MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION

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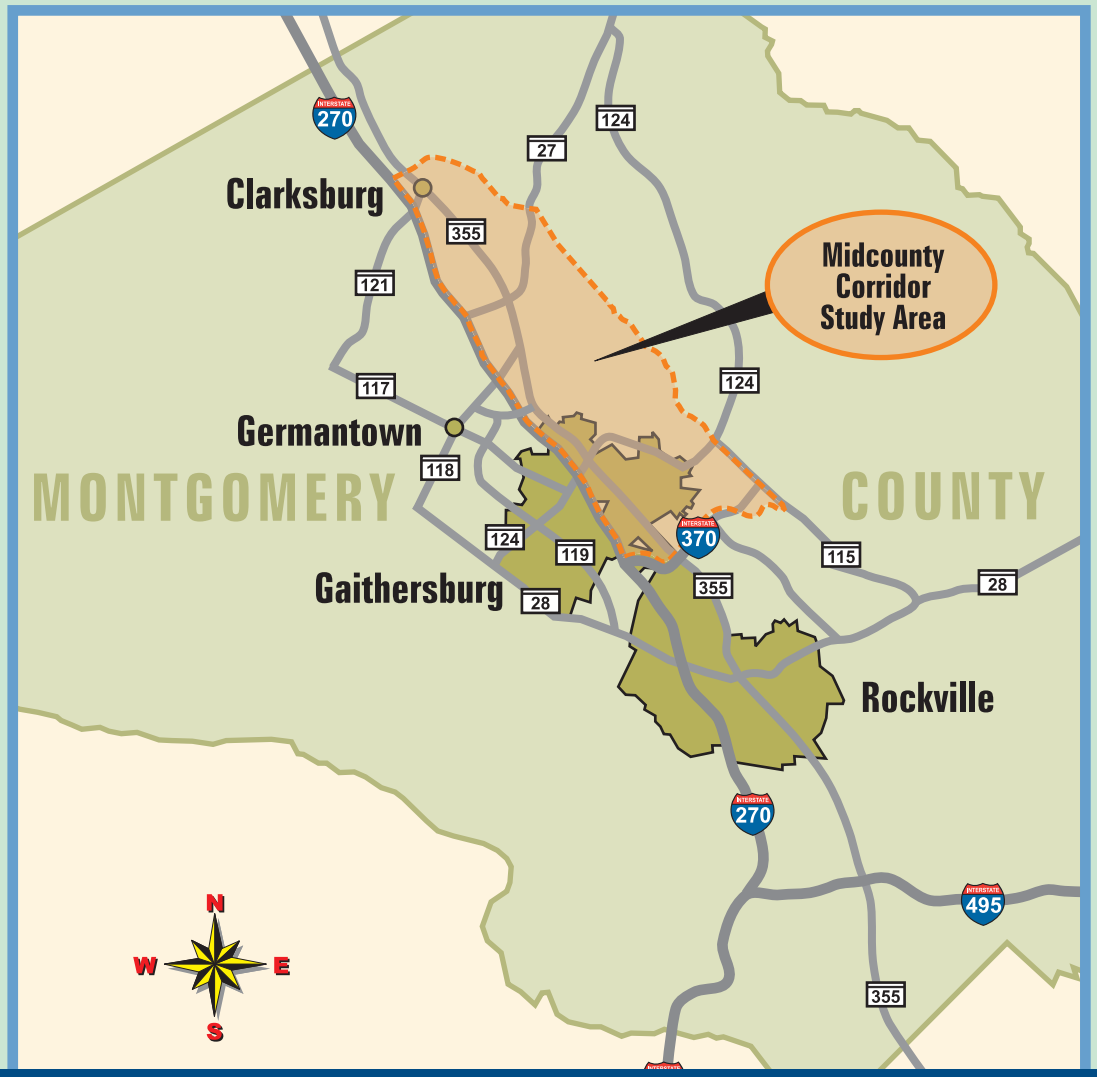
Midcounty Corridor Study



Supporting Materials for the Supplemental Report
April 6, 2017

Department of Transportation
Division of Transportation Engineering
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Annual Average Daily Traffic
Vehicle-Miles Traveled
Person-Throughput

MD 355 Vehicle-Miles Traveled and Person-Throughput

MD 355 Segments	Length (mi)	Annual Average Daily Traffic (AADT) Volumes			
		2040 MWCOG Travel Model Projections			
		No-Build Scenario	Scenario 1: BRT with Alts 2/5 Improvements	Scenario 2: BRT with Reversible 2-Lane M-83	Scenario 3: No BRT with 4-Lane M-83
MD 118 to MD 27	0.87	30,394	30,131	25,175	31,875
Middlebrook Rd to MD 118	0.81	34,850	34,535	27,200	34,225
Watkins Mill Rd to Middlebrook Rd	1.98	40,920	40,525	40,785	40,970
MD 124 to Watkins Mill Rd	0.61	48,300	47,825	46,658	45,067

Note: Highlighted segment is the location of the person-throughput projections below.

MD 355 Segments	Length (mi)	Vehicle-Miles Traveled (millions)			
		2040 Projections			
		No-Build Scenario	Scenario 1: BRT with Alts 2/5 Improvements	Scenario 2: BRT with Reversible 2-Lane M-83	Scenario 3: No BRT with 4-Lane M-83
MD 118 to MD 27	0.87	10	10	8	10
Middlebrook Rd to MD 118	0.81	10	10	8	10
Watkins Mill Rd to Middlebrook Rd	1.98	30	29	29	30
MD 124 to Watkins Mill Rd	0.61	11	11	10	10
Total VMT (millions)	**4.27**	**60**	**60**	**56**	**60**

Year 2040 AM and PM Peak Hour Person-Throughput				
	No-Build Scenario	Scenario 1: BRT with Alts 2/5 Improvements	Scenario 2: BRT with Reversible 2-Lane M-83	Scenario 3: No BRT with 4-Lane M-83
k-factor	0.09	0.09	0.09	0.09
Typical Vehicle Occupancy	1.15	1.15	1.15	1.15
Peak Hour Person-Throughput	**4,235**	**4,194**	**4,221**	**4,240**

M-83 Vehicle-Miles Traveled and Person-Throughput

Midcounty Hwy (M-83) Segments	Length (mi)	Annual Average Daily Traffic (AADT) Volumes			
		2040 MWCOG Travel Model Projections			
		No-Build Scenario	Scenario 1: BRT with Alts 2/5 Improvements	Scenario 2: BRT with Reversible 2-Lane M-83	Scenario 3: No BRT with 4-Lane M-83
Germantown Rd to MD 27	2.31	n/a	n/a	23,350	14,658
Middlebrook Rd to Germantown Rd	0.63	n/a	n/a	24,375	17,875
Watkins Mill Rd to Middlebrook Rd	1.38	n/a	n/a	18,325	15,525
MD 124 to Watkins Mill Rd	0.77	n/a	n/a	23,900	18,650

Note: Highlighted segment is the location of the person-throughput projections below.

Midcounty Hwy (M-83) Segments	Length (mi)	Vehicle-Miles Traveled (millions)			
		2040 Projections			
		No-Build Scenario	Scenario 1: BRT with Alts 2/5 Improvements	Scenario 2: BRT with Reversible 2-Lane M-83	Scenario 3: No BRT with 4-Lane M-83
Germantown Rd to MD 27	2.31	n/a	n/a	20	12
Middlebrook Rd to Germantown Rd	0.63	n/a	n/a	6	4
Watkins Mill Rd to Middlebrook Rd	1.38	n/a	n/a	9	8
MD 124 to Watkins Mill Rd	0.77	n/a	n/a	7	5
Total VMT (millions)	**5.09**	**n/a**	**n/a**	**41**	**30**

Year 2040 AM and PM Peak Hour Person-Throughput				
	No-Build Scenario	Scenario 1: BRT with Alts 2/5 Improvements	Scenario 2: BRT with Reversible 2-Lane M-83	Scenario 3: No BRT with 4-Lane M-83
k-factor	n/a	n/a	0.11	0.11
Typical Vehicle Occupancy	n/a	n/a	1.15	1.15
Peak Hour Person-Throughput	**n/a**	**n/a**	**2,318**	**1,964**

Montgomery Village Ave Vehicle-Miles Traveled and Person-Throughput

Montgomery Village Ave Segments	Length (mi)	Annual Average Daily Traffic (AADT) Volumes			
		2040 MWCOG Travel Model Projections			
		No-Build Scenario	Scenario 1: BRT with Alts 2/5 Improvements	Scenario 2: BRT with Reversible 2-Lane M-83	Scenario 3: No BRT with 4-Lane M-83
Arrow Head Rd to Wightman Rd	0.34	19,150	12,000	11,225	17,450
Centerway Rd to Arrow Head Rd	1.14	16,750	16,575	15,525	22,350
Stedwick Rd to Centerway Rd	0.21	24,350	24,125	22,525	22,925
Midcounty Hwy to Stedwick Rd	0.71	30,375	30,025	27,900	27,825

Note: Highlighted segment is the location of the person-throughput projections below.

Montgomery Village Ave Segments	Length (mi)	Vehicle-Miles Traveled (millions)			
		2040 Projections			
		No-Build Scenario	Scenario 1: BRT with Alts 2/5 Improvements	Scenario 2: BRT with Reversible 2-Lane M-83	Scenario 3: No BRT with 4-Lane M-83
Rothbury Dr to Wightman Rd	0.34	2	1	1	2
Centerway Rd to Rothbury Dr	1.14	7	7	6	9
Emory Grove Rd to Centerway Rd	0.21	2	2	2	2
MD 124 to Emory Grove Rd	0.71	8	8	7	7
Total VMT (millions)	**2.40**	**19**	**18**	**17**	**20**

Year 2040 AM and PM Peak Hour Person-Throughput				
	No-Build Scenario	Scenario 1: BRT with Alts 2/5 Improvements	Scenario 2: BRT with Reversible 2-Lane M-83	Scenario 3: No BRT with 4-Lane M-83
k-factor	0.09	0.09	0.09	0.09
Typical Vehicle Occupancy	1.15	1.15	1.15	1.15
Peak Hour Person-Throughput	**2,520**	**2,497**	**2,331**	**2,373**

Goshen Rd Vehicle-Miles Traveled and Person-Throughput

Goshen Rd Segments	Length (mi)	Annual Average Daily Traffic (AADT) Volumes			
		2040 MWCOG Travel Model Projections			
		No-Build Scenario	Scenario 1: BRT with Alts 2/5 Improvements	Scenario 2: BRT with Reversible 2-Lane M-83	Scenario 3: No BRT with 4-Lane M-83
Rothbury Dr to Wightman Rd	0.18	19,150	18,900	18,175	13,950
Centerway Rd to Rothbury Dr	1.12	19,950	19,675	19,300	15,450
Emory Grove Rd to Centerway Rd	0.65	23,350	23,025	22,850	18,125
MD 124 to Emory Grove Rd	0.16	31,150	30,750	30,525	25,125

Note: Highlighted segment is the location of the person-throughput projections below.

Goshen Rd Segments	Length (mi)	Vehicle-Miles Traveled (millions)			
		2040 Projections			
		No-Build Scenario	Scenario 1: BRT with Alts 2/5 Improvements	Scenario 2: BRT with Reversible 2-Lane M-83	Scenario 3: No BRT with 4-Lane M-83
Rothbury Dr to Wightman Rd	0.18	1	1	1	1
Centerway Rd to Rothbury Dr	1.12	8	8	8	6
Emory Grove Rd to Centerway Rd	0.65	6	5	5	4
MD 124 to Emory Grove Rd	0.16	2	2	2	1
Total VMT (millions)	**2.11**	**17**	**17**	**16**	**13**

Year 2040 AM and PM Peak Hour Person-Throughput				
	No-Build Scenario	Scenario 1: BRT with Alts 2/5 Improvements	Scenario 2: BRT with Reversible 2-Lane M-83	Scenario 3: No BRT with 4-Lane M-83
k-factor	0.09	0.09	0.09	0.09
Typical Vehicle Occupancy	1.15	1.15	1.15	1.15
Peak Hour Person-Throughput	**2,417**	**2,383**	**2,365**	**1,876**

Snouffer School Rd Vehicle-Miles Traveled and Person-Throughput

Wightman/Snouffer School Rd Segments	Length (mi)	Annual Average Daily Traffic (AADT) Volumes			
		2040 MWCOG Travel Model Projections			
		No-Build Scenario	Scenario 1: BRT with Alts 2/5 Improvements	Scenario 2: BRT with Reversible 2-Lane M-83	Scenario 3: No BRT with 4-Lane M-83
Mont Village Ave to Brink Rd	1.00	13,725	12,563	10,888	11,250
Goshen Rd to Mont Village Ave	0.37	12,950	12,875	11,975	12,350
Centerway Rd to Goshen Rd	1.38	13,950	12,192	11,758	12,450
MD 124 to Centerway Rd	1.18	18,925	18,433	17,908	19,383

Note: Highlighted segment is the location of the person-throughput projections below.

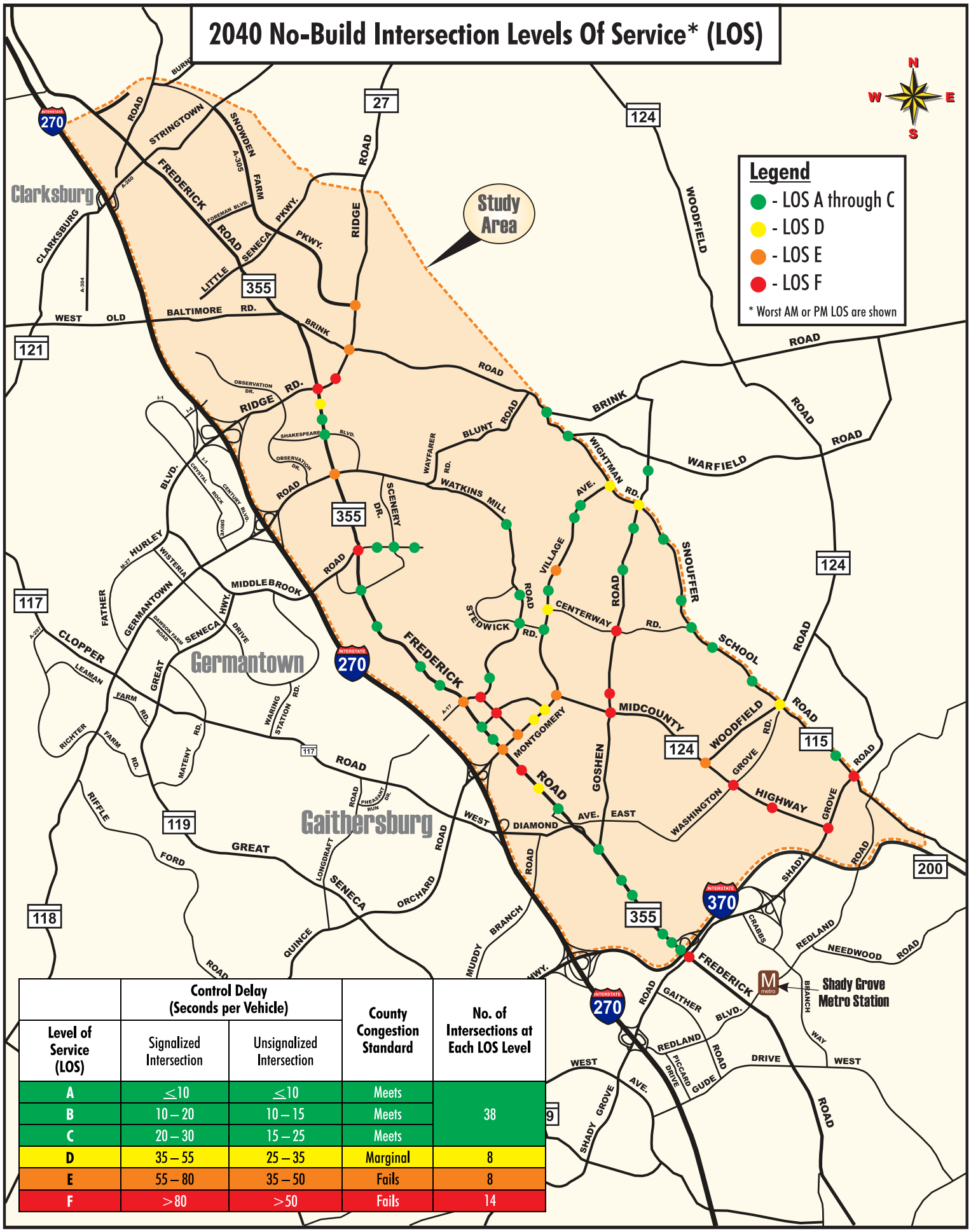
Wightman/Snouffer School Rd Segments	Length (mi)	Vehicle-Miles Traveled (millions)			
		2040 Projections			
		No-Build Scenario	Scenario 1: BRT with Alts 2/5 Improvements	Scenario 2: BRT with Reversible 2-Lane M-83	Scenario 3: No BRT with 4-Lane M-83
Mont Village Ave to Brink Rd	1.00	5	5	4	4
Goshen Rd to Mont Village Ave	0.37	2	2	2	2
Centerway Rd to Goshen Rd	1.38	7	6	6	6
MD 124 to Centerway Rd	1.18	8	8	8	8
Total VMT (millions)	**3.93**	**22**	**20**	**19**	**20**

Year 2040 AM and PM Peak Hour Person-Throughput				
	No-Build Scenario	Scenario 1: BRT with Alts 2/5 Improvements	Scenario 2: BRT with Reversible 2-Lane M-83	Scenario 3: No BRT with 4-Lane M-83
k-factor	0.09	0.09	0.09	0.09
Typical Vehicle Occupancy	1.15	1.15	1.15	1.15
Peak Hour Person-Throughput	**1,444**	**1,262**	**1,217**	**1,289**

Level of Service (LOS), Delay and Travel Time Analysis Results

No-Build Scenario

2040 No-Build Intersection Levels Of Service* (LOS)



Level of Service (LOS)	Control Delay (Seconds per Vehicle)		County Congestion Standard	No. of Intersections at Each LOS Level
	Signalized Intersection	Unsignalized Intersection		
A	≤10	≤10	Meets	38
B	10 – 20	10 – 15	Meets	
C	20 – 30	15 – 25	Meets	
D	35 – 55	25 – 35	Marginal	8
E	55 – 80	35 – 50	Fails	8
F	>80	>50	Fails	14

No-Build Scenario

SimTraffic Delay and MD 355 VISSIM Delay Results (sec/veh) by Movement

Year 2040 AM Peak Hour

Intersection Name	Node	Intersection	Northbound			Southbound			Eastbound			Westbound		
	ID	Overall	L	T	R	L	T	R	L	T	R	L	T	R
MD 355 #2 & Middlebrook Road	1	89.1	107.0	30.6	5.4	96.0	103.5	56.4	65.7	66.9	9.0	194.1	146.0	41.7
Minstrel Tune Way/Brandermill Dr & Middlebrook Road	3	6.9	13.8	0.0	0.0	0.0	0.0	17.5	4.4	0.4	0.1	0.0	2.2	0.8
MD 355 #2 & Gunners Branch Rd	5	11.1	23.5	10.9	6.3	15.0	7.3	7.5	63.0	58.6	6.3	58.8	48.5	12.5
MD 355 #2 & Germantown Rd	9	46.7	86.1	11.3	9.1	90.2	55.2	26.8	94.4	43.2	23.3	106.5	57.0	30.2
Watkins Mill Rd & Stedwick Rd	12	13.6	40.9	11.5	3.0	13.6	10.4	10.2	74.6	88.2	3.0	56.2	64.2	12.9
Midcounty Highway #1 & Germantown Rd/Watkins Mill Rd	13													
Apple Ridge Rd & Watkins Mill Rd	14	27.7	18.4	12.8	9.2	20.6	11.8	7.4	101.2	105.9	12.5	54.1	12.3	22.3
Watkins Mill Rd & Club House Rd	15	13.6		7.3	5.1	21.9	6.0					60.1		15.8
MD 355 & S Westland Dr	16	11.1	27.3	2.3	2.0	23.4	10.7	14.7	9.7	71.0	9.7	69.1	57.7	7.0
Travis Avenue & Watkins Mill Rd	23	9.6	7.5	7.8	3.0	6.9	7.9	6.0	9.5	10.7	3.6	7.1	11.4	8.6
MD 355 #2 & Shakespeare Blvd	25	15.3	32.9	17.2	6.9	13.0	8.5	2.5	55.1	56.3	1.6	58.7	53.4	18.9
MD 355 #2 & Milestone South	28	2.6	21.3	0.8			1.8	1.2	75.3		0.6			
MD 355 #2 & Milestone North/Henderson Corner Rd	30	52.2	84.1	16.3	3.0	90.8	14.1	4.4	72.1	70.9	4.9	273.9	323.3	213.3
MD 355 #2/MD 355 & MD 27/MD 27 #2	32	94.6	83.3	43.6	1.6	88.5	35.3	10.2	86.2	95.7	5.8	152.7	154.6	90.4
MD 355 & Shady Grove Rd	35	77.7	212.0	36.5	4.0	47.1	35.5	24.0	102.3	184.2	167.9	96.6	130.1	61.3
Henderson Corner Rd & MD 27 #2	36	15.0			32.6					0.0	11.5	43.1	13.7	
MD 27 #2/MD 27 #2 #3 #4 & Brink Rd/Brink Rd #3 #4	39	58.2	50.8	18.2	9.2	28.8	18.1	5.5	38.7	35.1	35.8	540.3	102.7	65.8
MD 355 #2 & Plummer Dr	54	8.8	28.5	5.1	5.3	12.9	7.0	12.9	54.1	46.1	13.1	59.7	59.1	13.6
MD 355 & W Deer Park Dr/E Deer Park Dr	59	15.0	24.2	6.6	5.4	19.8	8.7	8.5	64.6	57.4	59.5	69.0	64.6	12.9
MD 355 #2 & Professional Dr	61	11.5	48.4	5.7	2.6	12.0	10.3	10.1	77.8	0.0	7.4	66.5	81.3	0.0
MD 355 #2 & Spectrum Avenue/Travis Avenue	65	9.0	21.1	13.1	9.2	12.6	4.4	1.1	53.1	72.9	10.6	62.5	70.5	12.3
MD 355 #2 & Watkins Mill Rd	67	35.7	72.6	15.1	14.7	70.0	30.7	70.0	68.0	70.3	19.3	60.6	62.8	55.1
Russell Ave & Watkins Mill Rd	68	38.5	527.1		4.9					2.8	3.3	20.8	50.8	
MD 355 & Education Blvd	69	7.5	32.0	2.8	5.9	8.6	7.2	6.9	56.4	56.2	9.6	67.3	52.5	16.3
MD 355 & Chestnut St	72	11.4	19.7	7.9			9.4	3.2	64.1		13.2			
MD 355 & Gas Station/Odendhal Ave	75	30.8	22.4	27.6	24.5	19.1	4.1	4.0	75.4	76.1	15.7	89.1	101.7	94.5
MD 355 & Perry Pkwy/Lakeforest Blvd	77	37.0	84.2	22.8	10.5	91.7	20.5	14.5	61.0	56.4	24.7	62.1	65.6	42.1
Midcounty Highway & Woodfield Rd	81	56.8	0.4	12.9	0.1	6.3	26.1	0.2	1.1	1.4	0.1	7.0	1.0	0.3
MD 355 #2 & Lockheed Martin N/Christopher Ave	82	9.5	23.8	8.4	8.7	6.8	7.7	10.1	74.6	74.6	0.6	67.5	71.3	21.2
MD 355 #2 & Lockheed Martin S/IBM Entrance	83	18.9	47.7	3.9	3.0	18.8	19.7	18.5	54.5	0.0	1.0	244.1	254.6	165.4
Russell Ave & Christopher Ave	85	7.9	14.1	7.3	6.8	10.7	4.3	3.5	14.9	12.5	4.4	14.4	14.3	3.6
MD 355/MD 355 #2 & Quince Orchard Rd/Montgomery Village Ave #2	88	40.0	78.9	75.3	22.1	95.3	37.7	15.4	74.4	21.7	6.2		43.0	27.4
MD 355 & Summit Ave	90	28.2	37.3	28.4	11.1	25.3	20.8	18.3	68.1	66.4	30.7	50.0	53.4	44.0
Russell Ave & Montgomery Village Ave #2	91	60.4	127.1	70.3	3.9	99.8	49.5	25.2	107.9	77.3	5.2	47.5	59.3	1.9
Midcounty Highway & Washington Grove Ln	92	145.2	79.5	20.3	2.3	55.1	59.7	17.9	92.1	187.9	155.9	428.6	204.5	117.6
Midcounty Highway & Miller Fall Rd	93	95.0	25.7	0.4	0.1	14.3	34.4	9.4	119.9	118.3	60.6	1972.8	1929.3	2077.9
Shady Grove Rd & Midcounty Highway	94	190.3				50.2		117.8	795.0	27.7			198.4	131.0
Lost Knife Rd/Christopher Ave & Montgomery Village Ave #2	98	54.1	75.9	75.2	29.7	221.2	70.7	6.0	63.2	47.2	65.8	83.1	29.8	31.7
Midcounty Highway #1 #2/Midcounty Highway #1 & Montgomery Village Ave #2/Montgomery V	99	59.8	80.5		7.8					0.0	106.4	54.3	14.0	
Goshen Rd/Goshen Rd #3 & Midcounty Highway #1 #2/Midcounty Highway #1 #2 #3	102	143.5	616.5	81.4	62.3	141.4	89.6	65.7	105.6	102.5	69.7	379.6	99.1	12.6
Lakeforest Mall & Montgomery Village Ave #2	105	44.9	80.0	0.0	2.2	0.0		1.5	90.4	107.1	144.8		7.8	2.9
Midcounty Highway #1 & Middlebrook Road	107													
Midcounty Highway #1 & Watkins Mill Rd	108													
Brink Rd #3 #4/Wightman Rd #3 #4 & Brink Rd	109	15.5					0.0	11.7	15.4	4.8			5.3	4.2
Wightman Rd #3 #4 & Warfield Rd	110	8.3					0.0	7.8	11.8	7.7			8.2	8.6
Midcounty Highway #1 & Brink Rd #3 #4	115													
Montgomery Village Ave/Pleasant Ridge Dr & Wightman Rd #3 #4	116	46.9	105.6	77.2	4.1	52.9	64.2	2.4	72.0	37.3	16.7	58.0	14.8	4.6
Goshen Rd #3/Goshen Rd & Wightman Rd #3 #4/Snouffer School Rd #4	118	36.6	66.4	16.2	4.7	50.9	22.5	21.3	31.8	85.7	22.4	54.2	106.0	5.2
Montgomery Village Ave & Apple Ridge Rd	119	7.6	14.6	3.0	1.3	6.2	4.5	3.2	34.2	3.8	6.8	37.8	25.5	14.1
Scenery Dr & Middlebrook Road	121	5.4	7.5	8.0	0.0	0.0	12.8	7.2	2.6	0.5	0.3	0.0	1.5	0.0
Muncaster Mill Rd #4/Snouffer School Rd #4 & Woodfield Rd	126	40.9	20.4	12.4	2.0	17.8	18.3	2.6	33.9	100.7	2.1	35.9	85.6	2.7
MD 27 #2 #3 #4/MD 27 #1 #2 #3 #4 & Snowden Farm Pkwy/Midcounty Highway #1	128	56.6	101.6	6.0			15.4	6.3	103.0		101.5			
Snouffer School Rd #4 & Centerway Rd	130	10.9	7.0	1.8			11.1	8.7	46.4		14.7			
Muncaster Mill Rd #4 & Shady Grove Rd/Airpark Rd	131	121.5	320.0	96.9	44.6	19.9	12.9	28.7	1052.8	32.9	11.4	123.7	12.7	6.7
Knollcross Ct/Madrigal Dr & Middlebrook Road	137	1.9	4.2	0.0	0.0	0.0	0.0	2.8	0.7	0.0	0.0	0.0	0.2	0.0
Montgomery Village Ave & Club House Rd	140	22.3	26.4	6.5	5.8	13.3	25.4	20.7	33.8	34.1	10.8	38.9	32.7	4.1
Montgomery Village Ave & Village Center/Centerway Rd	142	36.3	22.5	14.5	6.9	40.0	59.0	6.2	247.4	216.7	46.8	27.3	15.8	7.7
Montgomery Village Ave & Stedwick Rd	143	0.0	0.0	0.0			0.0	0.0	0.0		0.0			
Montgomery Village Ave & Stewartown Rd	145	67.1		8.6	0.0	0.0	98.1					0.0		0.0
Goshen Rd & East Village Ave	154	12.9		8.8	5.0	11.0	9.1					31.5		2.3
Goshen Rd #3 & Emory Grove Rd	162	232.3	31.6	14.5	6.1	252.6	310.1	370.6	21.1	22.2	21.8	239.7	75.1	69.4
Goshen Rd #3 & Centerway Rd	163	80.5	120.2	14.5	15.9	20.2	23.5	24.1	172.2	144.7	17.1	661.5	232.5	219.6
Goshen Rd #3 & Stewartown Rd/Trams Way	165	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
Goshen Rd #3 & Rothbury Dr/Green Run Way	168	13.3	53.8	8.5	4.9	53.4	9.6	8.6	29.0	35.1	20.7	24.9	31.4	6.5
Snouffer School Rd #4 & Chesley Knoll Dr/Lewisberry Dr	172	11.9	11.6	7.3	1.4	17.0	9.9	5.7	11.9	16.3	3.9	19.4	10.2	4.7
Snouffer School Rd #4 & Flower Hill Way/Earhart Ct	174	3.9	10.7	1.7	1.2	4.4	3.0	3.2	34.2	34.4	10.5	16.4	29.7	3.3
Snouffer School Rd #4 & Cherry Laurel Ln/Mooney Dr	177	7.4	13.4	2.5	1.5	8.5	5.3	3.6	68.0	100.2	23.5	40.1	57.3	7.0
MD 355 & O'Neill Dr/Ramps from I-370	188	19.1	110.3	5.0			13.2	19.0	96.1		37.1	66.9	68.7	7.6
Muncaster Mill Rd #4 & Covenant Life Church	202	4.4		2.0	1.3	6.4	3.7					43.4		3.8
Midcounty Highway #1 & Blunt Rd	207													
Midcounty Highway #1 & Grassy Knoll Terr	208													
Midcounty Highway #1 & Gatlin Dr	210													
MD 355 & Ramp to WB I-370	219	0.0		0.0	0.0		0.0	0.0						
Montgomery Village Ave & Shadow Oak Dr/Arrow Head Rd	221	9.8	10.0	4.4	2.0	13.5	9.1	4.9	23.3	27.0	8.6	29.6	23.1	5.5
Snouffer School Rd #4 & Alliston Hollow Way/Webb Tract Access	227	2.9	6.9	2.5	1.6	3.8	2.2	1.3	35.4	0.0	8.6	26.7	0.0	3.8
Average Study Area Delay		38.0												
Average MD 355 Delay		28.4												

No-Build Scenario

SimTraffic Delay and MD 355 VISSIM Delay Results (sec/veh) by Movement

Year 2040 PM Peak Hour

Intersection Name	Node	Intersection	Northbound			Southbound			Eastbound			Westbound		
	ID	Overall	L	T	R	L	T	R	L	T	R	L	T	R
MD 355 #2 & Middlebrook Road	1	46.1	71.1	48.2	24.7	71.5	43.2	7.7	56.5	57.7	4.1	58.7	54.8	1.4
Minstrel Tune Way/Brandermill Dr & Middlebrook Road	3	3.5	20.1	0.0	0.0	18.6	0.0	7.4	4.7	1.3	0.6	0.0	1.7	0.8
MD 355 #2 & Gunners Branch Rd	5	27.3	21.6	30.8	23.0	31.0	15.2	14.5	61.6	65.0	4.4	59.8	55.5	19.8
MD 355 #2 & Germantown Rd	9	65.9	99.4	81.0	79.0	99.6	35.8	5.3	101.9	53.2	12.4	97.2	57.9	38.0
Watkins Mill Rd & Stedwick Rd	12	16.6	18.5	14.3	9.4	41.1	8.6	8.6	75.7	89.9	2.4	59.5	66.2	25.8
Midcounty Highway #1 & Germantown Rd/Watkins Mill Rd	13													
Apple Ridge Rd & Watkins Mill Rd	14	25.3	10.2	7.9	5.0	11.6	6.5	4.7	113.0	141.4	8.1	35.7	27.9	26.5
Watkins Mill Rd & Club House Rd	15	10.9		7.8	4.5	19.6	6.3					27.8		13.8
MD 355 & S Westland Dr	16	18.8	17.5	15.6	4.0	26.7	15.6	10.7	8.5	0.0	8.5	66.7	73.6	10.2
Travis Avenue & Watkins Mill Rd	23	7.3	6.1	7.0	2.4	6.1	2.1	3.6	8.2	10.2	4.4	5.5	9.0	6.1
MD 355 #2 & Shakespeare Blvd	25	14.9	17.9	11.5	7.5	22.9	8.3	1.1	58.6	59.3	2.0	60.3	57.1	26.2
MD 355 #2 & Milestone South	28	9.9	11.1	5.3			5.8	1.6	62.0		1.2			
MD 355 #2 & Milestone North/Henderson Corner Rd	30	38.4	95.9	24.7	9.8	74.9	43.6	12.3	101.5	68.3	6.1	60.5	59.0	0.5
MD 355 #2/MD 355 & MD 27/MD 27 #2	32	144.1	65.3	31.4	15.0	67.3	41.8	6.9	155.8	168.7	65.4	260.1	306.5	181.2
MD 355 & Shady Grove Rd	35	136.5	91.6	141.8	133.4	109.7	48.1	5.8	149.5	162.1	28.2	93.1	116.5	493.7
Henderson Corner Rd & MD 27 #2	36	87.6			94.3					13.3	11.2	123.9	170.5	
MD 27 #2/MD 27 #2 #3 #4 & Brink Rd/Brink Rd #3 #4	39	34.7	31.0	21.8	15.9	36.2	7.8	3.6	33.9	28.9	19.5	185.9	35.2	20.8
MD 355 #2 & Plummer Dr	54	7.5	15.2	6.3	7.4	25.1	4.9	25.1	55.1	42.8	8.3	58.4	51.2	13.3
MD 355 & W Deer Park Dr/E Deer Park Dr	59	18.4	38.8	9.4	7.3	32.3	13.8	12.9	67.7	67.7	44.1	65.7	79.2	30.2
MD 355 #2 & Professional Dr	61	14.2	19.0	9.4	7.4	38.9	15.1	10.8	72.1	60.5	9.6	64.8	79.9	21.5
MD 355 #2 & Spectrum Avenue/Travis Avenue	65	9.8	21.6	7.9	6.2	51.8	4.4	4.9	54.6	66.8	6.3	62.5	48.8	24.9
MD 355 #2 & Watkins Mill Rd	67	71.1	64.3	105.9	109.0	103.5	16.6	103.5	61.1	59.4	11.7	56.8	57.9	43.1
Russell Ave & Watkins Mill Rd	68	96.2	395.1		50.1					2.8	2.6	11.0	32.7	
MD 355 & Education Blvd	69	12.2	11.0	14.1	18.1	7.2	6.6	5.6	54.2	0.0	7.0	71.2	0.0	28.5
MD 355 & Chestnut St	72	24.1	35.1	25.6			15.7	4.4	60.8		14.7			
MD 355 & Gas Station/Odendhal Ave	75	41.5	43.4	48.3	43.3	72.7	11.4	8.8	70.1	74.5	31.9	73.0	97.9	61.0
MD 355 & Perry Pkwy/Lakeforest Blvd	77	113.0	100.1	74.0	51.8	65.3	47.8	43.4	273.4	125.1	103.3	167.1	325.9	651.8
Midcounty Highway & Woodfield Rd	81	65.2	53.2	94.2	14.9	88.9	104.5	3.8	91.2	68.6	1.8	81.6	76.0	7.2
MD 355 #2 & Lockheed Martin N/Christopher Ave	82	5.7	27.5	3.2	3.5	22.7	4.8	5.4	71.2	71.2	4.3	67.5	0.0	5.0
MD 355 #2 & Lockheed Martin S/IBM Entrance	83	18.9	47.7	3.9	3.0	18.8	19.7	18.5	54.5	0.0	1.0	244.1	254.6	165.4
Russell Ave & Christopher Ave	85	128.0	200.9	210.7	189.8	141.9	75.6	58.5	168.0	11.5	6.0	44.5	110.4	150.8
MD 355/MD 355 #2 & Quince Orchard Rd/Montgomery Village Ave #2	88	66.6	157.1	176.4	127.9	96.8	55.4	20.2	63.6	24.7	6.0		50.3	28.6
MD 355 & Summit Ave	90	16.4	22.7	15.9	13.1	18.3	7.5	0.0	85.0	84.0	14.6	54.8	63.5	42.8
Russell Ave & Montgomery Village Ave #2	91	38.1	84.9	102.0	71.3	62.3	41.4	9.3	121.1	30.5	6.1	34.3	11.9	31.1
Midcounty Highway & Washington Grove Ln	92	43.6	34.3	30.2	7.9	84.2	26.1	3.8	74.7	104.6	91.9	90.9	51.5	4.7
Midcounty Highway & Miller Fall Rd	93	4.0	5.9	0.9	0.2	23.7	0.6	0.1	101.9	119.7	30.6	113.9	144.7	63.0
Shady Grove Rd & Midcounty Highway	94	41.7				259.4		7.0	58.1	12.6			64.2	4.1
Lost Knife Rd/Christopher Ave & Montgomery Village Ave #2	98	32.0	60.7	60.0	27.8	61.2	40.9	2.1	41.8	23.0	33.7	67.2	18.6	16.7
Midcounty Highway #1 #2/Midcounty Highway #1 & Montgomery Village Ave #2/Montgomery V	99	37.0	45.1		14.3					61.5	13.0	58.5	16.3	
Goshen Rd/Goshen Rd #3 & Midcounty Highway #1 #2/Midcounty Highway #1 #2 #3	102	117.5	174.1	193.7	178.0	59.2	38.5	22.6	155.6	84.0	12.2	96.9	93.9	64.1
Lakeforest Mall & Montgomery Village Ave #2	105	6.0	62.8	0.0	3.0	63.8		1.7	47.9	6.7	6.1		1.5	1.8
Midcounty Highway #1 & Middlebrook Road	107													
Midcounty Highway #1 & Watkins Mill Rd	108													
Brink Rd #3 #4/Wightman Rd #3 #4 & Brink Rd	109	19.2					0.0	19.5	34.1	7.3			6.9	4.8
Wightman Rd #3 #4 & Warfield Rd	110	8.2					0.0	12.5	12.6	7.0			7.3	7.5
Midcounty Highway #1 & Brink Rd #3 #4	115													
Montgomery Village Ave/Pleasant Ridge Dr & Wightman Rd #3 #4	116	21.0	22.0	20.0	6.8	39.3	39.5	1.9	55.6	32.5	10.5	45.1	17.7	6.9
Goshen Rd #3/Goshen Rd & Wightman Rd #3 #4/Snouffer School Rd #4	118	44.1	63.9	34.3	10.3	65.9	35.9	34.2	55.0	68.7	13.1	59.4	86.9	17.5
Montgomery Village Ave & Apple Ridge Rd	119	13.4	16.4	5.9	4.1	8.1	4.5	2.2	32.7	2.4	4.8	0.0	24.3	4.7
Scenery Dr & Middlebrook Road	121	6.0	14.1	9.9	0.0	0.0	17.1	8.0	3.7	2.0	1.0	0.0	1.4	0.0
Muncaster Mill Rd #4/Snouffer School Rd #4 & Woodfield Rd	126	38.3	17.8	20.4	3.2	16.7	14.0	2.3	30.1	82.3	1.7	30.9	87.4	4.5
MD 27 #2 #3 #4/MD 27 #1 #2 #3 #4 & Snowden Farm Pkwy/Midcounty Highway #1	128	17.9	37.0	8.3			19.5	11.9	45.0		4.7			
Snouffer School Rd #4 & Centerway Rd	130	7.3	9.1	2.8			9.2	6.9	41.7		7.0			
Muncaster Mill Rd #4 & Shady Grove Rd/Airpark Rd	131	152.0	579.0	197.7	114.1	53.9	31.3	7.7	344.9	30.8	45.4	708.8	9.7	3.9
Knollcross Ct/Madrigal Dr & Middlebrook Road	137	1.4	3.9	0.0	0.0	0.0	0.0	0.0	1.3	0.7	0.4	0.0	0.1	0.0
Montgomery Village Ave & Club House Rd	140	22.9	25.1	9.4	5.5	20.1	30.5	18.7	45.0	22.8	6.0	33.1	24.6	4.5
Montgomery Village Ave & Village Center/Centerway Rd	142	24.2	14.2	13.9	14.1	16.4	5.2	2.5	140.1	129.9	39.2	40.7	44.2	27.1
Montgomery Village Ave & Stedwick Rd	143	10.4	17.1	10.0			5.9	4.4	39.1		8.0			
Montgomery Village Ave & Stewartown Rd	145	0.0		0.0	0.0	0.0	0.0					0.0		0.0
Goshen Rd & East Village Ave	154	9.9		7.2	8.5	15.8	5.9					26.5		2.2
Goshen Rd #3 & Emory Grove Rd	162	13.6	12.5	8.0	9.8	28.4	6.5	3.7	46.6	72.0	7.5	57.1	54.5	11.0
Goshen Rd #3 & Centerway Rd	163	24.2	29.5	19.0	18.2	64.3	16.6	12.5	78.4	21.1	3.6	37.8	19.1	14.8
Goshen Rd #3 & Stewartown Rd/Trams Way	165	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
Goshen Rd #3 & Rothbury Dr/Green Run Way	168	15.1	30.5	9.7	11.3	43.7	14.0	13.2	26.1	30.3	4.8	16.4	20.5	8.0
Snouffer School Rd #4 & Chesley Knoll Dr/Lewisberry Dr	172	7.5	5.8	3.9	3.3	17.8	5.1	3.9	36.0	36.5	6.0	36.4	41.0	5.6
Snouffer School Rd #4 & Flower Hill Way/Earhart Ct	174	4.2	6.0	3.7	3.3	7.4	2.5	2.4	24.5	30.7	5.2	24.1	42.0	6.7
Snouffer School Rd #4 & Cherry Laurel Ln/Mooney Dr	177	6.4	7.7	3.4	2.6	12.8	4.8	4.0	46.6	0.0	18.7	38.3	0.0	6.9
MD 355 & O'Neill Dr/Ramps from I-370	188	13.5	78.2	5.3			14.3	16.1	75.7		23.7	67.2	0.0	4.6
Muncaster Mill Rd #4 & Covenant Life Church	202	4.2		2.9	2.3	7.6	2.5					26.3		7.5
Midcounty Highway #1 & Blunt Rd	207													
Midcounty Highway #1 & Grassy Knoll Terr	208													
Midcounty Highway #1 & Gatlin Dr	210													
MD 355 & Ramp to WB I-370	219	0.0		0.0	0.0		0.0	0.0						
Montgomery Village Ave & Shadow Oak Dr/Arrow Head Rd	221	10.4	8.7	7.2	4.9	12.9	5.4	4.6	39.8	34.7	7.3	39.0	33.2	10.0
Snouffer School Rd #4 & Alliston Hollow Way/Webb Tract Access	227	7.0	7.2	4.8	3.5	6.2	3.0	1.9	25.0	0.0	7.5	35.0	0.0	5.1
Average Study Area Delay		32.6												
Average MD 355 Delay		38.9												

No-Build Scenario
Arterial Level of Service: SB #2 (VISSIM for MD 355)
Year 2040 AM Peak

Cross Street	Node	Delay (s/veh)	Travel Time (s)	Distance (mi)	Arterial Speed (mph)
	34	2.2	17.7	0.2	39
Snowden Farm Pkwy	128	15.4	33.8	0.2	25
	47	13.1	36.9	0.3	29
Brink Rd	39	18.1	26.7	0.1	15
Henderson Corner Rd	36	14.8	46.5	0.4	30
MD 355	32	43.9	60.4	0.2	10
MD 124-Quince Orchar	88	348.1	692.1	4.3	22
		15.4	24.6	0.1	17
Russell Ave	91	77.3	83.6	0.1	4
		34.5	40.8	0.1	7
Lakeforest Mall	105	107.1	120.4	0.2	5
		30.9	36.0	0.1	6
Lost Knife Rd	98	47.2	52.1	0.1	5
MD 124-Midcounty Hig	99	105.4	123.3	0.2	6
	211	72.6	87.4	0.1	6
	166	304.0	329.9	0.3	4
Goshen Rd	102	102.5	109.3	0.1	3
	164	7.3	19.2	0.1	26
Total		**1,359.8**	**1,940.7**	**7.2**	**13**

No-Build Scenario
Arterial Level of Service: NB #2 (VISSIM for MD 355)
Year 2040 PM Peak

Cross Street	Node	Delay (s/veh)	Travel Time (s)	Distance (mi)	Arterial Speed (mph)
	164	105.4	396.9	0.2	5
Goshen Rd #3	102	93.9	104.4	0.1	5
	166	8.1	16.2	0.1	21
	211	6.9	34.3	0.3	36
Montgomery Village A	99	45.1	59.7	0.1	9
Christopher Ave	98	17.7	38.7	0.2	18
	149	3.0	8.7	0.1	28
Lakeforest Mall	105	1.5	6.6	0.1	35
	74	3.2	17.2	0.2	36
Russell Ave	91	11.9	17.8	0.1	15
	46	3.6	10.5	0.1	29
MD 355 #2	88	56.8	66.0	0.1	6
MD 27-Ridge Rd #2	32	452.0	796.0	4.3	19
Henderson Corner Rd	36	12.7	30.9	0.2	19
Brink Rd #3 #4	39	22.5	53.8	0.4	26
	47	6.3	15.5	0.1	26
Snowden Farm Pkwy	128	8.3	32.0	0.3	33
	34	7.0	25.7	0.2	33
	49	1.6	17.1	0.2	41
Total		**867.5**	**1,748.0**	**7.4**	**15**

No-Build Scenario
Arterial Level of Service: EB #3
Year 2040 AM Peak

Cross Street	Node	Delay (s/veh)	Travel Time (s)	Distance (mi)	Arterial Speed (mph)
	34	2.2	17.7	0.2	39
Snowden Farm Pkwy	128	15.4	33.8	0.2	25
	47	13.1	36.9	0.3	29
Brink Rd	39	28.8	41.1	0.1	10
	48	2.3	23.9	0.2	28
	41	1.2	14.7	0.1	37
	115	1.1	12.6	0.1	36
	42	2.0	20.8	0.2	36
	97	14.0	119.6	1.2	36
Brink Rd	109	4.8	30.8	0.3	34
Warfield Rd	110	7.8	43.2	0.3	29
Montgomery Village A	116	37.3	104.2	0.7	23
	10	4.6	26.8	0.2	28
Goshen Rd #3	118	22.4	41.9	0.2	13
Rothbury Dr	168	12.3	33.1	0.2	20
Stewartown Rd	165	3.1	29.2	0.3	31
Centerway Rd	163	23.5	111.0	0.9	28
Emory Grove Rd	162	299.4	359.5	0.7	7
MD 124-Midcounty Hig	102	151.4	169.2	0.2	3
	164	2.2	19.7	0.1	26
Total		**648.9**	**1,289.7**	**6.7**	**19**

No-Build Scenario
Arterial Level of Service: WB #3
Year 2040 PM Peak

Cross Street	Node	Delay (s/veh)	Travel Time (s)	Distance (mi)	Arterial Speed (mph)
	164	105.4	396.9	0.2	5
Goshen Rd #3	102	64.1	80.4	0.1	6
Emory Grove Rd	162	16.2	35.3	0.2	16
Centerway Rd	163	18.7	86.5	0.7	28
Trams Way	165	9.5	96.8	0.9	33
Green Run Way	168	9.7	35.9	0.3	26
Snouffer School Rd #	118	63.4	83.5	0.2	8
	10	1.6	20.6	0.2	26
Pleasant Ridge Dr	116	17.7	39.2	0.2	20
Warfield Rd	110	8.2	74.0	0.7	33
Brink Rd	109	7.4	44.2	0.3	28
	97	3.7	29.9	0.3	35
	42	11.9	118.0	1.2	37
	115	2.5	21.3	0.2	35
	41	2.0	13.5	0.1	34
	48	13.9	27.4	0.1	20
MD 27-Ridge Rd #2 #3	39	20.8	41.7	0.2	16
	47	0.8	13.8	0.1	29
Snowden Farm Pkwy	128	8.3	32.0	0.3	33
	34	7.0	25.7	0.2	33
	49	1.6	17.1	0.2	41
Total		**394.4**	**1,333.7**	**6.9**	**19**

No-Build Scenario
Arterial Level of Service: SB #4
Year 2040 AM Peak

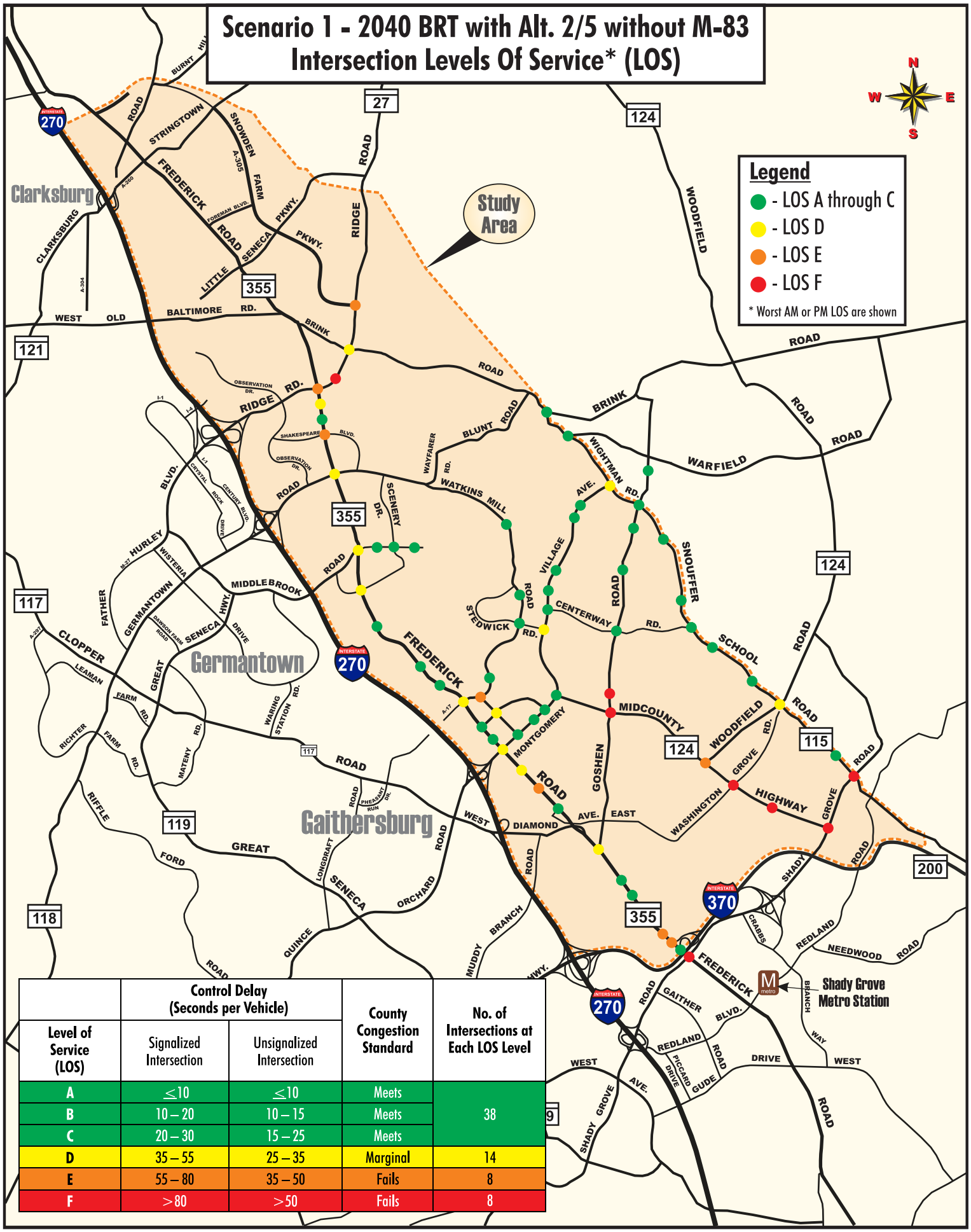
Cross Street	Node	Delay (s/veh)	Travel Time (s)	Distance (mi)	Arterial Speed (mph)
	34	2.2	17.7	0.2	39
Snowden Farm Pkwy	128	15.4	33.8	0.2	25
	47	13.1	36.9	0.3	29
Brink Rd	39	28.8	41.1	0.1	10
	48	2.3	23.9	0.2	28
	41	1.2	14.7	0.1	37
	115	1.1	12.6	0.1	36
	42	2.0	20.8	0.2	36
	97	14.0	119.6	1.2	36
Brink Rd	109	4.8	30.8	0.3	34
Warfield Rd	110	7.8	43.2	0.3	29
Montgomery Village A	116	37.3	104.2	0.7	23
	10	4.6	26.8	0.2	28
Goshen Rd #3	118	85.7	100.4	0.2	5
Chesley Knoll Dr	172	9.2	47.7	0.4	32
	181	2.4	24.9	0.3	36
Alliston Hollow Way	227	2.2	24.0	0.2	36
Centerway Rd	130	11.1	55.8	0.5	32
Flower Hill Way	174	3.8	30.4	0.3	35
Cherry Laurel Ln	177	5.3	52.9	0.5	36
	205	3.1	24.9	0.2	35
MD 124-Woodfield Rd	126	18.3	30.5	0.1	17
	203	10.3	26.6	0.2	24
Covenant Life Church	202	3.7	41.1	0.4	36
	192	5.0	36.4	0.3	34
Shady Grove Rd	131	12.9	21.0	0.1	16
		307.6	**1,042.7**	**7.8**	**27**

No-Build Scenario
Arterial Level of Service: WB #4
Year 2040 PM Peak

Cross Street	Node	Delay (s/veh)	Travel Time (s)	Distance (mi)	Arterial Speed (mph)
Airpark Rd	131	197.7	807.7	0.3	4
	192	5.0	14.1	0.1	24
Covenant Life Church	202	2.9	33.7	0.3	37
	203	3.8	41.6	0.4	36
MD 124-Woodfield Rd	126	20.4	35.6	0.2	18
	205	4.3	17.5	0.1	29
Mooney Dr	177	3.4	25.0	0.2	35
Earhart Ct	174	3.8	50.9	0.5	38
Centerway Rd	130	2.9	29.5	0.3	36
Webb Tract Access	227	4.7	49.6	0.5	37
	181	1.9	23.9	0.2	37
Lewisberry Dr	172	3.9	26.5	0.3	34
Goshen Rd	118	87.6	124.5	0.4	12
	10	4.1	20.0	0.2	27
Pleasant Ridge Dr	116	17.7	39.2	0.2	20
Warfield Rd	110	8.2	74.0	0.7	33
Brink Rd	109	7.4	44.2	0.3	28
	97	3.7	29.9	0.3	35
	42	11.9	118.0	1.2	37
	115	2.5	21.3	0.2	35
	41	2.0	13.5	0.1	34
	48	13.9	27.4	0.1	20
MD 27-Ridge Rd #2 #3	39	20.8	41.7	0.2	16
	47	0.8	13.8	0.1	29
Snowden Farm Pkwy	128	8.3	32.0	0.3	33
	34	7.0	25.7	0.2	33
	49	1.6	17.1	0.2	41
Total		**452.2**	**1,797.9**	**8.1**	**16**

Scenario 1
BRT with Alternative 2 & 5 Improvements

Scenario 1 - 2040 BRT with Alt. 2/5 without M-83
Intersection Levels Of Service* (LOS)



Level of Service (LOS)	Control Delay (Seconds per Vehicle)		County Congestion Standard	No. of Intersections at Each LOS Level
	Signalized Intersection	Unsignalized Intersection		
A	≤10	≤10	Meets	38
B	10 – 20	10 – 15	Meets	
C	20 – 30	15 – 25	Meets	
D	35 – 55	25 – 35	Marginal	14
E	55 – 80	35 – 50	Fails	8
F	>80	>50	Fails	8

Scenario 1 - BRT with Alternatives 2 & 5 and No M-83

SimTraffic Delay and MD 355 VISSIM Delay Results (sec/veh) by Movement

Year 2040 AM Peak Hour

Intersection Name	Node	Intersection	Northbound			Southbound			Eastbound			Westbound		
	ID	Overall	L	T	R	L	T	R	L	T	R	L	T	R
MD 355 #2 & Middlebrook Road	1	40.4	80.3	21.6	4.9	103.0	31.6	15.0	55.2	62.2	7.3	67.7	59.3	2.0
Minstrel Tune Way/Brandermill Dr & Middlebrook Road	3	3.7	12.0	0.0	0.0	0.0	0.0	7.7	4.2	1.1	0.4	0.0	1.6	0.6
MD 355 #2 & Gunners Branch Rd	5	23.4	76.5	22.6	9.9	79.8	14.1	10.4	74.5	43.7	9.3	82.6	53.8	57.3
MD 355 #2 & Germantown Rd	9	30.4	83.9	13.0	4.2	87.4	18.5	6.5	82.3	51.4	10.0	69.9	59.5	55.4
Watkins Mill Rd & Stedwick Rd	12	14.3	86.2	7.0	4.0	75.4	11.1	6.4	63.6	78.2	25.5	62.9	82.4	7.2
Midcounty Highway #1 & Germantown Rd/Watkins Mill Rd	13													
Apple Ridge Rd & Watkins Mill Rd	14	21.9	15.6	12.9	9.8	13.4	10.2	7.6	97.9	97.6	10.3	26.4	6.1	9.0
Watkins Mill Rd & Club House Rd	15	11.6		7.7	4.8	21.7	5.8					33.9		12.3
MD 355 & S Westland Dr	16	70.7	97.9	3.9	2.5	193.9	145.5	135.5	16.8	64.4	16.8	67.2	59.5	9.2
Travis Avenue & Watkins Mill Rd	23	8.9	7.6	7.4	3.3	6.9	8.7	5.1	7.7	9.9	4.8	8.1	10.8	6.2
MD 355 #2 & Shakespeare Blvd	25	24.2	136.5	13.4	3.7	115.5	13.7	5.7	56.8	52.5	1.6	61.7	51.7	13.5
MD 355 #2 & Milestone South	28	5.2	75.9	1.6			2.2	1.7	74.1		5.1			
MD 355 #2 & Milestone North/Henderson Corner Rd	30	14.2	78.6	8.4	2.4	85.0	4.3	2.6	70.7	72.3	4.9	64.6	67.5	0.4
MD 355 #2/MD 355 & MD 27/MD 27 #2	32	60.0	131.3	48.5	4.7	101.3	75.2	29.5	65.0	37.1	3.5	84.0	67.2	42.9
MD 355 & Shady Grove Rd	35	65.2	284.3	46.4	5.7	99.7	96.1	39.1	51.8	64.7	38.2	60.8	67.8	23.2
Henderson Corner Rd & MD 27 #2	36	13.5			31.6					12.1	13.0	38.1	10.7	
MD 27 #2/MD 27 #2 #3 #4 & Brink Rd/Brink Rd #3 #4	39	54.0	53.0	15.4	11.7	23.6	13.4	4.7	235.8	278.3	282.5	253.7	73.8	16.6
MD 355 #2 & Plummer Dr	54	12.9	65.3	8.1	5.5	66.4	12.4	66.4	37.9	44.3	15.5	45.7	42.7	9.4
MD 355 & W Deer Park Dr/E Deer Park Dr	59	27.9	96.8	6.3	3.7	92.7	34.3	33.3	59.7	66.6	46.2	63.0	51.8	12.9
MD 355 #2 & Professional Dr	61	17.7	0.0	0.0	72.0	5.1	175.4	8.0	66.9	11.4	30.9	7.2	9.2	0.0
MD 355 #2 & Spectrum Avenue/Travis Avenue	65	12.7	58.0	15.3	5.5	81.2	6.8	13.2	65.0	61.3	14.2	61.0	52.0	9.3
MD 355 #2 & Watkins Mill Rd	67	34.7	0.0	10.0	91.8	125.6	27.7	13.0	73.8	70.7	12.5	57.2	57.6	10.1
Russell Ave & Watkins Mill Rd	68	4.0	21.0		5.4					3.6	4.8	7.9	2.9	
MD 355 & Education Blvd	69	15.2	61.3	13.3	6.5	79.2	12.0	11.0	52.2	50.7	12.0	70.3	63.4	19.3
MD 355 & Chestnut St	72	18.1	83.2	17.6			14.1	6.4	64.4		13.0			
MD 355 & Gas Station/Odendhal Ave	75	47.1	121.9	45.0	40.3	75.6	23.7	26.7	75.4	79.0	22.3	97.3	100.1	96.3
MD 355 & Perry Pkwy/Lakeforest Blvd	77	35.0	94.9	15.2	9.0	95.1	18.0	12.2	62.2	53.0	19.3	64.5	62.6	35.8
Midcounty Highway & Woodfield Rd	81	63.8	53.9	148.6	3.9	44.6	77.6	11.4	71.7	54.5	2.2	66.3	43.2	3.4
MD 355 #2 & Lockheed Martin N/Christopher Ave	82	12.2	53.5	8.2	6.8	74.3	9.6	9.3	78.1	78.1	0.6	80.7	75.0	30.8
MD 355 #2 & Lockheed Martin S/IBM Entrance	83	18.9	47.7	3.9	3.0	18.8	19.7	18.5	54.5	0.0	1.0	244.1	254.6	165.4
Russell Ave & Christopher Ave	85	7.9	11.7	6.9	5.0	10.6	4.4	2.9	14.3	13.1	5.7	13.4	13.8	3.8
MD 355/MD 355 #2 & Quince Orchard Rd/Montgomery Village Ave #2	88	49.2	376.2	80.9	12.1	99.2	41.5	12.1	71.5	21.1	5.4		35.0	19.8
MD 355 & Summit Ave	90	35.0	88.7	40.3	14.0	82.4	27.0	25.8	60.8	63.7	25.7	45.0	43.6	44.9
Russell Ave & Montgomery Village Ave #2	91	23.2	35.1	43.1	2.3	41.0	22.3	5.1	63.7	38.2	10.1	25.9	10.2	4.1
Midcounty Highway & Washington Grove Ln	92	151.9	57.8	21.5	4.0	42.9	58.9	18.5	102.5	201.0	174.5	452.2	213.4	142.5
Midcounty Highway & Miller Fall Rd	93	100.0	5.9	0.4	0.2	11.7	29.5	7.1	328.2	165.2	148.3	2086.7	1963.5	1944.5
Shady Grove Rd & Midcounty Highway	94	182.1				47.0		115.4	677.0	29.7			202.1	126.7
Lost Knife Rd/Christopher Ave & Montgomery Village Ave #2	98	33.0	41.9	42.8	5.0	107.3	40.9	3.2	52.8	30.9	5.8	53.4	25.0	10.3
Midcounty Highway #1 #2/Midcounty Highway #1 & Montgomery Village Ave #2/Montgomery	99	24.2	34.5		3.4					38.9	35.4	20.5	7.4	
Goshen Rd/Goshen Rd #3 & Midcounty Highway #1 #2/Midcounty Highway #1 #2 #3	102	135.1	516.4	40.6	15.5	67.1	90.9	51.8	103.2	167.5	67.8	106.3	124.4	5.5
Lakeforest Mall & Montgomery Village Ave #2	105	11.7	43.1	0.0	2.2	0.0		1.5	43.2	12.8	11.2		9.5	7.2
Midcounty Highway #1 & Middlebrook Road	107													
Midcounty Highway #1 & Watkins Mill Rd	108													
Brink Rd #3 #4/Wightman Rd #3 #4 & Brink Rd	109	11.7					68.7	10.0	13.6	4.5			5.1	3.2
Wightman Rd #3 #4 & Warfield Rd	110	6.1					15.3	6.1	7.1	4.6			7.8	6.6
Midcounty Highway #1 & Brink Rd #3 #4	115													
Montgomery Village Ave/Pleasant Ridge Dr & Wightman Rd #3 #4	116	35.6	55.1	49.2	3.6	41.8	47.7	2.4	63.2	39.4	17.6	48.7	13.2	4.0
Goshen Rd #3/Goshen Rd & Wightman Rd #3 #4/Snouffer School Rd #4	118	32.5	44.1	14.9	4.2	44.9	20.1	19.3	30.3	82.7	16.7	43.2	101.7	5.5
Montgomery Village Ave & Apple Ridge Rd	119	7.7	13.7	3.1	1.3	6.0	4.6	3.3	35.4	2.3	5.8	44.5	39.3	24.2
Scenery Dr & Middlebrook Road	121	5.5	8.3	8.6	0.0	0.0	11.7	6.2	4.2	0.2	0.2	0.0	1.5	0.0
Muncaster Mill Rd #4/Snouffer School Rd #4 & Woodfield Rd	126	37.2	20.7	13.1	2.1	15.6	17.6	2.6	27.0	87.2	2.2	30.8	82.4	2.6
MD 27 #2 #3 #4/MD 27 #1 #2 #3 #4 & Snowden Farm Pkwy/Midcounty Highway #1	128	76.3	37.0	4.2			16.5	7.4	975.8		87.0			
Snouffer School Rd #4 & Centerway Rd	130	9.7	6.9	1.7			11.5	8.7	24.5		11.4			
Muncaster Mill Rd #4 & Shady Grove Rd/Airpark Rd	131	113.7	308.9	92.1	44.1	19.1	12.7	26.8	969.2	33.4	8.6	88.5	12.6	8.5
Knollcross Ct/Madrigal Dr & Middlebrook Road	137	2.1	4.2	0.0	0.0	0.0	0.0	2.8	1.0	0.5	0.1	0.0	0.3	0.0
Montgomery Village Ave & Club House Rd	140	16.8	23.3	4.2	2.4	8.9	15.3	11.6	35.9	30.7	8.2	40.2	28.2	4.4
Montgomery Village Ave & Village Center/Centerway Rd	142	22.1	22.0	9.9	4.7	15.1	9.5	3.3	264.0	213.1	49.2	26.2	25.2	13.7
Montgomery Village Ave & Stedwick Rd	143	36.1	34.9	6.2			46.8	40.0	33.8		27.7			
Montgomery Village Ave & Stewartown Rd	145	9.8		1.8	1.2	3.9	1.8					33.8		5.3
Goshen Rd & East Village Ave	154	11.9		9.8	5.3	12.1	8.2					28.2		2.2
Goshen Rd #3 & Emory Grove Rd	162	189.0	38.7	15.7	4.5	239.1	291.8	272.7	21.5	14.9	16.9	82.3	15.9	12.7
Goshen Rd #3 & Centerway Rd	163	33.2	320.2	12.3	10.3	17.3	28.9	27.6	29.0	21.4	10.0	45.6	15.5	7.7
Goshen Rd #3 & Stewartown Rd/Trams Way	165	16.2	24.3	3.3	3.6	6.0	5.9	6.3	261.4	77.9	23.1	0.0	0.0	0.0
Goshen Rd #3 & Rothbury Dr/Green Run Way	168	11.3	43.1	5.9	4.0	43.5	8.2	8.1	26.5	29.4	18.8	26.6	24.9	5.2
Snouffer School Rd #4 & Chesley Knoll Dr/Lewisberry Dr	172	10.4	14.8	7.2	1.7	16.0	10.3	4.7	7.0	10.2	3.5	14.9	9.4	4.6
Snouffer School Rd #4 & Flower Hill Way/Earhart Ct	174	3.7	8.1	1.9	1.7	4.3	3.2	2.9	24.7	17.7	7.5	16.5	31.8	3.7
Snouffer School Rd #4 & Cherry Laurel Ln/Mooney Dr	177	6.4	10.8	3.2	1.8	7.2	6.3	4.9	30.5	26.6	10.7	17.2	34.1	4.5
MD 355 & O'Neill Dr/Ramps from I-370	188	69.9	126.1	3.4			124.0	145.5	143.2		95.7	86.7	79.7	10.6
Muncaster Mill Rd #4 & Covenant Life Church	202	4.2		2.0	1.3	6.1	3.6					36.8		3.9
Midcounty Highway #1 & Blunt Rd	207													
Midcounty Highway #1 & Grassy Knoll Terr	208													
Midcounty Highway #1 & Gatlin Dr	210													
MD 355 & Ramp to WB I-370	219	21.9		9.7	9.8		29.9	21.7						
Montgomery Village Ave & Shadow Oak Dr/Arrow Head Rd	221	11.6	6.2	4.6	1.9	15.7	10.4	6.8	30.3	27.3	8.4	34.3	32.4	4.0
Snouffer School Rd #4 & Alliston Hollow Way/Webb Tract Access	227	3.5	7.5	3.3	2.0	5.0	3.3	2.7	15.1	0.0	4.7	7.6	0.0	2.7

Average Study Area Delay 34.6

Average MD 355 Delay 31.8

Scenario 1 - BRT with Alternatives 2 & 5 and No M-83
SimTraffic Delay and MD 355 VISSIM Delay Results (sec/veh) by Movement
Year 2040 PM Peak Hour

Intersection Name	Node	Intersection	Northbound			Southbound			Eastbound			Westbound		
	ID	Overall	L	T	R	L	T	R	L	T	R	L	T	R
MD 355 #2 & Middlebrook Road	1	38.5	45.5	9.0	31.4	93.0	58.5	7.9	91.5	56.7	4.7	60.7	56.8	2.0
Minstrel Tune Way/Brandermill Dr & Middlebrook Road	3	2.8	15.8	0.0	0.0	14.9	0.0	4.3	5.2	1.1	0.4	0.0	1.4	0.7
MD 355 #2 & Gunners Branch Rd	5	43.4	80.6	29.2	24.9	79.3	61.2	58.9	92.0	45.3	2.5	44.5	45.1	14.9
MD 355 #2 & Germantown Rd	9	47.3	129.3	27.1	7.5	78.0	23.7	2.6	105.1	45.3	6.9	66.5	58.9	44.4
Watkins Mill Rd & Stedwick Rd	12	19.0	70.6	15.8	17.2	67.6	8.1	5.2	61.9	79.9	9.4	67.1	56.4	16.2
Midcounty Highway #1 & Germantown Rd/Watkins Mill Rd	13													
Apple Ridge Rd & Watkins Mill Rd	14	23.9	12.3	9.5	6.5	14.7	7.4	5.5	146.8	140.8	7.5	31.2	24.6	22.3
Watkins Mill Rd & Club House Rd	15	13.8		10.8	8.1	27.8	8.8					20.2		16.9
MD 355 & S Westland Dr	16	28.7	83.9	27.4	13.4	65.8	19.9	13.3	71.7	0.0	71.7	66.3	65.8	63.9
Travis Avenue & Watkins Mill Rd	23	8.1	6.4	7.7	2.9	7.2	2.0	4.1	9.4	11.1	7.4	6.1	9.2	5.3
MD 355 #2 & Shakespeare Blvd	25	55.5	201.9	53.3	28.1	70.4	20.1	5.8	58.2	56.7	2.1	63.6	55.1	24.2
MD 355 #2 & Milestone South	28	21.2	79.8	6.4			22.8	6.6	63.3		1.3			
MD 355 #2 & Milestone North/Henderson Corner Rd	30	42.7	89.8	30.7	13.6	68.2	28.4	7.9	95.8	81.1	91.2	63.1	65.7	0.6
MD 355 #2/MD 355 & MD 27/MD 27 #2	32	51.7	68.8	56.5	22.9	78.1	60.4	7.4	53.9	34.9	6.2	78.7	89.1	26.5
MD 355 & Shady Grove Rd	35	104.1	64.5	76.8	20.6	93.4	46.0	5.1	178.0	189.6	31.3	68.9	88.0	252.8
Henderson Corner Rd & MD 27 #2	36	94.0			71.3					16.3	13.2	128.3	202.8	
MD 27 #2/MD 27 #2 #3 #4 & Brink Rd/Brink Rd #3 #4	39	33.9	66.6	28.5	18.7	28.4	10.5	5.7	64.3	120.0	98.7	91.7	53.8	20.4
MD 355 #2 & Plummer Dr	54	19.7	107.3	13.8	19.9	50.0	20.0	50.0	67.0	53.5	12.3	63.5	69.2	20.5
MD 355 & W Deer Park Dr/E Deer Park Dr	59	27.9	67.0	20.4	16.8	93.6	23.5	20.8	61.8	63.1	33.9	73.8	41.8	18.9
MD 355 #2 & Professional Dr	61	17.9	92.6	13.1	5.4	95.9	12.3	3.7	72.5	65.1	11.2	63.2	83.7	17.7
MD 355 #2 & Spectrum Avenue/Travis Avenue	65	13.7	91.2	11.1	7.6	77.7	6.6	3.6	60.3	68.6	7.2	64.4	56.7	26.8
MD 355 #2 & Watkins Mill Rd	67	40.5	68.7	32.1	9.1	125.1	43.8	14.8	65.6	62.0	12.8	59.0	60.4	30.1
Russell Ave & Watkins Mill Rd	68	59.3	239.7		29.5					3.9	4.1	10.0	2.9	
MD 355 & Education Blvd	69	14.3	90.4	12.1	13.7	91.1	11.2	10.2	53.8	45.4	12.1	66.5	0.0	70.0
MD 355 & Chestnut St	72	31.9	98.2	30.7			24.5	9.5	61.4		50.7			
MD 355 & Gas Station/Odendhal Ave	75	56.3	138.3	56.3	53.6	112.8	36.3	33.0	82.3	81.6	72.3	83.5	83.6	74.7
MD 355 & Perry Pkwy/Lakeforest Blvd	77	42.7	92.3	23.0	19.0	62.6	37.9	33.5	62.5	63.2	41.6	65.2	69.3	52.8
Midcounty Highway & Woodfield Rd	81	61.3	56.9	98.6	16.8	75.3	72.3	2.7	140.0	43.3	1.8	64.0	44.4	6.3
MD 355 #2 & Lockheed Martin N/Christopher Ave	82	8.6	63.3	4.4	3.2	71.3	6.9	8.9	84.8	84.8	16.4	68.0	0.0	4.8
MD 355 #2 & Lockheed Martin S/IBM Entrance	83	18.9	47.7	3.9	3.0	18.8	19.7	18.5	54.5	0.0	1.0	244.1	254.6	165.4
Russell Ave & Christopher Ave	85	41.9	67.5	67.0	44.4	41.8	9.3	7.1	23.0	11.8	6.3	22.0	45.9	56.5
MD 355/MD 355 #2 & Quince Orchard Rd/Montgomery Village Ave #2	88	36.8	58.1	42.8	16.0	99.6	48.1	15.7	65.2	25.1	5.1		49.7	23.2
MD 355 & Summit Ave	90	25.8	90.6	28.0	21.2	61.8	15.4	10.9	66.0	78.2	11.1	54.7	61.4	41.3
Russell Ave & Montgomery Village Ave #2	91	30.2	28.9	37.8	16.0	35.1	35.2	7.6	64.1	44.3	11.6	36.5	19.4	4.6
Midcounty Highway & Washington Grove Ln	92	43.8	35.5	38.8	11.7	66.1	26.4	3.0	59.2	89.9	76.2	76.8	45.4	8.3
Midcounty Highway & Miller Fall Rd	93	2.7	5.3	0.8	0.2	24.7	0.5	0.1	42.2	74.6	13.2	77.3	69.0	28.6
Shady Grove Rd & Midcounty Highway	94	38.6				233.6		6.0	51.7	13.1			61.6	4.0
Lost Knife Rd/Christopher Ave & Montgomery Village Ave #2	98	29.3	45.2	45.2	16.0	44.1	29.8	2.3	58.6	31.5	6.0	54.5	23.1	8.7
Midcounty Highway #1 #2/Midcounty Highway #1 & Montgomery Village Ave #2/Montgomery	99	28.7	36.3		11.2					45.5	15.2	30.1	8.6	
Goshen Rd/Goshen Rd #3 & Midcounty Highway #1 #2/Midcounty Highway #1 #2 #3	102	53.7	37.2	34.2	6.1	42.2	21.3	10.6	41.9	121.8	12.4	38.7	88.2	26.7
Lakeforest Mall & Montgomery Village Ave #2	105	9.2	48.1	0.0	3.0	48.2		1.8	54.5	11.5	12.1		4.4	5.3
Midcounty Highway #1 & Middlebrook Road	107													
Midcounty Highway #1 & Watkins Mill Rd	108													
Brink Rd #3 #4/Wightman Rd #3 #4 & Brink Rd	109	18.3					213.6	18.2	31.6	7.9			6.5	4.4
Wightman Rd #3 #4 & Warfield Rd	110	5.5					13.7	6.0	6.2	3.7			6.3	5.0
Midcounty Highway #1 & Brink Rd #3 #4	115													
Montgomery Village Ave/Pleasant Ridge Dr & Wightman Rd #3 #4	116	19.8	36.4	36.5	6.7	44.6	44.0	2.2	52.7	22.3	8.7	36.6	9.3	4.0
Goshen Rd #3/Goshen Rd & Wightman Rd #3 #4/Snouffer School Rd #4	118	31.5	40.4	24.4	9.0	62.7	21.9	22.3	35.5	50.7	7.0	30.7	73.4	14.4
Montgomery Village Ave & Apple Ridge Rd	119	11.2	17.7	7.3	3.6	11.1	6.9	3.3	20.0	1.9	4.1	0.0	11.9	2.1
Scenery Dr & Middlebrook Road	121	5.9	18.3	13.2	0.0	0.0	18.0	5.5	4.6	1.7	0.5	0.0	1.7	0.0
Muncaster Mill Rd #4/Snouffer School Rd #4 & Woodfield Rd	126	39.2	17.4	18.5	2.9	13.4	11.9	2.3	32.9	88.7	1.6	35.6	86.7	4.4
MD 27 #2 #3 #4/MD 27 #1 #2 #3 #4 & Snowden Farm Pkwy/Midcounty Highway #1	128	18.9	35.4	7.3			19.6	13.2	104.9		4.9			
Snouffer School Rd #4 & Centerway Rd	130	6.4	8.8	2.4			6.8	4.3	44.4		7.2			
Muncaster Mill Rd #4 & Shady Grove Rd/Airpark Rd	131	95.5	55.0	17.4	5.0	17.4	12.5	4.5	651.7	40.0	33.1	324.2	10.6	3.4
Knollcross Ct/Madrigal Dr & Middlebrook Road	137	1.5	4.2	0.0	0.0	0.0	0.0	0.0	1.5	0.9	0.7	0.0	0.1	0.0
Montgomery Village Ave & Club House Rd	140	26.5	26.4	9.7	5.6	21.1	28.8	19.3	61.5	30.1	10.0	30.7	26.0	5.0
Montgomery Village Ave & Village Center/Centerway Rd	142	24.1	14.4	13.9	14.2	16.0	5.0	2.7	148.0	132.4	45.1	40.6	44.6	28.2
Montgomery Village Ave & Stedwick Rd	143	9.9	16.0	9.0			6.5	4.5	42.4		7.3			
Montgomery Village Ave & Stewartown Rd	145	5.6		3.1	2.7	6.0	0.7					18.8		5.0
Goshen Rd & East Village Ave	154	9.2		5.2	7.9	13.5	5.3					30.3		2.2
Goshen Rd #3 & Emory Grove Rd	162	11.3	14.5	8.3	9.3	20.8	7.6	5.7	20.5	26.4	6.0	35.0	26.9	10.0
Goshen Rd #3 & Centerway Rd	163	21.7	31.8	20.6	19.0	77.5	13.6	8.2	53.7	16.4	3.9	34.5	13.8	9.3
Goshen Rd #3 & Stewartown Rd/Trams Way	165	9.0	11.6	7.1	6.0	8.8	3.0	2.9	32.1	21.5	6.1	0.0	0.0	0.0
Goshen Rd #3 & Rothbury Dr/Green Run Way	168	14.1	31.0	9.9	8.4	65.4	9.0	7.1	28.4	34.7	4.7	30.7	26.0	10.4
Snouffer School Rd #4 & Chesley Knoll Dr/Lewisberry Dr	172	6.6	6.1	4.1	3.6	14.7	5.0	3.7	20.7	28.5	5.7	23.6	23.8	5.2
Snouffer School Rd #4 & Flower Hill Way/Earhart Ct	174	4.2	6.9	3.4	2.8	7.2	2.1	1.7	33.6	38.1	5.0	17.2	23.0	7.2
Snouffer School Rd #4 & Cherry Laurel Ln/Mooney Dr	177	6.4	7.1	3.6	2.7	12.4	4.1	2.2	44.0	0.0	17.1	39.9	0.0	6.9
MD 355 & O'Neill Dr/Ramps from I-370	188	14.3	44.8	9.3			14.4	16.3	76.0		78.5	67.5	0.0	5.5
Muncaster Mill Rd #4 & Covenant Life Church	202	3.7		2.5	1.6	6.7	2.5					21.4		7.0
Midcounty Highway #1 & Blunt Rd	207													
Midcounty Highway #1 & Grassy Knoll Terr	208													
Midcounty Highway #1 & Gatlin Dr	210													
MD 355 & Ramp to WB I-370	219	11.0		8.8	21.1		7.2	5.5						
Montgomery Village Ave & Shadow Oak Dr/Arrow Head Rd	221	7.5	5.3	5.4	3.8	14.5	7.4	5.9	18.9	18.5	7.7	20.9	18.1	6.3
Snouffer School Rd #4 & Alliston Hollow Way/Webb Tract Access	227	8.2	6.7	5.6	3.4	5.0	3.3	1.3	38.1	0.0	10.2	39.3	0.0	5.1
	Average Study Area Delay	26.9												
	Average MD 355 Delay	33.9												

Scenario 1 - BRT with Alternative 2 & 5 and No M-83
Arterial Level of Service: SB #2 (VISSIM for MD 355)
2040 AM Peak

Cross Street	Node	Delay (s/veh)	Travel Time (s)	Distance (mi)	Arterial Speed (mph)
	34	2.2	17.7	0.2	39
Snowden Farm Pkwy	128	16.5	34.8	0.2	24
	47	12.0	36.0	0.3	30
Brink Rd	39	13.4	22.0	0.1	18
Henderson Corner Rd	36	11.8	43.3	0.4	33
MD 355	32	41.4	57.9	0.2	10
MD 124-Quince Orchar	88	198.8	542.8	4.3	29
Russell Ave	91	19.3	32.5	0.2	22
Lakeforest Mall	105	13.1	33.3	0.2	27
Lost Knife Rd	98	30.8	40.8	0.1	12
MD 124-Midcounty Hig	99	35.5	53.5	0.2	13
	211	47.9	63.3	0.1	8
	166	328.0	353.2	0.3	3
Goshen Rd	102	167.5	174.3	0.1	2
	164	12.6	24.3	0.1	21
Total		**950.8**	**1,529.7**	**7.0**	**16**
			25.5		

Scenario 1 - BRT with Alternative 2 & 5 and No M-83
Arterial Level of Service: NB #2 (VISSIM for MD 355)
2040 PM Peak

Cross Street	Node	Delay (s/veh)	Travel Time (s)	Distance (mi)	Arterial Speed (mph)
	164	11.8	27.0	0.2	25
Goshen Rd #3	102	88.2	98.6	0.1	5
	166	7.0	15.2	0.1	22
	211	4.2	31.4	0.3	39
Montgomery Village A	99	36.3	51.0	0.1	10
Christopher Ave	98	23.4	44.1	0.2	15
Lakeforest Mall	105	4.2	15.0	0.1	32
Russell Ave	91	18.5	38.3	0.2	23
MD 355 #2	88	11.0	26.1	0.2	27
MD 27-Ridge Rd #2	32	302.1	646.1	4.3	24
Henderson Corner Rd	36	18.9	36.1	0.2	16
Brink Rd #3 #4	39	30.7	62.1	0.4	23
	47	7.1	16.3	0.1	24
Snowden Farm Pkwy	128	7.3	31.1	0.3	34
	34	5.9	24.4	0.2	35
	49	1.7	17.2	0.2	40
Total		**578.3**	**1,180.0**	**7.2**	**22**

Scenario 1 - BRT with Alternative 2 & 5 and No M-83
Arterial Level of Service: EB #3
2040 AM Peak

Cross Street	Node	Delay (s/veh)	Travel Time (s)	Distance (mi)	Arterial Speed (mph)
	34	2.2	17.7	0.2	39
Snowden Farm Pkwy	128	16.5	34.8	0.2	24
	47	12.0	36.0	0.3	30
Brink Rd	39	23.6	35.9	0.1	11
	48	2.6	23.7	0.2	28
	41	1.3	14.8	0.1	36
	115	1.0	12.6	0.1	37
	42	1.9	20.7	0.2	36
	97	13.1	118.5	1.2	37
Brink Rd	109	4.5	30.7	0.3	34
Warfield Rd	110	4.9	40.1	0.3	31
Montgomery Village A	116	39.3	106.2	0.7	23
	10	4.4	26.7	0.2	29
Goshen Rd #3	118	16.7	36.2	0.2	15
Rothbury Dr	168	12.6	33.4	0.2	20
Stewartown Rd	165	6.3	52.6	0.5	31
Centerway Rd	163	29.0	96.6	0.7	25
Emory Grove Rd	162	278.8	339.2	0.7	7
MD 124-Midcounty Hig	102	68.2	85.7	0.2	7
	164	4.4	21.7	0.1	23
Total		**543.3**	**1,183.8**	**6.7**	**20**

Scenario 1 - BRT with Alternative 2 & 5 and No M-83
Arterial Level of Service: WB #3
2040 PM Peak

Cross Street	Node	Delay (s/veh)	Travel Time (s)	Distance (mi)	Arterial Speed (mph)
	164	11.8	27.0	0.2	25
Goshen Rd #3	102	26.7	43.2	0.1	12
Emory Grove Rd	162	12.4	31.1	0.2	18
Centerway Rd	163	20.5	88.1	0.7	27
Trams Way	165	8.2	76.9	0.7	32
Green Run Way	168	9.8	55.9	0.5	29
Snouffer School Rd #	118	40.3	60.9	0.2	11
	10	1.3	20.8	0.2	26
Pleasant Ridge Dr	116	9.3	30.9	0.2	25
Warfield Rd	110	6.6	74.2	0.7	32
Brink Rd	109	6.8	42.3	0.3	29
	97	3.6	29.8	0.3	35
	42	12.1	117.6	1.2	37
	115	2.5	21.2	0.2	35
	41	1.6	13.1	0.1	35
	48	0.9	14.4	0.1	37
MD 27-Ridge Rd #2 #3	39	20.4	41.5	0.2	16
	47	1.1	14.6	0.1	27
Snowden Farm Pkwy	128	7.3	31.1	0.3	34
	34	5.9	24.4	0.2	35
	49	1.7	17.2	0.2	40
Total		**210.8**	**876.2**	**6.9**	**28**

Scenario 1 - BRT with Alternative 2 & 5 and No M-83
Arterial Level of Service: SB #4
2040 AM Peak

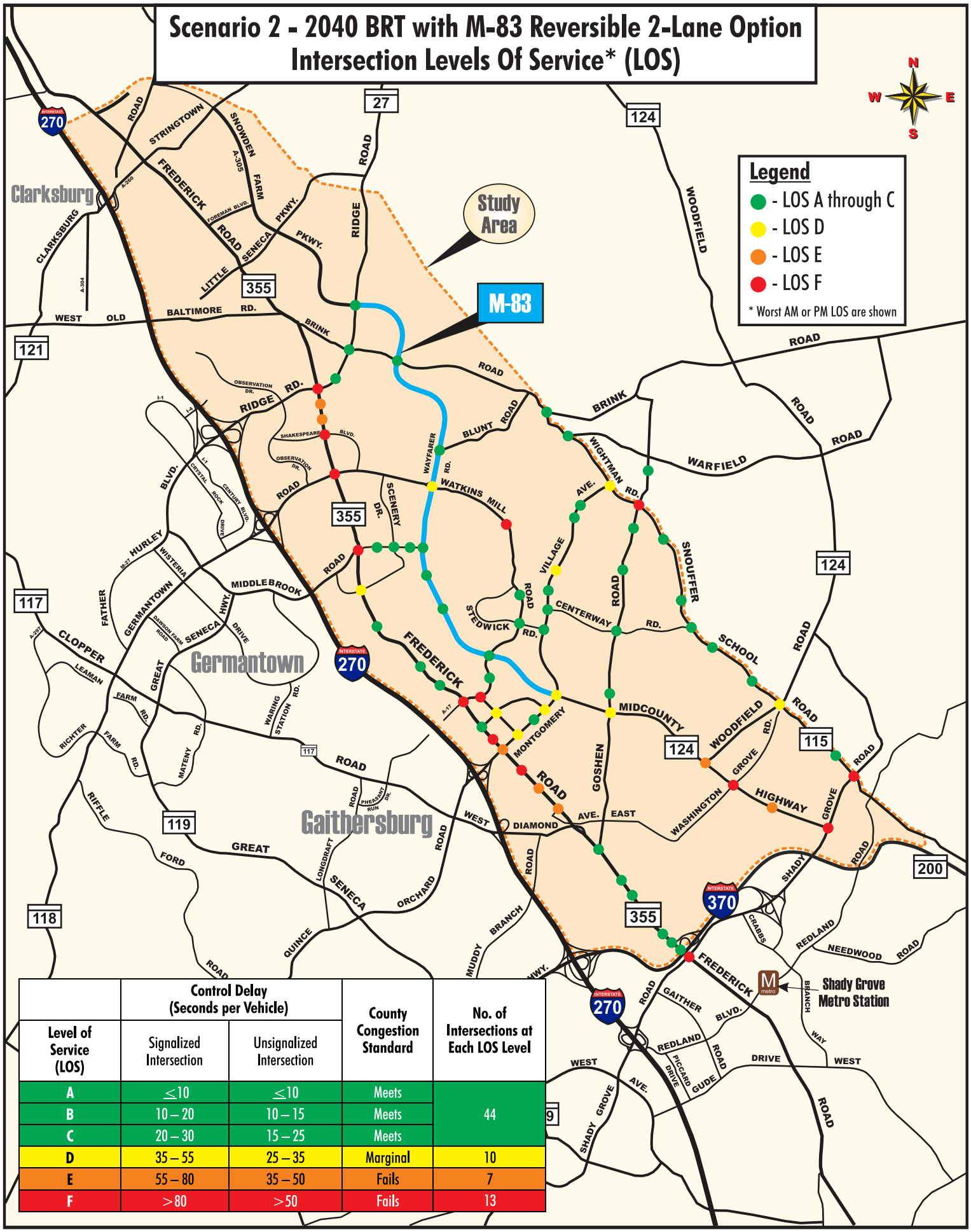
Cross Street	Node	Delay (s/veh)	Travel Time (s)	Distance (mi)	Arterial Speed (mph)
	34	2.2	17.7	0.2	39
Snowden Farm Pkwy	128	16.5	34.8	0.2	24
	47	12.0	36.0	0.3	30
Brink Rd	39	23.6	35.9	0.1	11
	48	2.6	23.7	0.2	28
	41	1.3	14.8	0.1	36
	115	1.0	12.6	0.1	37
	42	1.9	20.7	0.2	36
	97	13.1	118.5	1.2	37
Brink Rd	109	4.5	30.7	0.3	34
Warfield Rd	110	4.9	40.1	0.3	31
Montgomery Village A	116	39.3	106.2	0.7	23
	10	4.4	26.7	0.2	29
Goshen Rd #3	118	82.7	97.6	0.2	6
Chesley Knoll Dr	172	11.3	48.9	0.4	31
	181	2.7	25.5	0.3	35
Alliston Hollow Way	227	3.3	25.2	0.2	35
Centerway Rd	130	11.6	56.6	0.5	32
Flower Hill Way	174	4.1	30.7	0.3	35
Cherry Laurel Ln	177	6.3	53.8	0.5	36
	205	3.6	25.4	0.2	34
MD 124-Woodfield Rd	126	17.6	29.9	0.1	17
	203	9.7	26.0	0.2	24
Covenant Life Church	202	3.6	41.0	0.4	37
	192	4.5	35.9	0.3	35
Shady Grove Rd	131	12.7	20.8	0.1	17
		301.0	**1,035.7**	**7.8**	**27**

Scenario 1 - BRT with Alternative 2 & 5 and No M-83
Arterial Level of Service: WB #4
2040 PM Peak

Cross Street	Node	Delay (s/veh)	Travel Time (s)	Distance (mi)	Arterial Speed (mph)
Airpark Rd	131	17.4	41.6	0.3	24
	192	3.8	12.8	0.1	27
Covenant Life Church	202	2.5	33.2	0.3	38
	203	3.4	41.1	0.4	36
MD 124-Woodfield Rd	126	18.5	33.7	0.2	19
	205	3.8	17.0	0.1	30
Mooney Dr	177	3.6	25.3	0.2	34
Earhart Ct	174	3.6	50.9	0.5	38
Centerway Rd	130	2.5	29.1	0.3	37
Webb Tract Access	227	5.9	50.8	0.5	36
	181	2.0	24.1	0.2	36
Lewisberry Dr	172	4.1	26.7	0.3	34
Goshen Rd	118	73.9	110.6	0.4	14
	10	3.8	19.9	0.2	27
Pleasant Ridge Dr	116	9.3	30.9	0.2	25
Warfield Rd	110	6.6	74.2	0.7	32
Brink Rd	109	6.8	42.3	0.3	29
	97	3.6	29.8	0.3	35
	42	12.1	117.6	1.2	37
	115	2.5	21.2	0.2	35
	41	1.6	13.1	0.1	35
	48	0.9	14.4	0.1	37
MD 27-Ridge Rd #2 #3	39	20.4	41.5	0.2	16
	47	1.1	14.6	0.1	27
Snowden Farm Pkwy	128	7.3	31.1	0.3	34
	34	5.9	24.4	0.2	35
	49	1.7	17.2	0.2	40
Total		**228.6**	**989.1**	**8.1**	**29**

Scenario 2
BRT with Reversible Two-Lane M-83

Scenario 2 - 2040 BRT with M-83 Reversible 2-Lane Option
Intersection Levels Of Service* (LOS)



Level of Service (LOS)	Control Delay (Seconds per Vehicle)		County Congestion Standard	No. of Intersections at Each LOS Level
	Signalized Intersection	Unsignalized Intersection		
A	≤10	≤10	Meets	44
B	10 – 20	10 – 15	Meets	
C	20 – 30	15 – 25	Meets	
D	35 – 55	25 – 35	Marginal	10
E	55 – 80	35 – 50	Fails	7
F	>80	>50	Fails	13

Scenario 2 - BRT with Reversible Two-Lane M-83

SimTraffic Delay and MD 355 VISSIM Delay Results (sec/veh) by Movement

Year 2040 AM Peak Hour

Intersection Name	Node	Intersection	Northbound			Southbound			Eastbound			Westbound		
	ID	Overall	L	T	R	L	T	R	L	T	R	L	T	R
MD 355 #2 & Middlebrook Road	1	119.7	501.5	41.3	9.0	198.5	170.9	116.7	45.8	51.9	3.9	146.0	126.2	37.3
Minstrel Tune Way/Brandermill Dr & Middlebrook Road	3	3.8	33.8	38.3	17.9	56.7	46.5	13.2	13.8	1.0	0.7	3.1	2.2	1.9
MD 355 #2 & Gunners Branch Rd	5	16.1	69.4	14.6	5.0	78.7	10.6	9.3	65.5	65.7	4.4	54.7	55.0	16.7
MD 355 #2 & Germantown Rd	9	163.2	85.4	17.6	18.4	166.6	169.8	97.7	224.3	351.6	1077.2	109.2	55.4	27.7
Watkins Mill Rd & Stedwick Rd	12	18.4	19.8	17.9	10.9	14.3	12.6	8.8	60.7	56.6	13.3	35.0	7.2	7.4
Midcounty Highway #1 & Germantown Rd/Watkins Mill Rd	13	36.1	0.0	0.0	0.0	25.2	29.4	15.1	37.1	58.9	41.4	38.1	33.4	0.0
Apple Ridge Rd & Watkins Mill Rd	14	158.5	436.0	242.8	252.7	105.3	131.6	122.8	120.0	128.6	88.1	161.6	32.1	9.9
Watkins Mill Rd & Club House Rd	15	11.4	0.0	7.9	4.4	14.3	7.5	0.0	0.0	0.0	0.0	25.0	0.0	7.0
MD 355 & S Westland Dr	16	21.7	91.8	3.1	1.6	103.9	25.0	25.5	13.2	76.0	13.2	66.6	61.7	6.2
Travis Avenue & Watkins Mill Rd	23	33.8	21.0	8.7	3.6	7.3	10.4	10.1	9.0	9.7	5.8	28.6	46.3	49.2
MD 355 #2 & Shakespeare Blvd	25	91.0	86.5	20.1	6.7	190.7	140.1	128.3	49.5	48.6	11.6	107.9	48.3	14.9
MD 355 #2 & Milestone South	28	79.0	708.1	4.5			104.8	87.2	75.7		6.0			
MD 355 #2 & Milestone North/Henderson Corner Rd	30	70.3	71.2	13.2	3.3	163.4	105.5	78.4	73.3	68.6	7.3	83.0	53.2	0.7
MD 355 #2/MD 355 & MD 27/MD 27 #2	32	119.7	81.0	47.5	3.1	256.2	224.9	122.1	57.6	58.3	74.1	188.5	127.6	61.5
MD 355 & Shady Grove Rd	35	62.9	237.0	33.9	4.9	82.0	52.9	34.0	94.1	140.0	123.6	55.1	57.3	14.0
Henderson Corner Rd & MD 27 #2	36	15.8			64.5					0.0	8.8	47.6	8.9	
MD 27 #2/MD 27 #2 #3 #4 & Brink Rd/Brink Rd #3 #4	39	28.7	77.0	41.0	16.5	18.7	15.8	3.7	27.0	34.2	35.5	111.2	19.2	4.5
MD 355 #2 & Plummer Dr	54	8.9	73.9	6.1	9.0	57.7	6.9	57.7	38.9	44.2	9.2	46.0	36.3	8.7
MD 355 & W Deer Park Dr/E Deer Park Dr	59	21.2	91.0	5.1	3.6	76.1	15.9	15.5	57.3	61.1	48.6	72.7	67.0	18.4
MD 355 #2 & Professional Dr	61	11.4	98.6	4.2	4.2	78.2	7.5	6.5	77.1	0.0	6.4	61.4	60.1	0.0
MD 355 #2 & Spectrum Avenue/Travis Avenue	65	8.6	52.2	8.9	2.7	83.6	3.8	1.9	72.0	51.2	9.7	59.1	61.3	7.4
MD 355 #2 & Watkins Mill Rd	67	61.7	98.6	13.9	9.5	102.1	22.1	14.4	65.1	72.7	23.9	155.3	157.2	151.3
Russell Ave & Watkins Mill Rd	68	93.5	1041.4		18.8					3.7	4.7	72.0	118.2	
MD 355 & Education Blvd	69	11.2	61.7	7.8	8.3	75.5	8.9	6.8	56.4	65.8	13.4	58.0	68.3	17.0
MD 355 & Chestnut St	72	15.7	69.7	12.6			14.2	6.2	60.6		13.3			
MD 355 & Gas Station/Odendhal Ave	75	49.6	80.9	43.8	33.4	82.0	27.7	21.7	72.2	90.6	18.3	94.3	105.3	90.1
MD 355 & Perry Pkwy/Lakeforest Blvd	77	33.6	98.4	12.5	6.6	92.9	9.3	6.3	58.0	54.6	20.2	62.2	62.9	37.2
Midcounty Highway & Woodfield Rd	81	63.1	19.3	7.6	1.1	21.0	13.6	3.7	43.8	31.4	0.8	417.7	36.8	2.4
MD 355 #2 & Lockheed Martin N/Christopher Ave	82	9.5	54.2	4.4	3.7	74.1	6.1	6.1	67.9	67.9	1.1	66.3	72.9	21.0
MD 355 #2 & Lockheed Martin S/IBM Entrance	83	13.2	84.1	12.3	2.1	74.9	8.1	2.0	0.0	73.0	0.0	71.2	64.7	2.4
Russell Ave & Christopher Ave	85	17.1	17.2	26.1	5.5	11.5	5.3	3.6	72.4	12.0	5.2	15.9	23.5	27.9
MD 355/MD 355 #2 & Quince Orchard Rd/Montgomery Village Ave #2	88	69.6	500.2	65.7	8.9	98.0	31.6	18.0	67.5	18.1	3.7		95.9	75.5
MD 355 & Summit Ave	90	34.8	76.9	41.1	9.1	82.4	26.6	21.8	59.2	62.0	27.9	44.3	47.0	38.6
Russell Ave & Montgomery Village Ave #2	91	22.1	47.8	53.3	3.1	44.7	23.1	7.1	49.2	9.2	2.9	56.1	24.8	1.8
Midcounty Highway & Washington Grove Ln	92	142.9	129.0	16.9	3.0	29.0	29.9	7.8	153.5	203.1	178.1	604.7	294.0	201.3
Midcounty Highway & Miller Fall Rd	93	57.5	74.4	0.4	0.1	6.5	1.8	0.3	695.2	705.0	724.3	957.7	943.1	888.7
Shady Grove Rd & Midcounty Highway	94	169.6				26.2		25.6	546.6	39.4			0.0	0.0
Lost Knife Rd/Christopher Ave & Montgomery Village Ave #2	98	23.4	59.5	55.7	6.5	61.8	55.9	6.1	77.0	15.8	15.0	74.0	15.6	16.8
Midcounty Highway #1 #2/Midcounty Highway #1 & Montgomery Village Ave #2/Montgomery	99	49.0	111.1	9.1	12.5	66.0	24.6	58.8	0.0	59.1	21.5	72.9	44.8	0.0
Goshen Rd/Goshen Rd #3 & Midcounty Highway #1 #2/Midcounty Highway #1 #2 #3	102	48.4	100.3	29.6	17.2	75.4	54.5	15.6	63.3	50.2	18.6	69.1	38.2	6.1
Lakeforest Mall & Montgomery Village Ave #2	105	2.8	60.5	0.0	0.5	0.0		0.3	80.3	1.9	2.0		1.6	2.1
Midcounty Highway #1 & Middlebrook Road	107	14.7	14.3	0.0	0.0	0.0	13.3	10.1	0.0	2.4	24.5	0.0	0.0	0.0
Midcounty Highway #1 & Watkins Mill Rd	108	17.4	0.0	0.0	0.0	16.5	20.4	14.5	0.0	19.5	11.7	17.1	14.7	0.0
Brink Rd #3 #4/Wightman Rd #3 #4 & Brink Rd	109	18.7					0.0	12.0	13.1	3.5			6.3	4.5
Wightman Rd #3 #4 & Warfield Rd	110	8.0					0.0	8.4	12.3	6.7			8.5	8.3
Midcounty Highway #1 & Brink Rd #3 #4	115	25.9	0.0	0.0	0.0	37.7	35.5	29.2	0.0	15.8	21.5	22.8	8.4	0.0
Montgomery Village Ave/Pleasant Ridge Dr & Wightman Rd #3 #4	116	35.7	45.5	27.6	5.1	38.9	51.6	1.5	57.7	41.2	9.0	63.8	27.8	16.6
Goshen Rd #3/Goshen Rd & Wightman Rd #3 #4/Snouffer School Rd #4	118	34.4	53.9	22.4	5.6	49.7	15.9	12.9	40.6	82.4	7.2	49.6	73.8	7.4
Montgomery Village Ave & Apple Ridge Rd	119	6.0	18.4	3.0	1.1	7.6	5.3	4.0	29.8	3.1	10.8	61.4	70.6	5.7
Scenery Dr & Middlebrook Road	121	12.2	43.2	30.2	7.3	35.0	40.7	18.5	22.6	2.2	1.2	19.2	8.9	1.5
Muncaster Mill Rd #4/Snouffer School Rd #4 & Woodfield Rd	126	43.3	42.6	12.3	3.7	23.1	18.1	3.5	41.2	105.1	2.9	43.9	98.3	1.5
MD 27 #2 #3 #4/MD 27 #1 #2 #3 #4 & Snowden Farm Pkwy/Midcounty Highway #1	128	22.3	72.1	15.8	16.0	42.2	14.5	0.0	38.1	39.9	5.2	0.0	0.0	0.0
Snouffer School Rd #4 & Centerway Rd	130	13.5	8.1	2.8			9.8	8.3	38.9		27.2			
Muncaster Mill Rd #4 & Shady Grove Rd/Airpark Rd	131	149.3	403.9	159.5	80.7	51.4	39.1	66.9	1148.5	43.0	11.0	20.3	14.4	8.1
Knollcross Ct/Madrigal Dr & Middlebrook Road	137	1.5	13.9	17.8	6.3	14.5	21.6	4.9	3.1	1.5	1.2	6.0	0.7	0.6
Montgomery Village Ave & Club House Rd	140	13.6	19.9	6.1	3.4	8.6	8.9	7.0	44.5	28.2	6.6	38.7	45.6	7.9
Montgomery Village Ave & Village Center/Centerway Rd	142	21.9	18.9	17.0	13.9	12.9	9.2	2.7	0.0	222.0	36.4	35.0	38.5	11.5
Montgomery Village Ave & Stedwick Rd	143	25.7	67.1	10.6			23.0	21.0	25.1		31.7			
Montgomery Village Ave & Stewartown Rd	145	52.1		3.7	3.0	8.0	2.2					283.7		109.7
Goshen Rd & East Village Ave	154	10.4		9.1	3.2	12.0	6.6					18.9		0.7
Goshen Rd #3 & Emory Grove Rd	162	17.4	35.1	10.2	5.1	19.3	19.0	24.0	24.2	22.0	4.6	27.2	14.0	4.6
Goshen Rd #3 & Centerway Rd	163	16.9	38.0	12.5	11.4	15.7	12.9	10.5	32.2	25.0	8.4	45.1	17.5	8.0
Goshen Rd #3 & Stewartown Rd/Trams Way	165	7.3	13.0	4.3	5.8	4.5	3.6	3.3	62.2	20.3	7.0	28.7	41.2	5.8
Goshen Rd #3 & Rothbury Dr/Green Run Way	168	11.1	49.4	6.2	6.3	68.5	7.0	4.5	41.7	46.2	12.0	38.6	54.6	12.6
Snouffer School Rd #4 & Chesley Knoll Dr/Lewisberry Dr	172	12.5	7.1	7.5	3.7	22.6	10.3	6.0	8.8	13.7	3.9	22.2	14.6	6.2
Snouffer School Rd #4 & Flower Hill Way/Earhart Ct	174	5.6	10.3	2.6	2.7	4.3	2.6	1.9	62.8	60.3	8.9	23.5	32.2	5.9
Snouffer School Rd #4 & Cherry Laurel Ln/Mooney Dr	177	7.1	9.3	3.0	2.1	8.7	5.8	3.4	49.0	62.6	21.3	29.5	51.7	9.3
MD 355 & O'Neill Dr/Ramps from I-370	188	19.0	109.6	2.9			10.8	14.7	98.0		47.9	70.2	65.4	5.0
Muncaster Mill Rd #4 & Covenant Life Church	202	11.8		2.8	1.8	9.8	12.7					137.2		5.2
Midcounty Highway #1 & Blunt Rd	207	16.4	0.0	0.0	2.1	12.0	15.1	0.0	0.0	0.0	0.0	28.7	0.0	0.0
Midcounty Highway #1 & Grassy Knoll Terr	208	1.1	0.0	0.0	0.0	0.8	0.7	0.0	0.0	0.0	0.0	23.1	0.0	5.9
Midcounty Highway #1 & Gatlin Dr	210	4.9	0.0	0.0	0.0	2.2	3.5	4.3	0.0	29.4	30.2	27.7	40.9	0.0
MD 355 & Ramp to WB I-370	219	18.1		5.5	6.3		25.1	21.3						
Montgomery Village Ave & Shadow Oak Dr/Arrow Head Rd	221	12.9	23.0	9.0	5.2	22.2	14.0	9.6	19.0	19.2	8.6	23.5	20.5	4.3
Snouffer School Rd #4 & Alliston Hollow Way/Webb Tract Access	227	3.6	7.6	3.7	3.5	5.7	2.5	1.6	32.1	0.0	7.7	28.7	0.0	6.6
Average Study Area Delay		37.1												
Average MD 355 Delay		47.1												
Average M-83 Delay		23.6												

Scenario 2 - BRT with Reversible Two-Lane M-83

SimTraffic Delay and MD 355 VISSIM Delay Results (sec/veh) by Movement

Year 2040 PM Peak Hour

Intersection Name	Node	Intersection	Northbound			Southbound			Eastbound			Westbound		
	ID	Overall	L	T	R	L	T	R	L	T	R	L	T	R
MD 355 #2 & Middlebrook Road	1	96.6	85.0	61.5	34.1	110.3	46.6	9.1	120.7	189.8	187.3	119.6	133.6	43.3
Minstrel Tune Way/Brandermill Dr & Middlebrook Road	3	4.7	102.8	68.4	70.6	84.0	90.4	7.0	7.6	1.7	0.5	0.0	2.0	2.0
MD 355 #2 & Gunners Branch Rd	5	40.6	96.1	45.7	37.3	78.9	30.4	26.9	54.9	54.1	5.0	53.4	51.0	22.1
MD 355 #2 & Germantown Rd	9	62.0	77.5	64.6	61.1	107.5	32.5	6.2	131.9	63.7	12.9	90.6	59.7	60.3
Watkins Mill Rd & Stedwick Rd	12	24.3	27.9	25.4	20.2	17.3	10.6	7.6	123.4	137.5	8.7	28.1	14.4	26.0
Midcounty Highway #1 & Germantown Rd/Watkins Mill Rd	13	20.3	16.2	20.3	9.8	0.0	0.0	1.3	39.8	22.1	0.0	0.0	22.6	15.2
Apple Ridge Rd & Watkins Mill Rd	14	20.2	38.1	23.8	10.6	29.5	35.0	19.8	30.8	22.0	13.2	18.0	13.8	6.0
Watkins Mill Rd & Club House Rd	15	12.4	0.0	11.0	6.7	22.2	8.0	0.0	0.0	0.0	0.0	21.2	0.0	12.3
MD 355 & S Westland Dr	16	30.7	89.8	26.6	15.2	62.6	25.8	24.3	68.1	0.0	68.1	65.2	81.2	62.5
Travis Avenue & Watkins Mill Rd	23	11.1	7.2	8.2	4.6	8.9	3.5	4.3	10.6	13.0	10.9	9.7	11.0	8.7
MD 355 #2 & Shakespeare Blvd	25	30.6	87.9	30.4	7.0	69.9	16.8	3.7	56.0	52.0	2.3	63.4	59.0	23.4
MD 355 #2 & Milestone South	28	26.5	144.5	10.8			3.1	15.9	60.3		2.0			
MD 355 #2 & Milestone North/Henderson Corner Rd	30	44.0	89.2	38.1	17.4	74.1	37.0	9.2	88.3	80.3	93.4	63.0	53.3	0.6
MD 355 #2/MD 355 & MD 27/MD 27 #2	32	85.1	73.5	33.9	11.7	67.4	49.3	4.3	145.4	138.5	43.7	53.2	57.0	9.3
MD 355 & Shady Grove Rd	35	116.9	90.8	113.4	49.1	79.7	48.8	5.2	161.0	181.8	29.2	58.1	60.5	310.9
Henderson Corner Rd & MD 27 #2	36	26.5			87.1					14.9	9.9	41.0	2.6	
MD 27 #2/MD 27 #2 #3 #4 & Brink Rd/Brink Rd #3 #4	39	19.1	20.9	20.6	12.3	21.2	7.6	6.4	53.1	24.4	8.6	30.6	32.8	13.9
MD 355 #2 & Plummer Dr	54	13.2	91.6	9.8	9.1	77.0	10.2	77.0	68.5	59.4	14.8	63.8	84.2	17.0
MD 355 & W Deer Park Dr/E Deer Park Dr	59	30.2	78.1	18.8	17.3	67.9	31.6	29.3	64.9	70.2	36.2	67.7	71.3	25.7
MD 355 #2 & Professional Dr	61	20.9	72.1	8.8	6.9	92.5	26.7	24.6	71.3	77.9	19.2	68.4	81.1	18.9
MD 355 #2 & Spectrum Avenue/Travis Avenue	65	31.2	94.8	8.2	4.5	132.1	48.8	27.3	53.4	62.4	33.8	72.6	48.6	23.2
MD 355 #2 & Watkins Mill Rd	67	117.7	130.9	179.2	188.3	187.6	96.1	27.4	59.9	65.2	52.9	84.0	65.3	50.7
Russell Ave & Watkins Mill Rd	68	8.7	77.5		11.4					3.9	4.2	13.6	4.5	
MD 355 & Education Blvd	69	17.6	90.0	17.4	25.7	81.2	11.3	9.6	55.9	0.0	5.8	75.7	0.0	67.7
MD 355 & Chestnut St	72	57.3	143.7	82.0			13.6	3.4	78.2		53.2			
MD 355 & Gas Station/Odendhal Ave	75	73.5	167.9	100.1	86.3	82.5	18.0	37.4	66.3	77.4	61.3	71.7	98.8	62.5
MD 355 & Perry Pkwy/Lakeforest Blvd	77	115.6	134.8	129.8	86.8	56.8	31.7	27.8	152.2	73.4	46.7	178.3	296.8	773.6
Midcounty Highway & Woodfield Rd	81	48.2	41.2	65.7	10.4	70.1	58.8	3.8	61.2	45.0	0.5	60.8	42.8	1.9
MD 355 #2 & Lockheed Martin N/Christopher Ave	82	16.2	101.8	3.9	2.5	73.2	21.9	27.1	82.0	82.0	16.7	63.2	0.0	5.4
MD 355 #2 & Lockheed Martin S/IBM Entrance	83	93.8	70.2	60.3	12.6	275.7	79.8	38.4	76.2	62.2	76.2	252.3	346.0	410.3
Russell Ave & Christopher Ave	85	40.5	20.4	12.7	8.9	26.3	7.0	5.9	23.3	11.9	6.0	43.1	99.0	125.7
MD 355/MD 355 #2 & Quince Orchard Rd/Montgomery Village Ave #2	88	69.8	119.2	198.8	159.5	112.9	70.2	45.0	76.4	34.2	5.7		44.8	27.9
MD 355 & Summit Ave	90	30.2	99.8	33.5	25.9	74.5	11.9	16.8	66.3	87.0	11.0	55.8	48.8	43.2
Russell Ave & Montgomery Village Ave #2	91	43.6	89.6	65.4	30.1	79.8	103.7	73.8	36.8	22.1	6.7	291.8	28.2	2.4
Midcounty Highway & Washington Grove Ln	92	77.4	26.3	33.7	12.2	80.8	28.2	3.7	85.2	124.1	108.0	372.8	182.9	66.7
Midcounty Highway & Miller Fall Rd	93	8.4	5.9	0.8	0.1	25.6	0.5	0.1	151.2	124.8	25.4	264.5	309.7	185.2
Shady Grove Rd & Midcounty Highway	94	34.1				45.3		3.0	60.2	18.3			61.6	2.8
Lost Knife Rd/Christopher Ave & Montgomery Village Ave #2	98	46.7	114.6	79.5	37.1	230.7	46.9	3.6	73.1	29.9	25.9	97.3	19.8	18.9
Midcounty Highway #1 #2/Midcounty Highway #1 & Montgomery Village Ave #2/Montgomery	99	37.0	26.8	34.3	27.5	0.0	0.0	0.0	46.4	61.3	14.4	32.9	23.7	8.8
Goshen Rd/Goshen Rd #3 & Midcounty Highway #1 #2/Midcounty Highway #1 #2 #3	102	32.4	37.6	41.9	8.0	36.8	23.5	14.5	62.7	21.0	5.9	34.0	35.9	8.6
Lakeforest Mall & Montgomery Village Ave #2	105	17.6	65.1	0.0	1.0	70.9		0.3	92.4	22.5	8.2		4.3	1.9
Midcounty Highway #1 & Middlebrook Road	107	18.0	12.5	10.3	0.0	0.0	0.0	0.0	30.3	0.0	0.2	0.0	0.0	0.0
Midcounty Highway #1 & Watkins Mill Rd	108	19.4	19.0	22.7	11.8	0.0	0.0	0.0	19.4	16.5	0.0	0.0	19.2	10.5
Brink Rd #3 #4/Wightman Rd #3 #4 & Brink Rd	109	19.2					0.0	10.1	15.0	4.8			0.0	3.1
Wightman Rd #3 #4 & Warfield Rd	110	6.2					0.0	9.2	8.7	4.2			6.0	7.0
Midcounty Highway #1 & Brink Rd #3 #4	115	18.2	21.8	21.3	14.4	0.0	0.0	0.0	12.3	17.2	0.0	0.0	14.1	15.0
Montgomery Village Ave/Pleasant Ridge Dr & Wightman Rd #3 #4	116	48.7	22.9	23.9	86.3	52.6	42.2	1.2	161.8	107.2	44.8	54.8	16.7	3.9
Goshen Rd #3/Goshen Rd & Wightman Rd #3 #4/Snouffer School Rd #4	118	120.4	537.1	9.5	2.5	60.4	14.2	12.7	553.3	201.5	99.1	94.5	211.3	13.2
Montgomery Village Ave & Apple Ridge Rd	119	5.3	14.8	3.3	1.9	10.5	3.6	2.2	40.7	1.4	7.9	0.0	43.5	5.9
Scenery Dr & Middlebrook Road	121	11.6	42.8	47.7	29.6	37.8	45.2	9.2	23.2	7.5	1.2	22.7	7.0	3.5
Muncaster Mill Rd #4/Snouffer School Rd #4 & Woodfield Rd	126	44.3	19.6	14.9	4.6	30.9	13.9	3.0	44.1	92.8	2.4	41.9	100.8	2.6
MD 27 #2 #3 #4/MD 27 #1 #2 #3 #4 & Snowden Farm Pkwy/Midcounty Highway #1	128	28.8	72.1	21.5	0.0	0.0	22.0	14.6	32.9	0.0	1.7	30.8	31.1	1.8
Snouffer School Rd #4 & Centerway Rd	130	10.2	14.0	5.9			10.7	6.1	24.7		5.6			
Muncaster Mill Rd #4 & Shady Grove Rd/Airpark Rd	131	95.0	249.2	225.9	63.0	76.4	103.7	6.0	26.1	44.8	131.8	44.6	93.3	56.9
Knollcross Ct/Madrigal Dr & Middlebrook Road	137	3.5	28.5	28.0	5.0	21.0	30.3	9.8	7.4	4.1	1.2	12.5	0.7	0.4
Montgomery Village Ave & Club House Rd	140	10.9	7.4	4.0	3.7	11.3	5.3	3.7	52.7	21.2	6.1	42.1	50.3	7.5
Montgomery Village Ave & Village Center/Centerway Rd	142	20.7	11.1	9.3	8.9	15.5	6.6	2.3	150.5	140.2	46.0	54.6	59.0	39.6
Montgomery Village Ave & Stedwick Rd	143	12.8	21.8	9.6			14.8	13.0	37.7		11.0			
Montgomery Village Ave & Stewartown Rd	145	50.2		4.0	3.8	15.5	1.6					383.2		138.1
Goshen Rd & East Village Ave	154	7.5		4.9	2.0	11.5	5.4					21.2		0.6
Goshen Rd #3 & Emory Grove Rd	162	11.7	15.4	8.8	9.0	19.4	9.7	6.5	27.4	19.5	4.6	26.8	20.6	5.0
Goshen Rd #3 & Centerway Rd	163	21.3	41.4	13.7	11.0	29.4	14.4	10.4	71.3	15.3	4.1	30.2	14.1	8.2
Goshen Rd #3 & Stewartown Rd/Trams Way	165	9.5	9.1	3.5	2.7	4.9	3.9	4.0	45.3	18.5	4.7	11.7	32.3	6.9
Goshen Rd #3 & Rothbury Dr/Green Run Way	168	16.7	39.5	14.9	13.0	43.6	10.1	8.9	26.6	24.3	5.1	19.4	17.4	5.9
Snouffer School Rd #4 & Chesley Knoll Dr/Lewisberry Dr	172	8.0	4.4	4.7	4.1	24.8	4.2	3.8	22.4	16.9	3.4	28.4	24.3	5.3
Snouffer School Rd #4 & Flower Hill Way/Earhart Ct	174	4.5	6.8	4.6	4.4	7.5	1.9	2.0	19.7	18.7	3.7	19.6	17.1	6.0
Snouffer School Rd #4 & Cherry Laurel Ln/Mooney Dr	177	6.6	6.9	5.2	3.8	12.9	3.6	2.1	46.4	0.0	9.1	27.2	0.0	7.7
MD 355 & O'Neill Dr/Ramps from I-370	188	18.0	75.1	13.3			18.0	21.6	69.9		84.1	66.2	0.0	8.4
Muncaster Mill Rd #4 & Covenant Life Church	202	5.5		3.2	1.9	9.4	2.0					41.7		12.3
Midcounty Highway #1 & Blunt Rd	207	9.1	0.0	8.5	7.7	0.0	0.0	0.0	0.0	0.0	0.0	32.9	0.0	13.2
Midcounty Highway #1 & Grassy Knoll Terr	208	1.6	0.0	1.3	0.8	11.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.2
Midcounty Highway #1 & Gatlin Dr	210	2.3	1.7	1.9	2.4	0.0	0.0	0.0	13.4	12.9	0.0	0.0	15.0	11.9
MD 355 & Ramp to WB I-370	219	6.0		7.6	9.7		1.8	2.2						
Montgomery Village Ave & Shadow Oak Dr/Arrow Head Rd	221	10.7	9.7	7.1	4.0	20.1	8.2	5.1	35.5	18.7	10.6	33.2	26.7	9.0
Snouffer School Rd #4 & Alliston Hollow Way/Webb Tract Access	227	7.1	6.3	5.4	3.8	7.9	2.4	0.7	19.8	0.0	4.7	27.5	0.0	5.0
Average Study Area Delay		32.6												
Average MD 355 Delay		51.8												
Average M-83 Delay		18.7												

Scenario 2 - BRT with Reversible Two-Lane M-83
Arterial Level of Service: SB #1
Year 2040 AM Peak

Cross Street	Node	Delay (s/veh)	Travel Time (s)	Distance (mi)	Arterial Speed (mph)
	34	2.2	17.7	0.2	39
Snowden Farm Pkwy	128	42.2	64.6	0.2	13
	245	1.9	16.1	0.1	25
Brink Rd #3 #4	115	35.5	92.7	0.7	28
Blunt Rd	207	14.1	99.3	1.1	40
Germantown Rd	13	29.0	54.3	0.3	22
	229	7.0	18.9	0.1	27
	230	3.5	27.7	0.3	39
Middlebrook Road	107	13.3	28.6	0.2	24
	234	5.0	19.3	0.2	33
Grassy Knoll Terr	208	0.7	6.7	0.1	39
	233	1.3	15.2	0.2	41
Gatlin Dr	210	3.5	37.2	0.4	41
	214	2.8	28.7	0.3	41
Watkins Mill Rd	108	20.4	40.9	0.3	23
	215	5.2	18.3	0.2	31
	216	4.3	37.1	0.5	46
Montgomery Village A	99	24.6	34.6	0.2	17
	211	5.6	17.7	0.1	29
	166	5.0	32.3	0.3	38
Goshen Rd	102	50.2	56.8	0.1	6
	164	14.6	26.7	0.1	19
Total		**291.9**	**791.4**	**6.2**	**28**

Scenario 2 - BRT with Reversible Two-Lane M-83
Arterial Level of Service: NB #1
Year 2040 PM Peak

Cross Street	Node	Delay (s/veh)	Travel Time (s)	Distance (mi)	Arterial Speed (mph)
	164	2.8	17.3	0.2	38
Goshen Rd #3	102	35.9	46.5	0.1	11
	166	6.2	14.4	0.1	24
	211	3.1	30.6	0.3	40
Montgomery Village A	99	34.3	45.3	0.1	11
	216	8.1	21.2	0.2	27
	215	5.7	43.1	0.5	39
Watkins Mill Rd	108	22.7	35.2	0.2	16
	214	5.4	26.5	0.3	35
Gatlin Dr	210	1.9	27.8	0.3	42
	233	3.3	36.8	0.4	41
Grassy Knoll Terr	208	1.3	15.2	0.2	41
	234	0.6	6.5	0.1	40
Middlebrook Road	107	10.3	24.2	0.2	26
	230	3.5	19.1	0.2	37
	229	2.7	26.8	0.3	40
Watkins Mill Rd	13	20.3	31.3	0.1	16
Blunt Rd	207	9.1	35.6	0.3	33
Brink Rd #3 #4	115	21.6	108.5	1.1	37
	246	7.4	63.2	0.7	40
MD 27 #1 #2 #3 #4	128	1.8	10.9	0.1	36
	34	21.9	41.5	0.2	20
	49	35.8	51.1	0.2	14
Total		**265.7**	**778.6**	**6.4**	**30**

Scenario 2 - BRT with Reversible Two-Lane M-83
Arterial Level of Service: SB #2 (VISSIM for MD 355)
Year 2040 AM Peak

Cross Street	Node	Delay (s/veh)	Travel Time (s)	Distance (mi)	Arterial Speed (mph)
	34	2.2	17.7	0.2	39
Snowden Farm Pkwy	128	14.5	33.0	0.2	26
	47	7.0	30.8	0.3	35
Brink Rd	39	15.8	24.5	0.1	16
Henderson Corner Rd	36	9.8	41.2	0.4	34
MD 355	32	48.7	65.3	0.2	9
MD 124-Quince Orchard	88	1,064.1	1,408.1	4.3	11
	46	1.1	17	0.1	24
Russell Ave	91	9.2	15.5	0.1	19
	74	1.6	8	0.1	34
Lakeforest Mall	105	1.9	15.9	0.2	39
	149	1.3	6.5	0.1	36
Lost Knife Rd	98	15.8	20.7	0.1	12
MD 124-Midcounty Hig	99	23.3	43.6	0.2	16
	211	0.7	17.2	0.1	30
	166	5	32.3	0.3	38
Goshen Rd	102	50.2	56.8	0.1	6
	164	14.6	26.7	0.1	19
Total		**1,286.8**	**1,880.8**	**7.2**	**14**

Scenario 2 - BRT with Reversible Two-Lane M-83
Arterial Level of Service: NB #2 (VISSIM for MD 355)
Year 2040 PM Peak

Cross Street	Node	Delay (s/veh)	Travel Time (s)	Distance (mi)	Arterial Speed (mph)
	164	2.8	17.3	0.2	38
	102	35.9	46.5	0.1	11
	166	6.2	14.4	0.1	24
	211	3.1	30.6	0.3	40
Goshen Rd #3	99	26.8	41.5	0.1	12
	98	14.7	36.3	0.2	19
	149	2.1	7.9	0.1	31
Montgomery Village A	105	4.3	9.5	0.1	24
Christopher Ave	74	9.9	23.9	0.2	26
Lakeforest Mall	91	28.2	34.1	0.1	8
Russell Ave	46	3.4	10.3	0.1	29
MD 355 #2	88	14.6	22.5	0.1	18
MD 27-Ridge Rd #2	32	557.5	901.5	4.3	17
Henderson Corner Rd	36	21.6	34.9	0.2	17.0
Brink Rd #3 #4	39	23.2	54.1	0.4	26.0
	47	5.3	14.5	0.1	27.0
Midcounty Highway #1	128	21.5	44.6	0.3	24.0
	34	29.0	48.0	0.2	18.0
	49	35.8	51.1	0.2	14.0
Total		**845.9**	**1,443.5**	**7.4**	**18**

Scenario 2 - BRT with Reversible Two-Lane M-83
Arterial Level of Service: EB #3
Year 2040 AM Peak

Cross Street	Node	Delay (s/veh)	Travel Time (s)	Distance (mi)	Arterial Speed (mph)
	34	2.2	17.7	0.2	39
Snowden Farm Pkwy	128	14.5	33.0	0.2	26
	47	7.0	30.8	0.3	35
Brink Rd	39	18.7	31.1	0.1	13
	48	1.0	23.4	0.2	29
	41	0.7	14.2	0.1	38
	115	15.8	26.9	0.1	17
	42	4.9	23.6	0.2	32
	97	8.6	114.8	1.2	38
Brink Rd	109	3.5	29.4	0.3	35
Warfield Rd	110	6.7	41.8	0.3	30
Montgomery Village A	116	41.5	107.2	0.7	22
	10	3.7	25.8	0.2	30
Goshen Rd #3	118	7.2	26.6	0.2	20
Rothbury Dr	168	7.0	28.1	0.2	23
Stewartown Rd	165	4.0	50.7	0.5	33
Centerway Rd	163	12.8	79.6	0.7	30
Emory Grove Rd	162	19.5	86.6	0.7	28
MD 124-Midcounty Hig	102	71.4	89.3	0.2	6
	164	1.1	18.7	0.1	27
Total		**251.8**	**899.3**	**6.7**	**27**

Scenario 2 - BRT with Reversible Two-Lane M-83
Arterial Level of Service: WB #3
Year 2040 PM Peak

Cross Street	Node	Delay (s/veh)	Travel Time (s)	Distance (mi)	Arterial Speed (mph)
	164	2.5	17	0.2	39
Goshen Rd #3	102	7.8	24.7	0.1	21
Emory Grove Rd	162	0.8	5	0.2	113
Centerway Rd	163	19.6	87.1	0.7	28
Trams Way	165	4.8	71.3	0.7	34
Green Run Way	168	4.5	52.2	0.5	32
Snouffer School Rd #	118	41.3	62.1	0.2	11
	10	1.6	21.1	0.2	26
Pleasant Ridge Dr	116	19.3	40.7	0.2	19
Warfield Rd	110	7.5	72.3	0.7	33
Brink Rd	109	5.8	42.9	0.3	29
	97	2.8	29.1	0.3	36
	42	9.8	115.5	1.2	37
Midcounty Highway #1	115	14.2	32.4	0.2	23
	41	2.7	14.6	0.1	31
	48	0.6	14.1	0.1	38
MD 27-Ridge Rd #2 #3 #4	39	14.9	36.2	0.2	19
	47	0.7	14.2	0.1	28
Midcounty Highway #1	128	21.8	45.1	0.3	24
	34	32.3	51.3	0.2	16
	49	37.3	52.6	0.2	13
Total		**252.6**	**901.5**	**6.9**	**28**

Scenario 2 - BRT with Reversible Two-Lane M-83
Arterial Level of Service: SB #4
Year 2040 AM Peak

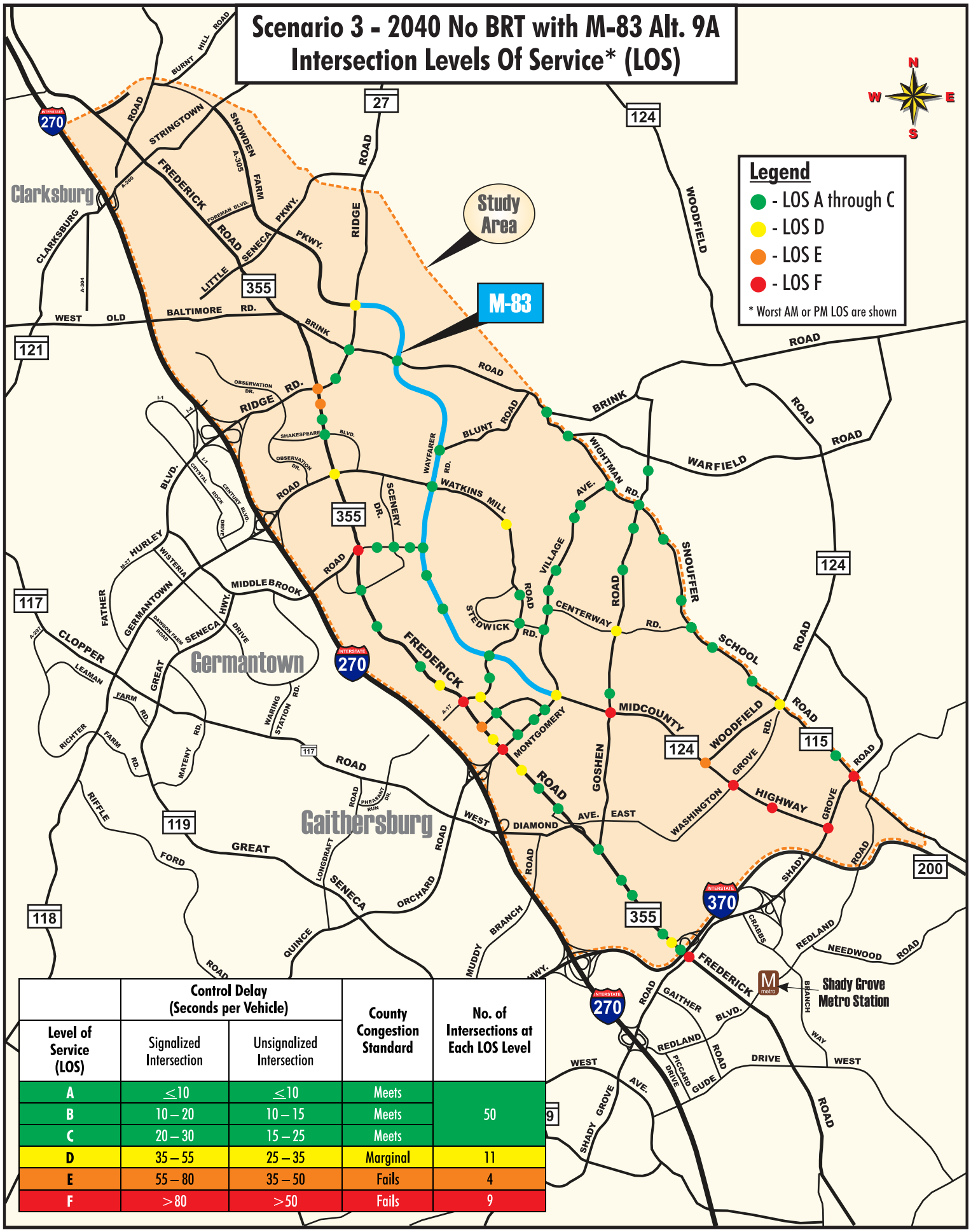
Cross Street	Node	Delay (s/veh)	Travel Time (s)	Distance (mi)	Arterial Speed (mph)
	34	2.2	17.7	0.2	39
Snowden Farm Pkwy	128	14.5	33.0	0.2	26
	47	7.0	30.8	0.3	35
Brink Rd	39	18.7	31.1	0.1	13
	48	1.0	23.4	0.2	29
	41	0.7	14.2	0.1	38
	115	15.8	26.9	0.1	17
	42	4.9	23.6	0.2	32
	97	8.6	114.8	1.2	38
Brink Rd	109	3.5	29.4	0.3	35
Warfield Rd	110	6.7	41.8	0.3	30
Montgomery Village A	116	41.5	107.2	0.7	22
	10	3.7	25.8	0.2	30
Goshen Rd #3	118	82.4	97.1	0.2	6
Chesley Knoll Dr	172	13.3	52.2	0.4	29
	181	2.7	24.9	0.3	36
Alliston Hollow Way	227	2.5	24.4	0.2	36
Centerway Rd	130	9.9	54.9	0.5	33
Flower Hill Way	174	3.6	30.0	0.3	35
Cherry Laurel Ln	177	5.8	53.2	0.5	36
	205	3.4	25.3	0.2	34
MD 124-Woodfield Rd	126	18.1	30.5	0.1	17
	203	11.5	27.6	0.2	23
Covenant Life Church	202	12.7	49.9	0.4	30
	192	96.7	127.3	0.3	10
Shady Grove Rd	131	39.1	47.2	0.1	7
		430.5	**1,164.2**	**7.8**	**24**

Scenario 2 - BRT with Reversible Two-Lane M-83
Arterial Level of Service: WB #4
Year 2040 PM Peak

Cross Street	Node	Delay (s/veh)	Travel Time (s)	Distance (mi)	Arterial Speed (mph)
Airpark Rd	131	225.9	281.2	0.3	4
	192	5.2	14.2	0.1	24
Covenant Life Church	202	3.2	33.9	0.3	37
	203	4.3	42.0	0.4	36
MD 124-Woodfield Rd	126	14.9	30.1	0.2	21
	205	3.7	16.9	0.1	30
Mooney Dr	177	5.2	26.9	0.2	32
Earhart Ct	174	4.8	52.1	0.5	37
Centerway Rd	130	5.9	32.5	0.3	33
Webb Tract Access	227	5.5	50.3	0.5	36
	181	1.9	24.0	0.2	36
Lewisberry Dr	172	4.7	27.1	0.3	33
Goshen Rd	118	208.8	245.1	0.4	6
	10	3.9	19.9	0.2	27
Pleasant Ridge Dr	116	16.7	38.4	0.2	20
Warfield Rd	110	6.4	71.1	0.7	34
Brink Rd	109	5.7	42.8	0.3	29
	97	2.9	29.4	0.3	35
	42	9.9	116.0	1.2	37
Midcounty Highway #1	115	14.1	32.4	0.2	23
	41	2.9	14.8	0.1	31
	48	0.5	14.1	0.1	38
MD 27-Ridge Rd #2 #3 #4	39	13.9	35.3	0.2	19
	47	0.8	14.4	0.1	28
Midcounty Highway #1	128	21.5	44.6	0.3	24
	34	29.0	48.0	0.2	18
	49	35.8	51.1	0.2	14
Total		**658.0**	**1,448.6**	**8.1**	**20**

Scenario 3
No BRT with Four-Lane M-83

Scenario 3 - 2040 No BRT with M-83 Alt. 9A
Intersection Levels Of Service* (LOS)



Level of Service (LOS)	Control Delay (Seconds per Vehicle)		County Congestion Standard	No. of Intersections at Each LOS Level
	Signalized Intersection	Unsignalized Intersection		
A	≤10	≤10	Meets	50
B	10 – 20	10 – 15	Meets	
C	20 – 30	15 – 25	Meets	
D	35 – 55	25 – 35	Marginal	11
E	55 – 80	35 – 50	Fails	4
F	>80	>50	Fails	9

Scenario 3 - No BRT with Four-Lane M-83
SimTraffic Delay Results (sec/veh) by Movement
Year 2040 AM Peak Hour

Delay in seconds	Node	Intersection	Northbound			Southbound			Eastbound			Westbound		
	ID	Overall	L	T	R	L	T	R	L	T	R	L	T	R
MD 355 #2 & Middlebrook Road	1	87.1	52.9	35.0	8.8	58.5	93.2	7.2	96.2	269.7	29.0	57.4	66.9	57.9
Minstrel Tune Way/Brandermill Dr & Middlebrook Road	3	14.6	486.4	611.8	443.7	324.9	370.6	98.0	18.1	1.5	0.9	12.5	3.7	2.5
MD 355 #2 & Gunners Branch Rd	5	9.0	39.6	5.5	5.0	17.7	6.9	2.7	51.7	47.6	25.9	49.6	46.3	8.0
MD 355 #2 & Germantown Rd	9	35.6	51.1	11.6	5.0	59.8	18.3	6.0	46.4	47.7	27.4	56.8	103.2	120.5
Watkins Mill Rd & Stedwick Rd	12	20.0	10.3	8.1	5.7	8.8	5.3	3.6	74.5	100.9	8.3	32.2	7.2	13.9
Midcounty Highway #1 & Germantown Rd/Watkins Mill Rd	13	27.5	38.6	19.8	5.8	42.2	26.8	12.0	61.2	30.4	20.4	50.0	27.0	9.2
Apple Ridge Rd & Watkins Mill Rd	14	38.8	157.6	45.1	42.2	41.4	19.4	14.8	31.4	28.3	15.7	35.9	22.1	6.1
Watkins Mill Rd & Club House Rd	15	9.0		6.8	4.6	16.3	5.2					25.5		8.2
MD 355 & S Westland Dr	16	23.3	32.0	3.0	2.3	28.7	30.0	43.4	58.2	266.4	93.8	76.7	101.3	9.8
Travis Avenue & Watkins Mill Rd	23	9.0	7.1	7.1	3.3	6.8	7.5	5.4	7.0	9.3	5.4	6.8	11.0	7.8
MD 355 #2 & Shakespeare Blvd	25	13.2	19.2	3.8	1.5	15.6	15.2	4.8	24.2	32.7	4.3	26.8	26.9	8.0
MD 355 #2 & Milestone South	28	8.7	15.5	2.3			10.1	6.1	54.6		8.2			
MD 355 #2 & Milestone North/Henderson Corner Rd	30	56.4	65.5	23.3	3.7	67.0	22.8	18.0	42.9	242.5	8.9	34.3	762.3	4.5
MD 355 #2/MD 355 & MD 27/MD 27 #2	32	55.3	44.8	33.5	3.5	58.6	51.7	9.8	48.7	98.5	6.0	42.1	71.2	10.6
MD 355 & Shady Grove Rd	35	97.2	742.7	56.3	7.2	92.7	106.9	21.0	29.0	31.3	157.4	75.1	123.1	12.4
Henderson Corner Rd & MD 27 #2	36	10.2			22.0					11.0	12.3	29.6	5.6	
MD 27 #2/MD 27 #2 #3 #4 & Brink Rd/Brink Rd #3 #4	39	18.2	59.0	17.2	11.1	16.6	10.5	2.2	42.7	35.2	27.5	61.7	30.6	4.0
MD 355 #2 & Plummer Dr	54	10.2	21.7	6.4	4.1	14.8	8.9	9.5	49.9	46.0	20.8	51.4	37.2	9.1
MD 355 & W Deer Park Dr/E Deer Park Dr	59	12.1	29.7	5.5	3.8	17.0	10.5	13.2	48.3	50.0	18.2	54.2	81.8	33.2
MD 355 #2 & Professional Dr	61	18.2	50.9	3.7	4.0	17.0	18.8	21.5	253.0	0.0	20.9	60.2	192.1	0.0
MD 355 #2 & Spectrum Avenue/Travis Avenue	65	50.2	71.8	9.3	5.7	54.4	70.3	83.1	50.4	42.6	35.2	51.9	15.2	7.4
MD 355 #2 & Watkins Mill Rd	67	103.5	77.6	20.9	17.7	112.2	156.9	126.8	40.8	46.8	32.2	82.0	145.1	64.1
Russell Ave & Watkins Mill Rd	68	8.5	111.0		4.8					3.3	3.7	8.4	8.5	
MD 355 & Education Blvd	69	8.9	17.3	3.8	1.6	10.5	4.8	5.4	138.3	193.0	11.9	168.0	203.8	76.1
MD 355 & Chestnut St	72	11.6	20.9	6.9			14.3	4.4	23.4		9.5			
MD 355 & Gas Station/Odendhal Ave	75	22.3	52.7	19.6	15.6	36.8	17.9	13.5	42.7	53.0	10.2	35.4	37.0	27.9
MD 355 & Perry Pkwy/Lakeforest Blvd	77	33.6	58.6	17.9	10.9	43.3	26.7	7.1	61.8	58.8	12.1	64.4	71.9	29.8
Midcounty Highway & Woodfield Rd	81	64.2	46.9	151.4	4.1	41.9	82.9	11.1	50.5	30.4	2.1	69.6	25.8	3.5
MD 355 #2 & Lockheed Martin N/Christopher Ave	82	19.0	31.3	2.8	1.8	26.3	26.0	43.0		69.9	31.8	55.7	56.9	4.4
MD 355 #2 & Lockheed Martin S/IBM Entrance	83	27.2	66.4	6.5	5.1	24.4	29.5	44.9	36.2		1.5	192.8	238.4	149.8
Russell Ave & Christopher Ave	85	8.1	10.7	7.2	5.0	11.5	4.6	3.3	16.6	11.8	4.5	14.5	14.1	3.7
MD 355/MD 355 #2 & Quince Orchard Rd/Montgomery Village Ave #2	88	84.6	202.1	12.7	9.9	38.3	8.7	31.5	459.1	53.5	6.0		165.6	121.2
MD 355 & Summit Ave	90	19.8	35.7	17.6	2.4	19.3	13.2	10.4	49.0	63.5	34.1	47.2	50.1	2.2
Russell Ave & Montgomery Village Ave #2	91	25.6	34.9	33.4	1.8	37.2	18.8	6.0	46.1	7.9	4.3	51.9	35.5	2.4
Midcounty Highway & Washington Grove Ln	92	148.4	74.1	29.5	4.5	50.3	59.0	21.1	92.4	155.9	133.7	456.0	216.8	145.8
Midcounty Highway & Miller Fall Rd	93	80.9	24.3	0.4	0.2	13.1	31.8	7.5	104.8	173.8	50.0	1593.2	1523.3	1505.2
Shady Grove Rd & Midcounty Highway	94	187.1				46.9		115.2	716.1	26.8			206.5	130.8
Lost Knife Rd/Christopher Ave & Montgomery Village Ave #2	98	29.1	44.0	40.7	3.7	37.5	37.2	3.1	29.4	7.4	4.3	53.2	35.4	33.4
Midcounty Highway #1 #2/Midcounty Highway #1 & Montgomery Village Ave #2/Montgomery	99	42.9	51.6	41.2	7.9	35.5	63.2	15.7	35.3	57.0	16.8	27.0	39.2	8.2
Goshen Rd/Goshen Rd #3 & Midcounty Highway #1 #2/Midcounty Highway #1 #2 #3	102	58.8	50.8	21.2	13.2	37.0	22.5	11.4	57.7	108.7	52.3	44.5	104.5	5.9
Lakeforest Mall & Montgomery Village Ave #2	105	4.4	46.0		2.1			1.7	71.6	2.5	3.3		2.5	1.8
Midcounty Highway #1 & Middlebrook Road	107	17.2	30.8	5.5			20.1	10.8	24.4		4.3			
Midcounty Highway #1 & Watkins Mill Rd	108	23.0	72.3	15.5	5.8	28.6	23.2	8.8	24.5	22.4	5.5	23.5	21.5	5.7
Brink Rd #3 #4/Wightman Rd #3 #4 & Brink Rd	109	11.2				68.8		9.2	9.5	4.1			4.0	2.9
Wightman Rd #3 #4 & Warfield Rd	110	6.3				27.2		6.7	9.4	5.8			5.7	5.9
Midcounty Highway #1 & Brink Rd #3 #4	115	28.6	30.0	36.6	14.6	35.6	27.5	23.6	35.8	27.0	10.3	43.3	23.4	6.6
Montgomery Village Ave/Pleasant Ridge Dr & Wightman Rd #3 #4	116	25.6	31.0	28.9	3.7	29.7	30.7	2.2	49.1	33.2	12.3	40.6	11.3	3.8
Goshen Rd #3/Goshen Rd & Wightman Rd #3 #4/Snouffer School Rd #4	118	31.7	38.2	20.2	5.6	43.1	24.5	23.1	27.8	76.2	13.1	35.8	93.7	6.3
Montgomery Village Ave & Apple Ridge Rd	119	7.3	16.3	2.8	1.4	5.8	4.7	3.4	27.4	3.3	6.0	25.6	28.8	8.1
Scenery Dr & Middlebrook Road	121	15.6	38.0	36.6	5.6	40.4	32.3	28.4	32.5	5.7	1.2	31.8	16.5	3.6
Muncaster Mill Rd #4/Snouffer School Rd #4 & Woodfield Rd	126	47.3	41.5	9.9	1.9	21.1	17.1	2.7	47.6	108.9	2.2	51.4	107.7	2.7
MD 27 #2 #3 #4/MD 27 #1 #2 #3 #4 & Snowden Farm Pkwy/Midcounty Highway #1	128	29.2	67.7	20.6	15.9	38.4	34.1	11.2	28.7	29.5	10.1	43.2	36.9	12.7
Snouffer School Rd #4 & Centerway Rd	130	9.8	6.7	1.8			11.1	8.2	22.7		12.1			
Muncaster Mill Rd #4 & Shady Grove Rd/Airpark Rd	131	116.6	222.8	79.0	33.6	16.7	12.0	27.3	1131.6	42.4	11.8	188.7	15.7	9.1
Knollcross Ct/Madrigal Dr & Middlebrook Road	137	3.1	47.5	56.5	9.1	62.4	77.8	21.7	8.1	2.5	1.5	8.8	1.1	0.7
Montgomery Village Ave & Club House Rd	140	16.3	15.7	5.9	2.9	8.4	14.5	10.1	33.0	36.7	8.6	38.6	28.2	4.9
Montgomery Village Ave & Village Center/Centerway Rd	142	20.0	16.8	14.0	6.6	14.0	12.9	4.2	292.7	223.1	36.3	17.5	17.8	9.6
Montgomery Village Ave & Stedwick Rd	143	23.2	39.4	5.8			24.4	21.8	22.3		20.1			
Montgomery Village Ave & Stewartown Rd	145	7.8		2.3	1.7	3.3	1.5					25.7		4.8
Goshen Rd & East Village Ave	154	11.4		7.1	5.5	12.2	8.3					28.1		2.2
Goshen Rd #3 & Emory Grove Rd	162	21.2	54.1	16.6	5.9	20.5	22.1	21.2	22.3	18.8	7.0	29.4	18.9	3.9
Goshen Rd #3 & Centerway Rd	163	42.4	510.8	15.1	11.0	19.7	32.3	32.5	26.0	17.1	8.5	30.8	14.5	7.0
Goshen Rd #3 & Stewartown Rd/Trams Way	165	23.0	25.4	3.2	4.4	5.8	6.3	6.8	360.1	74.4	51.1	89.9	104.9	27.2
Goshen Rd #3 & Rothbury Dr/Green Run Way	168	13.6	34.6	5.8	3.0	48.4	12.6	10.9	27.4	28.5	18.8	25.6	24.7	6.4
Snouffer School Rd #4 & Chesley Knoll Dr/Lewisberry Dr	172	10.8	13.8	7.6	2.6	15.3	11.0	6.1	5.9	8.4	3.7	15.0	9.5	4.3
Snouffer School Rd #4 & Flower Hill Way/Earhart Ct	174	3.6	7.2	1.6	1.5	3.9	3.1	2.9	26.1	17.1	7.6	17.0	29.5	3.9
Snouffer School Rd #4 & Cherry Laurel Ln/Mooney Dr	177	7.5	8.8	2.2	1.3	7.5	5.6	3.1	77.2	49.6	27.6	30.6	73.1	10.7
MD 355 & O'Neill Dr/Ramps from I-370	188	43.5	20.7	4.8			70.2	100.4	51.6		27.5	38.8	30.3	0.8
Muncaster Mill Rd #4 & Covenant Life Church	202	4.3		1.8	1.3	6.2	3.8					36.8		3.9
Midcounty Highway #1 & Blunt Rd	207	10.3		5.3	5.4	16.7	12.0					35.6		9.9
Midcounty Highway #1 & Grassy Knoll Terr	208	0.9		0.7	0.2	3.5	0.8					16.9		4.8
Midcounty Highway #1 & Gatlin Dr	210	3.5	14.9	1.4	0.6	2.6	3.1	3.0	28.1	43.8	11.8	35.4	51.4	4.4
MD 355 & Ramp to WB I-370	219	13.1		6.4	6.7		17.4	14.8						
Montgomery Village Ave & Shadow Oak Dr/Arrow Head Rd	221	10.1	9.2	4.4	2.2	14.2	10.7	8.6	23.3	23.0	6.9	25.9	19.9	4.6
Snouffer School Rd #4 & Alliston Hollow Way/Webb Tract Access	227	3.5	7.6	3.2	2.2	4.1	3.5	2.1	9.7	0.0	4.4	11.4	0.0	2.2

Average Delay	30.3
Average MD 355 Delay	36.0
Average Midcounty Hwy Ext Delay	19.2

Scenario 3 - No BRT with Four-Lane M-83
SimTraffic Delay Results (sec/veh) by Movement
Year 2040 PM Peak Hour

Delay in seconds	Node	Intersection	Northbound			Southbound			Eastbound			Westbound		
	ID	Overall	L	T	R	L	T	R	L	T	R	L	T	R
MD 355 #2 & Middlebrook Road	1	46.5	45.1	31.4	18.0	63.3	40.3	3.9	43.1	97.3	6.7	24.0	67.9	63.1
Minstrel Tune Way/Brandermill Dr & Middlebrook Road	3	13.3	594.0	471.8	593.1	441.7	364.6	30.7	18.3	1.4	0.7	0.0	3.4	3.0
MD 355 #2 & Gunners Branch Rd	5	17.1	18.3	18.0	22.3	38.3	5.6	2.5	56.5	45.0	12.0	51.0	53.9	32.3
MD 355 #2 & Germantown Rd	9	49.3	39.8	28.2	23.7	85.2	18.6	3.1	101.1	51.9	12.0	56.7	96.9	116.4
Watkins Mill Rd & Stedwick Rd	12	22.1	7.9	7.0	3.6	10.0	5.1	3.4	142.0	134.3	6.8	32.3	27.0	26.5
Midcounty Highway #1 & Germantown Rd/Watkins Mill Rd	13	29.5	55.3	19.5	7.5	51.8	19.2	6.5	65.7	43.8	17.0	49.1	41.5	24.6
Apple Ridge Rd & Watkins Mill Rd	14	17.5	33.4	22.6	7.4	23.9	27.1	14.3	26.1	18.6	10.6	16.8	14.5	6.1
Watkins Mill Rd & Club House Rd	15	7.7		5.9	3.9	11.5	4.5					26.2		10.7
MD 355 & S Westland Dr	16	11.1	27.2	3.7	1.9	33.1	9.7	8.1	46.0	0.0	22.2	70.6	86.9	12.8
Travis Avenue & Watkins Mill Rd	23	7.5	5.9	7.4	4.1	6.8	2.1	3.6	7.0	9.5	6.1	5.6	9.2	5.8
MD 355 #2 & Shakespeare Blvd	25	12.9	16.6	10.1	5.2	18.0	12.1	4.0	31.8	37.5	4.4	32.2	37.0	17.7
MD 355 #2 & Milestone South	28	9.9	12.3	5.0			9.1	4.2	42.7		5.1			
MD 355 #2 & Milestone North/Henderson Corner Rd	30	72.6	45.9	20.4	4.0	62.0	16.4	11.7	43.1	72.2	5.4	96.8	1140.3	96.0
MD 355 #2/MD 355 & MD 27/MD 27 #2	32	57.6	41.6	34.4	7.2	50.2	35.6	3.6	76.7	58.1	9.3	44.8	139.1	7.0
MD 355 & Shady Grove Rd	35	132.9	57.1	150.6	240.4	130.5	36.2	2.7	136.6	209.4	69.1	43.4	48.4	226.6
Henderson Corner Rd & MD 27 #2	36	20.7			87.5					11.7	9.2	36.5	2.7	
MD 27 #2/MD 27 #2 #3 #4 & Brink Rd/Brink Rd #3 #4	39	19.1	19.5	17.7	12.6	26.9	6.2	2.9	52.0	35.5	22.6	54.1	36.6	14.4
MD 355 #2 & Plummer Dr	54	11.7	14.3	12.8	14.4	25.9	7.9	6.4	22.5	28.0	7.8	26.0	23.7	16.1
MD 355 & W Deer Park Dr/E Deer Park Dr	59	15.3	32.3	8.0	6.1	35.8	14.4	14.5	51.1	50.1	11.1	51.2	66.4	22.9
MD 355 #2 & Professional Dr	61	12.0	16.1	7.7	8.0	27.0	11.3	8.5	65.4	78.8	11.8	47.3	162.2	35.0
MD 355 #2 & Spectrum Avenue/Travis Avenue	65	14.6	35.1	13.1	9.5	43.6	12.1	15.1	55.1	50.1	9.7	67.8	2.0	19.2
MD 355 #2 & Watkins Mill Rd	67	104.7	91.9	115.1	127.4	161.8	109.9	177.8	44.6	40.4	92.2	102.8	164.5	45.6
Russell Ave & Watkins Mill Rd	68	35.5	175.2		15.1					2.6	2.5	7.6	9.8	
MD 355 & Education Blvd	69	7.9	8.8	3.6	1.9	21.6	2.8	2.6	143.0	137.6	9.1	145.7	0.0	69.3
MD 355 & Chestnut St	72	14.3	24.4	11.8			15.3	5.8	25.3		7.6			
MD 355 & Gas Station/Odendhal Ave	75	30.4	59.6	33.4	33.2	68.8	14.4	14.3	54.6	56.3	24.0	41.4	43.4	32.6
MD 355 & Perry Pkwy/Lakeforest Blvd	77	43.8	45.8	29.9	19.7	53.8	27.0	10.7	108.9	69.7	38.6	59.2	70.5	42.0
Midcounty Highway & Woodfield Rd	81	66.0	58.7	100.0	18.0	111.2	73.5	2.3	92.2	44.5	1.7	62.6	48.2	6.4
MD 355 #2 & Lockheed Martin N/Christopher Ave	82	61.4	32.7	21.2	9.0	48.9	135.5	255.3	31.8	34.3	25.5	49.1	33.0	12.8
MD 355 #2 & Lockheed Martin S/IBM Entrance	83	40.2	31.5	17.4	13.8	32.6	64.0	100.0	33.6	38.4	2.2	195.0	0.0	129.5
Russell Ave & Christopher Ave	85	28.6	40.2	37.9	42.3	28.6	7.9	5.7	40.9	11.5	6.2	25.6	38.0	34.2
MD 355/MD 355 #2 & Quince Orchard Rd/Montgomery Village Ave #2	88	106.9	312.6	34.2	18.6	58.4	15.2	54.3	439.5	65.8	11.8		157.1	102.8
MD 355 & Summit Ave	90	11.2	15.2	5.8	2.2	22.4	5.5	2.5	64.2	400.4	292.2	54.8	50.8	2.1
Russell Ave & Montgomery Village Ave #2	91	20.7	31.0	38.7	11.1	33.6	36.0	6.9	48.2	20.2	4.6	51.5	12.3	2.3
Midcounty Highway & Washington Grove Ln	92	57.8	25.4	32.3	11.1	62.2	32.8	4.1	72.2	109.1	95.2	198.3	87.7	27.6
Midcounty Highway & Miller Fall Rd	93	3.2	7.4	0.8	0.2	31.1	0.6	0.0	52.9	76.8	14.7	106.3	78.9	44.6
Shady Grove Rd & Midcounty Highway	94	42.3				233.2		5.6	52.0	13.4			77.6	4.9
Lost Knife Rd/Christopher Ave & Montgomery Village Ave #2	98	26.5	44.1	45.3	14.1	41.4	28.5	2.3	37.5	19.1	18.3	52.3	24.5	21.2
Midcounty Highway #1 #2/Midcounty Highway #1 & Montgomery Village Ave #2/Montgomery	99	44.5	29.5	43.9	23.4	53.9	216.9	13.4	54.9	53.2	13.8	44.4	34.8	9.6
Goshen Rd/Goshen Rd #3 & Midcounty Highway #1 #2/Midcounty Highway #1 #2 #3	102	123.8	167.0	217.0	154.6	50.1	26.7	14.0	59.7	124.0	8.7	73.8	126.2	63.1
Lakeforest Mall & Montgomery Village Ave #2	105	5.2	49.5		2.9	49.6		1.8	58.8	5.5	4.5		1.7	1.6
Midcounty Highway #1 & Middlebrook Road	107	20.0	35.4	15.2			21.5	13.4	27.6		3.1			
Midcounty Highway #1 & Watkins Mill Rd	108	19.6	37.6	24.1	9.6	25.6	12.3	3.6	22.1	20.4	3.1	25.4	24.6	10.1
Brink Rd #3 #4/Wightman Rd #3 #4 & Brink Rd	109	12.0				127.9		10.3	18.6	5.1			6.0	3.9
Wightman Rd #3 #4 & Warfield Rd	110	6.6				20.5		7.6	10.3	5.8			6.3	7.3
Midcounty Highway #1 & Brink Rd #3 #4	115	29.1	27.2	37.1	24.2	29.2	24.8	17.9	36.8	34.9	4.4	36.6	20.3	12.6
Montgomery Village Ave/Pleasant Ridge Dr & Wightman Rd #3 #4	116	22.1	21.3	23.0	6.2	40.2	42.7	1.9	49.9	31.7	11.4	48.3	16.2	5.0
Goshen Rd #3/Goshen Rd & Wightman Rd #3 #4/Snouffer School Rd #4	118	30.6	41.1	27.0	8.3	30.3	19.5	16.8	35.1	51.1	7.9	31.9	79.3	13.9
Montgomery Village Ave & Apple Ridge Rd	119	11.7	18.6	7.1	3.7	11.7	5.5	2.7	22.8	2.6	4.6	0.0	16.2	3.2
Scenery Dr & Middlebrook Road	121	13.0	55.0	43.8	17.6	50.3	43.2	16.9	29.5	5.7	1.7	13.7	12.5	5.0
Muncaster Mill Rd #4/Snouffer School Rd #4 & Woodfield Rd	126	37.0	23.0	13.8	2.6	24.1	13.7	2.1	19.3	83.1	1.6	20.9	82.9	4.1
MD 27 #2 #3 #4/MD 27 #1 #2 #3 #4 & Snowden Farm Pkwy/Midcounty Highway #1	128	50.3	72.9	54.8	67.5	131.7	38.5	31.5	53.5	17.7	3.1	27.1	49.5	20.5
Snouffer School Rd #4 & Centerway Rd	130	6.9	8.8	3.2			9.9	6.7	19.9		5.7			
Muncaster Mill Rd #4 & Shady Grove Rd/Airpark Rd	131	93.3	50.8	16.1	5.3	21.1	12.8	4.5	657.4	37.0	22.5	282.6	9.7	3.8
Knollcross Ct/Madrigal Dr & Middlebrook Road	137	3.1	47.0	39.7	17.2	76.6	67.6	31.8	9.3	2.9	1.6	5.1	1.3	1.0
Montgomery Village Ave & Club House Rd	140	24.3	23.6	13.1	7.8	17.6	32.3	21.4	44.9	28.8	6.6	35.9	27.0	4.4
Montgomery Village Ave & Village Center/Centerway Rd	142	25.1	13.9	11.9	11.1	11.9	8.6	3.4	148.7	133.4	40.7	44.8	45.6	27.2
Montgomery Village Ave & Stedwick Rd	143	8.8	17.3	6.5			6.5	4.5	46.7		10.4			
Montgomery Village Ave & Stewartown Rd	145	5.8		3.0	2.9	6.2	0.9					17.9		4.6
Goshen Rd & East Village Ave	154	9.0		4.5	7.5	11.4	5.2					31.1		2.1
Goshen Rd #3 & Emory Grove Rd	162	12.7	16.6	11.7	9.9	24.8	7.4	5.3	23.4	23.2	5.7	30.5	28.1	8.8
Goshen Rd #3 & Centerway Rd	163	20.8	36.0	22.5	22.2	77.3	13.7	9.6	30.5	13.7	3.5	28.6	12.8	9.3
Goshen Rd #3 & Stewartown Rd/Trams Way	165	8.5	10.9	6.4	7.0	7.7	3.3	2.9	29.9	19.9	4.7	25.0	31.2	5.7
Goshen Rd #3 & Rothbury Dr/Green Run Way	168	13.6	29.9	8.5	5.9	52.0	10.0	7.7	29.4	28.3	4.5	22.7	19.7	6.9
Snouffer School Rd #4 & Chesley Knoll Dr/Lewisberry Dr	172	6.9	6.6	4.3	3.7	13.2	3.7	3.2	33.7	35.4	6.7	38.9	34.6	5.6
Snouffer School Rd #4 & Flower Hill Way/Earhart Ct	174	4.6	8.1	4.0	4.0	7.4	2.8	2.6	22.4	35.3	4.9	22.5	30.0	6.3
Snouffer School Rd #4 & Cherry Laurel Ln/Mooney Dr	177	5.7	10.4	4.9	3.1	10.9	4.8	3.5	21.7	0.0	5.8	14.6	0.0	5.5
MD 355 & O'Neill Dr/Ramps from I-370	188	8.2	29.1	1.7			10.8	12.5	51.5		22.7	47.4	0.0	0.8
Muncaster Mill Rd #4 & Covenant Life Church	202	3.7		2.5	1.4	6.6	2.3					19.9		6.7
Midcounty Highway #1 & Blunt Rd	207	10.8		9.3	8.9	27.3	8.5					41.3		27.0
Midcounty Highway #1 & Grassy Knoll Terr	208	1.2		1.3	0.5	7.7	0.3					24.6		9.6
Midcounty Highway #1 & Gatlin Dr	210	2.7	4.1	2.2	2.3	11.4	1.8	2.2	26.8	35.4	4.8	24.5	41.9	9.7
MD 355 & Ramp to WB I-370	219	5.8		7.5	9.2		1.9	2.2						
Montgomery Village Ave & Shadow Oak Dr/Arrow Head Rd	221	7.4	4.8	4.9	3.4	11.3	7.0	4.9	21.8	20.4	6.2	22.2	18.5	6.3
Snouffer School Rd #4 & Alliston Hollow Way/Webb Tract Access	227	6.2	9.5	6.1	3.6	5.6	4.2	2.5	11.2	0.0	4.2	13.9	0.0	4.4

Average Delay	27.0
Average MD 355 Delay	37.4
Average Midcounty Hwy Ext Delay	19.7

Scenario 3 - No BRT with Four-Lane M-83
Arterial Level of Service: SB #1
Year 2040

Cross Street	Node	Delay (s/veh)	Travel Time (s)	Distance (mi)	Arterial Speed (mph)
	34	2.2	17.7	0.2	39
Snowden Farm Pkwy	128	37.9	60.1	0.2	14
Brink Rd #3 #4	115	27.2	95.7	0.8	32
Blunt Rd	207	14.1	99.5	1.1	40
Germantown Rd	13	24.7	50.7	0.3	23
	229	6.4	18.1	0.1	28
	230	2.4	26.4	0.3	41
Middlebrook Road	107	19.7	35.6	0.2	21
	234	6.7	20.3	0.2	29
Grassy Knoll Terr	208	0.8	6.7	0.1	39
	233	1.2	15.1	0.2	42
Gatlin Dr	210	3.0	36.4	0.4	41
	214	2.2	28.1	0.3	41
Watkins Mill Rd	108	21.2	41.7	0.3	23
	215	7.9	21.0	0.2	27
	216	3.1	40.6	0.5	42
Montgomery Village A	99	59.6	71.5	0.2	8
	211	6.5	18.6	0.1	28
	166	65.1	92.3	0.3	13
Goshen Rd	102	109.6	116.2	0.1	3
	164	11.2	23.3	0.1	22
Total		**432.7**	**935.6**	**6.2**	**24**

Scenario 3 - No BRT with Four-Lane M-83
Arterial Level of Service: NB #1
Year 2040 PM Peak

Cross Street	Node	Delay (s/veh)	Travel Time (s)	Distance (mi)	Arterial Speed (mph)
	164	65.2	129.0	0.2	8
Goshen Rd #3	102	129.5	139.9	0.1	4
	166	6.8	14.9	0.1	23
	211	3.8	30.9	0.3	40
Montgomery Village A	99	42.5	53.5	0.1	10
	216	10.1	23.2	0.2	25
	215	4.6	42.1	0.5	40
Watkins Mill Rd	108	24.3	36.4	0.2	16
	214	6.3	27.7	0.3	34
Gatlin Dr	210	2.2	28.0	0.3	42
	233	2.8	36.5	0.4	41
Grassy Knoll Terr	208	1.3	15.0	0.2	42
	234	0.6	6.6	0.1	39
Middlebrook Road	107	15.4	28.7	0.2	21
	230	4.1	20.3	0.2	36
	229	2.8	26.9	0.3	40
Watkins Mill Rd	13	21.0	31.9	0.1	16
Blunt Rd	207	10.2	36.8	0.3	32
Brink Rd #3 #4	115	36.1	122.7	1.1	33
MD 27 #1 #2 #3 #4	128	25.3	96.1	0.8	32
	34	10.6	34.8	0.2	24
	49	6.8	22.3	0.2	31
Total		**230.8**	**720.4**	**6.0**	**30**

Scenario 3 - No BRT with Four-Lane M-83
Arterial Level of Service: SB #2
Year 2040

Cross Street	Node	Delay (s/veh)	Travel Time (s)	Distance (mi)	Arterial Speed (mph)
	34	2.2	17.7	0.2	39
Snowden Farm Pkwy	128	34.4	52.7	0.2	16
	47	9.5	33.2	0.3	32
Brink Rd	39	10.8	19.5	0.1	20
Henderson Corner Rd	36	6.1	37.2	0.4	38
MD 355	32	47.2	63.7	0.2	9
Milestone North	30	24.4	42.2	0.2	13
Milestone South	28	12.2	26.1	0.2	24
Shakespeare Blvd	25	14.5	25.1	0.1	19
	24	6.4	21.6	0.2	31
Germantown Rd	9	18.2	37.3	0.2	24
	235	7.8	48.0	0.5	37
	6	1.8	15.3	0.2	39
Middlebrook Road	1	74.1	85.1	0.1	6
Gunners Branch Rd	5	8.1	25.0	0.2	30
Plummer Dr	54	9.2	48.8	0.5	36
Professional Dr	61	15.0	77.7	0.8	37
Spectrum Avenue	65	36.2	56.8	0.3	16
Watkins Mill Rd	67	134.1	153.0	0.2	6
Lockheed Martin N	82	34.8	59.7	0.3	19
Lockheed Martin S	83	33.9	47.9	0.2	13
Quince Orchard Rd	88	39.5	52.9	0.1	9
	46	1.0	15.8	0.1	26
Russell Ave	91	8.0	14.3	0.1	21
	74	1.2	7.5	0.1	36
Lakeforest Mall	105	2.7	16.6	0.2	38
	149	1.7	6.9	0.1	34
Lost Knife Rd	98	7.6	12.6	0.1	19
Midcounty Highway #1	99	17.7	38.0	0.2	18
	211	0.8	17.1	0.1	30
	166	65.1	92.3	0.3	13
Goshen Rd	102	109.6	116.2	0.1	3
	164	11.2	23.3	0.1	22
Total		**807.0**	**1,407.1**	**7.2**	**18**

Scenario 3 - No BRT with Four-Lane M-83
Arterial Level of Service: NB #2
Year 2040 PM Peak

Cross Street	Node	Delay (s/veh)	Travel Time (s)	Distance (mi)	Arterial Speed (mph)
	164	65.2	129.0	0.2	8
Goshen Rd #3	102	129.5	139.9	0.1	4
	166	6.8	14.9	0.1	23
	211	3.8	30.9	0.3	40
Montgomery Village A	99	27.3	41.9	0.1	12
Christopher Ave	98	24.8	45.6	0.2	15
	149	3.4	9.1	0.1	26
Lakeforest Mall	105	1.6	6.8	0.1	34
	74	2.0	16.0	0.2	39
Russell Ave	91	12.7	18.5	0.1	15
	46	7.1	14.1	0.1	21
MD 355 #2	88	93.4	102.7	0.1	4
IBM Entrance	83	60.9	77.1	0.1	6
Christopher Ave	82	24.4	37.7	0.2	16
Watkins Mill Rd	67	129.0	153.0	0.3	7
Travis Avenue	65	13.9	33.6	0.2	27
Professional Dr	61	7.7	28.7	0.3	32
Plummer Dr	54	13.4	76.8	0.8	37
Gunners Branch Rd	5	19.4	58.7	0.5	30
Middlebrook Road	1	32.2	47.8	0.2	16
	6	10.6	23.2	0.1	23
	235	2.2	15.7	0.2	38
Germantown Rd	9	29.5	68.0	0.5	26
	24	6.3	26.5	0.2	34
Shakespeare Blvd	25	10.5	25.2	0.2	27
Milestone South	28	5.3	15.7	0.1	30
Henderson Corner Rd	30	18.6	32.5	0.2	19
MD 27 #2	32	6.1	22.7	0.2	25
Henderson Corner Rd	36	8.9	26.9	0.2	22
Brink Rd #3 #4	39	16.1	47.6	0.4	30
	47	3.8	13.0	0.1	31
Midcounty Highway #1	128	56.5	79.6	0.3	13
	34	20.0	39.1	0.2	22
	49	6.8	22.3	0.2	31
Total		**879.7**	**1,540.8**	**7.4**	**17**

Scenario 3 - No BRT with Four-Lane M-83
Arterial Level of Service: EB #3
Year 2040

Cross Street	Node	Delay (s/veh)	Travel Time (s)	Distance (mi)	Arterial Speed (mph)
	34	2.2	17.7	0.2	39
Snowden Farm Pkwy	128	34.4	52.7	0.2	16
	47	9.5	33.2	0.3	32
Brink Rd	39	16.3	28.6	0.1	14
	48	0.8	22.8	0.2	30
	41	0.4	13.9	0.1	39
Midcounty Highway #1	115	27.7	38.8	0.1	12
	42	7.2	25.8	0.2	29
	97	11.0	116.7	1.2	37
Brink Rd	109	4.2	30.2	0.3	34
Warfield Rd	110	5.7	41.0	0.3	31
Montgomery Village A	116	32.2	98.8	0.7	24
	10	4.1	26.1	0.2	29
Goshen Rd #3	118	13.8	33.2	0.2	16
Rothbury Dr	168	13.9	34.9	0.2	19
Stewartown Rd	165	7.3	54.8	0.5	31
Centerway Rd	163	41.4	108.2	0.7	22
Emory Grove Rd	162	23.9	91.0	0.7	26
Midcounty Highway #1	102	37.3	54.9	0.2	10
	164	3.1	21.1	0.1	24
Total		**296.4**	**944.4**	**6.7**	**26**

Scenario 3 - No BRT with Four-Lane M-83
Arterial Level of Service: WB #3
Year 2040 PM Peak

Cross Street	Node	Delay (s/veh)	Travel Time (s)	Distance (mi)	Arterial Speed (mph)
	164	65.2	129.0	0.2	8
Goshen Rd #3	102	65.5	82.1	0.1	6
Emory Grove Rd	162	9.2	28.2	0.2	20
Centerway Rd	163	22.8	90.5	0.7	27
Trams Way	165	7.5	74.6	0.7	32
Green Run Way	168	9.2	56.6	0.5	30
Snouffer School Rd #	118	38.7	59.1	0.2	11
	10	1.4	20.9	0.2	26
Pleasant Ridge Dr	116	16.5	38.2	0.2	20
Warfield Rd	110	7.2	73.0	0.7	33
Brink Rd	109	6.6	43.7	0.3	29
	97	3.2	29.5	0.3	35
	42	11.0	116.7	1.2	37
Midcounty Highway #1	115	21.4	39.5	0.2	19
	41	3.3	15.1	0.1	30
	48	0.4	13.9	0.1	39
MD 27 #2 #3 #4	39	14.0	35.0	0.2	19
	47	0.8	14.1	0.1	28
Midcounty Highway #1	128	56.5	79.6	0.3	13
	34	20.0	39.1	0.2	22
	49	6.8	22.3	0.2	31
Total		**387.2**	**1,100.7**	**6.9**	**23**

Scenario 3 - No BRT with Four-Lane M-83
Arterial Level of Service: SB #4
Year 2040

Cross Street	Node	Delay (s/veh)	Travel Time (s)	Distance (mi)	Arterial Speed (mph)
	34	2.2	17.7	0.2	39
Snowden Farm Pkwy	128	34.4	52.7	0.2	16
	47	9.5	33.2	0.3	32
Brink Rd	39	16.3	28.6	0.1	14
	48	0.8	22.8	0.2	30
	41	0.4	13.9	0.1	39
Midcounty Highway #1	115	27.7	38.8	0.1	12
	42	7.2	25.8	0.2	29
	97	11.0	116.7	1.2	37
Brink Rd	109	4.2	30.2	0.3	34
Warfield Rd	110	5.7	41.0	0.3	31
Montgomery Village A	116	32.2	98.8	0.7	24
	10	4.1	26.1	0.2	29
Goshen Rd #3	118	78.4	93.0	0.2	6
Chesley Knoll Dr	172	11.4	49.5	0.4	31
	181	2.9	25.4	0.3	36
Alliston Hollow Way	227	3.6	25.5	0.2	34
Centerway Rd	130	10.9	55.5	0.5	33
Flower Hill Way	174	3.9	30.4	0.3	35
Cherry Laurel Ln	177	5.6	52.8	0.5	36
	205	3.2	25.1	0.2	35
Woodfield Rd	126	16.7	29.0	0.1	18
	203	10.4	26.6	0.2	24
Covenant Life Church	202	3.9	41.3	0.4	36
	192	6.9	38.3	0.3	33
Shady Grove Rd	131	11.5	19.7	0.1	17
		325.0	**1,058.4**	**7.8**	**27**

Scenario 3 - No BRT with Four-Lane M-83
Arterial Level of Service: WB #4
Year 2040 PM Peak

Cross Street	Node	Delay (s/veh)	Travel Time (s)	Distance (mi)	Arterial Speed (mph)
Airpark Rd	131	16.9	41.1	0.3	24
	192	3.7	12.7	0.1	27
Covenant Life Church	202	2.4	33.1	0.3	38
	203	3.3	41.0	0.4	37
Woodfield Rd	126	15.2	30.5	0.2	21
	205	3.9	17.1	0.1	30
Mooney Dr	177	5.0	26.5	0.2	33
Earhart Ct	174	4.2	51.4	0.5	37
Centerway Rd	130	3.5	30.1	0.3	35
Webb Tract Access	227	6.1	50.9	0.5	36
	181	2.2	24.3	0.2	36
Lewisberry Dr	172	4.1	26.6	0.3	34
Goshen Rd	118	80.5	117.1	0.4	13
	10	3.7	19.7	0.2	28
Pleasant Ridge Dr	116	16.5	38.2	0.2	20
Warfield Rd	110	7.2	73.0	0.7	33
Brink Rd	109	6.6	43.7	0.3	29
	97	3.2	29.5	0.3	35
	42	11.0	116.7	1.2	37
Midcounty Highway #1	115	21.4	39.5	0.2	19
	41	3.3	15.1	0.1	30
	48	0.4	13.9	0.1	39
MD 27 #2 #3 #4	39	14.0	35.0	0.2	19
	47	0.8	14.1	0.1	28
Midcounty Highway #1	128	56.5	79.6	0.3	13
	34	20.0	39.1	0.2	22
	49	6.8	22.3	0.2	31
Total		**322.4**	**1,081.8**	**8.1**	**27**