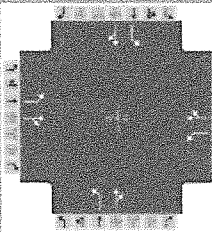


HCS 2010 Signalized Intersection Results Summary

General Information						Intersection Information															
Agency		TMS Engineers, Inc.				Duration, h		0.25													
Analyst		ABC		Analysis Date		Jul 16, 2013		Area Type		Other											
Jurisdiction		Orange Village		Time Period		AM Peak Period		PHF		0.92											
Intersection		@ Miles Road		Analysis Year		2035		Analysis Period		1> 7:00											
File Name		AM 35NB BrainardMiles.xus																			
Project Description		No Build Conditions																			
Demand Information						EB			WB			NB			SB						
Approach Movement						L	T	R	L	T	R	L	T	R	L	T	R				
Demand (v), veh/h						27	199	35	20	354	174	51	97	23	57	50	39				
Signal Information																					
Cycle, s		90.0	Reference Phase		2																
Offset, s		0	Reference Point		End																
Uncoordinated		No	Simult. Gap E/W		On	Green	5.0	39.1	5.0	20.9	0.0	0.0									
						Yellow	3.6	3.6	3.6	3.6	0.0	0.0									
Force Mode		Fixed	Simult. Gap N/S		On	Red	1.4	1.4	1.4	1.4	0.0	0.0									
Timer Results						EBL		EBT		WBL		WBT		NBL		NBT		SBL		SBT	
Assigned Phase						5		2		1		6		3		8		7		4	
Case Number						1.1		4.0		1.1		4.0		1.1		4.0		1.1		4.0	
Phase Duration, s						10.0		44.1		10.0		44.1		10.0		25.9		10.0		25.9	
Change Period, (Y+R _c), s						5.0		5.0		5.0		5.0		5.0		5.0		5.0		5.0	
Max Allow Headway (MAH), s						3.1		0.0		3.1		0.0		3.1		3.1		3.1		3.1	
Queue Clearance Time (g _s), s						2.8				2.6				4.1		7.5		4.3		6.1	
Green Extension Time (g _e), s						0.0		0.0		0.0		0.0		0.0		0.3		0.0		0.3	
Phase Call Probability						1.00				1.00				1.00		1.00		1.00		1.00	
Max Out Probability						1.00				1.00				1.00		0.00		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						5	2	12	1	6	16	3	8	18	7	4	14				
Adjusted Flow Rate (v), veh/h						29	254		22	574		55	130		62	97					
Adjusted Saturation Flow Rate (s), veh/h/ln						1723	1762		1740	1725		1757	1783		1774	1727					
Queue Service Time (g _s), s						0.8	8.6		0.6	25.4		2.1	5.5		2.3	4.1					
Cycle Queue Clearance Time (g _c), s						0.8	8.6		0.6	25.4		2.1	5.5		2.3	4.1					
Green Ratio (g/C)						0.49	0.43		0.49	0.43		0.29	0.23		0.29	0.23					
Capacity (c), veh/h						281	766		525	749		388	414		366	401					
Volume-to-Capacity Ratio (X)						0.104	0.332		0.041	0.766		0.143	0.315		0.169	0.241					
Available Capacity (c _a), veh/h						281	766		525	749		388	414		366	401					
Back of Queue (Q), veh/ln (50th percentile)						0.3	3.5		0.2	11.0		0.8	2.3		0.9	1.7					
Queue Storage Ratio (RQ) (50th percentile)						0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00					
Uniform Delay (d ₁), s/veh						16.2	16.8		12.5	21.6		23.8	28.6		24.0	28.1					
Incremental Delay (d ₂), s/veh						0.1	1.2		0.0	7.3		0.1	0.2		0.1	0.1					
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						16.3	18.0		12.5	28.9		23.8	28.8		24.1	28.2					
Level of Service (LOS)						B	B		B	C		C	C		C	C					
Approach Delay, s/veh / LOS						17.8		B	28.3		C	27.3		C	26.6		C				
Intersection Delay, s/veh / LOS						25.5						C									
Multimodal Results						EB			WB			NB			SB						
Pedestrian LOS Score / LOS						2.3			B			2.3			B						
Bicycle LOS Score / LOS						1.0			A			0.8			A						

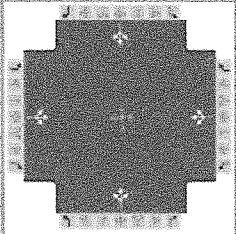
HCS 2010 Signalized Intersection Results Summary

General Information

Agency: TMS Engineers, Inc.
 Analyst: ABC
 Jurisdiction: Orange, OH
 Intersection: @ Lander Road
 File Name: AM 35NB HarvardLander.xus
 Project Description: No Build Conditions

Intersection Information

Duration, h: 0.25
 Area Type: Other
 PHF: 0.92
 Analysis Period: 1> 7:00



Demand Information

Approach Movement	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	143	219	19	3	80	113	3	176	7	23	65	219

Signal Information

Cycle, s	90.0	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On	Green	42.5	37.5	0.0	0.0	0.0	0.0		
				Yellow	3.6	3.6	0.0	0.0	0.0	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Red	1.4	1.4	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		47.5		47.5		42.5		42.5
Change Period, (Y+R _c), s		5.0		5.0		5.0		5.0
Max Allow Headway (MAH), s		0.0		0.0		3.2		3.2
Queue Clearance Time (g _s), s						8.4		15.3
Green Extension Time (g _e), s		0.0		0.0		1.1		1.1
Phase Call Probability						1.00		1.00
Max Out Probability						0.00		0.00

Movement Group Results

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		414			213			202			334	
Adjusted Saturation Flow Rate (s), veh/h/ln		1534			1701			1845			1619	
Queue Service Time (g_s), s		10.3			0.0			0.0			0.0	
Cycle Queue Clearance Time (g_c), s		17.1			6.8			6.4			13.3	
Green Ratio (g/C)		0.47			0.47			0.42			0.42	
Capacity (c), veh/h		779			844			810			717	
Volume-to-Capacity Ratio (X)		0.531			0.252			0.250			0.465	
Available Capacity (c_a), veh/h		779			844			810			717	
Back of Queue (Q), veh/ln (50th percentile)		6.2			2.6			2.6			4.8	
Queue Storage Ratio (RQ) (50th percentile)		0.00			0.00			0.00			0.00	
Uniform Delay (d_1), s/veh		16.8			14.3			17.2			19.2	
Incremental Delay (d_2), s/veh		2.6			0.7			0.1			0.2	
Initial Queue Delay (d_3), s/veh		0.0			0.0			0.0			0.0	
Control Delay (d), s/veh		19.4			15.0			17.3			19.4	
Level of Service (LOS)		B			B			B			B	
Approach Delay, s/veh / LOS	19.4	B		15.0	B		17.3	B		19.4	B	
Intersection Delay, s/veh / LOS	18.2						B					

Multimodal Results

	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	2.1	B		2.1	B		2.1	B		2.1	B	
Bicycle LOS Score / LOS	1.2	A		0.8	A		0.8	A		1.0	A	

TWO-WAY STOP CONTROL SUMMARY

General Information				Site Information				
Analyst	ABC			Intersection	Miles & Lander			
Agency/Co.	TMS Engineers, Inc.			Jurisdiction	Orange, OH			
Date Performed	7/19/2013			Analysis Year	2035			
Analysis Time Period	AM Peak Period							
Project Description <i>No Build Conditions</i>								
East/West Street: <i>Miles Road</i>				North/South Street: <i>Lander Road</i>				
Intersection Orientation: <i>East-West</i>				Study Period (hrs): <i>0.25</i>				
Vehicle Volumes and Adjustments								
Major Street	Eastbound			Westbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume (veh/h)	94	199			377	145		
Peak-Hour Factor, PHF	0.92	0.92	1.00	1.00	0.92	0.92		
Hourly Flow Rate, HFR (veh/h)	102	216	0	0	409	157		
Percent Heavy Vehicles	4	--	--	0	--	--		
Median Type	Undivided							
RT Channelized			0			0		
Lanes	0	1	0	0	1	0		
Configuration	LT					TR		
Upstream Signal		0			0			
Minor Street	Northbound			Southbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume (veh/h)				36		89		
Peak-Hour Factor, PHF	1.00	1.00	1.00	0.92	1.00	0.92		
Hourly Flow Rate, HFR (veh/h)	0	0	0	39	0	96		
Percent Heavy Vehicles	0	0	0	3	0	3		
Percent Grade (%)	0			0				
Flared Approach		N			N			
Storage		0			0			
RT Channelized			0			0		
Lanes	0	0	0	1	0	1		
Configuration				L		R		
Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT					L		R
v (veh/h)	102					39		96
C (m) (veh/h)	996					273		578
v/c	0.10					0.14		0.17
95% queue length	0.34					0.49		0.59
Control Delay (s/veh)	9.0					20.4		12.5
LOS	A					C		B
Approach Delay (s/veh)	--	--				14.7		
Approach LOS	--	--				B		

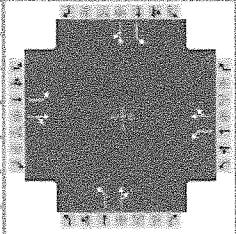
HCS 2010 Signalized Intersection Results Summary

General Information

Agency	TMS Engineers, Inc.
Analyst	ABC
Jurisdiction	Orange Village
Intersection	@ Miles Road
File Name	PM 35NB BrainardMiles.xus
Project Description	No Build Conditions

Intersection Information

Duration, h	0.25
Area Type	Other
PHF	0.92
Analysis Period	1> 7:00



Demand Information

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	47	479	55	45	255	140	19	74	43	292	207	50

Signal Information

Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Timer Results

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	10.0	40.3	10.0	40.3	10.5	29.2	10.5	29.2
Change Period, (Y+R _c), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Allow Headway (MAH), s	3.1	0.0	3.1	0.0	3.1	3.1	3.1	3.1
Queue Clearance Time (g _s), s	3.5		3.4		2.7	7.2	7.5	14.1
Green Extension Time (g _e), s	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.6
Phase Call Probability	1.00		1.00		1.00	1.00	1.00	1.00
Max Out Probability	1.00		1.00		1.00	0.00	1.00	0.01

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	51	580		49	429		21	127		317	279	
Adjusted Saturation Flow Rate (s), veh/h/ln	1723	1777		1740	1717		1757	1730		1774	1800	
Queue Service Time (g _s), s	1.5	26.5		1.4	18.2		0.7	5.2		5.5	12.1	
Cycle Queue Clearance Time (g _c), s	1.5	26.5		1.4	18.2		0.7	5.2		5.5	12.1	
Green Ratio (g/C)	0.45	0.39		0.45	0.39		0.33	0.27		0.33	0.27	
Capacity (c), veh/h	331	697		238	674		333	465		426	484	
Volume-to-Capacity Ratio (X)	0.154	0.833		0.206	0.637		0.062	0.273		0.745	0.577	
Available Capacity (c _a), veh/h	331	697		238	674		333	465		426	484	
Back of Queue (Q), veh/ln (50th percentile)	0.6	12.6		0.5	7.8		0.3	2.1		4.4	5.2	
Queue Storage Ratio (RQ) (50th percentile)	0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00	
Uniform Delay (d ₁), s/veh	16.5	24.7		18.9	22.2		21.3	26.0		29.6	28.5	
Incremental Delay (d ₂), s/veh	0.1	11.2		0.2	4.6		0.0	0.1		6.2	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	16.6	35.9		19.1	26.7		21.3	26.1		35.8	29.6	
Level of Service (LOS)	B	D		B	C		C	C		D	C	
Approach Delay, s/veh / LOS	34.3		C	26.0		C	25.4		C	32.9		C
Intersection Delay, s/veh / LOS	31.0						C					

Multimodal Results

	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	2.3		B	2.3		B	2.3		B	2.3		B
Bicycle LOS Score / LOS	1.5		A	1.3		A	0.7		A	1.5		A

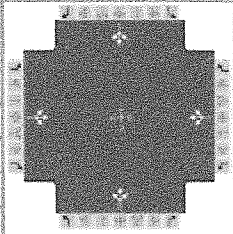
HCS 2010 Signalized Intersection Results Summary

General Information

Agency	TMS Engineers, Inc.
Analyst	ABC
Jurisdiction	Orange, OH
Intersection	@ Lander Road
File Name	PM 35NB HarvardLander.xus
Project Description	No Build Conditions

Intersection Information

Duration, h	0.25
Area Type	Other
PHF	0.92
Analysis Period	1> 7:00



Demand Information

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	36	166	5	12	258	158	3	77	6	274	120	104

Signal Information

Cycle, s	90.0	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On	Green	38.2	41.8	0.0	0.0	0.0	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	3.6	3.6	0.0	0.0	0.0	0.0		
				Red	1.4	1.4	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		43.2		43.2		46.8		46.8
Change Period, (Y+R _c), s		5.0		5.0		5.0		5.0
Max Allow Headway (MAH), s		0.0		0.0		3.2		3.2
Queue Clearance Time (g _s), s						4.6		30.0
Green Extension Time (g _e), s		0.0		0.0		1.4		1.2
Phase Call Probability						1.00		1.00
Max Out Probability						0.00		0.02

Movement Group Results

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	225			465			93			541		
Adjusted Saturation Flow Rate (s), veh/h/ln	1548			1754			1827			1470		
Queue Service Time (g_s), s	0.0			0.0			0.0			25.4		
Cycle Queue Clearance Time (g_c), s	7.2			18.6			2.6			28.0		
Green Ratio (g/C)	0.42			0.42			0.46			0.46		
Capacity (c), veh/h	704			785			890			745		
Volume-to-Capacity Ratio (X)	0.320			0.592			0.105			0.727		
Available Capacity (c_a), veh/h	704			785			890			745		
Back of Queue (Q), veh/ln (50th percentile)	3.1			7.8			1.0			9.4		
Queue Storage Ratio (RQ) (50th percentile)	0.00			0.00			0.00			0.00		
Uniform Delay (d_1), s/veh	17.0			20.2			13.6			20.3		
Incremental Delay (d_2), s/veh	1.2			3.3			0.0			3.1		
Initial Queue Delay (d_3), s/veh	0.0			0.0			0.0			0.0		
Control Delay (d), s/veh	18.2			23.5			13.6			23.4		
Level of Service (LOS)	B			C			B			C		
Approach Delay, s/veh / LOS	18.2	B		23.5	C		13.6	B		23.4	C	
Intersection Delay, s/veh / LOS	21.9						C					

Multimodal Results

	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	2.1	B		2.1	B		2.1	B		2.1	B	
Bicycle LOS Score / LOS	0.9	A		1.3	A		0.6	A		1.4	A	

TWO-WAY STOP CONTROL SUMMARY

General Information				Site Information			
Analyst	ABC			Intersection	Miles & Lander		
Agency/Co.	TMS Engineers, Inc.			Jurisdiction	Orange, OH		
Date Performed	7/19/2013			Analysis Year	2035		
Analysis Time Period	PM Peak Period						
Project Description No Build Conditions							
East/West Street: Miles Road				North/South Street: Lander Road			
Intersection Orientation: East-West				Study Period (hrs): 0.25			
Vehicle Volumes and Adjustments							
Major Street	Eastbound			Westbound			
Movement	1	2	3	4	5	6	
	L	T	R	L	T	R	
Volume (veh/h)	108	467			225	54	
Peak-Hour Factor, PHF	0.92	0.92	1.00	1.00	0.92	0.92	
Hourly Flow Rate, HFR (veh/h)	117	507	0	0	244	58	
Percent Heavy Vehicles	4	--	--	0	--	--	
Median Type	Undivided						
RT Channelized			0			0	
Lanes	0	1	0	0	1	0	
Configuration	LT					TR	
Upstream Signal		0			0		
Minor Street	Northbound			Southbound			
Movement	7	8	9	10	11	12	
	L	T	R	L	T	R	
Volume (veh/h)				120		183	
Peak-Hour Factor, PHF	1.00	1.00	1.00	0.92	1.00	0.92	
Hourly Flow Rate, HFR (veh/h)	0	0	0	130	0	198	
Percent Heavy Vehicles	0	0	0	3	0	3	
Percent Grade (%)	0			0			
Flared Approach		N			N		
Storage		0			0		
RT Channelized			0			0	
Lanes	0	0	0	1	0	1	
Configuration				L		R	
Delay, Queue Length, and Level of Service							
Approach	Eastbound	Westbound	Northbound			Southbound	
Movement	1	4	7	8	9	10	11
Lane Configuration	LT					L	R
v (veh/h)	117					130	198
C (m) (veh/h)	1248					238	763
v/c	0.09					0.55	0.26
95% queue length	0.31					2.96	1.04
Control Delay (s/veh)	8.2					36.9	11.4
LOS	A					E	B
Approach Delay (s/veh)	--	--				21.5	
Approach LOS	--	--				C	

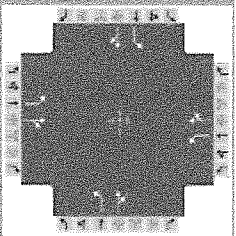
HCS 2010 Signalized Intersection Results Summary

General Information

Agency	TMS Engineers, Inc.
Analyst	ABC
Jurisdiction	Orange Village
Intersection	@ Miles Road
File Name	AM 15 BrainardMiles.xus
Project Description	Build Conditions

Intersection Information

Duration, h	0.25
Area Type	Other
PHF	0.92
Analysis Period	1> 7:00



Demand Information

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	26	190	33	19	338	169	48	97	22	55	49	37

Signal Information

Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Timer Results

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	10.0	43.6	10.0	43.6	10.0	26.4	10.0	26.4
Change Period, (Y+R _c), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Allow Headway (MAH), s	3.1	0.0	3.1	0.0	3.1	3.1	3.1	3.1
Queue Clearance Time (g _s), s	2.8		2.6		3.9	7.4	4.2	5.9
Green Extension Time (g _e), s	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.3
Phase Call Probability	1.00		1.00		1.00	1.00	1.00	1.00
Max Out Probability	1.00		1.00		1.00	0.00	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	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h	28	242		21	551		52	129		60	93	
Adjusted Saturation Flow Rate (s), veh/h/ln	1723	1763		1740	1724		1757	1785		1774	1729	
Queue Service Time (g _s), s	0.8	8.2		0.6	24.2		1.9	5.4		2.2	3.9	
Cycle Queue Clearance Time (g _c), s	0.8	8.2		0.6	24.2		1.9	5.4		2.2	3.9	
Green Ratio (g/C)	0.48	0.43		0.48	0.43		0.29	0.24		0.29	0.24	
Capacity (c), veh/h	290	756		527	739		399	425		374	411	
Volume-to-Capacity Ratio (X)	0.097	0.321		0.039	0.746		0.131	0.305		0.160	0.227	
Available Capacity (c _a), veh/h	290	756		527	739		399	425		374	411	
Back of Queue (Q), veh/ln (50th percentile)	0.3	3.4		0.2	10.4		0.8	2.2		0.9	1.6	
Queue Storage Ratio (RQ) (50th percentile)	0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00	
Uniform Delay (d ₁), s/veh	16.1	17.0		12.7	21.6		23.4	28.2		23.6	27.6	
Incremental Delay (d ₂), s/veh	0.1	1.1		0.0	6.7		0.1	0.1		0.1	0.1	
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	16.2	18.1		12.7	28.3		23.4	28.3		23.6	27.7	
Level of Service (LOS)	B	B		B	C		C	C		C	C	
Approach Delay, s/veh / LOS	17.9		B	27.7		C	26.9		C	26.1		C
Intersection Delay, s/veh / LOS	25.2						C					

Multimodal Results

	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	2.3		B	2.3		B	2.3		B	2.3		B
Bicycle LOS Score / LOS	0.9		A	1.4		A	0.8		A	0.7		A

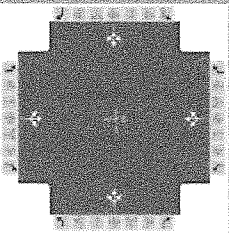
HCS 2010 Signalized Intersection Results Summary

General Information

Agency	TMS Engineers, Inc.
Analyst	ABC
Jurisdiction	Orange, OH
Intersection	@ Lander Road
File Name	AM 15 HarvardLander.xus
Project Description	Build Conditions

Intersection Information

Duration, h	0.25
Area Type	Other
PHF	0.92
Analysis Period	1> 7:00



Demand Information

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	148	216	20	3	86	108	14	168	7	22	62	226

Signal Information

Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
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		47.7		47.7		42.3		42.3
Change Period, (Y+R _c), s		5.0		5.0		5.0		5.0
Max Allow Headway (MAH), s		0.0		0.0		3.2		3.2
Queue Clearance Time (g _s), s						8.6		15.6
Green Extension Time (g _e), s		0.0		0.0		1.1		1.1
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	417			214			205			337		
Adjusted Saturation Flow Rate (s), veh/h/ln	1522			1709			1803			1617		
Queue Service Time (g _s), s	10.6			0.0			0.0			0.0		
Cycle Queue Clearance Time (g _c), s	17.4			6.8			6.6			13.6		
Green Ratio (g/C)	0.47			0.47			0.41			0.41		
Capacity (c), veh/h	778			851			790			713		
Volume-to-Capacity Ratio (X)	0.537			0.252			0.260			0.472		
Available Capacity (c _a), veh/h	778			851			790			713		
Back of Queue (Q), veh/ln (50th percentile)	6.3			2.6			2.7			4.9		
Queue Storage Ratio (RQ) (50th percentile)	0.00			0.00			0.00			0.00		
Uniform Delay (d ₁), s/veh	16.8			14.2			17.4			19.4		
Incremental Delay (d ₂), s/veh	2.6			0.7			0.1			0.2		
Initial Queue Delay (d ₃), s/veh	0.0			0.0			0.0			0.0		
Control Delay (d), s/veh	19.5			14.9			17.4			19.6		
Level of Service (LOS)	B			B			B			B		
Approach Delay, s/veh / LOS	19.5	B		14.9	B		17.4	B		19.6	B	
Intersection Delay, s/veh / LOS	18.3						B					

Multimodal Results

	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	2.1	B		2.1	B		2.1	B		2.1	B	
Bicycle LOS Score / LOS	1.2	A		0.8	A		0.8	A		1.0	A	

TWO-WAY STOP CONTROL SUMMARY

General Information				Site Information				
Analyst	ABC			Intersection	Miles & Lander			
Agency/Co.	TMS Engineers, Inc.			Jurisdiction	Orange, OH			
Date Performed	7/19/2013			Analysis Year	2015			
Analysis Time Period	AM Peak Period							
Project Description <i>Build Conditions</i>								
East/West Street: <i>Miles Road</i>				North/South Street: <i>Lander Road</i>				
Intersection Orientation: <i>East-West</i>				Study Period (hrs): <i>0.25</i>				
Vehicle Volumes and Adjustments								
Major Street	Eastbound			Westbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume (veh/h)	93	190			359	145		
Peak-Hour Factor, PHF	0.92	0.92	1.00	1.00	0.92	0.92		
Hourly Flow Rate, HFR (veh/h)	101	206	0	0	390	157		
Percent Heavy Vehicles	4	--	--	0	--	--		
Median Type	Undivided							
RT Channelized			0			0		
Lanes	0	1	0	0	1	0		
Configuration	LT					TR		
Upstream Signal		0			0			
Minor Street	Northbound			Southbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume (veh/h)				35		85		
Peak-Hour Factor, PHF	1.00	1.00	1.00	0.92	1.00	0.92		
Hourly Flow Rate, HFR (veh/h)	0	0	0	38	0	92		
Percent Heavy Vehicles	0	0	0	3	0	3		
Percent Grade (%)	0			0				
Flared Approach		N			N			
Storage		0			0			
RT Channelized			0			0		
Lanes	0	0	0	1	0	1		
Configuration				L		R		
Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT					L		R
v (veh/h)	101					38		92
C (m) (veh/h)	1012					286		593
v/c	0.10					0.13		0.16
95% queue length	0.33					0.45		0.55
Control Delay (s/veh)	9.0					19.5		12.2
LOS	A					C		B
Approach Delay (s/veh)	--	--				14.3		
Approach LOS	--	--				B		

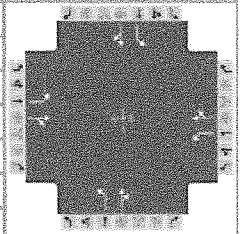
HCS 2010 Signalized Intersection Results Summary

General Information

Agency	TMS Engineers, Inc.
Analyst	ABC
Jurisdiction	Orange Village
Intersection	@ Miles Road
File Name	PM 15 BrainardMiles.xus
Project Description	Build Conditions

Intersection Information

Duration, h	0.25
Area Type	Other
PHF	0.92
Analysis Period	1> 7:00



Demand Information

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	45	456	52	43	243	135	18	73	41	281	203	47

Signal Information

Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Timer Results

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	10.0	40.6	10.0	40.6	12.6	26.8	12.6	26.8
Change Period, (Y+R _c), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Allow Headway (MAH), s	3.1	0.0	3.1	0.0	3.1	3.1	3.1	3.1
Queue Clearance Time (g _s), s	3.4		3.4		2.7	7.3	9.6	14.1
Green Extension Time (g _e), s	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.5
Phase Call Probability	1.00		1.00		1.00	1.00	1.00	1.00
Max Out Probability	1.00		1.00		0.02	0.00	1.00	0.04

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	49	552		47	411		20	124		305	272	
Adjusted Saturation Flow Rate (s), veh/h/ln	1723	1777		1740	1717		1757	1733		1774	1802	
Queue Service Time (g _s), s	1.4	24.5		1.4	17.1		0.7	5.3		7.6	12.1	
Cycle Queue Clearance Time (g _c), s	1.4	24.5		1.4	17.1		0.7	5.3		7.6	12.1	
Green Ratio (g/C)	0.45	0.40		0.45	0.40		0.33	0.24		0.33	0.24	
Capacity (c), veh/h	348	703		261	679		322	420		434	436	
Volume-to-Capacity Ratio (X)	0.140	0.786		0.179	0.605		0.061	0.295		0.704	0.623	
Available Capacity (c _a), veh/h	348	703		261	679		322	420		434	436	
Back of Queue (Q), veh/ln (50th percentile)	0.5	11.3		0.5	7.2		0.3	2.1		2.8	5.3	
Queue Storage Ratio (RQ) (50th percentile)	0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00	
Uniform Delay (d ₁), s/veh	16.1	23.9		18.1	21.6		21.8	27.8		27.9	30.4	
Incremental Delay (d ₂), s/veh	0.1	8.6		0.1	4.0		0.0	0.1		4.4	2.1	
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	16.2	32.5		18.2	25.6		21.8	28.0		32.3	32.5	
Level of Service (LOS)	B	C		B	C		C	C		C	C	
Approach Delay, s/veh / LOS	31.1		C	24.8		C	27.1		C	32.4		C
Intersection Delay, s/veh / LOS	29.6						C					

Multimodal Results

	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	2.3		B	2.3		B	2.3		B	2.3		B
Bicycle LOS Score / LOS	1.5		A	1.2		A	0.7		A	1.4		A

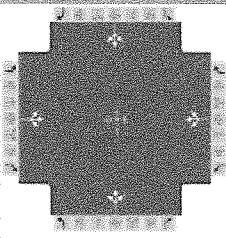
HCS 2010 Signalized Intersection Results Summary

General Information

Agency	TMS Engineers, Inc.
Analyst	ABC
Jurisdiction	Orange, OH
Intersection	@ Lander Road
File Name	PM 15 HarvardLander.xus
Project Description	Build Conditions

Intersection Information

Duration, h	0.25
Area Type	Other
PHF	0.92
Analysis Period	1> 7:00



Demand Information

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	47	180	12	11	263	151	7	73	6	261	115	119

Signal Information

Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
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		43.4		43.4		46.6		46.6
Change Period, (Y+R _c), s		5.0		5.0		5.0		5.0
Max Allow Headway (MAH), s		0.0		0.0		3.2		3.2
Queue Clearance Time (g _s), s						4.6		29.3
Green Extension Time (g _e), s		0.0		0.0		1.4		1.2
Phase Call Probability						1.00		1.00
Max Out Probability						0.00		0.01

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		260			462			93			538	
Adjusted Saturation Flow Rate (s), veh/h/ln		1481			1758			1788			1483	
Queue Service Time (g _s), s		0.0			0.0			0.0			24.7	
Cycle Queue Clearance Time (g _c), s		8.8			18.2			2.6			27.3	
Green Ratio (g/C)		0.43			0.43			0.46			0.46	
Capacity (c), veh/h		680			791			870			747	
Volume-to-Capacity Ratio (X)		0.382			0.584			0.107			0.721	
Available Capacity (c _a), veh/h		680			791			870			747	
Back of Queue (Q), veh/ln (50th percentile)		3.7			7.7			1.0			9.2	
Queue Storage Ratio (RQ) (50th percentile)		0.00			0.00			0.00			0.00	
Uniform Delay (d ₁), s/veh		17.2			20.0			13.7			20.2	
Incremental Delay (d ₂), s/veh		1.6			3.1			0.0			3.0	
Initial Queue Delay (d ₃), s/veh		0.0			0.0			0.0			0.0	
Control Delay (d), s/veh		18.8			23.2			13.7			23.2	
Level of Service (LOS)		B			C			B			C	
Approach Delay, s/veh / LOS	18.8	B		23.2	C		13.7	B		23.2	C	
Intersection Delay, s/veh / LOS	21.7						C					

Multimodal Results

	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	2.1	B		2.1	B		2.1	B		2.1	B	
Bicycle LOS Score / LOS	0.9	A		1.2	A		0.6	A		1.4	A	

TWO-WAY STOP CONTROL SUMMARY

General Information				Site Information				
Analyst	ABC			Intersection	Miles & Lander			
Agency/Co.	TMS Engineers, Inc.			Jurisdiction	Orange, OH			
Date Performed	7/19/2013			Analysis Year	2015			
Analysis Time Period	PM Peak Period							
Project Description <i>Build Conditions</i>								
East/West Street: <i>Miles Road</i>				North/South Street: <i>Lander Road</i>				
Intersection Orientation: <i>East-West</i>				Study Period (hrs): <i>0.25</i>				
Vehicle Volumes and Adjustments								
Major Street	Eastbound			Westbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume (veh/h)	104	445			214	54		
Peak-Hour Factor, PHF	0.92	0.92	1.00	1.00	0.92	0.92		
Hourly Flow Rate, HFR (veh/h)	113	483	0	0	232	58		
Percent Heavy Vehicles	4	--	--	0	--	--		
Median Type	Undivided							
RT Channelized			0			0		
Lanes	0	1	0	0	1	0		
Configuration	LT					TR		
Upstream Signal		0			0			
Minor Street	Northbound			Southbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume (veh/h)				120		176		
Peak-Hour Factor, PHF	1.00	1.00	1.00	0.92	1.00	0.92		
Hourly Flow Rate, HFR (veh/h)	0	0	0	130	0	191		
Percent Heavy Vehicles	0	0	0	3	0	3		
Percent Grade (%)	0			0				
Flared Approach		N			N			
Storage		0			0			
RT Channelized			0			0		
Lanes	0	0	0	1	0	1		
Configuration				L		R		
Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT					L		R
v (veh/h)	113					130		191
C (m) (veh/h)	1260					255		775
v/c	0.09					0.51		0.25
95% queue length	0.29					2.67		0.97
Control Delay (s/veh)	8.1					32.9		11.2
LOS	A					D		B
Approach Delay (s/veh)	--	--				20.0		
Approach LOS	--	--				C		

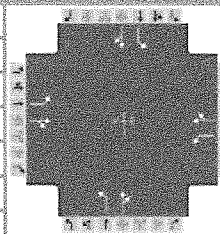
HCS 2010 Signalized Intersection Results Summary

General Information

Agency	TMS Engineers, Inc.
Analyst	ABC
Jurisdiction	Orange Village
Intersection	@ Miles Road
File Name	AM 35 BrainardMiles.xus
Project Description	Build Conditions

Intersection Information

Duration, h	0.25
Area Type	Other
PHF	0.92
Analysis Period	1> 7:00



Demand Information

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	27	199	35	20	354	177	51	103	23	58	52	39

Signal Information

Cycle, s	90.0	Reference Phase	2																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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Timer Results

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	10.0	44.2	10.0	44.2	10.0	25.8	10.0	25.8
Change Period, (Y+R _c), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Allow Headway (MAH), s	3.1	0.0	3.1	0.0	3.1	3.1	3.1	3.1
Queue Clearance Time (g _s), s	2.8		2.6		4.1	7.7	4.4	6.2
Green Extension Time (g _e), s	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.4
Phase Call Probability	1.00		1.00		1.00	1.00	1.00	1.00
Max Out Probability	1.00		1.00		1.00	0.00	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	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h	29	254		22	577		55	137		63	99	
Adjusted Saturation Flow Rate (s), veh/h/ln	1723	1762		1740	1724		1757	1786		1774	1729	
Queue Service Time (g _s), s	0.8	8.6		0.6	25.6		2.1	5.7		2.4	4.2	
Cycle Queue Clearance Time (g _c), s	0.8	8.6		0.6	25.6		2.1	5.7		2.4	4.2	
Green Ratio (g/C)	0.49	0.44		0.49	0.44		0.29	0.23		0.29	0.23	
Capacity (c), veh/h	280	767		526	751		385	413		387	400	
Volume-to-Capacity Ratio (X)	0.105	0.331		0.041	0.769		0.144	0.332		0.163	0.247	
Available Capacity (c _a), veh/h	280	767		526	751		385	413		387	400	
Back of Queue (Q), veh/ln (50th percentile)	0.3	3.5		0.2	11.1		0.8	2.4		1.0	1.7	
Queue Storage Ratio (RQ) (50th percentile)	0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00	
Uniform Delay (d ₁), s/veh	16.2	16.8		12.4	21.6		23.9	28.8		23.9	28.2	
Incremental Delay (d ₂), s/veh	0.1	1.2		0.0	7.4		0.1	0.2		0.1	0.1	
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	16.3	17.9		12.4	29.0		23.9	29.0		24.0	28.3	
Level of Service (LOS)	B	B		B	C		C	C		C	C	
Approach Delay, s/veh / LOS	17.7		B	28.4		C	27.5		C	26.7		C
Intersection Delay, s/veh / LOS	25.6						C					

Multimodal Results

	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	2.3		B	2.3		B	2.3		B	2.3		B
Bicycle LOS Score / LOS	1.0		A	1.5		A	0.8		A	0.8		A

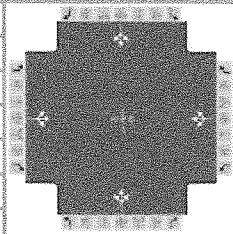
HCS 2010 Signalized Intersection Results Summary

General Information

Agency	TMS Engineers, Inc.
Analyst	ABC
Jurisdiction	Orange, OH
Intersection	@ Lander Road
File Name	AM 35 HarvardLander.xus
Project Description	Build Conditions

Intersection Information

Duration, h	0.25
Area Type	Other
PHF	0.92
Analysis Period	1> 7:00



Demand Information

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	156	227	22	3	91	113	15	176	7	23	65	237

Signal Information

Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
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		48.0		48.0		42.0		42.0
Change Period, (Y+R _c), s		5.0		5.0		5.0		5.0
Max Allow Headway (MAH), s		0.0		0.0		3.2		3.2
Queue Clearance Time (g _s), s						9.0		16.5
Green Extension Time (g _e), s		0.0		0.0		1.2		1.2
Phase Call Probability						1.00		1.00
Max Out Probability						0.00		0.00

Movement Group Results

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		440			225			215			353	
Adjusted Saturation Flow Rate (s), veh/h/ln		1506			1710			1800			1616	
Queue Service Time (g _s), s		12.0			0.0			0.0			0.0	
Cycle Queue Clearance Time (g _c), s		19.2			7.1			7.0			14.5	
Green Ratio (g/C)		0.48			0.48			0.41			0.41	
Capacity (c), veh/h		775			857			783			707	
Volume-to-Capacity Ratio (X)		0.568			0.262			0.275			0.499	
Available Capacity (c _a), veh/h		775			857			783			707	
Back of Queue (Q), veh/ln (50th percentile)		6.8			2.8			2.8			5.3	
Queue Storage Ratio (RQ) (50th percentile)		0.00			0.00			0.00			0.00	
Uniform Delay (d ₁), s/veh		17.1			14.1			17.7			19.9	
Incremental Delay (d ₂), s/veh		3.0			0.7			0.1			0.2	
Initial Queue Delay (d ₃), s/veh		0.0			0.0			0.0			0.0	
Control Delay (d), s/veh		20.1			14.9			17.7			20.1	
Level of Service (LOS)		C			B			B			C	
Approach Delay, s/veh / LOS	20.1	C		14.9	B		17.7	B		20.1	C	
Intersection Delay, s/veh / LOS	18.7						B					

Multimodal Results

	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	2.1	B		2.1	B		2.1	B		2.1	B	
Bicycle LOS Score / LOS	1.2	A		0.9	A		0.8	A		1.1	A	

TWO-WAY STOP CONTROL SUMMARY

General Information				Site Information				
Analyst	ABC			Intersection	Miles & Lander			
Agency/Co.	TMS Engineers, Inc.			Jurisdiction	Orange, OH			
Date Performed	7/19/2013			Analysis Year	2035			
Analysis Time Period	AM Peak Period							
Project Description <i>Build Conditions</i>								
East/West Street: <i>Miles Road</i>				North/South Street: <i>Lander Road</i>				
Intersection Orientation: <i>East-West</i>				Study Period (hrs): <i>0.25</i>				
Vehicle Volumes and Adjustments								
Major Street	Eastbound			Westbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume (veh/h)	98	199			377	153		
Peak-Hour Factor, PHF	0.92	0.92	1.00	1.00	0.92	0.92		
Hourly Flow Rate, HFR (veh/h)	106	216	0	0	409	166		
Percent Heavy Vehicles	4	--	--	0	--	--		
Median Type	Undivided							
RT Channelized			0			0		
Lanes	0	1	0	0	1	0		
Configuration	LT					TR		
Upstream Signal		0			0			
Minor Street	Northbound			Southbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume (veh/h)				37		91		
Peak-Hour Factor, PHF	1.00	1.00	1.00	0.92	1.00	0.92		
Hourly Flow Rate, HFR (veh/h)	0	0	0	40	0	98		
Percent Heavy Vehicles	0	0	0	3	0	3		
Percent Grade (%)	0			0				
Flared Approach		N			N			
Storage		0			0			
RT Channelized			0			0		
Lanes	0	0	0	1	0	1		
Configuration				L		R		
Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT					L		R
v (veh/h)	106					40		98
C (m) (veh/h)	988					267		575
v/c	0.11					0.15		0.17
95% queue length	0.36					0.52		0.61
Control Delay (s/veh)	9.1					20.8		12.5
LOS	A					C		B
Approach Delay (s/veh)	--	--				14.9		
Approach LOS	--	--				B		

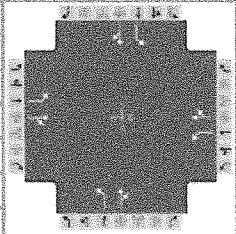
HCS 2010 Signalized Intersection Results Summary

General Information

Agency	TMS Engineers, Inc.
Analyst	ABC
Jurisdiction	Orange Village
Intersection	@ Miles Road
File Name	PM 35 BrainardMiles.xus
Project Description	Build Conditions

Intersection Information

Duration, h	0.25
Area Type	Other
PHF	0.92
Analysis Period	1> 7:00



Demand Information

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	47	479	55	45	255	142	19	78	43	295	214	50

Signal Information

Cycle, s	90.0	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On	Green	5.0	35.3	6.1	23.6	0.0	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	3.6	3.6	3.6	3.6	0.0	0.0		
				Red	1.4	1.4	1.4	1.4	0.0	0.0		

Timer Results

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	10.0	40.3	10.0	40.3	11.1	28.6	11.1	28.6
Change Period, (Y+R _c), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Allow Headway (MAH), s	3.1	0.0	3.1	0.0	3.1	3.1	3.1	3.1
Queue Clearance Time (g _s), s	3.5		3.4		2.7	7.5	8.1	14.6
Green Extension Time (g _e), s	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.6
Phase Call Probability	1.00		1.00		1.00	1.00	1.00	1.00
Max Out Probability	1.00		1.00		0.58	0.00	1.00	0.02

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	51	580		49	432		21	132		321	287	
Adjusted Saturation Flow Rate (s), veh/h/ln	1723	1777		1740	1716		1757	1734		1774	1801	
Queue Service Time (g _s), s	1.5	26.5		1.4	18.4		0.7	5.5		6.1	12.6	
Cycle Queue Clearance Time (g _c), s	1.5	26.5		1.4	18.4		0.7	5.5		6.1	12.6	
Green Ratio (g/C)	0.45	0.39		0.45	0.39		0.33	0.26		0.33	0.26	
Capacity (c), veh/h	329	697		238	673		331	455		425	472	
Volume-to-Capacity Ratio (X)	0.155	0.833		0.206	0.641		0.062	0.289		0.754	0.607	
Available Capacity (c _a), veh/h	329	697		238	673		331	455		425	472	
Back of Queue (Q), veh/ln (50th percentile)	0.6	12.6		0.5	7.8		0.3	2.2		4.3	5.4	
Queue Storage Ratio (RQ) (50th percentile)	0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00	
Uniform Delay (d ₁), s/veh	16.6	24.7		18.9	22.2		21.3	26.5		29.4	29.1	
Incremental Delay (d ₂), s/veh	0.1	11.2		0.2	4.6		0.0	0.1		6.7	1.6	
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	16.7	35.9		19.1	26.8		21.4	26.6		36.1	30.8	
Level of Service (LOS)	B	D		B	C		C	C		D	C	
Approach Delay, s/veh / LOS	34.3		C	26.1		C	25.9		C	33.6		C
Intersection Delay, s/veh / LOS	31.3						C					

Multimodal Results

	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	2.3		B	2.3		B	2.3		B	2.3		B
Bicycle LOS Score / LOS	1.5		A	1.3		A	0.7		A	1.5		A

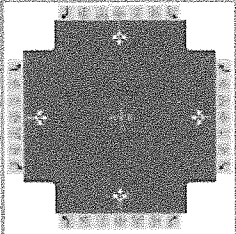
HCS 2010 Signalized Intersection Results Summary

General Information

Agency	TMS Engineers, Inc.
Analyst	ABC
Jurisdiction	Orange, OH
Intersection	@ Lander Road
File Name	PM 35 HarvardLander.xus
Project Description	Build Conditions

Intersection Information

Duration, h	0.25
Area Type	Other
PHF	0.92
Analysis Period	1> 7:00



Demand Information

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	51	191	13	12	276	158	7	77	6	274	120	125

Signal Information

Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
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		43.0		43.0		47.0		47.0
Change Period, (Y+R _c), s		5.0		5.0		5.0		5.0
Max Allow Headway (MAH), s		0.0		0.0		3.2		3.2
Queue Clearance Time (g _s), s						4.7		31.7
Green Extension Time (g _e), s		0.0		0.0		1.5		1.2
Phase Call Probability						1.00		1.00
Max Out Probability						0.00		0.04

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		277			485			98			564	
Adjusted Saturation Flow Rate (s), veh/h/ln		1427			1758			1791			1473	
Queue Service Time (g _s), s		0.0			0.0			0.0			27.0	
Cycle Queue Clearance Time (g _c), s		10.8			19.6			2.7			29.7	
Green Ratio (g/C)		0.42			0.42			0.47			0.47	
Capacity (c), veh/h		650			783			879			749	
Volume-to-Capacity Ratio (X)		0.426			0.619			0.111			0.753	
Available Capacity (c _a), veh/h		650			783			879			749	
Back of Queue (Q), veh/ln (50th percentile)		4.1			8.4			1.1			10.1	
Queue Storage Ratio (RQ) (50th percentile)		0.00			0.00			0.00			0.00	
Uniform Delay (d ₁), s/veh		17.7			20.7			13.5			20.6	
Incremental Delay (d ₂), s/veh		2.0			3.7			0.0			3.9	
Initial Queue Delay (d ₃), s/veh		0.0			0.0			0.0			0.0	
Control Delay (d), s/veh		19.8			24.4			13.5			24.5	
Level of Service (LOS)		B			C			B			C	
Approach Delay, s/veh / LOS	19.8	B		24.4	C		13.5	B		24.5	C	
Intersection Delay, s/veh / LOS	22.8						C					

Multimodal Results

	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	2.1	B		2.1	B		2.1	B		2.1	B	
Bicycle LOS Score / LOS	0.9	A		1.3	A		0.6	A		1.4	A	

TWO-WAY STOP CONTROL SUMMARY

General Information				Site Information				
Analyst	ABC			Intersection	Miles & Lander			
Agency/Co.	TMS Engineers, Inc.			Jurisdiction	Orange, OH			
Date Performed	7/19/2013			Analysis Year	2035			
Analysis Time Period	PM Peak Period							
Project Description <i>Build Conditions</i>								
East/West Street: <i>Miles Road</i>				North/South Street: <i>Lander Road</i>				
Intersection Orientation: <i>East-West</i>				Study Period (hrs): <i>0.25</i>				
Vehicle Volumes and Adjustments								
Major Street	Eastbound			Westbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume (veh/h)	109	467			225	57		
Peak-Hour Factor, PHF	0.92	0.92	1.00	1.00	0.92	0.92		
Hourly Flow Rate, HFR (veh/h)	118	507	0	0	244	61		
Percent Heavy Vehicles	4	--	--	0	--	--		
Median Type	Undivided							
RT Channelized			0			0		
Lanes	0	1	0	0	1	0		
Configuration	LT					TR		
Upstream Signal		0			0			
Minor Street	Northbound			Southbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume (veh/h)				126		185		
Peak-Hour Factor, PHF	1.00	1.00	1.00	0.92	1.00	0.92		
Hourly Flow Rate, HFR (veh/h)	0	0	0	136	0	201		
Percent Heavy Vehicles	0	0	0	3	0	3		
Percent Grade (%)	0			0				
Flared Approach		N			N			
Storage		0			0			
RT Channelized			0			0		
Lanes	0	0	0	1	0	1		
Configuration				L		R		
Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT					L		R
v (veh/h)	118					136		201
C (m) (veh/h)	1244					237		762
v/c	0.09					0.57		0.26
95% queue length	0.31					3.22		1.06
Control Delay (s/veh)	8.2					38.8		11.4
LOS	A					E		B
Approach Delay (s/veh)	--	--				22.5		
Approach LOS	--	--				C		