12.0		12.0	12.0					12.0	12.0	
Turn Bay Length, ft	0	450		165	450					1325	165	
Grade (P_g), %		0			0			0			0	
Speed Limit, mi/h	50	50	50	50	50					35	35	35

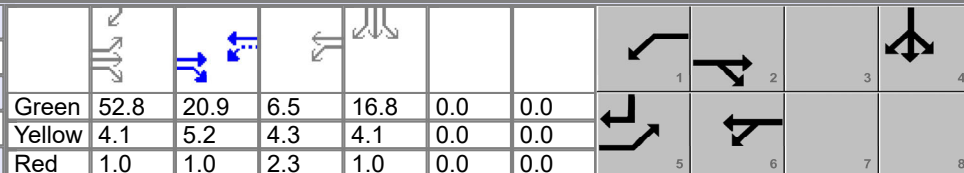
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s	14.0	41.0	63.0	90.0				16.0
Yellow Change Interval (Y), s	4.1	5.2	4.3	5.2				4.1
Red Clearance Interval (R_c), s	1.0	1.0	2.3	1.0				1.0
Minimum Green (G_{min}), s	7	20	7	20				10
Start-Up Lost Time (l_t), s	2.0	2.0	2.0	2.0			2.0	2.0
Extension of Effective Green (e), s	2.0	2.0	2.0	2.0			2.0	2.0
Passage (PT), s	2.0	2.0	2.0	2.0				2.0
Recall Mode	Max	Min	Off	Min				Off
Dual Entry	No	Yes	No	Yes				Yes
Walk ($Walk$), s				0.0		0.0		0.0
Pedestrian Clearance Time (PC), s				0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius				0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft				9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0		No	0.0	0	No		0		0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0				12.0	5.0	2.0
Pedestrian Signal / Occupied Parking			0.50	No		0.50	No			No		0.50

HCS Signalized Intersection Results Summary

General Information				Intersection Information		
Agency	Smart Services Inc.			Duration, h	0.250	
Analyst	TJS	Analysis Date	Jul 2, 2024	Area Type	Other	
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.92	
Urban Street	SR 3/Weymouth Rd	Analysis Year	2030	Analysis Period	1 > 7:15	
Intersection	(50) SR 3 & I-71 SB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2030 No B...			
Project Description	2030 No Build					

Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	1	1320	100	50	280					130	2	460

Signal Information														
Cycle, s	120.0	Reference Phase	2	Green	52.8	20.9	6.5	16.8	0.0	0.0				
Offset, s	118	Reference Point	End	Yellow	4.1	5.2	4.3	4.1	0.0	0.0				
Uncoordinated	No	Simult. Gap E/W	On	Red	1.0	1.0	2.3	1.0	0.0	0.0				
Force Mode	Fixed	Simult. Gap N/S	On											

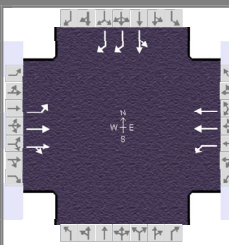
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6				4
Case Number	2.0	4.0	1.3	4.0				11.0
Phase Duration, s	57.9	85.0	13.1	40.2				21.9
Change Period, ($Y+R_c$), s	5.1	6.2	6.6	6.6				5.1
Max Allow Headway (MAH), s	3.0	0.0	3.0	0.0				3.3
Queue Clearance Time (g_s), s	2.0		2.0					15.0
Green Extension Time (g_e), s	0.0	0.0	1.1	0.0				1.8
Phase Call Probability	1.00		0.93					1.00
Max Out Probability	0.00		0.00					0.00

Movement Group Results	EB			WB			NB			SB			
	L	T	R	L	T	R	L	T	R	L	T	R	
Assigned Movement	5	2	12	1	6					7	4	14	
Adjusted Flow Rate (v), veh/h	0	314	307	78	438						143	500	
Adjusted Saturation Flow Rate (s), veh/h/ln	1628	1709	1666	1602	1601						1551	1220	
Queue Service Time (g_s), s	0.0	8.6	8.4	0.0	8.7						10.5	13.0	
Cycle Queue Clearance Time (g_c), s	0.0	8.6	8.4	0.0	8.7						10.5	13.0	
Green Ratio (g/C)	0.44	0.66	0.66	0.21	0.28						0.14	0.58	
Capacity (c), veh/h	714	1122	1094	271	899						218	1414	
Volume-to-Capacity Ratio (X)	0.001	0.280	0.281	0.289	0.488						0.659	0.354	
Back of Queue (Q), ft/ln (95 th percentile)	0	130	124	92	124						198	166	
Back of Queue (Q), veh/ln (95 th percentile)	0.0	5.1	4.9	3.5	4.8						7.4	6.2	
Queue Storage Ratio (RQ) (95 th percentile)	0.00	0.29	0.28	0.56	0.27						0.15	1.01	
Uniform Delay (d_1), s/veh	16.3	7.8	7.6	41.2	17.3						48.9	13.4	
Incremental Delay (d_2), s/veh	0.0	0.6	0.6	0.2	1.8						1.3	0.1	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0						0.0	0.0	
Control Delay (d), s/veh	16.3	8.4	8.2	41.4	19.2						50.1	13.4	
Level of Service (LOS)	B	A	A	D	B						D	B	
Approach Delay, s/veh / LOS	8.3		A	22.5		C	0.0				21.6		C
Intersection Delay, s/veh / LOS	17.2						B						

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.44	A	2.13	B	2.32	B	2.32	B
Bicycle LOS Score / LOS	1.76	B	0.78	A			1.55	B

HCS Signalized Intersection Input Data

General Information				Intersection Information			
Agency	Smart Services Inc.			Duration, h	0.250		
Analyst	TJS	Analysis Date	Jul 2, 2024	Area Type	Other		
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.90		
Urban Street	SR 3/Weymouth Rd	Analysis Year	2030	Analysis Period	1 > 4:45		
Intersection	(50) SR 3 & I-71 SB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2030 No B...				
Project Description	2030 No Build						



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (<i>v</i>), veh/h	1	830	60	70	540					150	1	1010

Signal Information				Phase Diagram								
Cycle, s	100.0	Reference Phase	2									
Offset, s	1	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On									
Force Mode	Fixed	Simult. Gap N/S	On									
		Green	25.9	24.8	6.2	20.1	0.0	0.0				
		Yellow	4.1	5.2	4.3	4.1	0.0	0.0				
		Red	1.0	1.0	2.3	1.0	0.0	0.0				

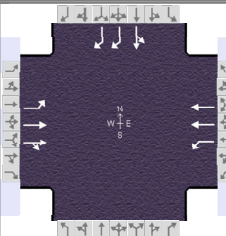
Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (<i>v</i>), veh/h	1	830	60	70	540					150	1	1010
Initial Queue (<i>Q_b</i>), veh/h	0	0	0	0	0					0	0	0
Base Saturation Flow Rate (<i>s₀</i>), veh/h	1750	1750	1900	1750	1750					1900	1750	1750
Parking (<i>N_m</i>), man/h	None			None						None		
Heavy Vehicles (<i>P_{HV}</i>), %	3	3		4	4					2	2	
Ped / Bike / RTOR, /h	0	0	0	0	0		0	0		0	0	0
Buses (<i>N_b</i>), buses/h	0	0	0	0	0	0				0	0	0
Arrival Type (<i>AT</i>)	3	3	3	3	3					3	3	3
Upstream Filtering (<i>I</i>)	0.88	0.88	0.88	0.88	0.88					1.00	1.00	1.00
Lane Width (<i>W</i>), ft	12.0	12.0		12.0	12.0					12.0	12.0	
Turn Bay Length, ft	0	450		165	650					1325	165	
Grade (<i>P_g</i>), %	0			0			0			0		
Speed Limit, mi/h	50	50	50	50	50					35	35	35

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (<i>G_{max}</i>) or Phase Split, s	31.0	62.0	20.0	51.0				18.0
Yellow Change Interval (<i>Y</i>), s	4.1	5.2	4.3	5.2				4.1
Red Clearance Interval (<i>R_c</i>), s	1.0	1.0	2.3	1.0				1.0
Minimum Green (<i>G_{min}</i>), s	7	20	7	20				10
Start-Up Lost Time (<i>l_t</i>), s	2.0	2.0	2.0	2.0			2.0	2.0
Extension of Effective Green (<i>e</i>), s	2.0	2.0	2.0	2.0			2.0	2.0
Passage (<i>PT</i>), s	2.0	2.0	2.0	2.0				2.0
Recall Mode	Max	Min	Off	Min				Off
Dual Entry	No	Yes	No	Yes				Yes
Walk (<i>Walk</i>), s				0.0		0.0		0.0
Pedestrian Clearance Time (<i>PC</i>), s				0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius				0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft				9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0		No	0.0	0	No		0		0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0				12.0	5.0	2.0
Pedestrian Signal / Occupied Parking			0.50	No		0.50	No			No		0.50

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Jul 2, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.90
Urban Street	SR 3/Weymouth Rd	Analysis Year	2030	Analysis Period	1 > 4:45
Intersection	(50) SR 3 & I-71 SB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2030 No B...		
Project Description	2030 No Build				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	1	830	60	70	540					150	1	1010

Signal Information				Signal Phases								
Cycle, s	100.0	Reference Phase	2									
Offset, s	1	Reference Point	End	Green	25.9	24.8	6.2	20.1	0.0	0.0		
Uncoordinated	No	Simult. Gap E/W	On	Yellow	4.1	5.2	4.3	4.1	0.0	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Red	1.0	1.0	2.3	1.0	0.0	0.0		

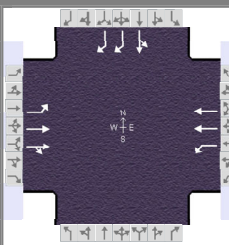
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6				4
Case Number	2.0	4.0	1.3	4.0				11.0
Phase Duration, s	31.0	62.0	12.8	43.8				25.2
Change Period, ($Y+R_c$), s	5.1	6.2	6.6	6.6				5.1
Max Allow Headway (MAH), s	3.0	0.0	3.0	0.0				3.4
Queue Clearance Time (g_s), s	2.0		2.0					22.1
Green Extension Time (g_e), s	0.0	0.0	1.3	0.0				0.0
Phase Call Probability	1.00		0.89					1.00
Max Out Probability	0.00		0.01					1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6					7	4	14
Adjusted Flow Rate (v), veh/h	1	479	468	79	607						168	1122
Adjusted Saturation Flow Rate (s), veh/h/ln	1628	1709	1668	1615	1614						1641	1292
Queue Service Time (g_s), s	0.0	20.8	20.7	0.0	17.3						9.1	20.1
Cycle Queue Clearance Time (g_c), s	0.0	20.8	20.7	0.0	17.3						9.1	20.1
Green Ratio (g/C)	0.26	0.56	0.56	0.29	0.37						0.20	0.46
Capacity (c), veh/h	422	954	931	305	1200						330	1189
Volume-to-Capacity Ratio (X)	0.003	0.503	0.503	0.258	0.506						0.509	0.944
Back of Queue (Q), ft/ln (95 th percentile)	1	342	332	73	302						166	517
Back of Queue (Q), veh/ln (95 th percentile)	0.0	13.4	13.0	2.8	11.7						6.5	20.3
Queue Storage Ratio (RQ) (95 th percentile)	0.00	0.76	0.74	0.44	0.46						0.12	3.13
Uniform Delay (d_1), s/veh	27.9	19.2	19.0	31.5	34.1						35.6	25.7
Incremental Delay (d_2), s/veh	0.0	1.8	1.8	0.1	1.3						0.5	14.4
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0						0.0	0.0
Control Delay (d), s/veh	27.9	20.9	20.8	31.6	35.5						36.1	40.2
Level of Service (LOS)	C	C	C	C	D						D	D
Approach Delay, s/veh / LOS	20.9	C		35.0	D		0.0			39.7	D	
Intersection Delay, s/veh / LOS			32.5						C			

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.43	A	2.11	B	2.31	B	2.31	B
Bicycle LOS Score / LOS	1.30	A	1.05	A			2.62	C

HCS Signalized Intersection Input Data

General Information				Intersection Information			
Agency	Smart Services Inc.			Duration, h	0.250		
Analyst	TJS	Analysis Date	Jul 16, 2024		Area Type	Other	
Jurisdiction	ODOT	Time Period	AM Peak		PHF	0.92	
Urban Street	SR 3/Weymouth Rd		Analysis Year	2030		Analysis Period	1 > 7:15
Intersection	(50) SR 3 & I-71 SB Ra...		File Name	Signalized Capacity Group 2 (20-70) - 2030 Build...			
Project Description	2030 Build						



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	1	1140	280	50	280					80	2	460

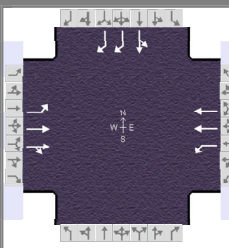
Signal Information				Signal Phases											
Cycle, s	120.0	Reference Phase	2												
Offset, s	118	Reference Point	End	Green	52.8	20.9	6.5	16.7	0.0	0.0					
Uncoordinated	No	Simult. Gap E/W	On	Yellow	4.1	5.2	4.3	4.1	0.0	0.0					
Force Mode	Fixed	Simult. Gap N/S	On	Red	1.0	1.0	2.3	1.0	0.0	0.0					

Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	1	1140	280	50	280					80	2	460
Initial Queue (Q _b), veh/h	0	0	0	0	0					0	0	0
Base Saturation Flow Rate (s ₀), veh/h	1750	1750	1900	1750	1750					1900	1750	1750
Parking (N _m), man/h		None			None						None	
Heavy Vehicles (P _{HV}), %	3	3		5	5						9	9
Ped / Bike / RTOR, /h	0	0	0	0	0		0	0		0	0	0
Buses (N _b), buses/h	0	0	0	0	0	0				0	0	0
Arrival Type (AT)	3	3	3	3	3					3	3	3
Upstream Filtering (I)	0.97	0.97	0.97	0.97	0.97					1.00	1.00	1.00
Lane Width (W), ft	12.0	12.0		12.0	12.0						12.0	12.0
Turn Bay Length, ft	0	450		165	525						1325	165
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50	50	50	50					35	35	35

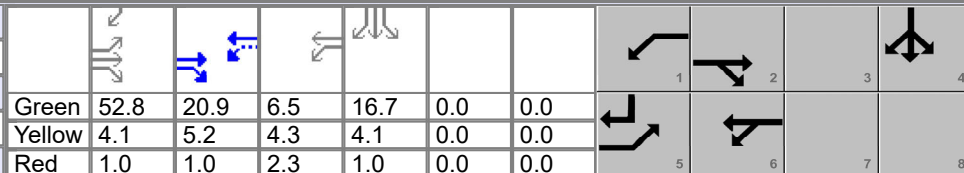
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s	14.0	41.0	63.0	90.0				16.0
Yellow Change Interval (Y), s	4.1	5.2	4.3	5.2				4.1
Red Clearance Interval (R _c), s	1.0	1.0	2.3	1.0				1.0
Minimum Green (G _{min}), s	7	20	7	20				10
Start-Up Lost Time (l _t), s	2.0	2.0	2.0	2.0			2.0	2.0
Extension of Effective Green (e), s	2.0	2.0	2.0	2.0			2.0	2.0
Passage (P _T), s	2.0	2.0	2.0	2.0				2.0
Recall Mode	Max	Min	Off	Min				Off
Dual Entry	No	Yes	No	Yes				Yes
Walk (Walk), s				0.0		0.0		0.0
Pedestrian Clearance Time (P _C), s				0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius				0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft				9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0		No	0.0	0	No		0		0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0				12.0	5.0	2.0
Pedestrian Signal / Occupied Parking			0.50	No		0.50	No			No		0.50

HCS Signalized Intersection Results Summary

General Information				Intersection Information		
Agency	Smart Services Inc.			Duration, h	0.250	
Analyst	TJS	Analysis Date	Jul 16, 2024	Area Type	Other	
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.92	
Urban Street	SR 3/Weymouth Rd	Analysis Year	2030	Analysis Period	1 > 7:15	
Intersection	(50) SR 3 & I-71 SB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2030 Build...			
Project Description	2030 Build					

Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	1	1140	280	50	280					80	2	460

Signal Information														
Cycle, s	120.0	Reference Phase	2	Green	52.8	20.9	6.5	16.7	0.0	0.0				
Offset, s	118	Reference Point	End	Yellow	4.1	5.2	4.3	4.1	0.0	0.0				
Uncoordinated	No	Simult. Gap E/W	On	Red	1.0	1.0	2.3	1.0	0.0	0.0				
Force Mode	Fixed	Simult. Gap N/S	On											

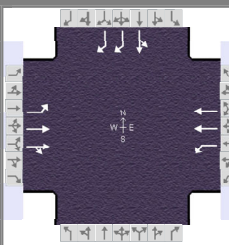
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6				4
Case Number	2.0	4.0	1.3	4.0				11.0
Phase Duration, s	57.9	85.0	13.1	40.3				21.8
Change Period, ($Y+R_c$), s	5.1	6.2	6.6	6.6				5.1
Max Allow Headway (MAH), s	3.0	0.0	3.0	0.0				3.4
Queue Clearance Time (g_s), s	2.0		2.0					15.0
Green Extension Time (g_e), s	0.0	0.0	1.2	0.0				1.7
Phase Call Probability	1.00		0.94					1.00
Max Out Probability	0.00		0.00					0.00

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Assigned Movement	5	2	12	1	6					7	4	14
Adjusted Flow Rate (v), veh/h	0	187	179	82	459					89	500	
Adjusted Saturation Flow Rate (s), veh/h/ln	1628	1709	1593	1602	1601					1551	1220	
Queue Service Time (g_s), s	0.0	5.3	5.0	0.0	9.5					6.3	13.0	
Cycle Queue Clearance Time (g_c), s	0.0	5.3	5.0	0.0	9.5					6.3	13.0	
Green Ratio (g/C)	0.44	0.66	0.66	0.21	0.28					0.14	0.58	
Capacity (c), veh/h	715	1122	1046	304	900					217	1413	
Volume-to-Capacity Ratio (X)	0.000	0.167	0.171	0.270	0.510					0.411	0.354	
Back of Queue (Q), ft/ln (95 th percentile)	0	84	72	94	133					118	166	
Back of Queue (Q), veh/ln (95 th percentile)	0.0	3.3	2.8	3.6	5.1					4.4	6.2	
Queue Storage Ratio (RQ) (95 th percentile)	0.00	0.19	0.16	0.57	0.25					0.09	1.01	
Uniform Delay (d_1), s/veh	16.5	8.4	7.5	40.3	17.9					47.1	13.4	
Incremental Delay (d_2), s/veh	0.0	0.3	0.3	0.2	2.0					0.5	0.1	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0					0.0	0.0	
Control Delay (d), s/veh	16.6	8.8	7.9	40.5	19.9					47.6	13.4	
Level of Service (LOS)	B	A	A	D	B					D	B	
Approach Delay, s/veh / LOS	8.3		A	23.0		C	0.0			18.6		B
Intersection Delay, s/veh / LOS	17.7						B					

Multimodal Results	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	1.44		A	2.13		B	2.32		B	2.32		B
Bicycle LOS Score / LOS	1.76		B	0.78		A				1.46		A

HCS Signalized Intersection Input Data

General Information				Intersection Information			
Agency	Smart Services Inc.			Duration, h	0.250		
Analyst	TJS	Analysis Date	Jul 16, 2024		Area Type	Other	
Jurisdiction	ODOT	Time Period	PM Peak		PHF	0.90	
Urban Street	SR 3/Weymouth Rd		Analysis Year	2030		Analysis Period	1 > 4:45
Intersection	(50) SR 3 & I-71 SB Ra...		File Name	Signalized Capacity Group 2 (20-70) - 2030 Build...			
Project Description	2030 Build						



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	1	760	130	70	540					120	0	1010

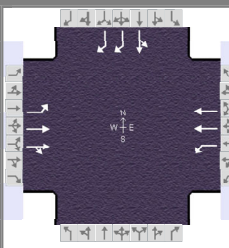
Signal Information				Phase Diagram								
Cycle, s	100.0	Reference Phase	2									
Offset, s	1	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On									
Force Mode	Fixed	Simult. Gap N/S	On									
		Green	25.9	24.8	6.2	20.1	0.0	0.0				
		Yellow	4.1	5.2	4.3	4.1	0.0	0.0				
		Red	1.0	1.0	2.3	1.0	0.0	0.0				

Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	1	760	130	70	540					120	0	1010
Initial Queue (Q _b), veh/h	0	0	0	0	0					0	0	0
Base Saturation Flow Rate (s _o), veh/h	1750	1750	1900	1750	1750					1900	1750	1750
Parking (N _m), man/h		None			None						None	
Heavy Vehicles (P _{HV}), %	3	3		4	4					2	2	
Ped / Bike / RTOR, /h	0	0	0	0	0		0	0		0	0	0
Buses (N _b), buses/h	0	0	0	0	0	0				0	0	0
Arrival Type (AT)	3	3	3	3	3					3	3	3
Upstream Filtering (I)	0.92	0.92	0.92	0.92	0.92					1.00	1.00	1.00
Lane Width (W), ft	12.0	12.0		12.0	12.0					12.0	12.0	
Turn Bay Length, ft	0	450		165	650					1325	165	
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50	50	50	50					35	35	35

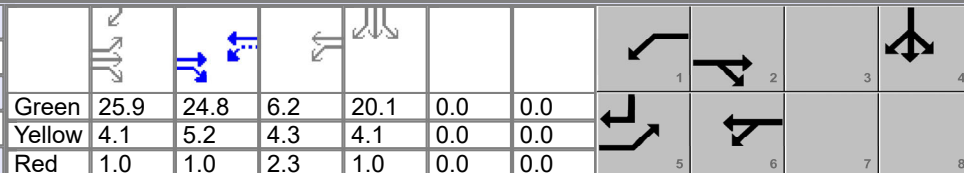
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s	31.0	62.0	20.0	51.0				18.0
Yellow Change Interval (Y), s	4.1	5.2	4.3	5.2				4.1
Red Clearance Interval (R _c), s	1.0	1.0	2.3	1.0				1.0
Minimum Green (G _{min}), s	7	20	7	20				10
Start-Up Lost Time (l _t), s	2.0	2.0	2.0	2.0			2.0	2.0
Extension of Effective Green (e), s	2.0	2.0	2.0	2.0			2.0	2.0
Passage (PT), s	2.0	2.0	2.0	2.0				2.0
Recall Mode	Max	Min	Off	Min				Off
Dual Entry	No	Yes	No	Yes				Yes
Walk (Walk), s				0.0		0.0		0.0
Pedestrian Clearance Time (PC), s				0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius				0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft				9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0		No	0.0	0	No		0		0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0				12.0	5.0	2.0
Pedestrian Signal / Occupied Parking			0.50	No		0.50	No			No		0.50

HCS Signalized Intersection Results Summary

General Information				Intersection Information		
Agency	Smart Services Inc.			Duration, h	0.250	
Analyst	TJS	Analysis Date	Jul 16, 2024	Area Type	Other	
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.90	
Urban Street	SR 3/Weymouth Rd	Analysis Year	2030	Analysis Period	1 > 4:45	
Intersection	(50) SR 3 & I-71 SB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2030 Build...			
Project Description	2030 Build					

Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	1	760	130	70	540					120	0	1010

Signal Information														
Cycle, s	100.0	Reference Phase	2	Green	25.9	24.8	6.2	20.1	0.0	0.0				
Offset, s	1	Reference Point	End	Yellow	4.1	5.2	4.3	4.1	0.0	0.0				
Uncoordinated	No	Simult. Gap E/W	On	Red	1.0	1.0	2.3	1.0	0.0	0.0				
Force Mode	Fixed	Simult. Gap N/S	On											

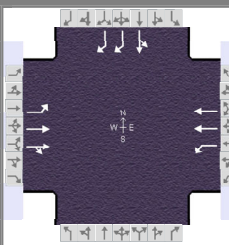
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6				4
Case Number	2.0	4.0	1.3	4.0				11.0
Phase Duration, s	31.0	62.0	12.8	43.8				25.2
Change Period, ($Y+R_c$), s	5.1	6.2	6.6	6.6				5.1
Max Allow Headway (MAH), s	3.0	0.0	3.0	0.0				3.4
Queue Clearance Time (g_s), s	2.1		2.0					22.1
Green Extension Time (g_e), s	0.0	0.0	1.3	0.0				0.0
Phase Call Probability	1.00		0.89					1.00
Max Out Probability	0.00		0.01					1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6					7	4	14
Adjusted Flow Rate (v), veh/h	1	502	476	79	607					133	1122	
Adjusted Saturation Flow Rate (s), veh/h/ln	1628	1709	1621	1615	1614					1641	1292	
Queue Service Time (g_s), s	0.1	22.2	22.0	0.0	17.4					7.1	20.1	
Cycle Queue Clearance Time (g_c), s	0.1	22.2	22.0	0.0	17.4					7.1	20.1	
Green Ratio (g/C)	0.26	0.56	0.56	0.29	0.37					0.20	0.46	
Capacity (c), veh/h	422	954	905	301	1200					329	1189	
Volume-to-Capacity Ratio (X)	0.003	0.526	0.526	0.261	0.506					0.405	0.944	
Back of Queue (Q), ft/ln (95 th percentile)	1	362	342	74	307					128	516	
Back of Queue (Q), veh/ln (95 th percentile)	0.0	14.2	13.3	2.9	11.9					5.0	20.3	
Queue Storage Ratio (RQ) (95 th percentile)	0.00	0.81	0.76	0.45	0.47					0.10	3.13	
Uniform Delay (d_1), s/veh	28.1	19.8	19.3	31.6	34.4					34.8	25.7	
Incremental Delay (d_2), s/veh	0.0	1.9	2.0	0.2	1.4					0.3	14.4	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0					0.0	0.0	
Control Delay (d), s/veh	28.1	21.8	21.4	31.8	35.8					35.1	40.2	
Level of Service (LOS)	C	C	C	C	D					D	D	
Approach Delay, s/veh / LOS	21.6	C		35.3	D		0.0			39.6	D	
Intersection Delay, s/veh / LOS	32.6						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.43	A	2.11	B	2.31	B	2.31	B
Bicycle LOS Score / LOS	1.30	A	1.05	A			2.56	C

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Feb 7, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.92
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 7:15
Intersection	(50) SR 3 & I-71 SB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2050 No B...		
Project Description	2050 No Build				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	1	1370	110	50	310					140	2	480

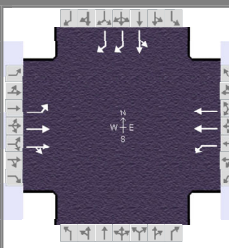
Signal Information				Signal Phases											
Cycle, s	120.0	Reference Phase	2												
Offset, s	118	Reference Point	End	Green	52.0	20.9	6.4	17.6	0.0	0.0					
Uncoordinated	No	Simult. Gap E/W	On	Yellow	4.1	5.2	4.3	4.1	0.0	0.0					
Force Mode	Fixed	Simult. Gap N/S	On	Red	1.0	1.0	2.3	1.0	0.0	0.0					

Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	1	1370	110	50	310					140	2	480
Initial Queue (Q _b), veh/h	0	0	0	0	0					0	0	0
Base Saturation Flow Rate (s ₀), veh/h	1750	1750	1900	1750	1750					1900	1750	1750
Parking (N _m), man/h		None			None						None	
Heavy Vehicles (P _{HV}), %	3	3		5	5						9	9
Ped / Bike / RTOR, /h	0	0	0	0	0		0	0		0	0	0
Buses (N _b), buses/h	0	0	0	0	0	0				0	0	0
Arrival Type (AT)	3	3	3	3	3					3	3	3
Upstream Filtering (I)	0.97	0.97	0.97	0.97	0.97					1.00	1.00	1.00
Lane Width (W), ft	12.0	12.0		12.0	12.0						12.0	12.0
Turn Bay Length, ft	0	450		165	525						1325	165
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50	50	50	50					35	35	35

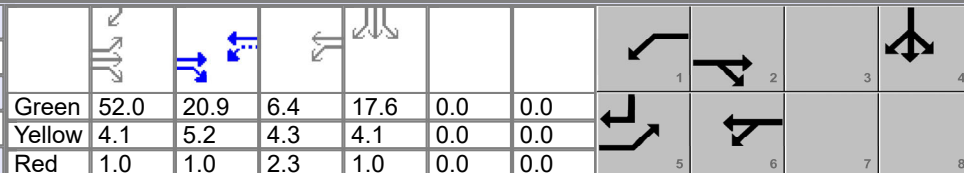
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s	14.0	41.0	63.0	90.0				16.0
Yellow Change Interval (Y), s	4.1	5.2	4.3	5.2				4.1
Red Clearance Interval (R _c), s	1.0	1.0	2.3	1.0				1.0
Minimum Green (G _{min}), s	7	20	7	20				10
Start-Up Lost Time (l _t), s	2.0	2.0	2.0	2.0			2.0	2.0
Extension of Effective Green (e), s	2.0	2.0	2.0	2.0			2.0	2.0
Passage (P _T), s	2.0	2.0	2.0	2.0				2.0
Recall Mode	Max	Min	Off	Min				Off
Dual Entry	No	Yes	No	Yes				Yes
Walk (Walk), s				0.0		0.0		0.0
Pedestrian Clearance Time (P _C), s				0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius				0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft				9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0		No	0.0	0	No		0		0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0				12.0	5.0	2.0
Pedestrian Signal / Occupied Parking			0.50	No		0.50	No			No		0.50

HCS Signalized Intersection Results Summary

General Information				Intersection Information		
Agency	Smart Services Inc.			Duration, h	0.250	
Analyst	TJS	Analysis Date	Feb 7, 2024	Area Type	Other	
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.92	
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 7:15	
Intersection	(50) SR 3 & I-71 SB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2050 No B...			
Project Description	2050 No Build					

Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	1	1370	110	50	310					140	2	480

Signal Information														
Cycle, s	120.0	Reference Phase	2	Green	52.0	20.9	6.4	17.6	0.0	0.0				
Offset, s	118	Reference Point	End	Yellow	4.1	5.2	4.3	4.1	0.0	0.0				
Uncoordinated	No	Simult. Gap E/W	On	Red	1.0	1.0	2.3	1.0	0.0	0.0				
Force Mode	Fixed	Simult. Gap N/S	On											

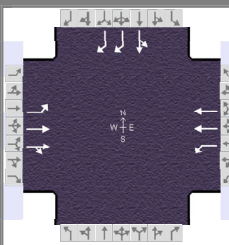
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6				4
Case Number	2.0	4.0	1.3	4.0				11.0
Phase Duration, s	57.1	84.3	13.0	40.2				22.7
Change Period, ($Y+R_c$), s	5.1	6.2	6.6	6.6				5.1
Max Allow Headway (MAH), s	3.0	0.0	3.0	0.0				3.3
Queue Clearance Time (g_s), s	2.0		2.0					15.7
Green Extension Time (g_e), s	0.0	0.0	1.2	0.0				1.9
Phase Call Probability	1.00		0.92					1.00
Max Out Probability	0.00		0.00					0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6					7	4	14
Adjusted Flow Rate (v), veh/h	0	331	324	75	466					154	522	
Adjusted Saturation Flow Rate (s), veh/h/ln	1628	1709	1664	1602	1601					1551	1220	
Queue Service Time (g_s), s	0.0	9.4	9.2	0.0	9.7					11.3	13.7	
Cycle Queue Clearance Time (g_c), s	0.0	9.4	9.2	0.0	9.7					11.3	13.7	
Green Ratio (g/C)	0.43	0.65	0.65	0.21	0.28					0.15	0.58	
Capacity (c), veh/h	705	1111	1082	266	897					228	1415	
Volume-to-Capacity Ratio (X)	0.001	0.298	0.299	0.283	0.520					0.677	0.369	
Back of Queue (Q), ft/ln (95 th percentile)	0	144	136	88	136					211	175	
Back of Queue (Q), veh/ln (95 th percentile)	0.0	5.6	5.3	3.4	5.2					7.9	6.5	
Queue Storage Ratio (RQ) (95 th percentile)	0.00	0.32	0.30	0.53	0.26					0.16	1.06	
Uniform Delay (d_1), s/veh	16.5	8.3	8.0	41.1	17.9					48.5	13.5	
Incremental Delay (d_2), s/veh	0.0	0.6	0.6	0.2	2.1					1.3	0.1	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0					0.0	0.0	
Control Delay (d), s/veh	16.5	8.9	8.7	41.3	20.0					49.8	13.5	
Level of Service (LOS)	B	A	A	D	C					D	B	
Approach Delay, s/veh / LOS	8.8		A	23.0		C	0.0			21.8		C
Intersection Delay, s/veh / LOS	17.6						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.44	A	2.13	B	2.32	B	2.32	B
Bicycle LOS Score / LOS	1.82	B	0.81	A			1.60	B

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Feb 8, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.90
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 4:45
Intersection	(50) SR 3 & I-71 SB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2050 No B...		
Project Description	2050 No Build				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	1	870	70	80	570					160	1	1050

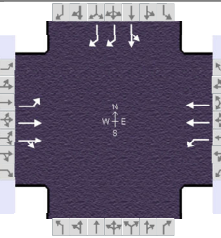
Signal Information				Phase Diagram								
Cycle, s	100.0	Reference Phase	2									
Offset, s	1	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On									
Force Mode	Fixed	Simult. Gap N/S	On									
		Green	25.9	24.8	6.4	19.9	0.0	0.0				
		Yellow	4.1	5.2	4.3	4.1	0.0	0.0				
		Red	1.0	1.0	2.3	1.0	0.0	0.0				

Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	1	870	70	80	570					160	1	1050
Initial Queue (Q _b), veh/h	0	0	0	0	0					0	0	0
Base Saturation Flow Rate (s ₀), veh/h	1750	1750	1900	1750	1750					1900	1750	1750
Parking (N _m), man/h		None			None						None	
Heavy Vehicles (P _{HV}), %	3	3		4	4						2	2
Ped / Bike / RTOR, /h	0	0	0	0	0		0	0		0	0	0
Buses (N _b), buses/h	0	0	0	0	0	0				0	0	0
Arrival Type (AT)	3	3	3	3	3					3	3	3
Upstream Filtering (I)	0.81	0.81	0.81	0.81	0.81					1.00	1.00	1.00
Lane Width (W), ft	12.0	12.0		12.0	12.0						12.0	12.0
Turn Bay Length, ft	0	450		165	650						1325	165
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50	50	50	50					35	35	35

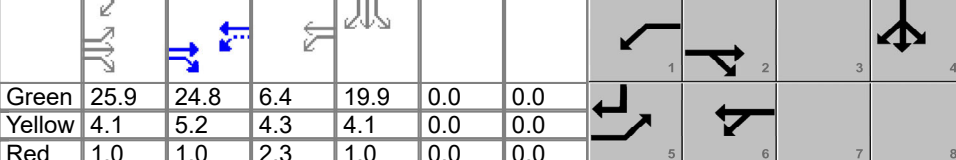
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s	31.0	62.0	20.0	51.0				18.0
Yellow Change Interval (Y), s	4.1	5.2	4.3	5.2				4.1
Red Clearance Interval (R _c), s	1.0	1.0	2.3	1.0				1.0
Minimum Green (G _{min}), s	7	20	7	20				10
Start-Up Lost Time (l _t), s	2.0	2.0	2.0	2.0			2.0	2.0
Extension of Effective Green (e), s	2.0	2.0	2.0	2.0			2.0	2.0
Passage (PT), s	2.0	2.0	2.0	2.0				2.0
Recall Mode	Max	Min	Off	Min				Off
Dual Entry	No	Yes	No	Yes				Yes
Walk (Walk), s				0.0		0.0		0.0
Pedestrian Clearance Time (PC), s				0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius				0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft				9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0		No	0.0	0	No		0		0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0				12.0	5.0	2.0
Pedestrian Signal / Occupied Parking			0.50	No		0.50	No			No		0.50

HCS Signalized Intersection Results Summary

General Information				Intersection Information		
Agency	Smart Services Inc.			Duration, h	0.250	
Analyst	TJS	Analysis Date	Feb 8, 2024	Area Type	Other	
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.90	
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 4:45	
Intersection	(50) SR 3 & I-71 SB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2050 No B...			
Project Description	2050 No Build					

Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	1	870	70	80	570					160	1	1050

Signal Information														
Cycle, s	100.0	Reference Phase	2	Green	25.9	24.8	6.4	19.9	0.0	0.0				
Offset, s	1	Reference Point	End	Yellow	4.1	5.2	4.3	4.1	0.0	0.0				
Uncoordinated	No	Simult. Gap E/W	On	Red	1.0	1.0	2.3	1.0	0.0	0.0				
Force Mode	Fixed	Simult. Gap N/S	On											

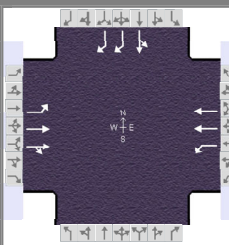
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6				4
Case Number	2.0	4.0	1.3	4.0				11.0
Phase Duration, s	31.0	62.0	13.0	44.0				25.0
Change Period, ($Y+R_c$), s	5.1	6.2	6.6	6.6				5.1
Max Allow Headway (MAH), s	3.0	0.0	3.0	0.0				3.4
Queue Clearance Time (g_s), s	2.0		2.0					21.9
Green Extension Time (g_e), s	0.0	0.0	1.4	0.0				0.0
Phase Call Probability	1.00		0.92					1.00
Max Out Probability	0.00		0.01					1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6					7	4	14
Adjusted Flow Rate (v), veh/h	1	496	483	90	640					179	1167	
Adjusted Saturation Flow Rate (s), veh/h/ln	1628	1709	1664	1615	1614					1641	1292	
Queue Service Time (g_s), s	0.0	21.8	21.7	0.0	17.8					9.8	19.9	
Cycle Queue Clearance Time (g_c), s	0.0	21.8	21.7	0.0	17.8					9.8	19.9	
Green Ratio (g/C)	0.26	0.56	0.56	0.29	0.37					0.20	0.46	
Capacity (c), veh/h	422	954	929	304	1207					326	1184	
Volume-to-Capacity Ratio (X)	0.002	0.520	0.520	0.295	0.531					0.549	0.985	
Back of Queue (Q), ft/ln (95 th percentile)	1	356	346	86	298					180	585	
Back of Queue (Q), veh/ln (95 th percentile)	0.0	13.9	13.5	3.3	11.6					7.1	23.0	
Queue Storage Ratio (RQ) (95 th percentile)	0.00	0.79	0.77	0.52	0.46					0.14	3.55	
Uniform Delay (d_1), s/veh	28.0	19.6	19.4	32.3	32.3					36.0	26.8	
Incremental Delay (d_2), s/veh	0.0	1.9	1.9	0.2	1.4					1.1	22.6	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0					0.0	0.0	
Control Delay (d), s/veh	28.0	21.5	21.3	32.5	33.7					37.2	49.3	
Level of Service (LOS)	C	C	C	C	C					D	D	
Approach Delay, s/veh / LOS	21.4	C		33.5	C			0.0		47.7	D	
Intersection Delay, s/veh / LOS			35.9							D		

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.43	A	2.11	B	2.31	B	2.31	B
Bicycle LOS Score / LOS	1.35	A	1.08	A			2.71	C

HCS Signalized Intersection Input Data

General Information				Intersection Information			
Agency	Smart Services Inc.			Duration, h	0.250		
Analyst	TJS	Analysis Date	Jun 6, 2024	Area Type	Other		
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.92		
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 7:15		
Intersection	(50) SR 3 & I-71 SB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2050 Build...				
Project Description	2050 Build						



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	1	1190	290	50	310					90	2	480

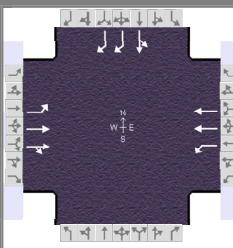
Signal Information				Phase Diagram								
Cycle, s	120.0	Reference Phase	2									
Offset, s	118	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On									
Force Mode	Fixed	Simult. Gap N/S	On									
		Green	52.1	20.9	6.4	17.5	0.0	0.0				
		Yellow	4.1	5.2	4.3	4.1	0.0	0.0				
		Red	1.0	1.0	2.3	1.0	0.0	0.0				

Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	1	1190	290	50	310					90	2	480
Initial Queue (Q _b), veh/h	0	0	0	0	0					0	0	0
Base Saturation Flow Rate (s ₀), veh/h	1750	1750	1900	1750	1750					1900	1750	1750
Parking (N _m), man/h		None			None						None	
Heavy Vehicles (P _{HV}), %	3	3		5	5					9	9	
Ped / Bike / RTOR, /h	0	0	0	0	0		0	0		0	0	0
Buses (N _b), buses/h	0	0	0	0	0	0				0	0	0
Arrival Type (AT)	3	3	3	3	3					3	3	3
Upstream Filtering (I)	0.97	0.97	0.97	0.97	0.97					1.00	1.00	1.00
Lane Width (W), ft	12.0	12.0		12.0	12.0					12.0	12.0	
Turn Bay Length, ft	0	450		165	525					1325	165	
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50	50	50	50					35	35	35

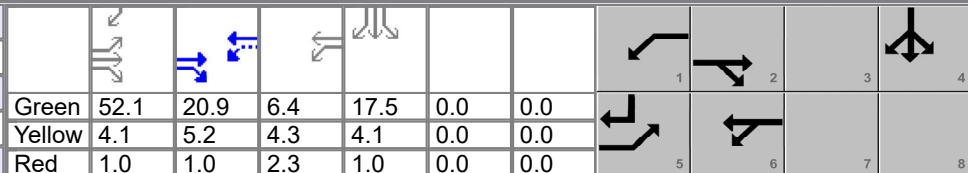
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s	14.0	41.0	63.0	90.0				16.0
Yellow Change Interval (Y), s	4.1	5.2	4.3	5.2				4.1
Red Clearance Interval (R _c), s	1.0	1.0	2.3	1.0				1.0
Minimum Green (G _{min}), s	7	20	7	20				10
Start-Up Lost Time (l _t), s	2.0	2.0	2.0	2.0			2.0	2.0
Extension of Effective Green (e), s	2.0	2.0	2.0	2.0			2.0	2.0
Passage (P _T), s	2.0	2.0	2.0	2.0				2.0
Recall Mode	Max	Min	Off	Min				Off
Dual Entry	No	Yes	No	Yes				Yes
Walk (Walk), s				0.0		0.0		0.0
Pedestrian Clearance Time (P _C), s				0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius				0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft				9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0		No	0.0	0	No		0		0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0				12.0	5.0	2.0
Pedestrian Signal / Occupied Parking			0.50	No		0.50	No			No		0.50

HCS Signalized Intersection Results Summary

General Information				Intersection Information		
Agency	Smart Services Inc.			Duration, h	0.250	
Analyst	TJS	Analysis Date	Jun 6, 2024	Area Type	Other	
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.92	
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 7:15	
Intersection	(50) SR 3 & I-71 SB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2050 Build...			
Project Description	2050 Build					

Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	1	1190	290	50	310					90	2	480

Signal Information														
Cycle, s	120.0	Reference Phase	2	Green	52.1	20.9	6.4	17.5	0.0	0.0				
Offset, s	118	Reference Point	End	Yellow	4.1	5.2	4.3	4.1	0.0	0.0				
Uncoordinated	No	Simult. Gap E/W	On	Red	1.0	1.0	2.3	1.0	0.0	0.0				
Force Mode	Fixed	Simult. Gap N/S	On											

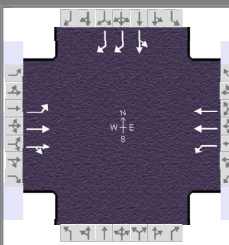
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6				4
Case Number	2.0	4.0	1.3	4.0				11.0
Phase Duration, s	57.2	84.4	13.0	40.2				22.6
Change Period, ($Y+R_c$), s	5.1	6.2	6.6	6.6				5.1
Max Allow Headway (MAH), s	3.0	0.0	3.0	0.0				3.4
Queue Clearance Time (g_s), s	2.0		2.0					15.7
Green Extension Time (g_e), s	0.0	0.0	1.2	0.0				1.8
Phase Call Probability	1.00		0.92					1.00
Max Out Probability	0.00		0.00					0.00

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Assigned Movement	5	2	12	1	6					7	4	14
Adjusted Flow Rate (v), veh/h	0	204	195	75	466					100	522	
Adjusted Saturation Flow Rate (s), veh/h/ln	1628	1709	1594	1602	1601					1551	1220	
Queue Service Time (g_s), s	0.0	6.2	5.7	0.0	9.7					7.1	13.7	
Cycle Queue Clearance Time (g_c), s	0.0	6.2	5.7	0.0	9.7					7.1	13.7	
Green Ratio (g/C)	0.43	0.65	0.65	0.21	0.28					0.15	0.58	
Capacity (c), veh/h	706	1113	1038	298	897					227	1415	
Volume-to-Capacity Ratio (X)	0.000	0.184	0.188	0.252	0.520					0.441	0.369	
Back of Queue (Q), ft/ln (95 th percentile)	0	98	83	86	136					132	175	
Back of Queue (Q), veh/ln (95 th percentile)	0.0	3.8	3.2	3.3	5.2					4.9	6.5	
Queue Storage Ratio (RQ) (95 th percentile)	0.00	0.22	0.18	0.52	0.26					0.10	1.06	
Uniform Delay (d_1), s/veh	17.2	9.2	8.1	40.2	17.9					46.8	13.5	
Incremental Delay (d_2), s/veh	0.0	0.4	0.4	0.2	2.1					0.5	0.1	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0					0.0	0.0	
Control Delay (d), s/veh	17.2	9.5	8.5	40.4	20.0					47.3	13.5	
Level of Service (LOS)	B	A	A	D	C					D	B	
Approach Delay, s/veh / LOS	9.0		A	22.8		C	0.0			19.0		B
Intersection Delay, s/veh / LOS	17.8						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.44	A	2.13	B	2.32	B	2.32	B
Bicycle LOS Score / LOS	1.82	B	0.81	A			1.51	B

HCS Signalized Intersection Input Data

General Information				Intersection Information			
Agency	Smart Services Inc.			Duration, h	0.250		
Analyst	TJS	Analysis Date	Jun 6, 2024	Area Type	Other		
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.90		
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 4:45		
Intersection	(50) SR 3 & I-71 SB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2050 Build...				
Project Description	2050 Build						



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	1	800	140	80	570					130	0	1050

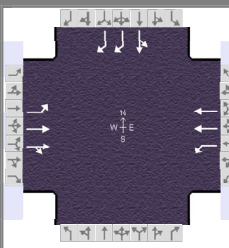
Signal Information				Phase Diagram								
Cycle, s	100.0	Reference Phase	2									
Offset, s	1	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On									
Force Mode	Fixed	Simult. Gap N/S	On									
		Green	25.9	24.8	6.4	19.9	0.0	0.0				
		Yellow	4.1	5.2	4.3	4.1	0.0	0.0				
		Red	1.0	1.0	2.3	1.0	0.0	0.0				

Traffic Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	1	800	140	80	570					130	0	1050
Initial Queue (Q _b), veh/h	0	0	0	0	0					0	0	0
Base Saturation Flow Rate (s _o), veh/h	1750	1750	1900	1750	1750					1900	1750	1750
Parking (N _m), man/h		None			None						None	
Heavy Vehicles (P _{HV}), %	3	3		4	4					2	2	
Ped / Bike / RTOR, /h	0	0	0	0	0		0	0		0	0	0
Buses (N _b), buses/h	0	0	0	0	0	0				0	0	0
Arrival Type (AT)	3	3	3	3	3					3	3	3
Upstream Filtering (I)	0.90	0.90	0.90	0.90	0.90					1.00	1.00	1.00
Lane Width (W), ft	12.0	12.0		12.0	12.0					12.0	12.0	
Turn Bay Length, ft	0	450		165	650					1325	165	
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50	50	50	50					35	35	35

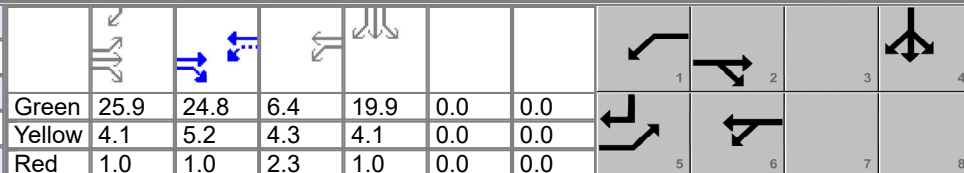
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s	31.0	62.0	20.0	51.0				18.0
Yellow Change Interval (Y), s	4.1	5.2	4.3	5.2				4.1
Red Clearance Interval (R _c), s	1.0	1.0	2.3	1.0				1.0
Minimum Green (G _{min}), s	7	20	7	20				10
Start-Up Lost Time (l _t), s	2.0	2.0	2.0	2.0			2.0	2.0
Extension of Effective Green (e), s	2.0	2.0	2.0	2.0			2.0	2.0
Passage (P _T), s	2.0	2.0	2.0	2.0				2.0
Recall Mode	Max	Min	Off	Min				Off
Dual Entry	No	Yes	No	Yes				Yes
Walk (Walk), s				0.0		0.0		0.0
Pedestrian Clearance Time (P _C), s				0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius				0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft				9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0		No	0.0	0	No		0		0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0				12.0	5.0	2.0
Pedestrian Signal / Occupied Parking			0.50	No		0.50	No			No		0.50

HCS Signalized Intersection Results Summary

General Information				Intersection Information		
Agency	Smart Services Inc.			Duration, h	0.250	
Analyst	TJS	Analysis Date	Jun 6, 2024	Area Type	Other	
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.90	
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 4:45	
Intersection	(50) SR 3 & I-71 SB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2050 Build...			
Project Description	2050 Build					

Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	1	800	140	80	570					130	0	1050

Signal Information														
Cycle, s	100.0	Reference Phase	2	Green	25.9	24.8	6.4	19.9	0.0	0.0				
Offset, s	1	Reference Point	End	Yellow	4.1	5.2	4.3	4.1	0.0	0.0				
Uncoordinated	No	Simult. Gap E/W	On	Red	1.0	1.0	2.3	1.0	0.0	0.0				
Force Mode	Fixed	Simult. Gap N/S	On											

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6				4
Case Number	2.0	4.0	1.3	4.0				11.0
Phase Duration, s	31.0	62.0	13.0	44.0				25.0
Change Period, ($Y+R_c$), s	5.1	6.2	6.6	6.6				5.1
Max Allow Headway (MAH), s	3.0	0.0	3.0	0.0				3.4
Queue Clearance Time (g_s), s	2.0		2.0					21.9
Green Extension Time (g_e), s	0.0	0.0	1.4	0.0				0.0
Phase Call Probability	1.00		0.92					1.00
Max Out Probability	0.00		0.01					1.00

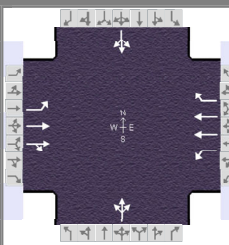
Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6					7	4	14
Adjusted Flow Rate (v), veh/h	1	502	476	90	640					144	1167	
Adjusted Saturation Flow Rate (s), veh/h/ln	1628	1709	1620	1615	1614					1641	1292	
Queue Service Time (g_s), s	0.0	22.3	22.0	0.0	18.0					7.7	19.9	
Cycle Queue Clearance Time (g_c), s	0.0	22.3	22.0	0.0	18.0					7.7	19.9	
Green Ratio (g/C)	0.26	0.56	0.56	0.29	0.37					0.20	0.46	
Capacity (c), veh/h	422	954	904	304	1207					326	1184	
Volume-to-Capacity Ratio (X)	0.002	0.527	0.527	0.295	0.531					0.443	0.985	
Back of Queue (Q), ft/ln (95 th percentile)	1	363	342	86	309					140	585	
Back of Queue (Q), veh/ln (95 th percentile)	0.0	14.2	13.3	3.3	12.0					5.5	23.0	
Queue Storage Ratio (RQ) (95 th percentile)	0.00	0.81	0.76	0.52	0.47					0.11	3.55	
Uniform Delay (d_1), s/veh	28.1	19.8	19.3	32.3	33.0					35.2	26.8	
Incremental Delay (d_2), s/veh	0.0	1.9	2.0	0.2	1.5					0.4	22.5	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0					0.0	0.0	
Control Delay (d), s/veh	28.1	21.8	21.4	32.5	34.5					35.6	49.3	
Level of Service (LOS)	C	C	C	C	C					D	D	
Approach Delay, s/veh / LOS	21.6	C		34.2	C			0.0		47.8	D	
Intersection Delay, s/veh / LOS			36.0							D		

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.43	A	2.11	B	2.31	B	2.31	B
Bicycle LOS Score / LOS	1.35	A	1.08	A			2.65	C

60-SR 3 & Hamilton Rd/Old Weymouth Rd

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Feb 7, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.92
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 7:15
Intersection	(60) SR 3/Weymouth Rd...	File Name	Signalized Capacity Group 2 (20-70) - 2050 No B...		
Project Description	2050 No Build				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	10	1080	10	40	580	170	10	10	60	340	20	10

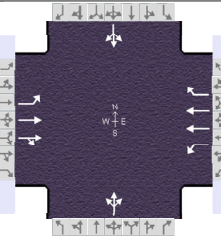
Signal Information												
Cycle, s	120.0	Reference Phase	2									
Offset, s	45	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On	Green	69.6	38.0	0.0	0.0	0.0	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.2	5.2	0.0	0.0	0.0	0.0		
				Red	1.0	1.0	0.0	0.0	0.0	0.0		

Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	10	1080	10	40	580	170	10	10	60	340	20	10
Initial Queue (Q _b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s ₀), veh/h	1750	1750	1900	1750	1750	1750	1900	1750	1900	1900	1750	1900
Parking (N _m), man/h		None			None			None			None	
Heavy Vehicles (P _{HV}), %	4	4		6	6	6		6			1	
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N _b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (AT)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (I)	0.93	0.93	0.93	0.79	0.79	0.79	1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (W), ft	12.0	12.0		12.0	12.0	12.0		12.0			12.0	
Turn Bay Length, ft	200	0		370	450	370		999			999	
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50	50	50	50	50	45	45	45	50	50	50

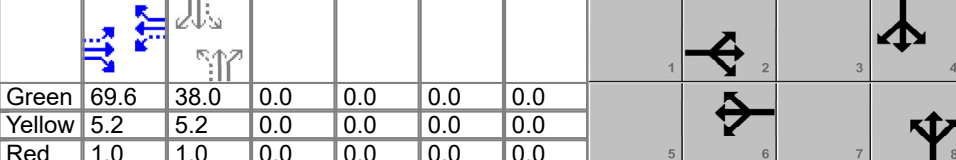
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s		32.0		32.0		88.0		88.0
Yellow Change Interval (Y), s		5.2		5.2		5.2		5.2
Red Clearance Interval (R _c), s		1.0		1.0		1.0		1.0
Minimum Green (G _{min}), s		20		20		10		10
Start-Up Lost Time (l _t), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (e), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (P _T), s		2.0		2.0		2.0		2.0
Recall Mode		Min		Min		Off		Off
Dual Entry		Yes		Yes		Yes		Yes
Walk (Walk), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (P _C), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

HCS Signalized Intersection Results Summary

General Information				Intersection Information		
Agency	Smart Services Inc.			Duration, h	0.250	
Analyst	TJS	Analysis Date	Feb 7, 2024	Area Type	Other	
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.92	
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 7:15	
Intersection	(60) SR 3/Weymouth Rd...	File Name	Signalized Capacity Group 2 (20-70) - 2050 No B...			
Project Description	2050 No Build					

Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	10	1080	10	40	580	170	10	10	60	340	20	10

Signal Information												
Cycle, s	120.0	Reference Phase	2	Green	69.6	38.0	0.0	0.0	0.0	0.0	0.0	0.0
Offset, s	45	Reference Point	End	Yellow	5.2	5.2	0.0	0.0	0.0	0.0	0.0	0.0
Uncoordinated	No	Simult. Gap E/W	On	Red	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
Force Mode	Fixed	Simult. Gap N/S	On									

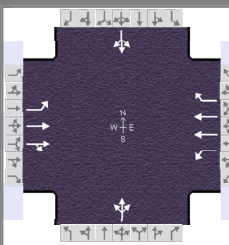
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6		8		4
Case Number		6.0		5.0		8.0		8.0
Phase Duration, s		75.8		75.8		44.2		44.2
Change Period, (Y+R _c), s		6.2		6.2		6.2		6.2
Max Allow Headway (MAH), s		0.0		0.0		3.1		3.1
Queue Clearance Time (g _s), s						7.2		37.1
Green Extension Time (g _e), s		0.0		0.0		0.9		0.9
Phase Call Probability						1.00		1.00
Max Out Probability						0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h	7	376	375	36	520	152		87			402	
Adjusted Saturation Flow Rate (s), veh/h/ln	868	1695	1690	689	1588	1414		1553			1343	
Queue Service Time (g _s), s	0.8	17.8	17.9	3.8	9.9	6.1		0.0			29.9	
Cycle Queue Clearance Time (g _c), s	10.5	17.8	17.9	21.7	9.9	6.1		5.2			35.1	
Green Ratio (g/C)	0.58	0.58	0.58	0.58	0.58	0.58		0.32			0.32	
Capacity (c), veh/h	492	983	980	356	1841	819		526			483	
Volume-to-Capacity Ratio (X)	0.014	0.383	0.383	0.101	0.282	0.186		0.165			0.832	
Back of Queue (Q), ft/ln (95 th percentile)	7	301	292	29	154	86		84			417	
Back of Queue (Q), veh/ln (95 th percentile)	0.3	11.7	11.7	1.1	5.9	3.3		3.2			16.5	
Queue Storage Ratio (RQ) (95 th percentile)	0.04	0.00	0.00	0.08	0.34	0.23		0.08			0.42	
Uniform Delay (d ₁), s/veh	24.0	18.9	19.0	20.6	12.7	11.9		29.8			40.1	
Incremental Delay (d ₂), s/veh	0.0	1.1	1.1	0.4	0.3	0.4		0.1			1.5	
Initial Queue Delay (d ₃), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Control Delay (d), s/veh	24.1	20.0	20.1	21.0	13.0	12.3		29.8			41.6	
Level of Service (LOS)	C	C	C	C	B	B		C			D	
Approach Delay, s/veh / LOS	20.1	C		13.2	B		29.8	C	41.6	D		
Intersection Delay, s/veh / LOS	22.4						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.67	B	1.67	B	2.44	B	2.29	B
Bicycle LOS Score / LOS	1.47	A	1.20	A	0.63	A	1.15	A

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Feb 8, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.94
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 4:45
Intersection	(60) SR 3/Weymouth Rd...	File Name	Signalized Capacity Group 2 (20-70) - 2050 No B...		
Project Description	2050 No Build				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	10	710	10	80	1200	340	10	20	50	180	20	10

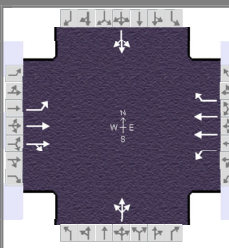
Signal Information																		
Cycle, s	100.0	Reference Phase	2															
Offset, s	83	Reference Point	End															
Uncoordinated	No	Simult. Gap E/W	On	Green	69.0	18.6	0.0	0.0	0.0	0.0	1		2		3		4	
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.2	5.2	0.0	0.0	0.0	0.0	5		6		7		8	
				Red	1.0	1.0	0.0	0.0	0.0	0.0								

Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	10	710	10	80	1200	340	10	20	50	180	20	10
Initial Queue (Q _b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s ₀), veh/h	1750	1750	1900	1750	1750	1750	1900	1750	1900	1900	1750	1900
Parking (N _m), man/h	None			None			None			None		
Heavy Vehicles (P _{HV}), %	3	3		2	2	2		5			2	
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N _b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (AT)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (I)	0.56	0.56	0.56	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (W), ft	12.0	12.0		12.0	12.0	12.0		12.0			12.0	
Turn Bay Length, ft	200	3350		370	450	370		999			999	
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50	50	50	50	50	45	45	45	50	50	50

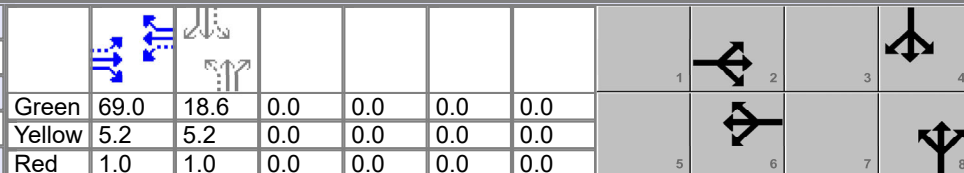
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s		43.0		43.0		57.0		57.0
Yellow Change Interval (Y), s		5.2		5.2		5.2		5.2
Red Clearance Interval (R _c), s		1.0		1.0		1.0		1.0
Minimum Green (G _{min}), s		20		20		10		10
Start-Up Lost Time (l _t), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (e), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (PT), s		2.0		2.0		2.0		2.0
Recall Mode		Min		Min		Off		Off
Dual Entry		Yes		Yes		Yes		Yes
Walk (Walk), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (PC), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

HCS Signalized Intersection Results Summary

General Information				Intersection Information		
Agency	Smart Services Inc.			Duration, h	0.250	
Analyst	TJS	Analysis Date	Feb 8, 2024	Area Type	Other	
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.94	
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 4:45	
Intersection	(60) SR 3/Weymouth Rd...	File Name	Signalized Capacity Group 2 (20-70) - 2050 No B...			
Project Description	2050 No Build					

Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	10	710	10	80	1200	340	10	20	50	180	20	10

Signal Information												
Cycle, s	100.0	Reference Phase	2	Green	69.0	18.6	0.0	0.0	0.0	0.0	0.0	0.0
Offset, s	83	Reference Point	End	Yellow	5.2	5.2	0.0	0.0	0.0	0.0	0.0	0.0
Uncoordinated	No	Simult. Gap E/W	On	Red	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
Force Mode	Fixed	Simult. Gap N/S	On									

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6		8		4
Case Number		6.0		5.0		8.0		8.0
Phase Duration, s		75.2		75.2		24.8		24.8
Change Period, ($Y+R_c$), s		6.2		6.2		6.2		6.2
Max Allow Headway (MAH), s		0.0		0.0		3.1		3.1
Queue Clearance Time (g_s), s						6.9		18.0
Green Extension Time (g_e), s		0.0		0.0		0.6		0.5
Phase Call Probability						1.00		1.00
Max Out Probability						0.00		0.00

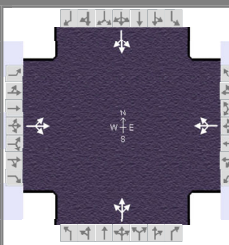
Movement Group Results	EB			WB			NB			SB			
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R	
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14	
Adjusted Flow Rate (v), veh/h	10	373	372	65	969	275		85			223		
Adjusted Saturation Flow Rate (s), veh/h/ln	575	1709	1701	716	1640	1460		1545			1358		
Queue Service Time (g_s), s	0.8	8.7	8.7	7.0	15.2	15.2		0.0			11.2		
Cycle Queue Clearance Time (g_c), s	16.0	8.7	8.7	14.7	15.2	15.2		4.9			16.0		
Green Ratio (g/C)	0.69	0.69	0.69	0.69	0.69	0.69		0.19			0.19		
Capacity (c), veh/h	382	1180	1174	504	2264	1008		327			319		
Volume-to-Capacity Ratio (X)	0.027	0.316	0.317	0.128	0.428	0.272		0.260			0.700		
Back of Queue (Q), ft/ln (95 th percentile)	5	111	108	39	139	177		81			224		
Back of Queue (Q), veh/ln (95 th percentile)	0.2	4.3	4.3	1.5	5.5	7.0		3.1			8.8		
Queue Storage Ratio (RQ) (95 th percentile)	0.02	0.03	0.03	0.11	0.31	0.48		0.08			0.22		
Uniform Delay (d_1), s/veh	10.8	6.1	6.1	16.0	8.7	17.3		35.1			39.7		
Incremental Delay (d_2), s/veh	0.1	0.4	0.4	0.0	0.1	0.1		0.2			1.1		
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0		
Control Delay (d), s/veh	10.9	6.5	6.5	16.0	8.7	17.4		35.3			40.8		
Level of Service (LOS)	B	A	A	B	A	B		D			D		
Approach Delay, s/veh / LOS	6.6		A	10.9		B		35.3		D	40.8		D
Intersection Delay, s/veh / LOS	13.2						B						

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.64	B	1.64	B	2.45	B	2.30	B
Bicycle LOS Score / LOS	1.13	A	1.91	B	0.63	A	0.86	A

70-SR 3 & Foskett Rd/Remsen Rd

HCS Signalized Intersection Input Data

General Information				Intersection Information			
Agency	Smart Services Inc.			Duration, h	0.250		
Analyst	TJS	Analysis Date	Jul 2, 2024	Area Type	Other		
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.89		
Urban Street	SR 3/Weymouth Rd	Analysis Year	2030	Analysis Period	1 > 7:15		
Intersection	(70) SR 3/Weymouth Rd...	File Name	Signalized Capacity Group 2 (20-70) - 2030 No B...				
Project Description	2030 No Build						



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (<i>v</i>), veh/h	10	970	90	10	530	20	50	50	10	50	130	20

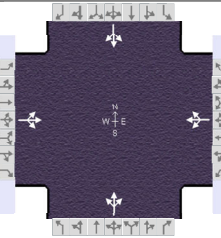
Signal Information																		
Cycle, s	85.2	Reference Phase	2															
Offset, s	0	Reference Point	End															
Uncoordinated	Yes	Simult. Gap E/W	On	Green	60.0	13.9	0.0	0.0	0.0	0.0	1		2		3		4	
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.2	4.1	0.0	0.0	0.0	0.0	5		6		7		8	
				Red	1.0	1.0	0.0	0.0	0.0	0.0								

Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (<i>v</i>), veh/h	10	970	90	10	530	20	50	50	10	50	130	20
Initial Queue (<i>Q_b</i>), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (<i>s₀</i>), veh/h	1900	1750	1900	1900	1750	1900	1900	1750	1900	1900	1750	1900
Parking (<i>N_m</i>), man/h	None			None			None			None		
Heavy Vehicles (<i>P_{HV}</i>), %	5			7			4			1		
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (<i>N_b</i>), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (<i>AT</i>)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (<i>I</i>)	0.86	0.86	0.86	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (<i>W</i>), ft	12.0			12.0			12.0			12.0		
Turn Bay Length, ft	999			3350			999			999		
Grade (<i>P_g</i>), %	0			0			0			0		
Speed Limit, mi/h	55	55	55	55	55	55	40	40	40	55	55	55

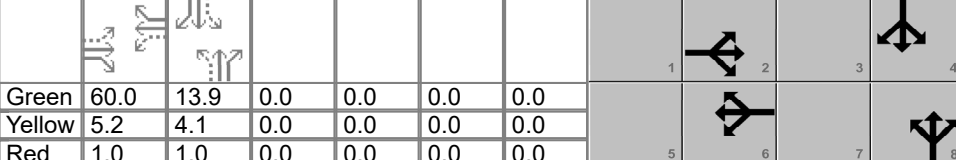
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (<i>G_{max}</i>) or Phase Split, s		60.0		60.0		30.0		30.0
Yellow Change Interval (<i>Y</i>), s		5.2		5.2		4.1		4.1
Red Clearance Interval (<i>R_c</i>), s		1.0		1.0		1.0		1.0
Minimum Green (<i>G_{min}</i>), s		20		20		10		10
Start-Up Lost Time (<i>l_t</i>), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (<i>e</i>), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (<i>PT</i>), s		2.0		2.0		2.0		2.0
Recall Mode		Min		Max		Off		Off
Dual Entry		Yes		Yes		Yes		Yes
Walk (<i>Walk</i>), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (<i>PC</i>), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

HCS Signalized Intersection Results Summary

General Information				Intersection Information		
Agency	Smart Services Inc.			Duration, h	0.250	
Analyst	TJS	Analysis Date	Jul 2, 2024	Area Type	Other	
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.89	
Urban Street	SR 3/Weymouth Rd	Analysis Year	2030	Analysis Period	1 > 7:15	
Intersection	(70) SR 3/Weymouth Rd...	File Name	Signalized Capacity Group 2 (20-70) - 2030 No B...			
Project Description	2030 No Build					

Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	10	970	90	10	530	20	50	50	10	50	130	20

Signal Information													
Cycle, s	85.2	Reference Phase	2	Green	60.0	13.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Offset, s	0	Reference Point	End	Yellow	5.2	4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Uncoordinated	Yes	Simult. Gap E/W	On	Red	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Force Mode	Fixed	Simult. Gap N/S	On										

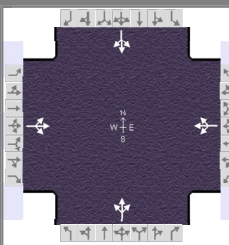
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6		8		4
Case Number		8.0		8.0		8.0		8.0
Phase Duration, s		66.2		66.2		19.0		19.0
Change Period, (Y+R _c), s		6.2		6.2		5.1		5.1
Max Allow Headway (MAH), s		2.9		2.9		3.0		3.0
Queue Clearance Time (g _s), s		58.4		17.6		9.4		13.4
Green Extension Time (g _e), s		0.9		4.4		0.6		0.5
Phase Call Probability		1.00		1.00		1.00		1.00
Max Out Probability		1.00		0.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h	1141			629			124			225		
Adjusted Saturation Flow Rate (s), veh/h/ln	1651			1614			1282			1624		
Queue Service Time (g _s), s	16.6			0.0			0.0			4.0		
Cycle Queue Clearance Time (g _c), s	56.4			15.6			7.4			11.4		
Green Ratio (g/C)	0.70			0.70			0.16			0.16		
Capacity (c), veh/h	1205			1179			271			318		
Volume-to-Capacity Ratio (X)	0.947			0.534			0.456			0.706		
Back of Queue (Q), ft/ln (95 th percentile)	559			172			105			191		
Back of Queue (Q), veh/ln (95 th percentile)	21.5			6.5			4.1			7.6		
Queue Storage Ratio (RQ) (95 th percentile)	0.56			0.05			0.11			0.19		
Uniform Delay (d ₁), s/veh	12.0			6.0			32.6			34.5		
Incremental Delay (d ₂), s/veh	13.3			1.7			0.4			1.1		
Initial Queue Delay (d ₃), s/veh	0.0			0.0			0.0			0.0		
Control Delay (d), s/veh	25.3			7.8			33.1			35.6		
Level of Service (LOS)	C			A			C			D		
Approach Delay, s/veh / LOS	25.3	C		7.8	A		33.1	C		35.6	D	
Intersection Delay, s/veh / LOS	21.6						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.62	B	1.62	B	1.71	B	1.71	B
Bicycle LOS Score / LOS	2.47	B	1.53	B	0.69	A	0.86	A

HCS Signalized Intersection Input Data

General Information				Intersection Information			
Agency	Smart Services Inc.			Duration, h	0.250		
Analyst	TJS	Analysis Date	Jul 2, 2024	Area Type	Other		
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.94		
Urban Street	SR 3/Weymouth Rd	Analysis Year	2030	Analysis Period	1 > 4:45		
Intersection	(70) SR 3/Weymouth Rd...	File Name	Signalized Capacity Group 2 (20-70) - 2030 No B...				
Project Description	2030 No Build						



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	20	650	50	10	1130	30	140	140	10	20	80	20

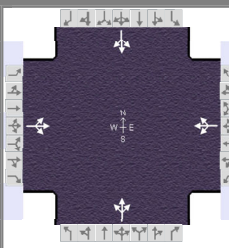
Signal Information												
Cycle, s	80.0	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	Yes	Simult. Gap E/W	On	Green	50.0	18.7	0.0	0.0	0.0	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.2	4.1	0.0	0.0	0.0	0.0		
				Red	1.0	1.0	0.0	0.0	0.0	0.0		

Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	20	650	50	10	1130	30	140	140	10	20	80	20
Initial Queue (Q _b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s ₀), veh/h	1900	1750	1900	1900	1750	1900	1900	1750	1900	1900	1750	1900
Parking (N _m), man/h	None			None			None			None		
Heavy Vehicles (P _{HV}), %	2			2			2			2		
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N _b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (AT)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (I)	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (W), ft	12.0			12.0			12.0			12.0		
Turn Bay Length, ft	999			3350			999			999		
Grade (P _g), %	0			0			0			0		
Speed Limit, mi/h	55	55	55	55	55	55	40	40	40	55	55	55

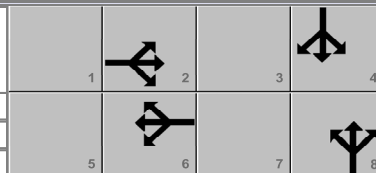
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s		50.0		50.0		30.0		30.0
Yellow Change Interval (Y), s		5.2		5.2		4.1		4.1
Red Clearance Interval (R _c), s		1.0		1.0		1.0		1.0
Minimum Green (G _{min}), s		20		20		10		10
Start-Up Lost Time (l _t), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (e), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (PT), s		2.0		2.0		2.0		2.0
Recall Mode		Min		Max		Off		Off
Dual Entry		Yes		Yes		Yes		Yes
Walk (Walk), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (PC), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

HCS Signalized Intersection Results Summary

General Information				Intersection Information		
Agency	Smart Services Inc.			Duration, h	0.250	
Analyst	TJS	Analysis Date	Jul 2, 2024	Area Type	Other	
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.94	
Urban Street	SR 3/Weymouth Rd	Analysis Year	2030	Analysis Period	1 > 4:45	
Intersection	(70) SR 3/Weymouth Rd...	File Name	Signalized Capacity Group 2 (20-70) - 2030 No B...			
Project Description	2030 No Build					

Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	20	650	50	10	1130	30	140	140	10	20	80	20

Signal Information												
Cycle, s	80.0	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	Yes	Simult. Gap E/W	On									
Force Mode	Fixed	Simult. Gap N/S	On									
		Green	50.0	18.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Yellow	5.2	4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Red	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

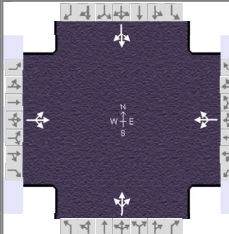
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6		8		4
Case Number		8.0		8.0		8.0		8.0
Phase Duration, s		56.2		56.2		23.8		23.8
Change Period, (Y+R _c), s		6.2		6.2		5.1		5.1
Max Allow Headway (MAH), s		2.9		2.9		3.1		3.1
Queue Clearance Time (g _s), s		26.5		40.7		18.0		7.1
Green Extension Time (g _e), s		3.9		3.0		0.7		0.8
Phase Call Probability		1.00		1.00		1.00		1.00
Max Out Probability		0.03		0.32		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h	766			966			309			128		
Adjusted Saturation Flow Rate (s), veh/h/ln	1664			1709			1488			1615		
Queue Service Time (g _s), s	0.0			3.5			10.9			0.0		
Cycle Queue Clearance Time (g _c), s	24.5			38.7			16.0			5.1		
Green Ratio (g/C)	0.63			0.63			0.23			0.23		
Capacity (c), veh/h	1087			1114			414			430		
Volume-to-Capacity Ratio (X)	0.705			0.867			0.745			0.297		
Back of Queue (Q), ft/ln (95 th percentile)	273			447			235			83		
Back of Queue (Q), veh/ln (95 th percentile)	10.7			17.6			9.3			3.3		
Queue Storage Ratio (RQ) (95 th percentile)	0.27			0.13			0.24			0.08		
Uniform Delay (d ₁), s/veh	10.2			12.9			29.5			25.4		
Incremental Delay (d ₂), s/veh	1.8			8.4			1.0			0.1		
Initial Queue Delay (d ₃), s/veh	0.0			0.0			0.0			0.0		
Control Delay (d), s/veh	12.0			21.3			30.6			25.6		
Level of Service (LOS)	B			C			C			C		
Approach Delay, s/veh / LOS	12.0	B		21.3	C		30.6	C		25.6	C	
Intersection Delay, s/veh / LOS	19.6						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.64	B	1.64	B	1.70	B	1.70	B
Bicycle LOS Score / LOS	1.75	B	2.54	C	1.00	A	0.70	A

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Feb 7, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.89
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 7:15
Intersection	(70) SR 3/Weymouth Rd...	File Name	Signalized Capacity Group 2 (20-70) - 2050 No B...		
Project Description	2050 No Build				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	10	1000	100	10	560	20	50	50	10	50	140	20

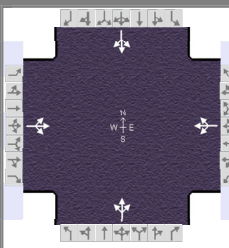
Signal Information																		
Cycle, s	85.9	Reference Phase	2															
Offset, s	0	Reference Point	End															
Uncoordinated	Yes	Simult. Gap E/W	On	Green	60.0	14.6	0.0	0.0	0.0	0.0	1		2		3		4	
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.2	4.1	0.0	0.0	0.0	0.0	5		6		7		8	
				Red	1.0	1.0	0.0	0.0	0.0	0.0								

Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	10	1000	100	10	560	20	50	50	10	50	140	20
Initial Queue (Q _b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s ₀), veh/h	1900	1750	1900	1900	1750	1900	1900	1750	1900	1900	1750	1900
Parking (N _m), man/h	None			None			None			None		
Heavy Vehicles (P _{HV}), %	5			7			4			1		
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N _b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (AT)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (I)	0.85	0.85	0.85	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (W), ft	12.0			12.0			12.0			12.0		
Turn Bay Length, ft	999			3350			999			999		
Grade (P _g), %	0			0			0			0		
Speed Limit, mi/h	55	55	55	55	55	55	40	40	40	55	55	55

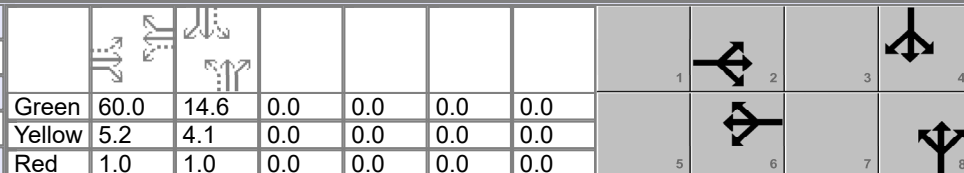
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s		60.0		60.0		30.0		30.0
Yellow Change Interval (Y), s		5.2		5.2		4.1		4.1
Red Clearance Interval (R _c), s		1.0		1.0		1.0		1.0
Minimum Green (G _{min}), s		20		20		10		10
Start-Up Lost Time (l _t), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (e), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (P _T), s		2.0		2.0		2.0		2.0
Recall Mode		Min		Max		Off		Off
Dual Entry		Yes		Yes		Yes		Yes
Walk (Walk), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (P _C), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

HCS Signalized Intersection Results Summary

General Information				Intersection Information		
Agency	Smart Services Inc.			Duration, h	0.250	
Analyst	TJS	Analysis Date	Feb 7, 2024	Area Type	Other	
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.89	
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 7:15	
Intersection	(70) SR 3/Weymouth Rd...	File Name	Signalized Capacity Group 2 (20-70) - 2050 No B...			
Project Description	2050 No Build					

Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	10	1000	100	10	560	20	50	50	10	50	140	20

Signal Information												
Cycle, s	85.9	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	Yes	Simult. Gap E/W	On									
Force Mode	Fixed	Simult. Gap N/S	On									
		Green	60.0	14.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Yellow	5.2	4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Red	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

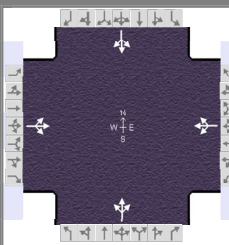
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6		8		4
Case Number		8.0		8.0		8.0		8.0
Phase Duration, s		66.2		66.2		19.7		19.7
Change Period, (Y+R _c), s		6.2		6.2		5.1		5.1
Max Allow Headway (MAH), s		2.9		2.9		3.0		3.0
Queue Clearance Time (g _s), s		62.0		19.5		9.6		14.0
Green Extension Time (g _e), s		0.0		4.8		0.6		0.6
Phase Call Probability		1.00		1.00		1.00		1.00
Max Out Probability		1.00		0.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h	1180			663			124			236		
Adjusted Saturation Flow Rate (s), veh/h/ln	1649			1606			1249			1630		
Queue Service Time (g _s), s	20.3			0.0			0.0			4.4		
Cycle Queue Clearance Time (g _c), s	60.0			17.5			7.6			12.0		
Green Ratio (g/C)	0.70			0.70			0.17			0.17		
Capacity (c), veh/h	1194			1165			273			328		
Volume-to-Capacity Ratio (X)	0.988			0.569			0.453			0.718		
Back of Queue (Q), ft/ln (95 th percentile)	697			198			106			199		
Back of Queue (Q), veh/ln (95 th percentile)	26.8			7.5			4.1			7.9		
Queue Storage Ratio (RQ) (95 th percentile)	0.70			0.06			0.11			0.20		
Uniform Delay (d ₁), s/veh	13.6			6.5			32.4			34.5		
Incremental Delay (d ₂), s/veh	21.0			2.0			0.4			1.1		
Initial Queue Delay (d ₃), s/veh	0.0			0.0			0.0			0.0		
Control Delay (d), s/veh	34.5			8.5			32.9			35.6		
Level of Service (LOS)	C			A			C			D		
Approach Delay, s/veh / LOS	34.5	C		8.5	A		32.9	C		35.6	D	
Intersection Delay, s/veh / LOS	26.7						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.63	B	1.63	B	1.71	B	1.71	B
Bicycle LOS Score / LOS	2.55	C	1.58	B	0.69	A	0.88	A

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Feb 8, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.94
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 4:45
Intersection	(70) SR 3/Weymouth Rd...	File Name	Signalized Capacity Group 2 (20-70) - 2050 No B...		
Project Description	2050 No Build				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (<i>v</i>), veh/h	20	680	50	10	1160	40	150	150	10	20	90	20

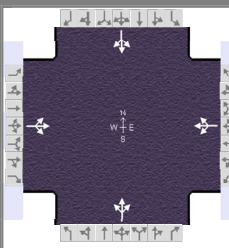
Signal Information																		
Cycle, s	81.6	Reference Phase	2															
Offset, s	0	Reference Point	End															
Uncoordinated	Yes	Simult. Gap E/W	On	Green	50.0	20.3	0.0	0.0	0.0	0.0	1		2		3		4	
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.2	4.1	0.0	0.0	0.0	0.0	5		6		7		8	
				Red	1.0	1.0	0.0	0.0	0.0	0.0								

Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (<i>v</i>), veh/h	20	680	50	10	1160	40	150	150	10	20	90	20
Initial Queue (<i>Q_b</i>), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (<i>s₀</i>), veh/h	1900	1750	1900	1900	1750	1900	1900	1750	1900	1900	1750	1900
Parking (<i>N_m</i>), man/h	None			None			None			None		
Heavy Vehicles (<i>P_{HV}</i>), %	2			2			2			2		
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (<i>N_b</i>), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (<i>AT</i>)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (<i>I</i>)	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (<i>W</i>), ft	12.0			12.0			12.0			12.0		
Turn Bay Length, ft	999			3350			999			999		
Grade (<i>P_g</i>), %	0			0			0			0		
Speed Limit, mi/h	55	55	55	55	55	55	40	40	40	55	55	55

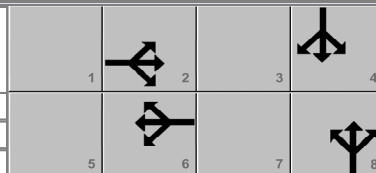
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (<i>G_{max}</i>) or Phase Split, s		50.0		50.0		30.0		30.0
Yellow Change Interval (<i>Y</i>), s		5.2		5.2		4.1		4.1
Red Clearance Interval (<i>R_c</i>), s		1.0		1.0		1.0		1.0
Minimum Green (<i>G_{min}</i>), s		20		20		10		10
Start-Up Lost Time (<i>l_t</i>), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (<i>e</i>), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (<i>PT</i>), s		2.0		2.0		2.0		2.0
Recall Mode		Min		Max		Off		Off
Dual Entry		Yes		Yes		Yes		Yes
Walk (<i>Walk</i>), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (<i>PC</i>), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

HCS Signalized Intersection Results Summary

General Information				Intersection Information		
Agency	Smart Services Inc.			Duration, h	0.250	
Analyst	TJS	Analysis Date	Feb 8, 2024	Area Type	Other	
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.94	
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 4:45	
Intersection	(70) SR 3/Weymouth Rd...	File Name	Signalized Capacity Group 2 (20-70) - 2050 No B...			
Project Description	2050 No Build					

Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	20	680	50	10	1160	40	150	150	10	20	90	20

Signal Information																	
Cycle, s	81.6	Reference Phase	2	Green	50.0	20.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Offset, s	0	Reference Point	End	Yellow	5.2	4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Uncoordinated	Yes	Simult. Gap E/W	On	Red	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Force Mode	Fixed	Simult. Gap N/S	On														

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6		8		4
Case Number		8.0		8.0		8.0		8.0
Phase Duration, s		56.2		56.2		25.4		25.4
Change Period, (Y+R _c), s		6.2		6.2		5.1		5.1
Max Allow Headway (MAH), s		2.9		2.9		3.1		3.1
Queue Clearance Time (g _s), s		30.0		45.6		19.6		7.5
Green Extension Time (g _e), s		4.0		2.1		0.7		0.8
Phase Call Probability		1.00		1.00		1.00		1.00
Max Out Probability		0.06		0.77		0.01		0.00

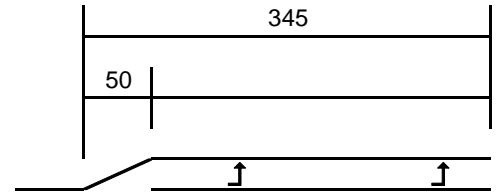
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h	798			990			330			138		
Adjusted Saturation Flow Rate (s), veh/h/ln	1649			1706			1478			1617		
Queue Service Time (g _s), s	0.0			8.4			12.1			0.0		
Cycle Queue Clearance Time (g _c), s	28.0			43.6			17.6			5.5		
Green Ratio (g/C)	0.61			0.61			0.25			0.25		
Capacity (c), veh/h	1056			1090			433			453		
Volume-to-Capacity Ratio (X)	0.756			0.908			0.762			0.305		
Back of Queue (Q), ft/ln (95 th percentile)	320			524			256			91		
Back of Queue (Q), veh/ln (95 th percentile)	12.6			20.6			10.1			3.6		
Queue Storage Ratio (RQ) (95 th percentile)	0.32			0.16			0.26			0.09		
Uniform Delay (d ₁), s/veh	11.5			14.5			29.6			25.1		
Incremental Delay (d ₂), s/veh	2.8			11.6			2.1			0.1		
Initial Queue Delay (d ₃), s/veh	0.0			0.0			0.0			0.0		
Control Delay (d), s/veh	14.3			26.1			31.6			25.2		
Level of Service (LOS)	B			C			C			C		
Approach Delay, s/veh / LOS	14.3	B		26.1	C		31.6	C		25.2	C	
Intersection Delay, s/veh / LOS	22.7						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.64	B	1.64	B	1.70	B	1.70	B
Bicycle LOS Score / LOS	1.80	B	2.61	C	1.03	A	0.72	A

(70) SR 3 & FOSKETT RD/REMSSEN RD - NB LT - 2050 'NO BUILD'

Critical Analysis Period: PM PEAK

Type =	Signalized	Design Condition (Rev)=	B
Speed =	60 MPH	Storage Length (Adj) =	NA
Cycle Length =	120 seconds	Deceleration/Div. Taper =	345 feet
Turning Volume =	20 VPH	Turn Lane Length =	345 feet
# of Turning Lanes =	1		
Advancing Volume =	750 VPH		
Turning % (>10% HIGH)	2.7% LOW		
Design Condition =	B or C		
Vehicles per Cycle =	0.7		
Storage Length (Calc) =	50 feet		

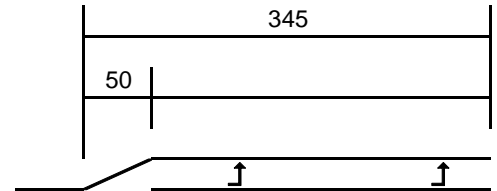


Calculations based on 401-7E in ODOT L&D Manual. All dimensions are in feet.

(70) SR 3 & FOSKETT RD/REMSSEN RD - SB LT - 2050 'NO BUILD'

Critical Analysis Period: PM PEAK

Type =	Signalized	Design Condition (Rev)=	B
Speed =	60 MPH	Storage Length (Adj) =	NA
Cycle Length =	120 seconds	Deceleration/Div. Taper =	345 feet
Turning Volume =	10 VPH	Turn Lane Length =	345 feet
# of Turning Lanes =	1		
Advancing Volume =	1210 VPH		
Turning % (>10% HIGH)	0.8% LOW		
Design Condition =	B or C		
Vehicles per Cycle =	0.3		
Storage Length (Calc) =	50 feet		



Calculations based on 401-7E in ODOT L&D Manual. All dimensions are in feet.

MED-71/271 (PID 117028)

COUNT MEMO

PREPARED BY:  SMART SERVICES

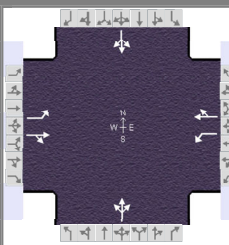
11/2023

APPENDIX

LEFT TURN LANE CALCULATIONS

HCS Signalized Intersection Input Data

General Information				Intersection Information			
Agency	Smart Services Inc.			Duration, h	0.250		
Analyst	TJS	Analysis Date	Jul 2, 2024	Area Type	Other		
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.89		
Urban Street	SR 3/Weymouth Rd	Analysis Year	2030	Analysis Period	1 > 7:15		
Intersection	(70) SR 3/Weymouth Rd...	File Name	Signalized Capacity Group 2 (20-70) - 2030 No B...				
Project Description	2030 No Build w Imp						



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	10	970	90	10	530	20	50	50	10	50	130	20

Signal Information													
Cycle, s	97.0	Reference Phase	2										
Offset, s	0	Reference Point	End										
Uncoordinated	Yes	Simult. Gap E/W	On	Green	70.0	15.7	0.0	0.0	0.0	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.2	4.1	0.0	0.0	0.0	0.0			
				Red	1.0	1.0	0.0	0.0	0.0	0.0			

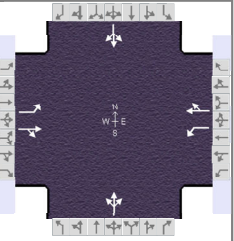
Traffic Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	10	970	90	10	530	20	50	50	10	50	130	20
Initial Queue (Q _b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s ₀), veh/h	1750	1750	1900	1750	1750	1900	1900	1750	1900	1900	1750	1900
Parking (N _m), man/h		None			None			None			None	
Heavy Vehicles (P _{HV}), %	5	5		7	7			4			1	
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N _b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (AT)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (I)	0.86	0.86	0.86	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (W), ft	12.0	12.0		12.0	12.0			12.0			12.0	
Turn Bay Length, ft	0	999		0	3350			999			999	
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	55	55	55	55	55	55	40	40	40	55	55	55

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
	Maximum Green (G _{max}) or Phase Split, s		70.0		70.0		30.0	
Yellow Change Interval (Y), s		5.2		5.2		4.1		4.1
Red Clearance Interval (R _c), s		1.0		1.0		1.0		1.0
Minimum Green (G _{min}), s		20		20		10		10
Start-Up Lost Time (l _t), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (e), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (PT), s		2.0		2.0		2.0		2.0
Recall Mode		Min		Max		Off		Off
Dual Entry		Yes		Yes		Yes		Yes
Walk (Walk), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (PC), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No		0.50	No		0.50	No		0.50	No		0.50

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Jul 2, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.89
Urban Street	SR 3/Weymouth Rd	Analysis Year	2030	Analysis Period	1 > 7:15
Intersection	(70) SR 3/Weymouth Rd...	File Name	Signalized Capacity Group 2 (20-70) - 2030 No B...		
Project Description	2030 No Build w Imp				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	10	970	90	10	530	20	50	50	10	50	130	20

Signal Information												
Cycle, s	97.0	Reference Phase	2									
Offset, s	0	Reference Point	End	Green	70.0	15.7	0.0	0.0	0.0	0.0		
Uncoordinated	Yes	Simult. Gap E/W	On	Yellow	5.2	4.1	0.0	0.0	0.0	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Red	1.0	1.0	0.0	0.0	0.0	0.0		

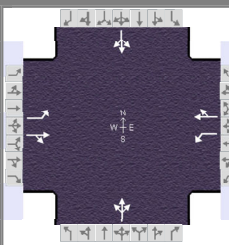
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6		8		4
Case Number		6.0		6.0		8.0		8.0
Phase Duration, s		76.2		76.2		20.8		20.8
Change Period, (Y+R _c), s		6.2		6.2		5.1		5.1
Max Allow Headway (MAH), s		2.9		2.9		3.0		3.0
Queue Clearance Time (g _s), s		61.3		63.4		11.2		15.2
Green Extension Time (g _e), s		3.1		2.7		0.6		0.5
Phase Call Probability		1.00		1.00		1.00		1.00
Max Out Probability		0.39		0.54		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h	11	1139		11	618			124			225	
Adjusted Saturation Flow Rate (s), veh/h/ln	786	1656		475	1644			1209			1609	
Queue Service Time (g _s), s	0.6	59.3		2.1	16.3			0.0			4.0	
Cycle Queue Clearance Time (g _c), s	16.8	59.3		61.4	16.3			9.2			13.2	
Green Ratio (g/C)	0.72	0.72		0.72	0.72			0.16			0.16	
Capacity (c), veh/h	510	1196		127	1186			250			307	
Volume-to-Capacity Ratio (X)	0.021	0.952		0.089	0.521			0.495			0.733	
Back of Queue (Q), ft/ln (95 th percentile)	4	617		13	189			124			217	
Back of Queue (Q), veh/ln (95 th percentile)	0.2	23.7		0.5	7.2			4.8			8.6	
Queue Storage Ratio (RQ) (95 th percentile)	0.00	0.62		0.00	0.06			0.12			0.22	
Uniform Delay (d ₁), s/veh	9.8	12.0		39.3	6.0			37.5			39.5	
Incremental Delay (d ₂), s/veh	0.0	14.1		1.4	1.6			0.6			1.3	
Initial Queue Delay (d ₃), s/veh	0.0	0.0		0.0	0.0			0.0			0.0	
Control Delay (d), s/veh	9.8	26.1		40.7	7.7			38.1			40.8	
Level of Service (LOS)	A	C		D	A			D			D	
Approach Delay, s/veh / LOS	26.0	C		8.2	A			38.1	D		40.8	D
Intersection Delay, s/veh / LOS	23.0						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.63	B	1.63	B	1.94	B	1.94	B
Bicycle LOS Score / LOS	2.47	B	1.53	B	0.69	A	0.86	A

HCS Signalized Intersection Input Data

General Information				Intersection Information			
Agency	Smart Services Inc.			Duration, h	0.250		
Analyst	TJS	Analysis Date	Jul 2, 2024	Area Type	Other		
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.94		
Urban Street	SR 3/Weymouth Rd	Analysis Year	2030	Analysis Period	1 > 4:45		
Intersection	(70) SR 3/Weymouth Rd...	File Name	Signalized Capacity Group 2 (20-70) - 2030 No B...				
Project Description	2030 No Build w Imp						



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	20	650	50	10	1130	30	140	140	10	20	80	20

Signal Information												
Cycle, s	80.0	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	Yes	Simult. Gap E/W	On	Green	50.0	18.7	0.0	0.0	0.0	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.2	4.1	0.0	0.0	0.0	0.0		
				Red	1.0	1.0	0.0	0.0	0.0	0.0		

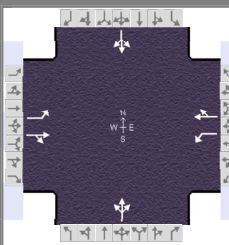
Traffic Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	20	650	50	10	1130	30	140	140	10	20	80	20
Initial Queue (Q _b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s ₀), veh/h	1750	1750	1900	1750	1750	1900	1900	1750	1900	1900	1750	1900
Parking (N _m), man/h		None			None			None			None	
Heavy Vehicles (P _{HV}), %	3	2		3	2			2			2	
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N _b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (AT)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (I)	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (W), ft	12.0	12.0		12.0	12.0			12.0			12.0	
Turn Bay Length, ft	0	999		0	3350			999			999	
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	55	55	55	55	55	55	40	40	40	55	55	55

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s		50.0		50.0		30.0		30.0
Yellow Change Interval (Y), s		5.2		5.2		4.1		4.1
Red Clearance Interval (R _c), s		1.0		1.0		1.0		1.0
Minimum Green (G _{min}), s		20		20		10		10
Start-Up Lost Time (l _t), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (e), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (PT), s		2.0		2.0		2.0		2.0
Recall Mode		Min		Max		Off		Off
Dual Entry		Yes		Yes		Yes		Yes
Walk (Walk), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (PC), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Jul 2, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.94
Urban Street	SR 3/Weymouth Rd	Analysis Year	2030	Analysis Period	1 > 4:45
Intersection	(70) SR 3/Weymouth Rd...	File Name	Signalized Capacity Group 2 (20-70) - 2030 No B...		
Project Description	2030 No Build w Imp				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	20	650	50	10	1130	30	140	140	10	20	80	20

Signal Information													
Cycle, s	80.0	Reference Phase	2										
Offset, s	0	Reference Point	End										
Uncoordinated	Yes	Simult. Gap E/W	On	Green	50.0	18.7	0.0	0.0	0.0	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.2	4.1	0.0	0.0	0.0	0.0			
				Red	1.0	1.0	0.0	0.0	0.0	0.0			

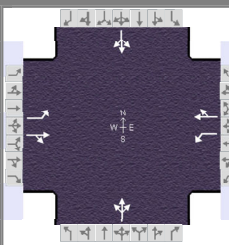
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6		8		4
Case Number		6.0		6.0		8.0		8.0
Phase Duration, s		56.2		56.2		23.8		23.8
Change Period, (Y+R _c), s		6.2		6.2		5.1		5.1
Max Allow Headway (MAH), s		2.9		2.9		3.1		3.1
Queue Clearance Time (g _s), s		42.1		39.5		18.0		7.1
Green Extension Time (g _e), s		2.8		3.1		0.7		0.8
Phase Call Probability		1.00		1.00		1.00		1.00
Max Out Probability		0.40		0.25		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h	21	745		8	953			309			128	
Adjusted Saturation Flow Rate (s), veh/h/ln	584	1701		710	1715			1488			1615	
Queue Service Time (g _s), s	2.6	23.3		0.6	37.5			10.9			0.0	
Cycle Queue Clearance Time (g _c), s	40.1	23.3		24.0	37.5			16.0			5.1	
Green Ratio (g/C)	0.63	0.63		0.63	0.63			0.23			0.23	
Capacity (c), veh/h	181	1063		327	1072			414			430	
Volume-to-Capacity Ratio (X)	0.117	0.700		0.025	0.889			0.745			0.297	
Back of Queue (Q), ft/ln (95 th percentile)	15	262		5	452			235			83	
Back of Queue (Q), veh/ln (95 th percentile)	0.6	10.3		0.2	17.8			9.3			3.3	
Queue Storage Ratio (RQ) (95 th percentile)	0.00	0.26		0.00	0.13			0.24			0.08	
Uniform Delay (d ₁), s/veh	29.6	10.0		18.0	12.7			29.5			25.4	
Incremental Delay (d ₂), s/veh	0.1	1.8		0.1	10.2			1.0			0.1	
Initial Queue Delay (d ₃), s/veh	0.0	0.0		0.0	0.0			0.0			0.0	
Control Delay (d), s/veh	29.7	11.7		18.1	22.8			30.6			25.6	
Level of Service (LOS)	C	B		B	C			C			C	
Approach Delay, s/veh / LOS	12.2	B		22.8	C			30.6	C		25.6	C
Intersection Delay, s/veh / LOS	20.3						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.64	B	1.64	B	1.92	B	1.92	B
Bicycle LOS Score / LOS	1.75	B	2.54	C	1.00	A	0.70	A

HCS Signalized Intersection Input Data

General Information					Intersection Information			
Agency	Smart Services Inc.				Duration, h	0.250		
Analyst	TJS	Analysis Date	Mar 1, 2024		Area Type	Other		
Jurisdiction	ODOT	Time Period	AM Peak		PHF	0.89		
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050		Analysis Period	1 > 7:15		
Intersection	(70) SR 3/Weymouth Rd...	File Name	Signalized Capacity Group 2 (20-70) - 2050 No B...					
Project Description	2050 No Build w Imp							



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	10	1000	100	10	560	20	50	50	10	50	140	20

Signal Information													
Cycle, s	97.7	Reference Phase	2										
Offset, s	0	Reference Point	End										
Uncoordinated	Yes	Simult. Gap E/W	On	Green	70.0	16.4	0.0	0.0	0.0	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.2	4.1	0.0	0.0	0.0	0.0			
				Red	1.0	1.0	0.0	0.0	0.0	0.0			

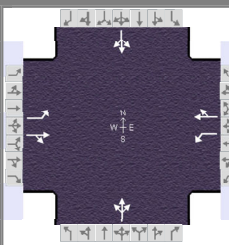
Traffic Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	10	1000	100	10	560	20	50	50	10	50	140	20
Initial Queue (Q _b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s ₀), veh/h	1750	1750	1900	1750	1750	1900	1900	1750	1900	1900	1750	1900
Parking (N _m), man/h		None			None			None			None	
Heavy Vehicles (P _{HV}), %	5	5		7	7			4			1	
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N _b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (AT)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (I)	0.85	0.85	0.85	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (W), ft	12.0	12.0		12.0	12.0			12.0			12.0	
Turn Bay Length, ft	0	999		0	3350			999			999	
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	55	55	55	55	55	55	40	40	40	55	55	55

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
	Maximum Green (G _{max}) or Phase Split, s		70.0		70.0		30.0	
Yellow Change Interval (Y), s		5.2		5.2		4.1		4.1
Red Clearance Interval (R _c), s		1.0		1.0		1.0		1.0
Minimum Green (G _{min}), s		20		20		10		10
Start-Up Lost Time (l _t), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (e), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (PT), s		2.0		2.0		2.0		2.0
Recall Mode		Min		Max		Off		Off
Dual Entry		Yes		Yes		Yes		Yes
Walk (Walk), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (PC), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No		0.50	No		0.50	No		0.50	No		0.50

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Mar 1, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.89
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 7:15
Intersection	(70) SR 3/Weymouth Rd...	File Name	Signalized Capacity Group 2 (20-70) - 2050 No B...		
Project Description	2050 No Build w Imp				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	10	1000	100	10	560	20	50	50	10	50	140	20

Signal Information																		
Cycle, s	97.7	Reference Phase	2															
Offset, s	0	Reference Point	End															
Uncoordinated	Yes	Simult. Gap E/W	On	Green	70.0	16.4	0.0	0.0	0.0	0.0	1		2		3		4	
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.2	4.1	0.0	0.0	0.0	0.0	5		6		7		8	
				Red	1.0	1.0	0.0	0.0	0.0	0.0								

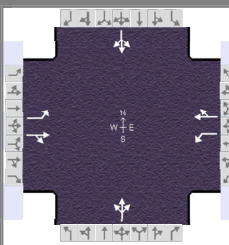
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6		8		4
Case Number		6.0		6.0		8.0		8.0
Phase Duration, s		76.2		76.2		21.5		21.5
Change Period, (Y+R _c), s		6.2		6.2		5.1		5.1
Max Allow Headway (MAH), s		2.9		2.9		3.0		3.0
Queue Clearance Time (g _s), s		68.7		71.0		11.4		15.9
Green Extension Time (g _e), s		0.8		0.0		0.6		0.5
Phase Call Probability		1.00		1.00		1.00		1.00
Max Out Probability		1.00		1.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h	11	1169		11	652			124			236	
Adjusted Saturation Flow Rate (s), veh/h/ln	762	1655		461	1644			1176			1614	
Queue Service Time (g _s), s	0.6	66.7		2.4	18.2			0.0			4.4	
Cycle Queue Clearance Time (g _c), s	18.8	66.7		69.0	18.2			9.4			13.9	
Green Ratio (g/C)	0.72	0.72		0.72	0.72			0.17			0.17	
Capacity (c), veh/h	478	1185		89	1178			251			317	
Volume-to-Capacity Ratio (X)	0.022	0.986		0.126	0.553			0.492			0.745	
Back of Queue (Q), ft/ln (95 th percentile)	4	744		16	214			124			226	
Back of Queue (Q), veh/ln (95 th percentile)	0.2	28.6		0.6	8.1			4.8			9.0	
Queue Storage Ratio (RQ) (95 th percentile)	0.00	0.75		0.00	0.06			0.12			0.23	
Uniform Delay (d ₁), s/veh	10.9	13.4		46.7	6.5			37.3			39.5	
Incremental Delay (d ₂), s/veh	0.0	20.7		2.9	1.9			0.6			1.3	
Initial Queue Delay (d ₃), s/veh	0.0	0.0		0.0	0.0			0.0			0.0	
Control Delay (d), s/veh	10.9	34.1		49.6	8.4			37.9			40.8	
Level of Service (LOS)	B	C		D	A			D			D	
Approach Delay, s/veh / LOS	33.9	C		9.1	A			37.9	D		40.8	D
Intersection Delay, s/veh / LOS	27.4						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.63	B	1.63	B	1.94	B	1.94	B
Bicycle LOS Score / LOS	2.55	C	1.58	B	0.69	A	0.88	A

HCS Signalized Intersection Input Data

General Information					Intersection Information			
Agency	Smart Services Inc.				Duration, h	0.250		
Analyst	TJS	Analysis Date	Mar 1, 2024		Area Type	Other		
Jurisdiction	ODOT	Time Period	PM Peak		PHF	0.94		
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050		Analysis Period	1 > 4:45		
Intersection	(70) SR 3/Weymouth Rd...	File Name	Signalized Capacity Group 2 (20-70) - 2050 No B...					
Project Description	2050 No Build w Imp							



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	20	680	50	10	1160	40	150	150	10	20	90	20

Signal Information												Signal Phases				
Cycle, s	81.6	Reference Phase	2													
Offset, s	0	Reference Point	End													
Uncoordinated	Yes	Simult. Gap E/W	On	Green	50.0	20.3	0.0	0.0	0.0	0.0						
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.2	4.1	0.0	0.0	0.0	0.0						
				Red	1.0	1.0	0.0	0.0	0.0	0.0						

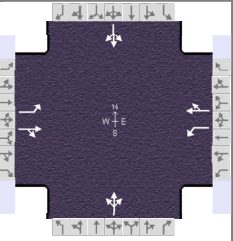
Traffic Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	20	680	50	10	1160	40	150	150	10	20	90	20
Initial Queue (Q _b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s ₀), veh/h	1750	1750	1900	1750	1750	1900	1900	1750	1900	1900	1750	1900
Parking (N _m), man/h		None			None			None			None	
Heavy Vehicles (P _{HV}), %	3	2		3	2			2			2	
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N _b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (AT)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (I)	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (W), ft	12.0	12.0		12.0	12.0			12.0			12.0	
Turn Bay Length, ft	0	999		0	3350			999			999	
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	55	55	55	55	55	55	40	40	40	55	55	55

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s		50.0		50.0		30.0		30.0
Yellow Change Interval (Y), s		5.2		5.2		4.1		4.1
Red Clearance Interval (R _c), s		1.0		1.0		1.0		1.0
Minimum Green (G _{min}), s		20		20		10		10
Start-Up Lost Time (l _t), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (e), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (PT), s		2.0		2.0		2.0		2.0
Recall Mode		Min		Max		Off		Off
Dual Entry		Yes		Yes		Yes		Yes
Walk (Walk), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (PC), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Mar 1, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.94
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 4:45
Intersection	(70) SR 3/Weymouth Rd...	File Name	Signalized Capacity Group 2 (20-70) - 2050 No B...		
Project Description	2050 No Build w Imp				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	20	680	50	10	1160	40	150	150	10	20	90	20

Signal Information													
Cycle, s	81.6	Reference Phase	2										
Offset, s	0	Reference Point	End										
Uncoordinated	Yes	Simult. Gap E/W	On	Green	50.0	20.3	0.0	0.0	0.0	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.2	4.1	0.0	0.0	0.0	0.0			
				Red	1.0	1.0	0.0	0.0	0.0	0.0			

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6		8		4
Case Number		6.0		6.0		8.0		8.0
Phase Duration, s		56.2		56.2		25.4		25.4
Change Period, ($Y+R_c$), s		6.2		6.2		5.1		5.1
Max Allow Headway (MAH), s		2.9		2.9		3.1		3.1
Queue Clearance Time (g_s), s		47.4		44.5		19.6		7.5
Green Extension Time (g_e), s		1.4		2.4		0.7		0.8
Phase Call Probability		1.00		1.00		1.00		1.00
Max Out Probability		1.00		0.64		0.01		0.00

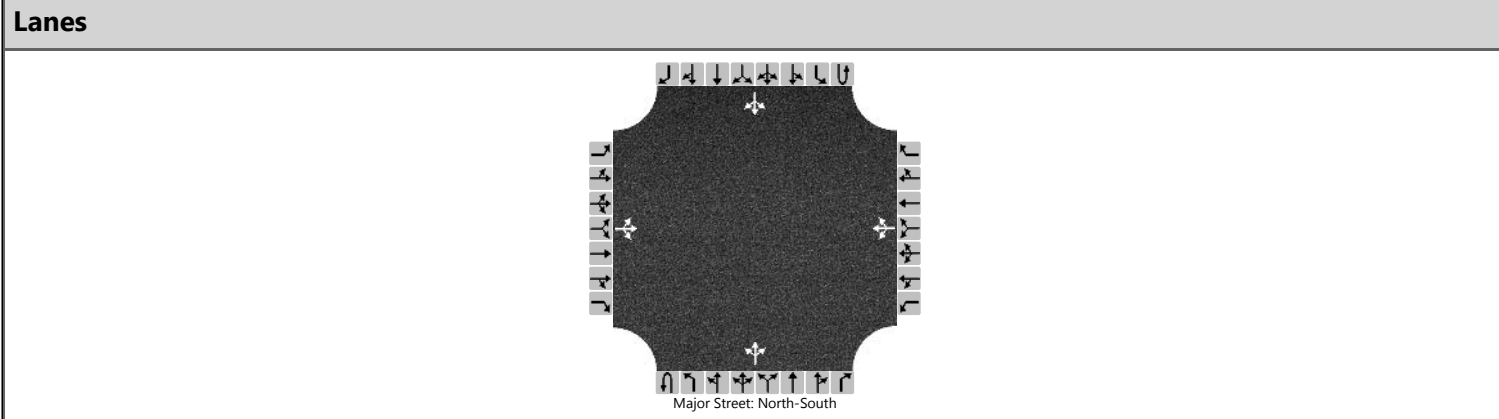
Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h	21	777		8	982			330			138	
Adjusted Saturation Flow Rate (s), veh/h/ln	568	1702		689	1712			1478			1617	
Queue Service Time (g_s), s	2.9	26.5		0.7	42.5			12.1			0.0	
Cycle Queue Clearance Time (g_c), s	45.4	26.5		27.2	42.5			17.6			5.5	
Green Ratio (g/C)	0.61	0.61		0.61	0.61			0.25			0.25	
Capacity (c), veh/h	141	1043		287	1050			433			453	
Volume-to-Capacity Ratio (X)	0.151	0.745		0.029	0.936			0.762			0.305	
Back of Queue (Q), ft/ln (95 th percentile)	17	306		5	544			256			91	
Back of Queue (Q), veh/ln (95 th percentile)	0.7	12.1		0.2	21.4			10.1			3.6	
Queue Storage Ratio (RQ) (95 th percentile)	0.00	0.31		0.00	0.16			0.26			0.09	
Uniform Delay (d_1), s/veh	34.9	11.2		20.9	14.3			29.6			25.1	
Incremental Delay (d_2), s/veh	0.2	2.6		0.2	14.9			2.1			0.1	
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0			0.0			0.0	
Control Delay (d), s/veh	35.1	13.8		21.1	29.3			31.6			25.2	
Level of Service (LOS)	D	B		C	C			C			C	
Approach Delay, s/veh / LOS	14.4	B		29.2	C			31.6	C		25.2	C
Intersection Delay, s/veh / LOS	24.1						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.64	B	1.64	B	1.92	B	1.92	B
Bicycle LOS Score / LOS	1.80	B	2.61	C	1.03	A	0.72	A

220-SR 94 (Ridge Rd) & Remsen Rd/Melody Lane

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(220) Ridge Rd & Remsen Rd (South)		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	2/8/2024			East/West Street	Remsen Rd (South)		
Analysis Year	2050			North/South Street	Ridge Rd		
Time Analyzed	No Build - AM Peak			Peak Hour Factor	0.82		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		10	10	0		20	0	70		10	340	10		30	280	10
Percent Heavy Vehicles (%)		50	50	50		3	3	3		7				5		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.60	7.00	6.70		7.13	6.53	6.23		4.17				4.15		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.95	4.45	3.75		3.53	4.03	3.33		2.26				2.25		

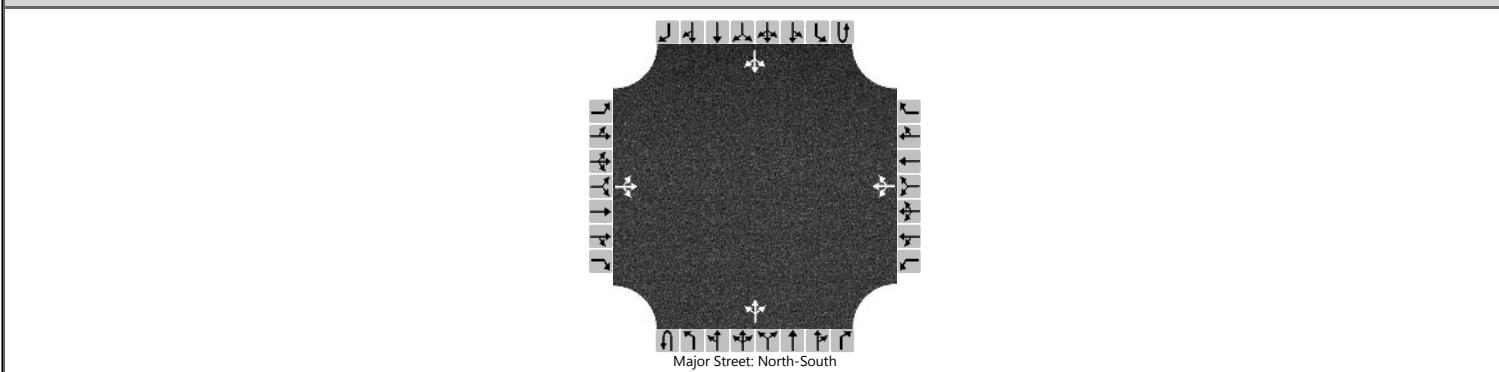
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			24				110				12				37	
Capacity, c (veh/h)			197				465				1178				1117	
v/c Ratio			0.12				0.24				0.01				0.03	
95% Queue Length, Q ₉₅ (veh)			0.4				0.9				0.0				0.1	
95% Queue Length, Q ₉₅ (ft)			14.0				23.0									
Control Delay (s/veh)			25.8				15.1			8.1	0.1	0.1		8.3	0.3	0.3
Level of Service (LOS)			D				C			A	A	A		A	A	A
Approach Delay (s/veh)	25.8				15.1				0.3				1.1			
Approach LOS	D				C				A				A			

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS	Intersection	(220) Ridge Rd & Remsen Rd (South)				
Agency/Co.	Smart Services Inc.	Jurisdiction	ODOT				
Date Performed	2/08/2024	East/West Street	Remsen Rd (South)				
Analysis Year	2050	North/South Street	Ridge Rd				
Time Analyzed	No Build - PM Peak	Peak Hour Factor	0.94				
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25				
Project Description	I-71 & I-271 Planning Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		10	10	10		20	10	60		10	440	20		70	480	10
Percent Heavy Vehicles (%)		17	17	17		3	3	3		1				4		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.27	6.67	6.37		7.13	6.53	6.23		4.11				4.14		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.65	4.15	3.45		3.53	4.03	3.33		2.21				2.23		

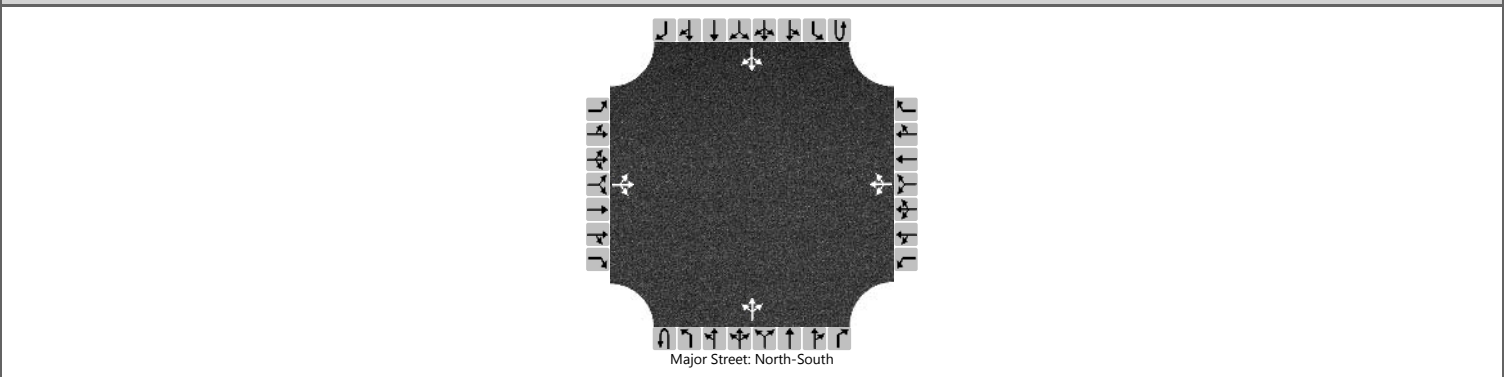
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			32				96				11				74	
Capacity, c (veh/h)			176				293				1050				1065	
v/c Ratio			0.18				0.33				0.01				0.07	
95% Queue Length, Q ₉₅ (veh)			0.6				1.4				0.0				0.2	
95% Queue Length, Q ₉₅ (ft)			17.0				35.8									
Control Delay (s/veh)			29.9				23.1			8.5	0.1	0.1		8.6	0.9	0.9
Level of Service (LOS)			D				C			A	A	A		A	A	A
Approach Delay (s/veh)	29.9				23.1				0.3				1.8			
Approach LOS	D				C				A				A			

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(220) Ridge Rd & Remsen Rd (South)		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	3/04/2024			East/West Street	Remsen Rd (South)		
Analysis Year	2050			North/South Street	Ridge Rd		
Time Analyzed	No Build-AM Peak Alt C			Peak Hour Factor	0.82		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		200	20	60		20	10	60		50	300	10		20	220	50
Percent Heavy Vehicles (%)		12	12	12		3	3	3		0				5		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.22	6.62	6.32		7.13	6.53	6.23		4.10				4.15		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.61	4.11	3.41		3.53	4.03	3.33		2.20				2.25		

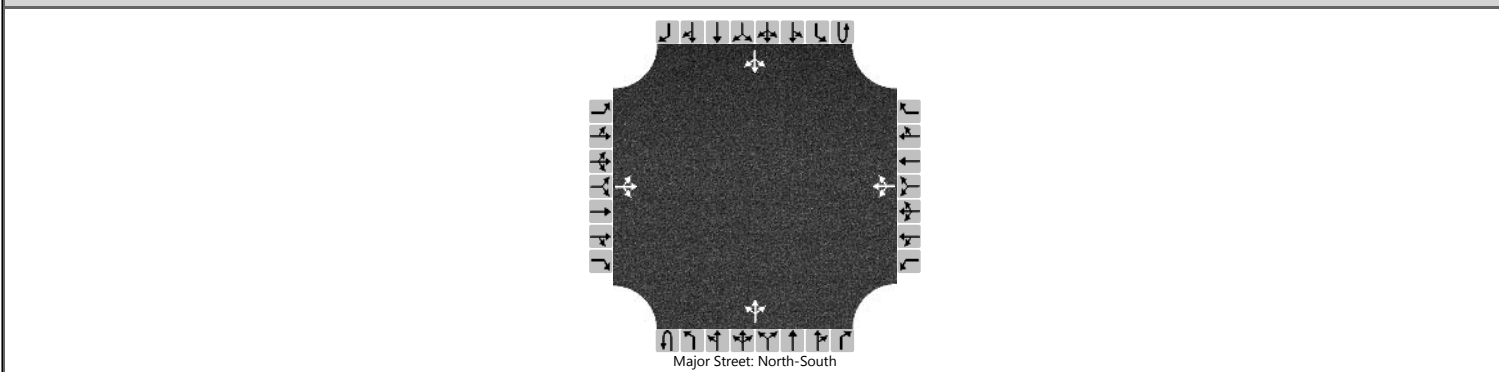
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			341				110			61				24		
Capacity, c (veh/h)			240				393			1242				1164		
v/c Ratio			1.42				0.28			0.05				0.02		
95% Queue Length, Q ₉₅ (veh)			19.3				1.1			0.2				0.1		
95% Queue Length, Q ₉₅ (ft)			528.8				28.2									
Control Delay (s/veh)			250.5				17.7			8.0	0.5	0.5		8.2	0.2	0.2
Level of Service (LOS)			F				C			A	A	A		A	A	A
Approach Delay (s/veh)	250.5				17.7				1.5				0.8			
Approach LOS	F				C				A				A			

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(220) Ridge Rd & Remsen Rd (South)		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	3/04/2024			East/West Street	Remsen Rd (South)		
Analysis Year	2050			North/South Street	Ridge Rd		
Time Analyzed	No Build-PM Peak Alt C			Peak Hour Factor	0.94		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		70	20	70		20	20	50		90	360	20		60	420	220
Percent Heavy Vehicles (%)		6	6	6		3	3	3		1				6		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.16	6.56	6.26		7.13	6.53	6.23		4.11				4.16		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.55	4.05	3.35		3.53	4.03	3.33		2.21				2.25		

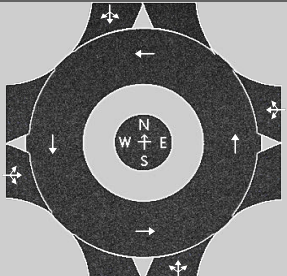
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			170				96				96				64	
Capacity, c (veh/h)			137				173				916				1133	
v/c Ratio			1.24				0.55				0.10				0.06	
95% Queue Length, Q ₉₅ (veh)			10.3				2.9				0.3				0.2	
95% Queue Length, Q ₉₅ (ft)			269.9				74.2									
Control Delay (s/veh)			217.6				48.8			9.4	1.3	1.3		8.4	0.8	0.8
Level of Service (LOS)			F				E			A	A	A		A	A	A
Approach Delay (s/veh)	217.6				48.8				2.8				1.4			
Approach LOS	F				E				A				A			

HCS Roundabouts Report

General Information

Site Information

Analyst	TJS		Intersection	(220) SR 94 & Remsen Road...
Agency or Co.	Smart Services, Inc		E/W Street Name	Remsen Road (South)
Date Performed	3/04/2024		N/S Street Name	SR 94
Analysis Year	2050		Analysis Time Period, hrs	0.25
Time Analyzed	No Build-AM Peak (Alt C)		Peak Hour Factor	0.82
Project Description			Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0
Lane Assignment	LTR				LTR				LTR				LTR			
Volume (V), veh/h	0	200	20	60	0	20	10	60	0	50	300	10	0	20	220	50
Percent Heavy Vehicles, %	2	12	12	12	3	3	3	3	7	7	7	7	0	0	0	0
Flow Rate (v _{PCE}), pc/h	0	273	27	82	0	25	13	75	0	65	391	13	0	24	268	61
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1				1				1				1			
Pedestrians Crossing, p/h	0				0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763			4.9763			4.9763			4.9763	
Follow-Up Headway, s		2.6087			2.6087			2.6087			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		382			113			469			353	
Entry Volume, veh/h		341			110			438			353	
Circulating Flow (v _c), pc/h	317			729			324			103		
Exiting Flow (v _{ex}), pc/h	64			139			739			375		
Capacity (c _{PCE}), pc/h		999			656			992			1242	
Capacity (c), veh/h		892			637			927			1242	
v/c Ratio (x)		0.38			0.17			0.47			0.28	

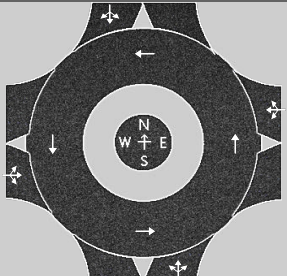
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		8.4			7.7			9.7			5.5	
Lane LOS		A			A			A			A	
95% Queue Length, Q ₉₅ (veh)		1.8			0.6			2.6			1.2	
95% Queue Length, Q ₉₅ (ft)		49.3			15.4			68.6			30.0	
Approach Delay, s/veh LOS	8.4	A		7.7	A		9.7	A		5.5	A	
Intersection Delay, s/veh LOS	8.0						A					

HCS Roundabouts Report

General Information

Site Information

Analyst	TJS		Intersection	(220) SR 94 & Remsen Road...
Agency or Co.	Smart Services, Inc		E/W Street Name	Remsen Road (South)
Date Performed	3/04/2024		N/S Street Name	SR 94
Analysis Year	2050		Analysis Time Period, hrs	0.25
Time Analyzed	No Build-PM Peak (Alt C)		Peak Hour Factor	0.94
Project Description			Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0
Lane Assignment	LTR				LTR				LTR				LTR			
Volume (V), veh/h	0	70	20	70	0	20	20	50	0	90	360	20	0	60	420	220
Percent Heavy Vehicles, %	6	6	6	6	3	3	3	3	1	1	1	1	6	6	6	6
Flow Rate (v _{PCE}), pc/h	0	79	23	79	0	22	22	55	0	97	387	21	0	68	474	248
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1				1				1				1			
Pedestrians Crossing, p/h	0				0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763			4.9763			4.9763			4.9763	
Follow-Up Headway, s		2.6087			2.6087			2.6087			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		181			99			505			790	
Entry Volume, veh/h		171			96			500			745	
Circulating Flow (v _c), pc/h	564			563			170			141		
Exiting Flow (v _{ex}), pc/h	112			367			521			575		
Capacity (c _{PCE}), pc/h		776			777			1160			1195	
Capacity (c), veh/h		732			754			1149			1127	
v/c Ratio (x)		0.23			0.13			0.44			0.66	

Delay and Level of Service

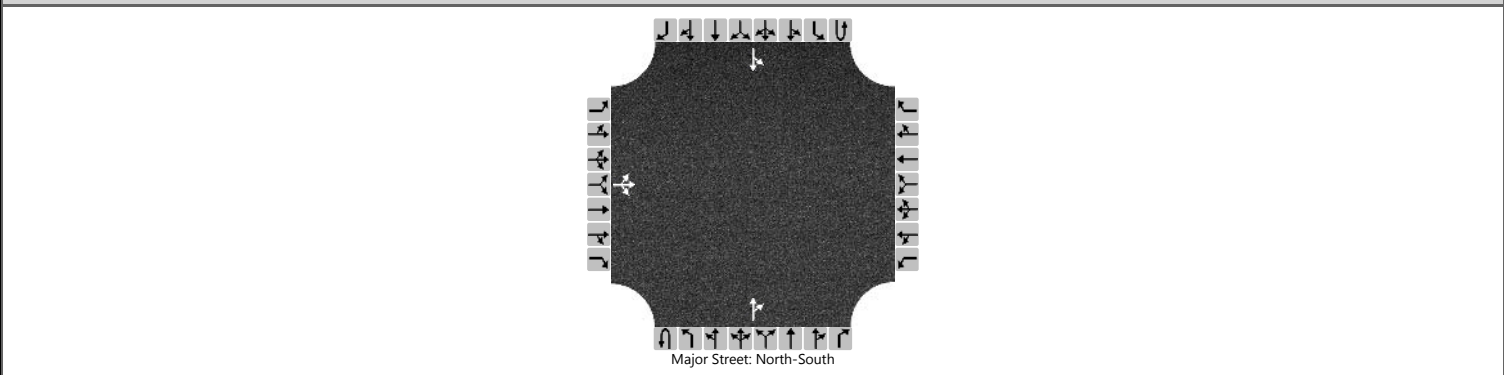
Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		7.6			6.1			7.7			12.5	
Lane LOS		A			A			A			B	
95% Queue Length, Q ₉₅ (veh)		0.9			0.4			2.2			5.3	
95% Queue Length, Q ₉₅ (ft)		23.6			10.2			55.4			138.9	
Approach Delay, s/veh LOS	7.6	A		6.1	A		7.7	A		12.5	B	
Intersection Delay, s/veh LOS	9.9						A					

230-SR 94 (Ridge Rd) & I-271 NB Ramps

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(230) SR 94 (Ridge Rd) & I-271 NB Ramps		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	6/25/2024			East/West Street	I-271 NB Ramps		
Analysis Year	2030			North/South Street	SR 94 (Ridge Rd)		
Time Analyzed	No Build - AM Peak			Peak Hour Factor	0.90		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0		0	1	0		0	1	0
Configuration			LTR								TR			LT		
Volume (veh/h)		20	1	10							250	140		790	280	
Percent Heavy Vehicles (%)		14	14	14										4		
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2										4.1		
Critical Headway (sec)		7.24	6.64	6.34										4.14		
Base Follow-Up Headway (sec)		3.5	4.0	3.3										2.2		
Follow-Up Headway (sec)		3.63	4.13	3.43										2.24		

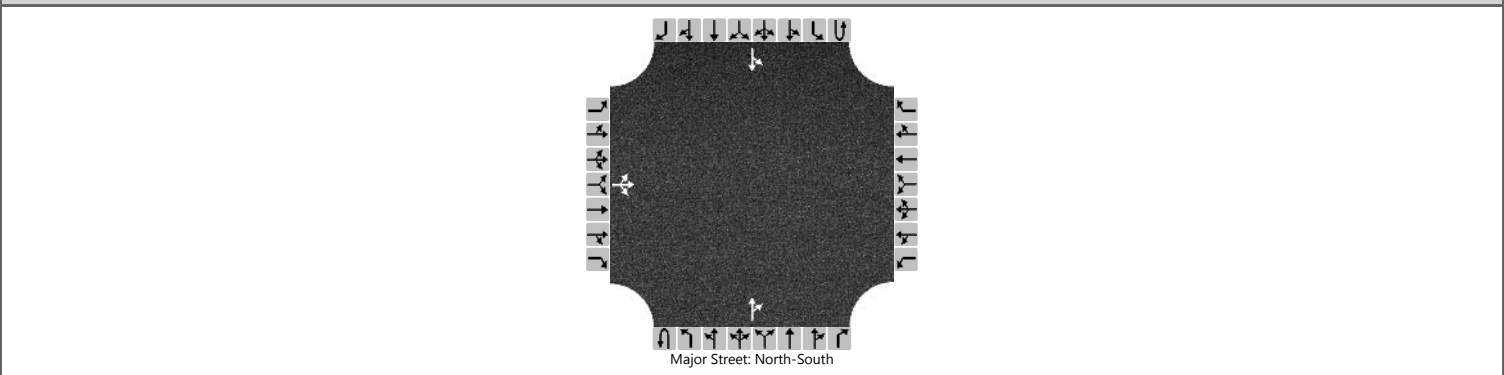
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			34										878			
Capacity, c (veh/h)			1										1116			
v/c Ratio			23.25										0.79			
95% Queue Length, Q ₉₅ (veh)			6.2										8.6			
95% Queue Length, Q ₉₅ (ft)			172.4										221.9			
Control Delay (s/veh)			14549.4										18.9	18.0		
Level of Service (LOS)			F										C	C		
Approach Delay (s/veh)	14549.4												18.7			
Approach LOS	F												C			

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS	Intersection	(230) SR 94 (Ridge Rd) & I-271 NB Ramps				
Agency/Co.	Smart Services Inc.	Jurisdiction	ODOT				
Date Performed	6/25/2024	East/West Street	I-271 NB Ramps				
Analysis Year	2030	North/South Street	SR 94 (Ridge Rd)				
Time Analyzed	No Build - PM Peak	Peak Hour Factor	0.96				
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25				
Project Description	I-71 & I-271 Planning Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0		0	1	0		0	1	0
Configuration			LTR								TR			LT		
Volume (veh/h)		50	1	20							380	90		270	480	
Percent Heavy Vehicles (%)		2	2	2										5		
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2										4.1		
Critical Headway (sec)		7.12	6.52	6.22										4.15		
Base Follow-Up Headway (sec)		3.5	4.0	3.3										2.2		
Follow-Up Headway (sec)		3.52	4.02	3.32										2.25		

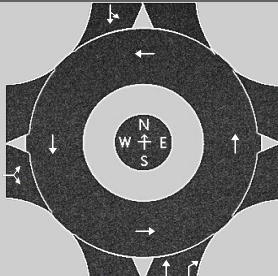
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			74										281			
Capacity, c (veh/h)			84										1058			
v/c Ratio			0.88										0.27			
95% Queue Length, Q ₉₅ (veh)			4.7										1.1			
95% Queue Length, Q ₉₅ (ft)			119.4										28.6			
Control Delay (s/veh)			153.4										9.6	3.5		
Level of Service (LOS)			F										A	A		
Approach Delay (s/veh)	153.4								153.4				5.7			
Approach LOS	F								F				A			

HCS Roundabouts Report

General Information

Site Information

Analyst	TJS		Intersection	(230) SR 94 & I-271 NB Ram...
Agency or Co.	Smart Services, Inc		E/W Street Name	I-271 NB Ramps
Date Performed	6/27/2024		N/S Street Name	SR 94
Analysis Year	2030		Analysis Time Period, hrs	0.25
Time Analyzed	No Build Alt B - AM Peak		Peak Hour Factor	0.90
Project Description			Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Number of Lanes (N)	0	0	1	0	0	0	0	0	0	0	1	1	0	0	1	0
Lane Assignment			LR						T		R				LT	
Volume (V), veh/h	0	20		10					0		250	140	0	790	280	
Percent Heavy Vehicles, %	14	14		14					7		7	7	4	4	4	
Flow Rate (v _{PCE}), pc/h	0	25		13					0		297	166	0	913	324	
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1								1				1			
Pedestrians Crossing, p/h	0								0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763					4.5436	4.5436			4.9763	
Follow-Up Headway, s		2.6087					2.5352	2.5352			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		38					297	166			1237	
Entry Volume, veh/h		33					278	155			1189	
Circulating Flow (v _c), pc/h	1237			322			938			0		
Exiting Flow (v _{ex}), pc/h	1079			0			322			337		
Capacity (C _{PCE}), pc/h		391					605	605			1380	
Capacity (c), veh/h		343					565	565			1327	
v/c Ratio (x)		0.10					0.49	0.27			0.90	

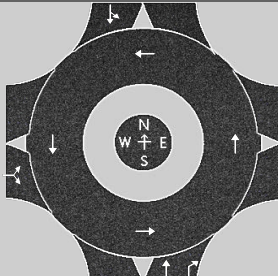
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		12.1					14.8	10.1			24.4	
Lane LOS		B					B	B			C	
95% Queue Length, Q ₉₅ (veh)		0.3					2.7	1.1			14.2	
95% Queue Length, Q ₉₅ (ft)		8.3					71.3	29.0			355.0	
Approach Delay, s/veh LOS	12.1		B				13.1		B	24.4		C
Intersection Delay, s/veh LOS	21.2						C					

HCS Roundabouts Report

General Information

Site Information

Analyst	TJS		Intersection	(230) SR 94 & I-271 NB Ram...
Agency or Co.	Smart Services, Inc		E/W Street Name	I-271 NB Ramps
Date Performed	6/27/2024		N/S Street Name	SR 94
Analysis Year	2030		Analysis Time Period, hrs	0.25
Time Analyzed	No Build Alt B - PM Peak		Peak Hour Factor	0.96
Project Description			Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	1	0	0	0	0	0	0	0	1	1	0	0	1	0
Lane Assignment	LR								T		R		LT			
Volume (V), veh/h	0	50		20					0		380	90	0	270	480	
Percent Heavy Vehicles, %	2	2		2					1		1	1	6	6	6	
Flow Rate (v _{PCE}), pc/h	0	53		21					0		400	95	0	298	530	
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1								1				1			
Pedestrians Crossing, p/h	0								0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763					4.5436	4.5436			4.9763	
Follow-Up Headway, s		2.6087					2.5352	2.5352			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		74					400	95			828	
Entry Volume, veh/h		73					396	94			781	
Circulating Flow (v _c), pc/h	828			453			351			0		
Exiting Flow (v _{ex}), pc/h	393			0			453			551		
Capacity (C _{PCE}), pc/h		593					1032	1032			1380	
Capacity (c), veh/h		581					1022	1022			1302	
v/c Ratio (x)		0.12					0.39	0.09			0.60	

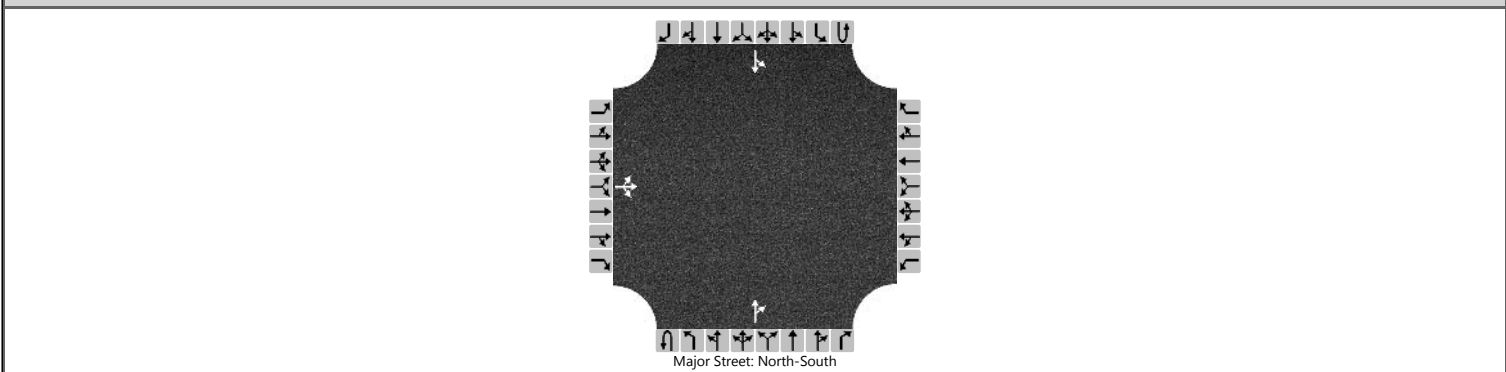
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		7.7					7.7	4.3			9.8	
Lane LOS		A					A	A			A	
95% Queue Length, Q ₉₅ (veh)		0.4					1.9	0.3			4.2	
95% Queue Length, Q ₉₅ (ft)		10.2					47.9	7.6			105.0	
Approach Delay, s/veh LOS	7.7	A					7.0	A		9.8	A	
Intersection Delay, s/veh LOS	8.7						A					

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(230) SR 94 (Ridge Rd) & I-271 NB Ramps		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	8/5/2024			East/West Street	I-271 NB Ramps		
Analysis Year	2030			North/South Street	SR 94 (Ridge Rd)		
Time Analyzed	Build - AM Peak			Peak Hour Factor	0.90		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0		0	1	0		0	1	0
Configuration			LTR								TR			LT		
Volume (veh/h)		20	0	10							250	140		560	280	
Percent Heavy Vehicles (%)		14	14	14										4		
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

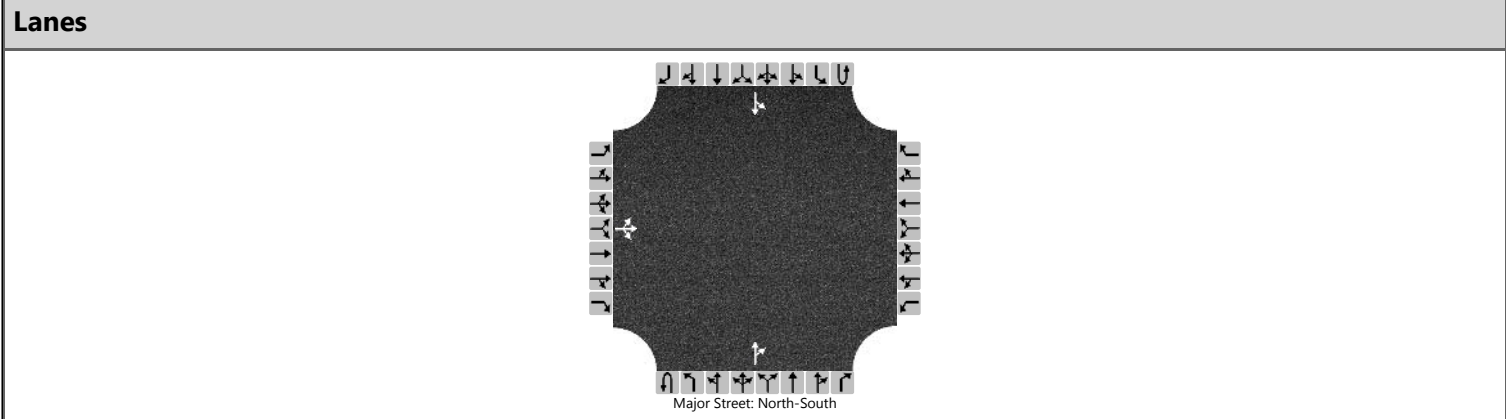
Base Critical Headway (sec)		7.1	6.5	6.2										4.1		
Critical Headway (sec)		7.24	6.64	6.34										4.14		
Base Follow-Up Headway (sec)		3.5	4.0	3.3										2.2		
Follow-Up Headway (sec)		3.63	4.13	3.43										2.24		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			33											622		
Capacity, c (veh/h)			23											1116		
v/c Ratio			1.44											0.56		
95% Queue Length, Q ₉₅ (veh)			4.2											3.6		
95% Queue Length, Q ₉₅ (ft)			116.8											92.9		
Control Delay (s/veh)			591.5											12.2	8.2	
Level of Service (LOS)			F											B	A	
Approach Delay (s/veh)	591.5												10.9			
Approach LOS	F												B			

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(230) SR 94 (Ridge Rd) & I-271 NB Ramps		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	8/5/2024			East/West Street	I-271 NB Ramps		
Analysis Year	2030			North/South Street	SR 94 (Ridge Rd)		
Time Analyzed	Build - PM Peak			Peak Hour Factor	0.96		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0		0	1	0		0	1	0
Configuration			LTR								TR			LT		
Volume (veh/h)		50	0	20							380	90		170	480	
Percent Heavy Vehicles (%)		2	2	2										5		
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2										4.1		
Critical Headway (sec)		7.12	6.52	6.22										4.15		
Base Follow-Up Headway (sec)		3.5	4.0	3.3										2.2		
Follow-Up Headway (sec)		3.52	4.02	3.32										2.25		

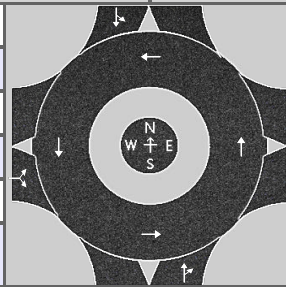
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			73										177			
Capacity, c (veh/h)			139										1058			
v/c Ratio			0.52										0.17			
95% Queue Length, Q ₉₅ (veh)			2.5										0.6			
95% Queue Length, Q ₉₅ (ft)			63.5										15.6			
Control Delay (s/veh)			56.4										9.1	2.1		
Level of Service (LOS)			F										A	A		
Approach Delay (s/veh)	56.4												3.9			
Approach LOS	F												A			

HCS Roundabouts Report

General Information

Analyst	TJS
Agency or Co.	Smart Services, Inc
Date Performed	8/5/2024
Analysis Year	2030
Time Analyzed	Build Alt B - AM Peak
Project Description	



Site Information

Intersection	(230) SR 94 & I-271 NB Ram...
E/W Street Name	I-271 NB Ramps
N/S Street Name	SR 94
Analysis Time Period, hrs	0.25
Peak Hour Factor	0.90
Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Number of Lanes (N)	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0
Lane Assignment			LR								TR				LT	
Volume (V), veh/h	0	20		10					0		250	140	0	560	280	
Percent Heavy Vehicles, %	14	14		14					7		7	7	4	4	4	
Flow Rate (v _{PCE}), pc/h	0	25		13					0		297	166	0	647	324	
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1								1				1			
Pedestrians Crossing, p/h	0								0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763						4.9763			4.9763	
Follow-Up Headway, s		2.6087						2.6087			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		38						463			971	
Entry Volume, veh/h		33						433			934	
Circulating Flow (v _c), pc/h	971			322			672			0		
Exiting Flow (v _{ex}), pc/h	813			0			322			337		
Capacity (C _{PCE}), pc/h		513						695			1380	
Capacity (c), veh/h		450						650			1327	
v/c Ratio (x)		0.07						0.67			0.70	

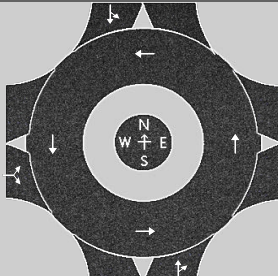
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		9.0						19.2			12.4	
Lane LOS		A						C			B	
95% Queue Length, Q ₉₅ (veh)		0.2						5.0			6.3	
95% Queue Length, Q ₉₅ (ft)		5.6						132.0			157.5	
Approach Delay, s/veh LOS	9.0		A				19.2		C	12.4		B
Intersection Delay, s/veh LOS	14.4						B					

HCS Roundabouts Report

General Information

Site Information

Analyst	TJS		Intersection	(230) SR 94 & I-271 NB Ram...
Agency or Co.	Smart Services, Inc		E/W Street Name	I-271 NB Ramps
Date Performed	8/5/2024		N/S Street Name	SR 94
Analysis Year	2030		Analysis Time Period, hrs	0.25
Time Analyzed	Build Alt B - PM Peak		Peak Hour Factor	0.96
Project Description			Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Number of Lanes (N)	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0
Lane Assignment			LR								TR				LT	
Volume (V), veh/h	0	50		20					0		380	90	0	170	480	
Percent Heavy Vehicles, %	2	2		2					1		1	1	6	6	6	
Flow Rate (v _{PCE}), pc/h	0	53		21					0		400	95	0	188	530	
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1								1				1			
Pedestrians Crossing, p/h	0								0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763						4.9763			4.9763	
Follow-Up Headway, s		2.6087						2.6087			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		74						495			718	
Entry Volume, veh/h		73						490			677	
Circulating Flow (v _c), pc/h	718			453			241			0		
Exiting Flow (v _{ex}), pc/h	283			0			453			551		
Capacity (c _{PCE}), pc/h		663						1079			1380	
Capacity (c), veh/h		650						1069			1302	
v/c Ratio (x)		0.11						0.46			0.52	

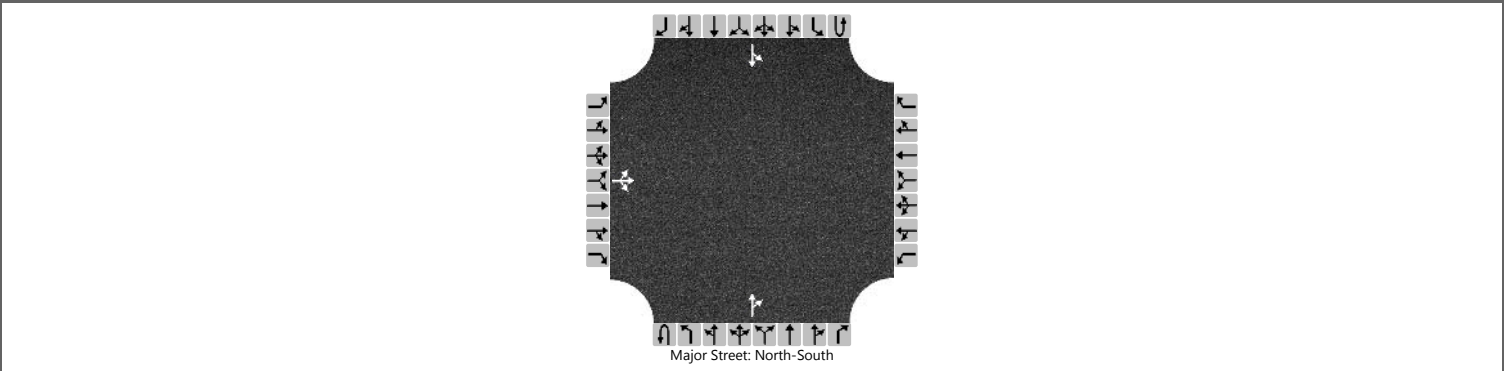
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		6.8						8.5			8.3	
Lane LOS		A						A			A	
95% Queue Length, Q ₉₅ (veh)		0.4						2.5			3.1	
95% Queue Length, Q ₉₅ (ft)		10.2						63.0			77.5	
Approach Delay, s/veh LOS	6.8		A				8.5		A	8.3		A
Intersection Delay, s/veh LOS	8.3						A					

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(230) SR 94 (Ridge Rd) & I-271 NB Ramps		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	1/23/2024			East/West Street	I-271 NB Ramps		
Analysis Year	2050			North/South Street	SR 94 (Ridge Rd)		
Time Analyzed	No Build - AM Peak			Peak Hour Factor	0.90		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6	
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0	
Configuration			LTR									TR		LT			
Volume (veh/h)		30	1	10							290	130		820	310		
Percent Heavy Vehicles (%)		14	14	14										4			
Proportion Time Blocked																	
Percent Grade (%)		0															
Right Turn Channelized																	
Median Type Storage		Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2										4.1		
Critical Headway (sec)		7.24	6.64	6.34										4.14		
Base Follow-Up Headway (sec)		3.5	4.0	3.3										2.2		
Follow-Up Headway (sec)		3.63	4.13	3.43										2.24		

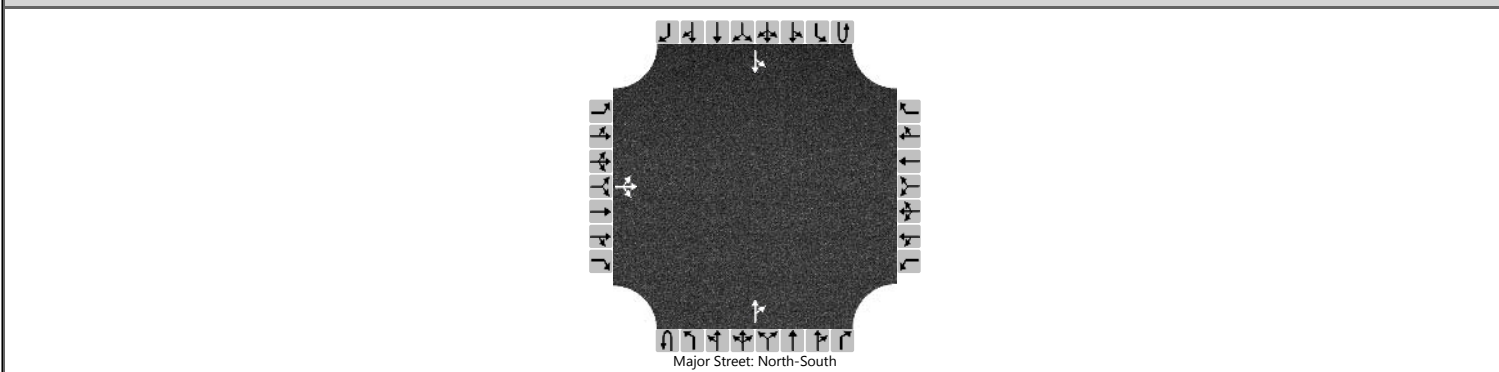
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			46											911		
Capacity, c (veh/h)			0											1084		
v/c Ratio														0.84		
95% Queue Length, Q ₉₅ (veh)														10.6		
Control Delay (s/veh)														22.8	22.8	
Level of Service (LOS)														C	C	
Approach Delay (s/veh)														22.8		
Approach LOS														C		

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(230) SR 94 (Ridge Rd) & I-271 NB Ramps		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	1/23/2024			East/West Street	I-271 NB Ramps		
Analysis Year	2050			North/South Street	SR 94 (Ridge Rd)		
Time Analyzed	No Build - PM Peak			Peak Hour Factor	0.96		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LTR									TR		LT		
Volume (veh/h)		70	1	20							420	90		260	540	
Percent Heavy Vehicles (%)		2	2	2										5		
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2										4.1		
Critical Headway (sec)		7.12	6.52	6.22										4.15		
Base Follow-Up Headway (sec)		3.5	4.0	3.3										2.2		
Follow-Up Headway (sec)		3.52	4.02	3.32										2.25		

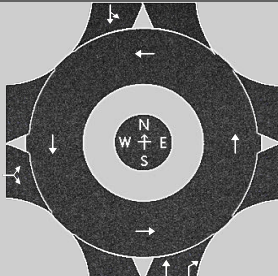
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			95											271		
Capacity, c (veh/h)			67											1021		
v/c Ratio			1.42											0.27		
95% Queue Length, Q ₉₅ (veh)			8.0											1.1		
Control Delay (s/veh)			361.7											9.8	3.8	
Level of Service (LOS)			F											A	A	
Approach Delay (s/veh)		361.7												5.7		
Approach LOS		F												A		

HCS Roundabouts Report

General Information

Site Information

Analyst	TJS		Intersection	(230) SR 94 & I-271 NB Ram...
Agency or Co.	Smart Services, Inc		E/W Street Name	I-271 NB Ramps
Date Performed	1/23/2024		N/S Street Name	SR 94
Analysis Year	2050		Analysis Time Period, hrs	0.25
Time Analyzed	No Build - AM Peak		Peak Hour Factor	0.90
Project Description			Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	1	0	0	0	0	0	0	0	1	1	0	0	1	0
Lane Assignment	LR								T		R		LT			
Volume (V), veh/h	0	30		10					0		290	130	0	820	310	
Percent Heavy Vehicles, %	14	14		14					7		7	7	4	4	4	
Flow Rate (v _{PCE}), pc/h	0	38		13					0		345	155	0	948	358	
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1								1				1			
Pedestrians Crossing, p/h	0								0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763					4.5436	4.5436			4.9763	
Follow-Up Headway, s		2.6087					2.5352	2.5352			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		51					345	155			1306	
Entry Volume, veh/h		45					322	145			1256	
Circulating Flow (v _c), pc/h	1306			383			986			0		
Exiting Flow (v _{ex}), pc/h	1103			0			383			371		
Capacity (c _{PCE}), pc/h		364					579	579			1380	
Capacity (c), veh/h		319					541	541			1327	
v/c Ratio (x)		0.14					0.60	0.27			0.95	

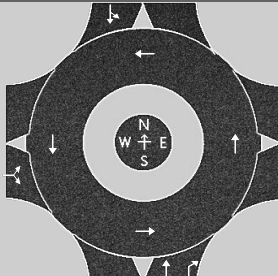
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		13.8					19.0	10.4			31.4	
Lane LOS		B					C	B			D	
95% Queue Length, Q ₉₅ (veh)		0.5					3.9	1.1			17.7	
95% Queue Length, Q ₉₅ (ft)		13.9					103.0	29.0			442.5	
Approach Delay, s/veh LOS	13.8		B				16.3		C	31.4		D
Intersection Delay, s/veh LOS	27.0						D					

HCS Roundabouts Report

General Information

Site Information

Analyst	TJS		Intersection	(230) SR 94 & I-271 NB Ram...
Agency or Co.	Smart Services, Inc		E/W Street Name	I-271 NB Ramps
Date Performed	1/23/2024		N/S Street Name	SR 94
Analysis Year	2050		Analysis Time Period, hrs	0.25
Time Analyzed	No Build - PM Peak		Peak Hour Factor	0.96
Project Description			Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Number of Lanes (N)	0	0	1	0	0	0	0	0	0	0	1	1	0	0	1	0
Lane Assignment			LR						T		R				LT	
Volume (V), veh/h	0	70		20					0		420	90	0	260	540	
Percent Heavy Vehicles, %	2	2		2					1		1	1	6	6	6	
Flow Rate (v _{PCE}), pc/h	0	74		21					0		442	95	0	287	596	
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1								1				1			
Pedestrians Crossing, p/h	0								0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763					4.5436	4.5436			4.9763	
Follow-Up Headway, s		2.6087					2.5352	2.5352			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		95					442	95			883	
Entry Volume, veh/h		93					438	94			833	
Circulating Flow (v _c), pc/h	883			516			361			0		
Exiting Flow (v _{ex}), pc/h	382			0			516			617		
Capacity (C _{PCE}), pc/h		561					1022	1022			1380	
Capacity (c), veh/h		550					1012	1012			1302	
v/c Ratio (x)		0.17					0.43	0.09			0.64	

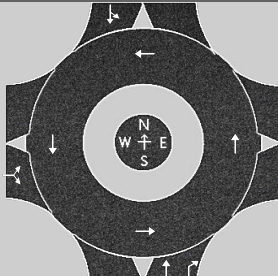
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		8.7					8.4	4.4			10.7	
Lane LOS		A					A	A			B	
95% Queue Length, Q ₉₅ (veh)		0.6					2.2	0.3			4.9	
95% Queue Length, Q ₉₅ (ft)		15.2					55.4	7.6			122.5	
Approach Delay, s/veh LOS	8.7		A				7.7		A	10.7		B
Intersection Delay, s/veh LOS	9.5						A					

HCS Roundabouts Report

General Information

Site Information

Analyst	TJS		Intersection	(230) SR 94 & I-271 NB Ram...
Agency or Co.	Smart Services, Inc		E/W Street Name	I-271 NB Ramps
Date Performed	3/04/2024		N/S Street Name	SR 94
Analysis Year	2050		Analysis Time Period, hrs	0.25
Time Analyzed	No Build-AM Peak (Alt C)		Peak Hour Factor	0.90
Project Description			Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Number of Lanes (N)	0	0	1	0	0	0	0	0	0	0	1	1	0	0	1	0
Lane Assignment			LR						T		R				LT	
Volume (V), veh/h	0	30		10					0		270	290	0	660	280	
Percent Heavy Vehicles, %	14	14		14					6		6	6	2	2	2	
Flow Rate (v _{PCE}), pc/h	0	38		13					0		318	342	0	748	317	
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1								1				1			
Pedestrians Crossing, p/h	0								0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763					4.5436	4.5436			4.9763	
Follow-Up Headway, s		2.6087					2.5352	2.5352			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		51					318	342			1065	
Entry Volume, veh/h		45					300	323			1044	
Circulating Flow (v _c), pc/h	1065			356			786			0		
Exiting Flow (v _{ex}), pc/h	1090			0			356			330		
Capacity (C _{PCE}), pc/h		466					694	694			1380	
Capacity (c), veh/h		409					655	655			1353	
v/c Ratio (x)		0.11					0.46	0.49			0.77	

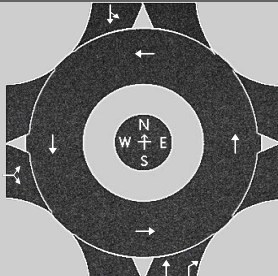
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		10.4					12.3	13.2			14.8	
Lane LOS		B					B	B			B	
95% Queue Length, Q ₉₅ (veh)		0.4					2.4	2.7			8.3	
95% Queue Length, Q ₉₅ (ft)		11.1					62.9	70.7			207.5	
Approach Delay, s/veh LOS	10.4		B				12.8		B	14.8		B
Intersection Delay, s/veh LOS	14.0						B					

HCS Roundabouts Report

General Information

Site Information

Analyst	TJS		Intersection	(230) SR 94 & I-271 NB Ram...
Agency or Co.	Smart Services, Inc		E/W Street Name	I-271 NB Ramps
Date Performed	3/04/2024		N/S Street Name	SR 94
Analysis Year	2050		Analysis Time Period, hrs	0.25
Time Analyzed	No Build-PM Peak (Alt C)		Peak Hour Factor	0.96
Project Description			Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	1	0	0	0	0	0	0	0	1	1	0	0	1	0
Lane Assignment	LR								T		R		LT			
Volume (V), veh/h	0	50		40					0		360	120	0	230	660	
Percent Heavy Vehicles, %	2	2		2					0		0	0	6	6	6	
Flow Rate (v _{PCE}), pc/h	0	53		43					0		375	125	0	254	729	
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1								1				1			
Pedestrians Crossing, p/h	0								0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763					4.5436	4.5436			4.9763	
Follow-Up Headway, s		2.6087					2.5352	2.5352			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		96					375	125			983	
Entry Volume, veh/h		94					375	125			927	
Circulating Flow (v _c), pc/h	983			428			307			0		
Exiting Flow (v _{ex}), pc/h	379			0			428			772		
Capacity (c _{PCE}), pc/h		506					1074	1074			1380	
Capacity (c), veh/h		496					1074	1074			1302	
v/c Ratio (x)		0.19					0.35	0.12			0.71	

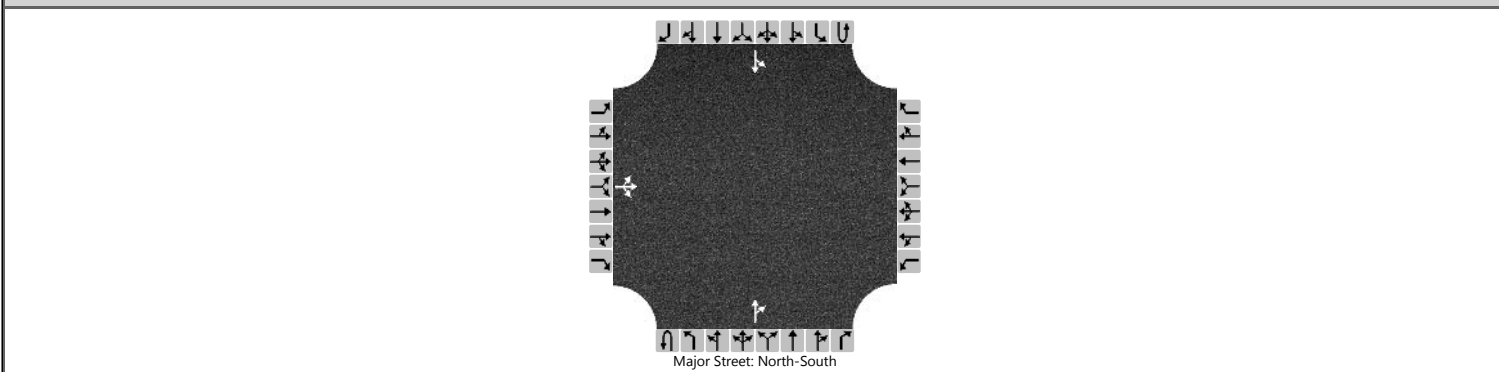
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		9.9					6.9	4.4			12.8	
Lane LOS		A					A	A			B	
95% Queue Length, Q ₉₅ (veh)		0.7					1.6	0.4			6.5	
95% Queue Length, Q ₉₅ (ft)		17.8					40.0	10.0			162.5	
Approach Delay, s/veh LOS	9.9		A				6.3		A	12.8		B
Intersection Delay, s/veh LOS	10.5						B					

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(230) SR 94 (Ridge Rd) & I-271 NB Ramps		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	1/23/2024			East/West Street	I-271 NB Ramps		
Analysis Year	2050			North/South Street	SR 94 (Ridge Rd)		
Time Analyzed	Build - AM Peak			Peak Hour Factor	0.90		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0		0	1	0		0	1	0
Configuration			LTR								TR			LT		
Volume (veh/h)		30	0	10							290	130		590	310	
Percent Heavy Vehicles (%)		14	14	14										4		
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

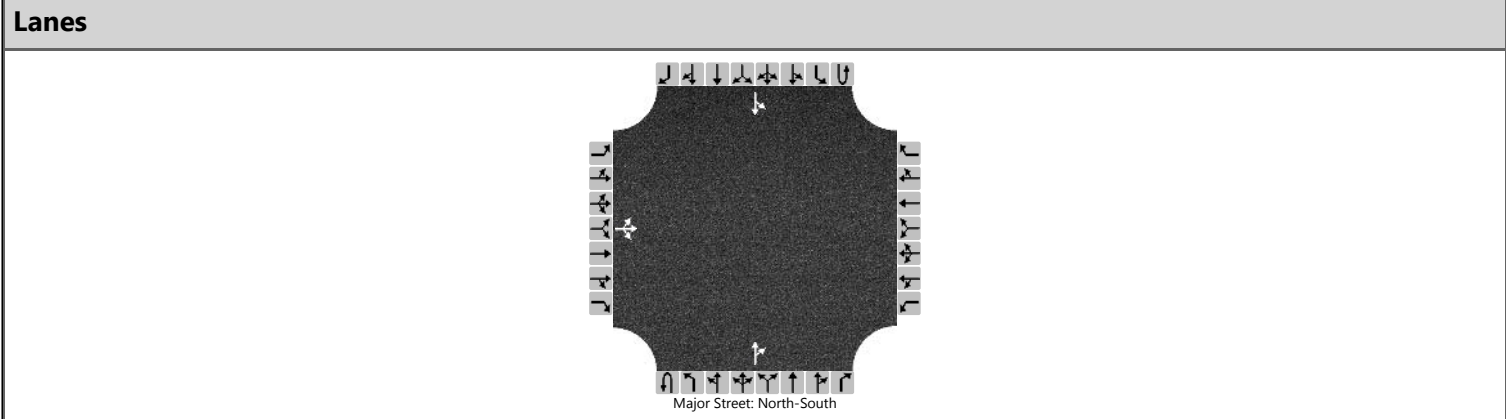
Base Critical Headway (sec)		7.1	6.5	6.2										4.1		
Critical Headway (sec)		7.24	6.64	6.34										4.14		
Base Follow-Up Headway (sec)		3.5	4.0	3.3										2.2		
Follow-Up Headway (sec)		3.63	4.13	3.43										2.24		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			44											656		
Capacity, c (veh/h)			13											1084		
v/c Ratio			3.49											0.60		
95% Queue Length, Q ₉₅ (veh)			6.5											4.2		
95% Queue Length, Q ₉₅ (ft)			180.7											108.4		
Control Delay (s/veh)			1717.9											13.3	9.9	
Level of Service (LOS)			F											B	A	
Approach Delay (s/veh)	1717.9												12.1			
Approach LOS	F												B			

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(230) SR 94 (Ridge Rd) & I-271 NB Ramps		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	8/7/2024			East/West Street	I-271 NB Ramps		
Analysis Year	2050			North/South Street	SR 94 (Ridge Rd)		
Time Analyzed	Build - PM Peak			Peak Hour Factor	0.96		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0		0	1	0		0	1	0
Configuration			LTR								TR			LT		
Volume (veh/h)		70	0	20							420	90		160	540	
Percent Heavy Vehicles (%)		2	2	2										5		
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2										4.1		
Critical Headway (sec)		7.12	6.52	6.22										4.15		
Base Follow-Up Headway (sec)		3.5	4.0	3.3										2.2		
Follow-Up Headway (sec)		3.52	4.02	3.32										2.25		

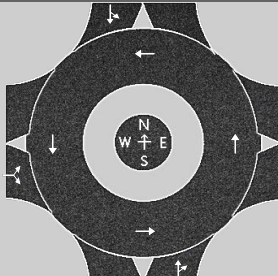
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			94										167			
Capacity, c (veh/h)			114										1021			
v/c Ratio			0.83										0.16			
95% Queue Length, Q ₉₅ (veh)			4.8										0.6			
95% Queue Length, Q ₉₅ (ft)			121.9										15.6			
Control Delay (s/veh)			113.0										9.2	2.2		
Level of Service (LOS)			F										A	A		
Approach Delay (s/veh)	113.0												3.8			
Approach LOS	F												A			

HCS Roundabouts Report

General Information

Site Information

Analyst	TJS		Intersection	(230) SR 94 & I-271 NB Ram...
Agency or Co.	Smart Services, Inc		E/W Street Name	I-271 NB Ramps
Date Performed	6/27/2024		N/S Street Name	SR 94
Analysis Year	2050		Analysis Time Period, hrs	0.25
Time Analyzed	Build Alt B - AM Peak		Peak Hour Factor	0.90
Project Description			Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Number of Lanes (N)	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0
Lane Assignment	LR								TR				LT			
Volume (V), veh/h	0	30		10					0		290	130	0	590	310	
Percent Heavy Vehicles, %	14	14		14					7		7	7	4	4	4	
Flow Rate (v _{PCE}), pc/h	0	38		13					0		345	155	0	682	358	
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1								1				1			
Pedestrians Crossing, p/h	0								0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763						4.9763			4.9763	
Follow-Up Headway, s		2.6087						2.6087			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		51						500			1040	
Entry Volume, veh/h		45						467			1000	
Circulating Flow (v _c), pc/h	1040			383			720			0		
Exiting Flow (v _{ex}), pc/h	837			0			383			371		
Capacity (C _{PCE}), pc/h		478						662			1380	
Capacity (c), veh/h		419						619			1327	
v/c Ratio (x)		0.11						0.76			0.75	

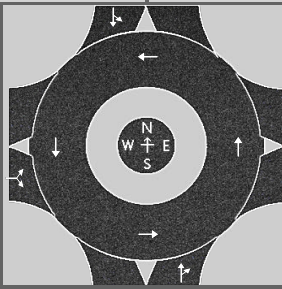
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		10.1						25.3			14.2	
Lane LOS		B						D			B	
95% Queue Length, Q ₉₅ (veh)		0.4						6.8			7.7	
95% Queue Length, Q ₉₅ (ft)		11.1						179.5			192.5	
Approach Delay, s/veh LOS	10.1		B				25.3		D	14.2		B
Intersection Delay, s/veh LOS	17.5						C					

HCS Roundabouts Report

General Information

Analyst	TJS
Agency or Co.	Smart Services, Inc
Date Performed	8/7/2024
Analysis Year	2050
Time Analyzed	Build Alt B - PM Peak
Project Description	



Site Information

Intersection	(230) SR 94 & I-271 NB Ram...
E/W Street Name	I-271 NB Ramps
N/S Street Name	SR 94
Analysis Time Period, hrs	0.25
Peak Hour Factor	0.96
Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Number of Lanes (N)	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0
Lane Assignment	LR								TR				LT			
Volume (V), veh/h	0	70		20					0		420	90	0	160	540	
Percent Heavy Vehicles, %	2	2		2					1		1	1	6	6	6	
Flow Rate (v _{PCE}), pc/h	0	74		21					0		442	95	0	177	596	
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1								1				1			
Pedestrians Crossing, p/h	0								0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763						4.9763			4.9763	
Follow-Up Headway, s		2.6087						2.6087			2.6087	

Flow Computations, Capacity and v/c Ratios

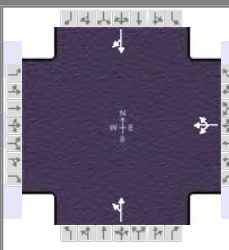
Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		95						537			773	
Entry Volume, veh/h		93						532			729	
Circulating Flow (v _c), pc/h	773			516			251			0		
Exiting Flow (v _{ex}), pc/h	272			0			516			617		
Capacity (C _{PCE}), pc/h		627						1068			1380	
Capacity (c), veh/h		615						1058			1302	
v/c Ratio (x)		0.15						0.50			0.56	

Delay and Level of Service

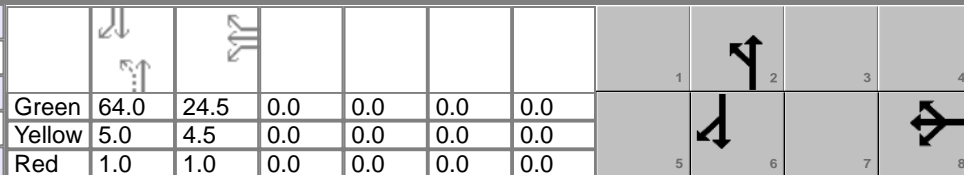
Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		7.7						9.3			9.0	
Lane LOS		A						A			A	
95% Queue Length, Q ₉₅ (veh)		0.5						2.9			3.6	
95% Queue Length, Q ₉₅ (ft)		12.7						73.1			90.0	
Approach Delay, s/veh LOS	7.7		A				9.3		A	9.0		A
Intersection Delay, s/veh LOS	9.0						A					

240-SR 94 (Ridge Rd) & I-271 SB Ramps

HCS Signalized Intersection Input Data

General Information				Intersection Information		
Agency	Smart Services Inc.			Duration, h	0.250	
Analyst	TJS	Analysis Date	Jun 25, 2024	Area Type	Other	
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.95	
Urban Street	SR 94-Ridge Rd	Analysis Year	2030	Analysis Period	1 > 7:00	
Intersection	(240) SR 94-I-271 SB R...	File Name	Signalized Capacity Group 1 (10 & 240) - 2030 N...			
Project Description	2030 No Build					

Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				70	0	260	10	260			1000	80

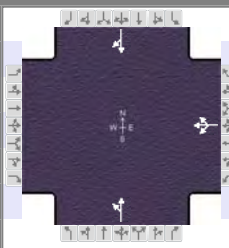
Signal Information												
Cycle, s	100.0	Reference Phase	2	Green	64.0	24.5	0.0	0.0	0.0	0.0	0.0	0.0
Offset, s	0	Reference Point	End	Yellow	5.0	4.5	0.0	0.0	0.0	0.0	0.0	0.0
Uncoordinated	Yes	Simult. Gap E/W	On	Red	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
Force Mode	Fixed	Simult. Gap N/S	On									

Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				70	0	260	10	260			1000	80
Initial Queue (Q _b), veh/h				0	0	0	0	0			0	0
Base Saturation Flow Rate (s ₀), veh/h				1900	1750	1900	1900	1750			1750	1900
Parking (N _m), man/h					None				None			
Heavy Vehicles (P _{HV}), %					8				7			
Ped / Bike / RTOR, /h	0	0		0	0	0	0	0		0	0	0
Buses (N _b), buses/h				0	0	0	0	0	0	0	0	0
Arrival Type (AT)				3	3	3	3	3			3	3
Upstream Filtering (I)				1.00	1.00	1.00	0.99	0.99			1.00	1.00
Lane Width (W), ft					12.0				12.0			
Turn Bay Length, ft					0				0			
Grade (P _g), %		0			0				0			
Speed Limit, mi/h				45	45	45	45	45			45	45

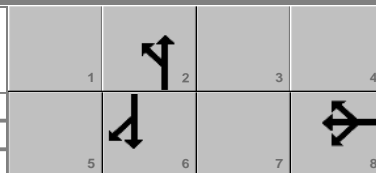
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s				24.5		64.0		64.0
Yellow Change Interval (Y), s				4.5		5.0		5.0
Red Clearance Interval (R _c), s				1.0		1.0		1.0
Minimum Green (G _{min}), s				12		24		24
Start-Up Lost Time (l _t), s			2.0	2.0	2.0	2.0		2.0
Extension of Effective Green (e), s			2.0	2.0	2.0	2.0		2.0
Passage (PT), s				2.0		2.0		2.0
Recall Mode				Off		Min		Min
Dual Entry				Yes		Yes		Yes
Walk (Walk), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (PC), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0			
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0			
Street Width / Island / Curb, ft		0		0.0	0	No	0.0	0	No	0.0		No
Width Outside / Bike Lane / Shoulder, ft				12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No			No	0.50		No	0.50				0.50

HCS Signalized Intersection Results Summary

General Information				Intersection Information		
Agency	Smart Services Inc.			Duration, h	0.250	
Analyst	TJS	Analysis Date	Jun 25, 2024	Area Type	Other	
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.95	
Urban Street	SR 94-Ridge Rd	Analysis Year	2030	Analysis Period	1 > 7:00	
Intersection	(240) SR 94-I-271 SB R...	File Name	Signalized Capacity Group 1 (10 & 240) - 2030 N...			
Project Description	2030 No Build					

Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				70	0	260	10	260			1000	80

Signal Information												
Cycle, s	100.0	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	Yes	Simult. Gap E/W	On	Green	64.0	24.5	0.0	0.0	0.0	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.0	4.5	0.0	0.0	0.0	0.0		
				Red	1.0	1.0	0.0	0.0	0.0	0.0		

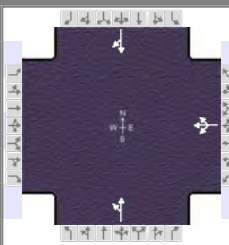
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				8		2		6
Case Number				12.0		8.0		8.0
Phase Duration, s				30.0		70.0		70.0
Change Period, ($Y+R_c$), s				5.5		6.0		6.0
Max Allow Headway (MAH), s				3.2		3.0		3.0
Queue Clearance Time (g_s), s				26.4		66.0		66.0
Green Extension Time (g_e), s				0.0		0.0		0.0
Phase Call Probability				1.00		1.00		1.00
Max Out Probability				1.00		1.00		1.00

Movement Group Results	EB			WB			NB			SB											
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R									
Assigned Movement				3	8	18	5	2			6	16									
Adjusted Flow Rate (v), veh/h				347			263			1137											
Adjusted Saturation Flow Rate (s), veh/h/ln				1424			942			1687											
Queue Service Time (g_s), s				24.4			0.0			64.0											
Cycle Queue Clearance Time (g_c), s				24.4			64.0			64.0											
Green Ratio (g/C)				0.24			0.64			0.64											
Capacity (c), veh/h				349			641			1079											
Volume-to-Capacity Ratio (X)				0.996			0.411			1.053											
Back of Queue (Q), ft/ln (95 th percentile)				488			152			1106											
Back of Queue (Q), veh/ln (95 th percentile)				18.3			5.8			43.2											
Queue Storage Ratio (RQ) (95 th percentile)				0.00			0.00			0.00											
Uniform Delay (d_1), s/veh				37.7			17.4			18.0											
Incremental Delay (d_2), s/veh				47.0			0.2			42.5											
Initial Queue Delay (d_3), s/veh				0.0			0.0			0.0											
Control Delay (d), s/veh				84.7			17.5			60.5											
Level of Service (LOS)				F			B			F											
Approach Delay, s/veh / LOS	0.0			84.7			F			17.5			B			60.5			E		
Intersection Delay, s/veh / LOS	58.9						E														

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.73	B	1.73	B	1.36	A	1.36	A
Bicycle LOS Score / LOS			1.06	A	0.96	A	2.36	B

HCS Signalized Intersection Input Data

General Information					Intersection Information			
Agency	Smart Services Inc.				Duration, h	0.250		
Analyst	TJS	Analysis Date	Jun 25, 2024		Area Type	Other		
Jurisdiction	ODOT	Time Period	PM Peak		PHF	0.97		
Urban Street	SR 94-Ridge Rd	Analysis Year	2030		Analysis Period	1 > 4:45		
Intersection	(240) SR 94-I-271 SB R...	File Name	Signalized Capacity Group 1 (10 & 240) - 2030 N...					
Project Description	2030 No Build							



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				150	1	870	10	420			600	70

Signal Information												
Cycle, s	120.0	Reference Phase	2									
Offset, s	13	Reference Point	End									
Uncoordinated	Yes	Simult. Gap E/W	On	Green	48.5	60.0	0.0	0.0	0.0	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.0	4.5	0.0	0.0	0.0	0.0		
				Red	1.0	1.0	0.0	0.0	0.0	0.0		

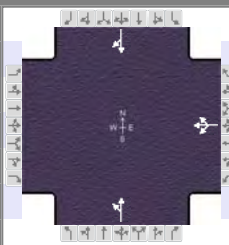
Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				150	1	870	10	420			600	70
Initial Queue (Q_b), veh/h				0	0	0	0	0			0	0
Base Saturation Flow Rate (s_o), veh/h				1900	1750	1900	1900	1750			1750	1900
Parking (N_m), man/h					None				None			
Heavy Vehicles (P_{HV}), %					3				1			
Ped / Bike / RTOR, /h	0	0		0	0	0	0	0		0	0	0
Buses (N_b), buses/h				0	0	0	0	0	0	0	0	0
Arrival Type (AT)				3	3	3	3	3			3	3
Upstream Filtering (I)				1.00	1.00	1.00	0.93	0.93			1.00	1.00
Lane Width (W), ft					12.0				12.0			
Turn Bay Length, ft					0				0			
Grade (P_g), %		0			0				0			
Speed Limit, mi/h				45	45	45	45	45			45	45

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s				60.0		48.5		48.5
Yellow Change Interval (Y), s				4.5		5.0		5.0
Red Clearance Interval (R_c), s				1.0		1.0		1.0
Minimum Green (G_{min}), s				12		24		24
Start-Up Lost Time (l_t), s			2.0	2.0	2.0	2.0		2.0
Extension of Effective Green (e), s			2.0	2.0	2.0	2.0		2.0
Passage (PT), s				2.0		2.0		2.0
Recall Mode				Off		Min		Min
Dual Entry				Yes		Yes		Yes
Walk ($Walk$), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (PC), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0			
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0			
Street Width / Island / Curb, ft		0		0.0	0	No	0.0	0	No	0.0		No
Width Outside / Bike Lane / Shoulder, ft				12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No			No			0.50			0.50		

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Jun 25, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.97
Urban Street	SR 94-Ridge Rd	Analysis Year	2030	Analysis Period	1 > 4:45
Intersection	(240) SR 94-I-271 SB R...	File Name	Signalized Capacity Group 1 (10 & 240) - 2030 N...		
Project Description	2030 No Build				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				150	1	870	10	420			600	70

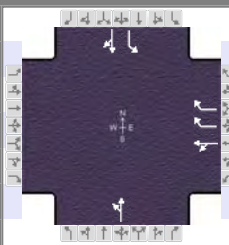
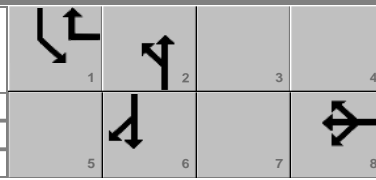
Signal Information													
Cycle, s	120.0	Reference Phase	2										
Offset, s	13	Reference Point	End										
Uncoordinated	Yes	Simult. Gap E/W	On	Green	48.5	60.0	0.0	0.0	0.0	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.0	4.5	0.0	0.0	0.0	0.0			
				Red	1.0	1.0	0.0	0.0	0.0	0.0			

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				8		2		6
Case Number				12.0		8.0		8.0
Phase Duration, s				65.5		54.5		54.5
Change Period, ($Y+R_c$), s				5.5		6.0		6.0
Max Allow Headway (MAH), s				3.3		3.0		3.0
Queue Clearance Time (g_s), s				62.0		50.5		50.5
Green Extension Time (g_e), s				0.0		0.0		0.0
Phase Call Probability				1.00		1.00		1.00
Max Out Probability				1.00		1.00		1.00

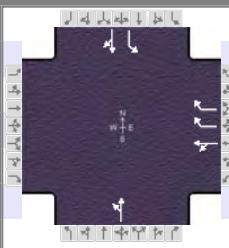
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement				3	8	18	5	2			6	16
Adjusted Flow Rate (v), veh/h				1053			478			691		
Adjusted Saturation Flow Rate (s), veh/h/ln				1472			1024			1637		
Queue Service Time (g_s), s				60.0			0.0			48.5		
Cycle Queue Clearance Time (g_c), s				60.0			48.5			48.5		
Green Ratio (g/C)				0.50			0.40			0.40		
Capacity (c), veh/h				736			444			662		
Volume-to-Capacity Ratio (X)				1.430			1.076			1.044		
Back of Queue (Q), ft/ln (95 th percentile)				2354			701			952		
Back of Queue (Q), veh/ln (95 th percentile)				91.9			27.8			36.3		
Queue Storage Ratio (RQ) (95 th percentile)				0.00			0.00			0.00		
Uniform Delay (d_1), s/veh				30.0			39.8			35.8		
Incremental Delay (d_2), s/veh				201.2			63.1			46.9		
Initial Queue Delay (d_3), s/veh				0.0			0.0			0.0		
Control Delay (d), s/veh				231.2			102.9			82.7		
Level of Service (LOS)				F			F			F		
Approach Delay, s/veh / LOS	0.0			231.2			102.9			82.7		
Intersection Delay, s/veh / LOS	157.4						F					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.74	B	1.74	B	1.40	A	1.40	A
Bicycle LOS Score / LOS			2.22	B	1.22	A	1.63	B

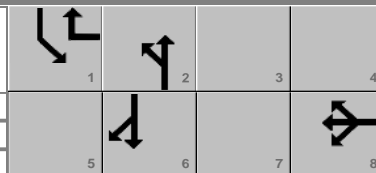
HCS Signalized Intersection Input Data

General Information					Intersection Information												
Agency	Smart Services Inc.				Duration, h	0.250											
Analyst	TJS	Analysis Date	Jun 25, 2024		Area Type	Other											
Jurisdiction	ODOT	Time Period	AM Peak		PHF	0.95											
Urban Street	SR 94-Ridge Rd	Analysis Year	2030		Analysis Period	1 > 7:00											
Intersection	(240) SR 94-I-271 SB R...	File Name	Signalized Capacity Group 1 (10 & 240) - 2030 N...														
Project Description	2030 No Build w IMP																
Demand Information					EB			WB			NB			SB			
Approach Movement					L	T	R	L	T	R	L	T	R	L	T	R	
Demand (v), veh/h								70	0	260	10	260		1	1000	80	
Signal Information																	
Cycle, s	78.9	Reference Phase	2														
Offset, s	0	Reference Point	End														
Uncoordinated	Yes	Simult. Gap E/W	On		Green	12.0	37.4	12.0	0.0	0.0	0.0	0.0					
Force Mode	Fixed	Simult. Gap N/S	On		Yellow	4.0	5.0	4.5	0.0	0.0	0.0						
					Red	2.0	1.0	1.0	0.0	0.0	0.0						
Traffic Information					EB			WB			NB			SB			
Approach Movement					L	T	R	L	T	R	L	T	R	L	T	R	
Demand (v), veh/h								70	0	260	10	260		1	1000	80	
Initial Queue (Q _b), veh/h								0	0	0	0	0		0	0	0	
Base Saturation Flow Rate (s ₀), veh/h								1900	1750	1750	1900	1750		1750	1750	1900	
Parking (N _m), man/h								None			None			None			
Heavy Vehicles (P _{HV}), %								8	8		7		3	3			
Ped / Bike / RTOR, /h					0	0		0	0	0	0	0		0	0	0	
Buses (N _b), buses/h								0	0	0	0	0	0	0	0	0	
Arrival Type (AT)								3	3	3	3	3		3	3	3	
Upstream Filtering (I)								1.00	1.00	1.00	0.99	0.99		1.00	1.00	1.00	
Lane Width (W), ft								12.0	12.0		12.0		12.0	12.0			
Turn Bay Length, ft								0	560		0		0	0			
Grade (P _g), %						0		0			0		0				
Speed Limit, mi/h								45	45	45	45	45		45	45	45	
Phase Information					EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT					
Maximum Green (G _{max}) or Phase Split, s								20.0		67.0	12.0	79.0					
Yellow Change Interval (Y), s								4.5		5.0	4.0	5.0					
Red Clearance Interval (R _c), s								1.0		1.0	2.0	1.0					
Minimum Green (G _{min}), s								12		24	6	24					
Start-Up Lost Time (l _t), s							2.0	2.0	2.0	2.0	2.0	2.0					
Extension of Effective Green (e), s							2.0	2.0	2.0	2.0	2.0	2.0					
Passage (P _T), s								2.0		2.0	2.0	2.0					
Recall Mode								Off		Min	Max	Min					
Dual Entry								Yes		Yes	No	Yes					
Walk (Walk), s						0.0		0.0		0.0							
Pedestrian Clearance Time (P _C), s						0.0		0.0		0.0							
Multimodal Information					EB			WB			NB			SB			
85th % Speed / Rest in Walk / Corner Radius					0.0	No	25.0	0.0	No	25.0	0.0	No	25.0				
Walkway / Crosswalk Width / Length, ft					9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0				
Street Width / Island / Curb, ft						0		0.0	0	No	0.0	0	No	0.0		No	
Width Outside / Bike Lane / Shoulder, ft								12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	
Pedestrian Signal / Occupied Parking					No			No	0.50		No	0.50			0.50		

HCS Signalized Intersection Results Summary

General Information				Intersection Information		
Agency	Smart Services Inc.			Duration, h	0.250	
Analyst	TJS	Analysis Date	Jun 25, 2024	Area Type	Other	
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.95	
Urban Street	SR 94-Ridge Rd	Analysis Year	2030	Analysis Period	1 > 7:00	
Intersection	(240) SR 94-I-271 SB R...	File Name	Signalized Capacity Group 1 (10 & 240) - 2030 N...			
Project Description	2030 No Build w IMP					

Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				70	0	260	10	260		1	1000	80

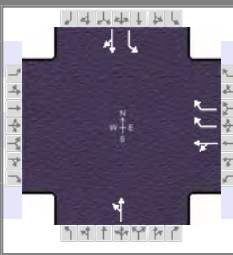
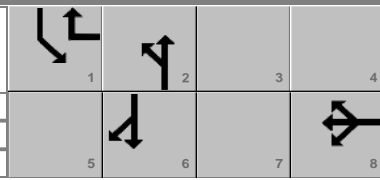
Signal Information															
Cycle, s	78.9	Reference Phase	2												
Offset, s	0	Reference Point	End	Green	12.0	37.4	12.0	0.0	0.0	0.0					
Uncoordinated	Yes	Simult. Gap E/W	On	Yellow	4.0	5.0	4.5	0.0	0.0	0.0					
Force Mode	Fixed	Simult. Gap N/S	On	Red	2.0	1.0	1.0	0.0	0.0	0.0					

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				8		2	1	6
Case Number				11.0		8.3	2.0	4.0
Phase Duration, s				17.5		43.4	18.0	61.4
Change Period, ($Y+R_c$), s				5.5		6.0	6.0	6.0
Max Allow Headway (MAH), s				3.2		3.0	3.0	3.0
Queue Clearance Time (g_s), s				8.8		34.0	2.0	50.6
Green Extension Time (g_e), s				0.7		3.6	0.0	3.6
Phase Call Probability				1.00		1.00	1.00	1.00
Max Out Probability				0.00		0.00	0.00	0.00

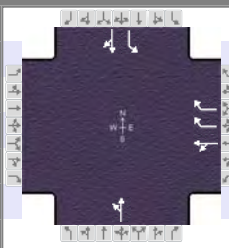
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement				3	8	18	5	2		1	6	16
Adjusted Flow Rate (v), veh/h				74	274		263			1	1137	
Adjusted Saturation Flow Rate (s), veh/h/ln				1563	1231		1369			1628	1687	
Queue Service Time (g_s), s				3.3	6.8		1.2			0.0	48.6	
Cycle Queue Clearance Time (g_c), s				3.3	6.8		32.0			0.0	48.6	
Green Ratio (g/C)				0.15	0.30		0.47			0.15	0.70	
Capacity (c), veh/h				238	751		694			248	1183	
Volume-to-Capacity Ratio (X)				0.309	0.364		0.379			0.004	0.961	
Back of Queue (Q), ft/ln (95 th percentile)				56	86		119			1	499	
Back of Queue (Q), veh/ln (95 th percentile)				2.1	3.2		4.5			0.0	19.5	
Queue Storage Ratio (RQ) (95 th percentile)				0.00	0.15		0.00			0.00	0.00	
Uniform Delay (d_1), s/veh				29.6	21.4		13.3			28.3	10.8	
Incremental Delay (d_2), s/veh				0.3	0.1		0.1			0.0	9.6	
Initial Queue Delay (d_3), s/veh				0.0	0.0		0.0			0.0	0.0	
Control Delay (d), s/veh				29.9	21.5		13.4			28.3	20.4	
Level of Service (LOS)					C	C		B		C	C	
Approach Delay, s/veh / LOS	0.0			23.3		C	13.4		B	20.4		C
Intersection Delay, s/veh / LOS				19.9						B		

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.72	B	2.14	B	2.08	B	1.33	A
Bicycle LOS Score / LOS			1.06	A	0.96	A	2.37	B

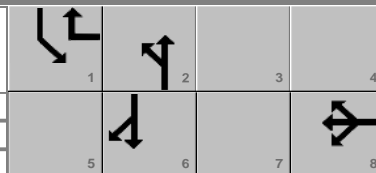
HCS Signalized Intersection Input Data

General Information						Intersection Information									
Agency	Smart Services Inc.					Duration, h	0.250								
Analyst	TJS	Analysis Date	Jun 25, 2024			Area Type	Other								
Jurisdiction	ODOT	Time Period	PM Peak			PHF	0.97								
Urban Street	SR 94-Ridge Rd	Analysis Year	2030			Analysis Period	1 > 4:45								
Intersection	(240) SR 94-I-271 SB R...	File Name	Signalized Capacity Group 1 (10 & 240) - 2030 N...												
Project Description	2030 No Build w Imp														
Demand Information				EB			WB			NB			SB		
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h							150	1	870	10	420		1	600	70
Signal Information															
Cycle, s	80.1	Reference Phase	2												
Offset, s	41	Reference Point	End	Green	15.0	25.6	22.0	0.0	0.0	0.0					
Uncoordinated	Yes	Simult. Gap E/W	On	Yellow	4.0	5.0	4.5	0.0	0.0	0.0					
Force Mode	Fixed	Simult. Gap N/S	On	Red	2.0	1.0	1.0	0.0	0.0	0.0					
Traffic Information				EB			WB			NB			SB		
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h							150	1	870	10	420		1	600	70
Initial Queue (Q _b), veh/h							0	0	0	0	0		0	0	0
Base Saturation Flow Rate (s ₀), veh/h							1900	1750	1750	1900	1750		1750	1750	1900
Parking (N _m), man/h								None			None			None	
Heavy Vehicles (P _{HV}), %								3	4		3		0	6	
Ped / Bike / RTOR, /h				0	0		0	0	0	0	0		0	0	0
Buses (N _b), buses/h							0	0	0	0	0	0	0	0	0
Arrival Type (AT)							3	3	3	3	3		3	3	3
Upstream Filtering (I)							1.00	1.00	1.00	0.93	0.93		1.00	1.00	1.00
Lane Width (W), ft								12.0	12.0		12.0		12.0	12.0	
Turn Bay Length, ft								0	280		0		0	0	
Grade (P _g), %					0			0			0		0		
Speed Limit, mi/h							45	45	45	45	45		45	45	45
Phase Information				EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT				
Maximum Green (G _{max}) or Phase Split, s							22.0		41.0	15.0	56.0				
Yellow Change Interval (Y), s							4.5		5.0	4.0	5.0				
Red Clearance Interval (R _c), s							1.0		1.0	2.0	1.0				
Minimum Green (G _{min}), s							12		24	6	24				
Start-Up Lost Time (l _t), s						2.0	2.0	2.0	2.0	2.0	2.0				
Extension of Effective Green (e), s						2.0	2.0	2.0	2.0	2.0	2.0				
Passage (P _T), s							2.0		2.0	2.0	2.0				
Recall Mode							Off		Min	Max	Min				
Dual Entry							Yes		Yes	No	Yes				
Walk (Walk), s					0.0		0.0		0.0						
Pedestrian Clearance Time (P _C), s					0.0		0.0		0.0						
Multimodal Information				EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius				0.0	No	25.0	0.0	No	25.0	0.0	No	25.0			
Walkway / Crosswalk Width / Length, ft				9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0			
Street Width / Island / Curb, ft					0		0.0	0	No	0.0	0	No	0.0		No
Width Outside / Bike Lane / Shoulder, ft							12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking				No			No	0.50		No	0.50			0.50	

HCS Signalized Intersection Results Summary

General Information				Intersection Information		
Agency	Smart Services Inc.			Duration, h	0.250	
Analyst	TJS	Analysis Date	Jun 25, 2024	Area Type	Other	
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.97	
Urban Street	SR 94-Ridge Rd	Analysis Year	2030	Analysis Period	1> 4:45	
Intersection	(240) SR 94-I-271 SB R...	File Name	Signalized Capacity Group 1 (10 & 240) - 2030 N...			
Project Description	2030 No Build w Imp					

Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				150	1	870	10	420		1	600	70

Signal Information															
Cycle, s	80.1	Reference Phase	2												
Offset, s	41	Reference Point	End	Green	15.0	25.6	22.0	0.0	0.0	0.0					
Uncoordinated	Yes	Simult. Gap E/W	On	Yellow	4.0	5.0	4.5	0.0	0.0	0.0					
Force Mode	Fixed	Simult. Gap N/S	On	Red	2.0	1.0	1.0	0.0	0.0	0.0					

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				8		2	1	6
Case Number				11.0		8.3	2.0	4.0
Phase Duration, s				27.5		31.6	21.0	52.6
Change Period, ($Y+R_c$), s				5.5		6.0	6.0	6.0
Max Allow Headway (MAH), s				3.3		3.0	3.0	3.0
Queue Clearance Time (g_s), s				24.0		23.4	2.0	26.4
Green Extension Time (g_e), s				0.0		2.2	0.0	2.3
Phase Call Probability				1.00		1.00	1.00	1.00
Max Out Probability				1.00		0.01	0.00	0.00

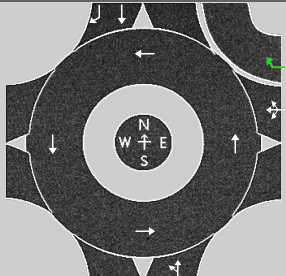
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement				3	8	18	5	2		1	6	16
Adjusted Flow Rate (v), veh/h				156	897		478			1	691	
Adjusted Saturation Flow Rate (s), veh/h/ln				1628	1272		1690			1667	1637	
Queue Service Time (g_s), s				6.1	22.0		5.5			0.0	24.4	
Cycle Queue Clearance Time (g_c), s				6.1	22.0		21.4			0.0	24.4	
Green Ratio (g/C)				0.27	0.46		0.32			0.19	0.58	
Capacity (c), veh/h				447	1174		586			312	953	
Volume-to-Capacity Ratio (X)				0.348	0.764		0.816			0.003	0.725	
Back of Queue (Q), ft/ln (95 th percentile)				101	268		318			1	305	
Back of Queue (Q), veh/ln (95 th percentile)				3.9	10.4		12.4			0.0	11.6	
Queue Storage Ratio (RQ) (95 th percentile)				0.00	0.96		0.00			0.00	0.00	
Uniform Delay (d_1), s/veh				23.3	17.9		25.8			26.5	12.1	
Incremental Delay (d_2), s/veh				0.2	2.7		1.6			0.0	1.3	
Initial Queue Delay (d_3), s/veh				0.0	0.0		0.0			0.0	0.0	
Control Delay (d), s/veh				23.5	20.7		27.4			26.5	13.4	
Level of Service (LOS)					C	C		C		C	B	
Approach Delay, s/veh / LOS	0.0			21.1		C	27.4		C	13.5		B
Intersection Delay, s/veh / LOS				20.1			C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.72	B	2.14	B	2.11	B	1.36	A
Bicycle LOS Score / LOS			2.22	B	1.22	A	1.63	B

HCS Roundabouts Report

General Information

Site Information

Analyst	TJS		Intersection	(240) SR 94 & I-271 SB Ramps
Agency or Co.	Smart Services, Inc		E/W Street Name	I-271 SB Ramps
Date Performed	6/27/2024		N/S Street Name	SR 94
Analysis Year	2030		Analysis Time Period, hrs	0.25
Time Analyzed	No Build - AM Peak		Peak Hour Factor	0.95
Project Description			Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Number of Lanes (N)	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	1
Lane Assignment							LTR				LT				T	R
Volume (V), veh/h					0	70	0	260	0	10	260		0		1000	80
Percent Heavy Vehicles, %					8	8	8	8	7	7	7		3		3	3
Flow Rate (v _{PCE}), pc/h					0	80	0	296	0	11	293		0		1084	87
Right-Turn Bypass	None				Non-Yielding				None				None			
Conflicting Lanes					1				1				1			
Pedestrians Crossing, p/h					0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s					4.9763			4.9763		4.5436	4.5436	
Follow-Up Headway, s					2.6087			2.6087		2.5352	2.5352	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h					80	296		304		1084	87	
Entry Volume, veh/h					74	274		284		1052	84	
Circulating Flow (v _c), pc/h	1164			304			0			91		
Exiting Flow (v _{ex}), pc/h	0			98			293			1164		
Capacity (C _{PCE}), pc/h					1012			1380		1307	1307	
Capacity (C), veh/h					937			1290		1269	1269	
v/c Ratio (x)					0.08			0.22		0.83	0.07	

Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh					4.6			4.7		18.9	3.4	
Lane LOS					A	A		A		C	A	
95% Queue Length, Q ₉₅ (veh)					0.3			0.8		10.5	0.2	
95% Queue Length, Q ₉₅ (ft)					8.0			20.0		268.8	5.1	
Approach Delay, s/veh LOS				1.0	A		4.7	A		17.8	C	
Intersection Delay, s/veh LOS	12.4						B					

HCS Roundabouts Report

General Information

Site Information

Analyst	TJS		Intersection	(240) SR 94 & I-271 SB Ramps
Agency or Co.	Smart Services, Inc		E/W Street Name	I-271 SB Ramps
Date Performed	6/27/2024		N/S Street Name	SR 94
Analysis Year	2030		Analysis Time Period, hrs	0.25
Time Analyzed	No Build - PM Peak		Peak Hour Factor	0.97
Project Description			Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	1
Lane Assignment					LTR				LT				T		R	
Volume (V), veh/h					0	150	0	870	0	10	420		0		600	70
Percent Heavy Vehicles, %					3	3	3	3	1	1	1		6		6	6
Flow Rate (v _{PCE}), pc/h					0	159	0	924	0	10	437		0		656	76
Right-Turn Bypass	None				Non-Yielding				None				None			
Conflicting Lanes					1				1				1			
Pedestrians Crossing, p/h					0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s					4.9763			4.9763		4.5436	4.5436	
Follow-Up Headway, s					2.6087			2.6087		2.5352	2.5352	

Flow Computations, Capacity and v/c Ratios

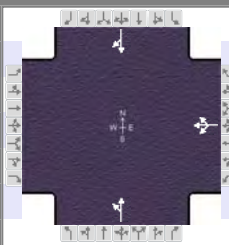
Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h					159	924		447		656	76	
Entry Volume, veh/h					154	897		443		619	72	
Circulating Flow (v _c), pc/h	815			447			0			169		
Exiting Flow (v _{ex}), pc/h	0			86			437			815		
Capacity (C _{PCE}), pc/h					875			1380		1218	1218	
Capacity (c), veh/h					849			1366		1149	1149	
v/c Ratio (x)					0.18			0.32		0.54	0.06	

Delay and Level of Service

Approach	EB			WB			NB			SB					
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass			
Lane Control Delay (d), s/veh					6.1			5.5		9.4	3.7				
Lane LOS					A	A		A		A	A				
95% Queue Length, Q ₉₅ (veh)					0.7			1.4		3.3	0.2				
95% Queue Length, Q ₉₅ (ft)					17.9			35.0		86.5	5.2				
Approach Delay, s/veh LOS				0.9			A			5.5			A		
Intersection Delay, s/veh LOS	4.3						A								

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Aug 7, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.95
Urban Street	SR 94-Ridge Rd	Analysis Year	2030	Analysis Period	1 > 7:00
Intersection	(240) SR 94-I-271 SB R...	File Name	Signalized Capacity Group 1 (10 & 240) - 2030 B...		
Project Description	2030 Build				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				70	0	220	50	220			770	80

Signal Information																		
Cycle, s	74.0	Reference Phase	2															
Offset, s	0	Reference Point	End	Green	44.7	17.7	0.0	0.0	0.0	0.0								
Uncoordinated	Yes	Simult. Gap E/W	On	Yellow	5.0	4.5	0.0	0.0	0.0	0.0								
Force Mode	Fixed	Simult. Gap N/S	On	Red	1.0	1.0	0.0	0.0	0.0	0.0								

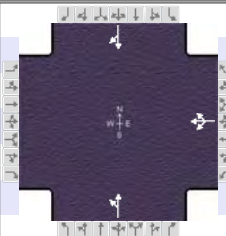
Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				70	0	220	50	220			770	80
Initial Queue (Q _b), veh/h				0	0	0	0	0			0	0
Base Saturation Flow Rate (s ₀), veh/h				1900	1750	1900	1900	1750			1750	1900
Parking (N _m), man/h					None				None			
Heavy Vehicles (P _{HV}), %					8				7			
Ped / Bike / RTOR, /h	0	0		0	0	0	0	0		0	0	0
Buses (N _b), buses/h				0	0	0	0	0	0	0	0	0
Arrival Type (AT)				3	3	3	3	3			3	3
Upstream Filtering (I)				1.00	1.00	1.00	0.98	0.98			1.00	1.00
Lane Width (W), ft					12.0				12.0			
Turn Bay Length, ft					0				0			
Grade (P _g), %		0			0				0			
Speed Limit, mi/h				45	45	45	45	45			45	45

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s				24.5		64.0		64.0
Yellow Change Interval (Y), s				4.5		5.0		5.0
Red Clearance Interval (R _c), s				1.0		1.0		1.0
Minimum Green (G _{min}), s				12		24		24
Start-Up Lost Time (l _t), s			2.0	2.0	2.0	2.0		2.0
Extension of Effective Green (e), s			2.0	2.0	2.0	2.0		2.0
Passage (PT), s				2.0		2.0		2.0
Recall Mode				Off		Min		Min
Dual Entry				Yes		Yes		Yes
Walk (Walk), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (PC), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0			
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0			
Street Width / Island / Curb, ft		0		0.0	0	No	0.0	0	No	0.0		No
Width Outside / Bike Lane / Shoulder, ft				12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No			No			0.50			0.50		

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Aug 7, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.95
Urban Street	SR 94-Ridge Rd	Analysis Year	2030	Analysis Period	1 > 7:00
Intersection	(240) SR 94-I-271 SB R...	File Name	Signalized Capacity Group 1 (10 & 240) - 2030 B...		
Project Description	2030 Build				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				70	0	220	50	220			770	80

Signal Information																		
Cycle, s	74.0	Reference Phase	2															
Offset, s	0	Reference Point	End															
Uncoordinated	Yes	Simult. Gap E/W	On	Green	44.7	17.7	0.0	0.0	0.0	0.0	1		2		3		4	
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.0	4.5	0.0	0.0	0.0	0.0	5		6		7		8	
				Red	1.0	1.0	0.0	0.0	0.0	0.0								

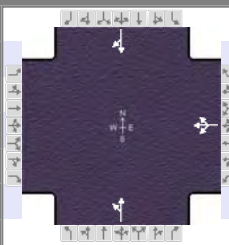
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				8		2		6
Case Number				12.0		8.0		8.0
Phase Duration, s				23.2		50.7		50.7
Change Period, (Y+R _c), s				5.5		6.0		6.0
Max Allow Headway (MAH), s				3.2		3.1		3.1
Queue Clearance Time (g _s), s				17.3		41.9		35.3
Green Extension Time (g _e), s				0.4		2.7		2.7
Phase Call Probability				1.00		1.00		1.00
Max Out Probability				0.05		0.01		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement				3	8	18	5	2			6	16
Adjusted Flow Rate (v), veh/h				305			263			895		
Adjusted Saturation Flow Rate (s), veh/h/ln				1428			641			1681		
Queue Service Time (g _s), s				15.3			6.6			33.3		
Cycle Queue Clearance Time (g _c), s				15.3			39.9			33.3		
Green Ratio (g/C)				0.24			0.60			0.60		
Capacity (c), veh/h				343			445			1017		
Volume-to-Capacity Ratio (X)				0.891			0.591			0.880		
Back of Queue (Q), ft/ln (95 th percentile)				261			70			380		
Back of Queue (Q), veh/ln (95 th percentile)				9.8			2.7			14.9		
Queue Storage Ratio (RQ) (95 th percentile)				0.00			0.00			0.00		
Uniform Delay (d ₁), s/veh				27.2			12.1			12.4		
Incremental Delay (d ₂), s/veh				12.0			0.5			3.6		
Initial Queue Delay (d ₃), s/veh				0.0			0.0			0.0		
Control Delay (d), s/veh				39.3			12.5			16.0		
Level of Service (LOS)				D			B			B		
Approach Delay, s/veh / LOS	0.0			39.3			12.5			16.0		
Intersection Delay, s/veh / LOS				20.2						C		

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.72	B	1.72	B	1.35	A	1.35	A
Bicycle LOS Score / LOS			0.99	A	0.96	A	1.96	B

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Aug 7, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.97
Urban Street	SR 94-Ridge Rd	Analysis Year	2030	Analysis Period	1 > 4:45
Intersection	(240) SR 94-I-271 SB R...	File Name	Signalized Capacity Group 1 (10 & 240) - 2030 B...		
Project Description	2030 Build				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				150	0	830	60	370			500	70

Signal Information													
Cycle, s	120.0	Reference Phase	2										
Offset, s	13	Reference Point	End										
Uncoordinated	Yes	Simult. Gap E/W	On	Green	48.5	60.0	0.0	0.0	0.0	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.0	4.5	0.0	0.0	0.0	0.0			
				Red	1.0	1.0	0.0	0.0	0.0	0.0			

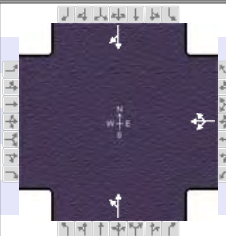
Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				150	0	830	60	370			500	70
Initial Queue (Q _b), veh/h				0	0	0	0	0			0	0
Base Saturation Flow Rate (s ₀), veh/h				1900	1750	1900	1900	1750			1750	1900
Parking (N _m), man/h					None				None			
Heavy Vehicles (P _{HV}), %					3				1			
Ped / Bike / RTOR, /h	0	0		0	0	0	0	0		0	0	0
Buses (N _b), buses/h				0	0	0	0	0	0	0	0	0
Arrival Type (AT)				3	3	3	3	3			3	3
Upstream Filtering (I)				1.00	1.00	1.00	0.93	0.93			1.00	1.00
Lane Width (W), ft					12.0				12.0			
Turn Bay Length, ft					0				0			
Grade (P _g), %		0			0				0			
Speed Limit, mi/h				45	45	45	45	45			45	45

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s				60.0		48.5		48.5
Yellow Change Interval (Y), s				4.5		5.0		5.0
Red Clearance Interval (R _c), s				1.0		1.0		1.0
Minimum Green (G _{min}), s				12		24		24
Start-Up Lost Time (l _t), s			2.0	2.0	2.0	2.0		2.0
Extension of Effective Green (e), s			2.0	2.0	2.0	2.0		2.0
Passage (PT), s				2.0		2.0		2.0
Recall Mode				Off		Min		Min
Dual Entry				Yes		Yes		Yes
Walk (Walk), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (PC), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0			
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0			
Street Width / Island / Curb, ft		0		0.0	0	No	0.0	0	No	0.0		No
Width Outside / Bike Lane / Shoulder, ft				12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No			No	0.50		No	0.50				0.50

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Aug 7, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.97
Urban Street	SR 94-Ridge Rd	Analysis Year	2030	Analysis Period	1 > 4:45
Intersection	(240) SR 94-I-271 SB R...	File Name	Signalized Capacity Group 1 (10 & 240) - 2030 B...		
Project Description	2030 Build				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				150	0	830	60	370			500	70

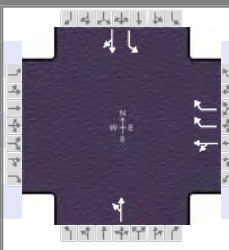
Signal Information												
Cycle, s	120.0	Reference Phase	2									
Offset, s	13	Reference Point	End									
Uncoordinated	Yes	Simult. Gap E/W	On	Green	48.5	60.0	0.0	0.0	0.0	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.0	4.5	0.0	0.0	0.0	0.0		
				Red	1.0	1.0	0.0	0.0	0.0	0.0		

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				8		2		6
Case Number				12.0		8.0		8.0
Phase Duration, s				65.5		54.5		54.5
Change Period, ($Y+R_c$), s				5.5		6.0		6.0
Max Allow Headway (MAH), s				3.3		3.1		3.1
Queue Clearance Time (g_s), s				62.0		50.5		42.2
Green Extension Time (g_e), s				0.0		0.0		1.5
Phase Call Probability				1.00		1.00		1.00
Max Out Probability				1.00		1.00		0.36

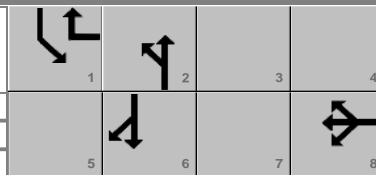
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement				3	8	18	5	2			6	16
Adjusted Flow Rate (v), veh/h				1010			478			588		
Adjusted Saturation Flow Rate (s), veh/h/ln				1473			605			1632		
Queue Service Time (g_s), s				60.0			8.3			40.2		
Cycle Queue Clearance Time (g_c), s				60.0			48.5			40.2		
Green Ratio (g/C)				0.50			0.40			0.40		
Capacity (c), veh/h				737			279			660		
Volume-to-Capacity Ratio (X)				1.372			1.717			0.891		
Back of Queue (Q), ft/ln (95 th percentile)				2126			1428			639		
Back of Queue (Q), veh/ln (95 th percentile)				83.1			56.7			24.4		
Queue Storage Ratio (RQ) (95 th percentile)				0.00			0.00			0.00		
Uniform Delay (d_1), s/veh				30.0			36.5			33.3		
Incremental Delay (d_2), s/veh				175.8			336.5			13.9		
Initial Queue Delay (d_3), s/veh				0.0			0.0			0.0		
Control Delay (d), s/veh				205.8			372.9			47.2		
Level of Service (LOS)				F			F			D		
Approach Delay, s/veh / LOS	0.0			205.8			372.9			47.2		
Intersection Delay, s/veh / LOS	199.4						F					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.74	B	1.74	B	1.40	A	1.40	A
Bicycle LOS Score / LOS			2.15	B	1.22	A	1.46	A

HCS Signalized Intersection Input Data

General Information				Intersection Information		
Agency	Smart Services Inc.			Duration, h	0.250	
Analyst	TJS	Analysis Date	Aug 5, 2024	Area Type	Other	
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.95	
Urban Street	SR 94-Ridge Rd	Analysis Year	2030	Analysis Period	1 > 7:00	
Intersection	(240) SR 94-I-271 SB R...	File Name	Signalized Capacity Group 1 (10 & 240) - 2030 B...			
Project Description	2030 Build Alt A					

Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				70	0	220	50	220		1	770	80

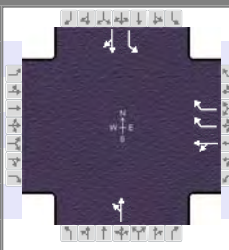
Signal Information															
Cycle, s	65.5	Reference Phase	2												
Offset, s	0	Reference Point	End	Green	12.0	24.0	12.0	0.0	0.0	0.0					
Uncoordinated	Yes	Simult. Gap E/W	On	Yellow	4.0	5.0	4.5	0.0	0.0	0.0					
Force Mode	Fixed	Simult. Gap N/S	On	Red	2.0	1.0	1.0	0.0	0.0	0.0					

Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				70	0	220	50	220		1	770	80
Initial Queue (Q _b), veh/h				0	0	0	0	0		0	0	0
Base Saturation Flow Rate (s ₀), veh/h				1750	1750	1750	1750	1750		1750	1750	1750
Parking (N _m), man/h					None				None			
Heavy Vehicles (P _{HV}), %					8	8		7		3	3	
Ped / Bike / RTOR, /h	0	0		0	0	0	0	0		0	0	0
Buses (N _b), buses/h				0	0	0	0	0	0	0	0	0
Arrival Type (AT)				3	3	3	3	3		3	3	3
Upstream Filtering (I)				1.00	1.00	1.00	0.96	0.96		1.00	1.00	1.00
Lane Width (W), ft					12.0	12.0		12.0		12.0	12.0	
Turn Bay Length, ft					0	560		0		0	0	
Grade (P _g), %		0			0			0		0		
Speed Limit, mi/h				45	45	45	45	45		45	45	45

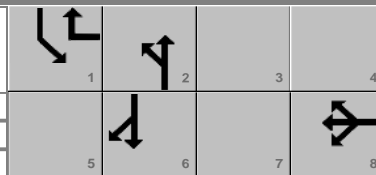
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s				20.0		67.0	12.0	79.0
Yellow Change Interval (Y), s				4.5		5.0	4.0	5.0
Red Clearance Interval (R _c), s				1.0		1.0	2.0	1.0
Minimum Green (G _{min}), s				12		24	6	24
Start-Up Lost Time (l _t), s			2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (e), s			2.0	2.0	2.0	2.0	2.0	2.0
Passage (P _T), s				2.0		2.0	2.0	2.0
Recall Mode				Off		Min	Max	Min
Dual Entry				Yes		Yes	No	Yes
Walk (Walk), s		0.0		0.0		0.0		
Pedestrian Clearance Time (P _C), s		0.0		0.0		0.0		

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0			
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0			
Street Width / Island / Curb, ft		0		0.0	0	No	0.0	0	No	0.0		No
Width Outside / Bike Lane / Shoulder, ft				12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No			No	0.50		No	0.50				0.50

HCS Signalized Intersection Results Summary

General Information				Intersection Information		
Agency	Smart Services Inc.			Duration, h	0.250	
Analyst	TJS	Analysis Date	Aug 5, 2024	Area Type	Other	
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.95	
Urban Street	SR 94-Ridge Rd	Analysis Year	2030	Analysis Period	1 > 7:00	
Intersection	(240) SR 94-I-271 SB R...	File Name	Signalized Capacity Group 1 (10 & 240) - 2030 B...			
Project Description	2030 Build Alt A					

Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				70	0	220	50	220		1	770	80

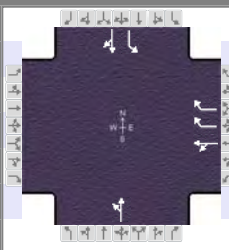
Signal Information													
Cycle, s	65.5	Reference Phase	2										
Offset, s	0	Reference Point	End	Green	12.0	24.0	12.0	0.0	0.0	0.0			
Uncoordinated	Yes	Simult. Gap E/W	On	Yellow	4.0	5.0	4.5	0.0	0.0	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Red	2.0	1.0	1.0	0.0	0.0	0.0			

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				8		2	1	6
Case Number				11.0		8.3	2.0	4.0
Phase Duration, s				17.5		30.0	18.0	48.0
Change Period, ($Y+R_c$), s				5.5		6.0	6.0	6.0
Max Allow Headway (MAH), s				3.2		3.1	3.0	3.1
Queue Clearance Time (g_s), s				6.3		12.9	2.0	28.7
Green Extension Time (g_e), s				0.6		2.9	0.0	2.9
Phase Call Probability				1.00		1.00	1.00	1.00
Max Out Probability				0.00		0.00	0.00	0.00

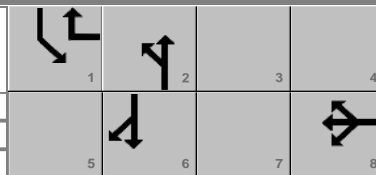
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement				3	8	18	5	2		1	6	16
Adjusted Flow Rate (v), veh/h				74	232		305			1	895	
Adjusted Saturation Flow Rate (s), veh/h/ln				1563	1231		1347			1628	1681	
Queue Service Time (g_s), s				2.6	4.3		2.2			0.0	26.7	
Cycle Queue Clearance Time (g_c), s				2.6	4.3		10.9			0.0	26.7	
Green Ratio (g/C)				0.18	0.37		0.37			0.18	0.64	
Capacity (c), veh/h				285	901		559			298	1078	
Volume-to-Capacity Ratio (X)				0.258	0.257		0.546			0.004	0.830	
Back of Queue (Q), ft/ln (95 th percentile)				42	49		143			1	251	
Back of Queue (Q), veh/ln (95 th percentile)				1.6	1.8		5.4			0.0	9.8	
Queue Storage Ratio (RQ) (95 th percentile)				0.00	0.09		0.00			0.00	0.00	
Uniform Delay (d_1), s/veh				22.9	14.5		16.2			21.8	9.0	
Incremental Delay (d_2), s/veh				0.2	0.1		0.3			0.0	0.6	
Initial Queue Delay (d_3), s/veh				0.0	0.0		0.0			0.0	0.0	
Control Delay (d), s/veh				23.1	14.6		16.5			21.9	9.6	
Level of Service (LOS)					C	B		B		C	A	
Approach Delay, s/veh / LOS	0.0			16.6		B	16.5		B	9.6		A
Intersection Delay, s/veh / LOS				12.5						B		

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.71	B	2.13	B	2.09	B	1.34	A
Bicycle LOS Score / LOS			0.99	A	0.96	A	1.97	B

HCS Signalized Intersection Input Data

General Information					Intersection Information								
Agency	Smart Services Inc.				Duration, h	0.250							
Analyst	TJS	Analysis Date	Aug 5, 2024		Area Type	Other							
Jurisdiction	ODOT	Time Period	PM Peak		PHF	0.97							
Urban Street	SR 94-Ridge Rd	Analysis Year	2030		Analysis Period	1 > 4:45							
Intersection	(240) SR 94-I-271 SB R...	File Name	Signalized Capacity Group 1 (10 & 240) - 2030 B...										
Project Description	2030 Build Alt A												

Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				150	0	830	60	370		1	500	70

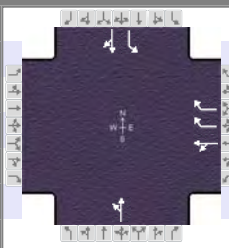
Signal Information													
Cycle, s	86.3	Reference Phase	2										
Offset, s	41	Reference Point	End	Green	15.0	31.8	22.0	0.0	0.0	0.0			
Uncoordinated	Yes	Simult. Gap E/W	On	Yellow	4.0	5.0	4.5	0.0	0.0	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Red	2.0	1.0	1.0	0.0	0.0	0.0			

Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				150	0	830	60	370		1	500	70
Initial Queue (Q _b), veh/h				0	0	0	0	0		0	0	0
Base Saturation Flow Rate (s ₀), veh/h				1750	1750	1750	1750	1750		1750	1750	1750
Parking (N _m), man/h					None				None			
Heavy Vehicles (P _{HV}), %					3	4		3		0	6	
Ped / Bike / RTOR, /h	0	0		0	0	0	0	0		0	0	0
Buses (N _b), buses/h				0	0	0	0	0	0	0	0	0
Arrival Type (AT)				3	3	3	3	3		3	3	3
Upstream Filtering (I)				1.00	1.00	1.00	0.87	0.87		1.00	1.00	1.00
Lane Width (W), ft					12.0	12.0		12.0		12.0	12.0	
Turn Bay Length, ft					0	280		0		0	0	
Grade (P _g), %		0			0			0		0		
Speed Limit, mi/h				45	45	45	45	45		45	45	45

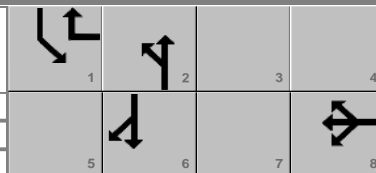
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s				22.0		41.0	15.0	56.0
Yellow Change Interval (Y), s				4.5		5.0	4.0	5.0
Red Clearance Interval (R _c), s				1.0		1.0	2.0	1.0
Minimum Green (G _{min}), s				12		24	6	24
Start-Up Lost Time (l _t), s			2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (e), s			2.0	2.0	2.0	2.0	2.0	2.0
Passage (PT), s				2.0		2.0	2.0	2.0
Recall Mode				Off		Min	Max	Min
Dual Entry				Yes		Yes	No	Yes
Walk (Walk), s		0.0		0.0		0.0		
Pedestrian Clearance Time (PC), s		0.0		0.0		0.0		

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0			
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0			
Street Width / Island / Curb, ft		0		0.0	0	No	0.0	0	No	0.0		No
Width Outside / Bike Lane / Shoulder, ft				12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No			No	0.50		No	0.50				0.50

HCS Signalized Intersection Results Summary

General Information				Intersection Information		
Agency	Smart Services Inc.			Duration, h	0.250	
Analyst	TJS	Analysis Date	Aug 5, 2024	Area Type	Other	
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.97	
Urban Street	SR 94-Ridge Rd	Analysis Year	2030	Analysis Period	1 > 4:45	
Intersection	(240) SR 94-I-271 SB R...	File Name	Signalized Capacity Group 1 (10 & 240) - 2030 B...			
Project Description	2030 Build Alt A					

Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				150	0	830	60	370		1	500	70

Signal Information															
Cycle, s	86.3	Reference Phase	2												
Offset, s	41	Reference Point	End	Green	15.0	31.8	22.0	0.0	0.0	0.0					
Uncoordinated	Yes	Simult. Gap E/W	On	Yellow	4.0	5.0	4.5	0.0	0.0	0.0					
Force Mode	Fixed	Simult. Gap N/S	On	Red	2.0	1.0	1.0	0.0	0.0	0.0					

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				8		2	1	6
Case Number				11.0		8.3	2.0	4.0
Phase Duration, s				27.5		37.8	21.0	58.8
Change Period, (Y+R _c), s				5.5		6.0	6.0	6.0
Max Allow Headway (MAH), s				3.3		3.1	3.0	3.1
Queue Clearance Time (g _s), s				24.0		29.8	2.0	20.8
Green Extension Time (g _e), s				0.0		2.0	0.0	2.3
Phase Call Probability				1.00		1.00	1.00	1.00
Max Out Probability				1.00		0.08	0.00	0.00

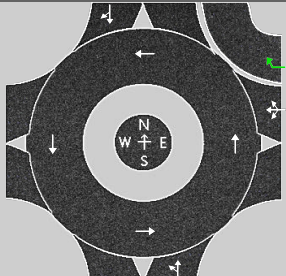
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement				3	8	18	5	2		1	6	16
Adjusted Flow Rate (v), veh/h				155	856		522			1	588	
Adjusted Saturation Flow Rate (s), veh/h/ln				1628	1272		1537			1667	1632	
Queue Service Time (g _s), s				6.8	22.0		20.4			0.0	18.8	
Cycle Queue Clearance Time (g _c), s				6.8	22.0		27.8			0.0	18.8	
Green Ratio (g/C)				0.25	0.43		0.37			0.17	0.61	
Capacity (c), veh/h				415	1090		614			290	999	
Volume-to-Capacity Ratio (X)				0.373	0.785		0.850			0.004	0.588	
Back of Queue (Q), ft/ln (95 th percentile)				114	295		379			1	242	
Back of Queue (Q), veh/ln (95 th percentile)				4.4	11.4		14.8			0.0	9.2	
Queue Storage Ratio (RQ) (95 th percentile)				0.00	1.05		0.00			0.00	0.00	
Uniform Delay (d ₁), s/veh				26.5	21.2		25.6			29.5	10.2	
Incremental Delay (d ₂), s/veh				0.2	3.5		5.4			0.0	0.5	
Initial Queue Delay (d ₃), s/veh				0.0	0.0		0.0			0.0	0.0	
Control Delay (d), s/veh				26.7	24.7		31.0			29.5	10.6	
Level of Service (LOS)					C	C		C		C	B	
Approach Delay, s/veh / LOS	0.0			25.0		C	31.0		C	10.7		B
Intersection Delay, s/veh / LOS				22.5						C		

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.72	B	2.14	B	2.10	B	1.36	A
Bicycle LOS Score / LOS			2.15	B	1.22	A	1.46	A

HCS Roundabouts Report

General Information

Site Information

Analyst	TJS		Intersection	(240) SR 94 & I-271 SB Ramps
Agency or Co.	Smart Services, Inc		E/W Street Name	I-271 SB Ramps
Date Performed	8/5/2024		N/S Street Name	SR 94
Analysis Year	2030		Analysis Time Period, hrs	0.25
Time Analyzed	Build - AM Peak		Peak Hour Factor	0.95
Project Description			Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0
Lane Assignment					LTR				LT				TR			
Volume (V), veh/h					0	70	0	220	0	50	220		0		770	80
Percent Heavy Vehicles, %					8	8	8	8	7	7	7		3		3	3
Flow Rate (v _{PCE}), pc/h					0	80	0	250	0	56	248		0		835	87
Right-Turn Bypass	None				Non-Yielding				None				None			
Conflicting Lanes					1				1				1			
Pedestrians Crossing, p/h					0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s					4.9763			4.9763			4.9763	
Follow-Up Headway, s					2.6087			2.6087			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h					80	250		304			922	
Entry Volume, veh/h					74	231		284			895	
Circulating Flow (v _c), pc/h	915			304			0			136		
Exiting Flow (v _{ex}), pc/h	0			143			248			915		
Capacity (C _{PCE}), pc/h					1012			1380			1201	
Capacity (c), veh/h					937			1290			1166	
v/c Ratio (x)					0.08			0.22			0.77	

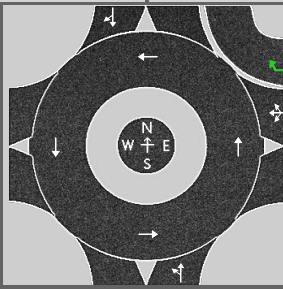
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh					4.6			4.7			16.3	
Lane LOS					A	A		A			C	
95% Queue Length, Q ₉₅ (veh)					0.3			0.8			8.0	
95% Queue Length, Q ₉₅ (ft)					8.0			20.0			204.8	
Approach Delay, s/veh LOS				1.1	A		4.7	A		16.3	C	
Intersection Delay, s/veh LOS	10.9						B					

HCS Roundabouts Report

General Information

Analyst	TJS
Agency or Co.	Smart Services, Inc
Date Performed	8/5/2024
Analysis Year	2030
Time Analyzed	Build - PM Peak
Project Description	



Site Information

Intersection	(240) SR 94 & I-271 SB Ramps
E/W Street Name	I-271 SB Ramps
N/S Street Name	SR 94
Analysis Time Period, hrs	0.25
Peak Hour Factor	0.97
Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0
Lane Assignment					LTR				LT				TR			
Volume (V), veh/h					0	150	0	830	0	60	370		0		500	70
Percent Heavy Vehicles, %					3	3	3	3	1	1	1		6		6	6
Flow Rate (v _{PCE}), pc/h					0	159	0	881	0	62	385		0		546	76
Right-Turn Bypass	None				Non-Yielding				None				None			
Conflicting Lanes					1				1				1			
Pedestrians Crossing, p/h					0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s					4.9763			4.9763			4.9763	
Follow-Up Headway, s					2.6087			2.6087			2.6087	

Flow Computations, Capacity and v/c Ratios

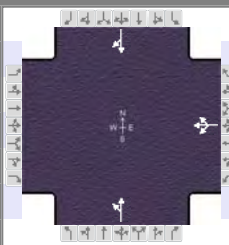
Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h					159	881		447			622	
Entry Volume, veh/h					154	855		443			587	
Circulating Flow (v _c), pc/h	705			447			0			221		
Exiting Flow (v _{ex}), pc/h	0			138			385			705		
Capacity (c _{PCE}), pc/h					875			1380			1101	
Capacity (c), veh/h					849			1366			1039	
v/c Ratio (x)					0.18			0.32			0.56	

Delay and Level of Service

Approach	EB			WB			NB			SB			
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	
Lane Control Delay (d), s/veh					6.1			5.5			10.7		
Lane LOS					A	A		A			B		
95% Queue Length, Q ₉₅ (veh)					0.7			1.4			3.7		
95% Queue Length, Q ₉₅ (ft)					17.9			35.0			96.9		
Approach Delay, s/veh LOS				0.9	A			5.5	A			10.7	B
Intersection Delay, s/veh LOS	4.7						A						

HCS Signalized Intersection Input Data

General Information					Intersection Information			
Agency	Smart Services Inc.				Duration, h	0.250		
Analyst	TJS	Analysis Date	Mar 1, 2024		Area Type	Other		
Jurisdiction	ODOT	Time Period	AM Peak		PHF	0.95		
Urban Street	SR 94-Ridge Rd	Analysis Year	2050		Analysis Period	1 > 7:00		
Intersection	(240) SR 94-I-271 SB R...	File Name	Signalized Capacity Group 1 (10 & 240) - 2050 N...					
Project Description	2050 No Build							



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				70	0	260	20	300			1060	100

Signal Information													
Cycle, s	100.0	Reference Phase	2										
Offset, s	0	Reference Point	End										
Uncoordinated	Yes	Simult. Gap E/W	On	Green	64.0	24.5	0.0	0.0	0.0	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.0	4.5	0.0	0.0	0.0	0.0			
				Red	1.0	1.0	0.0	0.0	0.0	0.0			

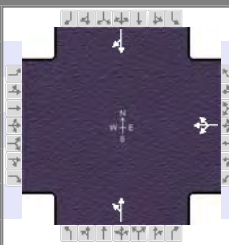
Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				70	0	260	20	300			1060	100
Initial Queue (Q _b), veh/h				0	0	0	0	0			0	0
Base Saturation Flow Rate (s ₀), veh/h				1900	1750	1900	1900	1750			1750	1900
Parking (N _m), man/h					None				None			
Heavy Vehicles (P _{HV}), %					8				7			
Ped / Bike / RTOR, /h	0	0		0	0	0	0	0		0	0	0
Buses (N _b), buses/h				0	0	0	0	0	0	0	0	0
Arrival Type (AT)				3	3	3	3	3			3	3
Upstream Filtering (I)				1.00	1.00	1.00	0.98	0.98			1.00	1.00
Lane Width (W), ft					12.0				12.0			
Turn Bay Length, ft					0				0			
Grade (P _g), %		0			0				0			
Speed Limit, mi/h				45	45	45	45	45			45	45

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s				24.5		64.0		64.0
Yellow Change Interval (Y), s				4.5		5.0		5.0
Red Clearance Interval (R _c), s				1.0		1.0		1.0
Minimum Green (G _{min}), s				12		24		24
Start-Up Lost Time (l _t), s			2.0	2.0	2.0	2.0		2.0
Extension of Effective Green (e), s			2.0	2.0	2.0	2.0		2.0
Passage (PT), s				2.0		2.0		2.0
Recall Mode				Off		Min		Min
Dual Entry				Yes		Yes		Yes
Walk (Walk), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (PC), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0			
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0			
Street Width / Island / Curb, ft		0		0.0	0	No	0.0	0	No	0.0		No
Width Outside / Bike Lane / Shoulder, ft				12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No			No	0.50		No	0.50				0.50

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Mar 1, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.95
Urban Street	SR 94-Ridge Rd	Analysis Year	2050	Analysis Period	1 > 7:00
Intersection	(240) SR 94-I-271 SB R...	File Name	Signalized Capacity Group 1 (10 & 240) - 2050 N...		
Project Description	2050 No Build				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				70	0	260	20	300			1060	100

Signal Information														
Cycle, s	100.0	Reference Phase	2											
Offset, s	0	Reference Point	End											
Uncoordinated	Yes	Simult. Gap E/W	On	Green	64.0	24.5	0.0	0.0	0.0	0.0				
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.0	4.5	0.0	0.0	0.0	0.0				
				Red	1.0	1.0	0.0	0.0	0.0	0.0				

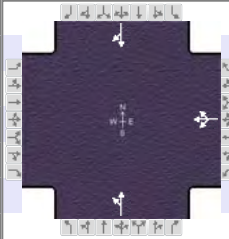
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				8		2		6
Case Number				12.0		8.0		8.0
Phase Duration, s				30.0		70.0		70.0
Change Period, ($Y+R_c$), s				5.5		6.0		6.0
Max Allow Headway (MAH), s				3.2		3.0		3.0
Queue Clearance Time (g_s), s				26.4		66.0		66.0
Green Extension Time (g_e), s				0.0		0.0		0.0
Phase Call Probability				1.00		1.00		1.00
Max Out Probability				1.00		1.00		1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement				3	8	18	5	2			6	16
Adjusted Flow Rate (v), veh/h				347			305			1221		
Adjusted Saturation Flow Rate (s), veh/h/ln				1424			677			1683		
Queue Service Time (g_s), s				24.4			0.0			64.0		
Cycle Queue Clearance Time (g_c), s				24.4			64.0			64.0		
Green Ratio (g/C)				0.24			0.64			0.64		
Capacity (c), veh/h				349			472			1077		
Volume-to-Capacity Ratio (X)				0.996			0.647			1.134		
Back of Queue (Q), ft/ln (95 th percentile)				488			240			1456		
Back of Queue (Q), veh/ln (95 th percentile)				18.3			9.1			56.9		
Queue Storage Ratio (RQ) (95 th percentile)				0.00			0.00			0.00		
Uniform Delay (d_1), s/veh				37.7			27.0			18.0		
Incremental Delay (d_2), s/veh				47.0			2.4			72.0		
Initial Queue Delay (d_3), s/veh				0.0			0.0			0.0		
Control Delay (d), s/veh				84.7			29.3			90.0		
Level of Service (LOS)				F			C			F		
Approach Delay, s/veh / LOS	0.0			84.7			29.3			90.0		
Intersection Delay, s/veh / LOS				79.1						E		

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.73	B	1.73	B	1.36	A	1.36	A
Bicycle LOS Score / LOS			1.06	A	1.04	A	2.50	C

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Feb 7, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.97
Urban Street	SR 94-Ridge Rd	Analysis Year	2050	Analysis Period	1 > 4:45
Intersection	(240) SR 94-I-271 SB R...	File Name	Signalized Capacity Group 1 (10 & 240) - 2050 N...		
Project Description	2050 No Build				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				150	1	920	20	470			650	80

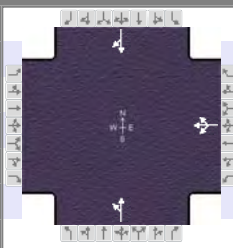
Signal Information													
Cycle, s	120.0	Reference Phase	2										
Offset, s	13	Reference Point	End										
Uncoordinated	Yes	Simult. Gap E/W	On	Green	48.5	60.0	0.0	0.0	0.0	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.0	4.5	0.0	0.0	0.0	0.0			
				Red	1.0	1.0	0.0	0.0	0.0	0.0			

Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				150	1	920	20	470			650	80
Initial Queue (Q_b), veh/h				0	0	0	0	0			0	0
Base Saturation Flow Rate (s_o), veh/h				1900	1750	1900	1900	1750			1750	1900
Parking (N_m), man/h					None			None			None	
Heavy Vehicles (P_{HV}), %					3			1			6	
Ped / Bike / RTOR, /h	0	0		0	0	0	0	0		0	0	0
Buses (N_b), buses/h				0	0	0	0	0	0	0	0	0
Arrival Type (AT)				3	3	3	3	3			3	3
Upstream Filtering (I)				1.00	1.00	1.00	0.91	0.91			1.00	1.00
Lane Width (W), ft					12.0			12.0			12.0	
Turn Bay Length, ft					0			0			0	
Grade (P_g), %		0			0			0			0	
Speed Limit, mi/h				45	45	45	45	45			45	45

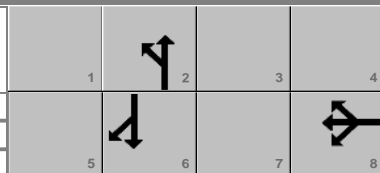
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s				60.0		48.5		48.5
Yellow Change Interval (Y), s				4.5		5.0		5.0
Red Clearance Interval (R_c), s				1.0		1.0		1.0
Minimum Green (G_{min}), s				12		24		24
Start-Up Lost Time (l_t), s			2.0	2.0	2.0	2.0		2.0
Extension of Effective Green (e), s			2.0	2.0	2.0	2.0		2.0
Passage (PT), s				2.0		2.0		2.0
Recall Mode				Off		Min		Min
Dual Entry				Yes		Yes		Yes
Walk ($Walk$), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (PC), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0			
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0			
Street Width / Island / Curb, ft		0		0.0	0	No	0.0	0	No	0.0		No
Width Outside / Bike Lane / Shoulder, ft				12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No			No	0.50		No	0.50				0.50

HCS Signalized Intersection Results Summary

General Information				Intersection Information		
Agency	Smart Services Inc.			Duration, h	0.250	
Analyst	TJS	Analysis Date	Feb 7, 2024	Area Type	Other	
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.97	
Urban Street	SR 94-Ridge Rd	Analysis Year	2050	Analysis Period	1 > 4:45	
Intersection	(240) SR 94-I-271 SB R...	File Name	Signalized Capacity Group 1 (10 & 240) - 2050 N...			
Project Description	2050 No Build					

Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				150	1	920	20	470			650	80

Signal Information												
Cycle, s	120.0	Reference Phase	2									
Offset, s	13	Reference Point	End									
Uncoordinated	Yes	Simult. Gap E/W	On	Green	48.5	60.0	0.0	0.0	0.0	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.0	4.5	0.0	0.0	0.0	0.0		
				Red	1.0	1.0	0.0	0.0	0.0	0.0		

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				8		2		6
Case Number				12.0		8.0		8.0
Phase Duration, s				65.5		54.5		54.5
Change Period, ($Y+R_c$), s				5.5		6.0		6.0
Max Allow Headway (MAH), s				3.3		3.0		3.0
Queue Clearance Time (g_s), s				62.0		50.5		50.5
Green Extension Time (g_e), s				0.0		0.0		0.0
Phase Call Probability				1.00		1.00		1.00
Max Out Probability				1.00		1.00		1.00

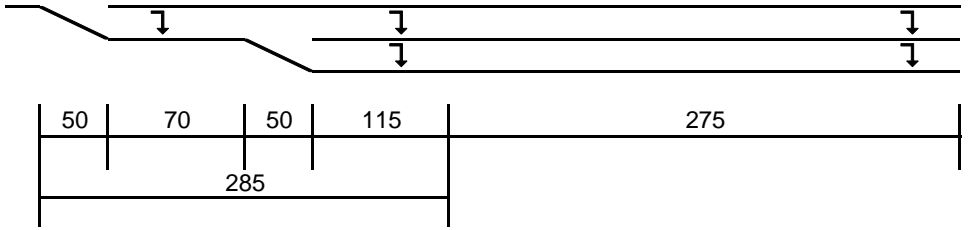
Movement Group Results	EB			WB			NB			SB					
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R			
Assigned Movement				3	8	18	5	2			6	16			
Adjusted Flow Rate (v), veh/h				1104			522			753					
Adjusted Saturation Flow Rate (s), veh/h/ln				1471			796			1636					
Queue Service Time (g_s), s				60.0			0.0			48.5					
Cycle Queue Clearance Time (g_c), s				60.0			48.5			48.5					
Green Ratio (g/C)				0.50			0.40			0.40					
Capacity (c), veh/h				736			353			661					
Volume-to-Capacity Ratio (X)				1.501			1.477			1.138					
Back of Queue (Q), ft/ln (95 th percentile)				2635			1261			1206					
Back of Queue (Q), veh/ln (95 th percentile)				102.9			50.0			46.1					
Queue Storage Ratio (RQ) (95 th percentile)				0.00			0.00			0.00					
Uniform Delay (d_1), s/veh				30.0			41.6			35.8					
Incremental Delay (d_2), s/veh				232.5			228.3			79.7					
Initial Queue Delay (d_3), s/veh				0.0			0.0			0.0					
Control Delay (d), s/veh				262.5			269.9			115.5					
Level of Service (LOS)				F			F			F					
Approach Delay, s/veh / LOS	0.0			262.5			F			269.9			F		
Intersection Delay, s/veh / LOS	217.6						F								

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.74	B	1.74	B	1.40	A	1.40	A
Bicycle LOS Score / LOS			2.31	B	1.32	A	1.73	B

(240) SR 94 & I-271 SB RAMPS - WB RT - 2050 'NO BUILD' (PM PEAK)

Type = Signalized
Speed = 55 MPH
Cycle Length = 60 seconds
Turning Volume = 920 VPH
of Turning Lanes = 2
Vehicles per Cycle = 15.33
Storage Length (Calc) = 550 feet
L1 = 285 feet
L2 = 165 feet

NOTE: Calculations based on 401-12E in ODOT L&D Manual. All dimensions are in feet.



MED-71/271 (PID 117028)
COUNT MEMO

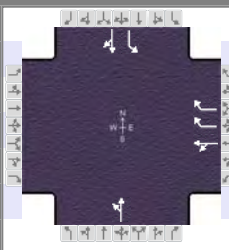
PREPARED BY:  SMART SERVICES

6/2024

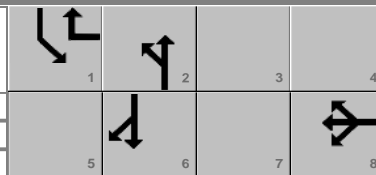
APPENDIX

DUAL RIGHT TURN CALCULATIONS

HCS Signalized Intersection Input Data

General Information				Intersection Information		
Agency	Smart Services Inc.			Duration, h	0.250	
Analyst	TJS	Analysis Date	Feb 7, 2024	Area Type	Other	
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.95	
Urban Street	SR 94-Ridge Rd	Analysis Year	2050	Analysis Period	1 > 7:00	
Intersection	(240) SR 94-I-271 SB R...	File Name	Signalized Capacity Group 1 (10 & 240) - 2050 N...			
Project Description	2050 No Build w IMP					

Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				70	0	260	20	300		1	1060	100

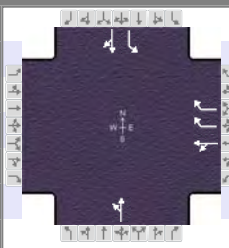
Signal Information															
Cycle, s	96.9	Reference Phase	2												
Offset, s	0	Reference Point	End	Green	12.0	55.4	12.0	0.0	0.0	0.0					
Uncoordinated	Yes	Simult. Gap E/W	On	Yellow	4.0	5.0	4.5	0.0	0.0	0.0					
Force Mode	Fixed	Simult. Gap N/S	On	Red	2.0	1.0	1.0	0.0	0.0	0.0					

Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				70	0	260	20	300		1	1060	100
Initial Queue (Q _b), veh/h				0	0	0	0	0		0	0	0
Base Saturation Flow Rate (s ₀), veh/h				1900	1750	1750	1900	1750		1750	1750	1900
Parking (N _m), man/h					None				None			
Heavy Vehicles (P _{HV}), %					8	8		7		3	3	
Ped / Bike / RTOR, /h	0	0		0	0	0	0	0		0	0	0
Buses (N _b), buses/h				0	0	0	0	0	0	0	0	0
Arrival Type (AT)				3	3	3	3	3		3	3	3
Upstream Filtering (I)				1.00	1.00	1.00	0.98	0.98		1.00	1.00	1.00
Lane Width (W), ft					12.0	12.0		12.0		12.0	12.0	
Turn Bay Length, ft					0	0		0		0	0	
Grade (P _g), %		0			0			0		0		
Speed Limit, mi/h				45	45	45	45	45		45	45	45

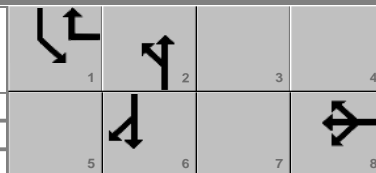
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s				20.0		67.0	12.0	79.0
Yellow Change Interval (Y), s				4.5		5.0	4.0	5.0
Red Clearance Interval (R _c), s				1.0		1.0	2.0	1.0
Minimum Green (G _{min}), s				12		24	6	24
Start-Up Lost Time (l _t), s			2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (e), s			2.0	2.0	2.0	2.0	2.0	2.0
Passage (PT), s				2.0		2.0	2.0	2.0
Recall Mode				Off		Min	Max	Min
Dual Entry				Yes		Yes	No	Yes
Walk (Walk), s		0.0		0.0		0.0		
Pedestrian Clearance Time (PC), s		0.0		0.0		0.0		

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0			
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0			
Street Width / Island / Curb, ft		0		0.0	0	No	0.0	0	No	0.0		No
Width Outside / Bike Lane / Shoulder, ft				12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No			No	0.50		No	0.50				0.50

HCS Signalized Intersection Results Summary

General Information				Intersection Information		
Agency	Smart Services Inc.			Duration, h	0.250	
Analyst	TJS	Analysis Date	Feb 7, 2024	Area Type	Other	
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.95	
Urban Street	SR 94-Ridge Rd	Analysis Year	2050	Analysis Period	1 > 7:00	
Intersection	(240) SR 94-I-271 SB R...	File Name	Signalized Capacity Group 1 (10 & 240) - 2050 N...			
Project Description	2050 No Build w IMP					

Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				70	0	260	20	300		1	1060	100

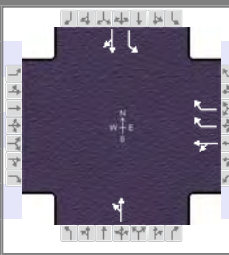
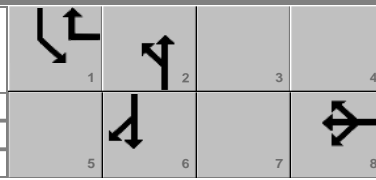
Signal Information															
Cycle, s	96.9	Reference Phase	2												
Offset, s	0	Reference Point	End	Green	12.0	55.4	12.0	0.0	0.0	0.0					
Uncoordinated	Yes	Simult. Gap E/W	On	Yellow	4.0	5.0	4.5	0.0	0.0	0.0					
Force Mode	Fixed	Simult. Gap N/S	On	Red	2.0	1.0	1.0	0.0	0.0	0.0					

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				8		2	1	6
Case Number				11.0		8.3	2.0	4.0
Phase Duration, s				17.5		61.4	18.0	79.4
Change Period, ($Y+R_c$), s				5.5		6.0	6.0	6.0
Max Allow Headway (MAH), s				3.2		3.0	3.0	3.0
Queue Clearance Time (g_s), s				11.1		51.2	2.1	64.2
Green Extension Time (g_e), s				0.6		3.9	0.0	3.9
Phase Call Probability				1.00		1.00	1.00	1.00
Max Out Probability				0.01		0.11	0.00	0.13

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement				3	8	18	5	2		1	6	16
Adjusted Flow Rate (v), veh/h				74	274		305			1	1221	
Adjusted Saturation Flow Rate (s), veh/h/ln				1563	1231		1038			1628	1683	
Queue Service Time (g_s), s				4.2	9.1		5.2			0.1	62.2	
Cycle Queue Clearance Time (g_c), s				4.2	9.1		49.2			0.1	62.2	
Green Ratio (g/C)				0.12	0.25		0.57			0.12	0.76	
Capacity (c), veh/h				194	609		633			201	1275	
Volume-to-Capacity Ratio (X)				0.381	0.449		0.482			0.005	0.958	
Back of Queue (Q), ft/ln (95 th percentile)				75	124		144			1	652	
Back of Queue (Q), veh/ln (95 th percentile)				2.8	4.7		5.4			0.0	25.5	
Queue Storage Ratio (RQ) (95 th percentile)				0.00	0.00		0.00			0.00	0.00	
Uniform Delay (d_1), s/veh				39.1	30.9		13.3			37.3	10.4	
Incremental Delay (d_2), s/veh				0.5	0.2		0.2			0.0	14.5	
Initial Queue Delay (d_3), s/veh				0.0	0.0		0.0			0.0	0.0	
Control Delay (d), s/veh				39.6	31.1		13.5			37.3	24.9	
Level of Service (LOS)					D	C		B		D	C	
Approach Delay, s/veh / LOS	0.0			32.9			13.5			24.9		
Intersection Delay, s/veh / LOS				24.5						C		

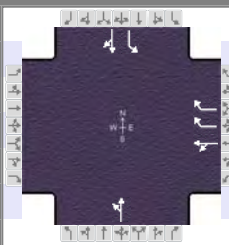
Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.73	B	2.14	B	2.08	B	1.32	A
Bicycle LOS Score / LOS			1.06	A	1.04	A	2.50	C

HCS Signalized Intersection Input Data

General Information					Intersection Information										
Agency	Smart Services Inc.				Duration, h	0.250									
Analyst	TJS	Analysis Date	Feb 8, 2024		Area Type	Other									
Jurisdiction	ODOT	Time Period	PM Peak		PHF	0.97									
Urban Street	SR 94-Ridge Rd		Analysis Year	2050	Analysis Period	1 > 4:45									
Intersection	(240) SR 94-I-271 SB R...		File Name	Signalized Capacity Group 1 (10 & 240) - 2050 N...											
Project Description	2050 No Build w Imp														
Demand Information				EB			WB			NB			SB		
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h							150	1	920	20	470		1	650	80
Signal Information															
Cycle, s	83.7	Reference Phase	2												
Offset, s	41	Reference Point	End	Green	15.0	29.2	22.0	0.0	0.0	0.0					
Uncoordinated	Yes	Simult. Gap E/W	On	Yellow	4.0	5.0	4.5	0.0	0.0	0.0					
Force Mode	Fixed	Simult. Gap N/S	On	Red	2.0	1.0	1.0	0.0	0.0	0.0					
Traffic Information				EB			WB			NB			SB		
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h							150	1	920	20	470		1	650	80
Initial Queue (Q _b), veh/h							0	0	0	0	0		0	0	0
Base Saturation Flow Rate (s ₀), veh/h							1900	1750	1750	1900	1750		1750	1750	1900
Parking (N _m), man/h							None			None			None		
Heavy Vehicles (P _{HV}), %								3	4		3		0	6	
Ped / Bike / RTOR, /h				0	0		0	0	0	0	0		0	0	0
Buses (N _b), buses/h							0	0	0	0	0	0	0	0	0
Arrival Type (AT)							3	3	3	3	3		3	3	3
Upstream Filtering (I)							1.00	1.00	1.00	0.91	0.91		1.00	1.00	1.00
Lane Width (W), ft								12.0	12.0		12.0		12.0	12.0	
Turn Bay Length, ft								0	280		0		0	0	
Grade (P _g), %					0			0			0		0		
Speed Limit, mi/h							45	45	45	45	45		45	45	45
Phase Information				EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT				
Maximum Green (G _{max}) or Phase Split, s							22.0		41.0	15.0	56.0				
Yellow Change Interval (Y), s							4.5		5.0	4.0	5.0				
Red Clearance Interval (R _c), s							1.0		1.0	2.0	1.0				
Minimum Green (G _{min}), s							12		24	6	24				
Start-Up Lost Time (l _t), s						2.0	2.0	2.0	2.0	2.0	2.0				
Extension of Effective Green (e), s						2.0	2.0	2.0	2.0	2.0	2.0				
Passage (PT), s							2.0		2.0	2.0	2.0				
Recall Mode							Off		Min	Max	Min				
Dual Entry							Yes		Yes	No	Yes				
Walk (Walk), s					0.0		0.0		0.0						
Pedestrian Clearance Time (PC), s					0.0		0.0		0.0						
Multimodal Information				EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius				0.0	No	25.0	0.0	No	25.0	0.0	No	25.0			
Walkway / Crosswalk Width / Length, ft				9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0			
Street Width / Island / Curb, ft					0		0.0	0	No	0.0	0	No	0.0		No
Width Outside / Bike Lane / Shoulder, ft							12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking				No			No	0.50		No	0.50			0.50	

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Feb 8, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.97
Urban Street	SR 94-Ridge Rd	Analysis Year	2050	Analysis Period	1 > 4:45
Intersection	(240) SR 94-I-271 SB R...	File Name	Signalized Capacity Group 1 (10 & 240) - 2050 N...		
Project Description	2050 No Build w Imp				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h				150	1	920	20	470		1	650	80

Signal Information															
Cycle, s	83.7	Reference Phase	2												
Offset, s	41	Reference Point	End												
Uncoordinated	Yes	Simult. Gap E/W	On	Green	15.0	29.2	22.0	0.0	0.0	0.0					
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	4.0	5.0	4.5	0.0	0.0	0.0					
				Red	2.0	1.0	1.0	0.0	0.0	0.0					

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				8		2	1	6
Case Number				11.0		8.3	2.0	4.0
Phase Duration, s				27.5		35.2	21.0	56.2
Change Period, (Y+R _c), s				5.5		6.0	6.0	6.0
Max Allow Headway (MAH), s				3.3		3.0	3.0	3.0
Queue Clearance Time (g _s), s				24.0		26.7	2.0	30.5
Green Extension Time (g _e), s				0.0		2.4	0.0	2.6
Phase Call Probability				1.00		1.00	1.00	1.00
Max Out Probability				1.00		0.05	0.00	0.00

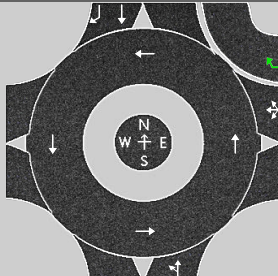
Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement				3	8	18	5	2		1	6	16
Adjusted Flow Rate (v), veh/h				156	948		522			1	753	
Adjusted Saturation Flow Rate (s), veh/h/ln				1628	1272		1663			1667	1636	
Queue Service Time (g _s), s				6.5	22.0		9.9			0.0	28.5	
Cycle Queue Clearance Time (g _c), s				6.5	22.0		24.7			0.0	28.5	
Green Ratio (g/C)				0.26	0.44		0.35			0.18	0.60	
Capacity (c), veh/h				428	1124		625			299	981	
Volume-to-Capacity Ratio (X)				0.364	0.844		0.835			0.003	0.767	
Back of Queue (Q), ft/ln (95 th percentile)				109	326		363			1	356	
Back of Queue (Q), veh/ln (95 th percentile)				4.2	12.6		14.2			0.0	13.6	
Queue Storage Ratio (RQ) (95 th percentile)				0.00	1.16		0.00			0.00	0.00	
Uniform Delay (d ₁), s/veh				25.1	20.8		25.6			28.2	12.4	
Incremental Delay (d ₂), s/veh				0.2	5.7		3.6			0.0	2.5	
Initial Queue Delay (d ₃), s/veh				0.0	0.0		0.0			0.0	0.0	
Control Delay (d), s/veh				25.3	26.5		29.3			28.2	14.9	
Level of Service (LOS)					C	C		C		C	B	
Approach Delay, s/veh / LOS	0.0			26.3		C	29.3		C	14.9		B
Intersection Delay, s/veh / LOS				23.4						C		

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.72	B	2.14	B	2.10	B	1.36	A
Bicycle LOS Score / LOS			2.31	B	1.32	A	1.73	B

HCS Roundabouts Report

General Information

Site Information

Analyst	TJS		Intersection	(240) SR 94 & I-271 SB Ramps
Agency or Co.	Smart Services, Inc		E/W Street Name	I-271 SB Ramps
Date Performed	2/08/2024		N/S Street Name	SR 94
Analysis Year	2050		Analysis Time Period, hrs	0.25
Time Analyzed	No Build - AM Peak		Peak Hour Factor	0.95
Project Description			Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	1
Lane Assignment					LTR				LT				T		R	
Volume (V), veh/h					0	70	0	260	0	20	300		0		1060	100
Percent Heavy Vehicles, %					8	8	8	8	7	7	7		3		3	3
Flow Rate (v _{PCE}), pc/h					0	80	0	296	0	23	338		0		1149	108
Right-Turn Bypass	None				Non-Yielding				None				None			
Conflicting Lanes					1				1				1			
Pedestrians Crossing, p/h					0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s					4.9763			4.9763		4.5436	4.5436	
Follow-Up Headway, s					2.6087			2.6087		2.5352	2.5352	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h					80	296		361		1149	108	
Entry Volume, veh/h					74	274		337		1116	105	
Circulating Flow (v _c), pc/h	1229			361			0			103		
Exiting Flow (v _{ex}), pc/h	0			131			338			1229		
Capacity (C _{PCE}), pc/h					955			1380		1293	1293	
Capacity (C), veh/h					884			1290		1255	1255	
v/c Ratio (x)					0.08			0.26		0.89	0.08	

Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh					4.9			5.1		24.4	3.5	
Lane LOS					A	A		A		C	A	
95% Queue Length, Q ₉₅ (veh)					0.3			1.1		13.5	0.3	
95% Queue Length, Q ₉₅ (ft)					8.0			27.5		345.6	7.7	
Approach Delay, s/veh LOS				1.0	A		5.1	A		22.6	C	
Intersection Delay, s/veh LOS	15.6						C					

HCS Roundabouts Report

General Information

Site Information

Analyst	TJS		Intersection	(240) SR 94 & I-271 SB Ramps
Agency or Co.	Smart Services, Inc		E/W Street Name	I-271 SB Ramps
Date Performed	2/08/2024		N/S Street Name	SR 94
Analysis Year	2050		Analysis Time Period, hrs	0.25
Time Analyzed	No Build - PM Peak		Peak Hour Factor	0.97
Project Description			Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	1
Lane Assignment							LTR				LT			T		R
Volume (V), veh/h					0	150	0	920	0	20	470		0		650	80
Percent Heavy Vehicles, %					3	3	3	3	1	1	1		6		6	6
Flow Rate (v _{PCE}), pc/h					0	159	0	977	0	21	489		0		710	87
Right-Turn Bypass	None				Non-Yielding				None				None			
Conflicting Lanes					1				1				1			
Pedestrians Crossing, p/h					0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s					4.9763			4.9763		4.5436	4.5436	
Follow-Up Headway, s					2.6087			2.6087		2.5352	2.5352	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h					159	977		510		710	87	
Entry Volume, veh/h					154	949		505		670	82	
Circulating Flow (v _c), pc/h	869			510			0			180		
Exiting Flow (v _{ex}), pc/h	0			108			489			869		
Capacity (C _{PCE}), pc/h					820			1380		1205	1205	
Capacity (c), veh/h					796			1366		1137	1137	
v/c Ratio (x)					0.19			0.37		0.59	0.07	

Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh					6.6			6.0		10.5	3.8	
Lane LOS					A	A		A		B	A	
95% Queue Length, Q ₉₅ (veh)					0.7			1.7		4.0	0.2	
95% Queue Length, Q ₉₅ (ft)					17.9			42.5		104.8	5.2	
Approach Delay, s/veh LOS					0.9	A		6.0	A	9.8	A	
Intersection Delay, s/veh LOS	4.8						A					

HCS Roundabouts Report

General Information

Site Information

Analyst	TJS		Intersection	(240) SR 94 & I-271 SB Ramps
Agency or Co.	Smart Services, Inc		E/W Street Name	I-271 SB Ramps
Date Performed	3/04/2024		N/S Street Name	SR 94
Analysis Year	2050		Analysis Time Period, hrs	0.25
Time Analyzed	No Build-AM Peak (Alt C)		Peak Hour Factor	0.95
Project Description			Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0
Lane Assignment					LTR				LT				TR			
Volume (V), veh/h					0	100	0	230	0	40	260		0		840	80
Percent Heavy Vehicles, %					8	8	8	8	7	7	7		1		1	1
Flow Rate (v _{PCE}), pc/h					0	114	0	261	0	45	293		0		893	85
Right-Turn Bypass	None				Non-Yielding				None				None			
Conflicting Lanes					1				1				1			
Pedestrians Crossing, p/h					0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s					4.9763			4.9763			4.9763	
Follow-Up Headway, s					2.6087			2.6087			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h					114	261		338			978	
Entry Volume, veh/h					106	242		316			968	
Circulating Flow (v _c), pc/h	1007			338			0			159		
Exiting Flow (v _{ex}), pc/h	0			130			293			1007		
Capacity (c _{PCE}), pc/h					978			1380			1173	
Capacity (c), veh/h					905			1290			1162	
v/c Ratio (x)					0.12			0.24			0.83	

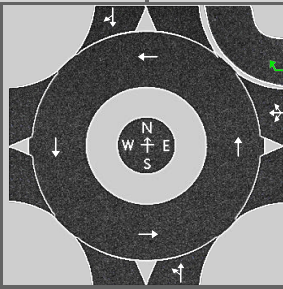
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh					5.1			4.9			20.5	
Lane LOS					A	A		A			C	
95% Queue Length, Q ₉₅ (veh)					0.4			1.0			10.5	
95% Queue Length, Q ₉₅ (ft)					10.6			25.0			264.6	
Approach Delay, s/veh LOS				1.5	A		4.9	A		20.5	C	
Intersection Delay, s/veh LOS	13.4						B					

HCS Roundabouts Report

General Information

Analyst	TJS
Agency or Co.	Smart Services, Inc
Date Performed	3/04/2024
Analysis Year	2050
Time Analyzed	No Build-PM Peak (Alt C)
Project Description	



Site Information

Intersection	(240) SR 94 & I-271 SB Ramps
E/W Street Name	I-271 SB Ramps
N/S Street Name	SR 94
Analysis Time Period, hrs	0.25
Peak Hour Factor	0.97
Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0
Lane Assignment					LTR				LT				TR			
Volume (V), veh/h					0	320	0	750	0	30	380		0		570	70
Percent Heavy Vehicles, %					3	3	3	3	0	0	0		6		6	6
Flow Rate (v _{PCE}), pc/h					0	340	0	796	0	31	392		0		623	76
Right-Turn Bypass	None				Non-Yielding				None				None			
Conflicting Lanes					1				1				1			
Pedestrians Crossing, p/h					0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s					4.9763			4.9763			4.9763	
Follow-Up Headway, s					2.6087			2.6087			2.6087	

Flow Computations, Capacity and v/c Ratios

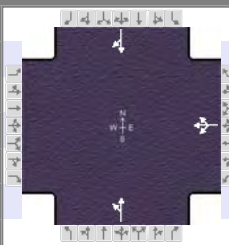
Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h					340	796		423			699	
Entry Volume, veh/h					330	773		423			659	
Circulating Flow (v _c), pc/h	963			423			0			371		
Exiting Flow (v _{ex}), pc/h	0			107			392			963		
Capacity (c _{pce}), pc/h					896			1380			945	
Capacity (c), veh/h					870			1380			892	
v/c Ratio (x)					0.38			0.31			0.74	

Delay and Level of Service

Approach	EB			WB			NB			SB			
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	
Lane Control Delay (d), s/veh					8.5			5.3			18.3		
Lane LOS					A	A		A			C		
95% Queue Length, Q ₉₅ (veh)					1.8			1.3			6.9		
95% Queue Length, Q ₉₅ (ft)					46.1			32.5			180.8		
Approach Delay, s/veh LOS				2.6	A			5.3	A			18.3	C
Intersection Delay, s/veh LOS	7.8						A						

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Jun 6, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.95
Urban Street	SR 94-Ridge Rd	Analysis Year	2050	Analysis Period	1 > 7:00
Intersection	(240) SR 94-I-271 SB R...	File Name	Signalized Capacity Group 1 (10 & 240) - 2050 B...		
Project Description	2050 Build				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				70	0	220	60	260			830	100

Signal Information																		
Cycle, s	97.6	Reference Phase	2															
Offset, s	0	Reference Point	End															
Uncoordinated	Yes	Simult. Gap E/W	On	Green	63.5	22.5	0.0	0.0	0.0	0.0	1		2		3		4	
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.0	4.5	0.0	0.0	0.0	0.0	5		6		7		8	
				Red	1.0	1.0	0.0	0.0	0.0	0.0								

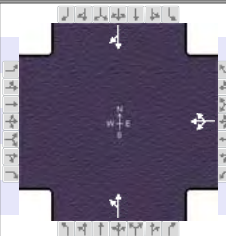
Traffic Information	EB			WB			NB			SB				
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R		
Demand (v), veh/h				70	0	220	60	260			830	100		
Initial Queue (Q _b), veh/h				0	0	0	0	0			0	0		
Base Saturation Flow Rate (s ₀), veh/h				1900	1750	1900	1900	1750			1750	1900		
Parking (N _m), man/h					None				None				None	
Heavy Vehicles (P _{HV}), %					8				7				3	
Ped / Bike / RTOR, /h	0	0		0	0	0	0	0		0	0	0		
Buses (N _b), buses/h				0	0	0	0	0	0	0	0	0		
Arrival Type (AT)				3	3	3	3	3			3	3		
Upstream Filtering (I)				1.00	1.00	1.00	0.98	0.98			1.00	1.00		
Lane Width (W), ft					12.0				12.0				12.0	
Turn Bay Length, ft					0				0				0	
Grade (P _g), %		0			0				0				0	
Speed Limit, mi/h				45	45	45	45	45			45	45		

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s				24.5		64.0		64.0
Yellow Change Interval (Y), s				4.5		5.0		5.0
Red Clearance Interval (R _c), s				1.0		1.0		1.0
Minimum Green (G _{min}), s				12		24		24
Start-Up Lost Time (l _t), s			2.0	2.0	2.0	2.0		2.0
Extension of Effective Green (e), s			2.0	2.0	2.0	2.0		2.0
Passage (PT), s				2.0		2.0		2.0
Recall Mode				Off		Min		Min
Dual Entry				Yes		Yes		Yes
Walk (Walk), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (PC), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0			
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0			
Street Width / Island / Curb, ft		0		0.0	0	No	0.0	0	No	0.0		No
Width Outside / Bike Lane / Shoulder, ft				12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No			No			0.50			0.50		

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Jun 6, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.95
Urban Street	SR 94-Ridge Rd	Analysis Year	2050	Analysis Period	1 > 7:00
Intersection	(240) SR 94-I-271 SB R...	File Name	Signalized Capacity Group 1 (10 & 240) - 2050 B...		
Project Description	2050 Build				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h				70	0	220	60	260			830	100

Signal Information													
Cycle, s	97.6	Reference Phase	2										
Offset, s	0	Reference Point	End										
Uncoordinated	Yes	Simult. Gap E/W	On	Green	63.5	22.5	0.0	0.0	0.0	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.0	4.5	0.0	0.0	0.0	0.0			
				Red	1.0	1.0	0.0	0.0	0.0	0.0			

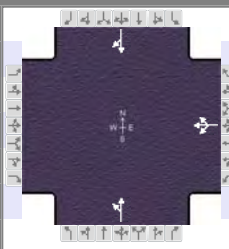
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				8		2		6
Case Number				12.0		8.0		8.0
Phase Duration, s				28.0		69.5		69.5
Change Period, ($Y+R_c$), s				5.5		6.0		6.0
Max Allow Headway (MAH), s				3.2		3.1		3.1
Queue Clearance Time (g_s), s				22.4		63.1		49.8
Green Extension Time (g_e), s				0.2		0.4		2.9
Phase Call Probability				1.00		1.00		1.00
Max Out Probability				1.00		1.00		0.08

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement				3	8	18	5	2			6	16
Adjusted Flow Rate (v), veh/h					305			305				979
Adjusted Saturation Flow Rate (s), veh/h/ln					1428			524				1677
Queue Service Time (g_s), s					20.4			13.3				47.8
Cycle Queue Clearance Time (g_c), s					20.4			61.1				47.8
Green Ratio (g/C)					0.23			0.65				0.65
Capacity (c), veh/h					330			385				1092
Volume-to-Capacity Ratio (X)					0.925			0.793				0.897
Back of Queue (Q), ft/ln (95 th percentile)					377			189				601
Back of Queue (Q), veh/ln (95 th percentile)					14.2			7.2				23.5
Queue Storage Ratio (RQ) (95 th percentile)					0.00			0.00				0.00
Uniform Delay (d_1), s/veh					36.7			17.8				14.3
Incremental Delay (d_2), s/veh					27.1			9.5				9.5
Initial Queue Delay (d_3), s/veh					0.0			0.0				0.0
Control Delay (d), s/veh					63.7			27.3				23.8
Level of Service (LOS)					E			C				C
Approach Delay, s/veh / LOS	0.0			63.7	E		27.3	C		23.8		C
Intersection Delay, s/veh / LOS				32.1				C				

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.73	B	1.73	B	1.35	A	1.35	A
Bicycle LOS Score / LOS			0.99	A	1.04	A	2.10	B

HCS Signalized Intersection Input Data

General Information					Intersection Information			
Agency	Smart Services Inc.				Duration, h	0.250		
Analyst	TJS	Analysis Date	Aug 7, 2024		Area Type	Other		
Jurisdiction	ODOT	Time Period	PM Peak		PHF	0.97		
Urban Street	SR 94-Ridge Rd	Analysis Year	2050		Analysis Period	1 > 4:45		
Intersection	(240) SR 94-I-271 SB R...	File Name	Signalized Capacity Group 1 (10 & 240) - 2050 B...					
Project Description	2050 Build							



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				150	0	880	70	420			550	80

Signal Information				Phase Diagram								
Cycle, s	120.0	Reference Phase	2									
Offset, s	13	Reference Point	End									
Uncoordinated	Yes	Simult. Gap E/W	On									
Force Mode	Fixed	Simult. Gap N/S	On									
		Green	48.5	60.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Yellow	5.0	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Red	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

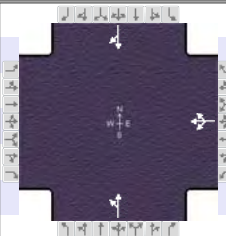
Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				150	0	880	70	420			550	80
Initial Queue (Q _b), veh/h				0	0	0	0	0			0	0
Base Saturation Flow Rate (s ₀), veh/h				1900	1750	1900	1900	1750			1750	1900
Parking (N _m), man/h					None				None			
Heavy Vehicles (P _{HV}), %					3				1			
Ped / Bike / RTOR, /h	0	0		0	0	0	0	0		0	0	0
Buses (N _b), buses/h				0	0	0	0	0	0	0	0	0
Arrival Type (AT)				3	3	3	3	3			3	3
Upstream Filtering (I)				1.00	1.00	1.00	0.91	0.91			1.00	1.00
Lane Width (W), ft					12.0				12.0			
Turn Bay Length, ft					0				0			
Grade (P _g), %		0			0				0			
Speed Limit, mi/h				45	45	45	45	45			45	45

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s				60.0		48.5		48.5
Yellow Change Interval (Y), s				4.5		5.0		5.0
Red Clearance Interval (R _c), s				1.0		1.0		1.0
Minimum Green (G _{min}), s				12		24		24
Start-Up Lost Time (l _t), s			2.0	2.0	2.0	2.0		2.0
Extension of Effective Green (e), s			2.0	2.0	2.0	2.0		2.0
Passage (PT), s				2.0		2.0		2.0
Recall Mode				Off		Min		Min
Dual Entry				Yes		Yes		Yes
Walk (Walk), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (PC), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0			
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0			
Street Width / Island / Curb, ft		0		0.0	0	No	0.0	0	No	0.0		No
Width Outside / Bike Lane / Shoulder, ft				12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No			No	0.50		No	0.50				0.50

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Aug 7, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.97
Urban Street	SR 94-Ridge Rd	Analysis Year	2050	Analysis Period	1 > 4:45
Intersection	(240) SR 94-I-271 SB R...	File Name	Signalized Capacity Group 1 (10 & 240) - 2050 B...		
Project Description	2050 Build				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				150	0	880	70	420			550	80

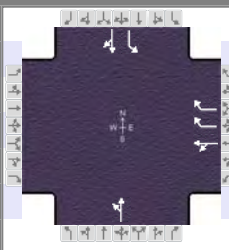
Signal Information												
Cycle, s	120.0	Reference Phase	2									
Offset, s	13	Reference Point	End									
Uncoordinated	Yes	Simult. Gap E/W	On	Green	48.5	60.0	0.0	0.0	0.0	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.0	4.5	0.0	0.0	0.0	0.0		
				Red	1.0	1.0	0.0	0.0	0.0	0.0		

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				8		2		6
Case Number				12.0		8.0		8.0
Phase Duration, s				65.5		54.5		54.5
Change Period, (Y+R _c), s				5.5		6.0		6.0
Max Allow Headway (MAH), s				3.3		3.1		3.1
Queue Clearance Time (g _s), s				62.0		50.5		49.3
Green Extension Time (g _e), s				0.0		0.0		0.0
Phase Call Probability				1.00		1.00		1.00
Max Out Probability				1.00		1.00		1.00

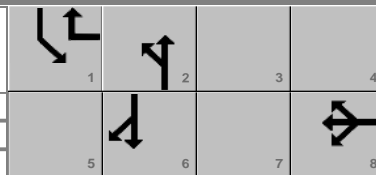
Movement Group Results	EB			WB			NB			SB				
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R		
Assigned Movement				3	8	18	5	2			6	16		
Adjusted Flow Rate (v), veh/h				1062			522			649				
Adjusted Saturation Flow Rate (s), veh/h/ln				1472			343			1631				
Queue Service Time (g _s), s				60.0			1.2			47.3				
Cycle Queue Clearance Time (g _c), s				60.0			48.5			47.3				
Green Ratio (g/C)				0.50			0.40			0.40				
Capacity (c), veh/h				736			173			659				
Volume-to-Capacity Ratio (X)				1.443			3.021			0.985				
Back of Queue (Q), ft/ln (95 th percentile)				2404			2068			818				
Back of Queue (Q), veh/ln (95 th percentile)				93.9			82.1			31.2				
Queue Storage Ratio (RQ) (95 th percentile)				0.00			0.00			0.00				
Uniform Delay (d ₁), s/veh				30.0			34.2			35.4				
Incremental Delay (d ₂), s/veh				206.9			923.3			31.2				
Initial Queue Delay (d ₃), s/veh				0.0			0.0			0.0				
Control Delay (d), s/veh				236.9			957.6			66.6				
Level of Service (LOS)				F			F			E				
Approach Delay, s/veh / LOS	0.0			236.9			F	957.6			F	66.6		E
Intersection Delay, s/veh / LOS	355.8						F							

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.74	B	1.74	B	1.40	A	1.40	A
Bicycle LOS Score / LOS			2.24	B	1.32	A	1.56	B

HCS Signalized Intersection Input Data

General Information				Intersection Information		
Agency	Smart Services Inc.			Duration, h	0.250	
Analyst	TJS	Analysis Date	Jun 27, 2024	Area Type	Other	
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.95	
Urban Street	SR 94-Ridge Rd	Analysis Year	2050	Analysis Period	1 > 7:00	
Intersection	(240) SR 94-I-271 SB R...	File Name	Signalized Capacity Group 1 (10 & 240) - 2050 B...			
Project Description	2050 Build Alt A					

Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				70	0	220	60	260		1	830	100

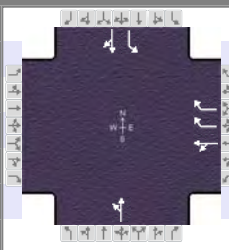
Signal Information															
Cycle, s	66.1	Reference Phase	2												
Offset, s	0	Reference Point	End	Green	12.0	24.7	12.0	0.0	0.0	0.0					
Uncoordinated	Yes	Simult. Gap E/W	On	Yellow	4.0	5.0	4.5	0.0	0.0	0.0					
Force Mode	Fixed	Simult. Gap N/S	On	Red	2.0	1.0	1.0	0.0	0.0	0.0					

Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				70	0	220	60	260		1	830	100
Initial Queue (Q _b), veh/h				0	0	0	0	0		0	0	0
Base Saturation Flow Rate (s ₀), veh/h				1750	1750	1750	1750	1750		1750	1750	1750
Parking (N _m), man/h					None				None			
Heavy Vehicles (P _{HV}), %					8	8		7		3	3	
Ped / Bike / RTOR, /h	0	0		0	0	0	0	0		0	0	0
Buses (N _b), buses/h				0	0	0	0	0	0	0	0	0
Arrival Type (AT)				3	3	3	3	3		3	3	3
Upstream Filtering (I)				1.00	1.00	1.00	0.96	0.96		1.00	1.00	1.00
Lane Width (W), ft					12.0	12.0		12.0		12.0	12.0	
Turn Bay Length, ft					0	560		0		0	0	
Grade (P _g), %		0			0			0		0		
Speed Limit, mi/h				45	45	45	45	45		45	45	45

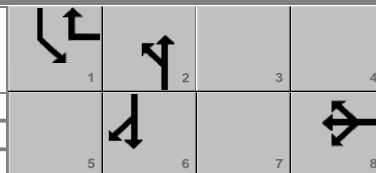
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s				20.0		67.0	12.0	79.0
Yellow Change Interval (Y), s				4.5		5.0	4.0	5.0
Red Clearance Interval (R _c), s				1.0		1.0	2.0	1.0
Minimum Green (G _{min}), s				12		24	6	24
Start-Up Lost Time (l _t), s			2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (e), s			2.0	2.0	2.0	2.0	2.0	2.0
Passage (PT), s				2.0		2.0	2.0	2.0
Recall Mode				Off		Min	Max	Min
Dual Entry				Yes		Yes	No	Yes
Walk (Walk), s		0.0		0.0		0.0		
Pedestrian Clearance Time (PC), s		0.0		0.0		0.0		

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0			
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0			
Street Width / Island / Curb, ft		0		0.0	0	No	0.0	0	No	0.0		No
Width Outside / Bike Lane / Shoulder, ft				12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No			No	0.50		No	0.50				0.50

HCS Signalized Intersection Results Summary

General Information				Intersection Information		
Agency	Smart Services Inc.			Duration, h	0.250	
Analyst	TJS	Analysis Date	Jun 27, 2024	Area Type	Other	
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.95	
Urban Street	SR 94-Ridge Rd	Analysis Year	2050	Analysis Period	1 > 7:00	
Intersection	(240) SR 94-I-271 SB R...	File Name	Signalized Capacity Group 1 (10 & 240) - 2050 B...			
Project Description	2050 Build Alt A					

Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				70	0	220	60	260		1	830	100

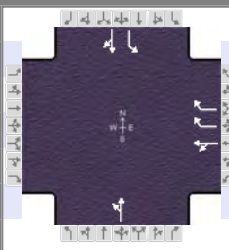
Signal Information															
Cycle, s	66.1	Reference Phase	2												
Offset, s	0	Reference Point	End	Green	12.0	24.7	12.0	0.0	0.0	0.0					
Uncoordinated	Yes	Simult. Gap E/W	On	Yellow	4.0	5.0	4.5	0.0	0.0	0.0					
Force Mode	Fixed	Simult. Gap N/S	On	Red	2.0	1.0	1.0	0.0	0.0	0.0					

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				8		2	1	6
Case Number				11.0		8.3	2.0	4.0
Phase Duration, s				17.5		30.7	18.0	48.7
Change Period, ($Y+R_c$), s				5.5		6.0	6.0	6.0
Max Allow Headway (MAH), s				3.2		3.1	3.0	3.1
Queue Clearance Time (g_s), s				6.4		21.5	2.0	34.9
Green Extension Time (g_e), s				0.6		3.3	0.0	3.3
Phase Call Probability				1.00		1.00	1.00	1.00
Max Out Probability				0.00		0.00	0.00	0.00

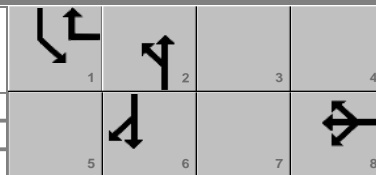
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement				3	8	18	5	2		1	6	16
Adjusted Flow Rate (v), veh/h				74	232		305			1	979	
Adjusted Saturation Flow Rate (s), veh/h/ln				1563	1231		1006			1628	1677	
Queue Service Time (g_s), s				2.7	4.4		4.5			0.0	32.9	
Cycle Queue Clearance Time (g_c), s				2.7	4.4		19.5			0.0	32.9	
Green Ratio (g/C)				0.18	0.36		0.37			0.18	0.65	
Capacity (c), veh/h				283	893		439			296	1081	
Volume-to-Capacity Ratio (X)				0.260	0.259		0.696			0.004	0.906	
Back of Queue (Q), ft/ln (95 th percentile)				43	50		146			1	302	
Back of Queue (Q), veh/ln (95 th percentile)				1.6	1.9		5.5			0.0	11.8	
Queue Storage Ratio (RQ) (95 th percentile)				0.00	0.09		0.00			0.00	0.00	
Uniform Delay (d_1), s/veh				23.2	14.8		17.4			22.1	10.0	
Incremental Delay (d_2), s/veh				0.2	0.1		0.7			0.0	1.2	
Initial Queue Delay (d_3), s/veh				0.0	0.0		0.0			0.0	0.0	
Control Delay (d), s/veh				23.4	14.8		18.1			22.1	11.3	
Level of Service (LOS)					C	B		B		C	B	
Approach Delay, s/veh / LOS	0.0			16.9		B	18.1		B	11.3		B
Intersection Delay, s/veh / LOS				13.7			B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.71	B	2.13	B	2.09	B	1.34	A
Bicycle LOS Score / LOS			0.99	A	1.04	A	2.10	B

HCS Signalized Intersection Input Data

General Information				Intersection Information		
Agency	Smart Services Inc.			Duration, h	0.250	
Analyst	TJS	Analysis Date	Aug 7, 2024	Area Type	Other	
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.97	
Urban Street	SR 94-Ridge Rd	Analysis Year	2050	Analysis Period	1 > 4:45	
Intersection	(240) SR 94-I-271 SB R...	File Name	Signalized Capacity Group 1 (10 & 240) - 2050 B...			
Project Description	2050 Build Alt A					

Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				150	0	880	70	420		1	550	80

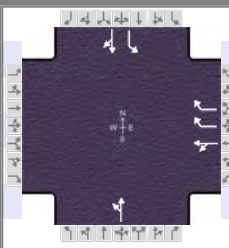
Signal Information															
Cycle, s	87.0	Reference Phase	2												
Offset, s	41	Reference Point	End	Green	15.0	32.5	22.0	0.0	0.0	0.0					
Uncoordinated	Yes	Simult. Gap E/W	On	Yellow	4.0	5.0	4.5	0.0	0.0	0.0					
Force Mode	Fixed	Simult. Gap N/S	On	Red	2.0	1.0	1.0	0.0	0.0	0.0					

Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				150	0	880	70	420		1	550	80
Initial Queue (Q _b), veh/h				0	0	0	0	0		0	0	0
Base Saturation Flow Rate (s ₀), veh/h				1750	1750	1750	1750	1750		1750	1750	1750
Parking (N _m), man/h					None				None			
Heavy Vehicles (P _{HV}), %					3	4		3		0	6	
Ped / Bike / RTOR, /h	0	0		0	0	0	0	0		0	0	0
Buses (N _b), buses/h				0	0	0	0	0	0	0	0	0
Arrival Type (AT)				3	3	3	3	3		3	3	3
Upstream Filtering (I)				1.00	1.00	1.00	0.87	0.87		1.00	1.00	1.00
Lane Width (W), ft					12.0	12.0		12.0		12.0	12.0	
Turn Bay Length, ft					0	280		0		0	0	
Grade (P _g), %		0			0			0		0		
Speed Limit, mi/h				45	45	45	45	45		45	45	45

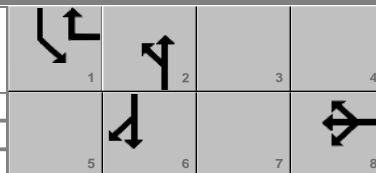
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s				22.0		41.0	15.0	56.0
Yellow Change Interval (Y), s				4.5		5.0	4.0	5.0
Red Clearance Interval (R _c), s				1.0		1.0	2.0	1.0
Minimum Green (G _{min}), s				12		24	6	24
Start-Up Lost Time (l _t), s			2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (e), s			2.0	2.0	2.0	2.0	2.0	2.0
Passage (PT), s				2.0		2.0	2.0	2.0
Recall Mode				Off		Min	Max	Min
Dual Entry				Yes		Yes	No	Yes
Walk (Walk), s		0.0		0.0		0.0		
Pedestrian Clearance Time (PC), s		0.0		0.0		0.0		

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0			
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0			
Street Width / Island / Curb, ft		0		0.0	0	No	0.0	0	No	0.0		No
Width Outside / Bike Lane / Shoulder, ft				12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No			No	0.50		No	0.50				0.50

HCS Signalized Intersection Results Summary

General Information				Intersection Information		
Agency	Smart Services Inc.			Duration, h	0.250	
Analyst	TJS	Analysis Date	Aug 7, 2024	Area Type	Other	
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.97	
Urban Street	SR 94-Ridge Rd	Analysis Year	2050	Analysis Period	1 > 4:45	
Intersection	(240) SR 94-I-271 SB R...	File Name	Signalized Capacity Group 1 (10 & 240) - 2050 B...			
Project Description	2050 Build Alt A					

Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				150	0	880	70	420		1	550	80

Signal Information															
Cycle, s	87.0	Reference Phase	2												
Offset, s	41	Reference Point	End	Green	15.0	32.5	22.0	0.0	0.0	0.0					
Uncoordinated	Yes	Simult. Gap E/W	On	Yellow	4.0	5.0	4.5	0.0	0.0	0.0					
Force Mode	Fixed	Simult. Gap N/S	On	Red	2.0	1.0	1.0	0.0	0.0	0.0					

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				8		2	1	6
Case Number				11.0		8.3	2.0	4.0
Phase Duration, s				27.5		38.5	21.0	59.5
Change Period, ($Y+R_c$), s				5.5		6.0	6.0	6.0
Max Allow Headway (MAH), s				3.3		3.1	3.0	3.1
Queue Clearance Time (g_s), s				24.0		30.4	2.0	24.2
Green Extension Time (g_e), s				0.0		2.1	0.0	2.5
Phase Call Probability				1.00		1.00	1.00	1.00
Max Out Probability				1.00		0.12	0.00	0.00

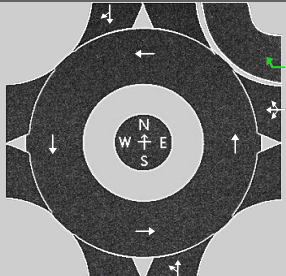
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement				3	8	18	5	2		1	6	16
Adjusted Flow Rate (v), veh/h				155	907		522			1	649	
Adjusted Saturation Flow Rate (s), veh/h/ln				1628	1272		1515			1667	1631	
Queue Service Time (g_s), s				6.8	22.0		21.0			0.0	22.2	
Cycle Queue Clearance Time (g_c), s				6.8	22.0		28.4			0.0	22.2	
Green Ratio (g/C)				0.25	0.43		0.37			0.17	0.62	
Capacity (c), veh/h				411	1081		614			287	1003	
Volume-to-Capacity Ratio (X)				0.376	0.839		0.850			0.004	0.647	
Back of Queue (Q), ft/ln (95 th percentile)				115	331		382			1	279	
Back of Queue (Q), veh/ln (95 th percentile)				4.5	12.8		14.9			0.0	10.7	
Queue Storage Ratio (RQ) (95 th percentile)				0.00	1.18		0.00			0.00	0.00	
Uniform Delay (d_1), s/veh				26.8	22.4		25.5			29.8	10.7	
Incremental Delay (d_2), s/veh				0.2	5.7		5.7			0.0	1.0	
Initial Queue Delay (d_3), s/veh				0.0	0.0		0.0			0.0	0.0	
Control Delay (d), s/veh				27.1	28.0		31.3			29.8	11.7	
Level of Service (LOS)					C	C		C		C	B	
Approach Delay, s/veh / LOS	0.0			27.9	C		31.3	C		11.7	B	
Intersection Delay, s/veh / LOS				24.0						C		

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.72	B	2.14	B	2.10	B	1.36	A
Bicycle LOS Score / LOS			2.24	B	1.32	A	1.56	B

HCS Roundabouts Report

General Information

Site Information

Analyst	TJS		Intersection	(240) SR 94 & I-271 SB Ramps
Agency or Co.	Smart Services, Inc		E/W Street Name	I-271 SB Ramps
Date Performed	6/6/2024		N/S Street Name	SR 94
Analysis Year	2050		Analysis Time Period, hrs	0.25
Time Analyzed	Build - AM Peak		Peak Hour Factor	0.95
Project Description			Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0
Lane Assignment					LTR				LT				TR			
Volume (V), veh/h					0	70	0	220	0	60	260		0		830	100
Percent Heavy Vehicles, %					8	8	8	8	7	7	7		3		3	3
Flow Rate (v _{PCE}), pc/h					0	80	0	250	0	68	293		0		900	108
Right-Turn Bypass	None				Non-Yielding				None				None			
Conflicting Lanes					1				1				1			
Pedestrians Crossing, p/h					0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s					4.9763			4.9763			4.9763	
Follow-Up Headway, s					2.6087			2.6087			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h					80	250		361			1008	
Entry Volume, veh/h					74	231		337			979	
Circulating Flow (v _c), pc/h	980			361			0			148		
Exiting Flow (v _{ex}), pc/h	0			176			293			980		
Capacity (C _{PCE}), pc/h					955			1380			1187	
Capacity (c), veh/h					884			1290			1152	
v/c Ratio (x)					0.08			0.26			0.85	

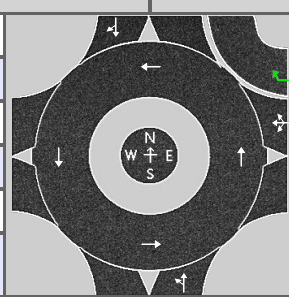
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh					4.9			5.1			21.9	
Lane LOS					A	A		A			C	
95% Queue Length, Q ₉₅ (veh)					0.3			1.1			11.2	
95% Queue Length, Q ₉₅ (ft)					8.0			27.5			286.7	
Approach Delay, s/veh LOS				1.2	A		5.1	A		21.9	C	
Intersection Delay, s/veh LOS	14.5						B					

HCS Roundabouts Report

General Information

Analyst	TJS
Agency or Co.	Smart Services, Inc
Date Performed	8/7/2024
Analysis Year	2050
Time Analyzed	Build - PM Peak
Project Description	



Site Information

Intersection	(240) SR 94 & I-271 SB Ramps
E/W Street Name	I-271 SB Ramps
N/S Street Name	SR 94
Analysis Time Period, hrs	0.25
Peak Hour Factor	0.97
Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0
Lane Assignment					LTR				LT				TR			
Volume (V), veh/h					0	150	0	880	0	70	420		0		550	80
Percent Heavy Vehicles, %					3	3	3	3	1	1	1		6		6	6
Flow Rate (v _{PCE}), pc/h					0	159	0	934	0	73	437		0		601	87
Right-Turn Bypass	None				Non-Yielding				None				None			
Conflicting Lanes					1				1				1			
Pedestrians Crossing, p/h					0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s					4.9763			4.9763			4.9763	
Follow-Up Headway, s					2.6087			2.6087			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h					159	934		510			688	
Entry Volume, veh/h					154	907		505			649	
Circulating Flow (v _c), pc/h	760			510			0			232		
Exiting Flow (v _{ex}), pc/h	0			160			437			760		
Capacity (C _{PCE}), pc/h					820			1380			1089	
Capacity (c), veh/h					796			1366			1028	
v/c Ratio (x)					0.19			0.37			0.63	

Delay and Level of Service

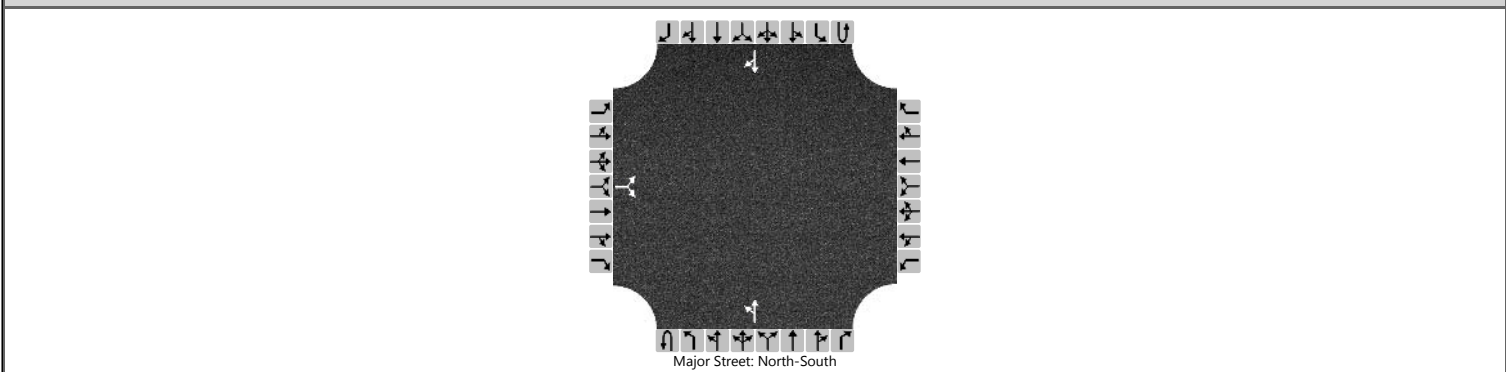
Approach	EB			WB			NB			SB			
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	
Lane Control Delay (d), s/veh					6.6			6.0			12.5		
Lane LOS					A	A		A			B		
95% Queue Length, Q ₉₅ (veh)					0.7			1.7			4.7		
95% Queue Length, Q ₉₅ (ft)					17.9			42.5			123.1		
Approach Delay, s/veh LOS				1.0	A			6.0	A			12.5	B
Intersection Delay, s/veh LOS	5.5						A						

250-SR 94 (Ridge Rd) & Remsen Rd (North)

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(250) Ridge Rd & Remsen Rd (North)		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	6/25/2024			East/West Street	Remsen Rd (North)		
Analysis Year	2030			North/South Street	SR 94 (Ridge Rd)		
Time Analyzed	No Build - AM Peak			Peak Hour Factor	0.92		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0		0	1	0		0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		10		230						70	450				850	10
Percent Heavy Vehicles (%)		2		2						7						
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.42		6.22						4.17						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.52		3.32						2.26						

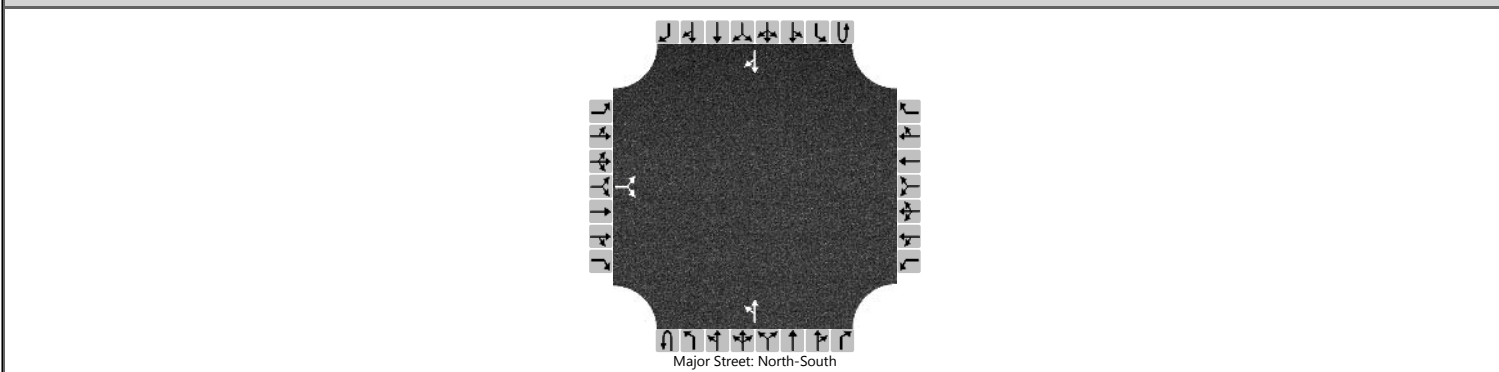
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			261							76						
Capacity, c (veh/h)			298							712						
v/c Ratio			0.88							0.11						
95% Queue Length, Q ₉₅ (veh)			7.8							0.4						
95% Queue Length, Q ₉₅ (ft)			198.1							10.6						
Control Delay (s/veh)			63.6							10.7	1.6					
Level of Service (LOS)			F							B	A					
Approach Delay (s/veh)	63.6								2.8							
Approach LOS	F								A							

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(250) Ridge Rd & Remsen Rd (North)		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	6/25/2024			East/West Street	Remsen Rd (North)		
Analysis Year	2030			North/South Street	SR 94 (Ridge Rd)		
Time Analyzed	No Build - PM Peak			Peak Hour Factor	0.95		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		20		100						260	1030				570	20
Percent Heavy Vehicles (%)		4		4						3						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.44		6.24						4.13						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.54		3.34						2.23						

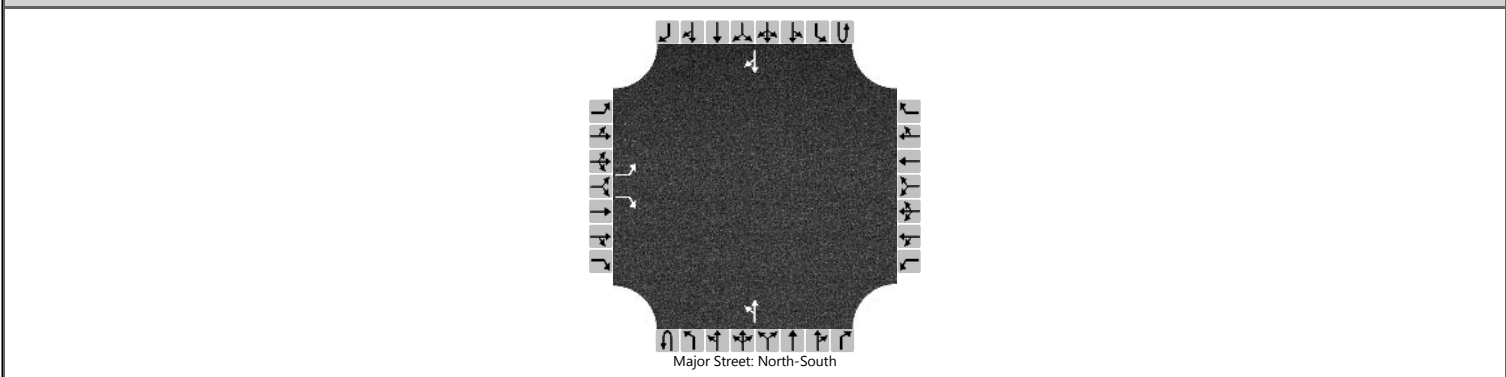
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			126							274						
Capacity, c (veh/h)			68							955						
v/c Ratio			1.87							0.29						
95% Queue Length, Q ₉₅ (veh)			11.5							1.2						
95% Queue Length, Q ₉₅ (ft)			296.7							30.7						
Control Delay (s/veh)			540.4							10.3	7.4					
Level of Service (LOS)			F							B	A					
Approach Delay (s/veh)		540.4								8.0						
Approach LOS		F								A						

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(250) Ridge Rd & Remsen Rd (North)		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	6/25/2024			East/West Street	Remsen Rd (North)		
Analysis Year	2030			North/South Street	SR 94 (Ridge Rd)		
Time Analyzed	No Build w EB RT- AM Peak			Peak Hour Factor	0.92		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		1	0	1		0	0	0	0	0	1	0	0	0	1	0
Configuration		L		R						LT						TR
Volume (veh/h)		10		230						70	450				850	10
Percent Heavy Vehicles (%)		2		2						7						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized		No														
Median Type Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.42		6.22						4.17						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.52		3.32						2.26						

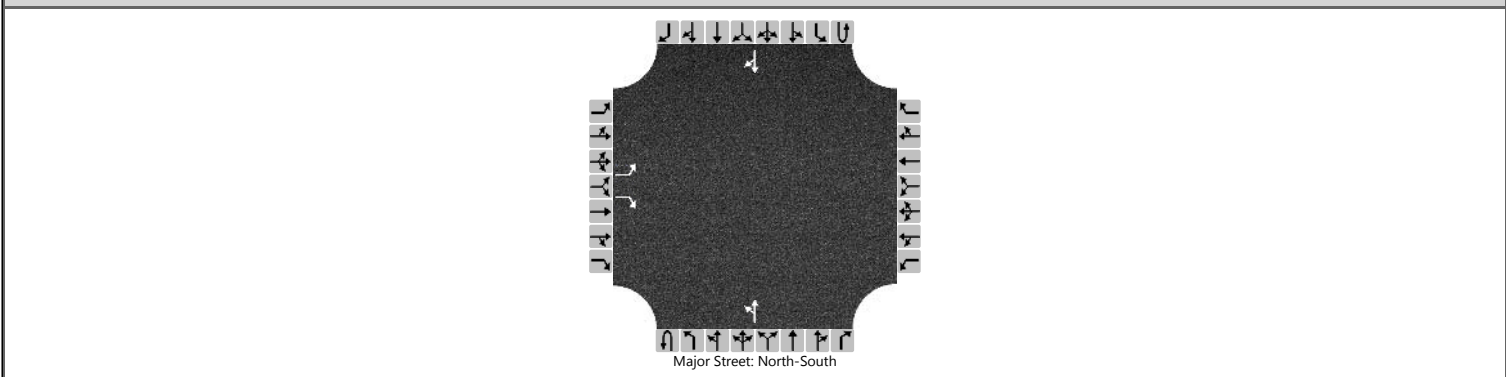
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		11		250						76						
Capacity, c (veh/h)		104		324						712						
v/c Ratio		0.10		0.77						0.11						
95% Queue Length, Q ₉₅ (veh)		0.3		6.1						0.4						
95% Queue Length, Q ₉₅ (ft)		7.6		154.9						10.6						
Control Delay (s/veh)		43.7		45.2						10.7	1.6					
Level of Service (LOS)		E		E						B	A					
Approach Delay (s/veh)		45.2								2.8						
Approach LOS		E								A						

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(250) Ridge Rd & Remsen Rd (North)		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	6/25/2024			East/West Street	Remsen Rd (North)		
Analysis Year	2030			North/South Street	SR 94 (Ridge Rd)		
Time Analyzed	No Build w EB RT- PM Peak			Peak Hour Factor	0.95		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6	
Number of Lanes		1	0	1		0	0	0	0	0	1	0	0	0	1	0	
Configuration		L		R						LT						TR	
Volume (veh/h)		20		100						260	1030				570	20	
Percent Heavy Vehicles (%)		4		4						3							
Proportion Time Blocked																	
Percent Grade (%)		0															
Right Turn Channelized		No															
Median Type Storage		Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.44		6.24						4.13						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.54		3.34						2.23						

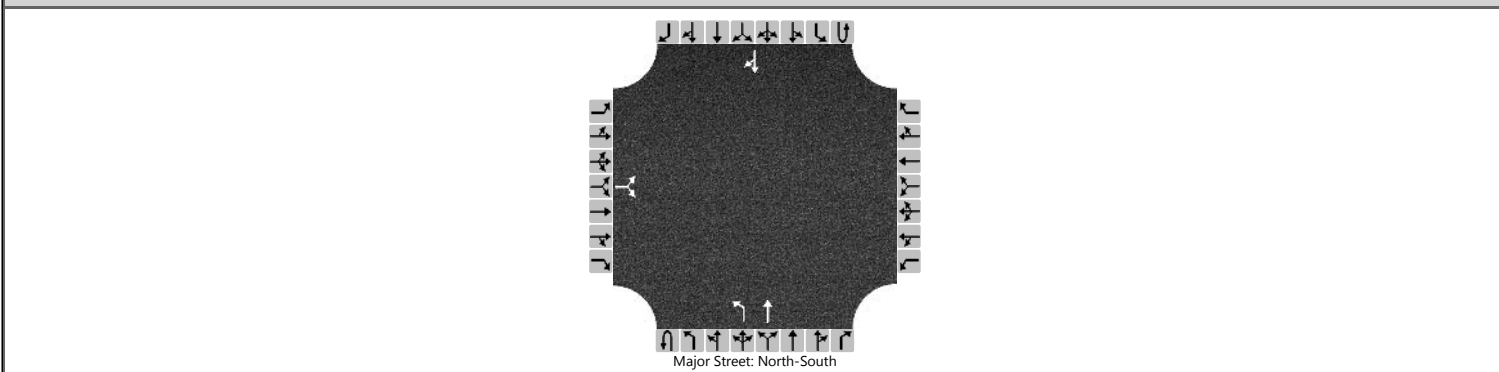
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		21		105						274							
Capacity, c (veh/h)		13		490						955							
v/c Ratio		1.65		0.21						0.29							
95% Queue Length, Q ₉₅ (veh)		3.4		0.8						1.2							
95% Queue Length, Q ₉₅ (ft)		87.7		20.6						30.7							
Control Delay (s/veh)		914.7		14.3						10.3	7.4						
Level of Service (LOS)		F		B						B	A						
Approach Delay (s/veh)		164.4								8.0							
Approach LOS		F								A							

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(250) Ridge Rd & Remsen Rd (North)		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	6/25/2024			East/West Street	Remsen Rd (North)		
Analysis Year	2030			North/South Street	SR 94 (Ridge Rd)		
Time Analyzed	No Build w NB LT-AM Peak			Peak Hour Factor	0.92		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	1	1	0	0	0	1	0
Configuration			LR							L	T					TR
Volume (veh/h)		10		230						70	450				850	10
Percent Heavy Vehicles (%)		2		2						7						
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.42		6.22						4.17						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.52		3.32						2.26						

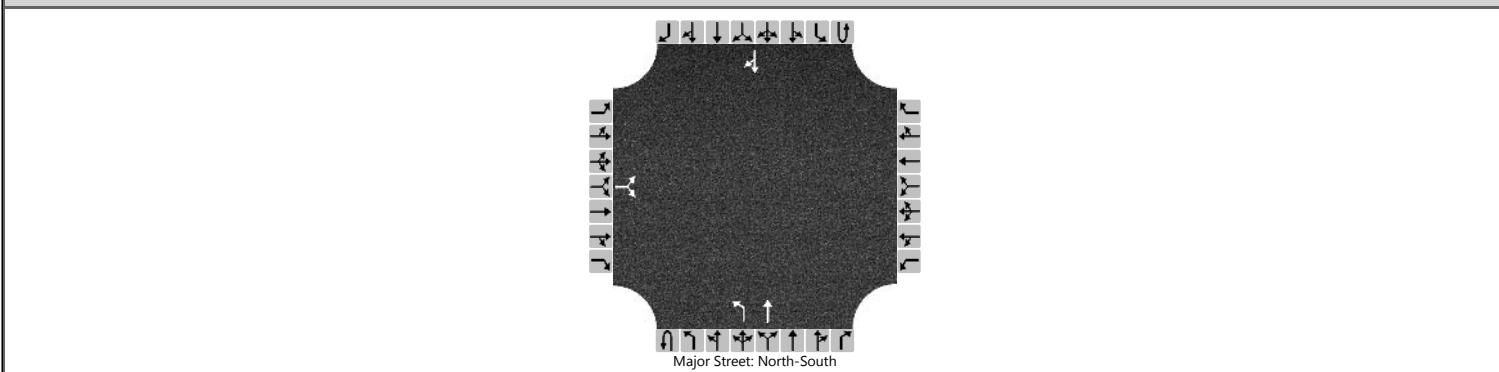
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			261							76						
Capacity, c (veh/h)			299							712						
v/c Ratio			0.87							0.11						
95% Queue Length, Q ₉₅ (veh)			7.8							0.4						
95% Queue Length, Q ₉₅ (ft)			198.1							10.6						
Control Delay (s/veh)			62.5							10.7						
Level of Service (LOS)			F							B						
Approach Delay (s/veh)	62.5								1.4							
Approach LOS	F								A							

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(250) Ridge Rd & Remsen Rd (North)		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	6/25/2024			East/West Street	Remsen Rd (North)		
Analysis Year	2030			North/South Street	SR 94 (Ridge Rd)		
Time Analyzed	No Build-PM Peak w NB LT			Peak Hour Factor	0.95		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound					
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R		
Movement																		
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6		
Number of Lanes		0	1	0		0	0	0		0	1	1	0		0	0	1	0
Configuration			LR							L	T						TR	
Volume (veh/h)		20		100						260	1030					570	20	
Percent Heavy Vehicles (%)		4		4						3								
Proportion Time Blocked																		
Percent Grade (%)	0																	
Right Turn Channelized																		
Median Type Storage	Undivided																	

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.44		6.24						4.13						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.54		3.34						2.23						

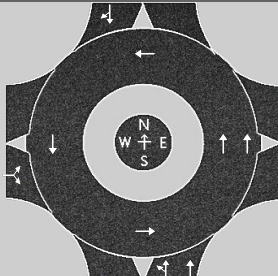
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			126							274						
Capacity, c (veh/h)			147							955						
v/c Ratio			0.86							0.29						
95% Queue Length, Q ₉₅ (veh)			5.7							1.2						
95% Queue Length, Q ₉₅ (ft)			147.1							30.7						
Control Delay (s/veh)			100.6							10.3						
Level of Service (LOS)			F							B						
Approach Delay (s/veh)	100.6								2.1							
Approach LOS	F								A							

HCS Roundabouts Report

General Information

Site Information

Analyst	TJS		Intersection	(250) SR 94 & Remsen Road...
Agency or Co.	Smart Services, Inc		E/W Street Name	Remsen Road (North)
Date Performed	6/27/2024		N/S Street Name	SR 94
Analysis Year	2030		Analysis Time Period, hrs	0.25
Time Analyzed	No Build Alt B - AM Peak		Peak Hour Factor	0.92
Project Description			Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Number of Lanes (N)	0	0	1	0	0	0	0	0	0	0	2	0	0	0	1	0
Lane Assignment			LR						LT		T					TR
Volume (V), veh/h	0	10		230					0	70	450		0		850	10
Percent Heavy Vehicles, %	2	2		2					7	7	7		5		5	5
Flow Rate (v _{PCE}), pc/h	0	11		255					0	81	523		0		970	11
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1								1				1			
Pedestrians Crossing, p/h	0								0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763					4.5436	4.5436			4.9763	
Follow-Up Headway, s		2.6087					2.5352	2.5352			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		266					284	320			981	
Entry Volume, veh/h		261					265	299			934	
Circulating Flow (v _c), pc/h	970			615			11			81		
Exiting Flow (v _{ex}), pc/h	0			92			534			1225		
Capacity (C _{PCE}), pc/h		513					1406	1406			1271	
Capacity (c), veh/h		503					1314	1314			1210	
v/c Ratio (x)		0.52					0.20	0.23			0.77	

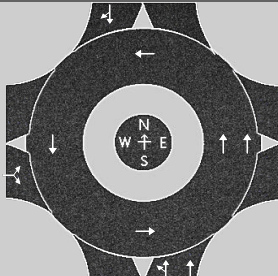
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		17.2					4.4	4.7			16.1	
Lane LOS		C					A	A			C	
95% Queue Length, Q ₉₅ (veh)		2.9					0.8	0.9			8.2	
95% Queue Length, Q ₉₅ (ft)		73.7					21.1	23.8			213.2	
Approach Delay, s/veh LOS	17.2		C				4.6		A	16.1		C
Intersection Delay, s/veh LOS	12.6						B					

HCS Roundabouts Report

General Information

Site Information

Analyst	TJS		Intersection	(250) SR 94 & Remsen Road...
Agency or Co.	Smart Services, Inc		E/W Street Name	Remsen Road (North)
Date Performed	6/27/2024		N/S Street Name	SR 94
Analysis Year	2030		Analysis Time Period, hrs	0.25
Time Analyzed	No Build Alt B - PM Peak		Peak Hour Factor	0.95
Project Description			Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Number of Lanes (N)	0	0	1	0	0	0	0	0	0	0	2	0	0	0	1	0
Lane Assignment			LR						LT	T					TR	
Volume (V), veh/h	0	20		100					0	260	1030		0		570	20
Percent Heavy Vehicles, %	4	4		4					3	3	3		6		6	6
Flow Rate (v _{PCE}), pc/h	0	22		109					0	282	1117		0		636	22
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1								1				1			
Pedestrians Crossing, p/h	0								0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763					4.5436	4.5436			4.9763	
Follow-Up Headway, s		2.6087					2.5352	2.5352			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		131					658	741			658	
Entry Volume, veh/h		126					638	720			621	
Circulating Flow (v _c), pc/h	636			1421			22			282		
Exiting Flow (v _{ex}), pc/h	0			304			1139			745		
Capacity (c _{PCE}), pc/h		721					1392	1392			1035	
Capacity (c), veh/h		694					1351	1351			976	
v/c Ratio (x)		0.18					0.47	0.53			0.64	

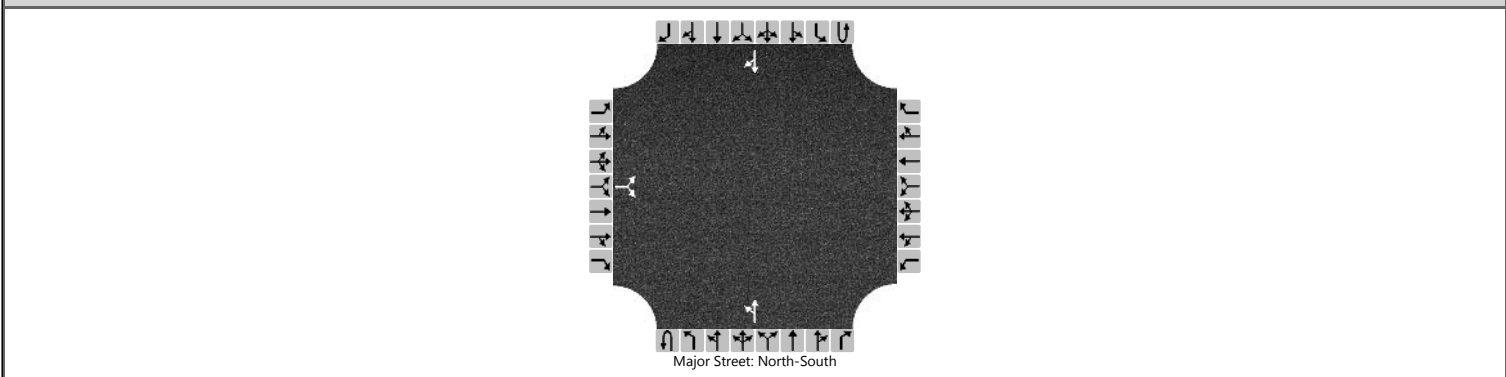
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		7.2					7.4	8.3			13.1	
Lane LOS		A					A	A			B	
95% Queue Length, Q ₉₅ (veh)		0.7					2.6	3.3			4.7	
95% Queue Length, Q ₉₅ (ft)		18.1					66.6	84.5			123.1	
Approach Delay, s/veh LOS	7.2		A				7.9		A	13.1		B
Intersection Delay, s/veh LOS	9.4						A					

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(250) Ridge Rd & Remsen Rd (North)		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	8/5/2024			East/West Street	Remsen Rd (North)		
Analysis Year	2030			North/South Street	SR 94 (Ridge Rd)		
Time Analyzed	Build - AM Peak			Peak Hour Factor	0.92		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0		0	1	0		0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		10		230						70	370				620	10
Percent Heavy Vehicles (%)		2		2						7						
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.42		6.22						4.17						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.52		3.32						2.26						

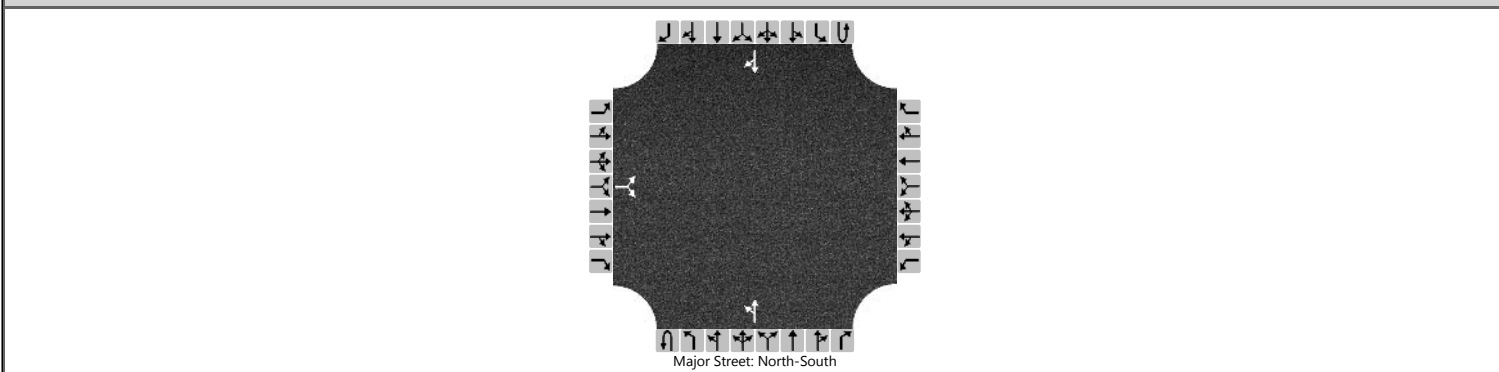
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			261							76						
Capacity, c (veh/h)			423							886						
v/c Ratio			0.62							0.09						
95% Queue Length, Q ₉₅ (veh)			4.0							0.3						
95% Queue Length, Q ₉₅ (ft)			101.6							7.9						
Control Delay (s/veh)			26.2							9.4	1.0					
Level of Service (LOS)			D							A	A					
Approach Delay (s/veh)	26.2								2.4							
Approach LOS	D								A							

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(250) Ridge Rd & Remsen Rd (North)		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	8/5/2024			East/West Street	Remsen Rd (North)		
Analysis Year	2030			North/South Street	SR 94 (Ridge Rd)		
Time Analyzed	Build - PM Peak			Peak Hour Factor	0.95		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		20		100						260	940				470	20
Percent Heavy Vehicles (%)		4		4						3						
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.44		6.24						4.13						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.54		3.34						2.23						

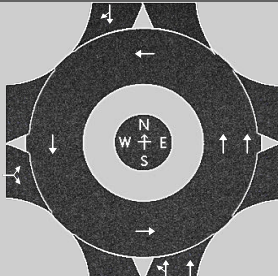
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			126							274						
Capacity, c (veh/h)			125							1045						
v/c Ratio			1.01							0.26						
95% Queue Length, Q ₉₅ (veh)			7.0							1.1						
95% Queue Length, Q ₉₅ (ft)			180.6							28.2						
Control Delay (s/veh)			150.5							9.7	5.6					
Level of Service (LOS)			F							A	A					
Approach Delay (s/veh)	150.5								6.5							
Approach LOS	F								A							

HCS Roundabouts Report

General Information

Site Information

Analyst	TJS		Intersection	(250) SR 94 & Remsen Road...
Agency or Co.	Smart Services, Inc		E/W Street Name	Remsen Road (North)
Date Performed	8/5/2024		N/S Street Name	SR 94
Analysis Year	2030		Analysis Time Period, hrs	0.25
Time Analyzed	Build Alt B- AM Peak		Peak Hour Factor	0.92
Project Description			Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	1	0	0	0	0	0	0	0	2	0	0	0	1	0
Lane Assignment	LR								LT		T		TR			
Volume (V), veh/h	0	10		230					0	70	370		0		620	10
Percent Heavy Vehicles, %	2	2		2					7	7	7		5		5	5
Flow Rate (v _{PCE}), pc/h	0	11		255					0	81	430		0		708	11
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1								1				1			
Pedestrians Crossing, p/h	0								0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763					4.5436	4.5436			4.9763	
Follow-Up Headway, s		2.6087					2.5352	2.5352			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		266					240	271			719	
Entry Volume, veh/h		261					224	253			685	
Circulating Flow (v _c), pc/h	708			522			11			81		
Exiting Flow (v _{ex}), pc/h	0			92			441			963		
Capacity (C _{PCE}), pc/h		670					1406	1406			1271	
Capacity (c), veh/h		657					1314	1314			1210	
v/c Ratio (x)		0.40					0.17	0.19			0.57	

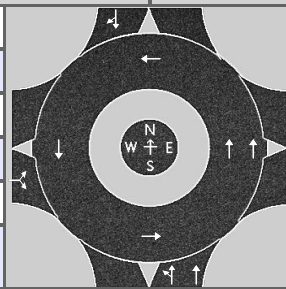
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		11.0					4.2	4.4			9.6	
Lane LOS		B					A	A			A	
95% Queue Length, Q ₉₅ (veh)		1.9					0.6	0.7			3.7	
95% Queue Length, Q ₉₅ (ft)		48.3					15.8	18.5			96.2	
Approach Delay, s/veh LOS	11.0		B				4.3		A	9.6		A
Intersection Delay, s/veh LOS	8.1						A					

HCS Roundabouts Report

General Information

Analyst	TJS
Agency or Co.	Smart Services, Inc
Date Performed	8/5/2024
Analysis Year	2030
Time Analyzed	Build - PM Peak
Project Description	



Site Information

Intersection	(250) SR 94 & Remsen Road...
E/W Street Name	Remsen Road (North)
N/S Street Name	SR 94
Analysis Time Period, hrs	0.25
Peak Hour Factor	0.95
Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Number of Lanes (N)	0	0	1	0	0	0	0	0	0	0	2	0	0	0	1	0
Lane Assignment			LR						LT	T					TR	
Volume (V), veh/h	0	20		100					0	260	940		0		470	20
Percent Heavy Vehicles, %	4	4		4					3	3	3		6		6	6
Flow Rate (v _{PCE}), pc/h	0	22		109					0	282	1019		0		524	22
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1								1				1			
Pedestrians Crossing, p/h	0								0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763					4.5436	4.5436			4.9763	
Follow-Up Headway, s		2.6087					2.5352	2.5352			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		131					611	690			546	
Entry Volume, veh/h		126					594	669			515	
Circulating Flow (v _c), pc/h	524			1323			22			282		
Exiting Flow (v _{ex}), pc/h	0			304			1041			633		
Capacity (C _{PCE}), pc/h		809					1392	1392			1035	
Capacity (c), veh/h		778					1351	1351			976	
v/c Ratio (x)		0.16					0.44	0.50			0.53	

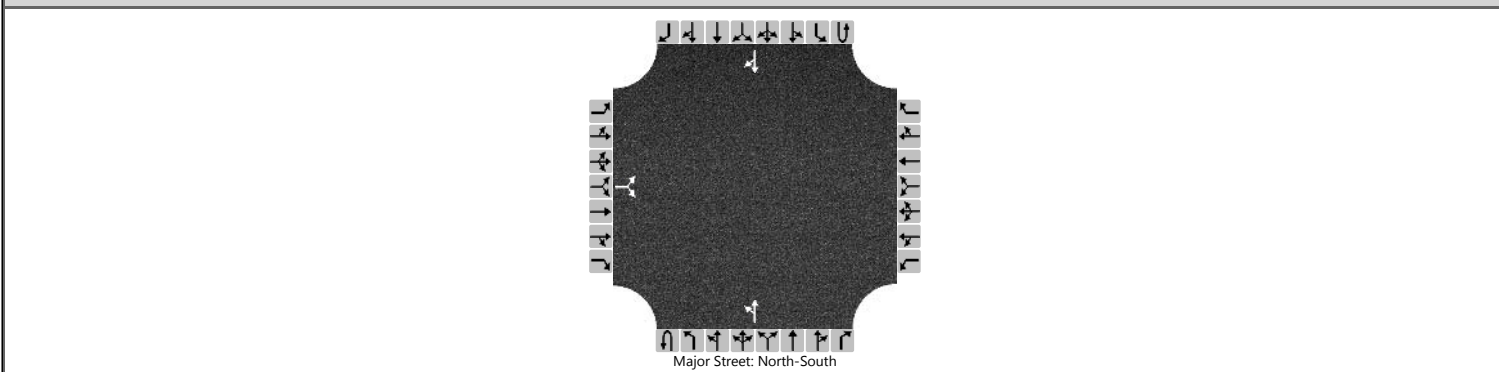
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		6.3					6.9	7.7			10.4	
Lane LOS		A					A	A			B	
95% Queue Length, Q ₉₅ (veh)		0.6					2.3	2.9			3.2	
95% Queue Length, Q ₉₅ (ft)		15.5					58.9	74.2			83.8	
Approach Delay, s/veh LOS	6.3		A				7.4		A	10.4		B
Intersection Delay, s/veh LOS	8.1						A					

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(250) Ridge Rd & Remsen Rd (North)		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	1/23/2024			East/West Street	Remsen Rd (North)		
Analysis Year	2050			North/South Street	SR 94 (Ridge Rd)		
Time Analyzed	No Build - AM Peak			Peak Hour Factor	0.92		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0		0	1	0		0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		10		250						80	480				910	10
Percent Heavy Vehicles (%)		2		2						7						
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.42		6.22						4.17						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.52		3.32						2.26						

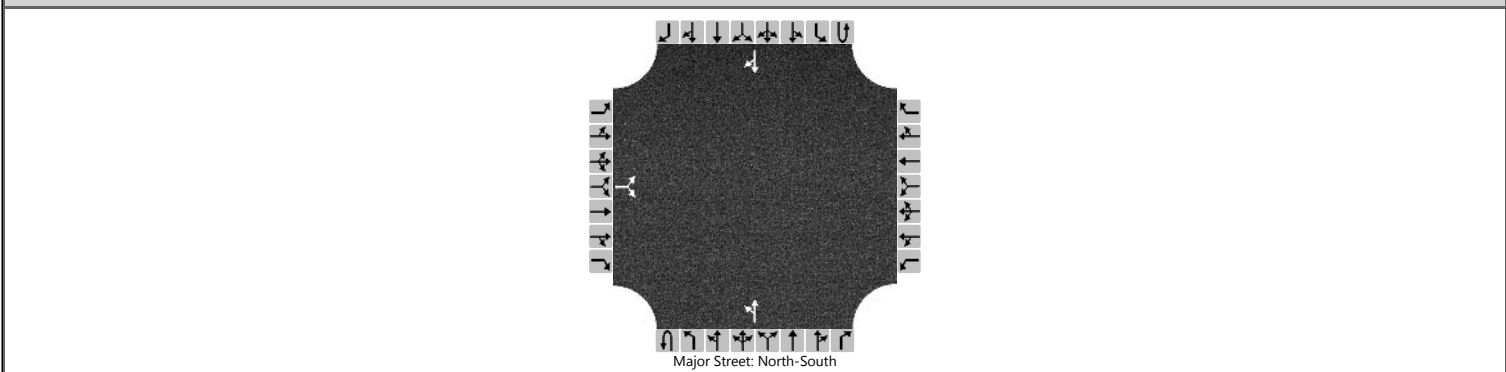
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			283							87						
Capacity, c (veh/h)			271							673						
v/c Ratio			1.04							0.13						
95% Queue Length, Q ₉₅ (veh)			11.1							0.4						
Control Delay (s/veh)			107.8							11.1	2.0					
Level of Service (LOS)			F							B	A					
Approach Delay (s/veh)	107.8								3.3							
Approach LOS	F								A							

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(250) Ridge Rd & Remsen Rd (North)		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	1/23/2024			East/West Street	Remsen Rd (North)		
Analysis Year	2050			North/South Street	SR 94 (Ridge Rd)		
Time Analyzed	No Build - PM Peak			Peak Hour Factor	0.95		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		20		110						280	1110				620	20
Percent Heavy Vehicles (%)		4		4						3						
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.44		6.24						4.13						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.54		3.34						2.23						

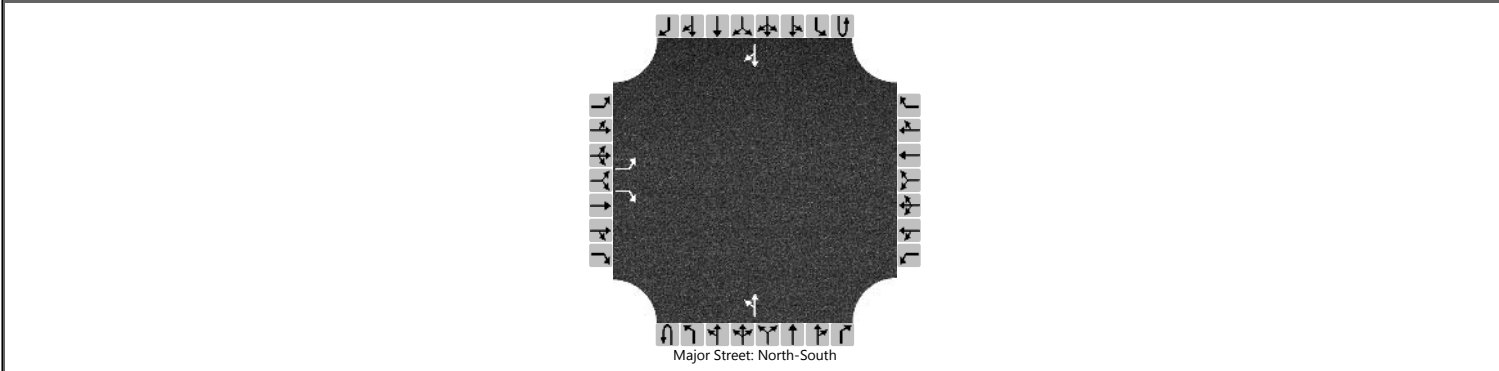
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			137							295						
Capacity, c (veh/h)			18							913						
v/c Ratio			7.79							0.32						
95% Queue Length, Q ₉₅ (veh)			17.8							1.4						
Control Delay (s/veh)			3485.0							10.8	10.0					
Level of Service (LOS)			F							B	A					
Approach Delay (s/veh)	3485.0								10.1							
Approach LOS	F								B							

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS	Intersection	(250) Ridge Rd & Remsen Rd (North)				
Agency/Co.	Smart Services Inc.	Jurisdiction	ODOT				
Date Performed	1/23/2024	East/West Street	Remsen Rd (North)				
Analysis Year	2050	North/South Street	SR 94 (Ridge Rd)				
Time Analyzed	No Build w EB RT- AM Peak	Peak Hour Factor	0.92				
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25				
Project Description	I-71 & I-271 Planning Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		1	0	1		0	0	0	0	0	1	0	0	0	1	0
Configuration		L		R						LT						TR
Volume (veh/h)		10		250						80	480				910	10
Percent Heavy Vehicles (%)		2		2						7						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized		No														
Median Type Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.42		6.22						4.17						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.52		3.32						2.26						

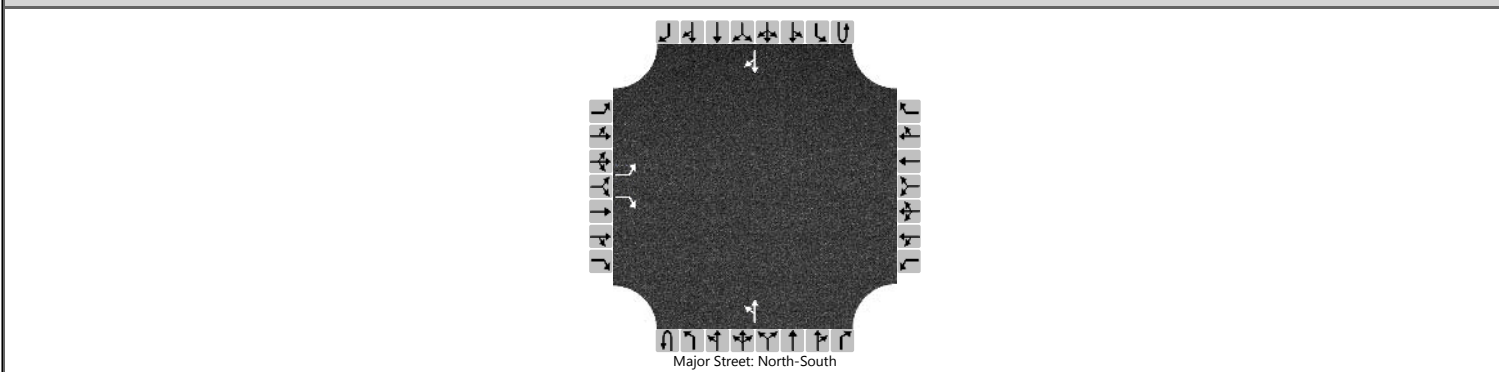
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		11		272						87							
Capacity, c (veh/h)		84		297						673							
v/c Ratio		0.13		0.91						0.13							
95% Queue Length, Q ₉₅ (veh)		0.4		8.6						0.4							
Control Delay (s/veh)		54.2		71.0						11.1	2.0						
Level of Service (LOS)		F		F						B	A						
Approach Delay (s/veh)		70.3								3.3							
Approach LOS		F								A							

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(250) Ridge Rd & Remsen Rd (North)		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	1/23/2024			East/West Street	Remsen Rd (North)		
Analysis Year	2050			North/South Street	SR 94 (Ridge Rd)		
Time Analyzed	No Build w EB RT- PM Peak			Peak Hour Factor	0.95		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		1	0	1		0	0	0	0	0	1	0	0	0	1	0
Configuration		L		R						LT						TR
Volume (veh/h)		20		110						280	1110				620	20
Percent Heavy Vehicles (%)		4		4						3						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized		No														
Median Type Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.44		6.24						4.13						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.54		3.34						2.23						

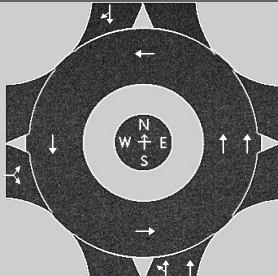
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		21		116						295						
Capacity, c (veh/h)		3		458						913						
v/c Ratio		7.54		0.25						0.32						
95% Queue Length, Q ₉₅ (veh)		4.2		1.0						1.4						
Control Delay (s/veh)		5321.1		15.5						10.8	10.0					
Level of Service (LOS)		F		C						B	A					
Approach Delay (s/veh)		831.8								10.1						
Approach LOS		F								B						

HCS Roundabouts Report

General Information

Site Information

Analyst	TJS		Intersection	(250) SR 94 & Remsen Road...
Agency or Co.	Smart Services, Inc		E/W Street Name	Remsen Road (North)
Date Performed	3/01/2024		N/S Street Name	SR 94
Analysis Year	2050		Analysis Time Period, hrs	0.25
Time Analyzed	No Build - AM Peak		Peak Hour Factor	0.92
Project Description			Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Number of Lanes (N)	0	0	1	0	0	0	0	0	0	0	2	0	0	0	1	0
Lane Assignment			LR						LT		T					TR
Volume (V), veh/h	0	10		250					0	80	480		0		910	10
Percent Heavy Vehicles, %	2	2		2					7	7	7		5		5	5
Flow Rate (v _{PCE}), pc/h	0	11		277					0	93	558		0		1039	11
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1								1				1			
Pedestrians Crossing, p/h	0								0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763					4.5436	4.5436			4.9763	
Follow-Up Headway, s		2.6087					2.5352	2.5352			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		288					306	345			1050	
Entry Volume, veh/h		282					286	322			1000	
Circulating Flow (v _c), pc/h	1039			662			11			93		
Exiting Flow (v _{ex}), pc/h	0			104			569			1316		
Capacity (C _{PCE}), pc/h		478					1406	1406			1255	
Capacity (c), veh/h		469					1314	1314			1195	
v/c Ratio (x)		0.60					0.22	0.25			0.84	

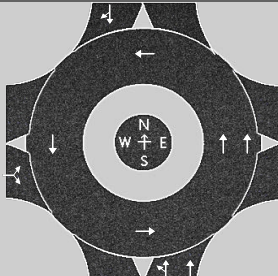
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		21.6					4.6	4.9			20.3	
Lane LOS		C					A	A			C	
95% Queue Length, Q ₉₅ (veh)		3.9					0.8	1.0			10.7	
95% Queue Length, Q ₉₅ (ft)		99.1					21.1	26.4			278.2	
Approach Delay, s/veh LOS	21.6		C				4.7		A	20.3		C
Intersection Delay, s/veh LOS	15.5						C					

HCS Roundabouts Report

General Information

Site Information

Analyst	TJS		Intersection	(250) SR 94 & Remsen Road...
Agency or Co.	Smart Services, Inc		E/W Street Name	Remsen Road (North)
Date Performed	3/01/2024		N/S Street Name	SR 94
Analysis Year	2050		Analysis Time Period, hrs	0.25
Time Analyzed	No Build - PM Peak		Peak Hour Factor	0.95
Project Description			Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	1	0	0	0	0	0	0	0	2	0	0	0	1	0
Lane Assignment	LR								LT		T		TR			
Volume (V), veh/h	0	20		110					0	280	1110		0		620	20
Percent Heavy Vehicles, %	4	4		4					3	3	3		6		6	6
Flow Rate (v _{PCE}), pc/h	0	22		120					0	304	1203		0		692	22
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1								1				1			
Pedestrians Crossing, p/h	0								0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763					4.5436	4.5436			4.9763	
Follow-Up Headway, s		2.6087					2.5352	2.5352			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		142					708	799			714	
Entry Volume, veh/h		137					688	775			674	
Circulating Flow (v _c), pc/h	692			1529			22			304		
Exiting Flow (v _{ex}), pc/h	0			326			1225			812		
Capacity (C _{PCE}), pc/h		681					1392	1392			1012	
Capacity (c), veh/h		655					1351	1351			955	
v/c Ratio (x)		0.21					0.51	0.57			0.71	

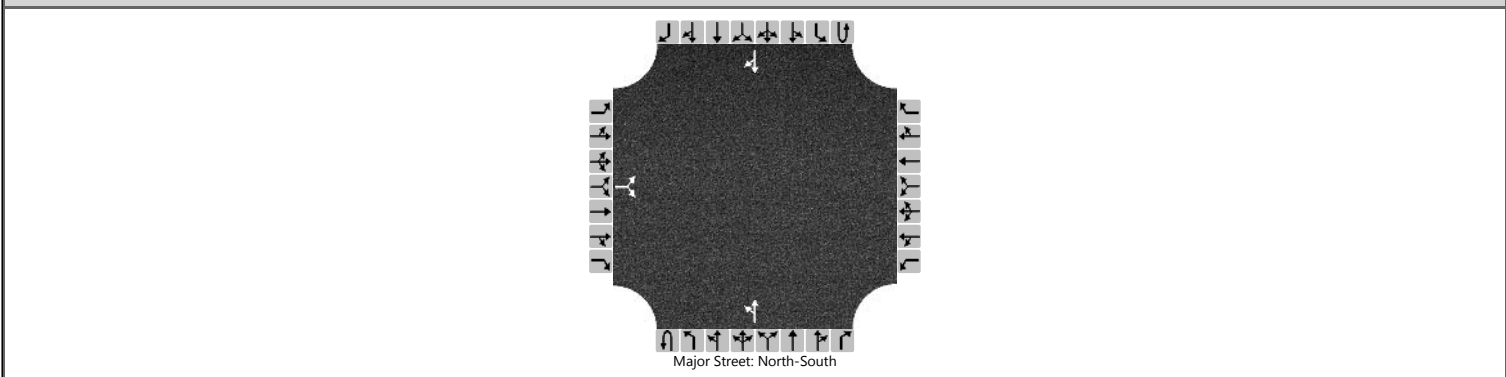
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		8.0					7.9	9.1			15.8	
Lane LOS		A					A	A			C	
95% Queue Length, Q ₉₅ (veh)		0.8					3.0	3.8			6.1	
95% Queue Length, Q ₉₅ (ft)		20.6					76.8	97.3			159.8	
Approach Delay, s/veh LOS	8.0		A				8.5		A	15.8		C
Intersection Delay, s/veh LOS	10.6						B					

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(250) Ridge Rd & Remsen Rd (North)		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	7/3/2024			East/West Street	Remsen Rd (North)		
Analysis Year	2050			North/South Street	SR 94 (Ridge Rd)		
Time Analyzed	Build - AM Peak			Peak Hour Factor	0.92		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		10		250						80	400				660	10
Percent Heavy Vehicles (%)		2		2						7						
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.42		6.22						4.17						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.52		3.32						2.26						

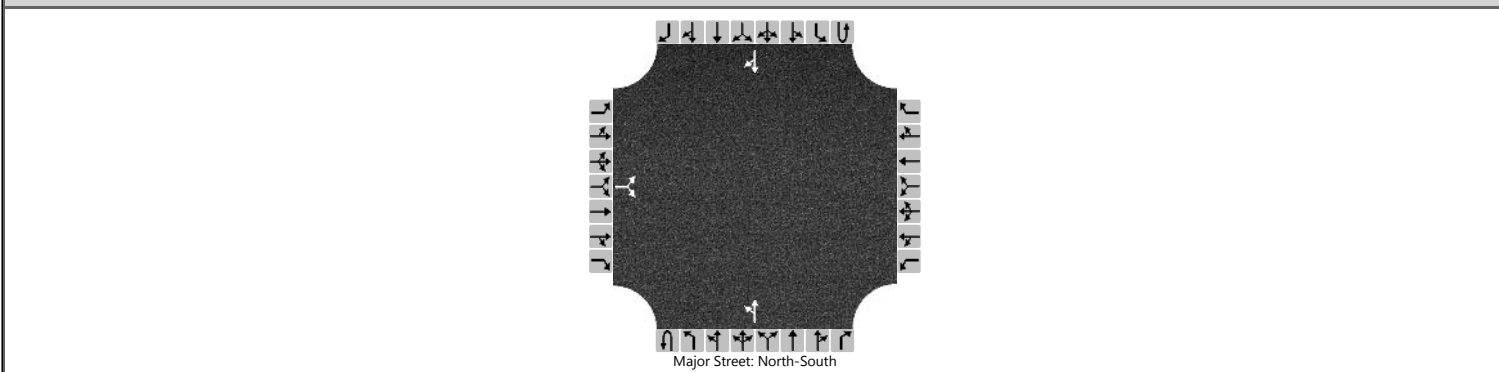
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			283							87						
Capacity, c (veh/h)			397							853						
v/c Ratio			0.71							0.10						
95% Queue Length, Q ₉₅ (veh)			5.4							0.3						
95% Queue Length, Q ₉₅ (ft)			137.2							7.9						
Control Delay (s/veh)			33.5							9.7	1.3					
Level of Service (LOS)			D							A	A					
Approach Delay (s/veh)	33.5								2.7							
Approach LOS	D								A							

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(250) Ridge Rd & Remsen Rd (North)		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	6/6/2024			East/West Street	Remsen Rd (North)		
Analysis Year	2050			North/South Street	SR 94 (Ridge Rd)		
Time Analyzed	Build - PM Peak			Peak Hour Factor	0.95		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6	
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0	
Configuration			LR							LT						TR	
Volume (veh/h)		20		110						280	1020				520	20	
Percent Heavy Vehicles (%)		4		4						3							
Proportion Time Blocked																	
Percent Grade (%)		0															
Right Turn Channelized																	
Median Type Storage		Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.44		6.24						4.13						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.54		3.34						2.23						

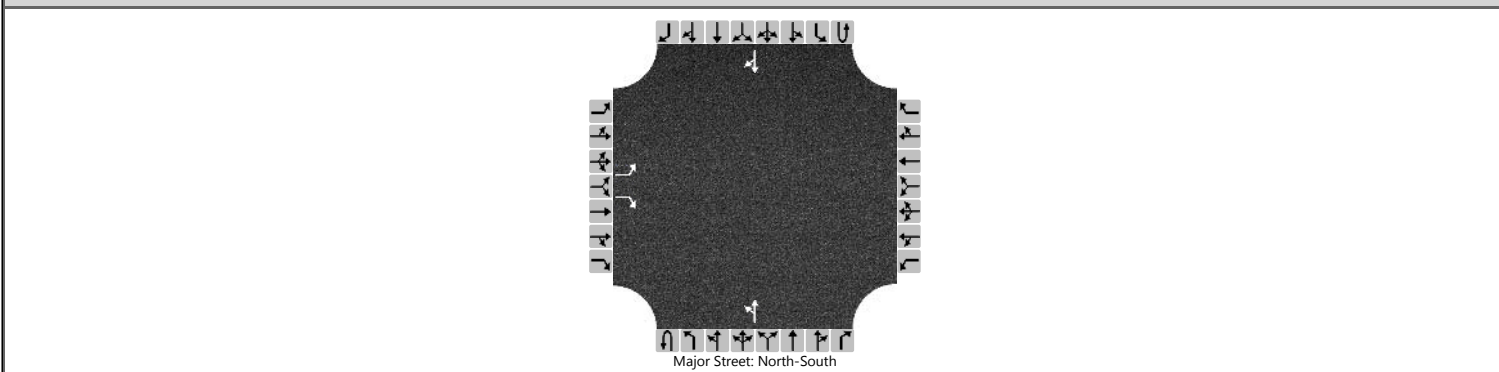
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			137							295						
Capacity, c (veh/h)			73							999						
v/c Ratio			1.88							0.30						
95% Queue Length, Q ₉₅ (veh)			12.2							1.2						
95% Queue Length, Q ₉₅ (ft)			314.8							30.7						
Control Delay (s/veh)			538.9							10.1	7.4					
Level of Service (LOS)			F							B	A					
Approach Delay (s/veh)		538.9								8.0						
Approach LOS		F								A						

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(250) Ridge Rd & Remsen Rd (North)		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	6/27/2024			East/West Street	Remsen Rd (North)		
Analysis Year	2050			North/South Street	SR 94 (Ridge Rd)		
Time Analyzed	Build w EB RT- AM Peak			Peak Hour Factor	0.92		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		1	0	1		0	0	0		0	1	0		0	1	0
Configuration		L		R						LT						TR
Volume (veh/h)		10		250						80	400				660	10
Percent Heavy Vehicles (%)		2		2						7						
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized	No															
Median Type Storage	Undivided															

Critical and Follow-up Headways

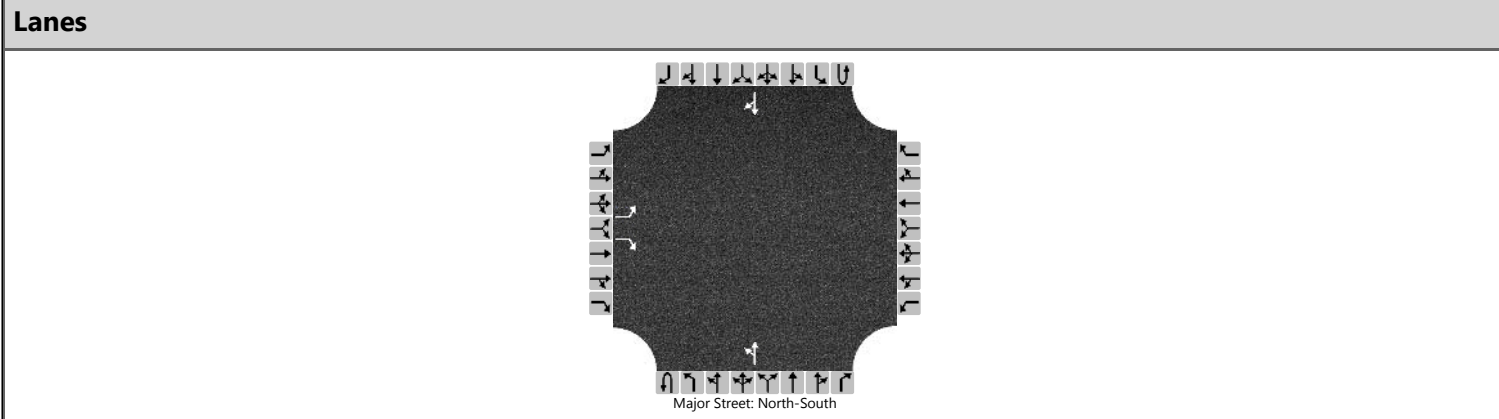
Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.42		6.22						4.17						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.52		3.32						2.26						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		11		272						87						
Capacity, c (veh/h)		147		426						853						
v/c Ratio		0.07		0.64						0.10						
95% Queue Length, Q ₉₅ (veh)		0.2		4.3						0.3						
95% Queue Length, Q ₉₅ (ft)		5.1		109.2						7.9						
Control Delay (s/veh)		31.4		27.1						9.7	1.3					
Level of Service (LOS)		D		D						A	A					
Approach Delay (s/veh)	27.3								2.7							
Approach LOS	D								A							

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(250) Ridge Rd & Remsen Rd (North)		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	6/27/2024			East/West Street	Remsen Rd (North)		
Analysis Year	2050			North/South Street	SR 94 (Ridge Rd)		
Time Analyzed	Build w EB RT- PM Peak			Peak Hour Factor	0.95		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		1	0	1		0	0	0	0	0	1	0	0	0	1	0
Configuration		L		R						LT						TR
Volume (veh/h)		20		110						280	1020				520	20
Percent Heavy Vehicles (%)		4		4						3						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized		No														
Median Type Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.44		6.24						4.13						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.54		3.34						2.23						

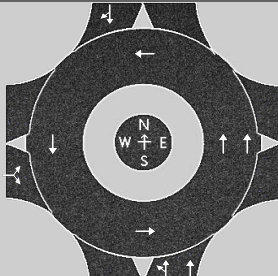
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		21		116						295						
Capacity, c (veh/h)		13		525						999						
v/c Ratio		1.66		0.22						0.30						
95% Queue Length, Q ₉₅ (veh)		3.4		0.8						1.2						
95% Queue Length, Q ₉₅ (ft)		87.7		20.6						30.7						
Control Delay (s/veh)		923.6		13.8						10.1	7.4					
Level of Service (LOS)		F		B						B	A					
Approach Delay (s/veh)		153.8								8.0						
Approach LOS		F								A						

HCS Roundabouts Report

General Information

Site Information

Analyst	TJS		Intersection	(250) SR 94 & Remsen Road...
Agency or Co.	Smart Services, Inc		E/W Street Name	Remsen Road (North)
Date Performed	8/7/2024		N/S Street Name	SR 94
Analysis Year	2050		Analysis Time Period, hrs	0.25
Time Analyzed	Build Alt B- AM Peak		Peak Hour Factor	0.92
Project Description			Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Number of Lanes (N)	0	0	1	0	0	0	0	0	0	0	2	0	0	0	1	0
Lane Assignment			LR						LT		T				TR	
Volume (V), veh/h	0	10		250					0	80	400		0		660	10
Percent Heavy Vehicles, %	2	2		2					7	7	7		5		5	5
Flow Rate (v _{PCE}), pc/h	0	11		277					0	93	465		0		753	11
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1								1				1			
Pedestrians Crossing, p/h	0								0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763					4.5436	4.5436			4.9763	
Follow-Up Headway, s		2.6087					2.5352	2.5352			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		288					262	296			764	
Entry Volume, veh/h		282					245	276			728	
Circulating Flow (v _c), pc/h	753			569			11			93		
Exiting Flow (v _{ex}), pc/h	0			104			476			1030		
Capacity (C _{PCE}), pc/h		640					1406	1406			1255	
Capacity (c), veh/h		628					1314	1314			1195	
v/c Ratio (x)		0.45					0.19	0.21			0.61	

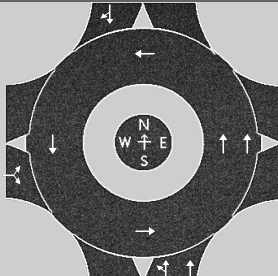
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		12.6					4.3	4.5			10.6	
Lane LOS		B					A	A			B	
95% Queue Length, Q ₉₅ (veh)		2.3					0.7	0.8			4.3	
95% Queue Length, Q ₉₅ (ft)		58.4					18.5	21.1			111.8	
Approach Delay, s/veh LOS	12.6		B				4.4		A	10.6		B
Intersection Delay, s/veh LOS	8.9						A					

HCS Roundabouts Report

General Information

Site Information

Analyst	TJS		Intersection	(250) SR 94 & Remsen Road...
Agency or Co.	Smart Services, Inc		E/W Street Name	Remsen Road (North)
Date Performed	6/27/2024		N/S Street Name	SR 94
Analysis Year	2050		Analysis Time Period, hrs	0.25
Time Analyzed	Build - PM Peak		Peak Hour Factor	0.95
Project Description			Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Number of Lanes (N)	0	0	1	0	0	0	0	0	0	0	2	0	0	0	1	0
Lane Assignment			LR						LT		T					TR
Volume (V), veh/h	0	20		110					0	280	1020		0		520	20
Percent Heavy Vehicles, %	4	4		4					3	3	3		6		6	6
Flow Rate (v _{PCE}), pc/h	0	22		120					0	304	1106		0		580	22
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1								1				1			
Pedestrians Crossing, p/h	0								0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763					4.5436	4.5436			4.9763	
Follow-Up Headway, s		2.6087					2.5352	2.5352			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		142					663	747			602	
Entry Volume, veh/h		137					643	726			568	
Circulating Flow (v _c), pc/h	580			1432			22			304		
Exiting Flow (v _{ex}), pc/h	0			326			1128			700		
Capacity (C _{PCE}), pc/h		764					1392	1392			1012	
Capacity (c), veh/h		734					1351	1351			955	
v/c Ratio (x)		0.19					0.48	0.54			0.59	

Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		6.9					7.4	8.4			12.1	
Lane LOS		A					A	A			B	
95% Queue Length, Q ₉₅ (veh)		0.7					2.6	3.3			4.1	
95% Queue Length, Q ₉₅ (ft)		18.1					66.6	84.5			107.4	
Approach Delay, s/veh LOS	6.9		A				7.9		A	12.1		B
Intersection Delay, s/veh LOS	9.0						A					

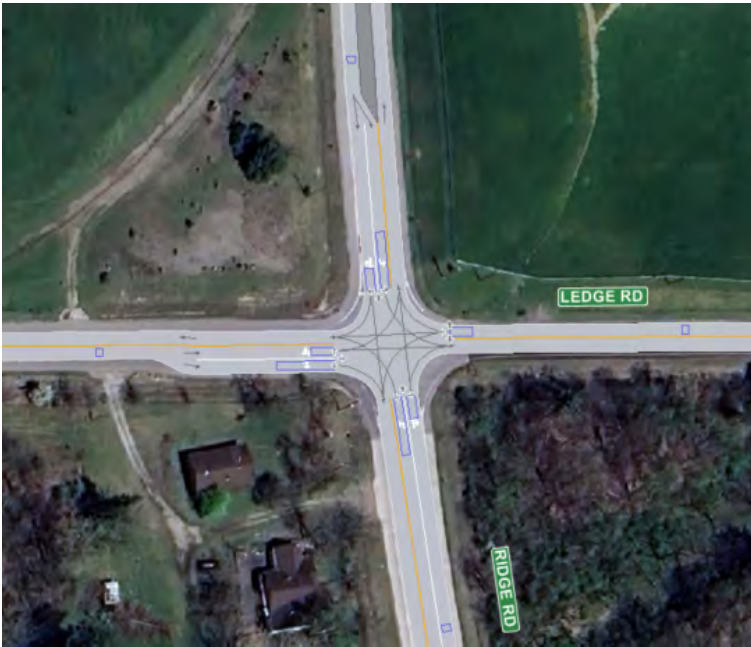
TRANSMODELER RESULTS FROM ODOT

230-SR 94 (Ridge Rd) & I-271 NB Ramps

240-SR 94 (Ridge Rd) & I-271 SB Ramps

250-SR 94 (Ridge Rd) & Remsen Rd (North)

No-Build

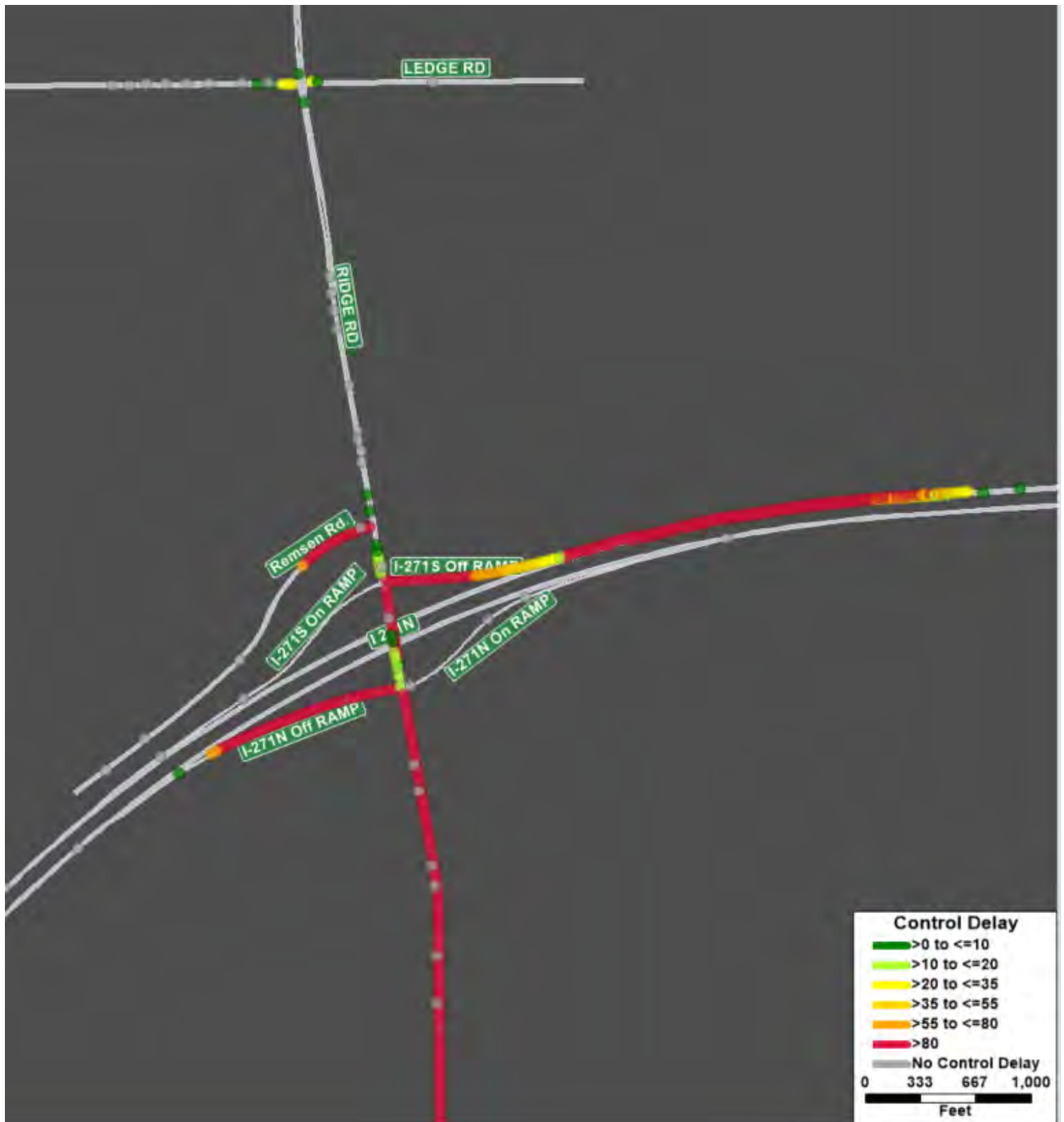


No-Build				
Intersection	2050 AM		2050 PM	
	LOS, Avg. Delay (sec)	95th Percentile Queue (ft)	LOS, Avg. Delay (sec)	95th Percentile Queue (ft)
Ridge & Ledge, Signalized				
Approaches				
EB Ledge	F, 212.9	2,374.3	14	59.2
WB Ledge	F, 382	1,521.0	23	69.4
NB Ridge	B, 12.7	84.6	9.1	98.7
SB Ridge	F, 288.9	2,634.6	17.8	122.9
Overall Intersection	171.2 F		13.8 B	
Ridge & Remsen, Unsignalized				
Approaches				
EB Remsen	F, 1292.3	2,439.2	F, 729.0	1,557.0
NB Ridge	A, 7.3	104.1	B, 11.9	235.1
SB Ridge	F, 317.4	2,568.7	C, 22.1	283
Overall Intersection	285.5		53.4 F	
Ridge & I-271S Ramps, Signalized				
Approaches				
WB, I-271S Exit Ramp	B, 5.7	136.7	143	1,060.1
NB Ridge	F, 241.8	553.6	266.7	553.2
SB Ridge	C, 28.7	275.5	C, 28.8	274.3
Overall Intersection	58.6 E		109.8 F	
Ridge & I-271N Ramps, Unsignalized				
Approaches				
EB, I-271N Exit Ramp	F, 1530.7	1,048.0	F, 1291.3	1,426.9
NB Ridge	F, 612.6	4,127.9	F, 1014.0	8,099.3
SB Ridge	E, 42.2	495.4	B, 17.7	253.7
Overall Intersection	200.4 F		294.6 F	

No-Build- 2050 AM Screenshot at 7:30 AM



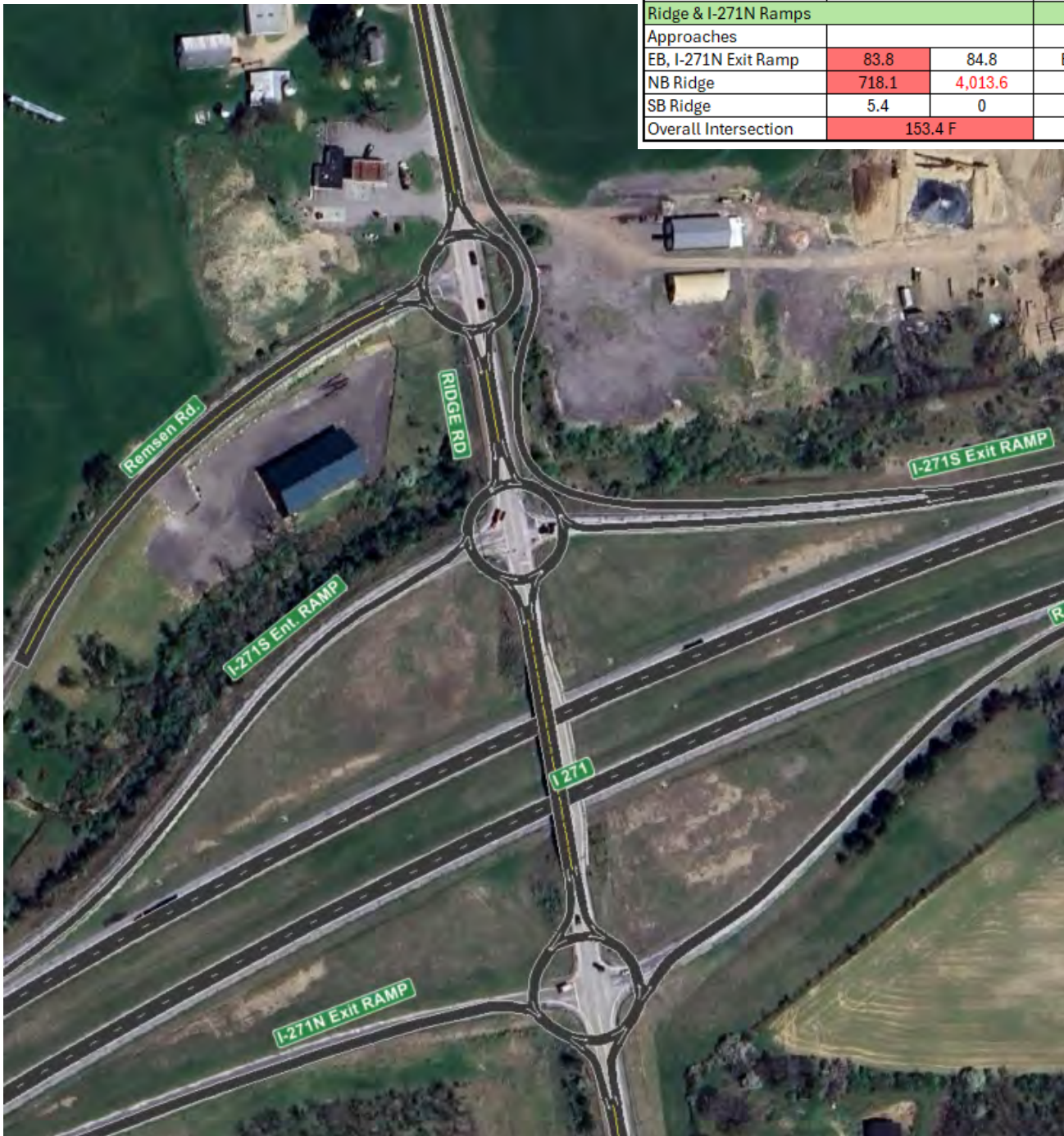
No-Build- 2050 PM Screenshot at 5:30PM



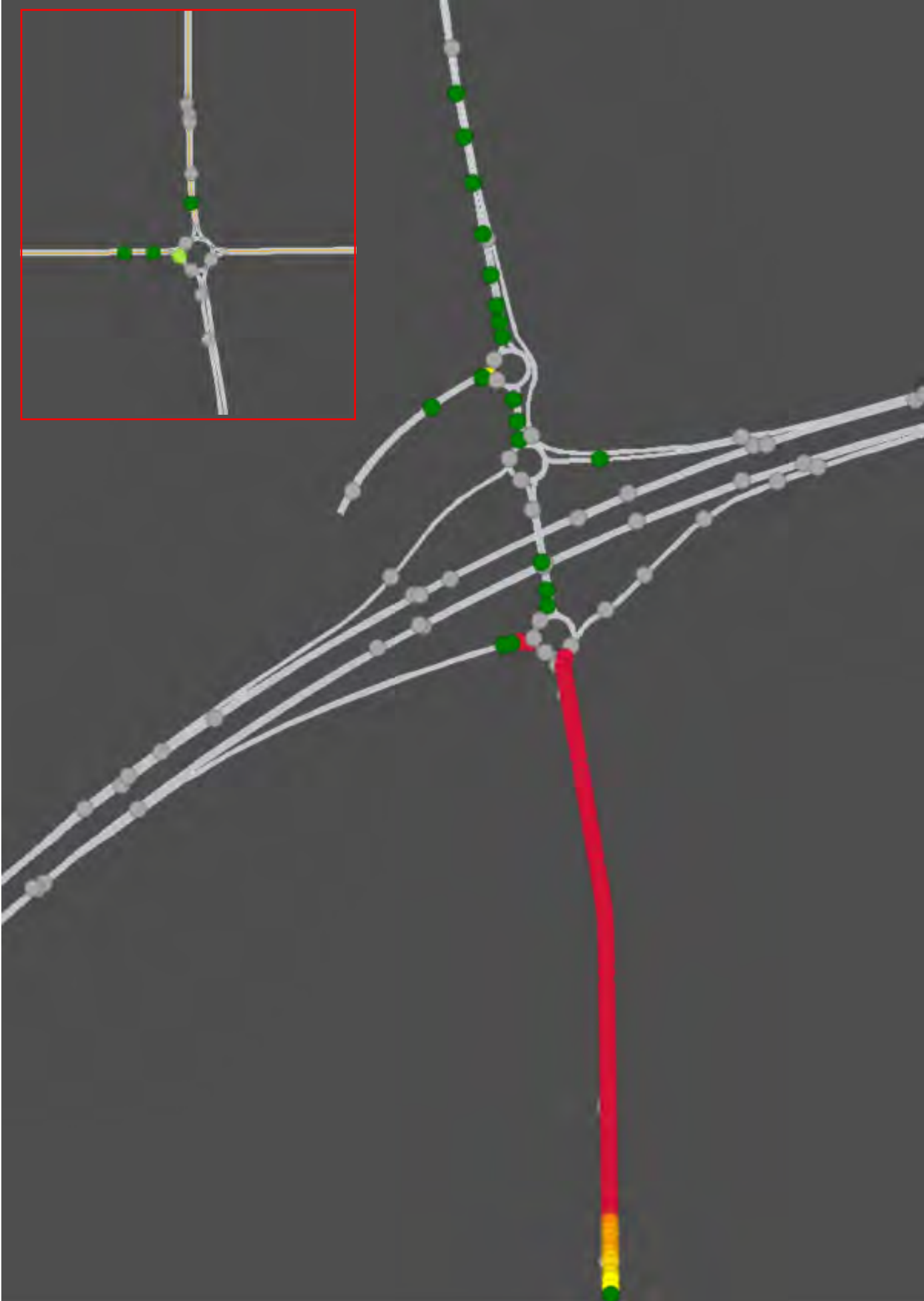
Build-Alt. 1



Build 1 - 3 RABs with Bypass				
Intersection	2050 AM		2050 PM	
	LOS, Avg. Delay (sec)	95th Percentile Queue (ft)	LOS, Avg. Delay (sec)	95th Percentile Queue (ft)
Ridge & Ledge (Node #14)				
Approaches				
EB Ledge	A, 9.3	60.0	A, 7.0	0.8
WB Ledge	A, 8.2	8.2	C, 20.4	2
NB Ridge	A, 5.9	1.8	A, 7.9	0.7
SB Ridge	A, 6.3	19	B, 12.4	3.1
Overall Intersection	7.3 A		9.5 A	
Ridge & Remsen (Node #33)				
Approaches				
EB Remsen	C, 21	120.2	A, 5.0	0.9
NB Ridge	A, 2.9	0	A, 3.3	0
SB Ridge	A, 6.5	11.6	A, 8.7	2.6
Overall Intersection	8.4 A		5.9 A	
Ridge & I-271S Ramps				
Approaches				
WB, I-271S Exit Ramp	A, 3.3	1.7	A, 5.7	1.2
NB Ridge	A, 4.2	0	A, 4.5	0
SB Ridge	A, 5.4	0.2	A, 4.2	0.4
Overall Intersection	5.1 A		4.6 A	
Ridge & I-271N Ramps				
Approaches				
EB, I-271N Exit Ramp	83.8	84.8	B, 10.8	1.1
NB Ridge	718.1	4,013.6	A, 8.5	1.6
SB Ridge	5.4	0	A, 4.4	0
Overall Intersection	153.4 F		6.4 A	



Build-Alt.1 2050 AM Screenshot at 7:30 AM



Build-Alt. 2



Build 2 - Peanut/Ellipse + Bypass				
Intersection	2050 AM		2050 PM	
	LOS, Avg. Delay (sec)	95th Percentile Queue (ft)	LOS, Avg. Delay (sec)	95th Percentile Queue (ft)
Ridge & Ledge				
Approaches				
EB Ledge	B, 11.3	86	A, 8.1	31.8
WB Ledge	A, 8.2	9.4	C, 20.5	53.1
NB Ridge	A, 6.1	2.9	A, 8.7	21.5
SB Ridge	A, 6.7	23.4	B, 12	84.8
Overall Intersection	8.2, A		10.1, B	
Ridge & Remsen/I-271S Ramp				
Approaches				
EB Remsen	C, 24.4	118.5	B, 10.7	23.8
WB, I-271S Exit Ramp	A, 2.9	0	A, 5.4	50
NB Ridge	A, 3.7	0	A, 4.2	0
SB Ridge	A, 5.7	3.1	A, 7.7	53.3
Overall Intersection	7.4, A		4.7, A	
Ridge & I-271N Ramps				
Approaches				
EB, I-271N Exit Ramp	F, 48	65.5	B, 11.2	21.4
NB Ridge	F, 591.8	3,812.90	A, 7.6	41.8
SB Ridge	A, 6.8	0	A, 5.6	0
Overall Intersection	137.0, F		6.7, A	



Build-Alt.2 2050 AM Screenshot at 7:30 AM



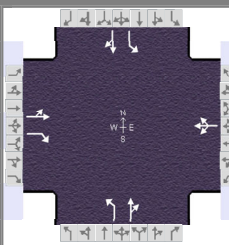
Interchange Partial Build Analysis

ALT 3

(10) SR 94 & SR 3

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 18, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak Alt 3	PHF	0.95
Urban Street	SR 94-Ridge Rd	Analysis Year	2030	Analysis Period	1 > 7:00
Intersection	(10) SR 94 & SR 3	File Name	Signalized Capacity Group 1 (10 & 240) - 2030 B...		
Project Description	2030 Build				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	20	50	170	20	40	20	200	210	10	10	370	10

Signal Information												
Cycle, s	88.6	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	Yes	Simult. Gap E/W	On	Green	61.8	13.3	0.0	0.0	0.0	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.5	6.0	0.0	0.0	0.0	0.0		
				Red	1.0	1.0	0.0	0.0	0.0	0.0		

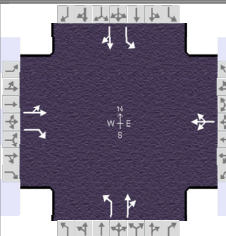
Traffic Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	20	50	170	20	40	20	200	210	10	10	370	10
Initial Queue (Q _b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s ₀), veh/h	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Parking (N _m), man/h	None			None			None			None		
Heavy Vehicles (P _{HV}), %		4	4		5			8	8		3	3
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N _b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (AT)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.25	0.25	0.25
Lane Width (W), ft		12.0	12.0		12.0		12.0	12.0		12.0	12.0	
Turn Bay Length, ft		0	110		0		610	0		115	0	
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50	50	55	55	55	45	45	45	45	45	45

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s		25.5		25.5		81.0		81.0
Yellow Change Interval (Y), s		6.0		6.0		5.5		5.5
Red Clearance Interval (R _c), s		1.0		1.0		1.0		1.0
Minimum Green (G _{min}), s		12		12		24		24
Start-Up Lost Time (l _t), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (e), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (PT), s		2.0		2.0		2.0		2.0
Recall Mode		Off		Off		Min		Min
Dual Entry		Yes		Yes		Yes		Yes
Walk (Walk), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (PC), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 18, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak Alt 3	PHF	0.95
Urban Street	SR 94-Ridge Rd	Analysis Year	2030	Analysis Period	1 > 7:00
Intersection	(10) SR 94 & SR 3	File Name	Signalized Capacity Group 1 (10 & 240) - 2030 B...		
Project Description	2030 Build				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	20	50	170	20	40	20	200	210	10	10	370	10

Signal Information				Signal Phases									
Cycle, s	88.6	Reference Phase	2										
Offset, s	0	Reference Point	End										
Uncoordinated	Yes	Simult. Gap E/W	On										
Force Mode	Fixed	Simult. Gap N/S	On										
		Green		61.8	13.3	0.0	0.0	0.0	0.0				
		Yellow		5.5	6.0	0.0	0.0	0.0	0.0				
		Red		1.0	1.0	0.0	0.0	0.0	0.0				

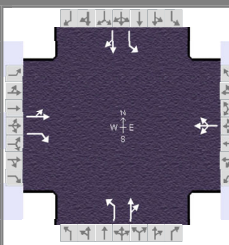
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		7.0		8.0		6.0		6.0
Phase Duration, s		20.3		20.3		68.3		68.3
Change Period, (Y+R _c), s		7.0		7.0		6.5		6.5
Max Allow Headway (MAH), s		3.1		3.1		3.4		3.4
Queue Clearance Time (g _s), s		12.7		6.2		57.9		29.5
Green Extension Time (g _e), s		0.5		0.6		4.0		4.1
Phase Call Probability		1.00		1.00		1.00		1.00
Max Out Probability		0.00		0.00		0.02		0.00

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h		74	179		84		211	232		23	862	
Adjusted Saturation Flow Rate (s), veh/h/ln		1610	1437		1548		611	1627		1140	1701	
Queue Service Time (g _s), s		0.0	10.7		0.0		28.5	4.4		0.6	27.5	
Cycle Queue Clearance Time (g _c), s		3.4	10.7		4.2		55.9	4.4		4.9	27.5	
Green Ratio (g/C)		0.15	0.15		0.15		0.70	0.70		0.70	0.70	
Capacity (c), veh/h		294	215		283		319	1136		821	1187	
Volume-to-Capacity Ratio (X)		0.251	0.831		0.298		0.661	0.204		0.028	0.726	
Back of Queue (Q), ft/ln (95 th percentile)		62	172		71		180	51		5	230	
Back of Queue (Q), veh/ln (95 th percentile)		2.4	6.6		2.7		6.8	1.9		0.2	9.0	
Queue Storage Ratio (RQ) (95 th percentile)		0.00	1.56		0.00		0.30	0.00		0.05	0.00	
Uniform Delay (d ₁), s/veh		33.5	36.6		33.8		25.3	4.7		5.6	8.2	
Incremental Delay (d ₂), s/veh		0.2	3.2		0.2		0.9	0.0		0.0	0.2	
Initial Queue Delay (d ₃), s/veh		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Control Delay (d), s/veh		33.6	39.7		34.0		26.2	4.7		5.6	8.4	
Level of Service (LOS)		C	D		C		C	A		A	A	
Approach Delay, s/veh / LOS	38.0		D	34.0		C	14.9		B	8.3		A
Intersection Delay, s/veh / LOS	15.9						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.94	B	1.94	B	1.63	B	1.85	B
Bicycle LOS Score / LOS	0.90	A	0.63	A	1.22	A	1.16	A

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 18, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak Alt 3	PHF	0.92
Urban Street	SR 94-Ridge Rd	Analysis Year	2030	Analysis Period	1 > 4:45
Intersection	(10) SR 94 & SR 3	File Name	Signalized Capacity Group 1 (10 & 240) - 2030 B...		
Project Description	2030 Build				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	10	60	130	20	80	30	500	400	20	10	300	10

Signal Information												
Cycle, s	112.4	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	Yes	Simult. Gap E/W	On	Green	85.5	13.4	0.0	0.0	0.0	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.5	6.0	0.0	0.0	0.0	0.0		
				Red	1.0	1.0	0.0	0.0	0.0	0.0		

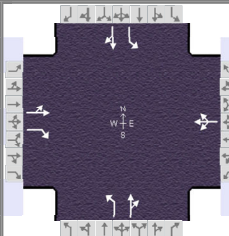
Traffic Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	10	60	130	20	80	30	500	400	20	10	300	10
Initial Queue (Q_b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s_o), veh/h	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Parking (N_m), man/h	None			None			None			None		
Heavy Vehicles (P_{HV}), %		5	5		3		3	3		3	3	
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N_b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (AT)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09
Lane Width (W), ft		12.0	12.0		12.0		12.0	12.0		12.0	12.0	
Turn Bay Length, ft		0	110		0		610	0		115	0	
Grade (P_g), %		0			0			0			0	
Speed Limit, mi/h	50	50	50	55	55	55	45	45	45	45	45	45

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s		22.5		22.5		85.5		85.5
Yellow Change Interval (Y), s		6.0		6.0		5.5		5.5
Red Clearance Interval (R_c), s		1.0		1.0		1.0		1.0
Minimum Green (G_{min}), s		12		12		24		24
Start-Up Lost Time (l_t), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (e), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (PT), s		2.0		2.0		2.0		2.0
Recall Mode		Off		Off		Min		Min
Dual Entry		Yes		Yes		Yes		Yes
Walk ($Walk$), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (PC), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 18, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak Alt 3	PHF	0.92
Urban Street	SR 94-Ridge Rd	Analysis Year	2030	Analysis Period	1 > 4:45
Intersection	(10) SR 94 & SR 3	File Name	Signalized Capacity Group 1 (10 & 240) - 2030 B...		
Project Description	2030 Build				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	10	60	130	20	80	30	500	400	20	10	300	10

Signal Information				Signal Phases									
Cycle, s	112.4	Reference Phase	2										
Offset, s	0	Reference Point	End										
Uncoordinated	Yes	Simult. Gap E/W	On										
Force Mode	Fixed	Simult. Gap N/S	On										
		Green		85.5	13.4	0.0	0.0	0.0	0.0				
		Yellow		5.5	6.0	0.0	0.0	0.0	0.0				
		Red		1.0	1.0	0.0	0.0	0.0	0.0				

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		7.0		8.0		6.0		6.0
Phase Duration, s		20.4		20.4		92.0		92.0
Change Period, (Y+R _c), s		7.0		7.0		6.5		6.5
Max Allow Headway (MAH), s		3.1		3.1		3.6		3.6
Queue Clearance Time (g _s), s		12.9		11.5		87.5		16.9
Green Extension Time (g _e), s		0.5		0.5		0.0		5.8
Phase Call Probability		1.00		1.00		1.00		1.00
Max Out Probability		0.01		0.00		1.00		0.00

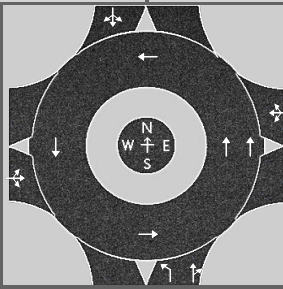
Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h		76	141		141		543	457		20	605	
Adjusted Saturation Flow Rate (s), veh/h/ln		1643	1425		1598		808	1695		927	1699	
Queue Service Time (g _s), s		0.0	10.9		4.7		70.6	9.9		0.8	14.9	
Cycle Queue Clearance Time (g _c), s		4.7	10.9		9.5		85.5	9.9		10.7	14.9	
Green Ratio (g/C)		0.12	0.12		0.12		0.76	0.76		0.76	0.76	
Capacity (c), veh/h		232	170		227		572	1289		688	1293	
Volume-to-Capacity Ratio (X)		0.328	0.833		0.622		0.950	0.354		0.028	0.468	
Back of Queue (Q), ft/ln (95 th percentile)		89	183		170		620	113		6	118	
Back of Queue (Q), veh/ln (95 th percentile)		3.4	7.0		6.7		24.2	4.4		0.2	4.6	
Queue Storage Ratio (RQ) (95 th percentile)		0.00	1.66		0.00		1.02	0.00		0.05	0.00	
Uniform Delay (d ₁), s/veh		45.7	48.4		47.8		23.2	4.4		6.2	5.0	
Incremental Delay (d ₂), s/veh		0.3	4.0		1.0		25.4	0.1		0.0	0.0	
Initial Queue Delay (d ₃), s/veh		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Control Delay (d), s/veh		46.0	52.4		48.8		48.6	4.5		6.2	5.0	
Level of Service (LOS)		D	D		D		D	A		A	A	
Approach Delay, s/veh / LOS	50.2		D	48.8		D	28.4		C	5.0		A
Intersection Delay, s/veh / LOS	24.9						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.95	B	1.95	B	1.62	B	1.84	B
Bicycle LOS Score / LOS	0.85	A	0.72	A	2.14	B	1.06	A

HCS Roundabouts Report

General Information

Analyst	TJS
Agency or Co.	Smart Services, Inc
Date Performed	12/18/2024
Analysis Year	2030
Time Analyzed	Build Alt B - AM Pk Alt 3
Project Description	



Site Information

Intersection	(10) SR 94 & SR 3
E/W Street Name	SR 3-Ledge Road
N/S Street Name	SR 94
Analysis Time Period, hrs	0.25
Peak Hour Factor	0.95
Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Number of Lanes (N)	0	0	1	0	0	0	1	0	0	1	1	0	0	0	1	0
Lane Assignment	LTR				LTR				L		TR		LTR			
Volume (V), veh/h	0	20	50	170	0	20	40	20	0	200	210	10	0	10	370	10
Percent Heavy Vehicles, %	4	4	4	4	5	5	5	5	8	8	8	8	3	3	3	3
Flow Rate (v _{PCE}), pc/h	0	22	55	186	0	22	44	22	0	227	239	11	0	11	401	11
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1				2				1				1			
Pedestrians Crossing, p/h	0				0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763			4.3276		4.5436	4.5436			4.9763	
Follow-Up Headway, s		2.6087			2.5352		2.5352	2.5352			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		263			88		227	250			423	
Entry Volume, veh/h		253			84		210	231			411	
Circulating Flow (v _c), pc/h	434			488			88			293		
Exiting Flow (v _{ex}), pc/h	77			282			283			609		
Capacity (C _{PCE}), pc/h		886			938		1311	1311			1023	
Capacity (c), veh/h		852			893		1214	1214			994	
v/c Ratio (x)		0.30			0.09		0.17	0.19			0.41	

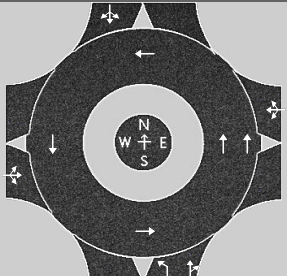
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		7.5			4.9		4.5	4.6			8.2	
Lane LOS		A			A		A	A			A	
95% Queue Length, Q ₉₅ (veh)		1.2			0.3		0.6	0.7			2.1	
95% Queue Length, Q ₉₅ (ft)		31.0			7.8		16.0	18.6			53.8	
Approach Delay, s/veh LOS	7.5	A		4.9	A		4.5	A		8.2	A	
Intersection Delay, s/veh LOS	6.5						A					

HCS Roundabouts Report

General Information

Site Information

Analyst	TJS		Intersection	(10) SR 94 & SR 3
Agency or Co.	Smart Services, Inc		E/W Street Name	SR 3-Ledge Road
Date Performed	12/18/2024		N/S Street Name	SR 94
Analysis Year	2030		Analysis Time Period, hrs	0.25
Time Analyzed	Build Alt B - PM Pk Alt 3		Peak Hour Factor	0.92
Project Description			Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	1	0	0	0	1	0	0	1	1	0	0	0	1	0
Lane Assignment	LTR				LTR				L		TR		LTR			
Volume (V), veh/h	0	10	60	130	0	20	80	30	0	500	400	20	0	10	300	10
Percent Heavy Vehicles, %	5	5	5	5	3	3	3	3	3	3	3	3	3	3	3	3
Flow Rate (v _{PCE}), pc/h	0	11	68	148	0	22	90	34	0	560	448	22	0	11	336	11
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1				2				1				1			
Pedestrians Crossing, p/h	0				0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763			4.3276		4.5436	4.5436			4.9763	
Follow-Up Headway, s		2.6087			2.5352		2.5352	2.5352			2.6087	

Flow Computations, Capacity and v/c Ratios

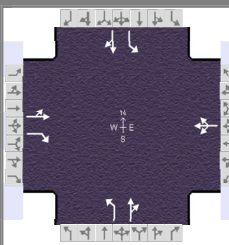
Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		227			146		560	470			358	
Entry Volume, veh/h		216			142		544	456			348	
Circulating Flow (v _c), pc/h	369			1019			90			672		
Exiting Flow (v _{ex}), pc/h	101			661			493			506		
Capacity (c _{PCE}), pc/h		947			597		1308	1308			695	
Capacity (c), veh/h		902			580		1270	1270			675	
v/c Ratio (x)		0.24			0.24		0.43	0.36			0.51	

Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		6.4			9.4		7.1	6.2			13.4	
Lane LOS		A			A		A	A			B	
95% Queue Length, Q ₉₅ (veh)		0.9			1.0		2.2	1.7			3.0	
95% Queue Length, Q ₉₅ (ft)		23.4			25.6		56.3	43.5			76.8	
Approach Delay, s/veh LOS	6.4	A		9.4	A		6.7	A		13.4	B	
Intersection Delay, s/veh LOS	8.3						A					

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 19, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.95
Urban Street	SR 94-Ridge Rd	Analysis Year	2050	Analysis Period	1 > 7:00
Intersection	(10) SR 94 & SR 3	File Name	Signalized Capacity Group 1 (10 & 240) - 2050 B...		
Project Description	2050 Build Alt 4				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	20	50	420	30	40	20	110	250	10	10	400	10

Signal Information															
Cycle, s	120.0	Reference Phase	2												
Offset, s	0	Reference Point	End												
Uncoordinated	Yes	Simult. Gap E/W	On	Green	81.0	25.5	0.0	0.0	0.0	0.0	1		2	3	4
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.5	6.0	0.0	0.0	0.0	0.0	5		6	7	8
				Red	1.0	1.0	0.0	0.0	0.0	0.0					

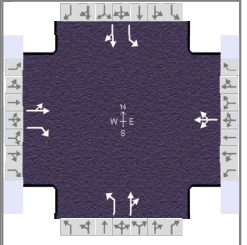
Traffic Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	20	50	420	30	40	20	110	250	10	10	400	10
Initial Queue (Q _b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s ₀), veh/h	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Parking (N _m), man/h		None			None			None			None	
Heavy Vehicles (P _{HV}), %		4	4		5		8	8		3	3	
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N _b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (AT)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09
Lane Width (W), ft		12.0	12.0		12.0		12.0	12.0		12.0	12.0	
Turn Bay Length, ft		0	110		0		610	0		115	0	
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50	50	55	55	55	45	45	45	45	45	45

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s		25.5		25.5		81.0		81.0
Yellow Change Interval (Y), s		6.0		6.0		5.5		5.5
Red Clearance Interval (R _c), s		1.0		1.0		1.0		1.0
Minimum Green (G _{min}), s		12		12		24		24
Start-Up Lost Time (l _t), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (e), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (P _T), s		2.0		2.0		2.0		2.0
Recall Mode		Off		Off		Min		Min
Dual Entry		Yes		Yes		Yes		Yes
Walk (Walk), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (P _C), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 19, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.95
Urban Street	SR 94-Ridge Rd	Analysis Year	2050	Analysis Period	1 > 7:00
Intersection	(10) SR 94 & SR 3	File Name	Signalized Capacity Group 1 (10 & 240) - 2050 B...		
Project Description	2050 Build Alt 4				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	20	50	420	30	40	20	110	250	10	10	400	10

Signal Information				Signal Phases								
Cycle, s	120.0	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	Yes	Simult. Gap E/W	On									
Force Mode	Fixed	Simult. Gap N/S	On									
		Green	81.0	25.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Yellow	5.5	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Red	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

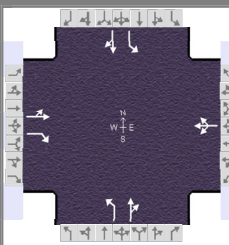
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		7.0		8.0		6.0		6.0
Phase Duration, s		32.5		32.5		87.5		87.5
Change Period, (Y+R _c), s		7.0		7.0		6.5		6.5
Max Allow Headway (MAH), s		3.2		3.2		3.2		3.2
Queue Clearance Time (g _s), s		27.5		8.0		83.0		65.0
Green Extension Time (g _e), s		0.0		1.2		0.0		4.0
Phase Call Probability		1.00		1.00		1.00		1.00
Max Out Probability		1.00		0.00		1.00		0.11

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h		74	442		95		116	274		26	1051	
Adjusted Saturation Flow Rate (s), veh/h/ln		1592	1437		1507		511	1630		1097	1702	
Queue Service Time (g _s), s		0.0	25.5		1.8		18.0	7.9		1.1	63.0	
Cycle Queue Clearance Time (g _c), s		4.3	25.5		6.0		81.0	7.9		9.0	63.0	
Green Ratio (g/C)		0.21	0.21		0.21		0.67	0.67		0.67	0.67	
Capacity (c), veh/h		377	305		360		137	1100		728	1149	
Volume-to-Capacity Ratio (X)		0.196	1.448		0.263		0.847	0.249		0.035	0.915	
Back of Queue (Q), ft/ln (95 th percentile)		81	1094		105		222	115		12	578	
Back of Queue (Q), veh/ln (95 th percentile)		3.1	42.4		4.1		8.3	4.3		0.4	22.6	
Queue Storage Ratio (RQ) (95 th percentile)		0.00	9.95		0.00		0.36	0.00		0.10	0.00	
Uniform Delay (d ₁), s/veh		38.9	47.2		39.5		54.0	7.6		9.4	16.6	
Incremental Delay (d ₂), s/veh		0.1	219.1		0.1		34.8	0.0		0.0	1.2	
Initial Queue Delay (d ₃), s/veh		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Control Delay (d), s/veh		39.0	266.3		39.7		88.9	7.7		9.4	17.8	
Level of Service (LOS)		D	F		D		F	A		A	B	
Approach Delay, s/veh / LOS	233.8		F	39.7		D	31.8		C	17.6		B
Intersection Delay, s/veh / LOS	75.0						E					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.94	B	1.94	B	1.65	B	1.87	B
Bicycle LOS Score / LOS	1.34	A	0.64	A	1.13	A	1.22	A

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 19, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.92
Urban Street	SR 94-Ridge Rd	Analysis Year	2050	Analysis Period	1 > 4:45
Intersection	(10) SR 94 & SR 3	File Name	Signalized Capacity Group 1 (10 & 240) - 2050 B...		
Project Description	2050 Build Alt 4				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	10	60	240	30	70	30	410	440	30	10	330	10

Signal Information															
Cycle, s	121.5	Reference Phase	2												
Offset, s	0	Reference Point	End												
Uncoordinated	Yes	Simult. Gap E/W	On	Green	85.5	22.5	0.0	0.0	0.0	0.0	1		2	3	4
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.5	6.0	0.0	0.0	0.0	0.0	5		6	7	8
				Red	1.0	1.0	0.0	0.0	0.0	0.0					

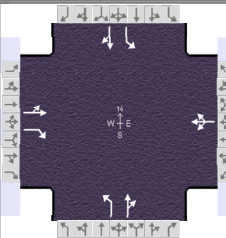
Traffic Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	10	60	240	30	70	30	410	440	30	10	330	10
Initial Queue (Q _b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s ₀), veh/h	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Parking (N _m), man/h	None			None			None			None		
Heavy Vehicles (P _{HV}), %		5	5		3			3	3		3	3
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N _b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (AT)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09
Lane Width (W), ft		12.0	12.0		12.0			12.0	12.0		12.0	12.0
Turn Bay Length, ft		0	110		0			610	0		115	0
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50	50	55	55	55	45	45	45	45	45	45

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s		22.5		22.5		85.5		85.5
Yellow Change Interval (Y), s		6.0		6.0		5.5		5.5
Red Clearance Interval (R _c), s		1.0		1.0		1.0		1.0
Minimum Green (G _{min}), s		12		12		24		24
Start-Up Lost Time (l _t), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (e), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (P _T), s		2.0		2.0		2.0		2.0
Recall Mode		Off		Off		Min		Min
Dual Entry		Yes		Yes		Yes		Yes
Walk (Walk), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (P _C), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 19, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.92
Urban Street	SR 94-Ridge Rd	Analysis Year	2050	Analysis Period	1 > 4:45
Intersection	(10) SR 94 & SR 3	File Name	Signalized Capacity Group 1 (10 & 240) - 2050 B...		
Project Description	2050 Build Alt 4				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	10	60	240	30	70	30	410	440	30	10	330	10

Signal Information				Signal Phases									
Cycle, s	121.5	Reference Phase	2										
Offset, s	0	Reference Point	End										
Uncoordinated	Yes	Simult. Gap E/W	On	Green	85.5	22.5	0.0	0.0	0.0	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.5	6.0	0.0	0.0	0.0	0.0			
				Red	1.0	1.0	0.0	0.0	0.0	0.0			

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		7.0		8.0		6.0		6.0
Phase Duration, s		29.5		29.5		92.0		92.0
Change Period, (Y+R _c), s		7.0		7.0		6.5		6.5
Max Allow Headway (MAH), s		3.1		3.1		3.5		3.5
Queue Clearance Time (g _s), s		24.2		11.5		87.5		25.8
Green Extension Time (g _e), s		0.0		0.7		0.0		5.7
Phase Call Probability		1.00		1.00		1.00		1.00
Max Out Probability		1.00		0.01		1.00		0.00

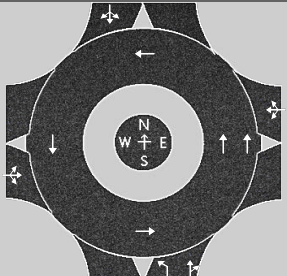
Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h		76	261		141		446	511		20	676	
Adjusted Saturation Flow Rate (s), veh/h/ln		1638	1425		1570		757	1690		882	1700	
Queue Service Time (g _s), s		0.0	22.2		3.2		61.7	15.6		1.2	23.8	
Cycle Queue Clearance Time (g _c), s		4.7	22.2		9.5		85.5	15.6		16.8	23.8	
Green Ratio (g/C)		0.19	0.19		0.19		0.70	0.70		0.70	0.70	
Capacity (c), veh/h		337	264		327		444	1189		567	1196	
Volume-to-Capacity Ratio (X)		0.226	0.988		0.432		1.004	0.430		0.035	0.565	
Back of Queue (Q), ft/ln (95 th percentile)		89	440		169		665	213		10	219	
Back of Queue (Q), veh/ln (95 th percentile)		3.4	16.9		6.6		26.0	8.3		0.4	8.6	
Queue Storage Ratio (RQ) (95 th percentile)		0.00	4.00		0.00		1.09	0.00		0.09	0.00	
Uniform Delay (d ₁), s/veh		42.2	49.4		44.2		34.0	7.6		11.2	8.9	
Incremental Delay (d ₂), s/veh		0.1	51.9		0.3		43.7	0.1		0.0	0.0	
Initial Queue Delay (d ₃), s/veh		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Control Delay (d), s/veh		42.4	101.3		44.5		77.7	7.7		11.2	8.9	
Level of Service (LOS)		D	F		D		F	A		B	A	
Approach Delay, s/veh / LOS	88.0		F	44.5		D	40.3		D	9.0		A
Intersection Delay, s/veh / LOS	37.9						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.95	B	1.95	B	1.64	B	1.86	B
Bicycle LOS Score / LOS	1.04	A	0.72	A	2.07	B	1.12	A

HCS Roundabouts Report

General Information

Site Information

Analyst	TJS		Intersection	(10) SR 94 & SR 3
Agency or Co.	Smart Services, Inc		E/W Street Name	SR 3-Ledge Road
Date Performed	12/19/2024		N/S Street Name	SR 94
Analysis Year	2050		Analysis Time Period, hrs	0.25
Time Analyzed	Build Alt B - AM Pk Alt 3		Peak Hour Factor	0.95
Project Description			Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	1	0	0	0	1	0	0	1	1	0	0	0	1	0
Lane Assignment	LTR				LTR				L		TR		LTR			
Volume (V), veh/h	0	20	50	190	0	30	40	20	0	190	250	10	0	10	400	10
Percent Heavy Vehicles, %	4	4	4	4	5	5	5	5	8	8	8	8	3	3	3	3
Flow Rate (v _{PCE}), pc/h	0	22	55	208	0	33	44	22	0	216	284	11	0	11	434	11
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1				2				1				1			
Pedestrians Crossing, p/h	0				0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763			4.3276		4.5436	4.5436			4.9763	
Follow-Up Headway, s		2.6087			2.5352		2.5352	2.5352			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		285			99		216	295			456	
Entry Volume, veh/h		274			94		200	273			443	
Circulating Flow (v _c), pc/h	478			522			88			293		
Exiting Flow (v _{ex}), pc/h	77			271			328			675		
Capacity (c _{PCE}), pc/h		847			911		1311	1311			1023	
Capacity (c), veh/h		815			868		1214	1214			994	
v/c Ratio (x)		0.34			0.11		0.16	0.23			0.45	

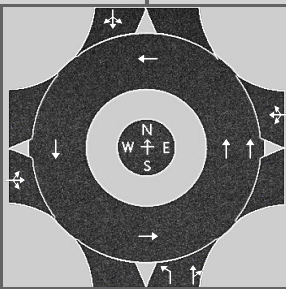
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		8.3			5.2		4.4	5.0			8.7	
Lane LOS		A			A		A	A			A	
95% Queue Length, Q ₉₅ (veh)		1.5			0.4		0.6	0.9			2.3	
95% Queue Length, Q ₉₅ (ft)		38.7			10.4		16.0	23.9			58.9	
Approach Delay, s/veh LOS	8.3	A		5.2	A		4.7	A		8.7	A	
Intersection Delay, s/veh LOS	6.9						A					

HCS Roundabouts Report

General Information

Analyst	TJS
Agency or Co.	Smart Services, Inc
Date Performed	12/19/2024
Analysis Year	2050
Time Analyzed	Build Alt B - PM Pk Alt 3
Project Description	



Site Information

Intersection	(10) SR 94 & SR 3
E/W Street Name	SR 3-Ledge Road
N/S Street Name	SR 94
Analysis Time Period, hrs	0.25
Peak Hour Factor	0.92
Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Number of Lanes (N)	0	0	1	0	0	0	1	0	0	1	1	0	0	0	1	0
Lane Assignment			LTR				LTR		L		TR				LTR	
Volume (V), veh/h	0	10	60	140	0	30	70	30	0	500	440	30	0	10	330	10
Percent Heavy Vehicles, %	5	5	5	5	3	3	3	3	3	3	3	3	3	3	3	3
Flow Rate (v _{PCE}), pc/h	0	11	68	160	0	34	78	34	0	560	493	34	0	11	369	11
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1				2				1				1			
Pedestrians Crossing, p/h	0				0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763			4.3276		4.5436	4.5436			4.9763	
Follow-Up Headway, s		2.6087			2.5352		2.5352	2.5352			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		239			146		560	527			391	
Entry Volume, veh/h		228			142		544	512			380	
Circulating Flow (v _c), pc/h	414			1064			90			672		
Exiting Flow (v _{ex}), pc/h	113			649			538			563		
Capacity (C _{PCE}), pc/h		905			575		1308	1308			695	
Capacity (c), veh/h		862			558		1270	1270			675	
v/c Ratio (x)		0.26			0.25		0.43	0.40			0.56	

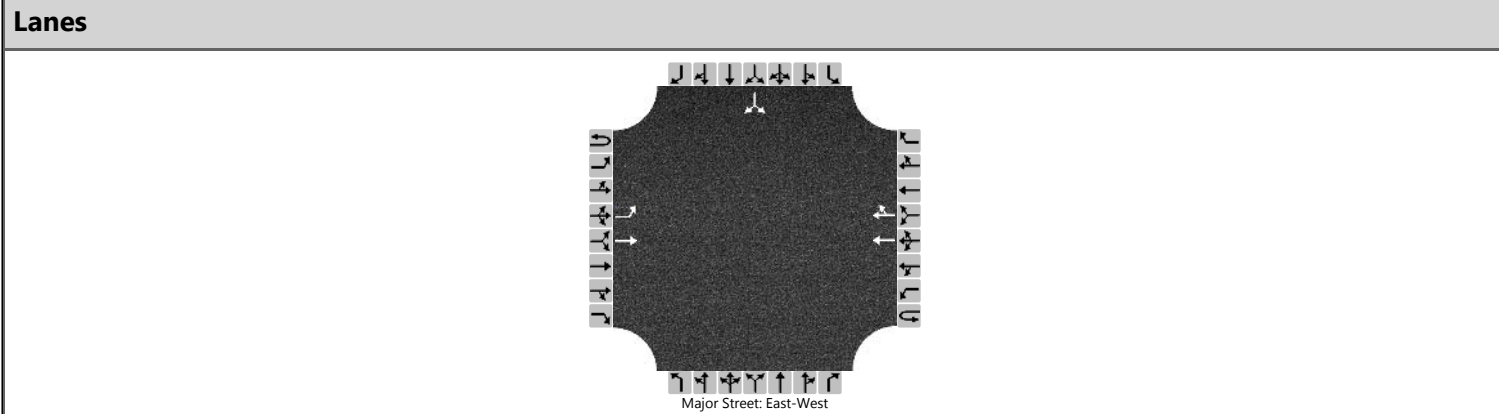
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		7.0			9.9		7.1	6.7			14.8	
Lane LOS		A			A		A	A			B	
95% Queue Length, Q ₉₅ (veh)		1.1			1.0		2.2	2.0			3.5	
95% Queue Length, Q ₉₅ (ft)		28.6			25.6		56.3	51.2			89.6	
Approach Delay, s/veh LOS	7.0	A		9.9	A		6.9	A		14.8	B	
Intersection Delay, s/veh LOS	8.8						A					

(30) W 130th St & SR 3

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(30) W 130th St & SR 3		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	12/18/2024			East/West Street	SR 3		
Analysis Year	2030			North/South Street	W 130th St		
Time Analyzed	Build - AM Peak Alt 3			Peak Hour Factor	0.92		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	1	1	0	0	0	2	0		0	0	0		0	1	0
Configuration		L	T				T	TR							LR	
Volume (veh/h)	0	90	240				330	30						80		90
Percent Heavy Vehicles (%)	9	4												7		7
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

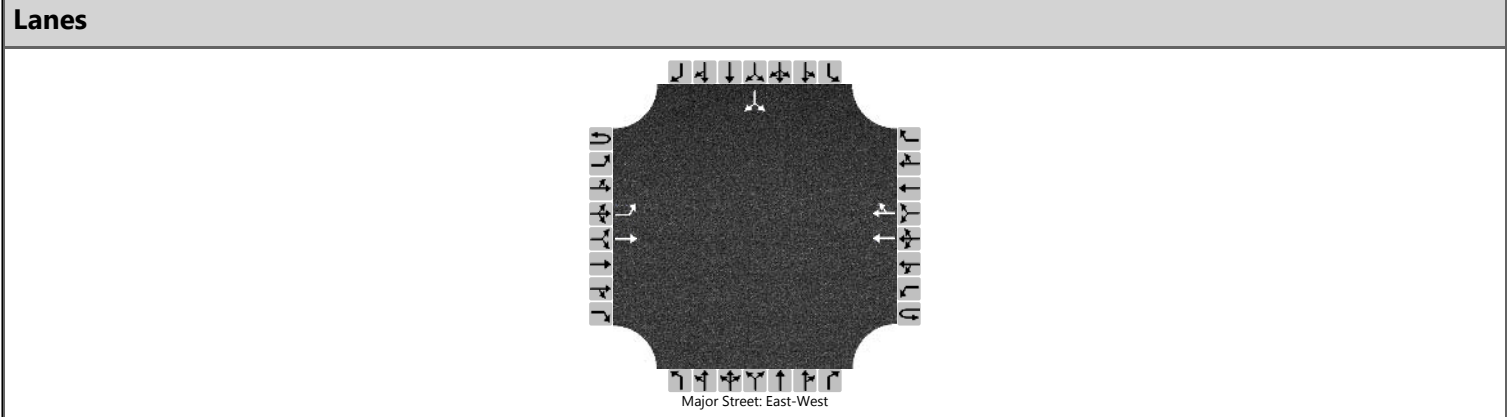
Base Critical Headway (sec)		4.1												7.5		6.9
Critical Headway (sec)		4.18												6.94		7.04
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.24												3.57		3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		98														185	
Capacity, c (veh/h)		1150														418	
v/c Ratio		0.09														0.44	
95% Queue Length, Q ₉₅ (veh)		0.3														2.2	
95% Queue Length, Q ₉₅ (ft)		7.7														58.1	
Control Delay (s/veh)		8.4														20.2	
Level of Service (LOS)		A														C	
Approach Delay (s/veh)		2.3												20.2			
Approach LOS		A												C			

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(30) W 130th St & SR 3		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	12/18/2024			East/West Street	SR 3		
Analysis Year	2030			North/South Street	W 130th St		
Time Analyzed	Build - PM Peak Alt 3			Peak Hour Factor	0.89		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	2	0		0	0	0		0	1	0
Configuration		L	T				T	TR							LR	
Volume (veh/h)	0	150	300				500	100						40		160
Percent Heavy Vehicles (%)	3	4												3		3
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

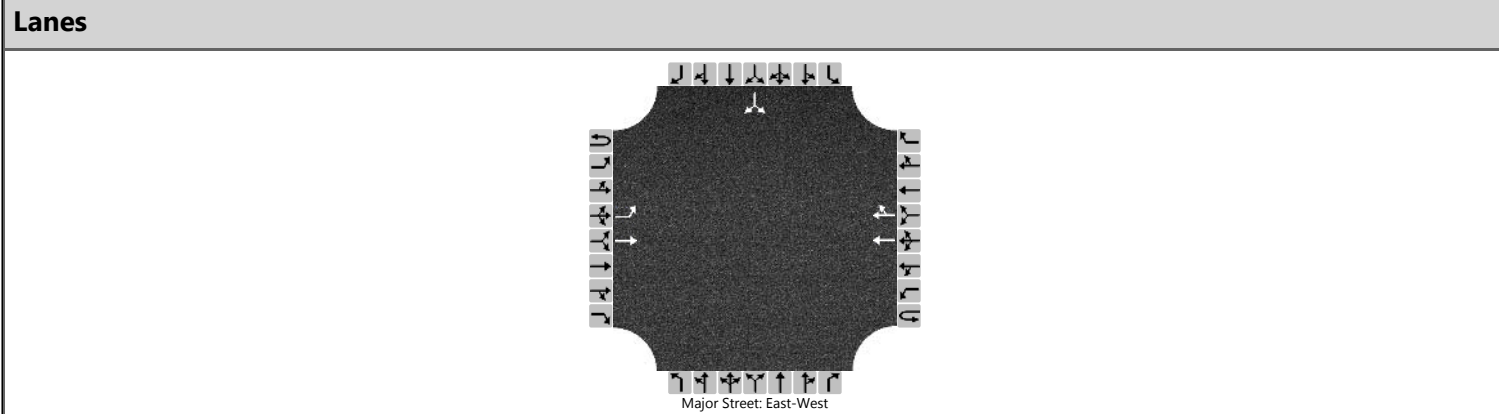
Base Critical Headway (sec)		4.1												7.5		6.9
Critical Headway (sec)		4.18												6.86		6.96
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.24												3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		168														224	
Capacity, c (veh/h)		902														356	
v/c Ratio		0.19														0.63	
95% Queue Length, Q ₉₅ (veh)		0.7														4.1	
95% Queue Length, Q ₉₅ (ft)		18.1														105.0	
Control Delay (s/veh)		9.9														30.7	
Level of Service (LOS)		A														D	
Approach Delay (s/veh)		3.3												30.7			
Approach LOS		A												D			

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(30) W 130th St & SR 3		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	12/19/2024			East/West Street	SR 3		
Analysis Year	2050			North/South Street	W 130th St		
Time Analyzed	Build - AM Peak Alt 3			Peak Hour Factor	0.92		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	1	1	0	0	0	2	0		0	0	0		0	1	0
Configuration		L	T				T	TR							LR	
Volume (veh/h)	0	110	250				330	30						80		120
Percent Heavy Vehicles (%)	9	4												7		7
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

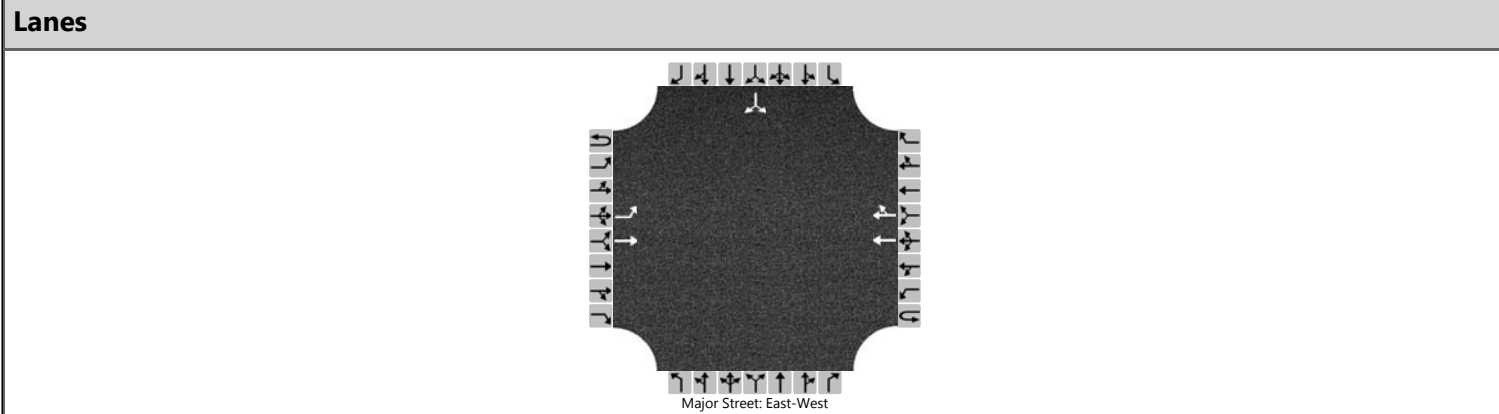
Base Critical Headway (sec)		4.1												7.5		6.9
Critical Headway (sec)		4.18												6.94		7.04
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.24												3.57		3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		120														217
Capacity, c (veh/h)		1150														421
v/c Ratio		0.10														0.52
95% Queue Length, Q ₉₅ (veh)		0.3														2.9
95% Queue Length, Q ₉₅ (ft)		7.7														76.6
Control Delay (s/veh)		8.5														22.4
Level of Service (LOS)		A														C
Approach Delay (s/veh)		2.6								22.4						
Approach LOS		A								C						

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(30) W 130th St & SR 3		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	12/19/2024			East/West Street	SR 3		
Analysis Year	2050			North/South Street	W 130th St		
Time Analyzed	Build - PM Peak Alt 3			Peak Hour Factor	0.89		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	1	1	0	0	0	2	0		0	0	0		0	1	0
Configuration		L	T				T	TR							LR	
Volume (veh/h)	0	180	320				530	110						40		170
Percent Heavy Vehicles (%)	3	4												3		3
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.5		6.9
Critical Headway (sec)		4.18												6.86		6.96
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.24												3.53		3.33

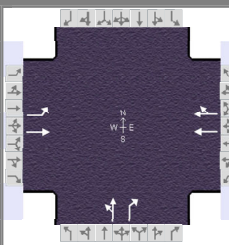
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		201														235	
Capacity, c (veh/h)		867														310	
v/c Ratio		0.23														0.76	
95% Queue Length, Q ₉₅ (veh)		0.9														5.8	
95% Queue Length, Q ₉₅ (ft)		23.2														148.5	
Control Delay (s/veh)		10.4														45.3	
Level of Service (LOS)		B														E	
Approach Delay (s/veh)		3.7												45.3			
Approach LOS		A												E			

(40) SR 3 & I-71 NB ramps

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 18, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak Alt 3	PHF	0.90
Urban Street	SR 3/Weymouth Rd	Analysis Year	2030	Analysis Period	1 > 7:15
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2030 Build...		
Project Description	2030 Build				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	950	270			260	160	70	0	60			

Signal Information				Phase Diagram									
Cycle, s	120.0	Reference Phase	2	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Offset, s	15	Reference Point	End	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Uncoordinated	No	Simult. Gap E/W	On	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Force Mode	Fixed	Simult. Gap N/S	On	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
				Green	66.8	25.8	9.9	0.0	0.0	0.0			
				Yellow	5.2	5.2	4.1	0.0	0.0	0.0			
				Red	1.0	1.0	1.0	0.0	0.0	0.0			

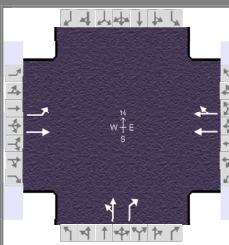
Traffic Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	950	270			260	160	70	0	60			
Initial Queue (Q _b), veh/h	0	0			0	0	0	0	0			
Base Saturation Flow Rate (s ₀), veh/h	1750	1750			1750	1900	1900	1750	1750			
Parking (N _m), man/h		None			None			None				
Heavy Vehicles (P _{HV}), %	3	3			3			6	6			
Ped / Bike / RTOR, /h	0	0			0	0	0	0	0	0	0	
Buses (N _b), buses/h	0	0	0	0	0	0	0	0	0			
Arrival Type (AT)	3	3			3	3	3	3	3			
Upstream Filtering (I)	1.00	1.00			0.09	0.09	1.00	1.00	1.00			
Lane Width (W), ft	12.0	12.0			12.0			12.0	12.0			
Turn Bay Length, ft	650	650			675			1325	130			
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50			50	50	35	35	35			

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s	72.0	104.0		32.0		16.0		
Yellow Change Interval (Y), s	5.2	5.2		5.2		4.1		
Red Clearance Interval (R _c), s	1.0	1.0		1.0		1.0		
Minimum Green (G _{min}), s	7	20		20		10		
Start-Up Lost Time (l _t), s	2.0	2.0		2.0	2.0	2.0		
Extension of Effective Green (e), s	2.0	2.0		2.0	2.0	2.0		
Passage (PT), s	2.0	2.0		2.0		2.0		
Recall Mode	Off	Min		Min		Off		
Dual Entry	No	Yes		Yes		Yes		
Walk (Walk), s		0.0				0.0		0.0
Pedestrian Clearance Time (PC), s		0.0				0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0				0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0				9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0		No	0.0	0	No		0	
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0			
Pedestrian Signal / Occupied Parking	No		0.50			0.50	No		0.50	No		

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 18, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak Alt 3	PHF	0.90
Urban Street	SR 3/Weymouth Rd	Analysis Year	2030	Analysis Period	1 > 7:15
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2030 Build...		
Project Description	2030 Build				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	950	270			260	160	70	0	60			

Signal Information				Phase Diagram									
Cycle, s	120.0	Reference Phase	2	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Offset, s	15	Reference Point	End	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Uncoordinated	No	Simult. Gap E/W	On	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Force Mode	Fixed	Simult. Gap N/S	On	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
				Green	66.8	25.8	9.9	0.0	0.0	0.0			
				Yellow	5.2	5.2	4.1	0.0	0.0	0.0			
				Red	1.0	1.0	1.0	0.0	0.0	0.0			

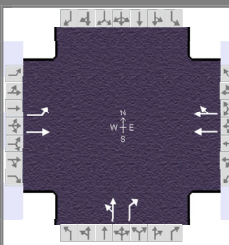
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	1.0	4.0		8.3		11.0		
Phase Duration, s	73.0	105.0		32.0		15.0		
Change Period, (Y+R _c), s	6.2	6.2		6.2		5.1		
Max Allow Headway (MAH), s	3.0	0.0		0.0		3.3		
Queue Clearance Time (g _s), s	68.8					7.7		
Green Extension Time (g _e), s	0.0	0.0		0.0		0.1		
Phase Call Probability	1.00					0.99		
Max Out Probability	1.00					1.00		

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16	3	8	18			
Adjusted Flow Rate (v), veh/h	1056	300			403	353		78	67			
Adjusted Saturation Flow Rate (s), veh/h/ln	1628	1709			1709	1490		1589	1414			
Queue Service Time (g _s), s	66.8	4.5			15.3	25.8		5.7	5.4			
Cycle Queue Clearance Time (g _c), s	66.8	4.5			15.3	25.8		5.7	5.4			
Green Ratio (g/C)	0.79	0.82			0.22	0.22		0.08	0.08			
Capacity (c), veh/h	966	1407			367	320		131	117			
Volume-to-Capacity Ratio (X)	1.093	0.213			1.095	1.102		0.592	0.571			
Back of Queue (Q), ft/ln (95 th percentile)	1346	42			436	276		111	94			
Back of Queue (Q), veh/ln (95 th percentile)	52.6	1.6			17.0	11.0		4.2	3.6			
Queue Storage Ratio (RQ) (95 th percentile)	2.07	0.06			0.65	0.42		0.08	0.72			
Uniform Delay (d ₁), s/veh	23.0	2.3			41.4	25.4		53.1	53.0			
Incremental Delay (d ₂), s/veh	57.7	0.3			47.5	51.0		3.0	2.3			
Initial Queue Delay (d ₃), s/veh	0.0	0.0			0.0	0.0		0.0	0.0			
Control Delay (d), s/veh	80.7	2.6			88.9	76.4		56.1	55.3			
Level of Service (LOS)	F	A			F	F		E	E			
Approach Delay, s/veh / LOS	63.4	E			83.1	F		55.7	E		0.0	
Intersection Delay, s/veh / LOS	69.5						E					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.60	B	1.43	A	1.96	B	2.15	B
Bicycle LOS Score / LOS	2.72	C	0.87	A	0.73	A		

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 18, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak Alt 3	PHF	0.89
Urban Street	SR 3/Weymouth Rd	Analysis Year	2030	Analysis Period	1 > 4:45
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2030 Build...		
Project Description	2030 Build				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	550	330			520	140	90	0	120			

Signal Information				Phase Diagram								
Cycle, s	100.0	Reference Phase	2									
Offset, s	54	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On									
Force Mode	Fixed	Simult. Gap N/S	On									
		Green	21.2	49.9	11.4	0.0	0.0	0.0				
		Yellow	5.2	5.2	4.1	0.0	0.0	0.0				
		Red	1.0	1.0	1.0	0.0	0.0	0.0				

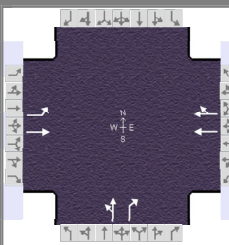
Traffic Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	550	330			520	140	90	0	120			
Initial Queue (Q _b), veh/h	0	0			0	0	0	0	0			
Base Saturation Flow Rate (s ₀), veh/h	1750	1750			1750	1900	1900	1750	1750			
Parking (N _m), man/h		None			None			None				
Heavy Vehicles (P _{HV}), %	3	3			3			2	2			
Ped / Bike / RTOR, /h	0	0		0	0	0	0	0	0	0	0	
Buses (N _b), buses/h	0	0	0	0	0	0	0	0	0			
Arrival Type (AT)	3	3			3	3	3	3	3			
Upstream Filtering (I)	0.87	0.87			1.00	1.00	1.00	1.00	1.00			
Lane Width (W), ft	12.0	12.0			12.0			12.0	12.0			
Turn Bay Length, ft	650	650			675			1325	130			
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50			50	50	35	35	35			

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s	36.0	63.0		27.0		37.0		
Yellow Change Interval (Y), s	5.2	5.2		5.2		4.1		
Red Clearance Interval (R _c), s	1.0	1.0		1.0		1.0		
Minimum Green (G _{min}), s	7	20		20		10		
Start-Up Lost Time (l _t), s	2.0	2.0		2.0	2.0	2.0		
Extension of Effective Green (e), s	2.0	2.0		2.0	2.0	2.0		
Passage (PT), s	2.0	2.0		2.0		2.0		
Recall Mode	Off	Min		Min		Off		
Dual Entry	No	Yes		Yes		Yes		
Walk (Walk), s		0.0				0.0		0.0
Pedestrian Clearance Time (PC), s		0.0				0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0				0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0				9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0		No	0.0	0	No		0	
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0			
Pedestrian Signal / Occupied Parking	No		0.50			0.50	No		0.50	No		

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 18, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak Alt 3	PHF	0.89
Urban Street	SR 3/Weymouth Rd	Analysis Year	2030	Analysis Period	1 > 4:45
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2030 Build...		
Project Description	2030 Build				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	550	330			520	140	90	0	120			

Signal Information				Phase Diagram										
Cycle, s	100.0	Reference Phase	2	↔	↔↔	↔↔	↔↔	↔↔	↔↔	↔↔	↔↔	↔↔	↔↔	
Offset, s	54	Reference Point	End	Green	21.2	49.9	11.4	0.0	0.0	0.0	1	2	3	4
Uncoordinated	No	Simult. Gap E/W	On	Yellow	5.2	5.2	4.1	0.0	0.0	0.0	5	6	7	8
Force Mode	Fixed	Simult. Gap N/S	On	Red	1.0	1.0	1.0	0.0	0.0	0.0				

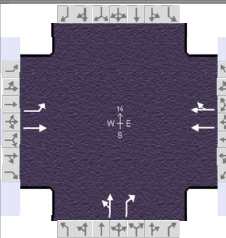
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	1.0	4.0		8.3		11.0		
Phase Duration, s	27.4	83.5		56.1		16.5		
Change Period, (Y+R _c), s	6.2	6.2		6.2		5.1		
Max Allow Headway (MAH), s	3.0	0.0		0.0		3.3		
Queue Clearance Time (g _s), s	20.0					11.0		
Green Extension Time (g _e), s	1.1	0.0		0.0		0.4		
Phase Call Probability	1.00					1.00		
Max Out Probability	0.00					0.00		

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16	3	8	18			
Adjusted Flow Rate (v), veh/h	577	346			384	357		101	135			
Adjusted Saturation Flow Rate (s), veh/h/ln	1628	1709			1709	1584		1641	1460			
Queue Service Time (g _s), s	18.0	10.9			22.7	14.6		5.8	9.0			
Cycle Queue Clearance Time (g _c), s	18.0	10.9			22.7	14.6		5.8	9.0			
Green Ratio (g/C)	0.73	0.77			0.50	0.50		0.11	0.11			
Capacity (c), veh/h	610	1320			851	788		188	167			
Volume-to-Capacity Ratio (X)	0.946	0.262			0.452	0.453		0.539	0.807			
Back of Queue (Q), ft/ln (95 th percentile)	279	147			238	220		108	153			
Back of Queue (Q), veh/ln (95 th percentile)	10.9	5.8			9.3	8.8		4.3	6.0			
Queue Storage Ratio (RQ) (95 th percentile)	0.43	0.23			0.35	0.33		0.08	1.18			
Uniform Delay (d ₁), s/veh	16.5	7.8			16.3	16.3		41.8	43.2			
Incremental Delay (d ₂), s/veh	5.2	0.4			1.7	1.9		0.9	3.5			
Initial Queue Delay (d ₃), s/veh	0.0	0.0			0.0	0.0		0.0	0.0			
Control Delay (d), s/veh	21.7	8.2			18.0	18.2		42.7	46.7			
Level of Service (LOS)	C	A			B	B		D	D			
Approach Delay, s/veh / LOS	16.6	B		18.1	B		45.0	D		0.0		
Intersection Delay, s/veh / LOS	20.7						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.61	B	1.38	A	1.95	B	2.15	B
Bicycle LOS Score / LOS	2.12	B	1.10	A	0.88	A		

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 19, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.90
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 7:15
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2050 Build...		
Project Description	2050 Build Alt 3				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	990	290			280	170	80	0	70			

Signal Information				Phase Diagram									
Cycle, s	120.0	Reference Phase	2	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Offset, s	15	Reference Point	End	Green	66.7	25.8	10.0	0.0	0.0	0.0	0.0	0.0	0.0
Uncoordinated	No	Simult. Gap E/W	On	Yellow	5.2	5.2	4.1	0.0	0.0	0.0	0.0	0.0	0.0
Force Mode	Fixed	Simult. Gap N/S	On	Red	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0

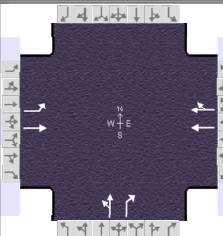
Traffic Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	990	290			280	170	80	0	70			
Initial Queue (Q _b), veh/h	0	0			0	0	0	0	0			
Base Saturation Flow Rate (s ₀), veh/h	1750	1750			1750	1900	1900	1750	1750			
Parking (N _m), man/h		None			None			None				
Heavy Vehicles (P _{HV}), %	3	3			3			6	6			
Ped / Bike / RTOR, /h	0	0		0	0	0	0	0	0	0	0	
Buses (N _b), buses/h	0	0	0	0	0	0	0	0	0			
Arrival Type (AT)	3	3			3	3	3	3	3			
Upstream Filtering (I)	1.00	1.00			0.09	0.09	1.00	1.00	1.00			
Lane Width (W), ft	12.0	12.0			12.0			12.0	12.0			
Turn Bay Length, ft	650	650			675			1325	130			
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50			50	50	35	35	35			

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s	72.0	104.0		32.0		16.0		
Yellow Change Interval (Y), s	5.2	5.2		5.2		4.1		
Red Clearance Interval (R _c), s	1.0	1.0		1.0		1.0		
Minimum Green (G _{min}), s	7	20		20		10		
Start-Up Lost Time (l _t), s	2.0	2.0		2.0	2.0	2.0		
Extension of Effective Green (e), s	2.0	2.0		2.0	2.0	2.0		
Passage (PT), s	2.0	2.0		2.0		2.0		
Recall Mode	Off	Min		Min		Off		
Dual Entry	No	Yes		Yes		Yes		
Walk (Walk), s		0.0				0.0		0.0
Pedestrian Clearance Time (PC), s		0.0				0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0				0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0				9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0		No	0.0	0	No		0	
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0			
Pedestrian Signal / Occupied Parking	No		0.50			0.50	No		0.50	No		

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 19, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.90
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 7:15
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2050 Build...		
Project Description	2050 Build Alt 3				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	990	290			280	170	80	0	70			

Signal Information				Phase Diagram									
Cycle, s	120.0	Reference Phase	2	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Offset, s	15	Reference Point	End	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Uncoordinated	No	Simult. Gap E/W	On	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Force Mode	Fixed	Simult. Gap N/S	On	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
				Green	66.7	25.8	10.0	0.0	0.0	0.0			
				Yellow	5.2	5.2	4.1	0.0	0.0	0.0			
				Red	1.0	1.0	1.0	0.0	0.0	0.0			

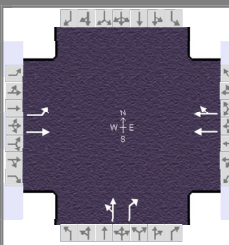
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	1.0	4.0		8.3		11.0		
Phase Duration, s	72.9	104.9		32.0		15.1		
Change Period, (Y+R _c), s	6.2	6.2		6.2		5.1		
Max Allow Headway (MAH), s	3.0	0.0		0.0		3.3		
Queue Clearance Time (g _s), s	68.7					8.5		
Green Extension Time (g _e), s	0.0	0.0		0.0		0.1		
Phase Call Probability	1.00					1.00		
Max Out Probability	1.00					1.00		

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16	3	8	18			
Adjusted Flow Rate (v), veh/h	1100	322			415	364		89	78			
Adjusted Saturation Flow Rate (s), veh/h/ln	1628	1709			1709	1492		1589	1414			
Queue Service Time (g _s), s	66.7	4.9			16.6	25.8		6.5	6.4			
Cycle Queue Clearance Time (g _c), s	66.7	4.9			16.6	25.8		6.5	6.4			
Green Ratio (g/C)	0.79	0.82			0.22	0.22		0.08	0.08			
Capacity (c), veh/h	965	1406			367	321		132	117			
Volume-to-Capacity Ratio (X)	1.140	0.229			1.128	1.134		0.674	0.663			
Back of Queue (Q), ft/ln (95 th percentile)	1539	46			483	314		136	119			
Back of Queue (Q), veh/ln (95 th percentile)	60.1	1.8			18.9	12.6		5.2	4.5			
Queue Storage Ratio (RQ) (95 th percentile)	2.37	0.07			0.72	0.48		0.10	0.91			
Uniform Delay (d ₁), s/veh	23.0	2.3			40.9	25.1		53.4	53.4			
Incremental Delay (d ₂), s/veh	75.5	0.4			61.4	64.4		7.9	7.9			
Initial Queue Delay (d ₃), s/veh	0.0	0.0			0.0	0.0		0.0	0.0			
Control Delay (d), s/veh	98.5	2.7			102.4	89.5		61.3	61.3			
Level of Service (LOS)	F	A			F	F		E	E			
Approach Delay, s/veh / LOS	76.8	E			96.3	F		61.3	E		0.0	
Intersection Delay, s/veh / LOS	82.1						F					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.60	B	1.43	A	1.96	B	2.15	B
Bicycle LOS Score / LOS	2.83	C	0.90	A	0.76	A		

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 19, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.89
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 4:45
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2050 Build...		
Project Description	2050 Build Alt 3				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	570	360			550	150	100	0	140			

Signal Information				Phase Diagram										
Cycle, s	100.0	Reference Phase	2	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	
Offset, s	54	Reference Point	End	Green	26.7	42.8	13.0	0.0	0.0	0.0	1	2	3	4
Uncoordinated	No	Simult. Gap E/W	On	Yellow	5.2	5.2	4.1	0.0	0.0	0.0	5	6	7	8
Force Mode	Fixed	Simult. Gap N/S	On	Red	1.0	1.0	1.0	0.0	0.0	0.0	↗	↖	↘	↙

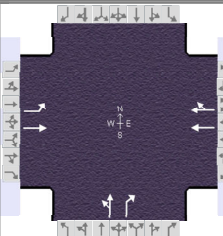
Traffic Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	570	360			550	150	100	0	140			
Initial Queue (Q _b), veh/h	0	0			0	0	0	0	0			
Base Saturation Flow Rate (s ₀), veh/h	1750	1750			1750	1900	1900	1750	1750			
Parking (N _m), man/h		None			None			None				
Heavy Vehicles (P _{HV}), %	3	3			3			2	2			
Ped / Bike / RTOR, /h	0	0		0	0	0	0	0	0	0	0	
Buses (N _b), buses/h	0	0	0	0	0	0	0	0	0			
Arrival Type (AT)	3	3			3	3	3	3	3			
Upstream Filtering (I)	0.85	0.85			1.00	1.00	1.00	1.00	1.00			
Lane Width (W), ft	12.0	12.0			12.0			12.0	12.0			
Turn Bay Length, ft	650	650			675			1325	130			
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50			50	50	35	35	35			

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s	36.0	63.0		27.0		37.0		
Yellow Change Interval (Y), s	5.2	5.2		5.2		4.1		
Red Clearance Interval (R _c), s	1.0	1.0		1.0		1.0		
Minimum Green (G _{min}), s	7	20		20		10		
Start-Up Lost Time (l _t), s	2.0	2.0		2.0	2.0	2.0		
Extension of Effective Green (e), s	2.0	2.0		2.0	2.0	2.0		
Passage (P _T), s	2.0	2.0		2.0		2.0		
Recall Mode	Off	Min		Min		Off		
Dual Entry	No	Yes		Yes		Yes		
Walk (Walk), s		0.0				0.0		0.0
Pedestrian Clearance Time (P _C), s		0.0				0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0				0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0				9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0		No	0.0	0	No		0	
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0			
Pedestrian Signal / Occupied Parking	No		0.50			0.50	No		0.50	No		

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 19, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.89
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 4:45
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2050 Build...		
Project Description	2050 Build Alt 3				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	570	360			550	150	100	0	140			

Signal Information														
Cycle, s	100.0	Reference Phase	2											
Offset, s	54	Reference Point	End	Green	26.7	42.8	13.0	0.0	0.0	0.0				
Uncoordinated	No	Simult. Gap E/W	On	Yellow	5.2	5.2	4.1	0.0	0.0	0.0				
Force Mode	Fixed	Simult. Gap N/S	On	Red	1.0	1.0	1.0	0.0	0.0	0.0				

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	1.0	4.0		8.3		11.0		
Phase Duration, s	32.9	81.9		49.0		18.1		
Change Period, ($Y+R_c$), s	6.2	6.2		6.2		5.1		
Max Allow Headway (MAH), s	3.0	0.0		0.0		3.3		
Queue Clearance Time (g_s), s	25.5					12.5		
Green Extension Time (g_e), s	1.1	0.0		0.0		0.5		
Phase Call Probability	1.00					1.00		
Max Out Probability	0.00					0.00		

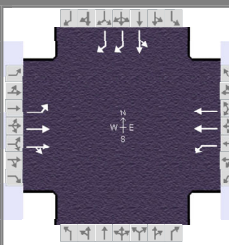
Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16	3	8	18			
Adjusted Flow Rate (v), veh/h	599	378			408	379		112	157			
Adjusted Saturation Flow Rate (s), veh/h/ln	1628	1709			1709	1582		1641	1460			
Queue Service Time (g_s), s	23.5	11.9			24.5	18.0		6.4	10.5			
Cycle Queue Clearance Time (g_c), s	23.5	11.9			24.5	18.0		6.4	10.5			
Green Ratio (g/C)	0.71	0.76			0.43	0.43		0.13	0.13			
Capacity (c), veh/h	631	1294			730	676		213	190			
Volume-to-Capacity Ratio (X)	0.949	0.292			0.558	0.560		0.526	0.828			
Back of Queue (Q), ft/ln (95 th percentile)	324	171			294	272		118	178			
Back of Queue (Q), veh/ln (95 th percentile)	12.6	6.7			11.5	10.9		4.6	7.0			
Queue Storage Ratio (RQ) (95 th percentile)	0.50	0.26			0.44	0.41		0.09	1.37			
Uniform Delay (d_1), s/veh	19.7	8.2			21.5	21.6		40.6	42.4			
Incremental Delay (d_2), s/veh	8.9	0.5			3.1	3.3		0.7	3.5			
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0	0.0		0.0	0.0			
Control Delay (d), s/veh	28.6	8.7			24.6	24.9		41.4	45.9			
Level of Service (LOS)	C	A			C	C		D	D			
Approach Delay, s/veh / LOS	20.9	C		24.7	C		44.0	D		0.0		
Intersection Delay, s/veh / LOS	25.4						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.62	B	1.39	A	1.95	B	2.15	B
Bicycle LOS Score / LOS	2.21	B	1.14	A	0.93	A		

(50) SR 3 & I-71 SB ramps

HCS Signalized Intersection Input Data

General Information				Intersection Information			
Agency	Smart Services Inc.			Duration, h	0.250		
Analyst	TJS	Analysis Date	Dec 18, 2024	Area Type	Other		
Jurisdiction	ODOT	Time Period	AM Peak Alt 3	PHF	0.92		
Urban Street	SR 3/Weymouth Rd	Analysis Year	2030	Analysis Period	1 > 7:15		
Intersection	(50) SR 3 & I-71 SB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2030 Build...				
Project Description	2030 Build						



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	1	1140	280	50	280					80	2	460

Signal Information				Phase Diagram								
Cycle, s	120.0	Reference Phase	2									
Offset, s	118	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On									
Force Mode	Fixed	Simult. Gap N/S	On									
		Green	52.9	20.9	6.5	16.7	0.0	0.0				
		Yellow	4.1	5.2	4.3	4.1	0.0	0.0				
		Red	1.0	1.0	2.3	1.0	0.0	0.0				

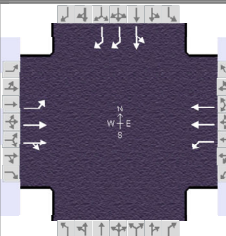
Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	1	1140	280	50	280					80	2	460
Initial Queue (Q _b), veh/h	0	0	0	0	0					0	0	0
Base Saturation Flow Rate (s ₀), veh/h	1750	1750	1900	1750	1750					1900	1750	1750
Parking (N _m), man/h		None			None						None	
Heavy Vehicles (P _{HV}), %	3	3		5	5					9	9	
Ped / Bike / RTOR, /h	0	0	0	0	0		0	0		0	0	0
Buses (N _b), buses/h	0	0	0	0	0	0				0	0	0
Arrival Type (AT)	3	3	3	3	3					3	3	3
Upstream Filtering (I)	0.97	0.97	0.97	0.97	0.97					1.00	1.00	1.00
Lane Width (W), ft	12.0	12.0		12.0	12.0					12.0	12.0	
Turn Bay Length, ft	0	450		165	525					1325	165	
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50	50	50	50					35	35	35

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s	14.0	41.0	63.0	90.0				16.0
Yellow Change Interval (Y), s	4.1	5.2	4.3	5.2				4.1
Red Clearance Interval (R _c), s	1.0	1.0	2.3	1.0				1.0
Minimum Green (G _{min}), s	7	20	7	20				10
Start-Up Lost Time (l _t), s	2.0	2.0	2.0	2.0			2.0	2.0
Extension of Effective Green (e), s	2.0	2.0	2.0	2.0			2.0	2.0
Passage (P _T), s	2.0	2.0	2.0	2.0				2.0
Recall Mode	Max	Min	Off	Min				Off
Dual Entry	No	Yes	No	Yes				Yes
Walk (Walk), s				0.0		0.0		0.0
Pedestrian Clearance Time (P _C), s				0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius				0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft				9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0		No	0.0	0	No		0		0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0				12.0	5.0	2.0
Pedestrian Signal / Occupied Parking			0.50	No		0.50	No			No		0.50

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 18, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak Alt 3	PHF	0.92
Urban Street	SR 3/Weymouth Rd	Analysis Year	2030	Analysis Period	1 > 7:15
Intersection	(50) SR 3 & I-71 SB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2030 Build...		
Project Description	2030 Build				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	1	1140	280	50	280					80	2	460

Signal Information				Signal Phases									
Cycle, s	120.0	Reference Phase	2										
Offset, s	118	Reference Point	End	Green	52.9	20.9	6.5	16.7	0.0	0.0			
Uncoordinated	No	Simult. Gap E/W	On	Yellow	4.1	5.2	4.3	4.1	0.0	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Red	1.0	1.0	2.3	1.0	0.0	0.0			

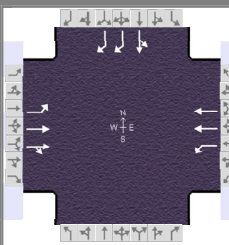
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6				4
Case Number	2.0	4.0	1.3	4.0				11.0
Phase Duration, s	58.0	85.1	13.1	40.2				21.8
Change Period, ($Y+R_c$), s	5.1	6.2	6.6	6.6				5.1
Max Allow Headway (MAH), s	3.0	0.0	3.0	0.0				3.4
Queue Clearance Time (g_s), s	2.0		2.0					15.0
Green Extension Time (g_e), s	0.0	0.0	1.1	0.0				1.7
Phase Call Probability	1.00		0.93					1.00
Max Out Probability	0.00		0.00					0.00

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Assigned Movement	5	2	12	1	6					7	4	14
Adjusted Flow Rate (v), veh/h	0	187	179	79	444					89	500	
Adjusted Saturation Flow Rate (s), veh/h/ln	1628	1709	1593	1602	1601					1551	1220	
Queue Service Time (g_s), s	0.0	5.3	5.0	0.0	9.1					6.3	13.0	
Cycle Queue Clearance Time (g_c), s	0.0	5.3	5.0	0.0	9.1					6.3	13.0	
Green Ratio (g/C)	0.44	0.66	0.66	0.21	0.28					0.14	0.58	
Capacity (c), veh/h	716	1123	1047	304	899					217	1414	
Volume-to-Capacity Ratio (X)	0.000	0.167	0.171	0.261	0.493					0.412	0.354	
Back of Queue (Q), ft/ln (95 th percentile)	0	84	72	91	129					118	166	
Back of Queue (Q), veh/ln (95 th percentile)	0.0	3.3	2.8	3.5	5.0					4.4	6.2	
Queue Storage Ratio (RQ) (95 th percentile)	0.00	0.19	0.16	0.55	0.25					0.09	1.01	
Uniform Delay (d_1), s/veh	16.5	8.4	7.5	40.2	18.0					47.1	13.4	
Incremental Delay (d_2), s/veh	0.0	0.3	0.3	0.2	1.9					0.5	0.1	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0					0.0	0.0	
Control Delay (d), s/veh	16.5	8.7	7.9	40.4	19.9					47.6	13.4	
Level of Service (LOS)	B	A	A	D	B					D	B	
Approach Delay, s/veh / LOS	8.3		A	23.0		C	0.0			18.6		B
Intersection Delay, s/veh / LOS	17.6						B					

Multimodal Results	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	1.44		A	2.13		B	2.32		B	2.32		B
Bicycle LOS Score / LOS	1.76		B	0.78		A				1.46		A

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 18, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak Alt 3	PHF	0.90
Urban Street	SR 3/Weymouth Rd	Analysis Year	2030	Analysis Period	1 > 4:45
Intersection	(50) SR 3 & I-71 SB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2030 Build...		
Project Description	2030 Build				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	1	760	130	70	540					120	0	1010

Signal Information				Phase Diagram								
Cycle, s	100.0	Reference Phase	2									
Offset, s	1	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On									
Force Mode	Fixed	Simult. Gap N/S	On									
		Green	25.9	24.8	6.2	20.1	0.0	0.0				
		Yellow	4.1	5.2	4.3	4.1	0.0	0.0				
		Red	1.0	1.0	2.3	1.0	0.0	0.0				

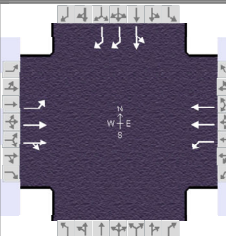
Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	1	760	130	70	540					120	0	1010
Initial Queue (Q _b), veh/h	0	0	0	0	0					0	0	0
Base Saturation Flow Rate (s _o), veh/h	1750	1750	1900	1750	1750					1900	1750	1750
Parking (N _m), man/h		None			None						None	
Heavy Vehicles (P _{HV}), %	3	3		4	4					2	2	
Ped / Bike / RTOR, /h	0	0	0	0	0		0	0		0	0	0
Buses (N _b), buses/h	0	0	0	0	0	0				0	0	0
Arrival Type (AT)	3	3	3	3	3					3	3	3
Upstream Filtering (I)	0.88	0.88	0.88	0.88	0.88					1.00	1.00	1.00
Lane Width (W), ft	12.0	12.0		12.0	12.0					12.0	12.0	
Turn Bay Length, ft	0	450		165	650					1325	165	
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50	50	50	50					35	35	35

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s	31.0	62.0	20.0	51.0				18.0
Yellow Change Interval (Y), s	4.1	5.2	4.3	5.2				4.1
Red Clearance Interval (R _c), s	1.0	1.0	2.3	1.0				1.0
Minimum Green (G _{min}), s	7	20	7	20				10
Start-Up Lost Time (l _t), s	2.0	2.0	2.0	2.0			2.0	2.0
Extension of Effective Green (e), s	2.0	2.0	2.0	2.0			2.0	2.0
Passage (PT), s	2.0	2.0	2.0	2.0				2.0
Recall Mode	Max	Min	Off	Min				Off
Dual Entry	No	Yes	No	Yes				Yes
Walk (Walk), s				0.0		0.0		0.0
Pedestrian Clearance Time (PC), s				0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius				0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft				9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0		No	0.0	0	No		0		0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0				12.0	5.0	2.0
Pedestrian Signal / Occupied Parking			0.50	No		0.50	No			No		0.50

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 18, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak Alt 3	PHF	0.90
Urban Street	SR 3/Weymouth Rd	Analysis Year	2030	Analysis Period	1 > 4:45
Intersection	(50) SR 3 & I-71 SB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2030 Build...		
Project Description	2030 Build				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	1	760	130	70	540					120	0	1010

Signal Information				Signal Timing (s)								
Cycle, s	100.0	Reference Phase	2									
Offset, s	1	Reference Point	End	Green	25.9	24.8	6.2	20.1	0.0	0.0		
Uncoordinated	No	Simult. Gap E/W	On	Yellow	4.1	5.2	4.3	4.1	0.0	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Red	1.0	1.0	2.3	1.0	0.0	0.0		

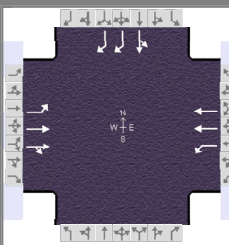
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6				4
Case Number	2.0	4.0	1.3	4.0				11.0
Phase Duration, s	31.0	62.0	12.8	43.8				25.2
Change Period, ($Y+R_c$), s	5.1	6.2	6.6	6.6				5.1
Max Allow Headway (MAH), s	3.0	0.0	3.0	0.0				3.4
Queue Clearance Time (g_s), s	2.0		2.0					22.1
Green Extension Time (g_e), s	0.0	0.0	1.3	0.0				0.0
Phase Call Probability	1.00		0.89					1.00
Max Out Probability	0.00		0.01					1.00

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Assigned Movement	5	2	12	1	6					7	4	14
Adjusted Flow Rate (v), veh/h	1	475	450	79	607					133	1122	
Adjusted Saturation Flow Rate (s), veh/h/ln	1628	1709	1621	1615	1614					1641	1292	
Queue Service Time (g_s), s	0.0	20.6	20.4	0.0	17.3					7.1	20.1	
Cycle Queue Clearance Time (g_c), s	0.0	20.6	20.4	0.0	17.3					7.1	20.1	
Green Ratio (g/C)	0.26	0.56	0.56	0.29	0.37					0.20	0.46	
Capacity (c), veh/h	422	954	905	307	1200					329	1189	
Volume-to-Capacity Ratio (X)	0.002	0.498	0.498	0.256	0.506					0.405	0.944	
Back of Queue (Q), ft/ln (95 th percentile)	1	339	320	73	303					128	517	
Back of Queue (Q), veh/ln (95 th percentile)	0.0	13.3	12.5	2.8	11.8					5.0	20.3	
Queue Storage Ratio (RQ) (95 th percentile)	0.00	0.75	0.71	0.44	0.47					0.10	3.13	
Uniform Delay (d_1), s/veh	28.0	19.2	18.7	31.4	34.3					34.8	25.7	
Incremental Delay (d_2), s/veh	0.0	1.7	1.8	0.1	1.3					0.3	14.4	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0					0.0	0.0	
Control Delay (d), s/veh	28.1	20.9	20.6	31.5	35.7					35.1	40.2	
Level of Service (LOS)	C	C	C	C	D					D	D	
Approach Delay, s/veh / LOS	20.7	C		35.2	D	0.0				39.6	D	
Intersection Delay, s/veh / LOS	32.5						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.43	A	2.11	B	2.31	B	2.31	B
Bicycle LOS Score / LOS	1.30	A	1.05	A			2.56	C

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 19, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.92
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 7:15
Intersection	(50) SR 3 & I-71 SB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2050 Build...		
Project Description	2050 Build Alt 3				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	1	1190	290	50	310					90	2	480

Signal Information				Phase Diagram								
Cycle, s	120.0	Reference Phase	2									
Offset, s	118	Reference Point	End	Green	52.1	20.9	6.4	17.5	0.0	0.0		
Uncoordinated	No	Simult. Gap E/W	On	Yellow	4.1	5.2	4.3	4.1	0.0	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Red	1.0	1.0	2.3	1.0	0.0	0.0		

Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	1	1190	290	50	310					90	2	480
Initial Queue (Q _b), veh/h	0	0	0	0	0					0	0	0
Base Saturation Flow Rate (s ₀), veh/h	1750	1750	1900	1750	1750					1900	1750	1750
Parking (N _m), man/h		None			None						None	
Heavy Vehicles (P _{HV}), %	3	3		5	5					9	9	
Ped / Bike / RTOR, /h	0	0	0	0	0		0	0		0	0	0
Buses (N _b), buses/h	0	0	0	0	0	0				0	0	0
Arrival Type (AT)	3	3	3	3	3					3	3	3
Upstream Filtering (I)	0.97	0.97	0.97	0.97	0.97					1.00	1.00	1.00
Lane Width (W), ft	12.0	12.0		12.0	12.0					12.0	12.0	
Turn Bay Length, ft	0	450		165	525					1325	165	
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50	50	50	50					35	35	35

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s	14.0	41.0	63.0	90.0				16.0
Yellow Change Interval (Y), s	4.1	5.2	4.3	5.2				4.1
Red Clearance Interval (R _c), s	1.0	1.0	2.3	1.0				1.0
Minimum Green (G _{min}), s	7	20	7	20				10
Start-Up Lost Time (l _t), s	2.0	2.0	2.0	2.0			2.0	2.0
Extension of Effective Green (e), s	2.0	2.0	2.0	2.0			2.0	2.0
Passage (P _T), s	2.0	2.0	2.0	2.0				2.0
Recall Mode	Max	Min	Off	Min				Off
Dual Entry	No	Yes	No	Yes				Yes
Walk (Walk), s				0.0		0.0		0.0
Pedestrian Clearance Time (P _C), s				0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius				0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft				9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0		No	0.0	0	No		0		0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0				12.0	5.0	2.0
Pedestrian Signal / Occupied Parking			0.50	No		0.50	No			No		0.50

HCS Signalized Intersection Results Summary

General Information				Intersection Information		
Agency	Smart Services Inc.			Duration, h	0.250	
Analyst	TJS	Analysis Date	Dec 19, 2024	Area Type	Other	
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.92	
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 7:15	
Intersection	(50) SR 3 & I-71 SB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2050 Build...			
Project Description	2050 Build Alt 3					

Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	1	1190	290	50	310					90	2	480

Signal Information														
Cycle, s	120.0	Reference Phase	2	Green	52.1	20.9	6.4	17.5	0.0	0.0				
Offset, s	118	Reference Point	End	Yellow	4.1	5.2	4.3	4.1	0.0	0.0				
Uncoordinated	No	Simult. Gap E/W	On	Red	1.0	1.0	2.3	1.0	0.0	0.0				
Force Mode	Fixed	Simult. Gap N/S	On											

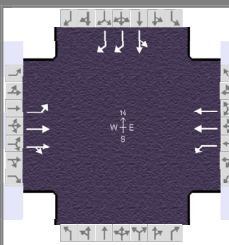
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6				4
Case Number	2.0	4.0	1.3	4.0				11.0
Phase Duration, s	57.2	84.4	13.0	40.2				22.6
Change Period, ($Y+R_c$), s	5.1	6.2	6.6	6.6				5.1
Max Allow Headway (MAH), s	3.0	0.0	3.0	0.0				3.4
Queue Clearance Time (g_s), s	2.0		2.0					15.7
Green Extension Time (g_e), s	0.0	0.0	1.2	0.0				1.8
Phase Call Probability	1.00		0.92					1.00
Max Out Probability	0.00		0.00					0.00

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6					7	4	14
Adjusted Flow Rate (v), veh/h	0	204	195	75	466					100	522	
Adjusted Saturation Flow Rate (s), veh/h/ln	1628	1709	1594	1602	1601					1551	1220	
Queue Service Time (g_s), s	0.0	6.2	5.7	0.0	9.7					7.1	13.7	
Cycle Queue Clearance Time (g_c), s	0.0	6.2	5.7	0.0	9.7					7.1	13.7	
Green Ratio (g/C)	0.43	0.65	0.65	0.21	0.28					0.15	0.58	
Capacity (c), veh/h	706	1113	1038	298	897					227	1415	
Volume-to-Capacity Ratio (X)	0.000	0.184	0.188	0.252	0.520					0.441	0.369	
Back of Queue (Q), ft/ln (95 th percentile)	0	98	83	86	136					132	175	
Back of Queue (Q), veh/ln (95 th percentile)	0.0	3.8	3.2	3.3	5.2					4.9	6.5	
Queue Storage Ratio (RQ) (95 th percentile)	0.00	0.22	0.18	0.52	0.26					0.10	1.06	
Uniform Delay (d_1), s/veh	17.2	9.2	8.1	40.2	17.9					46.8	13.5	
Incremental Delay (d_2), s/veh	0.0	0.4	0.4	0.2	2.1					0.5	0.1	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0					0.0	0.0	
Control Delay (d), s/veh	17.2	9.5	8.5	40.4	20.0					47.3	13.5	
Level of Service (LOS)	B	A	A	D	C					D	B	
Approach Delay, s/veh / LOS	9.0		A	22.8		C	0.0			19.0		B
Intersection Delay, s/veh / LOS	17.8						B					

Multimodal Results	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	1.44		A	2.13		B	2.32		B	2.32		B
Bicycle LOS Score / LOS	1.82		B	0.81		A				1.51		B

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 19, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.90
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 4:45
Intersection	(50) SR 3 & I-71 SB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2050 Build...		
Project Description	2050 Build Alt 3				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	1	800	140	80	570					130	0	1050

Signal Information				Phase Diagram								
Cycle, s	100.0	Reference Phase	2									
Offset, s	1	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On									
Force Mode	Fixed	Simult. Gap N/S	On									
		Green	25.9	24.8	6.4	19.9	0.0	0.0				
		Yellow	4.1	5.2	4.3	4.1	0.0	0.0				
		Red	1.0	1.0	2.3	1.0	0.0	0.0				

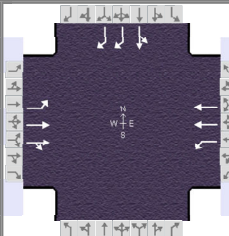
Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	1	800	140	80	570					130	0	1050
Initial Queue (Q _b), veh/h	0	0	0	0	0					0	0	0
Base Saturation Flow Rate (s ₀), veh/h	1750	1750	1900	1750	1750					1900	1750	1750
Parking (N _m), man/h		None			None						None	
Heavy Vehicles (P _{HV}), %	3	3		4	4						2	2
Ped / Bike / RTOR, /h	0	0	0	0	0		0	0		0	0	0
Buses (N _b), buses/h	0	0	0	0	0	0				0	0	0
Arrival Type (AT)	3	3	3	3	3					3	3	3
Upstream Filtering (I)	0.81	0.81	0.81	0.81	0.81					1.00	1.00	1.00
Lane Width (W), ft	12.0	12.0		12.0	12.0						12.0	12.0
Turn Bay Length, ft	0	450		165	650						1325	165
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50	50	50	50					35	35	35

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s	31.0	62.0	20.0	51.0				18.0
Yellow Change Interval (Y), s	4.1	5.2	4.3	5.2				4.1
Red Clearance Interval (R _c), s	1.0	1.0	2.3	1.0				1.0
Minimum Green (G _{min}), s	7	20	7	20				10
Start-Up Lost Time (l _t), s	2.0	2.0	2.0	2.0			2.0	2.0
Extension of Effective Green (e), s	2.0	2.0	2.0	2.0			2.0	2.0
Passage (PT), s	2.0	2.0	2.0	2.0				2.0
Recall Mode	Max	Min	Off	Min				Off
Dual Entry	No	Yes	No	Yes				Yes
Walk (Walk), s				0.0		0.0		0.0
Pedestrian Clearance Time (PC), s				0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius				0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft				9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0		No	0.0	0	No		0		0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0				12.0	5.0	2.0
Pedestrian Signal / Occupied Parking			0.50	No		0.50	No			No		0.50

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 19, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.90
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 4:45
Intersection	(50) SR 3 & I-71 SB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2050 Build...		
Project Description	2050 Build Alt 3				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	1	800	140	80	570					130	0	1050

Signal Information				Signal Phases									
Cycle, s	100.0	Reference Phase	2										
Offset, s	1	Reference Point	End	Green	25.9	24.8	6.4	19.9	0.0	0.0			
Uncoordinated	No	Simult. Gap E/W	On	Yellow	4.1	5.2	4.3	4.1	0.0	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Red	1.0	1.0	2.3	1.0	0.0	0.0			

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6				4
Case Number	2.0	4.0	1.3	4.0				11.0
Phase Duration, s	31.0	62.0	13.0	44.0				25.0
Change Period, ($Y+R_c$), s	5.1	6.2	6.6	6.6				5.1
Max Allow Headway (MAH), s	3.0	0.0	3.0	0.0				3.4
Queue Clearance Time (g_s), s	2.0		2.0					21.9
Green Extension Time (g_e), s	0.0	0.0	1.4	0.0				0.0
Phase Call Probability	1.00		0.92					1.00
Max Out Probability	0.00		0.01					1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6					7	4	14
Adjusted Flow Rate (v), veh/h	1	502	476	90	640					144	1167	
Adjusted Saturation Flow Rate (s), veh/h/ln	1628	1709	1620	1615	1614					1641	1292	
Queue Service Time (g_s), s	0.0	22.3	22.0	0.0	17.8					7.7	19.9	
Cycle Queue Clearance Time (g_c), s	0.0	22.3	22.0	0.0	17.8					7.7	19.9	
Green Ratio (g/C)	0.26	0.56	0.56	0.29	0.37					0.20	0.46	
Capacity (c), veh/h	422	954	904	304	1207					326	1184	
Volume-to-Capacity Ratio (X)	0.002	0.527	0.527	0.295	0.531					0.443	0.985	
Back of Queue (Q), ft/ln (95 th percentile)	1	363	342	86	298					140	585	
Back of Queue (Q), veh/ln (95 th percentile)	0.0	14.2	13.3	3.3	11.6					5.5	23.0	
Queue Storage Ratio (RQ) (95 th percentile)	0.00	0.81	0.76	0.52	0.46					0.11	3.55	
Uniform Delay (d_1), s/veh	28.1	19.8	19.3	32.3	32.3					35.2	26.8	
Incremental Delay (d_2), s/veh	0.0	1.9	2.0	0.2	1.4					0.4	22.6	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0					0.0	0.0	
Control Delay (d), s/veh	28.1	21.8	21.4	32.5	33.7					35.6	49.3	
Level of Service (LOS)	C	C	C	C	C					D	D	
Approach Delay, s/veh / LOS	21.6	C		33.5	C		0.0			47.8	D	
Intersection Delay, s/veh / LOS			35.9						D			

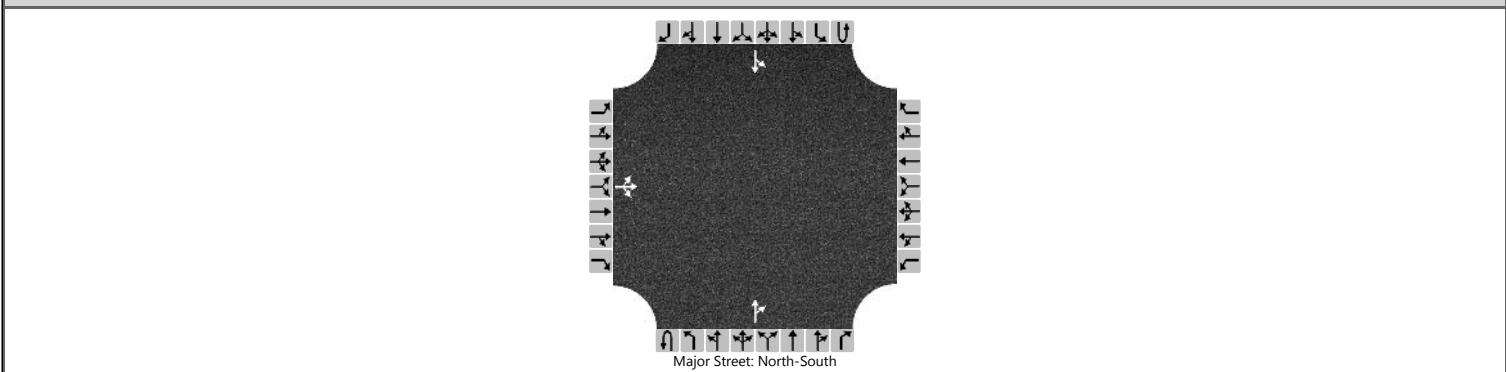
Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.43	A	2.11	B	2.31	B	2.31	B
Bicycle LOS Score / LOS	1.35	A	1.08	A			2.65	C

(230) SR 94 & I-271 NBrams

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(230) SR 94 (Ridge Rd) & I-271 NB Ramps		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	12/18/2024			East/West Street	I-271 NB Ramps		
Analysis Year	2030			North/South Street	SR 94 (Ridge Rd)		
Time Analyzed	Build - AM Peak Alt 3			Peak Hour Factor	0.90		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6	
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0	
Configuration			LTR									TR		LT			
Volume (veh/h)		20	0	10							250	140		560	280		
Percent Heavy Vehicles (%)		14	14	14										4			
Proportion Time Blocked																	
Percent Grade (%)		0															
Right Turn Channelized																	
Median Type Storage		Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2										4.1		
Critical Headway (sec)		7.24	6.64	6.34										4.14		
Base Follow-Up Headway (sec)		3.5	4.0	3.3										2.2		
Follow-Up Headway (sec)		3.63	4.13	3.43										2.24		

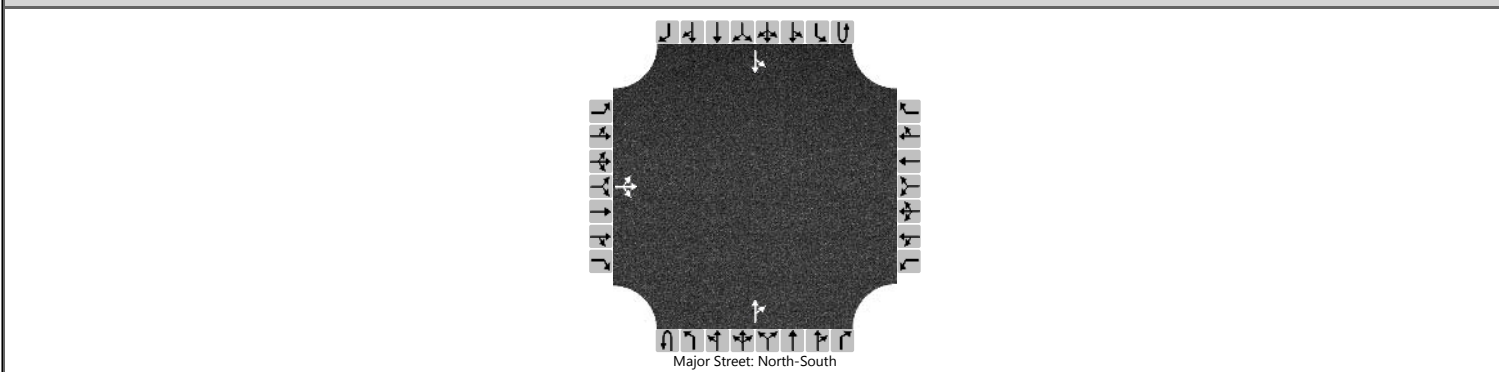
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			33											622		
Capacity, c (veh/h)			23											1116		
v/c Ratio			1.44											0.56		
95% Queue Length, Q ₉₅ (veh)			4.2											3.6		
95% Queue Length, Q ₉₅ (ft)			116.8											92.9		
Control Delay (s/veh)			591.5											12.2	8.2	
Level of Service (LOS)			F											B	A	
Approach Delay (s/veh)		591.5												10.9		
Approach LOS		F												B		

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(230) SR 94 (Ridge Rd) & I-271 NB Ramps		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	12/18/2024			East/West Street	I-271 NB Ramps		
Analysis Year	2030			North/South Street	SR 94 (Ridge Rd)		
Time Analyzed	Build - PM Peak Alt 3			Peak Hour Factor	0.96		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LTR									TR		LT		
Volume (veh/h)		50	0	20							380	90		170	480	
Percent Heavy Vehicles (%)		2	2	2										5		
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2										4.1		
Critical Headway (sec)		7.12	6.52	6.22										4.15		
Base Follow-Up Headway (sec)		3.5	4.0	3.3										2.2		
Follow-Up Headway (sec)		3.52	4.02	3.32										2.25		

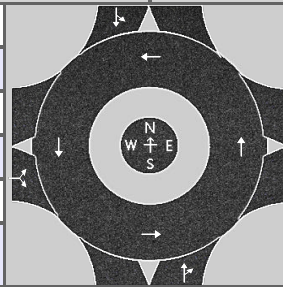
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			73											177		
Capacity, c (veh/h)			139											1058		
v/c Ratio			0.52											0.17		
95% Queue Length, Q ₉₅ (veh)			2.5											0.6		
95% Queue Length, Q ₉₅ (ft)			63.5											15.6		
Control Delay (s/veh)			56.4											9.1	2.1	
Level of Service (LOS)			F											A	A	
Approach Delay (s/veh)	56.4												3.9			
Approach LOS	F												A			

HCS Roundabouts Report

General Information

Analyst	TJS
Agency or Co.	Smart Services, Inc
Date Performed	12/18/2024
Analysis Year	2030
Time Analyzed	Build Alt B - AM Pk Alt 3
Project Description	



Site Information

Intersection	(230) SR 94 & I-271 NB Ram...
E/W Street Name	I-271 NB Ramps
N/S Street Name	SR 94
Analysis Time Period, hrs	0.25
Peak Hour Factor	0.90
Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Number of Lanes (N)	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0
Lane Assignment	LR								TR				LT			
Volume (V), veh/h	0	20		10					0		250	140	0	560	280	
Percent Heavy Vehicles, %	14	14		14					7		7	7	4	4	4	
Flow Rate (v _{PCE}), pc/h	0	25		13					0		297	166	0	647	324	
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1								1				1			
Pedestrians Crossing, p/h	0								0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763						4.9763			4.9763	
Follow-Up Headway, s		2.6087						2.6087			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		38						463			971	
Entry Volume, veh/h		33						433			934	
Circulating Flow (v _c), pc/h	971			322			672			0		
Exiting Flow (v _{ex}), pc/h	813			0			322			337		
Capacity (C _{PCE}), pc/h		513						695			1380	
Capacity (c), veh/h		450						650			1327	
v/c Ratio (x)		0.07						0.67			0.70	

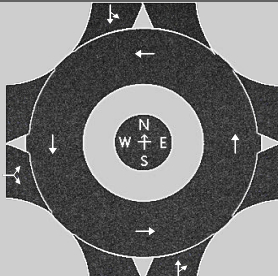
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		9.0						19.2			12.4	
Lane LOS		A						C			B	
95% Queue Length, Q ₉₅ (veh)		0.2						5.0			6.3	
95% Queue Length, Q ₉₅ (ft)		5.6						132.0			157.5	
Approach Delay, s/veh LOS	9.0		A				19.2		C	12.4		B
Intersection Delay, s/veh LOS	14.4						B					

HCS Roundabouts Report

General Information

Site Information

Analyst	TJS		Intersection	(230) SR 94 & I-271 NB Ram...
Agency or Co.	Smart Services, Inc		E/W Street Name	I-271 NB Ramps
Date Performed	12/18/2024		N/S Street Name	SR 94
Analysis Year	2030		Analysis Time Period, hrs	0.25
Time Analyzed	Build Alt B - PM Pk Alt 3		Peak Hour Factor	0.96
Project Description			Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Number of Lanes (N)	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0
Lane Assignment	LR								TR				LT			
Volume (V), veh/h	0	50		20					0		380	90	0	170	480	
Percent Heavy Vehicles, %	2	2		2					1		1	1	6	6	6	
Flow Rate (v _{PCE}), pc/h	0	53		21					0		400	95	0	188	530	
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1								1				1			
Pedestrians Crossing, p/h	0								0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763						4.9763			4.9763	
Follow-Up Headway, s		2.6087						2.6087			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		74						495			718	
Entry Volume, veh/h		73						490			677	
Circulating Flow (v _c), pc/h	718			453			241			0		
Exiting Flow (v _{ex}), pc/h	283			0			453			551		
Capacity (C _{PCE}), pc/h		663						1079			1380	
Capacity (c), veh/h		650						1069			1302	
v/c Ratio (x)		0.11						0.46			0.52	

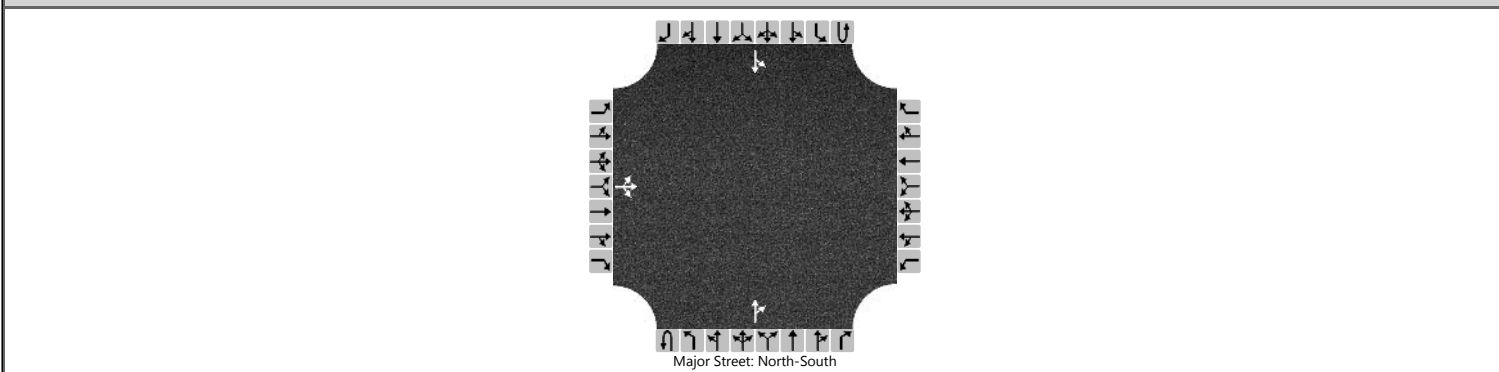
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		6.8						8.5			8.3	
Lane LOS		A						A			A	
95% Queue Length, Q ₉₅ (veh)		0.4						2.5			3.1	
95% Queue Length, Q ₉₅ (ft)		10.2						63.0			77.5	
Approach Delay, s/veh LOS	6.8		A				8.5		A	8.3		A
Intersection Delay, s/veh LOS	8.3						A					

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(230) SR 94 (Ridge Rd) & I-271 NB Ramps		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	12/19/2024			East/West Street	I-271 NB Ramps		
Analysis Year	2050			North/South Street	SR 94 (Ridge Rd)		
Time Analyzed	Build - AM Peak Alt 3			Peak Hour Factor	0.90		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0		0	1	0		0	1	0
Configuration			LTR								TR			LT		
Volume (veh/h)		30	0	10							290	130		590	310	
Percent Heavy Vehicles (%)		14	14	14										4		
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2										4.1		
Critical Headway (sec)		7.24	6.64	6.34										4.14		
Base Follow-Up Headway (sec)		3.5	4.0	3.3										2.2		
Follow-Up Headway (sec)		3.63	4.13	3.43										2.24		

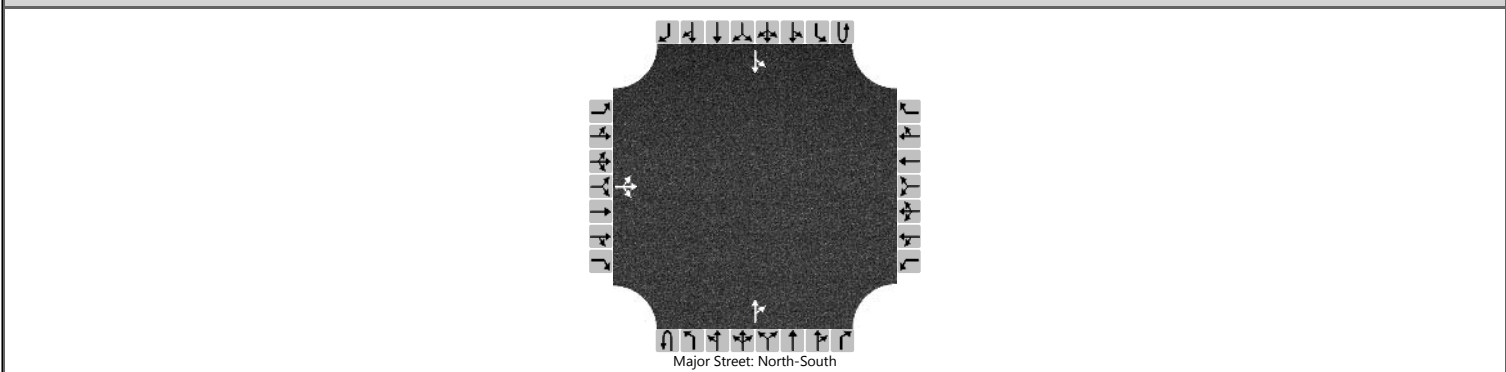
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			44											656		
Capacity, c (veh/h)			13											1084		
v/c Ratio			3.49											0.60		
95% Queue Length, Q ₉₅ (veh)			6.5											4.2		
95% Queue Length, Q ₉₅ (ft)			180.7											108.4		
Control Delay (s/veh)			1717.9											13.3	9.9	
Level of Service (LOS)			F											B	A	
Approach Delay (s/veh)	1717.9												12.1			
Approach LOS	F												B			

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(230) SR 94 (Ridge Rd) & I-271 NB Ramps		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	12/19/2024			East/West Street	I-271 NB Ramps		
Analysis Year	2050			North/South Street	SR 94 (Ridge Rd)		
Time Analyzed	Build - PM Peak Alt 3			Peak Hour Factor	0.96		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0		0	1	0		0	1	0
Configuration			LTR								TR			LT		
Volume (veh/h)		70	0	20							420	90		160	540	
Percent Heavy Vehicles (%)		2	2	2										5		
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2										4.1		
Critical Headway (sec)		7.12	6.52	6.22										4.15		
Base Follow-Up Headway (sec)		3.5	4.0	3.3										2.2		
Follow-Up Headway (sec)		3.52	4.02	3.32										2.25		

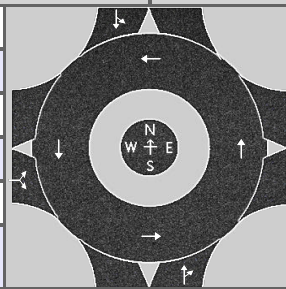
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			94										167			
Capacity, c (veh/h)			114										1021			
v/c Ratio			0.83										0.16			
95% Queue Length, Q ₉₅ (veh)			4.8										0.6			
95% Queue Length, Q ₉₅ (ft)			121.9										15.6			
Control Delay (s/veh)			113.0										9.2	2.2		
Level of Service (LOS)			F										A	A		
Approach Delay (s/veh)	113.0												3.8			
Approach LOS	F												A			

HCS Roundabouts Report

General Information

Analyst	TJS
Agency or Co.	Smart Services, Inc
Date Performed	12/19/2024
Analysis Year	2050
Time Analyzed	Build Alt B - AM Pk Alt 3
Project Description	



Site Information

Intersection	(230) SR 94 & I-271 NB Ram...
E/W Street Name	I-271 NB Ramps
N/S Street Name	SR 94
Analysis Time Period, hrs	0.25
Peak Hour Factor	0.90
Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Number of Lanes (N)	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0
Lane Assignment	LR								TR				LT			
Volume (V), veh/h	0	30		10					0		290	130	0	590	310	
Percent Heavy Vehicles, %	14	14		14					7		7	7	4	4	4	
Flow Rate (v _{PCE}), pc/h	0	38		13					0		345	155	0	682	358	
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1								1				1			
Pedestrians Crossing, p/h	0								0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763						4.9763			4.9763	
Follow-Up Headway, s		2.6087						2.6087			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		51						500			1040	
Entry Volume, veh/h		45						467			1000	
Circulating Flow (v _c), pc/h	1040			383			720			0		
Exiting Flow (v _{ex}), pc/h	837			0			383			371		
Capacity (C _{PCE}), pc/h		478						662			1380	
Capacity (c), veh/h		419						619			1327	
v/c Ratio (x)		0.11						0.76			0.75	

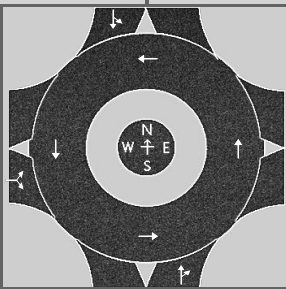
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		10.1						25.3			14.2	
Lane LOS		B						D			B	
95% Queue Length, Q ₉₅ (veh)		0.4						6.8			7.7	
95% Queue Length, Q ₉₅ (ft)		11.1						179.5			192.5	
Approach Delay, s/veh LOS	10.1		B				25.3		D	14.2		B
Intersection Delay, s/veh LOS	17.5						C					

HCS Roundabouts Report

General Information

Analyst	TJS
Agency or Co.	Smart Services, Inc
Date Performed	12/19/2024
Analysis Year	2050
Time Analyzed	Build Alt B - PM Pk Alt 3
Project Description	



Site Information

Intersection	(230) SR 94 & I-271 NB Ram...
E/W Street Name	I-271 NB Ramps
N/S Street Name	SR 94
Analysis Time Period, hrs	0.25
Peak Hour Factor	0.96
Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Number of Lanes (N)	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0
Lane Assignment	LR								TR				LT			
Volume (V), veh/h	0	70		20					0		420	90	0	160	540	
Percent Heavy Vehicles, %	2	2		2					1		1	1	6	6	6	
Flow Rate (v _{PCE}), pc/h	0	74		21					0		442	95	0	177	596	
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1								1				1			
Pedestrians Crossing, p/h	0								0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763						4.9763			4.9763	
Follow-Up Headway, s		2.6087						2.6087			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		95						537			773	
Entry Volume, veh/h		93						532			729	
Circulating Flow (v _c), pc/h	773			516			251			0		
Exiting Flow (v _{ex}), pc/h	272			0			516			617		
Capacity (c _{PCE}), pc/h		627						1068			1380	
Capacity (c), veh/h		615						1058			1302	
v/c Ratio (x)		0.15						0.50			0.56	

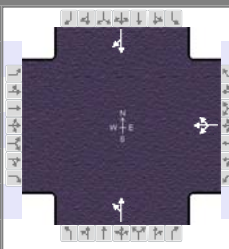
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		7.7						9.3			9.0	
Lane LOS		A						A			A	
95% Queue Length, Q ₉₅ (veh)		0.5						2.9			3.6	
95% Queue Length, Q ₉₅ (ft)		12.7						73.1			90.0	
Approach Delay, s/veh LOS	7.7		A				9.3		A	9.0		A
Intersection Delay, s/veh LOS	9.0						A					

(240) SR 94 & I-271 SB ramps

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 18, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak Alt 3	PHF	0.95
Urban Street	SR 94-Ridge Rd	Analysis Year	2030	Analysis Period	1 > 7:00
Intersection	(240) SR 94-I-271 SB R...	File Name	Signalized Capacity Group 1 (10 & 240) - 2030 B...		
Project Description	2030 Build				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				70	0	260	10	260			770	80

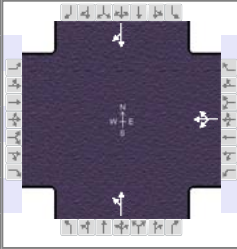
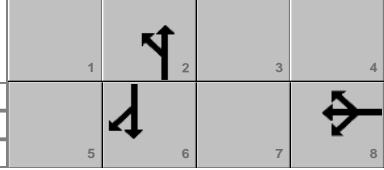
Signal Information														
Cycle, s	72.6	Reference Phase	2											
Offset, s	0	Reference Point	End											
Uncoordinated	Yes	Simult. Gap E/W	On	Green	41.5	19.6	0.0	0.0	0.0	0.0				
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.0	4.5	0.0	0.0	0.0	0.0				
				Red	1.0	1.0	0.0	0.0	0.0	0.0				

Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				70	0	260	10	260			770	80
Initial Queue (Q _b), veh/h				0	0	0	0	0			0	0
Base Saturation Flow Rate (s ₀), veh/h				1900	1750	1900	1900	1750			1750	1900
Parking (N _m), man/h					None				None			
Heavy Vehicles (P _{HV}), %					8				7			
Ped / Bike / RTOR, /h	0	0		0	0	0	0	0		0	0	0
Buses (N _b), buses/h				0	0	0	0	0	0	0	0	0
Arrival Type (AT)				3	3	3	3	3			3	3
Upstream Filtering (I)				1.00	1.00	1.00	0.98	0.98			1.00	1.00
Lane Width (W), ft					12.0				12.0			
Turn Bay Length, ft					0				0			
Grade (P _g), %		0			0				0			
Speed Limit, mi/h				45	45	45	45	45			45	45

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s				24.5		64.0		64.0
Yellow Change Interval (Y), s				4.5		5.0		5.0
Red Clearance Interval (R _c), s				1.0		1.0		1.0
Minimum Green (G _{min}), s				12		24		24
Start-Up Lost Time (l _t), s			2.0	2.0	2.0	2.0		2.0
Extension of Effective Green (e), s			2.0	2.0	2.0	2.0		2.0
Passage (PT), s				2.0		2.0		2.0
Recall Mode				Off		Min		Min
Dual Entry				Yes		Yes		Yes
Walk (Walk), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (PC), s		0.0		0.0		0.0		0.0

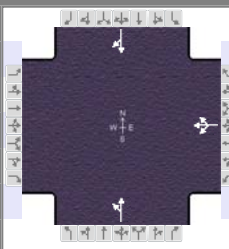
Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0			
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0			
Street Width / Island / Curb, ft		0		0.0	0	No	0.0	0	No	0.0		No
Width Outside / Bike Lane / Shoulder, ft				12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No			No			0.50			0.50		

HCS Signalized Intersection Results Summary

General Information					Intersection Information										
Agency	Smart Services Inc.				Duration, h	0.250									
Analyst	TJS	Analysis Date	Dec 18, 2024		Area Type	Other									
Jurisdiction	ODOT	Time Period	AM Peak Alt 3		PHF	0.95									
Urban Street	SR 94-Ridge Rd	Analysis Year	2030		Analysis Period	1 > 7:00									
Intersection	(240) SR 94-I-271 SB R...	File Name	Signalized Capacity Group 1 (10 & 240) - 2030 B...												
Project Description	2030 Build														
Demand Information				EB			WB			NB			SB		
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h							70	0	260	10	260			770	80
Signal Information															
Cycle, s	72.6	Reference Phase	2							1	2	3	4		
Offset, s	0	Reference Point	End	Green	41.5	19.6	0.0	0.0	0.0	0.0					
Uncoordinated	Yes	Simult. Gap E/W	On	Yellow	5.0	4.5	0.0	0.0	0.0	0.0					
Force Mode	Fixed	Simult. Gap N/S	On	Red	1.0	1.0	0.0	0.0	0.0	0.0	5	6	7	8	
Timer Results				EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT				
Assigned Phase							8		2		6				
Case Number							12.0		8.0		8.0				
Phase Duration, s							25.1		47.5		47.5				
Change Period, (Y+R _c), s							5.5		6.0		6.0				
Max Allow Headway (MAH), s							3.2		3.0		3.0				
Queue Clearance Time (g _s), s							19.1		38.9		37.4				
Green Extension Time (g _e), s							0.4		2.5		2.5				
Phase Call Probability							1.00		1.00		1.00				
Max Out Probability							0.22		0.00		0.00				
Movement Group Results				EB			WB			NB			SB		
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement							3	8	18	5	2			6	16
Adjusted Flow Rate (v), veh/h							347			263			895		
Adjusted Saturation Flow Rate (s), veh/h/ln							1424			1354			1681		
Queue Service Time (g _s), s							17.1			1.5			35.4		
Cycle Queue Clearance Time (g _c), s							17.1			36.9			35.4		
Green Ratio (g/C)							0.27			0.57			0.57		
Capacity (c), veh/h							384			826			961		
Volume-to-Capacity Ratio (X)							0.904			0.319			0.931		
Back of Queue (Q), ft/ln (95 th percentile)							296			76			430		
Back of Queue (Q), veh/ln (95 th percentile)							11.1			2.9			16.8		
Queue Storage Ratio (RQ) (95 th percentile)							0.00			0.00			0.00		
Uniform Delay (d ₁), s/veh							25.7			8.3			14.2		
Incremental Delay (d ₂), s/veh							15.9			0.1			5.8		
Initial Queue Delay (d ₃), s/veh							0.0			0.0			0.0		
Control Delay (d), s/veh							41.6			8.4			20.0		
Level of Service (LOS)							D			A			C		
Approach Delay, s/veh / LOS				0.0			41.6		D	8.4		A	20.0		C
Intersection Delay, s/veh / LOS				23.0						C					
Multimodal Results				EB			WB			NB			SB		
Pedestrian LOS Score / LOS				1.72	B		1.72	B		1.36	A		1.36	A	
Bicycle LOS Score / LOS							1.06	A		0.96	A		1.96	B	

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 18, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak Alt 3	PHF	0.97
Urban Street	SR 94-Ridge Rd	Analysis Year	2030	Analysis Period	1 > 4:45
Intersection	(240) SR 94-I-271 SB R...	File Name	Signalized Capacity Group 1 (10 & 240) - 2030 B...		
Project Description	2030 Build				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				150	0	870	10	420			500	70

Signal Information																		
Cycle, s	119.0	Reference Phase	2															
Offset, s	13	Reference Point	End															
Uncoordinated	Yes	Simult. Gap E/W	On	Green	47.5	60.0	0.0	0.0	0.0	0.0	1		2		3		4	
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.0	4.5	0.0	0.0	0.0	0.0	5		6		7		8	
				Red	1.0	1.0	0.0	0.0	0.0	0.0								

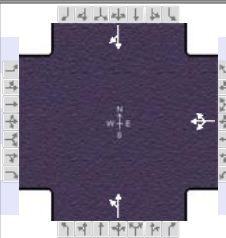
Traffic Information	EB			WB			NB			SB				
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R		
Demand (v), veh/h				150	0	870	10	420			500	70		
Initial Queue (Q _b), veh/h				0	0	0	0	0			0	0		
Base Saturation Flow Rate (s ₀), veh/h				1900	1750	1900	1900	1750			1750	1900		
Parking (N _m), man/h					None				None				None	
Heavy Vehicles (P _{HV}), %					3				1				6	
Ped / Bike / RTOR, /h	0	0		0	0	0	0	0		0	0	0		
Buses (N _b), buses/h				0	0	0	0	0	0	0	0	0		
Arrival Type (AT)				3	3	3	3	3			3	3		
Upstream Filtering (I)				1.00	1.00	1.00	0.93	0.93			1.00	1.00		
Lane Width (W), ft					12.0				12.0				12.0	
Turn Bay Length, ft					0				0				0	
Grade (P _g), %		0			0				0				0	
Speed Limit, mi/h				45	45	45	45	45			45	45		

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s				60.0		48.5		48.5
Yellow Change Interval (Y), s				4.5		5.0		5.0
Red Clearance Interval (R _c), s				1.0		1.0		1.0
Minimum Green (G _{min}), s				12		24		24
Start-Up Lost Time (l _t), s			2.0	2.0	2.0	2.0		2.0
Extension of Effective Green (e), s			2.0	2.0	2.0	2.0		2.0
Passage (PT), s				2.0		2.0		2.0
Recall Mode				Off		Min		Min
Dual Entry				Yes		Yes		Yes
Walk (Walk), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (PC), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0			
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0			
Street Width / Island / Curb, ft		0		0.0	0	No	0.0	0	No	0.0		No
Width Outside / Bike Lane / Shoulder, ft				12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No			No			0.50			0.50		

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 18, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak Alt 3	PHF	0.97
Urban Street	SR 94-Ridge Rd	Analysis Year	2030	Analysis Period	1 > 4:45
Intersection	(240) SR 94-I-271 SB R...	File Name	Signalized Capacity Group 1 (10 & 240) - 2030 B...		
Project Description	2030 Build				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h				150	0	870	10	420			500	70

Signal Information													
Cycle, s	119.0	Reference Phase	2										
Offset, s	13	Reference Point	End										
Uncoordinated	Yes	Simult. Gap E/W	On	Green	47.5	60.0	0.0	0.0	0.0	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.0	4.5	0.0	0.0	0.0	0.0			
				Red	1.0	1.0	0.0	0.0	0.0	0.0			

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				8		2		6
Case Number				12.0		8.0		8.0
Phase Duration, s				65.5		53.5		53.5
Change Period, (Y+R _c), s				5.5		6.0		6.0
Max Allow Headway (MAH), s				3.3		3.0		3.0
Queue Clearance Time (g _s), s				62.0		47.0		42.2
Green Extension Time (g _e), s				0.0		0.5		1.4
Phase Call Probability				1.00		1.00		1.00
Max Out Probability				1.00		1.00		0.33

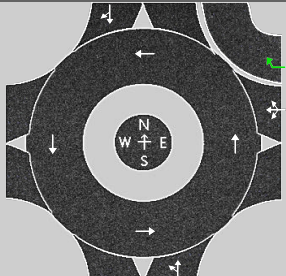
Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement				3	8	18	5	2			6	16
Adjusted Flow Rate (v), veh/h					1052			478			588	
Adjusted Saturation Flow Rate (s), veh/h/ln					1472			1285			1632	
Queue Service Time (g _s), s					60.0			4.8			40.2	
Cycle Queue Clearance Time (g _c), s					60.0			45.0			40.2	
Green Ratio (g/C)					0.50			0.40			0.40	
Capacity (c), veh/h					742			544			651	
Volume-to-Capacity Ratio (X)					1.417			0.880			0.902	
Back of Queue (Q), ft/ln (95 th percentile)					2310			465			644	
Back of Queue (Q), veh/ln (95 th percentile)					90.3			18.4			24.6	
Queue Storage Ratio (RQ) (95 th percentile)					0.00			0.00			0.00	
Uniform Delay (d ₁), s/veh					29.5			30.5			33.6	
Incremental Delay (d ₂), s/veh					195.4			13.4			14.9	
Initial Queue Delay (d ₃), s/veh					0.0			0.0			0.0	
Control Delay (d), s/veh					224.9			43.9			48.5	
Level of Service (LOS)					F			D			D	
Approach Delay, s/veh / LOS	0.0			224.9	F		43.9	D		48.5	D	
Intersection Delay, s/veh / LOS				135.0				F				

Multimodal Results	EB		WB		NB		SB	
	Pedestrian LOS Score / LOS	1.74	B	1.74	B	1.40	A	1.40
Bicycle LOS Score / LOS			2.22	B	1.22	A	1.46	A

HCS Roundabouts Report

General Information

Site Information

Analyst	TJS		Intersection	(240) SR 94 & I-271 SB Ramps
Agency or Co.	Smart Services, Inc		E/W Street Name	I-271 SB Ramps
Date Performed	12/18/2024		N/S Street Name	SR 94
Analysis Year	2030		Analysis Time Period, hrs	0.25
Time Analyzed	Build - AM Peak Alt 3		Peak Hour Factor	0.95
Project Description			Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0
Lane Assignment					LTR				LT				TR			
Volume (V), veh/h					0	70	0	260	0	10	260		0		770	80
Percent Heavy Vehicles, %					8	8	8	8	7	7	7		3		3	3
Flow Rate (v _{PCE}), pc/h					0	80	0	296	0	11	293		0		835	87
Right-Turn Bypass	None				Non-Yielding				None				None			
Conflicting Lanes					1				1				1			
Pedestrians Crossing, p/h					0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s					4.9763			4.9763			4.9763	
Follow-Up Headway, s					2.6087			2.6087			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h					80	296		304			922	
Entry Volume, veh/h					74	274		284			895	
Circulating Flow (v _c), pc/h	915			304			0			91		
Exiting Flow (v _{ex}), pc/h	0			98			293			915		
Capacity (C _{PCE}), pc/h					1012			1380			1258	
Capacity (c), veh/h					937			1290			1221	
v/c Ratio (x)					0.08			0.22			0.73	

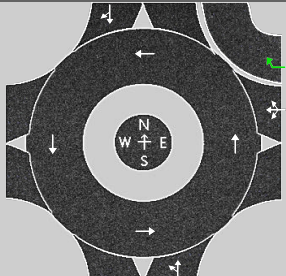
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh					4.6			4.7			14.2	
Lane LOS					A	A		A			B	
95% Queue Length, Q ₉₅ (veh)					0.3			0.8			7.0	
95% Queue Length, Q ₉₅ (ft)					8.0			20.0			179.2	
Approach Delay, s/veh LOS				1.0	A		4.7	A		14.2	B	
Intersection Delay, s/veh LOS	9.4						A					

HCS Roundabouts Report

General Information

Site Information

Analyst	TJS		Intersection	(240) SR 94 & I-271 SB Ramps
Agency or Co.	Smart Services, Inc		E/W Street Name	I-271 SB Ramps
Date Performed	12/18/2024		N/S Street Name	SR 94
Analysis Year	2030		Analysis Time Period, hrs	0.25
Time Analyzed	Build - PM Peak Alt 3		Peak Hour Factor	0.97
Project Description			Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0
Lane Assignment					LTR				LT				TR			
Volume (V), veh/h					0	150	0	870	0	10	420		0		500	70
Percent Heavy Vehicles, %					3	3	3	3	1	1	1		6		6	6
Flow Rate (v _{PCE}), pc/h					0	159	0	924	0	10	437		0		546	76
Right-Turn Bypass	None				Non-Yielding				None				None			
Conflicting Lanes					1				1				1			
Pedestrians Crossing, p/h					0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s					4.9763			4.9763			4.9763	
Follow-Up Headway, s					2.6087			2.6087			2.6087	

Flow Computations, Capacity and v/c Ratios

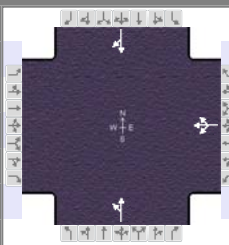
Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h					159	924		447			622	
Entry Volume, veh/h					154	897		443			587	
Circulating Flow (v _c), pc/h	705			447			0			169		
Exiting Flow (v _{ex}), pc/h	0			86			437			705		
Capacity (C _{PCE}), pc/h					875			1380			1161	
Capacity (c), veh/h					849			1366			1096	
v/c Ratio (x)					0.18			0.32			0.54	

Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh					6.1			5.5			9.7	
Lane LOS					A	A		A			A	
95% Queue Length, Q ₉₅ (veh)					0.7			1.4			3.3	
95% Queue Length, Q ₉₅ (ft)					17.9			35.0			86.5	
Approach Delay, s/veh LOS				0.9	A		5.5	A		9.7	A	
Intersection Delay, s/veh LOS	4.4						A					

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 19, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.95
Urban Street	SR 94-Ridge Rd	Analysis Year	2050	Analysis Period	1 > 7:00
Intersection	(240) SR 94-I-271 SB R...	File Name	Signalized Capacity Group 1 (10 & 240) - 2050 B...		
Project Description	2050 Build Alt 3				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				70	0	260	20	300			830	100

Signal Information													
Cycle, s	96.7	Reference Phase	2										
Offset, s	0	Reference Point	End										
Uncoordinated	Yes	Simult. Gap E/W	On	Green	60.7	24.5	0.0	0.0	0.0	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.0	4.5	0.0	0.0	0.0	0.0			
				Red	1.0	1.0	0.0	0.0	0.0	0.0			

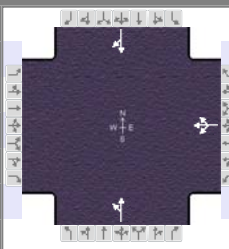
Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				70	0	260	20	300			830	100
Initial Queue (Q_b), veh/h				0	0	0	0	0			0	0
Base Saturation Flow Rate (s_o), veh/h				1900	1750	1900	1900	1750			1750	1900
Parking (N_m), man/h					None				None			
Heavy Vehicles (P_{HV}), %					8				7			
Ped / Bike / RTOR, /h	0	0		0	0	0	0	0		0	0	0
Buses (N_b), buses/h				0	0	0	0	0	0	0	0	0
Arrival Type (AT)				3	3	3	3	3			3	3
Upstream Filtering (I)				1.00	1.00	1.00	0.98	0.98			1.00	1.00
Lane Width (W), ft					12.0				12.0			
Turn Bay Length, ft					0				0			
Grade (P_g), %		0			0				0			
Speed Limit, mi/h				45	45	45	45	45			45	45

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s				24.5		64.0		64.0
Yellow Change Interval (Y), s				4.5		5.0		5.0
Red Clearance Interval (R_c), s				1.0		1.0		1.0
Minimum Green (G_{min}), s				12		24		24
Start-Up Lost Time (l_t), s			2.0	2.0	2.0	2.0		2.0
Extension of Effective Green (e), s			2.0	2.0	2.0	2.0		2.0
Passage (PT), s				2.0		2.0		2.0
Recall Mode				Off		Min		Min
Dual Entry				Yes		Yes		Yes
Walk ($Walk$), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (PC), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0			
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0			
Street Width / Island / Curb, ft		0		0.0	0	No	0.0	0	No	0.0		No
Width Outside / Bike Lane / Shoulder, ft				12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No			No			0.50			0.50		

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 19, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.95
Urban Street	SR 94-Ridge Rd	Analysis Year	2050	Analysis Period	1 > 7:00
Intersection	(240) SR 94-I-271 SB R...	File Name	Signalized Capacity Group 1 (10 & 240) - 2050 B...		
Project Description	2050 Build Alt 3				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				70	0	260	20	300			830	100

Signal Information				Signal Timing (s)									
Cycle, s	96.7	Reference Phase	2										
Offset, s	0	Reference Point	End	Green	60.7	24.5	0.0	0.0	0.0	0.0			
Uncoordinated	Yes	Simult. Gap E/W	On	Yellow	5.0	4.5	0.0	0.0	0.0	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Red	1.0	1.0	0.0	0.0	0.0	0.0			

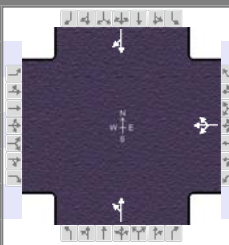
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				8		2		6
Case Number				12.0		8.0		8.0
Phase Duration, s				30.0		66.7		66.7
Change Period, ($Y+R_c$), s				5.5		6.0		6.0
Max Allow Headway (MAH), s				3.2		3.0		3.0
Queue Clearance Time (g_s), s				25.3		58.9		52.5
Green Extension Time (g_e), s				0.0		1.7		2.6
Phase Call Probability				1.00		1.00		1.00
Max Out Probability				1.00		0.60		0.12

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement				3	8	18	5	2			6	16
Adjusted Flow Rate (v), veh/h				347			305			979		
Adjusted Saturation Flow Rate (s), veh/h/ln				1424			950			1677		
Queue Service Time (g_s), s				23.3			6.5			50.5		
Cycle Queue Clearance Time (g_c), s				23.3			56.9			50.5		
Green Ratio (g/C)				0.25			0.63			0.63		
Capacity (c), veh/h				361			636			1052		
Volume-to-Capacity Ratio (X)				0.963			0.480			0.930		
Back of Queue (Q), ft/ln (95 th percentile)				448			116			665		
Back of Queue (Q), veh/ln (95 th percentile)				16.8			4.4			26.0		
Queue Storage Ratio (RQ) (95 th percentile)				0.00			0.00			0.00		
Uniform Delay (d_1), s/veh				35.6			12.2			16.1		
Incremental Delay (d_2), s/veh				37.3			0.2			12.7		
Initial Queue Delay (d_3), s/veh				0.0			0.0			0.0		
Control Delay (d), s/veh				72.9			12.4			28.8		
Level of Service (LOS)				E			B			C		
Approach Delay, s/veh / LOS	0.0			72.9			12.4			28.8		
Intersection Delay, s/veh / LOS	35.1						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.73	B	1.73	B	1.36	A	1.36	A
Bicycle LOS Score / LOS			1.06	A	1.04	A	2.10	B

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 19, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.97
Urban Street	SR 94-Ridge Rd	Analysis Year	2050	Analysis Period	1 > 4:45
Intersection	(240) SR 94-I-271 SB R...	File Name	Signalized Capacity Group 1 (10 & 240) - 2050 B...		
Project Description	2050 Build Alt 3				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				150	0	920	20	470			550	80

Signal Information																		
Cycle, s	120.0	Reference Phase	2															
Offset, s	13	Reference Point	End															
Uncoordinated	Yes	Simult. Gap E/W	On	Green	48.5	60.0	0.0	0.0	0.0	0.0	1		2		3		4	
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.0	4.5	0.0	0.0	0.0	0.0	5		6		7		8	
				Red	1.0	1.0	0.0	0.0	0.0	0.0								

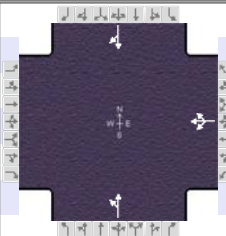
Traffic Information	EB			WB			NB			SB						
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R				
Demand (v), veh/h				150	0	920	20	470			550	80				
Initial Queue (Q_b), veh/h				0	0	0	0	0			0	0				
Base Saturation Flow Rate (s_o), veh/h				1900	1750	1900	1900	1750			1750	1900				
Parking (N_m), man/h					None				None				None			
Heavy Vehicles (P_{HV}), %					3				1				6			
Ped / Bike / RTOR, /h	0	0		0	0	0	0	0		0	0	0				
Buses (N_b), buses/h				0	0	0	0	0	0	0	0	0				
Arrival Type (AT)				3	3	3	3	3			3	3				
Upstream Filtering (I)				1.00	1.00	1.00	0.91	0.91			1.00	1.00				
Lane Width (W), ft					12.0				12.0				12.0			
Turn Bay Length, ft					0				0				0			
Grade (P_g), %		0				0				0				0		
Speed Limit, mi/h				45	45	45	45	45			45	45				

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s				60.0		48.5		48.5
Yellow Change Interval (Y), s				4.5		5.0		5.0
Red Clearance Interval (R_c), s				1.0		1.0		1.0
Minimum Green (G_{min}), s				12		24		24
Start-Up Lost Time (l_t), s			2.0	2.0	2.0	2.0		2.0
Extension of Effective Green (e), s			2.0	2.0	2.0	2.0		2.0
Passage (PT), s				2.0		2.0		2.0
Recall Mode				Off		Min		Min
Dual Entry				Yes		Yes		Yes
Walk ($Walk$), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (PC), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0			
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0			
Street Width / Island / Curb, ft		0		0.0	0	No	0.0	0	No	0.0		No
Width Outside / Bike Lane / Shoulder, ft				12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No			No			0.50			0.50		

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 19, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.97
Urban Street	SR 94-Ridge Rd	Analysis Year	2050	Analysis Period	1 > 4:45
Intersection	(240) SR 94-I-271 SB R...	File Name	Signalized Capacity Group 1 (10 & 240) - 2050 B...		
Project Description	2050 Build Alt 3				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				150	0	920	20	470			550	80

Signal Information												
Cycle, s	120.0	Reference Phase	2									
Offset, s	13	Reference Point	End									
Uncoordinated	Yes	Simult. Gap E/W	On	Green	48.5	60.0	0.0	0.0	0.0	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.0	4.5	0.0	0.0	0.0	0.0		
				Red	1.0	1.0	0.0	0.0	0.0	0.0		

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				8		2		6
Case Number				12.0		8.0		8.0
Phase Duration, s				65.5		54.5		54.5
Change Period, (Y+R _c), s				5.5		6.0		6.0
Max Allow Headway (MAH), s				3.3		3.0		3.0
Queue Clearance Time (g _s), s				62.0		50.5		49.3
Green Extension Time (g _e), s				0.0		0.0		0.0
Phase Call Probability				1.00		1.00		1.00
Max Out Probability				1.00		1.00		1.00

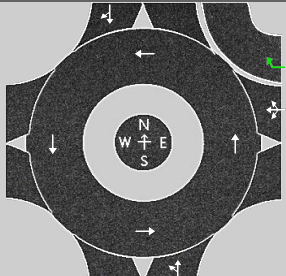
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement				3	8	18	5	2			6	16
Adjusted Flow Rate (v), veh/h				1103			522			649		
Adjusted Saturation Flow Rate (s), veh/h/ln				1471			837			1631		
Queue Service Time (g _s), s				60.0			1.2			47.3		
Cycle Queue Clearance Time (g _c), s				60.0			48.5			47.3		
Green Ratio (g/C)				0.50			0.40			0.40		
Capacity (c), veh/h				736			369			659		
Volume-to-Capacity Ratio (X)				1.500			1.412			0.985		
Back of Queue (Q), ft/ln (95 th percentile)				2629			1169			818		
Back of Queue (Q), veh/ln (95 th percentile)				102.7			46.4			31.2		
Queue Storage Ratio (RQ) (95 th percentile)				0.00			0.00			0.00		
Uniform Delay (d ₁), s/veh				30.0			38.2			35.4		
Incremental Delay (d ₂), s/veh				232.0			199.7			31.2		
Initial Queue Delay (d ₃), s/veh				0.0			0.0			0.0		
Control Delay (d), s/veh				262.0			237.9			66.6		
Level of Service (LOS)				F			F			E		
Approach Delay, s/veh / LOS	0.0			262.0			237.9			66.6		
Intersection Delay, s/veh / LOS	200.7						F					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.74	B	1.74	B	1.40	A	1.40	A
Bicycle LOS Score / LOS			2.31	B	1.32	A	1.56	B

HCS Roundabouts Report

General Information

Site Information

Analyst	TJS		Intersection	(240) SR 94 & I-271 SB Ramps
Agency or Co.	Smart Services, Inc		E/W Street Name	I-271 SB Ramps
Date Performed	12/19/2024		N/S Street Name	SR 94
Analysis Year	2050		Analysis Time Period, hrs	0.25
Time Analyzed	Build - AM Peak Alt 3		Peak Hour Factor	0.95
Project Description			Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0
Lane Assignment					LTR				LT				TR			
Volume (V), veh/h					0	70	0	260	0	20	300		0		830	100
Percent Heavy Vehicles, %					8	8	8	8	7	7	7		3		3	3
Flow Rate (v _{PCE}), pc/h					0	80	0	296	0	23	338		0		900	108
Right-Turn Bypass	None				Non-Yielding				None				None			
Conflicting Lanes					1				1				1			
Pedestrians Crossing, p/h					0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s					4.9763			4.9763			4.9763	
Follow-Up Headway, s					2.6087			2.6087			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h					80	296		361			1008	
Entry Volume, veh/h					74	274		337			979	
Circulating Flow (v _c), pc/h	980			361			0			103		
Exiting Flow (v _{ex}), pc/h	0			131			338			980		
Capacity (C _{PCE}), pc/h					955			1380			1242	
Capacity (c), veh/h					884			1290			1206	
v/c Ratio (x)					0.08			0.26			0.81	

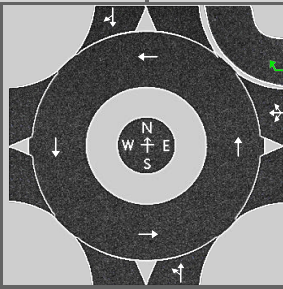
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh					4.9			5.1			18.4	
Lane LOS					A	A		A			C	
95% Queue Length, Q ₉₅ (veh)					0.3			1.1			9.6	
95% Queue Length, Q ₉₅ (ft)					8.0			27.5			245.8	
Approach Delay, s/veh LOS				1.0	A		5.1	A		18.4	C	
Intersection Delay, s/veh LOS	12.0						B					

HCS Roundabouts Report

General Information

Analyst	TJS
Agency or Co.	Smart Services, Inc
Date Performed	12/19/2024
Analysis Year	2050
Time Analyzed	Build - PM Peak Alt 3
Project Description	



Site Information

Intersection	(240) SR 94 & I-271 SB Ramps
E/W Street Name	I-271 SB Ramps
N/S Street Name	SR 94
Analysis Time Period, hrs	0.25
Peak Hour Factor	0.97
Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Number of Lanes (N)	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0
Lane Assignment							LTR				LT					TR
Volume (V), veh/h					0	150	0	920	0	20	470		0		550	80
Percent Heavy Vehicles, %					3	3	3	3	1	1	1		6		6	6
Flow Rate (v _{PCE}), pc/h					0	159	0	977	0	21	489		0		601	87
Right-Turn Bypass	None				Non-Yielding				None				None			
Conflicting Lanes					1				1				1			
Pedestrians Crossing, p/h					0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s					4.9763			4.9763			4.9763	
Follow-Up Headway, s					2.6087			2.6087			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h					159	977		510			688	
Entry Volume, veh/h					154	949		505			649	
Circulating Flow (v _c), pc/h	760			510			0			180		
Exiting Flow (v _{ex}), pc/h	0			108			489			760		
Capacity (C _{PCE}), pc/h					820			1380			1149	
Capacity (c), veh/h					796			1366			1084	
v/c Ratio (x)					0.19			0.37			0.60	

Delay and Level of Service

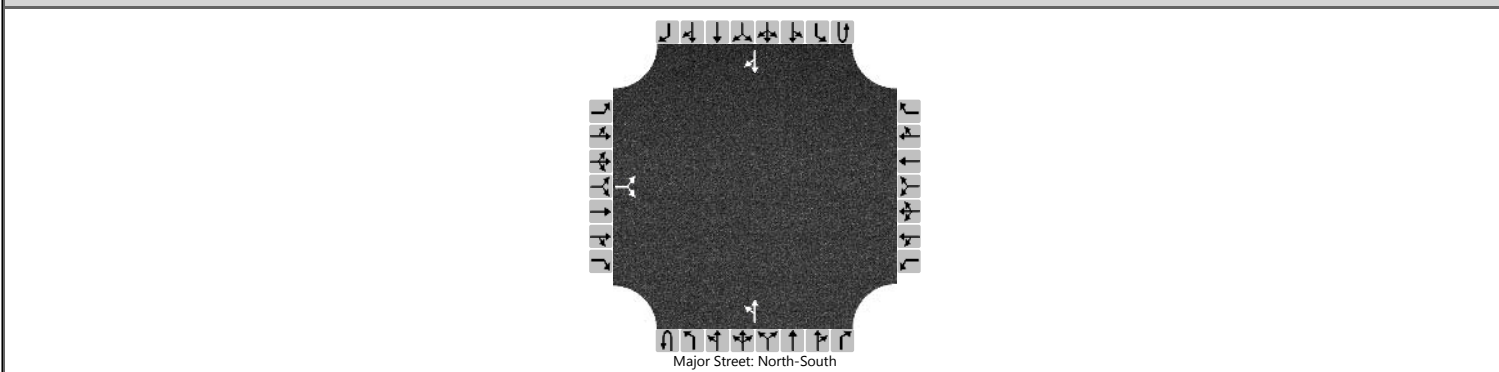
Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh					6.6			6.0			11.2	
Lane LOS					A	A		A			B	
95% Queue Length, Q ₉₅ (veh)					0.7			1.7			4.2	
95% Queue Length, Q ₉₅ (ft)					17.9			42.5			110.0	
Approach Delay, s/veh LOS					0.9	A		6.0	A		11.2	B
Intersection Delay, s/veh LOS	5.0						A					

**(250) Ridge Rd & Remsen Rd
(North)**

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(250) Ridge Rd & Remsen Rd (North)		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	12/18/2024			East/West Street	Remsen Rd (North)		
Analysis Year	2030			North/South Street	SR 94 (Ridge Rd)		
Time Analyzed	Build - AM Peak Alt 3			Peak Hour Factor	0.92		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0		0	1	0		0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		10		230						70	450				620	10
Percent Heavy Vehicles (%)		2		2						7						
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

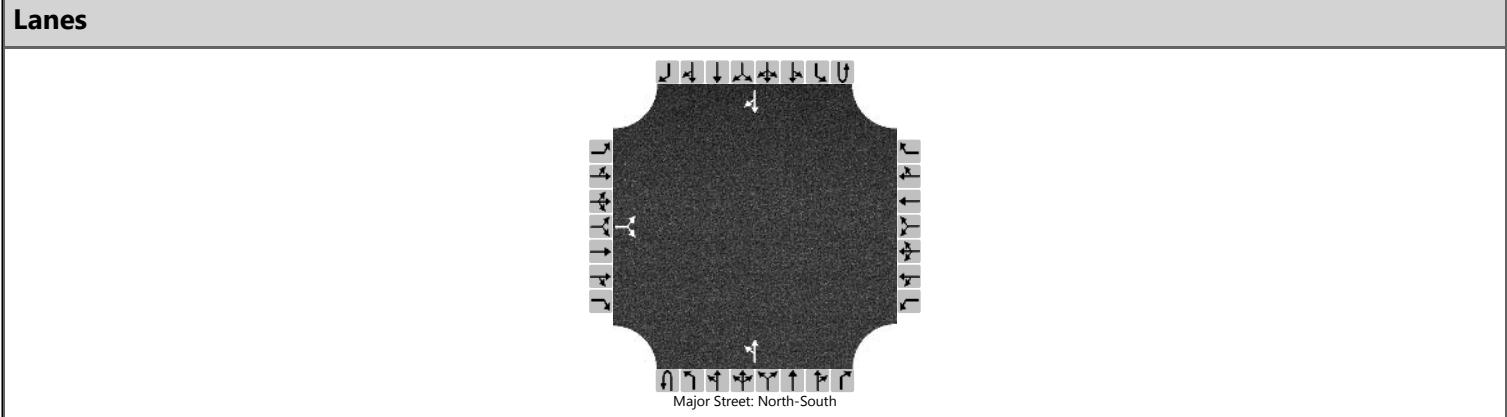
Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.42		6.22						4.17						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.52		3.32						2.26						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			261							76						
Capacity, c (veh/h)			417							886						
v/c Ratio			0.63							0.09						
95% Queue Length, Q ₉₅ (veh)			4.1							0.3						
95% Queue Length, Q ₉₅ (ft)			104.1							7.9						
Control Delay (s/veh)			27.0							9.4	1.1					
Level of Service (LOS)			D							A	A					
Approach Delay (s/veh)	27.0								2.2							
Approach LOS	D								A							

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(250) Ridge Rd & Remsen Rd (North)		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	12/18/2024			East/West Street	Remsen Rd (North)		
Analysis Year	2030			North/South Street	SR 94 (Ridge Rd)		
Time Analyzed	Build - PM Peak Alt 3			Peak Hour Factor	0.95		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Movement																	
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6	
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0	
Configuration			LR							LT						TR	
Volume (veh/h)		20		100						260	1030				470	20	
Percent Heavy Vehicles (%)		4		4						3							
Proportion Time Blocked																	
Percent Grade (%)		0															
Right Turn Channelized																	
Median Type Storage		Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.44		6.24						4.13						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.54		3.34						2.23						

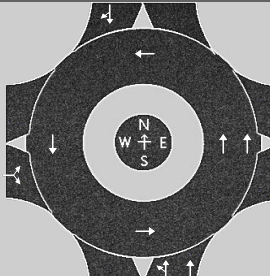
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			126							274						
Capacity, c (veh/h)			94							1045						
v/c Ratio			1.35							0.26						
95% Queue Length, Q ₉₅ (veh)			9.2							1.1						
95% Queue Length, Q ₉₅ (ft)			237.4							28.2						
Control Delay (s/veh)			291.9							9.7	6.4					
Level of Service (LOS)			F							A	A					
Approach Delay (s/veh)		291.9								7.0						
Approach LOS		F								A						

HCS Roundabouts Report

General Information

Site Information

Analyst	TJS		Intersection	(250) SR 94 & Remsen Road...
Agency or Co.	Smart Services, Inc		E/W Street Name	Remsen Road (North)
Date Performed	12/18/2024		N/S Street Name	SR 94
Analysis Year	2030		Analysis Time Period, hrs	0.25
Time Analyzed	Build Alt B- AM Pk Alt 3		Peak Hour Factor	0.92
Project Description			Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Number of Lanes (N)	0	0	1	0	0	0	0	0	0	0	2	0	0	0	1	0
Lane Assignment			LR						LT		T					TR
Volume (V), veh/h	0	10		230					0	70	450		0		620	10
Percent Heavy Vehicles, %	2	2		2					7	7	7		5		5	5
Flow Rate (v _{PCE}), pc/h	0	11		255					0	81	523		0		708	11
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1								1				1			
Pedestrians Crossing, p/h	0								0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763					4.5436	4.5436			4.9763	
Follow-Up Headway, s		2.6087					2.5352	2.5352			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		266					284	320			719	
Entry Volume, veh/h		261					265	299			685	
Circulating Flow (v _c), pc/h	708			615			11			81		
Exiting Flow (v _{ex}), pc/h	0			92			534			963		
Capacity (C _{PCE}), pc/h		670					1406	1406			1271	
Capacity (c), veh/h		657					1314	1314			1210	
v/c Ratio (x)		0.40					0.20	0.23			0.57	

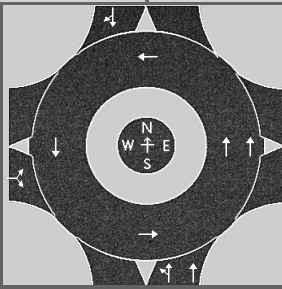
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		11.0					4.4	4.7			9.6	
Lane LOS		B					A	A			A	
95% Queue Length, Q ₉₅ (veh)		1.9					0.8	0.9			3.7	
95% Queue Length, Q ₉₅ (ft)		48.3					21.1	23.8			96.2	
Approach Delay, s/veh LOS	11.0		B				4.6		A	9.6		A
Intersection Delay, s/veh LOS	8.0						A					

HCS Roundabouts Report

General Information

Analyst	TJS
Agency or Co.	Smart Services, Inc
Date Performed	12/18/2024
Analysis Year	2030
Time Analyzed	Build - PM Peak Alt 3
Project Description	



Site Information

Intersection	(250) SR 94 & Remsen Road...
E/W Street Name	Remsen Road (North)
N/S Street Name	SR 94
Analysis Time Period, hrs	0.25
Peak Hour Factor	0.95
Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Number of Lanes (N)	0	0	1	0	0	0	0	0	0	0	2	0	0	0	1	0
Lane Assignment			LR						LT		T					TR
Volume (V), veh/h	0	20		100					0	260	1030		0		470	20
Percent Heavy Vehicles, %	4	4		4					3	3	3		6		6	6
Flow Rate (v _{PCE}), pc/h	0	22		109					0	282	1117		0		524	22
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1								1				1			
Pedestrians Crossing, p/h	0								0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763					4.5436	4.5436			4.9763	
Follow-Up Headway, s		2.6087					2.5352	2.5352			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		131					658	741			546	
Entry Volume, veh/h		126					638	720			515	
Circulating Flow (v _c), pc/h	524			1421			22			282		
Exiting Flow (v _{ex}), pc/h	0			304			1139			633		
Capacity (C _{PCE}), pc/h		809					1392	1392			1035	
Capacity (c), veh/h		778					1351	1351			976	
v/c Ratio (x)		0.16					0.47	0.53			0.53	

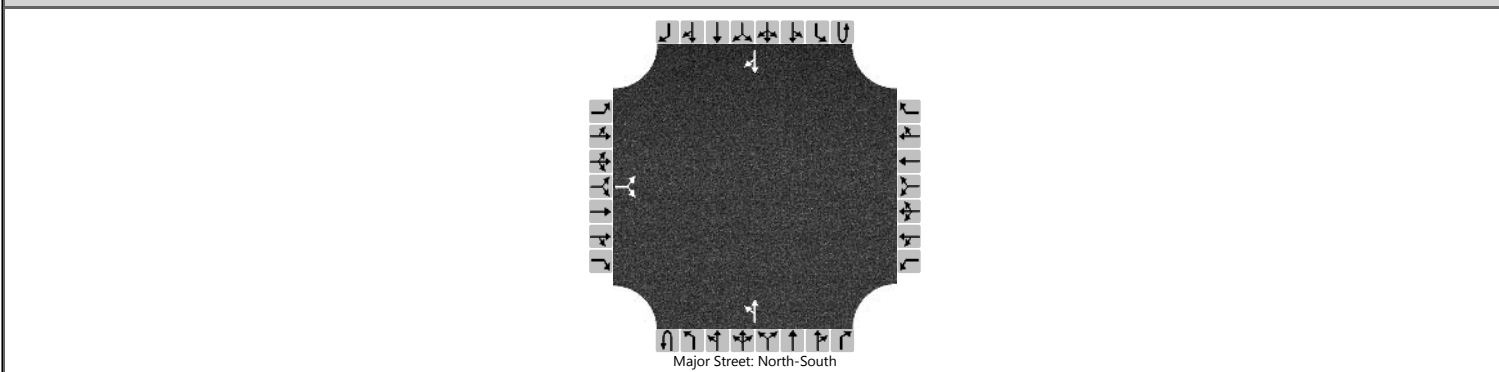
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		6.3					7.4	8.3			10.4	
Lane LOS		A					A	A			B	
95% Queue Length, Q ₉₅ (veh)		0.6					2.6	3.3			3.2	
95% Queue Length, Q ₉₅ (ft)		15.5					66.6	84.5			83.8	
Approach Delay, s/veh LOS	6.3		A				7.9		A	10.4		B
Intersection Delay, s/veh LOS	8.4						A					

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(250) Ridge Rd & Remsen Rd (North)		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	12/19/2024			East/West Street	Remsen Rd (North)		
Analysis Year	2050			North/South Street	SR 94 (Ridge Rd)		
Time Analyzed	Build - AM Peak Alt 3			Peak Hour Factor	0.92		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		10		250						80	480				680	10
Percent Heavy Vehicles (%)		2		2						7						
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

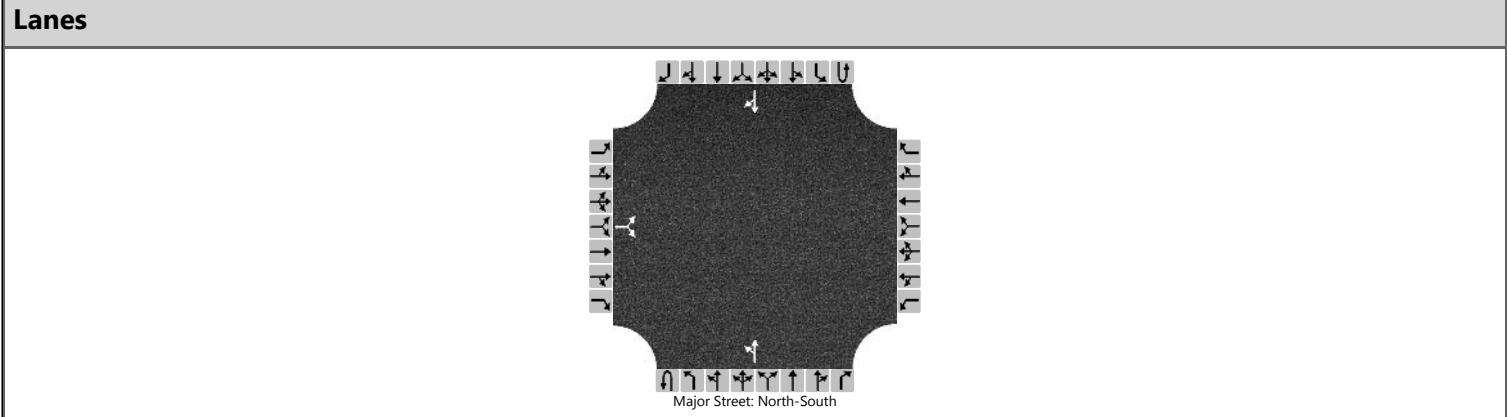
Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.42		6.22						4.17						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.52		3.32						2.26						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			283							87						
Capacity, c (veh/h)			380							837						
v/c Ratio			0.74							0.10						
95% Queue Length, Q ₉₅ (veh)			5.9							0.3						
95% Queue Length, Q ₉₅ (ft)			149.9							7.9						
Control Delay (s/veh)			37.3							9.8	1.4					
Level of Service (LOS)			E							A	A					
Approach Delay (s/veh)	37.3								2.6							
Approach LOS	E								A							

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(250) Ridge Rd & Remsen Rd (North)		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	12/19/2024			East/West Street	Remsen Rd (North)		
Analysis Year	2050			North/South Street	SR 94 (Ridge Rd)		
Time Analyzed	Build - PM Peak Alt 3			Peak Hour Factor	0.95		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0		0	1	0		0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		20		110						280	1110				520	20
Percent Heavy Vehicles (%)		4		4						3						
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.44		6.24						4.13						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.54		3.34						2.23						

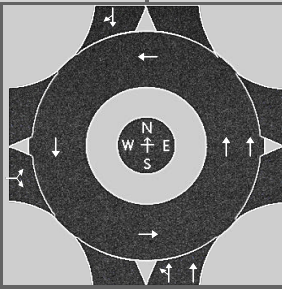
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			137							295						
Capacity, c (veh/h)			40							999						
v/c Ratio			3.45							0.30						
95% Queue Length, Q ₉₅ (veh)			15.5							1.2						
95% Queue Length, Q ₉₅ (ft)			399.9							30.7						
Control Delay (s/veh)			1313.9							10.1	8.5					
Level of Service (LOS)			F							B	A					
Approach Delay (s/veh)	1313.9								8.8							
Approach LOS	F								A							

HCS Roundabouts Report

General Information

Analyst	TJS
Agency or Co.	Smart Services, Inc
Date Performed	12/19/2024
Analysis Year	2050
Time Analyzed	Build Alt B - AM Pk Alt 3
Project Description	



Site Information

Intersection	(250) SR 94 & Remsen Road...
E/W Street Name	Remsen Road (North)
N/S Street Name	SR 94
Analysis Time Period, hrs	0.25
Peak Hour Factor	0.92
Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Number of Lanes (N)	0	0	1	0	0	0	0	0	0	0	2	0	0	0	1	0
Lane Assignment			LR						LT		T					TR
Volume (V), veh/h	0	10		250					0	80	480		0		680	10
Percent Heavy Vehicles, %	2	2		2					7	7	7		5		5	5
Flow Rate (v _{PCE}), pc/h	0	11		277					0	93	558		0		776	11
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1								1				1			
Pedestrians Crossing, p/h	0								0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763					4.5436	4.5436			4.9763	
Follow-Up Headway, s		2.6087					2.5352	2.5352			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		288					306	345			787	
Entry Volume, veh/h		282					286	322			750	
Circulating Flow (v _c), pc/h	776			662			11			93		
Exiting Flow (v _{ex}), pc/h	0			104			569			1053		
Capacity (C _{PCE}), pc/h		625					1406	1406			1255	
Capacity (c), veh/h		613					1314	1314			1195	
v/c Ratio (x)		0.46					0.22	0.25			0.63	

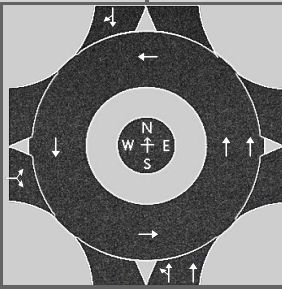
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		13.1					4.6	4.9			11.1	
Lane LOS		B					A	A			B	
95% Queue Length, Q ₉₅ (veh)		2.4					0.8	1.0			4.7	
95% Queue Length, Q ₉₅ (ft)		61.0					21.1	26.4			122.2	
Approach Delay, s/veh LOS	13.1		B				4.7		A	11.1		B
Intersection Delay, s/veh LOS	9.1						A					

HCS Roundabouts Report

General Information

Analyst	TJS
Agency or Co.	Smart Services, Inc
Date Performed	12/19/2024
Analysis Year	2050
Time Analyzed	Build - PM Peak Alt 3
Project Description	



Site Information

Intersection	(250) SR 94 & Remsen Road...
E/W Street Name	Remsen Road (North)
N/S Street Name	SR 94
Analysis Time Period, hrs	0.25
Peak Hour Factor	0.95
Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Number of Lanes (N)	0	0	1	0	0	0	0	0	0	0	2	0	0	0	1	0
Lane Assignment			LR						LT	T					TR	
Volume (V), veh/h	0	20		110					0	280	1110		0		520	20
Percent Heavy Vehicles, %	4	4		4					3	3	3		6		6	6
Flow Rate (v _{PCE}), pc/h	0	22		120					0	304	1203		0		580	22
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1								1				1			
Pedestrians Crossing, p/h	0								0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763					4.5436	4.5436			4.9763	
Follow-Up Headway, s		2.6087					2.5352	2.5352			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		142					708	799			602	
Entry Volume, veh/h		137					688	775			568	
Circulating Flow (v _c), pc/h	580			1529			22			304		
Exiting Flow (v _{ex}), pc/h	0			326			1225			700		
Capacity (c _{PCE}), pc/h		764					1392	1392			1012	
Capacity (c), veh/h		734					1351	1351			955	
v/c Ratio (x)		0.19					0.51	0.57			0.59	

Delay and Level of Service

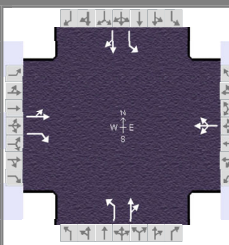
Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		6.9					7.9	9.1			12.1	
Lane LOS		A					A	A			B	
95% Queue Length, Q ₉₅ (veh)		0.7					3.0	3.8			4.1	
95% Queue Length, Q ₉₅ (ft)		18.1					76.8	97.3			107.4	
Approach Delay, s/veh LOS	6.9	A					8.5	A		12.1	B	
Intersection Delay, s/veh LOS	9.4						A					

ALT 4

(10) SR 94 & SR 3

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 18, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.95
Urban Street	SR 94-Ridge Rd	Analysis Year	2030	Analysis Period	1 > 7:00
Intersection	(10) SR 94 & SR 3	File Name	Signalized Capacity Group 1 (10 & 240) - 2030 B...		
Project Description	2030 Build Alt 4				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	20	50	400	20	40	20	120	210	10	10	370	10

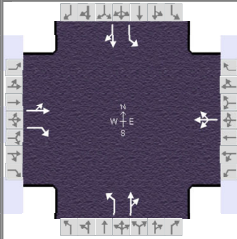
Signal Information												
Cycle, s	120.0	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	Yes	Simult. Gap E/W	On	Green	81.0	25.5	0.0	0.0	0.0	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.5	6.0	0.0	0.0	0.0	0.0		
				Red	1.0	1.0	0.0	0.0	0.0	0.0		

Traffic Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	20	50	400	20	40	20	120	210	10	10	370	10
Initial Queue (Q _b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s ₀), veh/h	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Parking (N _m), man/h	None			None			None			None		
Heavy Vehicles (P _{HV}), %		4	4		5			8	8		3	3
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N _b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (AT)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09
Lane Width (W), ft		12.0	12.0		12.0		12.0	12.0		12.0	12.0	
Turn Bay Length, ft		0	110		0		610	0		115	0	
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50	50	55	55	55	45	45	45	45	45	45

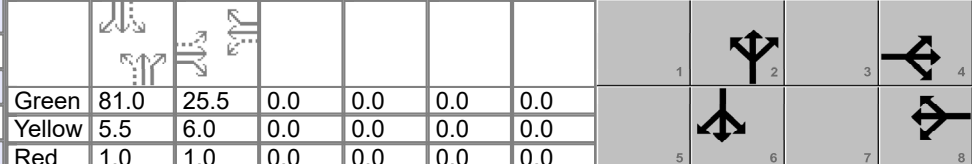
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s		25.5		25.5		81.0		81.0
Yellow Change Interval (Y), s		6.0		6.0		5.5		5.5
Red Clearance Interval (R _c), s		1.0		1.0		1.0		1.0
Minimum Green (G _{min}), s		12		12		24		24
Start-Up Lost Time (l _t), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (e), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (P _T), s		2.0		2.0		2.0		2.0
Recall Mode		Off		Off		Min		Min
Dual Entry		Yes		Yes		Yes		Yes
Walk (Walk), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (P _C), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

HCS Signalized Intersection Results Summary

General Information				Intersection Information		
Agency	Smart Services Inc.			Duration, h	0.250	
Analyst	TJS	Analysis Date	Dec 18, 2024	Area Type	Other	
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.95	
Urban Street	SR 94-Ridge Rd	Analysis Year	2030	Analysis Period	1 > 7:00	
Intersection	(10) SR 94 & SR 3	File Name	Signalized Capacity Group 1 (10 & 240) - 2030 B...			
Project Description	2030 Build Alt 4					

Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	20	50	400	20	40	20	120	210	10	10	370	10

Signal Information														
Cycle, s	120.0	Reference Phase	2	Green	81.0	25.5	0.0	0.0	0.0	0.0				
Offset, s	0	Reference Point	End	Yellow	5.5	6.0	0.0	0.0	0.0	0.0				
Uncoordinated	Yes	Simult. Gap E/W	On	Red	1.0	1.0	0.0	0.0	0.0	0.0				
Force Mode	Fixed	Simult. Gap N/S	On											

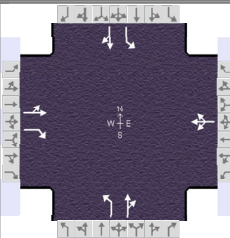
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		7.0		8.0		6.0		6.0
Phase Duration, s		32.5		32.5		87.5		87.5
Change Period, ($Y+R_c$), s		7.0		7.0		6.5		6.5
Max Allow Headway (MAH), s		3.2		3.2		3.3		3.3
Queue Clearance Time (g_s), s		27.5		7.2		83.0		67.1
Green Extension Time (g_e), s		0.0		1.1		0.0		3.9
Phase Call Probability		1.00		1.00		1.00		1.00
Max Out Probability		1.00		0.00		1.00		0.17

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h		74	421		84		126	232		28	1064	
Adjusted Saturation Flow Rate (s), veh/h/ln		1592	1437		1533		505	1627		1140	1701	
Queue Service Time (g_s), s		0.0	25.5		0.0		15.8	6.5		1.1	65.1	
Cycle Queue Clearance Time (g_c), s		4.3	25.5		5.2		81.0	6.5		7.7	65.1	
Green Ratio (g/C)		0.21	0.21		0.21		0.67	0.67		0.67	0.67	
Capacity (c), veh/h		377	305		363		127	1099		768	1148	
Volume-to-Capacity Ratio (X)		0.196	1.379		0.232		0.997	0.211		0.036	0.927	
Back of Queue (Q), ft/ln (95 th percentile)		81	989		93		285	94		12	599	
Back of Queue (Q), veh/ln (95 th percentile)		3.1	38.3		3.6		10.7	3.6		0.5	23.4	
Queue Storage Ratio (RQ) (95 th percentile)		0.00	8.99		0.00		0.47	0.00		0.10	0.00	
Uniform Delay (d_1), s/veh		38.9	47.2		39.3		55.8	7.4		8.8	16.9	
Incremental Delay (d_2), s/veh		0.1	189.8		0.1		78.9	0.0		0.0	1.5	
Initial Queue Delay (d_3), s/veh		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Control Delay (d), s/veh		39.0	237.1		39.4		134.7	7.4		8.8	18.4	
Level of Service (LOS)		D	F		D		F	A		A	B	
Approach Delay, s/veh / LOS	207.6		F	39.4		D	52.3		D	18.1		B
Intersection Delay, s/veh / LOS			71.3							E		

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.94	B	1.94	B	1.65	B	1.87	B
Bicycle LOS Score / LOS	1.30	A	0.63	A	1.08	A	1.16	A

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 18, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak Alt 4	PHF	0.92
Urban Street	SR 94-Ridge Rd	Analysis Year	2030	Analysis Period	1 > 4:45
Intersection	(10) SR 94 & SR 3	File Name	Signalized Capacity Group 1 (10 & 240) - 2030 B...		
Project Description	2030 Build				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	10	60	230	20	80	30	410	400	20	10	300	10

Signal Information													
Cycle, s	121.5	Reference Phase	2										
Offset, s	0	Reference Point	End										
Uncoordinated	Yes	Simult. Gap E/W	On	Green	85.5	22.5	0.0	0.0	0.0	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.5	6.0	0.0	0.0	0.0	0.0			
				Red	1.0	1.0	0.0	0.0	0.0	0.0			

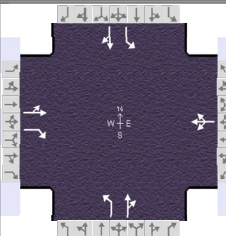
Traffic Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	10	60	230	20	80	30	410	400	20	10	300	10
Initial Queue (Q _b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s ₀), veh/h	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Parking (N _m), man/h		None			None			None			None	
Heavy Vehicles (P _{HV}), %		5	5		3			3	3		3	3
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N _b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (AT)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09
Lane Width (W), ft		12.0	12.0		12.0			12.0	12.0		12.0	12.0
Turn Bay Length, ft		0	110		0			610	0		115	0
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50	50	55	55	55	45	45	45	45	45	45

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s		22.5		22.5		85.5		85.5
Yellow Change Interval (Y), s		6.0		6.0		5.5		5.5
Red Clearance Interval (R _c), s		1.0		1.0		1.0		1.0
Minimum Green (G _{min}), s		12		12		24		24
Start-Up Lost Time (l _t), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (e), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (P _T), s		2.0		2.0		2.0		2.0
Recall Mode		Off		Off		Min		Min
Dual Entry		Yes		Yes		Yes		Yes
Walk (Walk), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (P _C), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 18, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak Alt 4	PHF	0.92
Urban Street	SR 94-Ridge Rd	Analysis Year	2030	Analysis Period	1 > 4:45
Intersection	(10) SR 94 & SR 3	File Name	Signalized Capacity Group 1 (10 & 240) - 2030 B...		
Project Description	2030 Build				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	10	60	230	20	80	30	410	400	20	10	300	10

Signal Information				Signal Phases								
Cycle, s	121.5	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	Yes	Simult. Gap E/W	On									
Force Mode	Fixed	Simult. Gap N/S	On									
		Green	85.5	22.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Yellow	5.5	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Red	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		7.0		8.0		6.0		6.0
Phase Duration, s		29.5		29.5		92.0		92.0
Change Period, (Y+R _c), s		7.0		7.0		6.5		6.5
Max Allow Headway (MAH), s		3.1		3.1		3.6		3.6
Queue Clearance Time (g _s), s		23.1		11.3		87.5		26.2
Green Extension Time (g _e), s		0.0		0.7		0.0		5.6
Phase Call Probability		1.00		1.00		1.00		1.00
Max Out Probability		1.00		0.01		1.00		0.00

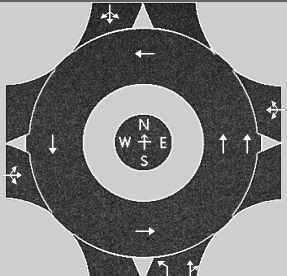
Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h		76	250		141		446	457		22	683	
Adjusted Saturation Flow Rate (s), veh/h/ln		1636	1425		1601		752	1695		927	1699	
Queue Service Time (g _s), s		0.0	21.1		0.3		61.3	13.3		1.2	24.2	
Cycle Queue Clearance Time (g _c), s		4.7	21.1		9.3		85.5	13.3		14.5	24.2	
Green Ratio (g/C)		0.19	0.19		0.19		0.70	0.70		0.70	0.70	
Capacity (c), veh/h		337	264		331		438	1192		611	1196	
Volume-to-Capacity Ratio (X)		0.226	0.947		0.427		1.016	0.383		0.036	0.571	
Back of Queue (Q), ft/ln (95 th percentile)		89	400		169		678	186		10	223	
Back of Queue (Q), veh/ln (95 th percentile)		3.4	15.4		6.6		26.5	7.3		0.4	8.7	
Queue Storage Ratio (RQ) (95 th percentile)		0.00	3.64		0.00		1.11	0.00		0.09	0.00	
Uniform Delay (d ₁), s/veh		42.2	48.9		44.1		34.2	7.3		10.2	8.9	
Incremental Delay (d ₂), s/veh		0.1	40.7		0.3		47.2	0.1		0.0	0.0	
Initial Queue Delay (d ₃), s/veh		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Control Delay (d), s/veh		42.4	89.6		44.5		81.4	7.4		10.2	9.0	
Level of Service (LOS)		D	F		D		F	A		B	A	
Approach Delay, s/veh / LOS	78.6		E	44.5		D	44.0		D	9.0		A
Intersection Delay, s/veh / LOS	37.6						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.95	B	1.95	B	1.64	B	1.86	B
Bicycle LOS Score / LOS	1.03	A	0.72	A	1.98	B	1.06	A

HCS Roundabouts Report

General Information

Site Information

Analyst	TJS		Intersection	(10) SR 94 & SR 3
Agency or Co.	Smart Services, Inc		E/W Street Name	SR 3-Ledge Road
Date Performed	12/18/2024		N/S Street Name	SR 94
Analysis Year	2030		Analysis Time Period, hrs	0.25
Time Analyzed	Build Alt B - AM Pk Alt 4		Peak Hour Factor	0.95
Project Description			Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	1	0	0	0	1	0	0	1	1	0	0	0	1	0
Lane Assignment	LTR				LTR				L		TR		LTR			
Volume (V), veh/h	0	20	50	400	0	20	40	20	0	120	210	10	0	10	370	10
Percent Heavy Vehicles, %	4	4	4	4	5	5	5	5	8	8	8	8	3	3	3	3
Flow Rate (v _{PCE}), pc/h	0	22	55	438	0	22	44	22	0	136	239	11	0	11	401	11
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1				2				1				1			
Pedestrians Crossing, p/h	0				0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763			4.3276		4.5436	4.5436			4.9763	
Follow-Up Headway, s		2.6087			2.5352		2.5352	2.5352			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		515			88		136	250			423	
Entry Volume, veh/h		495			84		126	231			411	
Circulating Flow (v _c), pc/h	434			397			88			202		
Exiting Flow (v _{ex}), pc/h	77			191			283			861		
Capacity (C _{PCE}), pc/h		886			1013		1311	1311			1123	
Capacity (c), veh/h		852			965		1214	1214			1090	
v/c Ratio (x)		0.58			0.09		0.10	0.19			0.38	

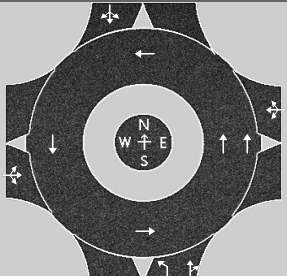
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		12.8			4.5		3.8	4.6			7.2	
Lane LOS		B			A		A	A			A	
95% Queue Length, Q ₉₅ (veh)		3.8			0.3		0.3	0.7			1.8	
95% Queue Length, Q ₉₅ (ft)		98.0			7.8		8.0	18.6			46.1	
Approach Delay, s/veh LOS	12.8	B		4.5	A		4.3	A		7.2	A	
Intersection Delay, s/veh LOS	8.3						A					

HCS Roundabouts Report

General Information

Site Information

Analyst	TJS		Intersection	(10) SR 94 & SR 3
Agency or Co.	Smart Services, Inc		E/W Street Name	SR 3-Ledge Road
Date Performed	12/18/2024		N/S Street Name	SR 94
Analysis Year	2030		Analysis Time Period, hrs	0.25
Time Analyzed	Build Alt B - PM Pk Alt 4		Peak Hour Factor	0.92
Project Description			Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	1	0	0	0	1	0	0	1	1	0	0	0	1	0
Lane Assignment	LTR				LTR				L		TR		LTR			
Volume (V), veh/h	0	10	60	230	0	20	80	30	0	410	400	20	0	10	300	10
Percent Heavy Vehicles, %	5	5	5	5	3	3	3	3	3	3	3	3	3	3	3	3
Flow Rate (v _{PCE}), pc/h	0	11	68	262	0	22	90	34	0	459	448	22	0	11	336	11
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1				2				1				1			
Pedestrians Crossing, p/h	0				0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763			4.3276		4.5436	4.5436			4.9763	
Follow-Up Headway, s		2.6087			2.5352		2.5352	2.5352			2.6087	

Flow Computations, Capacity and v/c Ratios

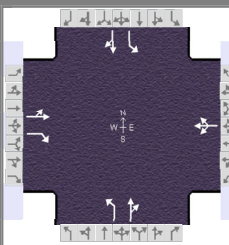
Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		341			146		459	470			358	
Entry Volume, veh/h		325			142		446	456			348	
Circulating Flow (v _c), pc/h	369			918			90			571		
Exiting Flow (v _{ex}), pc/h	101			560			493			620		
Capacity (C _{PCE}), pc/h		947			651		1308	1308			771	
Capacity (c), veh/h		902			632		1270	1270			748	
v/c Ratio (x)		0.36			0.22		0.35	0.36			0.46	

Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		8.0			8.5		6.1	6.2			11.2	
Lane LOS		A			A		A	A			B	
95% Queue Length, Q ₉₅ (veh)		1.6			0.9		1.6	1.7			2.5	
95% Queue Length, Q ₉₅ (ft)		41.6			23.0		41.0	43.5			64.0	
Approach Delay, s/veh LOS	8.0		A	8.5		A	6.2		A	11.2		B
Intersection Delay, s/veh LOS	7.7						A					

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 19, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.95
Urban Street	SR 94-Ridge Rd	Analysis Year	2050	Analysis Period	1 > 7:00
Intersection	(10) SR 94 & SR 3	File Name	Signalized Capacity Group 1 (10 & 240) - 2050 B...		
Project Description	2050 Build Alt 4				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	20	50	420	30	40	20	110	250	10	10	400	10

Signal Information				Signal Phases								
Cycle, s	120.0	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	Yes	Simult. Gap E/W	On									
Force Mode	Fixed	Simult. Gap N/S	On									
		Green	81.0	25.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Yellow	5.5	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Red	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

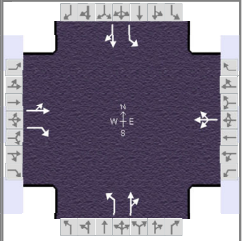
Traffic Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	20	50	420	30	40	20	110	250	10	10	400	10
Initial Queue (Q _b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s ₀), veh/h	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Parking (N _m), man/h	None			None			None			None		
Heavy Vehicles (P _{HV}), %		4	4		5			8	8		3	3
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N _b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (AT)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09
Lane Width (W), ft		12.0	12.0		12.0			12.0	12.0		12.0	12.0
Turn Bay Length, ft		0	110		0			610	0		115	0
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50	50	55	55	55	45	45	45	45	45	45

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s		25.5		25.5		81.0		81.0
Yellow Change Interval (Y), s		6.0		6.0		5.5		5.5
Red Clearance Interval (R _c), s		1.0		1.0		1.0		1.0
Minimum Green (G _{min}), s		12		12		24		24
Start-Up Lost Time (l _t), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (e), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (PT), s		2.0		2.0		2.0		2.0
Recall Mode		Off		Off		Min		Min
Dual Entry		Yes		Yes		Yes		Yes
Walk (Walk), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (PC), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 19, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.95
Urban Street	SR 94-Ridge Rd	Analysis Year	2050	Analysis Period	1 > 7:00
Intersection	(10) SR 94 & SR 3	File Name	Signalized Capacity Group 1 (10 & 240) - 2050 B...		
Project Description	2050 Build Alt 4				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	20	50	420	30	40	20	110	250	10	10	400	10

Signal Information				Signal Phases										
Cycle, s	120.0	Reference Phase	2	Green	81.0	25.5	0.0	0.0	0.0	0.0	1	2	3	4
Offset, s	0	Reference Point	End	Yellow	5.5	6.0	0.0	0.0	0.0	0.0	5	6	7	8
Uncoordinated	Yes	Simult. Gap E/W	On	Red	1.0	1.0	0.0	0.0	0.0	0.0				
Force Mode	Fixed	Simult. Gap N/S	On											

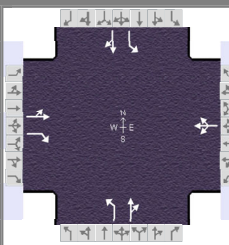
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		7.0		8.0		6.0		6.0
Phase Duration, s		32.5		32.5		87.5		87.5
Change Period, (Y+R _c), s		7.0		7.0		6.5		6.5
Max Allow Headway (MAH), s		3.2		3.2		3.2		3.2
Queue Clearance Time (g _s), s		27.5		8.0		83.0		65.0
Green Extension Time (g _e), s		0.0		1.2		0.0		4.0
Phase Call Probability		1.00		1.00		1.00		1.00
Max Out Probability		1.00		0.00		1.00		0.11

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h		74	442		95		116	274		26	1051	
Adjusted Saturation Flow Rate (s), veh/h/ln		1592	1437		1507		511	1630		1097	1702	
Queue Service Time (g _s), s		0.0	25.5		1.8		18.0	7.9		1.1	63.0	
Cycle Queue Clearance Time (g _c), s		4.3	25.5		6.0		81.0	7.9		9.0	63.0	
Green Ratio (g/C)		0.21	0.21		0.21		0.67	0.67		0.67	0.67	
Capacity (c), veh/h		377	305		360		137	1100		728	1149	
Volume-to-Capacity Ratio (X)		0.196	1.448		0.263		0.847	0.249		0.035	0.915	
Back of Queue (Q), ft/ln (95 th percentile)		81	1094		105		222	115		12	578	
Back of Queue (Q), veh/ln (95 th percentile)		3.1	42.4		4.1		8.3	4.3		0.4	22.6	
Queue Storage Ratio (RQ) (95 th percentile)		0.00	9.95		0.00		0.36	0.00		0.10	0.00	
Uniform Delay (d ₁), s/veh		38.9	47.2		39.5		54.0	7.6		9.4	16.6	
Incremental Delay (d ₂), s/veh		0.1	219.1		0.1		34.8	0.0		0.0	1.2	
Initial Queue Delay (d ₃), s/veh		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Control Delay (d), s/veh		39.0	266.3		39.7		88.9	7.7		9.4	17.8	
Level of Service (LOS)		D	F		D		F	A		A	B	
Approach Delay, s/veh / LOS		233.8	F		39.7	D		31.8	C		17.6	B
Intersection Delay, s/veh / LOS			75.0						E			

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.94	B	1.94	B	1.65	B	1.87	B
Bicycle LOS Score / LOS	1.34	A	0.64	A	1.13	A	1.22	A

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 19, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.92
Urban Street	SR 94-Ridge Rd	Analysis Year	2050	Analysis Period	1 > 4:45
Intersection	(10) SR 94 & SR 3	File Name	Signalized Capacity Group 1 (10 & 240) - 2050 B...		
Project Description	2050 Build Alt 4				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	10	60	240	30	70	30	410	440	30	10	330	10

Signal Information				Signal Phases								
Cycle, s	121.5	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	Yes	Simult. Gap E/W	On									
Force Mode	Fixed	Simult. Gap N/S	On									
		Green	85.5	22.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Yellow	5.5	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Red	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

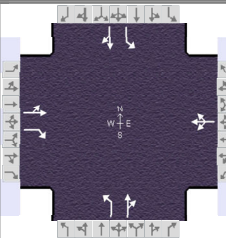
Traffic Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	10	60	240	30	70	30	410	440	30	10	330	10
Initial Queue (Q _b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s ₀), veh/h	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Parking (N _m), man/h	None			None			None			None		
Heavy Vehicles (P _{HV}), %		5	5		3			3	3		3	3
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N _b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (AT)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09
Lane Width (W), ft		12.0	12.0		12.0		12.0	12.0		12.0	12.0	
Turn Bay Length, ft		0	110		0		610	0		115	0	
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50	50	55	55	55	45	45	45	45	45	45

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s		22.5		22.5		85.5		85.5
Yellow Change Interval (Y), s		6.0		6.0		5.5		5.5
Red Clearance Interval (R _c), s		1.0		1.0		1.0		1.0
Minimum Green (G _{min}), s		12		12		24		24
Start-Up Lost Time (l _t), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (e), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (P _T), s		2.0		2.0		2.0		2.0
Recall Mode		Off		Off		Min		Min
Dual Entry		Yes		Yes		Yes		Yes
Walk (Walk), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (P _C), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 19, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.92
Urban Street	SR 94-Ridge Rd	Analysis Year	2050	Analysis Period	1 > 4:45
Intersection	(10) SR 94 & SR 3	File Name	Signalized Capacity Group 1 (10 & 240) - 2050 B...		
Project Description	2050 Build Alt 4				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	10	60	240	30	70	30	410	440	30	10	330	10

Signal Information				Phase Diagram								
Cycle, s	121.5	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	Yes	Simult. Gap E/W	On									
Force Mode	Fixed	Simult. Gap N/S	On									
		Green	85.5	22.5	0.0	0.0	0.0	0.0				
		Yellow	5.5	6.0	0.0	0.0	0.0	0.0				
		Red	1.0	1.0	0.0	0.0	0.0	0.0				

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		7.0		8.0		6.0		6.0
Phase Duration, s		29.5		29.5		92.0		92.0
Change Period, (Y+R _c), s		7.0		7.0		6.5		6.5
Max Allow Headway (MAH), s		3.1		3.1		3.5		3.5
Queue Clearance Time (g _s), s		24.2		11.5		87.5		25.8
Green Extension Time (g _e), s		0.0		0.7		0.0		5.7
Phase Call Probability		1.00		1.00		1.00		1.00
Max Out Probability		1.00		0.01		1.00		0.00

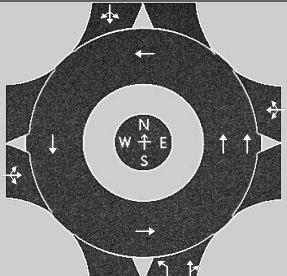
Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h		76	261		141		446	511		20	676	
Adjusted Saturation Flow Rate (s), veh/h/ln		1638	1425		1570		757	1690		882	1700	
Queue Service Time (g _s), s		0.0	22.2		3.2		61.7	15.6		1.2	23.8	
Cycle Queue Clearance Time (g _c), s		4.7	22.2		9.5		85.5	15.6		16.8	23.8	
Green Ratio (g/C)		0.19	0.19		0.19		0.70	0.70		0.70	0.70	
Capacity (c), veh/h		337	264		327		444	1189		567	1196	
Volume-to-Capacity Ratio (X)		0.226	0.988		0.432		1.004	0.430		0.035	0.565	
Back of Queue (Q), ft/ln (95 th percentile)		89	440		169		665	213		10	219	
Back of Queue (Q), veh/ln (95 th percentile)		3.4	16.9		6.6		26.0	8.3		0.4	8.6	
Queue Storage Ratio (RQ) (95 th percentile)		0.00	4.00		0.00		1.09	0.00		0.09	0.00	
Uniform Delay (d ₁), s/veh		42.2	49.4		44.2		34.0	7.6		11.2	8.9	
Incremental Delay (d ₂), s/veh		0.1	51.9		0.3		43.7	0.1		0.0	0.0	
Initial Queue Delay (d ₃), s/veh		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Control Delay (d), s/veh		42.4	101.3		44.5		77.7	7.7		11.2	8.9	
Level of Service (LOS)		D	F		D		F	A		B	A	
Approach Delay, s/veh / LOS	88.0		F	44.5		D	40.3		D	9.0		A
Intersection Delay, s/veh / LOS	37.9						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.95	B	1.95	B	1.64	B	1.86	B
Bicycle LOS Score / LOS	1.04	A	0.72	A	2.07	B	1.12	A

HCS Roundabouts Report

General Information

Site Information

Analyst	TJS		Intersection	(10) SR 94 & SR 3
Agency or Co.	Smart Services, Inc		E/W Street Name	SR 3-Ledge Road
Date Performed	12/19/2024		N/S Street Name	SR 94
Analysis Year	2050		Analysis Time Period, hrs	0.25
Time Analyzed	Build Alt B - AM Pk Alt 4		Peak Hour Factor	0.95
Project Description			Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	1	0	0	0	1	0	0	1	1	0	0	0	1	0
Lane Assignment	LTR				LTR				L		TR		LTR			
Volume (V), veh/h	0	20	50	420	0	30	40	20	0	110	250	10	0	10	400	10
Percent Heavy Vehicles, %	4	4	4	4	5	5	5	5	8	8	8	8	3	3	3	3
Flow Rate (v _{PCE}), pc/h	0	22	55	460	0	33	44	22	0	125	284	11	0	11	434	11
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1				2				1				1			
Pedestrians Crossing, p/h	0				0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763			4.3276		4.5436	4.5436			4.9763	
Follow-Up Headway, s		2.6087			2.5352		2.5352	2.5352			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		537			99		125	295			456	
Entry Volume, veh/h		516			94		116	273			443	
Circulating Flow (v _c), pc/h	478			431			88			202		
Exiting Flow (v _{ex}), pc/h	77			180			328			927		
Capacity (C _{PCE}), pc/h		847			984		1311	1311			1123	
Capacity (c), veh/h		815			938		1214	1214			1090	
v/c Ratio (x)		0.63			0.10		0.10	0.23			0.41	

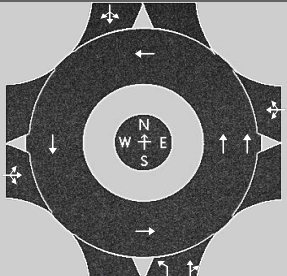
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		14.9			4.8		3.8	5.0			7.6	
Lane LOS		B			A		A	A			A	
95% Queue Length, Q ₉₅ (veh)		4.6			0.3		0.3	0.9			2.0	
95% Queue Length, Q ₉₅ (ft)		118.7			7.8		8.0	23.9			51.2	
Approach Delay, s/veh LOS	14.9		B	4.8		A	4.6		A	7.6		A
Intersection Delay, s/veh LOS	9.2						A					

HCS Roundabouts Report

General Information

Site Information

Analyst	TJS		Intersection	(10) SR 94 & SR 3
Agency or Co.	Smart Services, Inc		E/W Street Name	SR 3-Ledge Road
Date Performed	12/19/2024		N/S Street Name	SR 94
Analysis Year	2050		Analysis Time Period, hrs	0.25
Time Analyzed	Build Alt B - PM Pk Alt 4		Peak Hour Factor	0.92
Project Description			Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	1	0	0	0	1	0	0	1	1	0	0	0	1	0
Lane Assignment	LTR				LTR				L		TR		LTR			
Volume (V), veh/h	0	10	60	240	0	30	70	30	0	410	440	30	0	10	330	10
Percent Heavy Vehicles, %	5	5	5	5	3	3	3	3	3	3	3	3	3	3	3	3
Flow Rate (v _{PCE}), pc/h	0	11	68	274	0	34	78	34	0	459	493	34	0	11	369	11
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1				2				1				1			
Pedestrians Crossing, p/h	0				0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763			4.3276		4.5436	4.5436			4.9763	
Follow-Up Headway, s		2.6087			2.5352		2.5352	2.5352			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		353			146		459	527			391	
Entry Volume, veh/h		336			142		446	512			380	
Circulating Flow (v _c), pc/h	414			963			90			571		
Exiting Flow (v _{ex}), pc/h	113			548			538			677		
Capacity (C _{PCE}), pc/h		905			626		1308	1308			771	
Capacity (c), veh/h		862			608		1270	1270			748	
v/c Ratio (x)		0.39			0.23		0.35	0.40			0.51	

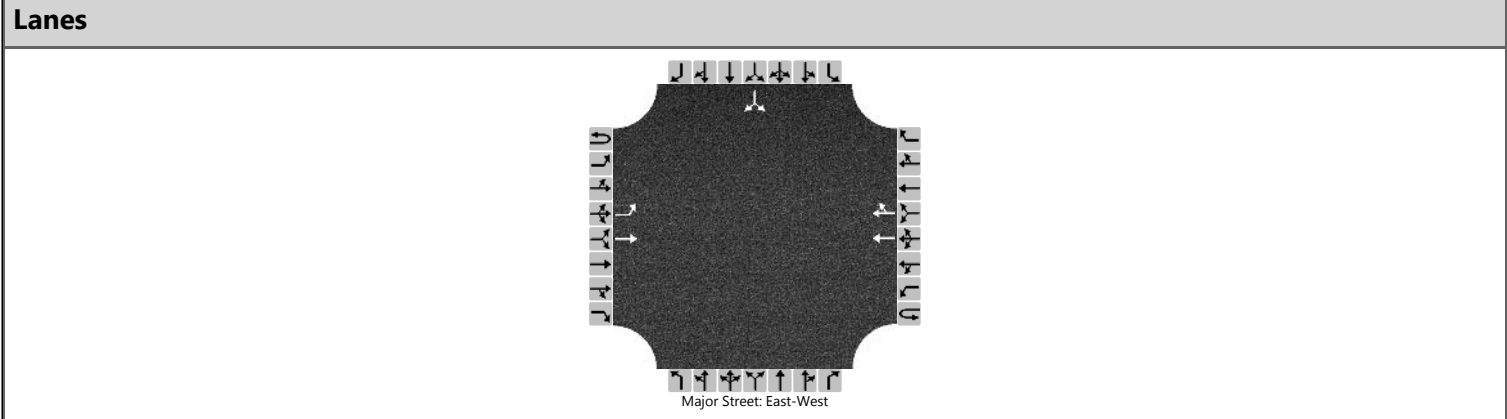
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		8.8			8.9		6.1	6.7			12.2	
Lane LOS		A			A		A	A			B	
95% Queue Length, Q ₉₅ (veh)		1.9			0.9		1.6	2.0			2.9	
95% Queue Length, Q ₉₅ (ft)		49.4			23.0		41.0	51.2			74.2	
Approach Delay, s/veh LOS	8.8	A		8.9	A		6.5	A		12.2	B	
Intersection Delay, s/veh LOS	8.3						A					

(30) W 130th St & SR 3

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(30) W 130th St & SR 3		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	12/18/2024			East/West Street	SR 3		
Analysis Year	2030			North/South Street	W 130th St		
Time Analyzed	Build - AM Peak Alt 4			Peak Hour Factor	0.92		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	1	1	0	0	0	2	0		0	0	0		0	1	0
Configuration		L	T				T	TR							LR	
Volume (veh/h)	0	90	470				250	30						80		90
Percent Heavy Vehicles (%)	9	4												7		7
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.5		6.9
Critical Headway (sec)		4.18												6.94		7.04
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.24												3.57		3.37

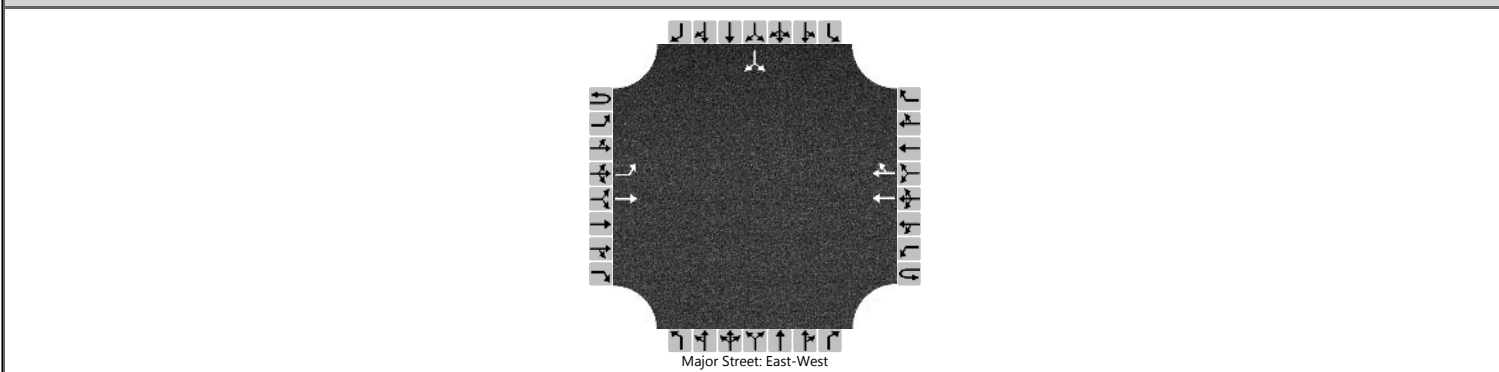
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		98														185	
Capacity, c (veh/h)		1239														355	
v/c Ratio		0.08														0.52	
95% Queue Length, Q ₉₅ (veh)		0.3														2.9	
95% Queue Length, Q ₉₅ (ft)		7.7														76.6	
Control Delay (s/veh)		8.2														25.6	
Level of Service (LOS)		A														D	
Approach Delay (s/veh)		1.3												25.6			
Approach LOS		A												D			

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(30) W 130th St & SR 3		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	12/18/2024			East/West Street	SR 3		
Analysis Year	2030			North/South Street	W 130th St		
Time Analyzed	Build - PM Peak Alt 4			Peak Hour Factor	0.89		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	1	1	0	0	0	2	0		0	0	0		0	1	0
Configuration		L	T				T	TR							LR	
Volume (veh/h)	0	150	400				410	100						40		160
Percent Heavy Vehicles (%)	3	4												3		3
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.5		6.9
Critical Headway (sec)		4.18												6.86		6.96
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.24												3.53		3.33

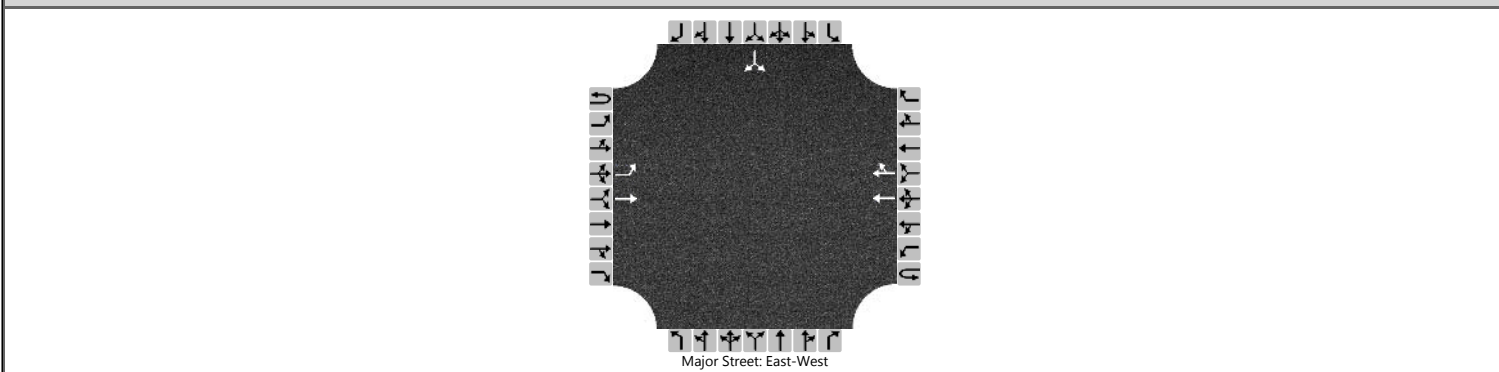
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		168														224	
Capacity, c (veh/h)		984														368	
v/c Ratio		0.17														0.61	
95% Queue Length, Q ₉₅ (veh)		0.6														3.8	
95% Queue Length, Q ₉₅ (ft)		15.5														97.3	
Control Delay (s/veh)		9.4														28.8	
Level of Service (LOS)		A														D	
Approach Delay (s/veh)		2.6								28.8				28.8			
Approach LOS		A												D			

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(30) W 130th St & SR 3		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	12/19/2024			East/West Street	SR 3		
Analysis Year	2050			North/South Street	W 130th St		
Time Analyzed	Build - AM Peak Alt 4			Peak Hour Factor	0.92		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	1	1	0	0	0	2	0		0	0	0		0	1	0
Configuration		L	T				T	TR							LR	
Volume (veh/h)	0	110	480				250	30						80		120
Percent Heavy Vehicles (%)	9	4												7		7
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

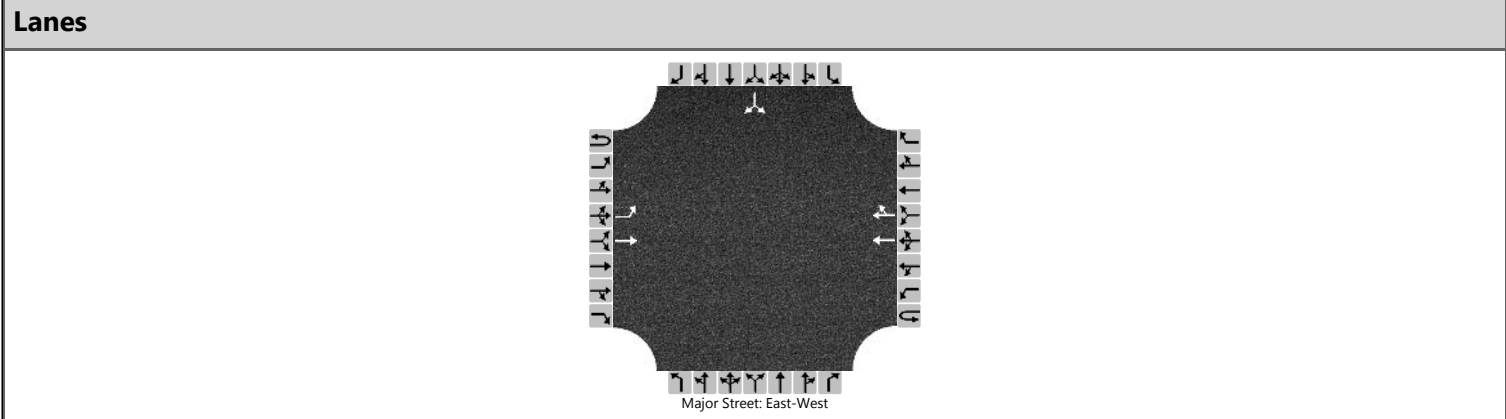
Base Critical Headway (sec)		4.1												7.5		6.9
Critical Headway (sec)		4.18												6.94		7.04
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.24												3.57		3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		120														217
Capacity, c (veh/h)		1239														361
v/c Ratio		0.10														0.60
95% Queue Length, Q ₉₅ (veh)		0.3														3.7
95% Queue Length, Q ₉₅ (ft)		7.7														97.7
Control Delay (s/veh)		8.2														28.9
Level of Service (LOS)		A														D
Approach Delay (s/veh)		1.5								28.9						
Approach LOS		A								D						

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(30) W 130th St & SR 3		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	12/19/2024			East/West Street	SR 3		
Analysis Year	2050			North/South Street	W 130th St		
Time Analyzed	Build - PM Peak Alt 4			Peak Hour Factor	0.89		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	2	0		0	0	0		0	1	0
Configuration		L	T				T	TR							LR	
Volume (veh/h)	0	180	420				440	110						40		170
Percent Heavy Vehicles (%)	3	4												3		3
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.5		6.9
Critical Headway (sec)		4.18												6.86		6.96
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.24												3.53		3.33

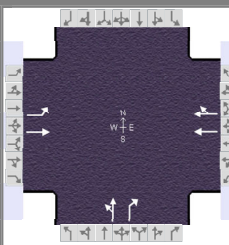
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		201														235	
Capacity, c (veh/h)		947														321	
v/c Ratio		0.21														0.73	
95% Queue Length, Q ₉₅ (veh)		0.8														5.4	
95% Queue Length, Q ₉₅ (ft)		20.6														138.2	
Control Delay (s/veh)		9.8														41.5	
Level of Service (LOS)		A														E	
Approach Delay (s/veh)		2.9												41.5			
Approach LOS		A												E			

(40) SR 3 & I-71 NB Ramps

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 18, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak Alt 4	PHF	0.90
Urban Street	SR 3/Weymouth Rd	Analysis Year	2030	Analysis Period	1 > 7:15
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2030 Build...		
Project Description	2030 Build				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	950	500			260	80	70	0	60			

Signal Information				Phase Diagram								
Cycle, s	120.0	Reference Phase	2									
Offset, s	15	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On									
Force Mode	Fixed	Simult. Gap N/S	On									
		Green	66.8	25.8	9.9	0.0	0.0	0.0				
		Yellow	5.2	5.2	4.1	0.0	0.0	0.0				
		Red	1.0	1.0	1.0	0.0	0.0	0.0				

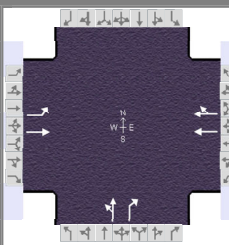
Traffic Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	950	500			260	80	70	0	60			
Initial Queue (Q _b), veh/h	0	0			0	0	0	0	0			
Base Saturation Flow Rate (s ₀), veh/h	1750	1750			1750	1900	1900	1750	1750			
Parking (N _m), man/h		None			None			None				
Heavy Vehicles (P _{HV}), %	3	3			3			6	6			
Ped / Bike / RTOR, /h	0	0		0	0	0	0	0	0	0	0	
Buses (N _b), buses/h	0	0	0	0	0	0	0	0	0			
Arrival Type (AT)	3	3			3	3	3	3	3			
Upstream Filtering (I)	1.00	1.00			0.09	0.09	1.00	1.00	1.00			
Lane Width (W), ft	12.0	12.0			12.0			12.0	12.0			
Turn Bay Length, ft	650	650			675			1325	130			
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50			50	50	35	35	35			

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s	72.0	104.0		32.0		16.0		
Yellow Change Interval (Y), s	5.2	5.2		5.2		4.1		
Red Clearance Interval (R _c), s	1.0	1.0		1.0		1.0		
Minimum Green (G _{min}), s	7	20		20		10		
Start-Up Lost Time (l _t), s	2.0	2.0		2.0	2.0	2.0		
Extension of Effective Green (e), s	2.0	2.0		2.0	2.0	2.0		
Passage (PT), s	2.0	2.0		2.0		2.0		
Recall Mode	Off	Min		Min		Off		
Dual Entry	No	Yes		Yes		Yes		
Walk (Walk), s		0.0				0.0		0.0
Pedestrian Clearance Time (PC), s		0.0				0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0				0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0				9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0		No	0.0	0	No		0	
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0			
Pedestrian Signal / Occupied Parking	No		0.50			0.50	No		0.50	No		

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 18, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak Alt 4	PHF	0.90
Urban Street	SR 3/Weymouth Rd	Analysis Year	2030	Analysis Period	1 > 7:15
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2030 Build...		
Project Description	2030 Build				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	950	500			260	80	70	0	60			

Signal Information				Signal Phases										
Cycle, s	120.0	Reference Phase	2	↔	↔↔	↔↔	↔↔	↔↔	↔↔	↔↔	↔↔	↔↔	↔↔	
Offset, s	15	Reference Point	End	Green	66.8	25.8	9.9	0.0	0.0	0.0	1	2	3	4
Uncoordinated	No	Simult. Gap E/W	On	Yellow	5.2	5.2	4.1	0.0	0.0	0.0	5	6	7	8
Force Mode	Fixed	Simult. Gap N/S	On	Red	1.0	1.0	1.0	0.0	0.0	0.0				

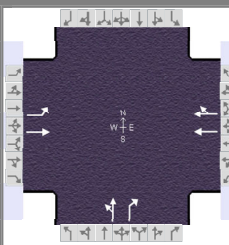
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	1.0	4.0		8.3		11.0		
Phase Duration, s	73.0	105.0		32.0		15.0		
Change Period, (Y+R _c), s	6.2	6.2		6.2		5.1		
Max Allow Headway (MAH), s	3.0	0.0		0.0		3.3		
Queue Clearance Time (g _s), s	68.8					7.7		
Green Extension Time (g _e), s	0.0	0.0		0.0		0.1		
Phase Call Probability	1.00					0.99		
Max Out Probability	1.00					1.00		

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16	3	8	18			
Adjusted Flow Rate (v), veh/h	1056	556			393	363		78	67			
Adjusted Saturation Flow Rate (s), veh/h/ln	1628	1709			1709	1570		1589	1414			
Queue Service Time (g _s), s	66.8	10.2			12.1	25.8		5.7	5.4			
Cycle Queue Clearance Time (g _c), s	66.8	10.2			12.1	25.8		5.7	5.4			
Green Ratio (g/C)	0.79	0.82			0.22	0.22		0.08	0.08			
Capacity (c), veh/h	966	1407			367	338		131	117			
Volume-to-Capacity Ratio (X)	1.093	0.395			1.070	1.074		0.592	0.571			
Back of Queue (Q), ft/ln (95 th percentile)	1346	96			379	278		111	94			
Back of Queue (Q), veh/ln (95 th percentile)	52.6	3.8			14.8	11.1		4.2	3.6			
Queue Storage Ratio (RQ) (95 th percentile)	2.07	0.15			0.56	0.42		0.08	0.72			
Uniform Delay (d ₁), s/veh	23.0	2.8			38.5	29.3		53.1	53.0			
Incremental Delay (d ₂), s/veh	57.7	0.8			37.1	39.2		3.0	2.3			
Initial Queue Delay (d ₃), s/veh	0.0	0.0			0.0	0.0		0.0	0.0			
Control Delay (d), s/veh	80.7	3.6			75.6	68.6		56.1	55.3			
Level of Service (LOS)	F	A			F	F		E	E			
Approach Delay, s/veh / LOS	54.1	D			72.2	E		55.7	E		0.0	
Intersection Delay, s/veh / LOS	59.6						E					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.60	B	1.43	A	1.96	B	2.15	B
Bicycle LOS Score / LOS	3.15	C	0.80	A	0.73	A		

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 18, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak Alt 4	PHF	0.89
Urban Street	SR 3/Weymouth Rd	Analysis Year	2030	Analysis Period	1 > 4:45
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2030 Build...		
Project Description	2030 Build				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	550	430			520	50		90	0	120		

Signal Information				Phase Diagram								
Cycle, s	100.0	Reference Phase	2	↔	↔	↔	↔	↔	↔	↔	↔	↔
Offset, s	54	Reference Point	End	↔	↔	↔	↔	↔	↔	↔	↔	↔
Uncoordinated	No	Simult. Gap E/W	On	↔	↔	↔	↔	↔	↔	↔	↔	↔
Force Mode	Fixed	Simult. Gap N/S	On	↔	↔	↔	↔	↔	↔	↔	↔	↔
				↔	↔	↔	↔	↔	↔	↔	↔	↔

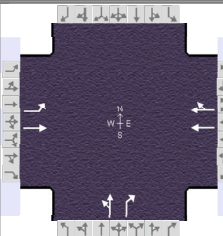
Traffic Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	550	430			520	50		90	0	120		
Initial Queue (Q _b), veh/h	0	0			0	0		0	0	0		
Base Saturation Flow Rate (s ₀), veh/h	1750	1750			1750	1900		1900	1750	1750		
Parking (N _m), man/h		None			None			None				
Heavy Vehicles (P _{HV}), %	3	3			3			2	2			
Ped / Bike / RTOR, /h	0	0			0	0		0	0		0	0
Buses (N _b), buses/h	0	0	0		0	0		0	0			
Arrival Type (AT)	3	3			3	3		3	3			
Upstream Filtering (I)	0.86	0.86			1.00	1.00		1.00	1.00			
Lane Width (W), ft	12.0	12.0			12.0			12.0	12.0			
Turn Bay Length, ft	650	650			675			1325	130			
Grade (P _g), %		0			0			0				0
Speed Limit, mi/h	50	50			50	50		35	35			

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s	36.0	63.0		27.0		37.0		
Yellow Change Interval (Y), s	5.2	5.2		5.2		4.1		
Red Clearance Interval (R _c), s	1.0	1.0		1.0		1.0		
Minimum Green (G _{min}), s	7	20		20		10		
Start-Up Lost Time (l _t), s	2.0	2.0		2.0	2.0	2.0		
Extension of Effective Green (e), s	2.0	2.0		2.0	2.0	2.0		
Passage (P _T), s	2.0	2.0		2.0		2.0		
Recall Mode	Off	Min		Min		Off		
Dual Entry	No	Yes		Yes		Yes		
Walk (Walk), s		0.0				0.0		0.0
Pedestrian Clearance Time (P _C), s		0.0				0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0				0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0				9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0		No	0.0	0	No		0	
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0			
Pedestrian Signal / Occupied Parking	No		0.50			0.50	No		0.50	No		

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 18, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak Alt 4	PHF	0.89
Urban Street	SR 3/Weymouth Rd	Analysis Year	2030	Analysis Period	1 > 4:45
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2030 Build...		
Project Description	2030 Build				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	550	430			520	50		90	0	120		

Signal Information				Phase Settings										
Cycle, s	100.0	Reference Phase	2	Green	18.0	53.0	11.4	0.0	0.0	0.0	1	2	3	4
Offset, s	54	Reference Point	End	Yellow	5.2	5.2	4.1	0.0	0.0	0.0	5	6	7	8
Uncoordinated	No	Simult. Gap E/W	On	Red	1.0	1.0	1.0	0.0	0.0	0.0				
Force Mode	Fixed	Simult. Gap N/S	On											

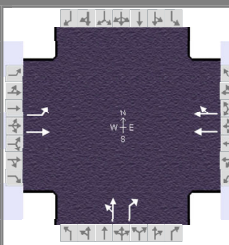
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	1.0	4.0		8.3		11.0		
Phase Duration, s	24.2	83.5		59.2		16.5		
Change Period, ($Y+R_c$), s	6.2	6.2		6.2		5.1		
Max Allow Headway (MAH), s	3.0	0.0		0.0		3.3		
Queue Clearance Time (g_s), s	16.9					11.0		
Green Extension Time (g_e), s	1.1	0.0		0.0		0.4		
Phase Call Probability	1.00					1.00		
Max Out Probability	0.00					0.00		

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16	3	8	18			
Adjusted Flow Rate (v), veh/h	578	452			325	316		101	135			
Adjusted Saturation Flow Rate (s), veh/h/ln	1628	1709			1709	1656		1641	1460			
Queue Service Time (g_s), s	14.9	15.2			18.6	11.1		5.8	9.0			
Cycle Queue Clearance Time (g_c), s	14.9	15.2			18.6	11.1		5.8	9.0			
Green Ratio (g/C)	0.73	0.77			0.53	0.53		0.11	0.11			
Capacity (c), veh/h	635	1320			906	878		188	167			
Volume-to-Capacity Ratio (X)	0.910	0.342			0.358	0.360		0.539	0.807			
Back of Queue (Q), ft/ln (95 th percentile)	201	231			184	175		108	153			
Back of Queue (Q), veh/ln (95 th percentile)	7.8	9.0			7.2	7.0		4.3	6.0			
Queue Storage Ratio (RQ) (95 th percentile)	0.31	0.35			0.27	0.27		0.08	1.18			
Uniform Delay (d_1), s/veh	12.7	8.9			13.6	13.6		41.8	43.2			
Incremental Delay (d_2), s/veh	1.9	0.6			1.1	1.1		0.9	3.5			
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0	0.0		0.0	0.0			
Control Delay (d), s/veh	14.6	9.5			14.7	14.8		42.7	46.7			
Level of Service (LOS)	B	A			B	B		D	D			
Approach Delay, s/veh / LOS	12.3	B		14.8	B		45.0	D		0.0		
Intersection Delay, s/veh / LOS	17.2						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.61	B	1.38	A	1.95	B	2.15	B
Bicycle LOS Score / LOS	2.30	B	1.02	A	0.88	A		

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 19, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.90
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 7:15
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2050 Build...		
Project Description	2050 Build Alt 4				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	990	520			280	90	80	0	70			

Signal Information				Phase Diagram										
Cycle, s	120.0	Reference Phase	2	↔	↔↔	↔↔	↕	↕	↕	↕	↕	↕	↕	
Offset, s	15	Reference Point	End	Green	66.7	25.8	10.0	0.0	0.0	0.0	1	2	3	4
Uncoordinated	No	Simult. Gap E/W	On	Yellow	5.2	5.2	4.1	0.0	0.0	0.0	5	6	7	8
Force Mode	Fixed	Simult. Gap N/S	On	Red	1.0	1.0	1.0	0.0	0.0	0.0				

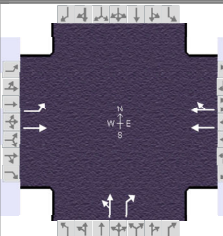
Traffic Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	990	520			280	90	80	0	70			
Initial Queue (Q _b), veh/h	0	0			0	0	0	0	0			
Base Saturation Flow Rate (s ₀), veh/h	1750	1750			1750	1900	1900	1750	1750			
Parking (N _m), man/h		None			None			None				
Heavy Vehicles (P _{HV}), %	3	3			3			6	6			
Ped / Bike / RTOR, /h	0	0		0	0	0	0	0	0	0	0	
Buses (N _b), buses/h	0	0	0	0	0	0	0	0	0			
Arrival Type (AT)	3	3			3	3	3	3	3			
Upstream Filtering (I)	1.00	1.00			0.09	0.09	1.00	1.00	1.00			
Lane Width (W), ft	12.0	12.0			12.0			12.0	12.0			
Turn Bay Length, ft	650	650			675			1325	130			
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50			50	50	35	35	35			

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s	72.0	104.0		32.0		16.0		
Yellow Change Interval (Y), s	5.2	5.2		5.2		4.1		
Red Clearance Interval (R _c), s	1.0	1.0		1.0		1.0		
Minimum Green (G _{min}), s	7	20		20		10		
Start-Up Lost Time (l _t), s	2.0	2.0		2.0	2.0	2.0		
Extension of Effective Green (e), s	2.0	2.0		2.0	2.0	2.0		
Passage (PT), s	2.0	2.0		2.0		2.0		
Recall Mode	Off	Min		Min		Off		
Dual Entry	No	Yes		Yes		Yes		
Walk (Walk), s		0.0				0.0		0.0
Pedestrian Clearance Time (PC), s		0.0				0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0				0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0				9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0		No	0.0	0	No		0	
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0			
Pedestrian Signal / Occupied Parking	No		0.50			0.50	No		0.50	No		

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 19, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.90
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 7:15
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2050 Build...		
Project Description	2050 Build Alt 4				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	990	520			280	90	80	0	70			

Signal Information													
Cycle, s	120.0	Reference Phase	2										
Offset, s	15	Reference Point	End										
Uncoordinated	No	Simult. Gap E/W	On	Green	66.7	25.8	10.0	0.0	0.0	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.2	5.2	4.1	0.0	0.0	0.0			
				Red	1.0	1.0	1.0	0.0	0.0	0.0			

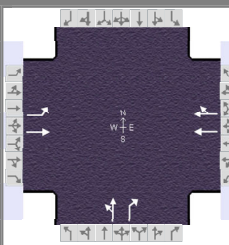
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	1.0	4.0		8.3		11.0		
Phase Duration, s	72.9	104.9		32.0		15.1		
Change Period, ($Y+R_c$), s	6.2	6.2		6.2		5.1		
Max Allow Headway (MAH), s	3.0	0.0		0.0		3.3		
Queue Clearance Time (g_s), s	68.7					8.5		
Green Extension Time (g_e), s	0.0	0.0		0.0		0.1		
Phase Call Probability	1.00					1.00		
Max Out Probability	1.00					1.00		

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16	3	8	18			
Adjusted Flow Rate (v), veh/h	1100	578		406	373		89	78				
Adjusted Saturation Flow Rate (s), veh/h/ln	1628	1709		1709	1566		1589	1414				
Queue Service Time (g_s), s	66.7	10.9		13.3	25.8		6.5	6.4				
Cycle Queue Clearance Time (g_c), s	66.7	10.9		13.3	25.8		6.5	6.4				
Green Ratio (g/C)	0.79	0.82		0.22	0.22		0.08	0.08				
Capacity (c), veh/h	965	1406		367	337		132	117				
Volume-to-Capacity Ratio (X)	1.140	0.411		1.104	1.107		0.674	0.663				
Back of Queue (Q), ft/ln (95 th percentile)	1539	101		426	315		136	119				
Back of Queue (Q), veh/ln (95 th percentile)	60.1	3.9		16.6	12.6		5.2	4.5				
Queue Storage Ratio (RQ) (95 th percentile)	2.37	0.16		0.63	0.48		0.10	0.91				
Uniform Delay (d_1), s/veh	23.0	2.8		38.2	28.8		53.4	53.4				
Incremental Delay (d_2), s/veh	75.5	0.9		51.0	52.9		7.9	7.9				
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0				
Control Delay (d), s/veh	98.5	3.7		89.2	81.6		61.3	61.3				
Level of Service (LOS)	F	A		F	F		E	E				
Approach Delay, s/veh / LOS	65.8	E		85.6	F		61.3	E		0.0		
Intersection Delay, s/veh / LOS	71.4						E					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.60	B	1.43	A	1.96	B	2.15	B
Bicycle LOS Score / LOS	3.26	C	0.83	A	0.76	A		

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 19, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.89
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 4:45
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2050 Build...		
Project Description	2050 Build Alt 4				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	570	460			550	60	100	0	140			

Signal Information				Phase Diagram									
Cycle, s	100.0	Reference Phase	2	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Offset, s	54	Reference Point	End	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Uncoordinated	No	Simult. Gap E/W	On	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Force Mode	Fixed	Simult. Gap N/S	On	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
				↔	↔	↔	↔	↔	↔	↔	↔	↔	↔

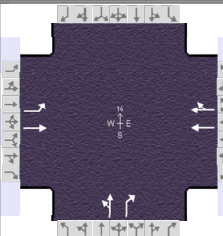
Traffic Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	570	460			550	60	100	0	140			
Initial Queue (Q _b), veh/h	0	0			0	0	0	0	0			
Base Saturation Flow Rate (s ₀), veh/h	1750	1750			1750	1900	1900	1750	1750			
Parking (N _m), man/h	0	L			None			None				
Heavy Vehicles (P _{HV}), %	3	3			3			2	2			
Ped / Bike / RTOR, /h	0	0		0	0	0	0	0	0	0	0	
Buses (N _b), buses/h	0	0	0	0	0	0	0	0	0			
Arrival Type (AT)	3	3			3	3	3	3	3			
Upstream Filtering (I)	0.84	0.84			1.00	1.00	1.00	1.00	1.00			
Lane Width (W), ft	12.0	12.0			12.0			12.0	12.0			
Turn Bay Length, ft	650	650			675			1325	130			
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50			50	50	35	35	35			

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s	36.0	63.0		27.0		37.0		
Yellow Change Interval (Y), s	5.2	5.2		5.2		4.1		
Red Clearance Interval (R _c), s	1.0	1.0		1.0		1.0		
Minimum Green (G _{min}), s	7	20		20		10		
Start-Up Lost Time (l _t), s	2.0	2.0		2.0	2.0	2.0		
Extension of Effective Green (e), s	2.0	2.0		2.0	2.0	2.0		
Passage (PT), s	2.0	2.0		2.0		2.0		
Recall Mode	Off	Min		Min		Off		
Dual Entry	No	Yes		Yes		Yes		
Walk (Walk), s		0.0				0.0		0.0
Pedestrian Clearance Time (PC), s		0.0				0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0				0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0				9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0		No	0.0	0	No		0	
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0			
Pedestrian Signal / Occupied Parking	No		0.50			0.50	No		0.50	No		

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 19, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.89
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 4:45
Intersection	(40) SR 3 & I-71 NB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2050 Build...		
Project Description	2050 Build Alt 4				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	570	460			550	60	100	0	140			

Signal Information				Signal Phases										
Cycle, s	100.0	Reference Phase	2	↔	↔↔	↔↔	↔↔	↔↔	↔↔	↔↔	↔↔	↔↔	↔↔	
Offset, s	54	Reference Point	End	Green	21.8	47.7	13.0	0.0	0.0	0.0	1	2	3	4
Uncoordinated	No	Simult. Gap E/W	On	Yellow	5.2	5.2	4.1	0.0	0.0	0.0	5	6	7	8
Force Mode	Fixed	Simult. Gap N/S	On	Red	1.0	1.0	1.0	0.0	0.0	0.0				

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	1.0	4.0		8.3		11.0		
Phase Duration, s	28.0	81.9		53.9		18.1		
Change Period, ($Y+R_c$), s	6.2	6.2		6.2		5.1		
Max Allow Headway (MAH), s	3.0	0.0		0.0		3.3		
Queue Clearance Time (g_s), s	20.6					12.5		
Green Extension Time (g_e), s	1.1	0.0		0.0		0.5		
Phase Call Probability	1.00					1.00		
Max Out Probability	0.00					0.00		

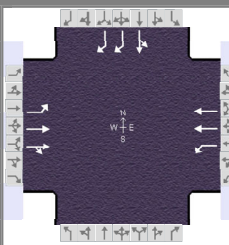
Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16	3	8	18			
Adjusted Flow Rate (v), veh/h	599	484			348	337		112	157			
Adjusted Saturation Flow Rate (s), veh/h/ln	1628	1709			1709	1650		1641	1460			
Queue Service Time (g_s), s	18.6	16.3			20.3	13.5		6.4	10.5			
Cycle Queue Clearance Time (g_c), s	18.6	16.3			20.3	13.5		6.4	10.5			
Green Ratio (g/C)	0.71	0.76			0.48	0.48		0.13	0.13			
Capacity (c), veh/h	633	1294			813	785		213	190			
Volume-to-Capacity Ratio (X)	0.948	0.374			0.428	0.430		0.526	0.828			
Back of Queue (Q), ft/ln (95 th percentile)	282	254			225	215		118	178			
Back of Queue (Q), veh/ln (95 th percentile)	11.0	9.9			8.8	8.6		4.6	7.0			
Queue Storage Ratio (RQ) (95 th percentile)	0.43	0.39			0.33	0.33		0.09	1.37			
Uniform Delay (d_1), s/veh	15.3	9.4			17.3	17.3		40.6	42.4			
Incremental Delay (d_2), s/veh	6.5	0.7			1.6	1.7		0.7	3.5			
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0	0.0		0.0	0.0			
Control Delay (d), s/veh	21.8	10.1			18.9	19.0		41.4	45.9			
Level of Service (LOS)	C	B			B	B		D	D			
Approach Delay, s/veh / LOS	16.5	B		19.0	B		44.0	D		0.0		
Intersection Delay, s/veh / LOS	21.0						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.62	B	1.39	A	1.95	B	2.15	B
Bicycle LOS Score / LOS	2.40	B	1.05	A	0.93	A		

(50) SR 3 & I-71 SB Ramps

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 18, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak Alt 4	PHF	0.92
Urban Street	SR 3/Weymouth Rd	Analysis Year	2030	Analysis Period	1 > 7:15
Intersection	(50) SR 3 & I-71 SB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2030 Build...		
Project Description	2030 Build				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	1	1320	100	50	280					130	2	460

Signal Information				Phase Diagram								
Cycle, s	120.0	Reference Phase	2									
Offset, s	118	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On									
Force Mode	Fixed	Simult. Gap N/S	On									
		Green	52.7	20.9	6.5	16.8	0.0	0.0				
		Yellow	4.1	5.2	4.3	4.1	0.0	0.0				
		Red	1.0	1.0	2.3	1.0	0.0	0.0				

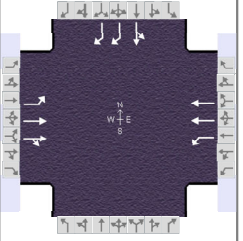
Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	1	1320	100	50	280					130	2	460
Initial Queue (Q _b), veh/h	0	0	0	0	0					0	0	0
Base Saturation Flow Rate (s _o), veh/h	1750	1750	1900	1750	1750					1900	1750	1750
Parking (N _m), man/h		None			None						None	
Heavy Vehicles (P _{HV}), %	3	3		5	5					9	9	
Ped / Bike / RTOR, /h	0	0	0	0	0		0	0		0	0	0
Buses (N _b), buses/h	0	0	0	0	0	0				0	0	0
Arrival Type (AT)	3	3	3	3	3					3	3	3
Upstream Filtering (I)	0.97	0.97	0.97	0.97	0.97					1.00	1.00	1.00
Lane Width (W), ft	12.0	12.0		12.0	12.0					12.0	12.0	
Turn Bay Length, ft	0	450		165	525					1325	165	
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50	50	50	50					35	35	35

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s	14.0	41.0	63.0	90.0				16.0
Yellow Change Interval (Y), s	4.1	5.2	4.3	5.2				4.1
Red Clearance Interval (R _c), s	1.0	1.0	2.3	1.0				1.0
Minimum Green (G _{min}), s	7	20	7	20				10
Start-Up Lost Time (l _t), s	2.0	2.0	2.0	2.0			2.0	2.0
Extension of Effective Green (e), s	2.0	2.0	2.0	2.0			2.0	2.0
Passage (P _T), s	2.0	2.0	2.0	2.0				2.0
Recall Mode	Max	Min	Off	Min				Off
Dual Entry	No	Yes	No	Yes				Yes
Walk (Walk), s				0.0		0.0		0.0
Pedestrian Clearance Time (P _C), s				0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius				0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft				9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0		No	0.0	0	No		0		0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0				12.0	5.0	2.0
Pedestrian Signal / Occupied Parking			0.50		No	0.50		No			No	0.50

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 18, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak Alt 4	PHF	0.92
Urban Street	SR 3/Weymouth Rd	Analysis Year	2030	Analysis Period	1 > 7:15
Intersection	(50) SR 3 & I-71 SB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2030 Build...		
Project Description	2030 Build				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	1	1320	100	50	280					130	2	460

Signal Information				Signal Phases									
Cycle, s	120.0	Reference Phase	2										
Offset, s	118	Reference Point	End	Green	52.7	20.9	6.5	16.8	0.0	0.0			
Uncoordinated	No	Simult. Gap E/W	On	Yellow	4.1	5.2	4.3	4.1	0.0	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Red	1.0	1.0	2.3	1.0	0.0	0.0			

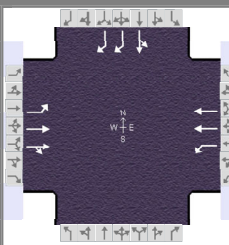
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6				4
Case Number	2.0	4.0	1.3	4.0				11.0
Phase Duration, s	57.8	85.0	13.1	40.2				21.9
Change Period, ($Y+R_c$), s	5.1	6.2	6.6	6.6				5.1
Max Allow Headway (MAH), s	3.0	0.0	3.0	0.0				3.3
Queue Clearance Time (g_s), s	2.0		2.0					15.0
Green Extension Time (g_e), s	0.0	0.0	1.1	0.0				1.8
Phase Call Probability	1.00		0.93					1.00
Max Out Probability	0.00		0.00					0.00

Movement Group Results	EB			WB			NB			SB			
	L	T	R	L	T	R	L	T	R	L	T	R	
Approach Movement													
Assigned Movement	5	2	12	1	6					7	4	14	
Adjusted Flow Rate (v), veh/h	0	314	307	79	444						143	500	
Adjusted Saturation Flow Rate (s), veh/h/ln	1628	1709	1666	1602	1601						1551	1220	
Queue Service Time (g_s), s	0.0	8.6	8.4	0.0	9.1						10.5	13.0	
Cycle Queue Clearance Time (g_c), s	0.0	8.6	8.4	0.0	9.1						10.5	13.0	
Green Ratio (g/C)	0.44	0.66	0.66	0.21	0.28						0.14	0.58	
Capacity (c), veh/h	714	1121	1093	271	899						218	1414	
Volume-to-Capacity Ratio (X)	0.001	0.280	0.281	0.292	0.493						0.659	0.354	
Back of Queue (Q), ft/ln (95 th percentile)	0	130	124	93	129						198	166	
Back of Queue (Q), veh/ln (95 th percentile)	0.0	5.1	4.9	3.6	5.0						7.4	6.2	
Queue Storage Ratio (RQ) (95 th percentile)	0.00	0.29	0.28	0.56	0.25						0.15	1.01	
Uniform Delay (d_1), s/veh	16.3	7.8	7.6	41.2	18.0						48.8	13.4	
Incremental Delay (d_2), s/veh	0.0	0.6	0.6	0.2	1.9						1.3	0.1	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0						0.0	0.0	
Control Delay (d), s/veh	16.3	8.4	8.2	41.4	19.9						50.1	13.4	
Level of Service (LOS)	B	A	A	D	B						D	B	
Approach Delay, s/veh / LOS	8.3		A	23.1		C	0.0				21.6		C
Intersection Delay, s/veh / LOS	17.4						B						

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.44	A	2.13	B	2.32	B	2.32	B
Bicycle LOS Score / LOS	1.76	B	0.78	A			1.55	B

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 18, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak Alt 4	PHF	0.90
Urban Street	SR 3/Weymouth Rd	Analysis Year	2030	Analysis Period	1 > 4:45
Intersection	(50) SR 3 & I-71 SB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2030 Build...		
Project Description	2030 Build				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	1	830	60	70	540					150	0	1010

Signal Information				Phase Diagram								
Cycle, s	100.0	Reference Phase	2									
Offset, s	1	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On									
Force Mode	Fixed	Simult. Gap N/S	On									
		Green	25.9	24.8	6.2	20.1	0.0	0.0				
		Yellow	4.1	5.2	4.3	4.1	0.0	0.0				
		Red	1.0	1.0	2.3	1.0	0.0	0.0				

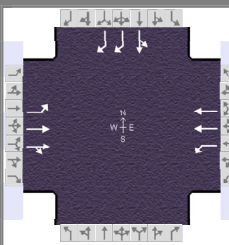
Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	1	830	60	70	540					150	0	1010
Initial Queue (Q _b), veh/h	0	0	0	0	0					0	0	0
Base Saturation Flow Rate (s _o), veh/h	1750	1750	1900	1750	1750					1900	1750	1750
Parking (N _m), man/h		None			None						None	
Heavy Vehicles (P _{HV}), %	3	3		4	4						2	2
Ped / Bike / RTOR, /h	0	0	0	0	0		0	0		0	0	0
Buses (N _b), buses/h	0	0	0	0	0	0				0	0	0
Arrival Type (AT)	3	3	3	3	3					3	3	3
Upstream Filtering (I)	0.93	0.93	0.93	0.93	0.93					1.00	1.00	1.00
Lane Width (W), ft	12.0	12.0		12.0	12.0						12.0	12.0
Turn Bay Length, ft	0	450		165	650						1325	165
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50	50	50	50					35	35	35

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s	31.0	62.0	20.0	51.0				18.0
Yellow Change Interval (Y), s	4.1	5.2	4.3	5.2				4.1
Red Clearance Interval (R _c), s	1.0	1.0	2.3	1.0				1.0
Minimum Green (G _{min}), s	7	20	7	20				10
Start-Up Lost Time (l _t), s	2.0	2.0	2.0	2.0			2.0	2.0
Extension of Effective Green (e), s	2.0	2.0	2.0	2.0			2.0	2.0
Passage (P _T), s	2.0	2.0	2.0	2.0				2.0
Recall Mode	Max	Min	Off	Min				Off
Dual Entry	No	Yes	No	Yes				Yes
Walk (Walk), s				0.0		0.0		0.0
Pedestrian Clearance Time (P _C), s				0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius				0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft				9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0		No	0.0	0	No		0		0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0				12.0	5.0	2.0
Pedestrian Signal / Occupied Parking			0.50	No		0.50	No			No		0.50

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 18, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak Alt 4	PHF	0.90
Urban Street	SR 3/Weymouth Rd	Analysis Year	2030	Analysis Period	1 > 4:45
Intersection	(50) SR 3 & I-71 SB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2030 Build...		
Project Description	2030 Build				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	1	830	60	70	540					150	0	1010

Signal Information				Signal Phases									
Cycle, s	100.0	Reference Phase	2										
Offset, s	1	Reference Point	End	Green	25.9	24.8	6.2	20.1	0.0	0.0			
Uncoordinated	No	Simult. Gap E/W	On	Yellow	4.1	5.2	4.3	4.1	0.0	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Red	1.0	1.0	2.3	1.0	0.0	0.0			

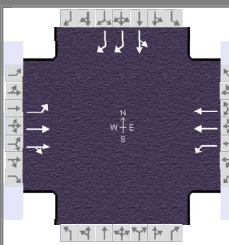
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6				4
Case Number	2.0	4.0	1.3	4.0				11.0
Phase Duration, s	31.0	62.0	12.8	43.8				25.2
Change Period, ($Y+R_c$), s	5.1	6.2	6.6	6.6				5.1
Max Allow Headway (MAH), s	3.0	0.0	3.0	0.0				3.4
Queue Clearance Time (g_s), s	2.0		2.0					22.1
Green Extension Time (g_e), s	0.0	0.0	1.3	0.0				0.0
Phase Call Probability	1.00		0.89					1.00
Max Out Probability	0.00		0.01					1.00

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Assigned Movement	5	2	12	1	6					7	4	14
Adjusted Flow Rate (v), veh/h	1	468	457	79	607						167	1122
Adjusted Saturation Flow Rate (s), veh/h/ln	1628	1709	1668	1615	1614						1641	1292
Queue Service Time (g_s), s	0.0	20.2	20.1	0.0	17.4						9.0	20.1
Cycle Queue Clearance Time (g_c), s	0.0	20.2	20.1	0.0	17.4						9.0	20.1
Green Ratio (g/C)	0.26	0.56	0.56	0.29	0.37						0.20	0.46
Capacity (c), veh/h	422	954	931	307	1200						329	1189
Volume-to-Capacity Ratio (X)	0.002	0.491	0.491	0.256	0.506						0.506	0.944
Back of Queue (Q), ft/ln (95 th percentile)	1	333	324	72	307						164	517
Back of Queue (Q), veh/ln (95 th percentile)	0.0	13.0	12.7	2.8	11.9						6.5	20.3
Queue Storage Ratio (RQ) (95 th percentile)	0.00	0.74	0.72	0.44	0.47						0.12	3.13
Uniform Delay (d_1), s/veh	28.0	18.9	18.7	31.2	34.4						35.5	25.7
Incremental Delay (d_2), s/veh	0.0	1.7	1.7	0.2	1.4						0.5	14.4
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0						0.0	0.0
Control Delay (d), s/veh	28.0	20.6	20.5	31.3	35.8						36.1	40.2
Level of Service (LOS)	C	C	C	C	D						D	D
Approach Delay, s/veh / LOS	20.6	C		35.3	D			0.0			39.7	D
Intersection Delay, s/veh / LOS			32.5							C		

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.43	A	2.11	B	2.31	B	2.31	B
Bicycle LOS Score / LOS	1.30	A	1.05	A			2.61	C

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 19, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.92
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 7:15
Intersection	(50) SR 3 & I-71 SB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2050 Build...		
Project Description	2050 Build Alt 4				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	1	1370	110	50	310					140	2	480

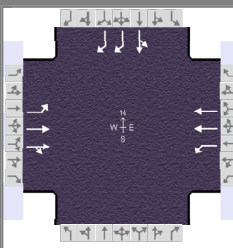
Signal Information				Phase Diagram								
Cycle, s	120.0	Reference Phase	2									
Offset, s	118	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On									
Force Mode	Fixed	Simult. Gap N/S	On									
		Green	52.0	20.9	6.4	17.6	0.0	0.0				
		Yellow	4.1	5.2	4.3	4.1	0.0	0.0				
		Red	1.0	1.0	2.3	1.0	0.0	0.0				

Traffic Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	1	1370	110	50	310					140	2	480
Initial Queue (Q _b), veh/h	0	0	0	0	0					0	0	0
Base Saturation Flow Rate (s ₀), veh/h	1750	1750	1900	1750	1750					1900	1750	1750
Parking (N _m), man/h		None			None						None	
Heavy Vehicles (P _{HV}), %	3	3		5	5					9	9	
Ped / Bike / RTOR, /h	0	0	0	0	0		0	0		0	0	0
Buses (N _b), buses/h	0	0	0	0	0	0				0	0	0
Arrival Type (AT)	3	3	3	3	3					3	3	3
Upstream Filtering (I)	0.97	0.97	0.97	0.97	0.97					1.00	1.00	1.00
Lane Width (W), ft	12.0	12.0		12.0	12.0					12.0	12.0	
Turn Bay Length, ft	0	450		165	525					1325	165	
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h	50	50	50	50	50					35	35	35

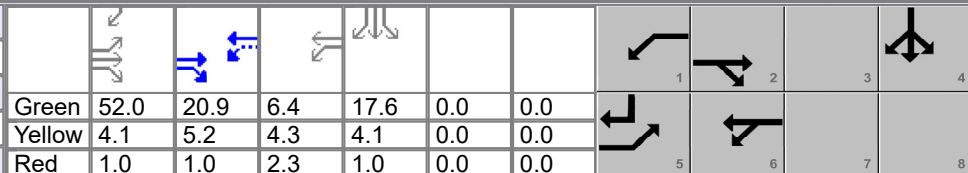
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s	14.0	41.0	63.0	90.0				16.0
Yellow Change Interval (Y), s	4.1	5.2	4.3	5.2				4.1
Red Clearance Interval (R _c), s	1.0	1.0	2.3	1.0				1.0
Minimum Green (G _{min}), s	7	20	7	20				10
Start-Up Lost Time (l _t), s	2.0	2.0	2.0	2.0			2.0	2.0
Extension of Effective Green (e), s	2.0	2.0	2.0	2.0			2.0	2.0
Passage (PT), s	2.0	2.0	2.0	2.0				2.0
Recall Mode	Max	Min	Off	Min				Off
Dual Entry	No	Yes	No	Yes				Yes
Walk (Walk), s				0.0		0.0		0.0
Pedestrian Clearance Time (PC), s				0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius				0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft				9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0		No	0.0	0	No		0		0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0				12.0	5.0	2.0
Pedestrian Signal / Occupied Parking			0.50	No		0.50	No			No		0.50

HCS Signalized Intersection Results Summary

General Information				Intersection Information		
Agency	Smart Services Inc.			Duration, h	0.250	
Analyst	TJS	Analysis Date	Dec 19, 2024	Area Type	Other	
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.92	
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 7:15	
Intersection	(50) SR 3 & I-71 SB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2050 Build...			
Project Description	2050 Build Alt 4					

Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	1	1370	110	50	310					140	2	480

Signal Information														
Cycle, s	120.0	Reference Phase	2	Green	52.0	20.9	6.4	17.6	0.0	0.0				
Offset, s	118	Reference Point	End	Yellow	4.1	5.2	4.3	4.1	0.0	0.0				
Uncoordinated	No	Simult. Gap E/W	On	Red	1.0	1.0	2.3	1.0	0.0	0.0				
Force Mode	Fixed	Simult. Gap N/S	On											

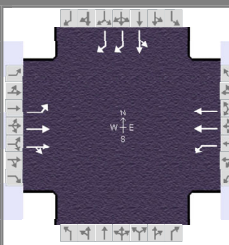
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6				4
Case Number	2.0	4.0	1.3	4.0				11.0
Phase Duration, s	57.1	84.3	13.0	40.2				22.7
Change Period, ($Y+R_c$), s	5.1	6.2	6.6	6.6				5.1
Max Allow Headway (MAH), s	3.0	0.0	3.0	0.0				3.3
Queue Clearance Time (g_s), s	2.0		2.0					15.7
Green Extension Time (g_e), s	0.0	0.0	1.2	0.0				1.9
Phase Call Probability	1.00		0.92					1.00
Max Out Probability	0.00		0.00					0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6					7	4	14
Adjusted Flow Rate (v), veh/h	0	331	324	75	466					154	522	
Adjusted Saturation Flow Rate (s), veh/h/ln	1628	1709	1664	1602	1601					1551	1220	
Queue Service Time (g_s), s	0.0	9.4	9.2	0.0	9.7					11.3	13.7	
Cycle Queue Clearance Time (g_c), s	0.0	9.4	9.2	0.0	9.7					11.3	13.7	
Green Ratio (g/C)	0.43	0.65	0.65	0.21	0.28					0.15	0.58	
Capacity (c), veh/h	705	1111	1082	266	897					228	1415	
Volume-to-Capacity Ratio (X)	0.001	0.298	0.299	0.283	0.520					0.677	0.369	
Back of Queue (Q), ft/ln (95 th percentile)	0	144	136	88	136					211	175	
Back of Queue (Q), veh/ln (95 th percentile)	0.0	5.6	5.3	3.4	5.2					7.9	6.5	
Queue Storage Ratio (RQ) (95 th percentile)	0.00	0.32	0.30	0.53	0.26					0.16	1.06	
Uniform Delay (d_1), s/veh	16.5	8.3	8.0	41.1	17.9					48.5	13.5	
Incremental Delay (d_2), s/veh	0.0	0.6	0.6	0.2	2.1					1.3	0.1	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0					0.0	0.0	
Control Delay (d), s/veh	16.5	8.9	8.7	41.3	20.0					49.8	13.5	
Level of Service (LOS)	B	A	A	D	C					D	B	
Approach Delay, s/veh / LOS	8.8		A	23.0		C	0.0			21.8		C
Intersection Delay, s/veh / LOS	17.6						B					

Multimodal Results	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	1.44		A	2.13		B	2.32		B	2.32		B
Bicycle LOS Score / LOS	1.82		B	0.81		A				1.60		B

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 19, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.90
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 4:45
Intersection	(50) SR 3 & I-71 SB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2050 Build...		
Project Description	2050 Build Alt 4				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	1	870	70	80	570					160	0	1050

Signal Information				Phase Diagram								
Cycle, s	100.0	Reference Phase	2									
Offset, s	1	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On									
Force Mode	Fixed	Simult. Gap N/S	On									
		Green	25.9	24.8	6.4	19.9	0.0	0.0				
		Yellow	4.1	5.2	4.3	4.1	0.0	0.0				
		Red	1.0	1.0	2.3	1.0	0.0	0.0				

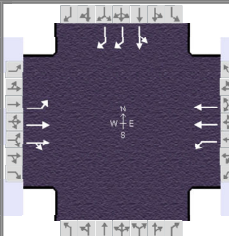
Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	1	870	70	80	570					160	0	1050
Initial Queue (Q _b), veh/h	0	0	0	0	0					0	0	0
Base Saturation Flow Rate (s ₀), veh/h	1750	1750	1900	1750	1750					1900	1750	1750
Parking (N _m), man/h	None			None						None		
Heavy Vehicles (P _{HV}), %	3	3		4	4					2	2	
Ped / Bike / RTOR, /h	0	0	0	0	0		0	0		0	0	0
Buses (N _b), buses/h	0	0	0	0	0	0				0	0	0
Arrival Type (AT)	3	3	3	3	3					3	3	3
Upstream Filtering (I)	0.90	0.90	0.90	0.90	0.90					1.00	1.00	1.00
Lane Width (W), ft	12.0	12.0		12.0	12.0					12.0	12.0	
Turn Bay Length, ft	0	450		165	650					1325	165	
Grade (P _g), %	0			0			0			0		
Speed Limit, mi/h	50	50	50	50	50					35	35	35

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s	31.0	62.0	20.0	51.0				18.0
Yellow Change Interval (Y), s	4.1	5.2	4.3	5.2				4.1
Red Clearance Interval (R _c), s	1.0	1.0	2.3	1.0				1.0
Minimum Green (G _{min}), s	7	20	7	20				10
Start-Up Lost Time (l _t), s	2.0	2.0	2.0	2.0			2.0	2.0
Extension of Effective Green (e), s	2.0	2.0	2.0	2.0			2.0	2.0
Passage (PT), s	2.0	2.0	2.0	2.0				2.0
Recall Mode	Max	Min	Off	Min				Off
Dual Entry	No	Yes	No	Yes				Yes
Walk (Walk), s				0.0		0.0		0.0
Pedestrian Clearance Time (PC), s				0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius				0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft				9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0		No	0.0	0	No		0		0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0				12.0	5.0	2.0
Pedestrian Signal / Occupied Parking			0.50	No		0.50	No			No		0.50

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 19, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.90
Urban Street	SR 3/Weymouth Rd	Analysis Year	2050	Analysis Period	1 > 4:45
Intersection	(50) SR 3 & I-71 SB Ra...	File Name	Signalized Capacity Group 2 (20-70) - 2050 Build...		
Project Description	2050 Build Alt 4				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	1	870	70	80	570					160	0	1050

Signal Information				Signal Timing (s)											
Cycle, s	100.0	Reference Phase	2												
Offset, s	1	Reference Point	End	Green	25.9	24.8	6.4	19.9	0.0	0.0					
Uncoordinated	No	Simult. Gap E/W	On	Yellow	4.1	5.2	4.3	4.1	0.0	0.0					
Force Mode	Fixed	Simult. Gap N/S	On	Red	1.0	1.0	2.3	1.0	0.0	0.0					

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6				4
Case Number	2.0	4.0	1.3	4.0				11.0
Phase Duration, s	31.0	62.0	13.0	44.0				25.0
Change Period, ($Y+R_c$), s	5.1	6.2	6.6	6.6				5.1
Max Allow Headway (MAH), s	3.0	0.0	3.0	0.0				3.4
Queue Clearance Time (g_s), s	2.0		2.0					21.9
Green Extension Time (g_e), s	0.0	0.0	1.4	0.0				0.0
Phase Call Probability	1.00		0.92					1.00
Max Out Probability	0.00		0.01					1.00

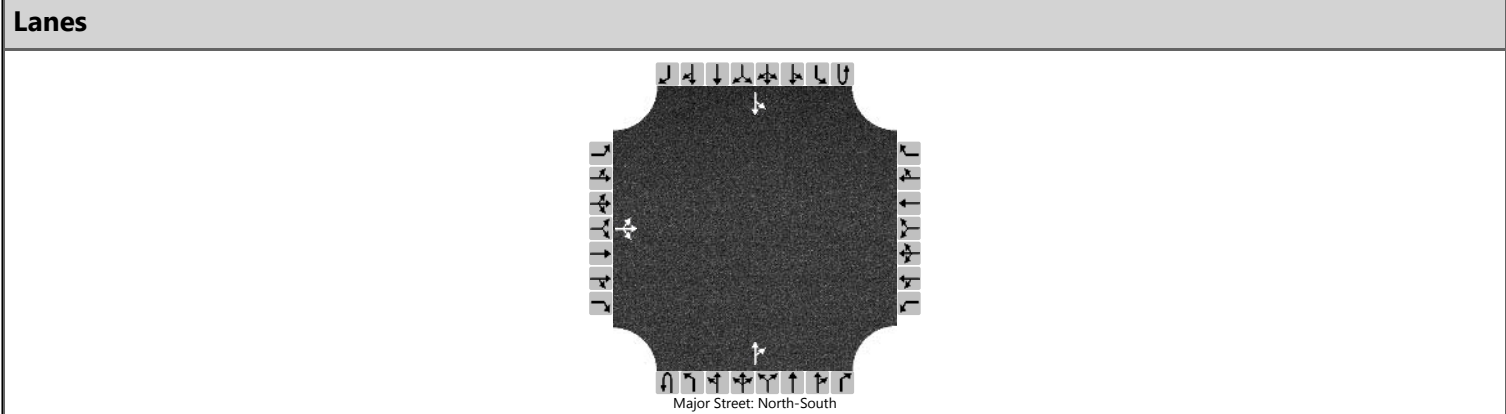
Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Assigned Movement	5	2	12	1	6					7	4	14
Adjusted Flow Rate (v), veh/h	1	496	483	90	640					178	1167	
Adjusted Saturation Flow Rate (s), veh/h/ln	1628	1709	1664	1615	1614					1641	1292	
Queue Service Time (g_s), s	0.0	21.8	21.7	0.0	18.0					9.7	19.9	
Cycle Queue Clearance Time (g_c), s	0.0	21.8	21.7	0.0	18.0					9.7	19.9	
Green Ratio (g/C)	0.26	0.56	0.56	0.29	0.37					0.20	0.46	
Capacity (c), veh/h	422	954	929	304	1207					326	1184	
Volume-to-Capacity Ratio (X)	0.002	0.520	0.520	0.295	0.531					0.545	0.985	
Back of Queue (Q), ft/ln (95 th percentile)	1	356	346	86	309					179	585	
Back of Queue (Q), veh/ln (95 th percentile)	0.0	13.9	13.5	3.3	12.0					7.0	23.0	
Queue Storage Ratio (RQ) (95 th percentile)	0.00	0.79	0.77	0.52	0.47					0.14	3.55	
Uniform Delay (d_1), s/veh	28.0	19.6	19.4	32.3	33.0					36.0	26.8	
Incremental Delay (d_2), s/veh	0.0	1.9	1.9	0.2	1.5					1.1	22.5	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0					0.0	0.0	
Control Delay (d), s/veh	28.0	21.5	21.3	32.5	34.5					37.1	49.3	
Level of Service (LOS)	C	C	C	C	C					D	D	
Approach Delay, s/veh / LOS	21.4	C		34.2	C			0.0		47.7	D	
Intersection Delay, s/veh / LOS			36.0							D		

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.43	A	2.11	B	2.31	B	2.31	B
Bicycle LOS Score / LOS	1.35	A	1.08	A			2.71	C

(230) SR 94 & I-271 NB Ramps

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(230) SR 94 (Ridge Rd) & I-271 NB Ramps		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	12/18/2024			East/West Street	I-271 NB Ramps		
Analysis Year	2030			North/South Street	SR 94 (Ridge Rd)		
Time Analyzed	Build - AM Peak Alt 4			Peak Hour Factor	0.90		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0		0	1	0		0	1	0
Configuration			LTR								TR			LT		
Volume (veh/h)		20	0	10							250	140		790	280	
Percent Heavy Vehicles (%)		14	14	14										4		
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2										4.1		
Critical Headway (sec)		7.24	6.64	6.34										4.14		
Base Follow-Up Headway (sec)		3.5	4.0	3.3										2.2		
Follow-Up Headway (sec)		3.63	4.13	3.43										2.24		

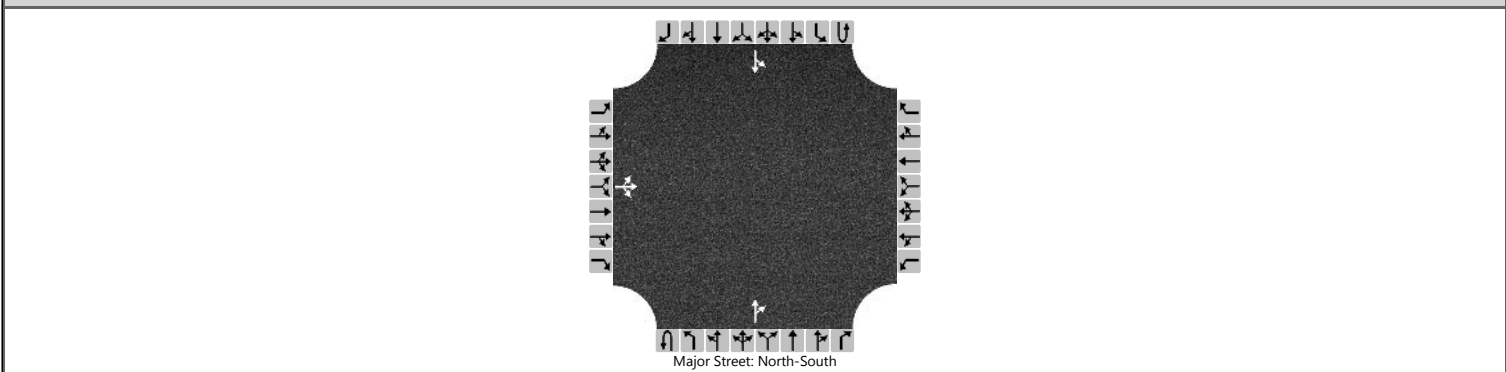
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			33											878		
Capacity, c (veh/h)			1											1116		
v/c Ratio			22.39											0.79		
95% Queue Length, Q ₉₅ (veh)			6.0											8.6		
95% Queue Length, Q ₉₅ (ft)			166.8											221.9		
Control Delay (s/veh)			14130.5											18.9	18.0	
Level of Service (LOS)			F											C	C	
Approach Delay (s/veh)	14130.5												18.7			
Approach LOS	F												C			

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(230) SR 94 (Ridge Rd) & I-271 NB Ramps		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	12/18/2024			East/West Street	I-271 NB Ramps		
Analysis Year	2030			North/South Street	SR 94 (Ridge Rd)		
Time Analyzed	Build - PM Peak Alt 4			Peak Hour Factor	0.96		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LTR									TR		LT		
Volume (veh/h)		50	0	20							380	90		270	480	
Percent Heavy Vehicles (%)		2	2	2										5		
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2										4.1		
Critical Headway (sec)		7.12	6.52	6.22										4.15		
Base Follow-Up Headway (sec)		3.5	4.0	3.3										2.2		
Follow-Up Headway (sec)		3.52	4.02	3.32										2.25		

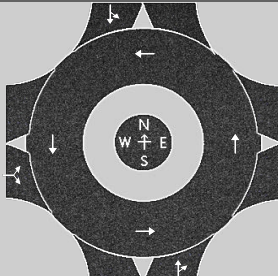
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			73											281		
Capacity, c (veh/h)			84											1058		
v/c Ratio			0.86											0.27		
95% Queue Length, Q ₉₅ (veh)			4.6											1.1		
95% Queue Length, Q ₉₅ (ft)			116.8											28.6		
Control Delay (s/veh)			149.5											9.6	3.5	
Level of Service (LOS)			F											A	A	
Approach Delay (s/veh)	149.5												5.7			
Approach LOS	F												A			

HCS Roundabouts Report

General Information

Site Information

Analyst	TJS		Intersection	(230) SR 94 & I-271 NB Ram...
Agency or Co.	Smart Services, Inc		E/W Street Name	I-271 NB Ramps
Date Performed	12/18/2024		N/S Street Name	SR 94
Analysis Year	2030		Analysis Time Period, hrs	0.25
Time Analyzed	Build Alt B - AM Pk Alt 4		Peak Hour Factor	0.90
Project Description			Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Number of Lanes (N)	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0
Lane Assignment			LR								TR				LT	
Volume (V), veh/h	0	20		10					0		250	140	0	790	280	
Percent Heavy Vehicles, %	14	14		14					7		7	7	4	4	4	
Flow Rate (v _{PCE}), pc/h	0	25		13					0		297	166	0	913	324	
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1								1				1			
Pedestrians Crossing, p/h	0								0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763						4.9763			4.9763	
Follow-Up Headway, s		2.6087						2.6087			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		38						463			1237	
Entry Volume, veh/h		33						433			1189	
Circulating Flow (v _c), pc/h	1237			322			938			0		
Exiting Flow (v _{ex}), pc/h	1079			0			322			337		
Capacity (C _{PCE}), pc/h		391						530			1380	
Capacity (c), veh/h		343						495			1327	
v/c Ratio (x)		0.10						0.87			0.90	

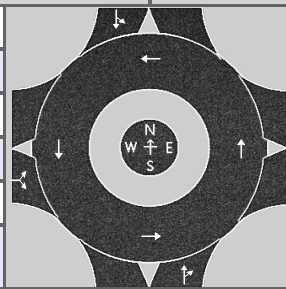
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		12.1						43.7			24.4	
Lane LOS		B						E			C	
95% Queue Length, Q ₉₅ (veh)		0.3						9.4			14.2	
95% Queue Length, Q ₉₅ (ft)		8.3						248.2			355.0	
Approach Delay, s/veh LOS	12.1		B				43.7		E	24.4		C
Intersection Delay, s/veh LOS	29.2						D					

HCS Roundabouts Report

General Information

Analyst	TJS
Agency or Co.	Smart Services, Inc
Date Performed	12/18/2024
Analysis Year	2030
Time Analyzed	Build Alt B - PM Pk Alt 4
Project Description	



Site Information

Intersection	(230) SR 94 & I-271 NB Ram...
E/W Street Name	I-271 NB Ramps
N/S Street Name	SR 94
Analysis Time Period, hrs	0.25
Peak Hour Factor	0.96
Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Number of Lanes (N)	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0
Lane Assignment	LR								TR				LT			
Volume (V), veh/h	0	50		20					0		380	90	0	270	480	
Percent Heavy Vehicles, %	2	2		2					1		1	1	6	6	6	
Flow Rate (v _{PCE}), pc/h	0	53		21					0		400	95	0	298	530	
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1								1				1			
Pedestrians Crossing, p/h	0								0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763						4.9763			4.9763	
Follow-Up Headway, s		2.6087						2.6087			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		74						495			828	
Entry Volume, veh/h		73						490			781	
Circulating Flow (v _c), pc/h	828			453			351			0		
Exiting Flow (v _{ex}), pc/h	393			0			453			551		
Capacity (C _{PCE}), pc/h		593						965			1380	
Capacity (c), veh/h		581						955			1302	
v/c Ratio (x)		0.12						0.51			0.60	

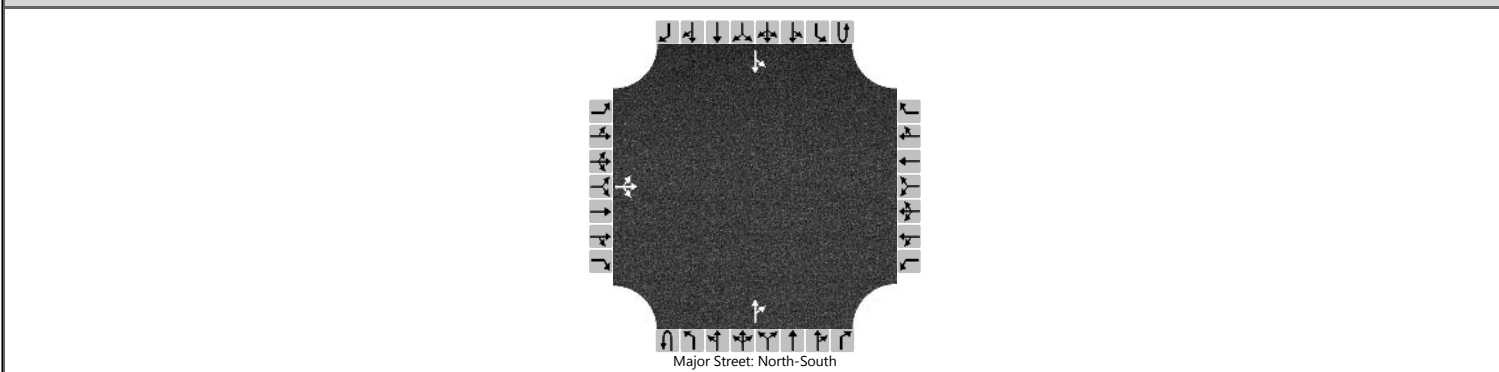
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		7.7						10.2			9.8	
Lane LOS		A						B			A	
95% Queue Length, Q ₉₅ (veh)		0.4						3.0			4.2	
95% Queue Length, Q ₉₅ (ft)		10.2						75.6			105.0	
Approach Delay, s/veh LOS	7.7		A				10.2		B	9.8		A
Intersection Delay, s/veh LOS	9.9						A					

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(230) SR 94 (Ridge Rd) & I-271 NB Ramps		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	12/19/2024			East/West Street	I-271 NB Ramps		
Analysis Year	2050			North/South Street	SR 94 (Ridge Rd)		
Time Analyzed	Build - AM Peak Alt 4			Peak Hour Factor	0.90		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0		0	1	0		0	1	0
Configuration			LTR								TR			LT		
Volume (veh/h)		30	0	10							290	130		820	310	
Percent Heavy Vehicles (%)		14	14	14										4		
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

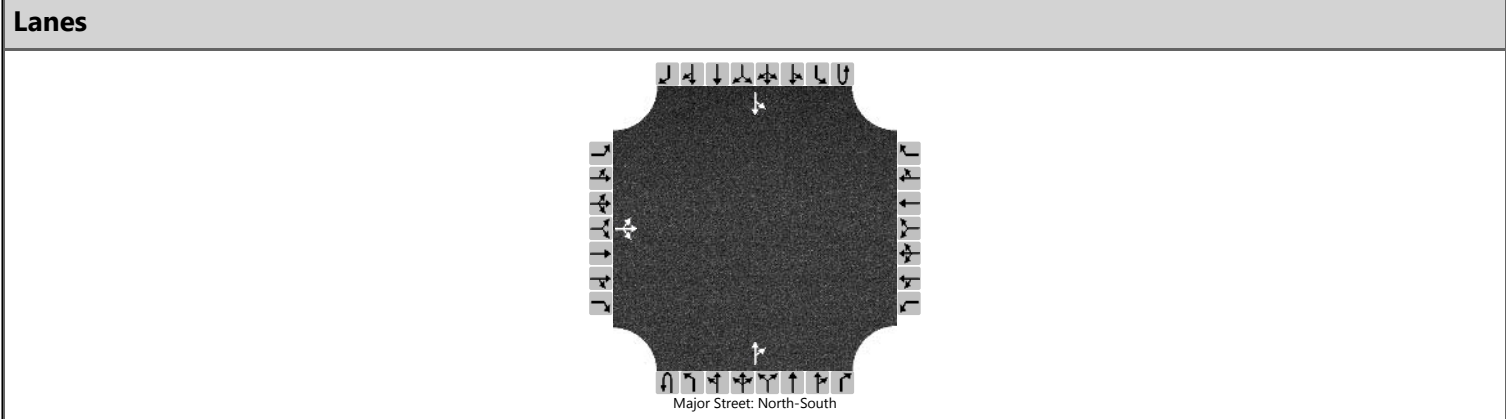
Base Critical Headway (sec)		7.1	6.5	6.2										4.1		
Critical Headway (sec)		7.24	6.64	6.34										4.14		
Base Follow-Up Headway (sec)		3.5	4.0	3.3										2.2		
Follow-Up Headway (sec)		3.63	4.13	3.43										2.24		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			44											911		
Capacity, c (veh/h)			0											1084		
v/c Ratio														0.84		
95% Queue Length, Q ₉₅ (veh)														10.6		
95% Queue Length, Q ₉₅ (ft)														273.5		
Control Delay (s/veh)														22.8	22.8	
Level of Service (LOS)														C	C	
Approach Delay (s/veh)													22.8			
Approach LOS													C			

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(230) SR 94 (Ridge Rd) & I-271 NB Ramps		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	12/19/2024			East/West Street	I-271 NB Ramps		
Analysis Year	2050			North/South Street	SR 94 (Ridge Rd)		
Time Analyzed	Build - PM Peak Alt 4			Peak Hour Factor	0.96		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LTR								TR		LT			
Volume (veh/h)		70	0	20							420	90		260	540	
Percent Heavy Vehicles (%)		2	2	2										5		
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2										4.1		
Critical Headway (sec)		7.12	6.52	6.22										4.15		
Base Follow-Up Headway (sec)		3.5	4.0	3.3										2.2		
Follow-Up Headway (sec)		3.52	4.02	3.32										2.25		

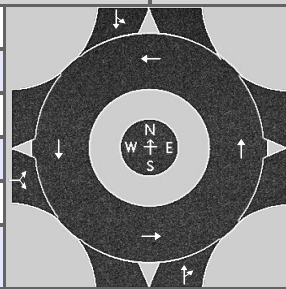
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			94											271		
Capacity, c (veh/h)			67											1021		
v/c Ratio			1.40											0.27		
95% Queue Length, Q ₉₅ (veh)			7.8											1.1		
95% Queue Length, Q ₉₅ (ft)			198.1											28.6		
Control Delay (s/veh)			355.1											9.8	3.8	
Level of Service (LOS)			F											A	A	
Approach Delay (s/veh)	355.1											5.7				
Approach LOS	F											A				

HCS Roundabouts Report

General Information

Analyst	TJS
Agency or Co.	Smart Services, Inc
Date Performed	12/19/2024
Analysis Year	2050
Time Analyzed	Build Alt B - AM Pk Alt 4
Project Description	



Site Information

Intersection	(230) SR 94 & I-271 NB Ram...
E/W Street Name	I-271 NB Ramps
N/S Street Name	SR 94
Analysis Time Period, hrs	0.25
Peak Hour Factor	0.90
Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Number of Lanes (N)	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0
Lane Assignment	LR								TR				LT			
Volume (V), veh/h	0	30		10					0		290	130	0	820	310	
Percent Heavy Vehicles, %	14	14		14					7		7	7	4	4	4	
Flow Rate (v _{PCE}), pc/h	0	38		13					0		345	155	0	948	358	
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1								1				1			
Pedestrians Crossing, p/h	0								0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763						4.9763			4.9763	
Follow-Up Headway, s		2.6087						2.6087			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		51						500			1306	
Entry Volume, veh/h		45						467			1256	
Circulating Flow (v _c), pc/h	1306			383			986			0		
Exiting Flow (v _{ex}), pc/h	1103			0			383			371		
Capacity (C _{PCE}), pc/h		364						505			1380	
Capacity (c), veh/h		319						472			1327	
v/c Ratio (x)		0.14						0.99			0.95	

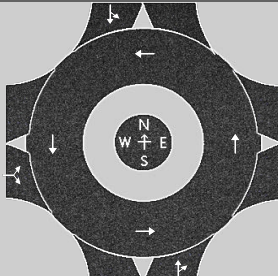
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		13.8						68.8			31.4	
Lane LOS		B						F			D	
95% Queue Length, Q ₉₅ (veh)		0.5						13.0			17.7	
95% Queue Length, Q ₉₅ (ft)		13.9						343.2			442.5	
Approach Delay, s/veh LOS	13.8		B				68.8		F	31.4		D
Intersection Delay, s/veh LOS	40.9						E					

HCS Roundabouts Report

General Information

Site Information

Analyst	TJS		Intersection	(230) SR 94 & I-271 NB Ram...
Agency or Co.	Smart Services, Inc		E/W Street Name	I-271 NB Ramps
Date Performed	12/19/2024		N/S Street Name	SR 94
Analysis Year	2050		Analysis Time Period, hrs	0.25
Time Analyzed	Build Alt B - PM Pk Alt 4		Peak Hour Factor	0.96
Project Description			Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Number of Lanes (N)	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0
Lane Assignment			LR								TR					LT
Volume (V), veh/h	0	70		20					0		420	90	0	260	540	
Percent Heavy Vehicles, %	2	2		2					1		1	1	6	6	6	
Flow Rate (v _{PCE}), pc/h	0	74		21					0		442	95	0	287	596	
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1								1				1			
Pedestrians Crossing, p/h	0								0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763						4.9763			4.9763	
Follow-Up Headway, s		2.6087						2.6087			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		95						537			883	
Entry Volume, veh/h		93						532			833	
Circulating Flow (v _c), pc/h	883			516			361			0		
Exiting Flow (v _{ex}), pc/h	382			0			516			617		
Capacity (c _{PCE}), pc/h		561						955			1380	
Capacity (c), veh/h		550						945			1302	
v/c Ratio (x)		0.17						0.56			0.64	

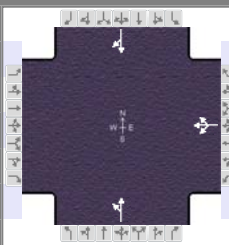
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		8.7						11.4			10.7	
Lane LOS		A						B			B	
95% Queue Length, Q ₉₅ (veh)		0.6						3.6			4.9	
95% Queue Length, Q ₉₅ (ft)		15.2						90.7			122.5	
Approach Delay, s/veh LOS	8.7		A				11.4		B	10.7		B
Intersection Delay, s/veh LOS	10.8						B					

(240) SR 93 & I-271 SB Ramps

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 18, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak Alt 4	PHF	0.95
Urban Street	SR 94-Ridge Rd	Analysis Year	2030	Analysis Period	1 > 7:00
Intersection	(240) SR 94-I-271 SB R...	File Name	Signalized Capacity Group 1 (10 & 240) - 2030 B...		
Project Description	2030 Build				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				70	0	220	50	220			1000	80

Signal Information																		
Cycle, s	98.2	Reference Phase	2															
Offset, s	0	Reference Point	End															
Uncoordinated	Yes	Simult. Gap E/W	On	Green	64.0	22.7	0.0	0.0	0.0	0.0	1		2		3		4	
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.0	4.5	0.0	0.0	0.0	0.0	5		6		7		8	
				Red	1.0	1.0	0.0	0.0	0.0	0.0								

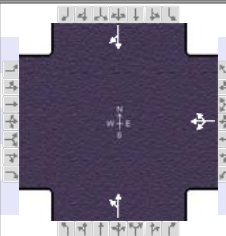
Traffic Information	EB			WB			NB			SB				
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R		
Demand (v), veh/h				70	0	220	50	220			1000	80		
Initial Queue (Q _b), veh/h				0	0	0	0	0			0	0		
Base Saturation Flow Rate (s ₀), veh/h				1900	1750	1900	1900	1750			1750	1900		
Parking (N _m), man/h					None				None				None	
Heavy Vehicles (P _{HV}), %					8				7				3	
Ped / Bike / RTOR, /h	0	0		0	0	0	0	0		0	0	0		
Buses (N _b), buses/h				0	0	0	0	0	0	0	0	0		
Arrival Type (AT)				3	3	3	3	3			3	3		
Upstream Filtering (I)				1.00	1.00	1.00	0.99	0.99			1.00	1.00		
Lane Width (W), ft					12.0				12.0				12.0	
Turn Bay Length, ft					0				0				0	
Grade (P _g), %		0			0				0				0	
Speed Limit, mi/h				45	45	45	45	45			45	45		

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s				24.5		64.0		64.0
Yellow Change Interval (Y), s				4.5		5.0		5.0
Red Clearance Interval (R _c), s				1.0		1.0		1.0
Minimum Green (G _{min}), s				12		24		24
Start-Up Lost Time (l _t), s			2.0	2.0	2.0	2.0		2.0
Extension of Effective Green (e), s			2.0	2.0	2.0	2.0		2.0
Passage (PT), s				2.0		2.0		2.0
Recall Mode				Off		Min		Min
Dual Entry				Yes		Yes		Yes
Walk (Walk), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (PC), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0			
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0			
Street Width / Island / Curb, ft		0		0.0	0	No	0.0	0	No	0.0		No
Width Outside / Bike Lane / Shoulder, ft				12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No			No			0.50			0.50		

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 18, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak Alt 4	PHF	0.95
Urban Street	SR 94-Ridge Rd	Analysis Year	2030	Analysis Period	1 > 7:00
Intersection	(240) SR 94-I-271 SB R...	File Name	Signalized Capacity Group 1 (10 & 240) - 2030 B...		
Project Description	2030 Build				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h				70	0	220	50	220			1000	80

Signal Information				Signal Phases									
Cycle, s	98.2	Reference Phase	2										
Offset, s	0	Reference Point	End										
Uncoordinated	Yes	Simult. Gap E/W	On	Green	64.0	22.7	0.0	0.0	0.0	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.0	4.5	0.0	0.0	0.0	0.0			
				Red	1.0	1.0	0.0	0.0	0.0	0.0			

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				8		2		6
Case Number				12.0		8.0		8.0
Phase Duration, s				28.2		70.0		70.0
Change Period, (Y+R _c), s				5.5		6.0		6.0
Max Allow Headway (MAH), s				3.2		3.1		3.1
Queue Clearance Time (g _s), s				22.5		66.0		66.0
Green Extension Time (g _e), s				0.1		0.0		0.0
Phase Call Probability				1.00		1.00		1.00
Max Out Probability				1.00		1.00		1.00

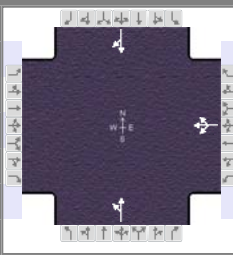
Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement				3	8	18	5	2			6	16
Adjusted Flow Rate (v), veh/h					305			263				1137
Adjusted Saturation Flow Rate (s), veh/h/ln					1428			227				1687
Queue Service Time (g _s), s					20.5			0.0				64.0
Cycle Queue Clearance Time (g _c), s					20.5			64.0				64.0
Green Ratio (g/C)					0.23			0.65				0.65
Capacity (c), veh/h					330			192				1100
Volume-to-Capacity Ratio (X)					0.926			1.374				1.034
Back of Queue (Q), ft/ln (95 th percentile)					379			635				1021
Back of Queue (Q), veh/ln (95 th percentile)					14.3			24.1				39.9
Queue Storage Ratio (RQ) (95 th percentile)					0.00			0.00				0.00
Uniform Delay (d ₁), s/veh					36.9			35.9				17.1
Incremental Delay (d ₂), s/veh					27.5			197.2				36.2
Initial Queue Delay (d ₃), s/veh					0.0			0.0				0.0
Control Delay (d), s/veh					64.4			233.1				53.3
Level of Service (LOS)					E			F				F
Approach Delay, s/veh / LOS	0.0			64.4	E		233.1	F		53.3		D
Intersection Delay, s/veh / LOS				83.0				F				

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.73	B	1.73	B	1.35	A	1.35	A
Bicycle LOS Score / LOS			0.99	A	0.96	A	2.36	B

HCS Signalized Intersection Input Data

General Information						Intersection Information																					
Agency	Smart Services Inc.					Duration, h	0.250																				
Analyst	TJS	Analysis Date	Dec 18, 2024		Area Type	Other																					
Jurisdiction	ODOT	Time Period	PM Peak Alt 4		PHF	0.97																					
Urban Street	SR 94-Ridge Rd	Analysis Year	2030		Analysis Period	1 > 4:45																					
Intersection	(240) SR 94-I-271 SB R...	File Name	Signalized Capacity Group 1 (10 & 240) - 2030 B...																								
Project Description	2030 Build																										
Demand Information				EB								WB			NB							SB					
Approach Movement				L	T						R	L	T	R	L							T	R	L	T	R	
Demand (v), veh/h												150	0	830	60	370						600	70				
Signal Information																											
Cycle, s	120.0	Reference Phase	2																								
Offset, s	13	Reference Point	End																								
Uncoordinated	Yes	Simult. Gap E/W	On	Green	48.5	60.0	0.0	0.0	0.0	0.0																	
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.0	4.5	0.0	0.0	0.0	0.0																	
				Red	1.0	1.0	0.0	0.0	0.0	0.0																	
Traffic Information				EB			WB			NB			SB														
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R												
Demand (v), veh/h							150	0	830	60	370			600	70												
Initial Queue (Q _b), veh/h							0	0	0	0	0			0	0												
Base Saturation Flow Rate (s ₀), veh/h							1900	1750	1900	1900	1750			1750	1900												
Parking (N _m), man/h							None			None			None														
Heavy Vehicles (P _{HV}), %							3			1			6														
Ped / Bike / RTOR, /h				0	0		0	0	0	0	0		0	0	0												
Buses (N _b), buses/h							0	0	0	0	0	0	0	0	0												
Arrival Type (AT)							3	3	3	3	3			3	3												
Upstream Filtering (I)							1.00	1.00	1.00	0.93	0.93			1.00	1.00												
Lane Width (W), ft							12.0			12.0			12.0														
Turn Bay Length, ft							0			0			0														
Grade (P _g), %					0		0			0			0														
Speed Limit, mi/h							45	45	45	45	45			45	45												
Phase Information				EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT																
Maximum Green (G _{max}) or Phase Split, s							60.0		48.5		48.5																
Yellow Change Interval (Y), s							4.5		5.0		5.0																
Red Clearance Interval (R _c), s							1.0		1.0		1.0																
Minimum Green (G _{min}), s							12		24		24																
Start-Up Lost Time (l _t), s						2.0	2.0	2.0	2.0		2.0																
Extension of Effective Green (e), s						2.0	2.0	2.0	2.0		2.0																
Passage (P _T), s							2.0		2.0		2.0																
Recall Mode							Off		Min		Min																
Dual Entry							Yes		Yes		Yes																
Walk (Walk), s					0.0		0.0		0.0		0.0																
Pedestrian Clearance Time (P _C), s					0.0		0.0		0.0		0.0																
Multimodal Information				EB			WB			NB			SB														
85th % Speed / Rest in Walk / Corner Radius				0.0	No	25.0	0.0	No	25.0	0.0	No	25.0															
Walkway / Crosswalk Width / Length, ft				9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0															
Street Width / Island / Curb, ft					0		0.0	0	No	0.0	0	No	0.0		No												
Width Outside / Bike Lane / Shoulder, ft							12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0												
Pedestrian Signal / Occupied Parking				No			No	0.50		No	0.50			0.50													

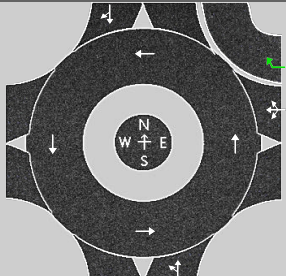
HCS Signalized Intersection Results Summary

General Information						Intersection Information											
Agency	Smart Services Inc.					Duration, h	0.250										
Analyst	TJS	Analysis Date	Dec 18, 2024			Area Type	Other										
Jurisdiction	ODOT	Time Period	PM Peak Alt 4			PHF	0.97										
Urban Street	SR 94-Ridge Rd		Analysis Year	2030		Analysis Period	1 > 4:45										
Intersection	(240) SR 94-I-271 SB R...		File Name	Signalized Capacity Group 1 (10 & 240) - 2030 B...													
Project Description	2030 Build																
Demand Information				EB			WB			NB			SB				
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R		
Demand (v), veh/h							150	0	830	60	370			600	70		
Signal Information																	
Cycle, s	120.0	Reference Phase	2														
Offset, s	13	Reference Point	End														
Uncoordinated	Yes	Simult. Gap E/W	On	Green	48.5	60.0	0.0	0.0	0.0	0.0							
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.0	4.5	0.0	0.0	0.0	0.0							
				Red	1.0	1.0	0.0	0.0	0.0	0.0							
Timer Results				EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT						
Assigned Phase							8		2		6						
Case Number							12.0		8.0		8.0						
Phase Duration, s							65.5		54.5		54.5						
Change Period, (Y+R _c), s							5.5		6.0		6.0						
Max Allow Headway (MAH), s							3.3		3.1		3.1						
Queue Clearance Time (g _s), s							62.0		50.5		50.5						
Green Extension Time (g _e), s							0.0		0.0		0.0						
Phase Call Probability							1.00		1.00		1.00						
Max Out Probability							1.00		1.00		1.00						
Movement Group Results				EB			WB			NB			SB				
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R		
Assigned Movement							3	8	18	5	2		6	16			
Adjusted Flow Rate (v), veh/h							1010		478		691						
Adjusted Saturation Flow Rate (s), veh/h/ln							1473		347		1637						
Queue Service Time (g _s), s							60.0		0.0		48.5						
Cycle Queue Clearance Time (g _c), s							60.0		48.5		48.5						
Green Ratio (g/C)							0.50		0.40		0.40						
Capacity (c), veh/h							737		175		662						
Volume-to-Capacity Ratio (X)							1.372		2.740		1.044						
Back of Queue (Q), ft/ln (95 th percentile)							2126		1858		952						
Back of Queue (Q), veh/ln (95 th percentile)							83.1		73.7		36.3						
Queue Storage Ratio (RQ) (95 th percentile)							0.00		0.00		0.00						
Uniform Delay (d ₁), s/veh							30.0		40.2		35.8						
Incremental Delay (d ₂), s/veh							175.8		797.9		46.9						
Initial Queue Delay (d ₃), s/veh							0.0		0.0		0.0						
Control Delay (d), s/veh							205.8		838.1		82.7						
Level of Service (LOS)							F		F		F						
Approach Delay, s/veh / LOS				0.0			205.8	F	838.1	F	82.7	F					
Intersection Delay, s/veh / LOS				305.5					F								
Multimodal Results				EB			WB			NB			SB				
Pedestrian LOS Score / LOS				1.74	B		1.74	B		1.40	A		1.40	A			
Bicycle LOS Score / LOS							2.15	B		1.22	A		1.63	B			

HCS Roundabouts Report

General Information

Site Information

Analyst	TJS		Intersection	(240) SR 94 & I-271 SB Ramps
Agency or Co.	Smart Services, Inc		E/W Street Name	I-271 SB Ramps
Date Performed	12/18/2024		N/S Street Name	SR 94
Analysis Year	2030		Analysis Time Period, hrs	0.25
Time Analyzed	Build - AM Pk Alt 4		Peak Hour Factor	0.95
Project Description			Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0
Lane Assignment					LTR				LT				TR			
Volume (V), veh/h					0	70	0	220	0	50	220		0		1000	80
Percent Heavy Vehicles, %					8	8	8	8	7	7	7		3		3	3
Flow Rate (v _{PCE}), pc/h					0	80	0	250	0	56	248		0		1084	87
Right-Turn Bypass	None				Non-Yielding				None				None			
Conflicting Lanes					1				1				1			
Pedestrians Crossing, p/h					0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s					4.9763			4.9763			4.9763	
Follow-Up Headway, s					2.6087			2.6087			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h					80	250		304			1171	
Entry Volume, veh/h					74	231		284			1137	
Circulating Flow (v _c), pc/h	1164			304			0			136		
Exiting Flow (v _{ex}), pc/h	0			143			248			1164		
Capacity (c _{PCE}), pc/h					1012			1380			1201	
Capacity (c), veh/h					937			1290			1166	
v/c Ratio (x)					0.08			0.22			0.97	

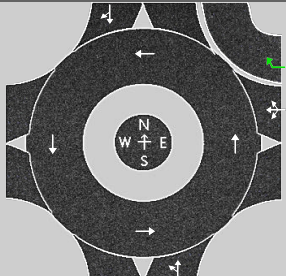
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh					4.6			4.7			39.5	
Lane LOS					A	A		A			E	
95% Queue Length, Q ₉₅ (veh)					0.3			0.8			18.9	
95% Queue Length, Q ₉₅ (ft)					8.0			20.0			483.8	
Approach Delay, s/veh LOS				1.1	A		4.7	A		39.5	E	
Intersection Delay, s/veh LOS	27.0						D					

HCS Roundabouts Report

General Information

Site Information

Analyst	TJS		Intersection	(240) SR 94 & I-271 SB Ramps
Agency or Co.	Smart Services, Inc		E/W Street Name	I-271 SB Ramps
Date Performed	12/18/2024		N/S Street Name	SR 94
Analysis Year	2030		Analysis Time Period, hrs	0.25
Time Analyzed	Build - PM Peak Alt 4		Peak Hour Factor	0.97
Project Description			Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0
Lane Assignment					LTR				LT				TR			
Volume (V), veh/h					0	150	0	830	0	60	370		0		600	70
Percent Heavy Vehicles, %					3	3	3	3	1	1	1		6		6	6
Flow Rate (v _{PCE}), pc/h					0	159	0	881	0	62	385		0		656	76
Right-Turn Bypass	None				Non-Yielding				None				None			
Conflicting Lanes					1				1				1			
Pedestrians Crossing, p/h					0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s					4.9763			4.9763			4.9763	
Follow-Up Headway, s					2.6087			2.6087			2.6087	

Flow Computations, Capacity and v/c Ratios

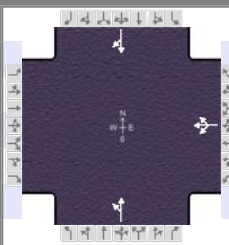
Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h					159	881		447			732	
Entry Volume, veh/h					154	855		443			691	
Circulating Flow (v _c), pc/h	815			447			0			221		
Exiting Flow (v _{ex}), pc/h	0			138			385			815		
Capacity (C _{PCE}), pc/h					875			1380			1101	
Capacity (c), veh/h					849			1366			1039	
v/c Ratio (x)					0.18			0.32			0.66	

Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh					6.1			5.5			13.4	
Lane LOS					A	A		A			B	
95% Queue Length, Q ₉₅ (veh)					0.7			1.4			5.3	
95% Queue Length, Q ₉₅ (ft)					17.9			35.0			138.9	
Approach Delay, s/veh LOS				0.9	A		5.5	A		13.4	B	
Intersection Delay, s/veh LOS	5.9						A					

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 19, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.95
Urban Street	SR 94-Ridge Rd	Analysis Year	2050	Analysis Period	1 > 7:00
Intersection	(240) SR 94-I-271 SB R...	File Name	Signalized Capacity Group 1 (10 & 240) - 2050 B...		
Project Description	2050 Build Alt 4				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				70	0	220	60	260			1060	100

Signal Information												
Cycle, s	98.2	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	Yes	Simult. Gap E/W	On	Green	64.0	22.7	0.0	0.0	0.0	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.0	4.5	0.0	0.0	0.0	0.0		
				Red	1.0	1.0	0.0	0.0	0.0	0.0		

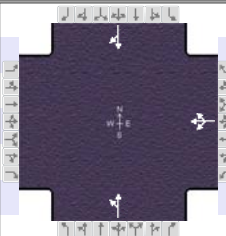
Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				70	0	220	60	260			1060	100
Initial Queue (Q _b), veh/h				0	0	0	0	0			0	0
Base Saturation Flow Rate (s ₀), veh/h				1900	1750	1900	1900	1750			1750	1900
Parking (N _m), man/h					None				None			
Heavy Vehicles (P _{HV}), %					8				7			
Ped / Bike / RTOR, /h	0	0		0	0	0	0	0		0	0	0
Buses (N _b), buses/h				0	0	0	0	0	0	0	0	0
Arrival Type (AT)				3	3	3	3	3			3	3
Upstream Filtering (I)				1.00	1.00	1.00	0.98	0.98			1.00	1.00
Lane Width (W), ft					12.0				12.0			
Turn Bay Length, ft					0				0			
Grade (P _g), %		0			0				0			
Speed Limit, mi/h				45	45	45	45	45			45	45

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s				24.5		64.0		64.0
Yellow Change Interval (Y), s				4.5		5.0		5.0
Red Clearance Interval (R _c), s				1.0		1.0		1.0
Minimum Green (G _{min}), s				12		24		24
Start-Up Lost Time (l _t), s			2.0	2.0	2.0	2.0		2.0
Extension of Effective Green (e), s			2.0	2.0	2.0	2.0		2.0
Passage (PT), s				2.0		2.0		2.0
Recall Mode				Off		Min		Min
Dual Entry				Yes		Yes		Yes
Walk (Walk), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (PC), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0			
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0			
Street Width / Island / Curb, ft		0		0.0	0	No	0.0	0	No	0.0		No
Width Outside / Bike Lane / Shoulder, ft				12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No			No			0.50			0.50		

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 19, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	AM Peak	PHF	0.95
Urban Street	SR 94-Ridge Rd	Analysis Year	2050	Analysis Period	1 > 7:00
Intersection	(240) SR 94-I-271 SB R...	File Name	Signalized Capacity Group 1 (10 & 240) - 2050 B...		
Project Description	2050 Build Alt 4				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h				70	0	220	60	260			1060	100

Signal Information													
Cycle, s	98.2	Reference Phase	2										
Offset, s	0	Reference Point	End										
Uncoordinated	Yes	Simult. Gap E/W	On	Green	64.0	22.7	0.0	0.0	0.0	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.0	4.5	0.0	0.0	0.0	0.0			
				Red	1.0	1.0	0.0	0.0	0.0	0.0			

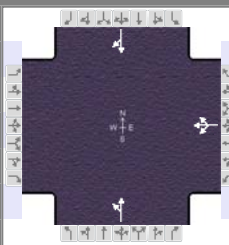
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				8		2		6
Case Number				12.0		8.0		8.0
Phase Duration, s				28.2		70.0		70.0
Change Period, (Y+R _c), s				5.5		6.0		6.0
Max Allow Headway (MAH), s				3.2		3.1		3.1
Queue Clearance Time (g _s), s				22.5		66.0		66.0
Green Extension Time (g _e), s				0.1		0.0		0.0
Phase Call Probability				1.00		1.00		1.00
Max Out Probability				1.00		1.00		1.00

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement				3	8	18	5	2			6	16
Adjusted Flow Rate (v), veh/h					305			305			1221	
Adjusted Saturation Flow Rate (s), veh/h/ln					1428			224			1683	
Queue Service Time (g _s), s					20.5			0.0			64.0	
Cycle Queue Clearance Time (g _c), s					20.5			64.0			64.0	
Green Ratio (g/C)					0.23			0.65			0.65	
Capacity (c), veh/h					330			189			1097	
Volume-to-Capacity Ratio (X)					0.926			1.611			1.113	
Back of Queue (Q), ft/ln (95 th percentile)					379			891			1350	
Back of Queue (Q), veh/ln (95 th percentile)					14.3			33.8			52.7	
Queue Storage Ratio (RQ) (95 th percentile)					0.00			0.00			0.00	
Uniform Delay (d ₁), s/veh					36.9			35.9			17.1	
Incremental Delay (d ₂), s/veh					27.5			297.8			63.7	
Initial Queue Delay (d ₃), s/veh					0.0			0.0			0.0	
Control Delay (d), s/veh					64.4			333.7			80.8	
Level of Service (LOS)					E			F			F	
Approach Delay, s/veh / LOS	0.0			64.4	E		333.7	F		80.8	F	
Intersection Delay, s/veh / LOS				120.2				F				

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.73	B	1.73	B	1.35	A	1.35	A
Bicycle LOS Score / LOS			0.99	A	1.04	A	2.50	C

HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 19, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.97
Urban Street	SR 94-Ridge Rd	Analysis Year	2050	Analysis Period	1 > 4:45
Intersection	(240) SR 94-I-271 SB R...	File Name	Signalized Capacity Group 1 (10 & 240) - 2050 B...		
Project Description	2050 Build Alt 4				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				150	0	880	70	420			650	80

Signal Information													
Cycle, s	120.0	Reference Phase	2										
Offset, s	13	Reference Point	End										
Uncoordinated	Yes	Simult. Gap E/W	On	Green	48.5	60.0	0.0	0.0	0.0	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.0	4.5	0.0	0.0	0.0	0.0			
				Red	1.0	1.0	0.0	0.0	0.0	0.0			

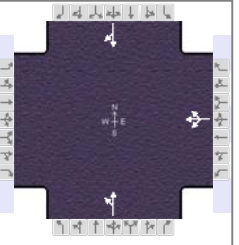
Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				150	0	880	70	420			650	80
Initial Queue (Q _b), veh/h				0	0	0	0	0			0	0
Base Saturation Flow Rate (s ₀), veh/h				1900	1750	1900	1900	1750			1750	1900
Parking (N _m), man/h					None			None			None	
Heavy Vehicles (P _{HV}), %					3			1			6	
Ped / Bike / RTOR, /h	0	0		0	0	0	0	0		0	0	0
Buses (N _b), buses/h				0	0	0	0	0	0	0	0	0
Arrival Type (AT)				3	3	3	3	3			3	3
Upstream Filtering (I)				1.00	1.00	1.00	0.91	0.91			1.00	1.00
Lane Width (W), ft					12.0			12.0			12.0	
Turn Bay Length, ft					0			0			0	
Grade (P _g), %		0			0			0			0	
Speed Limit, mi/h				45	45	45	45	45			45	45

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G _{max}) or Phase Split, s				60.0		48.5		48.5
Yellow Change Interval (Y), s				4.5		5.0		5.0
Red Clearance Interval (R _c), s				1.0		1.0		1.0
Minimum Green (G _{min}), s				12		24		24
Start-Up Lost Time (l _t), s			2.0	2.0	2.0	2.0		2.0
Extension of Effective Green (e), s			2.0	2.0	2.0	2.0		2.0
Passage (PT), s				2.0		2.0		2.0
Recall Mode				Off		Min		Min
Dual Entry				Yes		Yes		Yes
Walk (Walk), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (PC), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0			
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0			
Street Width / Island / Curb, ft		0		0.0	0	No	0.0	0	No	0.0		No
Width Outside / Bike Lane / Shoulder, ft				12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No			No	0.50		No	0.50				0.50

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Smart Services Inc.			Duration, h	0.250
Analyst	TJS	Analysis Date	Dec 19, 2024	Area Type	Other
Jurisdiction	ODOT	Time Period	PM Peak	PHF	0.97
Urban Street	SR 94-Ridge Rd	Analysis Year	2050	Analysis Period	1 > 4:45
Intersection	(240) SR 94-I-271 SB R...	File Name	Signalized Capacity Group 1 (10 & 240) - 2050 B...		
Project Description	2050 Build Alt 4				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h				150	0	880	70	420			650	80

Signal Information				Phase Diagram							
Cycle, s	120.0	Reference Phase	2	1	2	3	4	5	6	7	8
Offset, s	13	Reference Point	End	Green	48.5	60.0	0.0	0.0	0.0	0.0	0.0
Uncoordinated	Yes	Simult. Gap E/W	On	Yellow	5.0	4.5	0.0	0.0	0.0	0.0	0.0
Force Mode	Fixed	Simult. Gap N/S	On	Red	1.0	1.0	0.0	0.0	0.0	0.0	0.0

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				8		2		6
Case Number				12.0		8.0		8.0
Phase Duration, s				65.5		54.5		54.5
Change Period, ($Y+R_c$), s				5.5		6.0		6.0
Max Allow Headway (MAH), s				3.3		3.1		3.1
Queue Clearance Time (g_s), s				62.0		50.5		50.5
Green Extension Time (g_e), s				0.0		0.0		0.0
Phase Call Probability				1.00		1.00		1.00
Max Out Probability				1.00		1.00		1.00

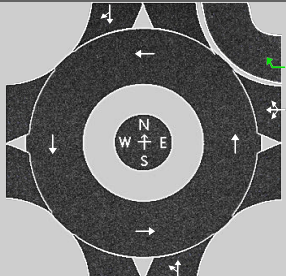
Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement				3	8	18	5	2			6	16
Adjusted Flow Rate (v), veh/h					1062			522			753	
Adjusted Saturation Flow Rate (s), veh/h/ln					1472			306			1636	
Queue Service Time (g_s), s					60.0			0.0			48.5	
Cycle Queue Clearance Time (g_c), s					60.0			48.5			48.5	
Green Ratio (g/C)					0.50			0.40			0.40	
Capacity (c), veh/h					736			158			661	
Volume-to-Capacity Ratio (X)					1.443			3.299			1.138	
Back of Queue (Q), ft/ln (95 th percentile)					2404			2147			1206	
Back of Queue (Q), veh/ln (95 th percentile)					93.9			85.2			46.1	
Queue Storage Ratio (RQ) (95 th percentile)					0.00			0.00			0.00	
Uniform Delay (d_1), s/veh					30.0			39.3			35.8	
Incremental Delay (d_2), s/veh					206.9			1049.1			79.7	
Initial Queue Delay (d_3), s/veh					0.0			0.0			0.0	
Control Delay (d), s/veh					236.9			1088.4			115.5	
Level of Service (LOS)					F			F			F	
Approach Delay, s/veh / LOS	0.0			236.9	F		1088.4	F		115.5	F	
Intersection Delay, s/veh / LOS	387.9						F					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.74	B	1.74	B	1.40	A	1.40	A
Bicycle LOS Score / LOS			2.24	B	1.32	A	1.73	B

HCS Roundabouts Report

General Information

Site Information

Analyst	TJS		Intersection	(240) SR 94 & I-271 SB Ramps
Agency or Co.	Smart Services, Inc		E/W Street Name	I-271 SB Ramps
Date Performed	12/19/2024		N/S Street Name	SR 94
Analysis Year	2050		Analysis Time Period, hrs	0.25
Time Analyzed	Build - AM Peak Alt 4		Peak Hour Factor	0.95
Project Description			Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0
Lane Assignment					LTR				LT				TR			
Volume (V), veh/h					0	70	0	220	0	60	260		0		1060	100
Percent Heavy Vehicles, %					8	8	8	8	7	7	7		3		3	3
Flow Rate (v _{PCE}), pc/h					0	80	0	250	0	68	293		0		1149	108
Right-Turn Bypass	None				Non-Yielding				None				None			
Conflicting Lanes					1				1				1			
Pedestrians Crossing, p/h					0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s					4.9763			4.9763			4.9763	
Follow-Up Headway, s					2.6087			2.6087			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h					80	250		361			1257	
Entry Volume, veh/h					74	231		337			1220	
Circulating Flow (v _c), pc/h	1229			361			0			148		
Exiting Flow (v _{ex}), pc/h	0			176			293			1229		
Capacity (C _{PCE}), pc/h					955			1380			1187	
Capacity (c), veh/h					884			1290			1152	
v/c Ratio (x)					0.08			0.26			1.06	

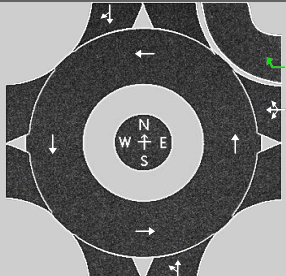
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh					4.9			5.1			62.3	
Lane LOS					A	A		A			F	
95% Queue Length, Q ₉₅ (veh)					0.3			1.1			26.1	
95% Queue Length, Q ₉₅ (ft)					8.0			27.5			668.2	
Approach Delay, s/veh LOS				1.2	A		5.1	A		62.3	F	
Intersection Delay, s/veh LOS	41.9						E					

HCS Roundabouts Report

General Information

Site Information

Analyst	TJS		Intersection	(240) SR 94 & I-271 SB Ramps
Agency or Co.	Smart Services, Inc		E/W Street Name	I-271 SB Ramps
Date Performed	12/19/2024		N/S Street Name	SR 94
Analysis Year	2050		Analysis Time Period, hrs	0.25
Time Analyzed	Build - PM Peak Alt 4		Peak Hour Factor	0.97
Project Description			Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0
Lane Assignment					LTR				LT				TR			
Volume (V), veh/h					0	150	0	880	0	70	420		0		650	80
Percent Heavy Vehicles, %					3	3	3	3	1	1	1		6		6	6
Flow Rate (v _{PCE}), pc/h					0	159	0	934	0	73	437		0		710	87
Right-Turn Bypass	None				Non-Yielding				None				None			
Conflicting Lanes					1				1				1			
Pedestrians Crossing, p/h					0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s					4.9763			4.9763			4.9763	
Follow-Up Headway, s					2.6087			2.6087			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h					159	934		510			797	
Entry Volume, veh/h					154	907		505			752	
Circulating Flow (v _c), pc/h	869			510			0			232		
Exiting Flow (v _{ex}), pc/h	0			160			437			869		
Capacity (C _{PCE}), pc/h					820			1380			1089	
Capacity (c), veh/h					796			1366			1028	
v/c Ratio (x)					0.19			0.37			0.73	

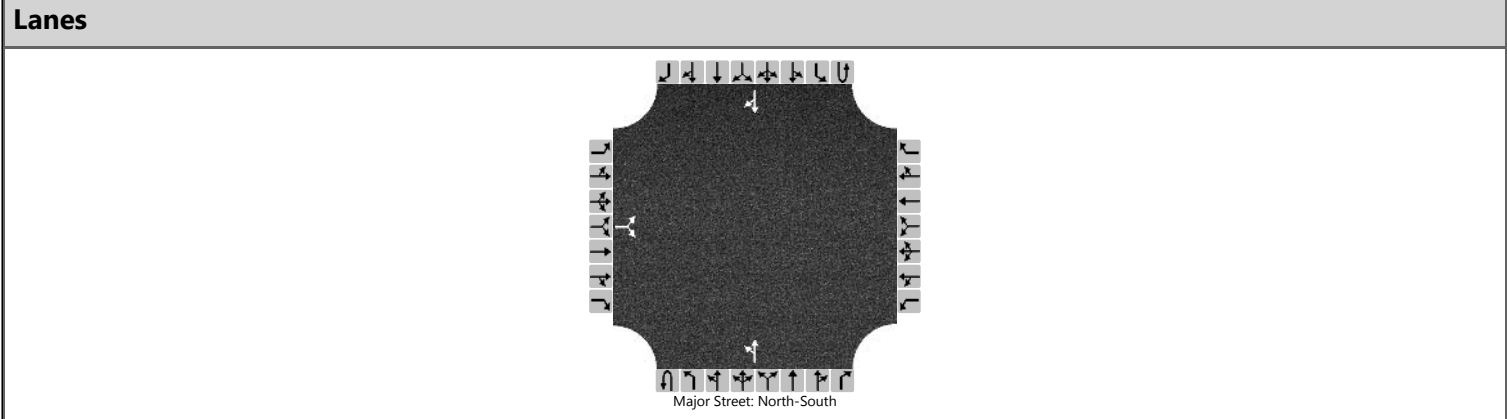
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh					6.6			6.0			16.1	
Lane LOS					A	A		A			C	
95% Queue Length, Q ₉₅ (veh)					0.7			1.7			6.8	
95% Queue Length, Q ₉₅ (ft)					17.9			42.5			178.2	
Approach Delay, s/veh LOS				1.0	A		6.0	A		16.1	C	
Intersection Delay, s/veh LOS	7.0						A					

**(250) Ridge Rd & Remsen Rd
(North)**

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(250) Ridge Rd & Remsen Rd (North)		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	12/18/2024			East/West Street	Remsen Rd (North)		
Analysis Year	2030			North/South Street	SR 94 (Ridge Rd)		
Time Analyzed	Build - AM Peak Alt 4			Peak Hour Factor	0.92		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		10		230						70	370				850	10
Percent Heavy Vehicles (%)		2		2						7						
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.42		6.22						4.17						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.52		3.32						2.26						

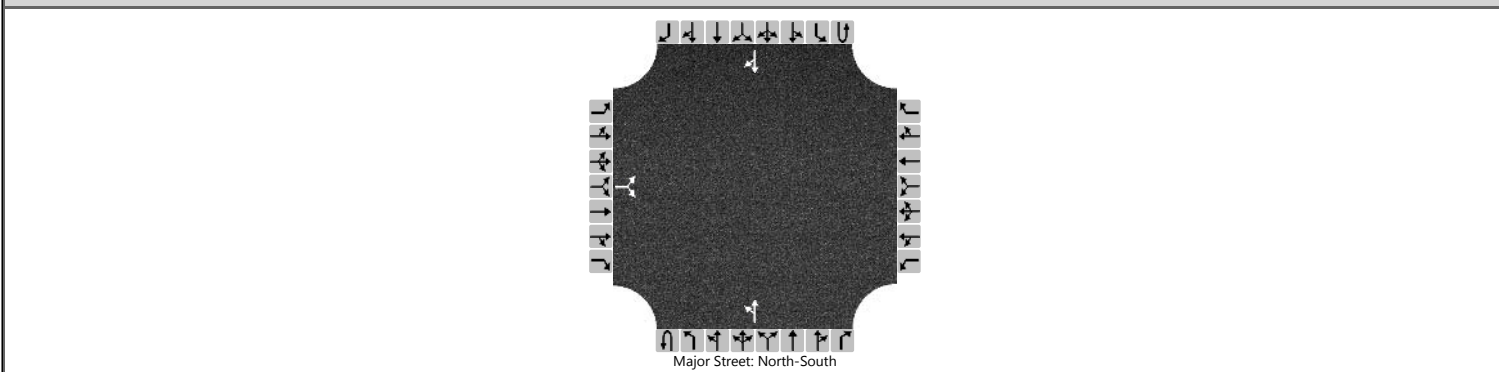
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			261							76						
Capacity, c (veh/h)			302							712						
v/c Ratio			0.86							0.11						
95% Queue Length, Q ₉₅ (veh)			7.6							0.4						
95% Queue Length, Q ₉₅ (ft)			193.0							10.6						
Control Delay (s/veh)			60.7							10.7	1.5					
Level of Service (LOS)			F							B	A					
Approach Delay (s/veh)	60.7								2.9							
Approach LOS	F								A							

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(250) Ridge Rd & Remsen Rd (North)		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	12/18/2024			East/West Street	Remsen Rd (North)		
Analysis Year	2030			North/South Street	SR 94 (Ridge Rd)		
Time Analyzed	Build - PM Peak Alt 4			Peak Hour Factor	0.95		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0		0	1	0		0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		20		100						260	940				570	20
Percent Heavy Vehicles (%)		4		4						3						
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.44		6.24						4.13						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.54		3.34						2.23						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			126							274						
Capacity, c (veh/h)			96							955						
v/c Ratio			1.32							0.29						
95% Queue Length, Q ₉₅ (veh)			9.1							1.2						
95% Queue Length, Q ₉₅ (ft)			234.8							30.7						
Control Delay (s/veh)			280.1							10.3	6.5					
Level of Service (LOS)			F							B	A					
Approach Delay (s/veh)	280.1								7.4							
Approach LOS	F								A							

HCS Roundabouts Report

General Information

Site Information

Analyst	TJS		Intersection	(250) SR 94 & Remsen Road...
Agency or Co.	Smart Services, Inc		E/W Street Name	Remsen Road (North)
Date Performed	12/18/2024		N/S Street Name	SR 94
Analysis Year	2030		Analysis Time Period, hrs	0.25
Time Analyzed	Build Alt B- AM Pk Alt 4		Peak Hour Factor	0.92
Project Description			Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Number of Lanes (N)	0	0	1	0	0	0	0	0	0	0	2	0	0	0	1	0
Lane Assignment			LR						LT		T					TR
Volume (V), veh/h	0	10		230					0	70	370		0		850	10
Percent Heavy Vehicles, %	2	2		2					7	7	7		5		5	5
Flow Rate (v _{PCE}), pc/h	0	11		255					0	81	430		0		970	11
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1								1				1			
Pedestrians Crossing, p/h	0								0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763					4.5436	4.5436			4.9763	
Follow-Up Headway, s		2.6087					2.5352	2.5352			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		266					240	271			981	
Entry Volume, veh/h		261					224	253			934	
Circulating Flow (v _c), pc/h	970			522			11			81		
Exiting Flow (v _{ex}), pc/h	0			92			441			1225		
Capacity (C _{PCE}), pc/h		513					1406	1406			1271	
Capacity (c), veh/h		503					1314	1314			1210	
v/c Ratio (x)		0.52					0.17	0.19			0.77	

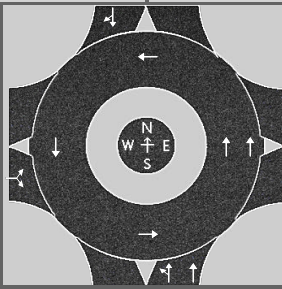
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		17.2					4.2	4.4			16.1	
Lane LOS		C					A	A			C	
95% Queue Length, Q ₉₅ (veh)		2.9					0.6	0.7			8.2	
95% Queue Length, Q ₉₅ (ft)		73.7					15.8	18.5			213.2	
Approach Delay, s/veh LOS	17.2		C				4.3		A	16.1		C
Intersection Delay, s/veh LOS	12.9						B					

HCS Roundabouts Report

General Information

Analyst	TJS
Agency or Co.	Smart Services, Inc
Date Performed	12/18/2024
Analysis Year	2030
Time Analyzed	Build - PM Peak Alt 4
Project Description	



Site Information

Intersection	(250) SR 94 & Remsen Road...
E/W Street Name	Remsen Road (North)
N/S Street Name	SR 94
Analysis Time Period, hrs	0.25
Peak Hour Factor	0.95
Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Number of Lanes (N)	0	0	1	0	0	0	0	0	0	0	2	0	0	0	1	0
Lane Assignment			LR						LT	T					TR	
Volume (V), veh/h	0	20		100					0	260	940		0		570	20
Percent Heavy Vehicles, %	4	4		4					3	3	3		6		6	6
Flow Rate (v _{PCE}), pc/h	0	22		109					0	282	1019		0		636	22
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1								1				1			
Pedestrians Crossing, p/h	0								0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763					4.5436	4.5436			4.9763	
Follow-Up Headway, s		2.6087					2.5352	2.5352			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		131					611	690			658	
Entry Volume, veh/h		126					594	669			621	
Circulating Flow (v _c), pc/h	636			1323			22			282		
Exiting Flow (v _{ex}), pc/h	0			304			1041			745		
Capacity (C _{PCE}), pc/h		721					1392	1392			1035	
Capacity (c), veh/h		694					1351	1351			976	
v/c Ratio (x)		0.18					0.44	0.50			0.64	

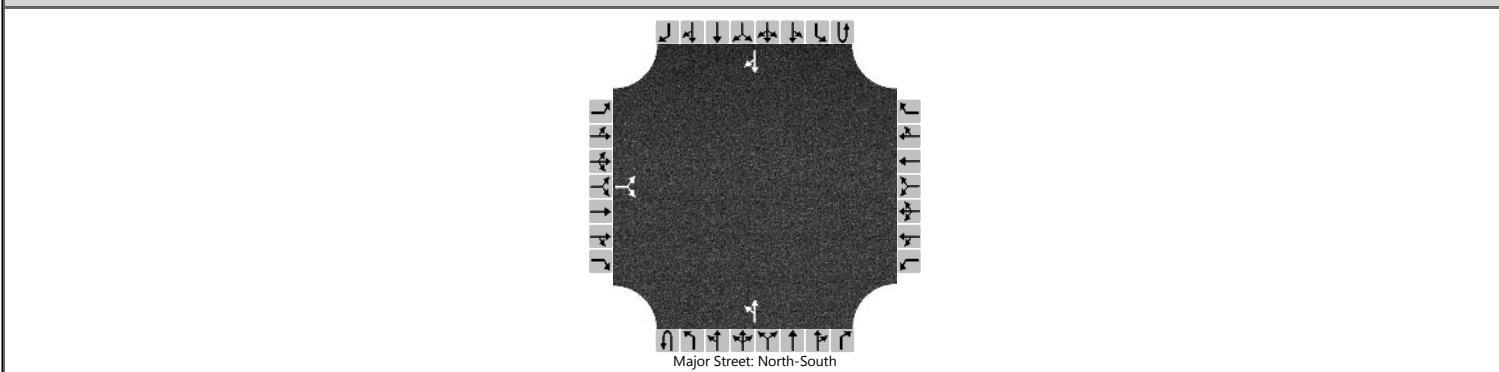
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		7.2					6.9	7.7			13.1	
Lane LOS		A					A	A			B	
95% Queue Length, Q ₉₅ (veh)		0.7					2.3	2.9			4.7	
95% Queue Length, Q ₉₅ (ft)		18.1					58.9	74.2			123.1	
Approach Delay, s/veh LOS	7.2		A				7.4		A	13.1		B
Intersection Delay, s/veh LOS	9.1						A					

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(250) Ridge Rd & Remsen Rd (North)		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	12/19/2024			East/West Street	Remsen Rd (North)		
Analysis Year	2050			North/South Street	SR 94 (Ridge Rd)		
Time Analyzed	Build - AM Peak Alt 4			Peak Hour Factor	0.92		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		10		250						80	400				910	10
Percent Heavy Vehicles (%)		2		2						7						
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.42		6.22						4.17						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.52		3.32						2.26						

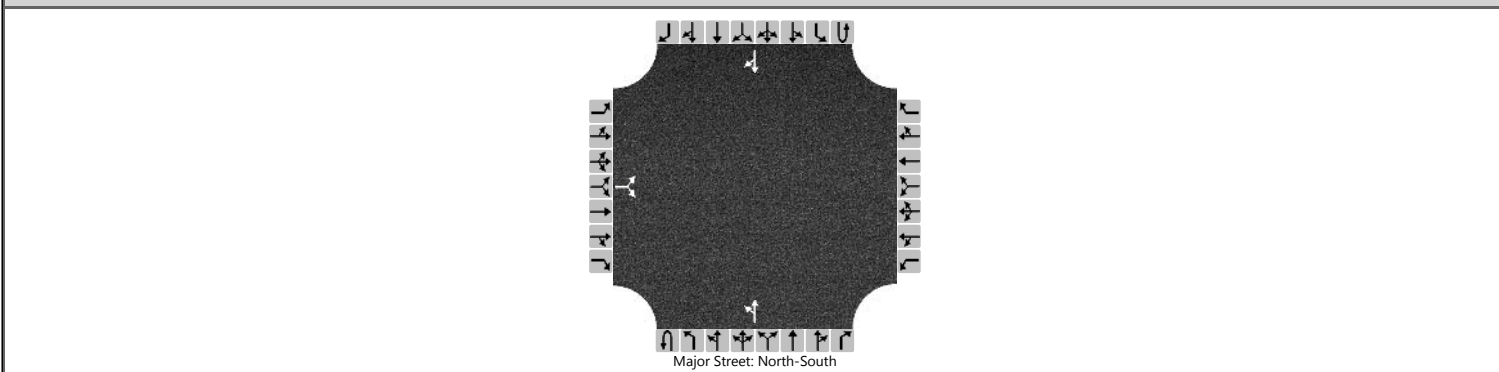
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			283							87						
Capacity, c (veh/h)			275							673						
v/c Ratio			1.03							0.13						
95% Queue Length, Q ₉₅ (veh)			10.8							0.4						
95% Queue Length, Q ₉₅ (ft)			274.3							10.6						
Control Delay (s/veh)			102.2							11.1	1.9					
Level of Service (LOS)			F							B	A					
Approach Delay (s/veh)	102.2								3.4							
Approach LOS	F								A							

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	TJS			Intersection	(250) Ridge Rd & Remsen Rd (North)		
Agency/Co.	Smart Services Inc.			Jurisdiction	ODOT		
Date Performed	12/19/2024			East/West Street	Remsen Rd (North)		
Analysis Year	2050			North/South Street	SR 94 (Ridge Rd)		
Time Analyzed	Build - PM Peak Alt 4			Peak Hour Factor	0.95		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	I-71 & I-271 Planning Study						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0		0	1	0		0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		20		110						280	1020				620	20
Percent Heavy Vehicles (%)		4		4						3						
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.44		6.24						4.13						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.54		3.34						2.23						

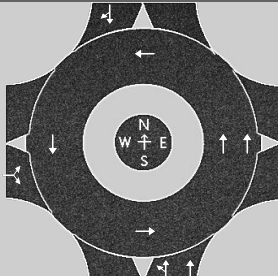
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			137							295						
Capacity, c (veh/h)			48							913						
v/c Ratio			2.87							0.32						
95% Queue Length, Q ₉₅ (veh)			14.6							1.4						
95% Queue Length, Q ₉₅ (ft)			376.7							35.8						
Control Delay (s/veh)			1023.2							10.8	8.7					
Level of Service (LOS)			F							B	A					
Approach Delay (s/veh)	1023.2								9.1							
Approach LOS	F								A							

HCS Roundabouts Report

General Information

Site Information

Analyst	TJS		Intersection	(250) SR 94 & Remsen Road...
Agency or Co.	Smart Services, Inc		E/W Street Name	Remsen Road (North)
Date Performed	12/19/2024		N/S Street Name	SR 94
Analysis Year	2050		Analysis Time Period, hrs	0.25
Time Analyzed	Build Alt B- AM Pk Alt 4		Peak Hour Factor	0.92
Project Description			Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Number of Lanes (N)	0	0	1	0	0	0	0	0	0	0	2	0	0	0	1	0
Lane Assignment			LR						LT		T					TR
Volume (V), veh/h	0	10		250					0	80	400		0		910	10
Percent Heavy Vehicles, %	2	2		2					7	7	7		5		5	5
Flow Rate (v _{PCE}), pc/h	0	11		277					0	93	465		0		1039	11
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1								1				1			
Pedestrians Crossing, p/h	0								0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763					4.5436	4.5436			4.9763	
Follow-Up Headway, s		2.6087					2.5352	2.5352			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		288					262	296			1050	
Entry Volume, veh/h		282					245	276			1000	
Circulating Flow (v _c), pc/h	1039			569			11			93		
Exiting Flow (v _{ex}), pc/h	0			104			476			1316		
Capacity (C _{PCE}), pc/h		478					1406	1406			1255	
Capacity (c), veh/h		469					1314	1314			1195	
v/c Ratio (x)		0.60					0.19	0.21			0.84	

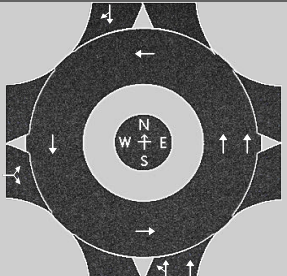
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		21.6					4.3	4.5			20.3	
Lane LOS		C					A	A			C	
95% Queue Length, Q ₉₅ (veh)		3.9					0.7	0.8			10.7	
95% Queue Length, Q ₉₅ (ft)		99.1					18.5	21.1			278.2	
Approach Delay, s/veh LOS	21.6		C				4.4		A	20.3		C
Intersection Delay, s/veh LOS	15.9						C					

HCS Roundabouts Report

General Information

Site Information

Analyst	TJS		Intersection	(250) SR 94 & Remsen Road...
Agency or Co.	Smart Services, Inc		E/W Street Name	Remsen Road (North)
Date Performed	12/19/2024		N/S Street Name	SR 94
Analysis Year	2050		Analysis Time Period, hrs	0.25
Time Analyzed	Build - PM Peak Alt 4		Peak Hour Factor	0.95
Project Description			Jurisdiction	ODOT

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Number of Lanes (N)	0	0	1	0	0	0	0	0	0	0	2	0	0	0	1	0
Lane Assignment			LR						LT		T					TR
Volume (V), veh/h	0	20		110					0	280	1020		0		620	20
Percent Heavy Vehicles, %	4	4		4					3	3	3		6		6	6
Flow Rate (v _{PCE}), pc/h	0	22		120					0	304	1106		0		692	22
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1								1				1			
Pedestrians Crossing, p/h	0								0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763					4.5436	4.5436			4.9763	
Follow-Up Headway, s		2.6087					2.5352	2.5352			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		142					663	747			714	
Entry Volume, veh/h		137					643	726			674	
Circulating Flow (v _c), pc/h	692			1432			22			304		
Exiting Flow (v _{ex}), pc/h	0			326			1128			812		
Capacity (C _{PCE}), pc/h		681					1392	1392			1012	
Capacity (c), veh/h		655					1351	1351			955	
v/c Ratio (x)		0.21					0.48	0.54			0.71	

Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		8.0					7.4	8.4			15.8	
Lane LOS		A					A	A			C	
95% Queue Length, Q ₉₅ (veh)		0.8					2.6	3.3			6.1	
95% Queue Length, Q ₉₅ (ft)		20.6					66.6	84.5			159.8	
Approach Delay, s/veh LOS	8.0		A				7.9		A	15.8		C
Intersection Delay, s/veh LOS	10.4						B					

Turn Lane Warrant Analysis

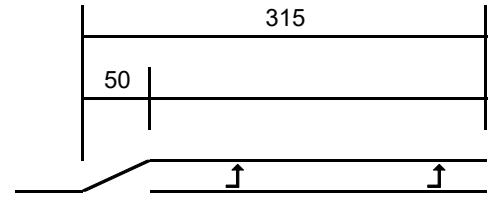
INTERSECTION	MOVEMENT	EXISTING LENGTH	CALCULATED LENGTH
#30 – SR 3 & 130th St	WB RT	NA	235'
	EB LT	585'	265'
#20 – SR 3 & SR 606	EB LT	225'	265'
#250 – SR 94 & Remsen Rd	NB LT	NA	295'
#230 – SR 94 & I-271 NB Ramps	NB RT	NA	245'
	SB LT	NA	595'
#220 – SR 94 & Melody Ln/ Remsen Rd	NB LT	NA	175'
	SB LT	NA	195'

Turn Lane Lengths for Existing and Warranted Turn Lanes
(Excludes 50' Diverging Taper)

(9) 30-W 130TH STREET & SR 3 - EB LT - 2050 'NO BUILD'

Critical Analysis Period: PM PEAK

Type = Unsignalized Through Road	Design Condition (Rev)= C
Speed = 55 MPH	Storage Length (Adj) = 150 feet
Cycle Length = 60 seconds	Deceleration/Div. Taper = 165 feet
Turning Volume = 180 VPH	Turn Lane Length = 315 feet
# of Turning Lanes = 1	
Advancing Volume = 600 VPH	
Turning % (>10% HIGH) 30.0% HIGH	
Design Condition = B or C	
Vehicles per Cycle = 3.0	
Storage Length (Calc) = 150 feet	

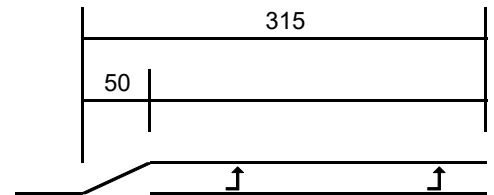


Calculations based on 401-7 in ODOT L&D Manual. All dimensions are in feet.

(10) 20-SR 606 & SR 3 - EB LT - 2050 'NO BUILD'

Critical Analysis Period: PM PEAK

Type = Unsignalized Through Road	Design Condition (Rev)= C
Speed = 55 MPH	Storage Length (Adj) = 150 feet
Cycle Length = 60 seconds	Deceleration/Div. Taper = 165 feet
Turning Volume = 180 VPH	Turn Lane Length = 315 feet
# of Turning Lanes = 1	
Advancing Volume = 460 VPH	
Turning % (>10% HIGH) 39.1% HIGH	
Design Condition = B or C	
Vehicles per Cycle = 3.0	
Storage Length (Calc) = 150 feet	

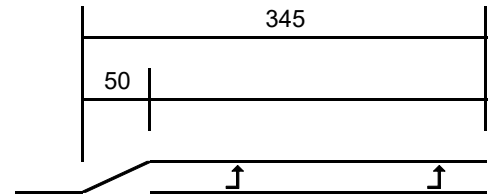


Calculations based on 401-7 in ODOT L&D Manual. All dimensions are in feet.

(8) 250-SR 94 & REMSEN RD (NORTH) - NB LT - 2050 'NO BUILD'

Critical Analysis Period: PM PEAK

Type = Unsignalized Through Road	Design Condition (Rev)= C
Speed = 50 MPH	Storage Length (Adj) = 200 feet
Cycle Length = 60 seconds	Deceleration/Div. Taper = 145 feet
Turning Volume = 280 VPH	Turn Lane Length = 345 feet
# of Turning Lanes = 1	
Advancing Volume = 1390 VPH	
Turning % (>10% HIGH) 20.1% HIGH	
Design Condition = B or C	
Vehicles per Cycle = 4.7	
Storage Length (Calc) = 200 feet	

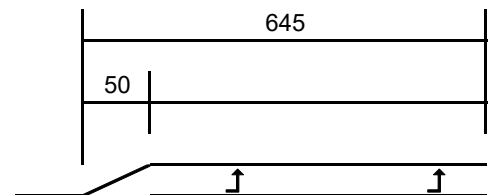


Calculations based on 401-7 in ODOT L&D Manual. All dimensions are in feet.

(6) 230-SR 94 & I-271 NB RAMPS - SB LT - 2050 'NO BUILD'

Critical Analysis Period: AM PEAK

Type = Unsignalized Through Road	Design Condition (Rev)= C
Speed = 50 MPH	Storage Length (Adj) = 500 feet
Cycle Length = 60 seconds	Deceleration/Div. Taper = 145 feet
Turning Volume = 820 VPH	Turn Lane Length = 645 feet
# of Turning Lanes = 1	
Advancing Volume = 1130 VPH	
Turning % (>10% HIGH) 72.6% HIGH	
Design Condition = B or C	
Vehicles per Cycle = 13.7	
Storage Length (Calc) = 500 feet	



Calculations based on 401-7 in ODOT L&D Manual. All dimensions are in feet.

**MED-71/271 (PID 117028)
COUNT MEMO**

PREPARED BY: 

12/2025

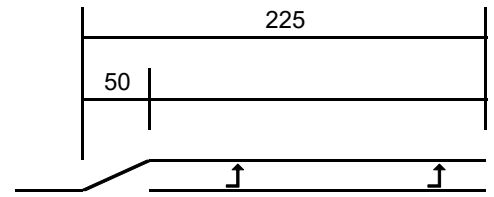
APPENDIX

LEFT TURN LANE CALCULATIONS (1 OF 2)

(2) 220-SR 94 & MELODY LANE/REMSEN RD (SOUTH) - NB LT - 2050 'NO BUILD'

Critical Analysis Period: PM PEAK

Type =	Unsignalized Through Road	Storage Length (Adj) =	NA
Speed =	50 MPH	Deceleration/Div. Taper =	225 feet
Cycle Length =	60 seconds	Turn Lane Length =	225 feet
Turning Volume =	10 VPH		
# of Turning Lanes =	1		
Advancing Volume =	470 VPH		
Turning % (>10% HIGH)	2.1% LOW		
Design Condition =	B		
Vehicles per Cycle =	0.2		
Storage Length (Calc) =	50 feet		

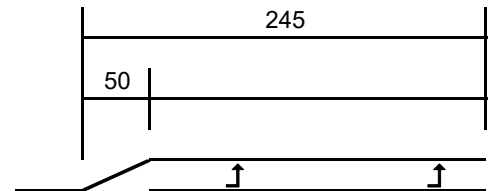


Calculations based on 401-7 in ODOT L&D Manual. All dimensions are in feet.

(4) 220-SR 94 & MELODY LANE/REMSEN RD (SOUTH) - SB LT - 2050 'NO BUILD'

Critical Analysis Period: PM PEAK

Type =	Unsignalized Through Road	Design Condition (Rev)=	C
Speed =	50 MPH	Storage Length (Adj) =	100 feet
Cycle Length =	60 seconds	Deceleration/Div. Taper =	145 feet
Turning Volume =	70 VPH	Turn Lane Length =	245 feet
# of Turning Lanes =	1		
Advancing Volume =	560 VPH		
Turning % (>10% HIGH)	12.5% HIGH		
Design Condition =	B or C		
Vehicles per Cycle =	1.2		
Storage Length (Calc) =	100 feet		



Calculations based on 401-7 in ODOT L&D Manual. All dimensions are in feet.

MED-71/271 (PID 117028)
COUNT MEMO

PREPARED BY: 

12/2025

APPENDIX

LEFT TURN LANE CALCULATIONS (2 OF 2)

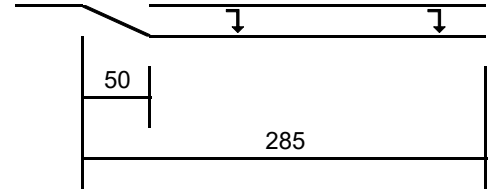
(14) 30-W 130TH STREET & SR 3 - WB RT - 2050 'NO BUILD'

Critical Analysis Period: PM Peak

Type = Unsignalized Through Road
Speed = 55 MPH
Cycle Length = 60 seconds
Turning Volume = 110 VPH
of Turning Lanes = 1
Advancing Volume = 640 VPH
Turning % (>10% HIGH) 17.2% HIGH
Design Condition = B or C
Vehicles per Cycle = 1.83
Storage Length (Calc) = 100 feet

Design Condition (Rev)= B
Storage Length (Adj) = NA
Deceleration/Div. Taper = 285 feet
Turn Lane Length = 285 feet

Calculations based on 401-7E in ODOT L&D Manual. All dimensions are in feet.



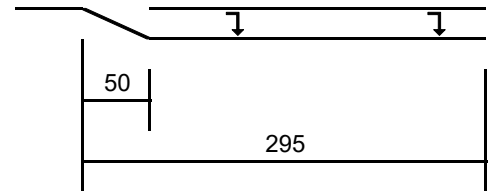
(6) 230-SR 94 & I-271 NB RAMPS - NB RT - 2050 'NO BUILD'

Critical Analysis Period: AM Peak

Type = Unsignalized Through Road
Speed = 50 MPH
Cycle Length = 60 seconds
Turning Volume = 130 VPH
of Turning Lanes = 1
Advancing Volume = 420 VPH
Turning % (>10% HIGH) 31.0% HIGH
Design Condition = B or C
Vehicles per Cycle = 2.17
Storage Length (Calc) = 150 feet

Design Condition (Rev)= C
Storage Length (Adj) = 150 feet
Deceleration/Div. Taper = 145 feet
Turn Lane Length = 295 feet

Calculations based on 401-7E in ODOT L&D Manual. All dimensions are in feet.



MED-71/271 (PID 117028)
COUNT MEMO

PREPARED BY:  SMART SERVICES

12/2025

APPENDIX

RIGHT TURN LANE CALCULATIONS (1 OF 1)