
TECHNICAL MEMORANDUM

TO: Bill Swiatek, Principal Planner
Wilmington Area Planning Council (WilMAPCO)

FROM: John Rectanus, PE, PTOE
Wallace Montgomery

DATE: April 29, 2026

RE: MD 272 Two-Way Conversion Study

WM Project No.: 224039.0002

Attachment 1: Traffic Counts, Attachment 2: Traffic Volume Calculations, Attachment 3: Capacity Analyses Worksheets, Attachment 4: Alternative 1 conceptual intersection improvements, Attachment 5: Alternative 2 conceptual intersection improvements

EXECUTIVE SUMMARY

This memorandum evaluates the potential conversion of Main Street and Mauldin Avenue (MD 272) from one-way to two-way operations under future (2040) conditions. Consistent with the MD 272 Corridor Plan, the goal is to improve downtown accessibility and support local businesses while balancing the corridor's role as both a regional route and a local main street. The analysis compares a No-Build scenario to a Build scenario with the proposed conversion, including background growth, school-related traffic, and seasonal variation. Two intersection control options were evaluated: signalization and roundabouts.

Because the study area is located on a peninsula with limited north-south routes, traffic redistribution is constrained. The proposed concept shifts through traffic from Main Street to Mauldin Avenue, consistent with their intended functions. In the absence of detailed modeling, this redistribution was evaluated using planning-level assumptions.

Compared to the 2040 No-Build condition, the two-way conversion redistributes traffic to Mauldin Avenue, increasing volumes and queue lengths along that corridor while reducing demand and improving access and flexibility on Main Street. Both the signalized and roundabout alternatives are capable of accommodating projected traffic; however, they perform differently. The signalized alternative generally results in acceptable levels of service but produces longer queues at key intersections. The roundabout alternative generally reduces queue lengths and improves traffic flow but may show lower levels of service during peak periods. Because level of service is measured differently for signalized and unsignalized intersections, it should not be directly compared between alternatives.

Overall, the two-way conversion is feasible but introduces tradeoffs. It improves downtown accessibility and supports local businesses—key community priorities—while increasing congestion along Mauldin Avenue during peak periods. The decision to advance this concept should be based on a balanced consideration of these tradeoffs, recognizing that the conversion represents a shift in priority from regional through movement to local access, placemaking, and economic vitality.

INTRODUCTION

As identified as Mid-term Recommendation M-1 in the 2025 MD 272 Corridor plan and as requested by WilMAPCO, Wallace Montgomery (WM) has prepared the following tech memorandum for the MD 272 Two-Way Conversion Study. The purpose of the study is to evaluate the future traffic and safety impacts by converting Mauldin Avenue from two northbound lanes to one lane in each direction between N. Main Street / Russell Street and Irishtown Road in the town of North East, MD.

STUDY AREA

This study focused on the following four intersections:

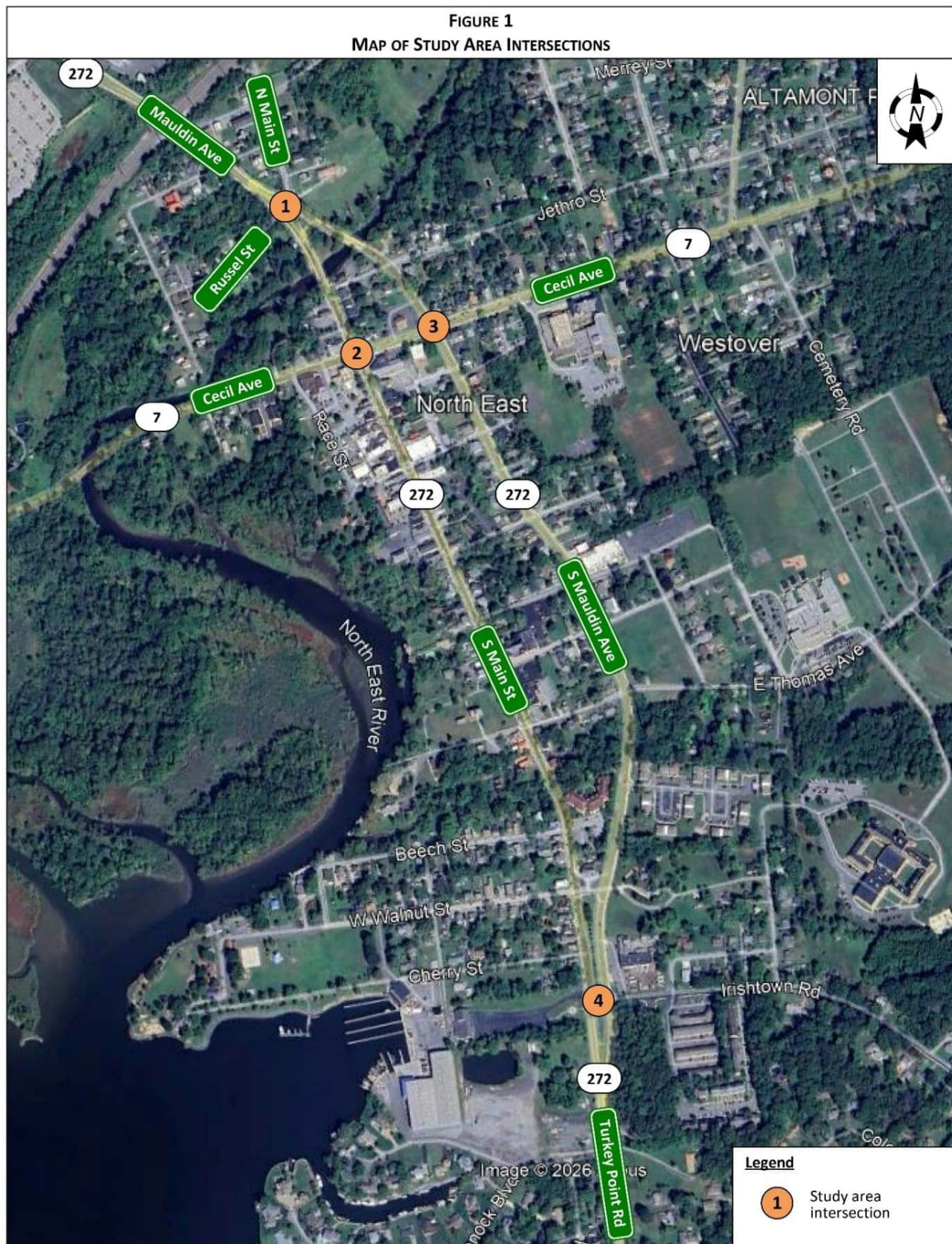
1. MD 272 (Mauldin Avenue) at N. Main Street / Russell Street
2. MD 272 SB (Main Street) at MD 7 (Cecil Avenue)
3. MD 272 NB (Mauldin Avenue) at MD 7 (Cecil Avenue)
4. MD 272 (S. Main Street) / Mauldin Avenue at Irishtown Road

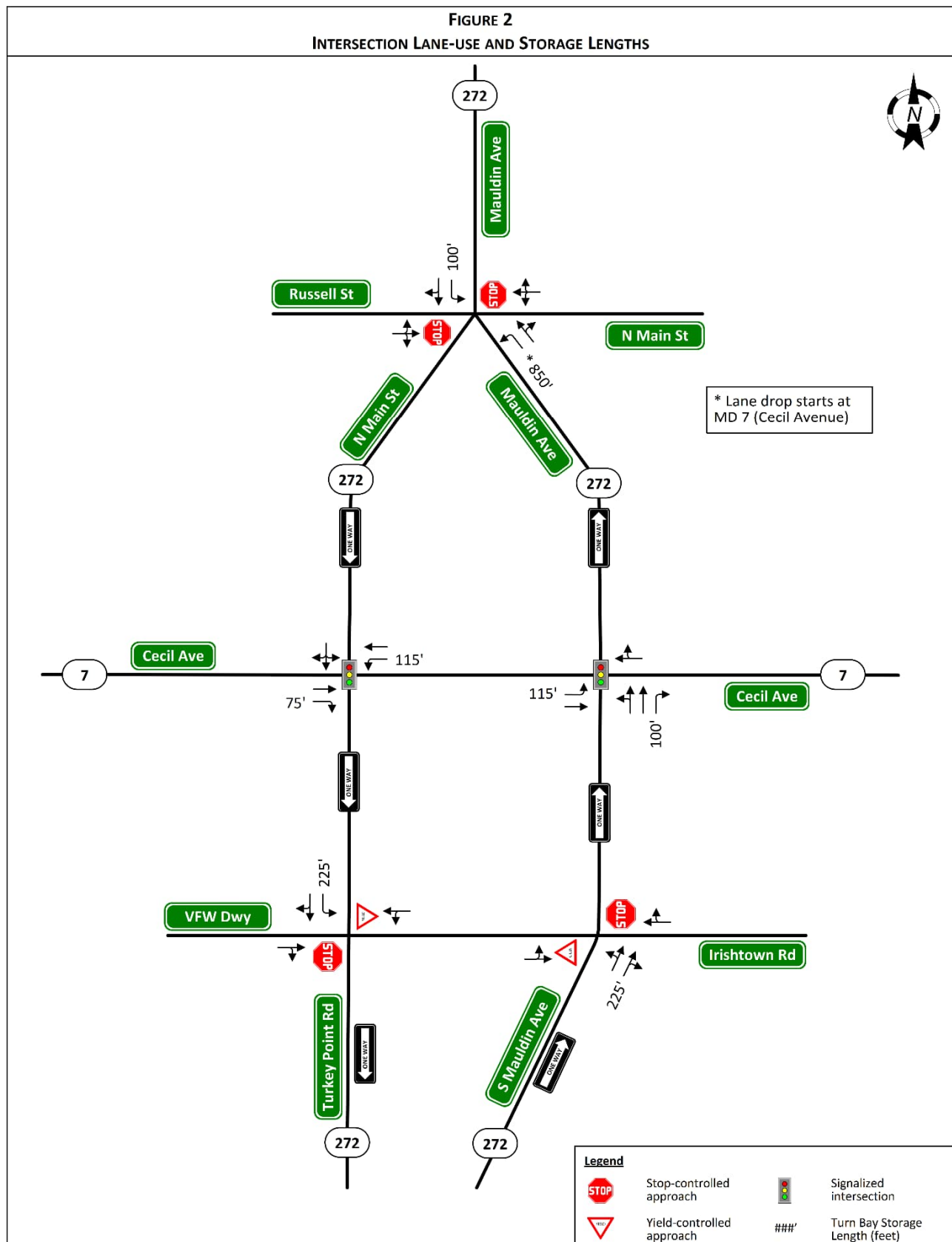
MD 272 (Mauldin Avenue) at N. Main Street / Russell Street is a five-legged intersection with stop-control on the N. Main Street and Russell Street approaches. Additionally, a private driveway intersects N. Main Street on the southeast quadrant. The existing intersection geometry allows for median storage for one vehicle from the side street approaches continuing left or through the intersection. Crosswalks are provided across all legs of the intersection except for the northern MD 272 leg and the MD 272 SB (Main Street) leg.

MD 272 SB (Main Street) at MD 7 (Cecil Avenue) and MD 272 NB (Mauldin Avenue) at MD 7 (Cecil Avenue) are signalized intersections that are controlled by a single controller. As such, the intersections have overlapping phases to prevent blocking and continuous progression.

MD 272 (S. Main Street) / Mauldin Avenue at Irishtown Road is a five-legged intersection with stop-control on the Irishtown Road and VFW Driveway approaches. The existing intersection geometry allows for median storage for one vehicle from the side street approaches continuing left or through the intersection or left turn movements from MD 272. Crosswalks are provided across the southern and eastern legs of the intersection.

A study location map is shown in **Figure 1**, and the intersection lane-use and storage lengths are shown on **Figure 2**.





Mauldin Avenue (MD 272) has a general north-south orientation and provides two (2) lanes of travel in the northbound direction through the study area. This roadway is classified as a Minor Arterial by MDOT SHA. The pavement surface and lane markings are in good condition. The roadway provides a connection between Turkey Point Road and US 40 (Pulaski Highway). The posted speed limit in the vicinity of the study area is 30 mph.

Main Street (MD 272) has a general north-south orientation and provides one (1) lane of travel in the southbound direction through the study area. This roadway is classified as a Minor Arterial by MDOT SHA. The pavement surface and lane markings are in fair to good condition. The roadway provides a connection between Mauldin Avenue and Irishtown Road. The posted speed limit in the vicinity of the study area is 25 mph.

Cecil Avenue (MD 7) has a general east-west orientation and provides one (1) lane of travel in each direction through the study area. This roadway is classified as a Minor Arterial by MDOT SHA. The pavement surface and lane markings are in fair to good condition. The roadway provides a connection between Catherine Street and Rehill Avenue. The posted speed limit in the vicinity of the study area is 25 mph.

Irishtown Road has a general east-west orientation and provides one (1) lane of travel in each direction through the study area. This roadway is classified as a local road by MDOT SHA. The pavement surface and lane markings are in new condition. The roadway provides a connection between MD 272 and Old Elk Neck Road. The posted speed limit in the vicinity of the study area is 25 mph.

N. Main Street has a general north-south orientation and provides one (1) lane of travel in each direction through the study area. This roadway is classified as a local road by MDOT SHA. The pavement is in fair condition. The roadway provides a connection between Rolling Mill Lane and Mauldin Avenue. The posted speed limit in the vicinity of the study area is 15 mph.

Russell Street has a general east-west orientation and provides one (1) lane of travel in each direction through the study area. This roadway is classified as a local road by MDOT SHA. The pavement is in good condition. The roadway provides a connection between Main Street and Washington Street. The posted speed limit in the vicinity of the study area is 15 mph.

EXISTING TRAFFIC VOLUMES

Existing intersection volumes were collected from recent turning movement counts obtained from SHA and other recent traffic studies. **Table 1** displays the turning movement count locations, date, and source; and traffic count data is included in **Attachment 1**.

Table 1 – Traffic Count Summary

	Intersection	Count Date	Source	Peak Hour
1	MD 272 (Mauldin Avenue) at N. Main Street / Russell Street	11/23/2024	SHA ITMS	8:00 AM - 9:00 AM
				3:30 PM - 4:30 PM
2	MD 272 SB (Main Street) at MD 7 (Cecil Avenue)	11/14/2024	SHA ITMS	7:15 AM - 8:15 AM
				4:30 PM - 5:30 PM
3	MD 272 NB (Mauldin Avenue) at MD 7 (Cecil Avenue)	11/14/2024	SHA ITMS	7:00 AM - 8:00 AM
				3:45 PM - 4:45 PM
4	MD 272 (S. Main Street) / Mauldin Avenue at Irishtown Road	12/13/2022	Noth East Middle and High School TIA	7:00 AM - 8:00 AM
				4:00 PM - 5:00 PM

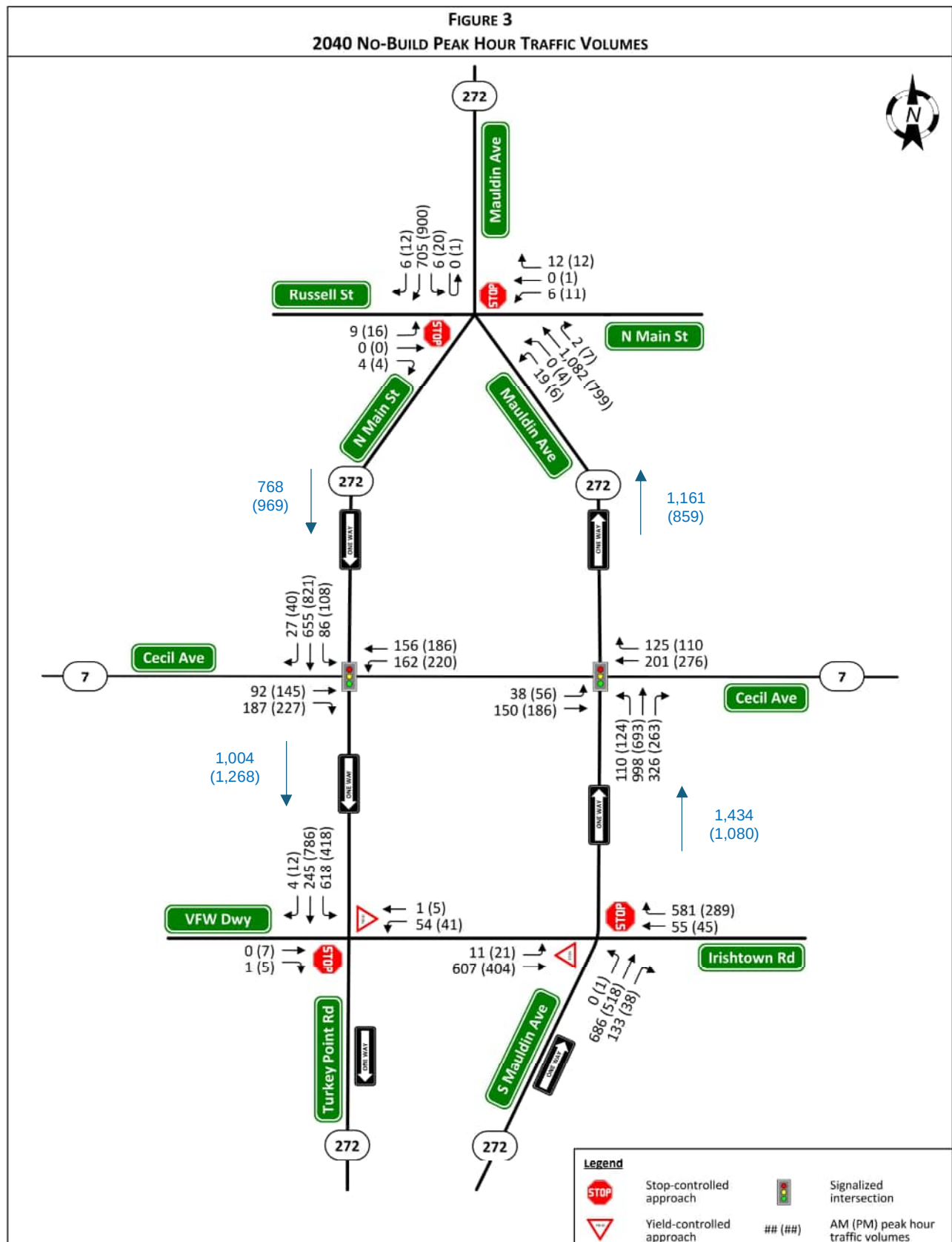
2040 NO-BUILD CONDITION TRAFFIC VOLUMES

Existing peak hour traffic volumes were tabulated and projected to the future 2040 design year by growing the volumes at a compound annual rate of 0.75%. To account for seasonal variation (higher summer volumes), these volumes were then increased by 10%. The approved background development volumes contained in the *North East Middle and High School Traffic Impact Analysis* were distributed through the study area intersections as well as the projected middle school and high school traffic volumes. The combination of these traffic volume calculations is the resultant projected 2040 no-build traffic volumes.

Figure 3 displays the 2040 no-build peak hour traffic volumes, and the traffic volume calculations are provided in **Attachment 2**. AM volumes are higher in the northbound direction as morning commuters leave the peninsula towards US 40 and I-95. PM volumes are higher in the southbound direction as evening commuters arrive back to the peninsula.

The peak hour volumes associated with the approved background developments and North East schools are projected to contribute approximately 509 (262) vehicles along northbound Mauldin Avenue during the AM and PM peak hours, respectively, and 348 (400) vehicles along southbound Main Street during the AM and PM peak hours, respectively.

A review of the recent *Charlestown Crossing Traffic Impact Analysis* showed minor additional traffic to the study intersections due to the proximity of this proposed residential development to the west, outside of the Town limits. These volumes would be captured in our annual background growth percentage.



2040 BUILD CONDITION ALTERNATIVES

Two different intersection control alternatives were developed to evaluate accommodating the Mauldin Avenue two-way conversion. To minimize widening impacts along Mauldin Avenue, both Alternatives will only provide one travel lane in each direction.

- Alternative 1 proposes traffic signalization at the Russell Street/Main Street intersection and also at the Irishtown Road intersection. However, a preliminary review of the Russell Street/Main Street traffic volumes indicate traffic signalization is not projected to satisfy the MUTCD volume signal warrant criteria (Warrants 1 and 2). Therefore, this intersection will remain unsignalized.
- Alternative 2 proposes roundabouts in lieu of the traffic signals at these intersection. The capacity improvements associated with these alternatives will be developed based on the results of the capacity analyses.

With the two-way conversion of Mauldin Avenue, the signalized intersection of MD 272 (Main Street) southbound and MD 7 is anticipated to be removed from signal control and converted to an unsignalized intersection with stop-control along the southbound Main Street approach.

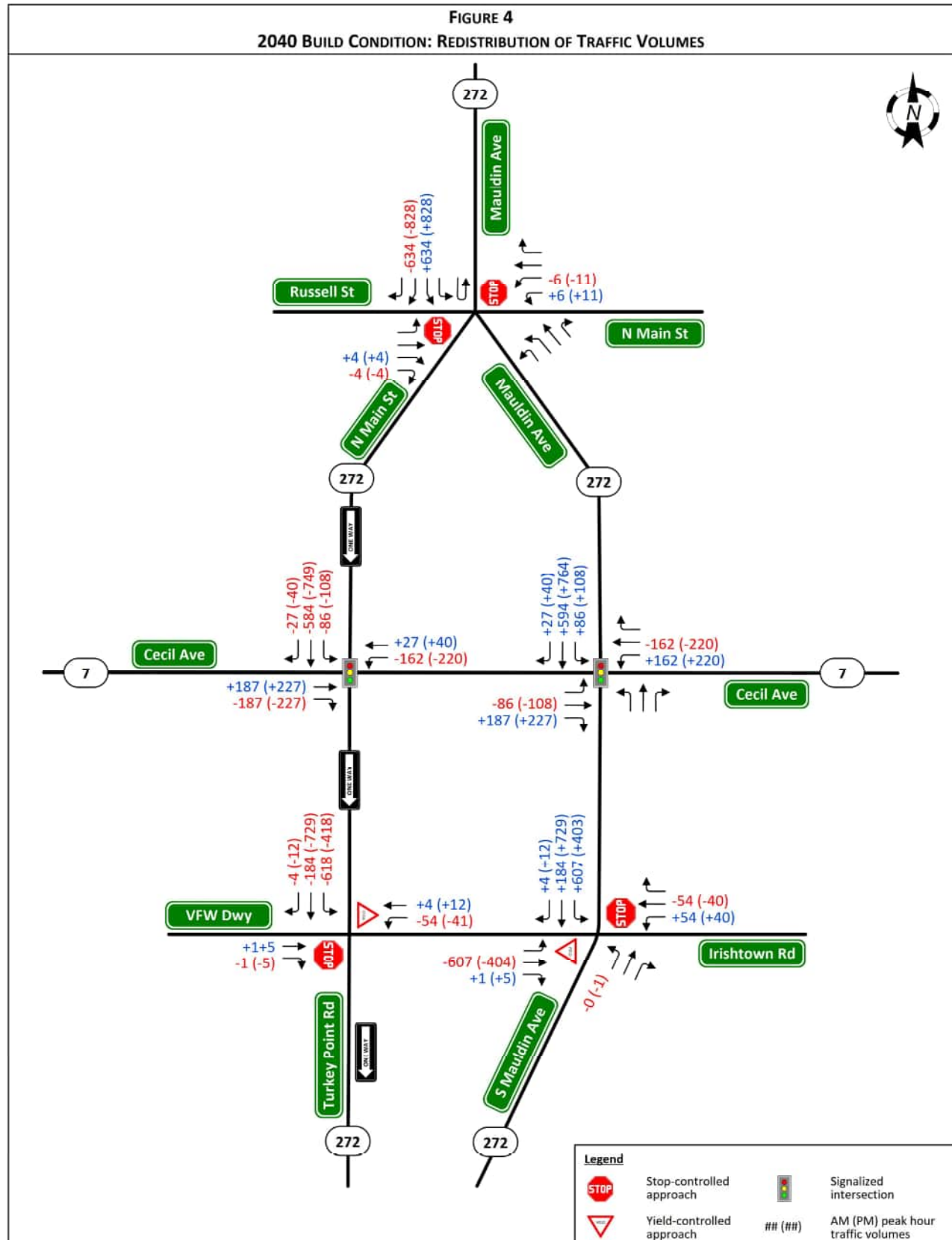
2040 BUILD CONDITION TRAFFIC VOLUMES

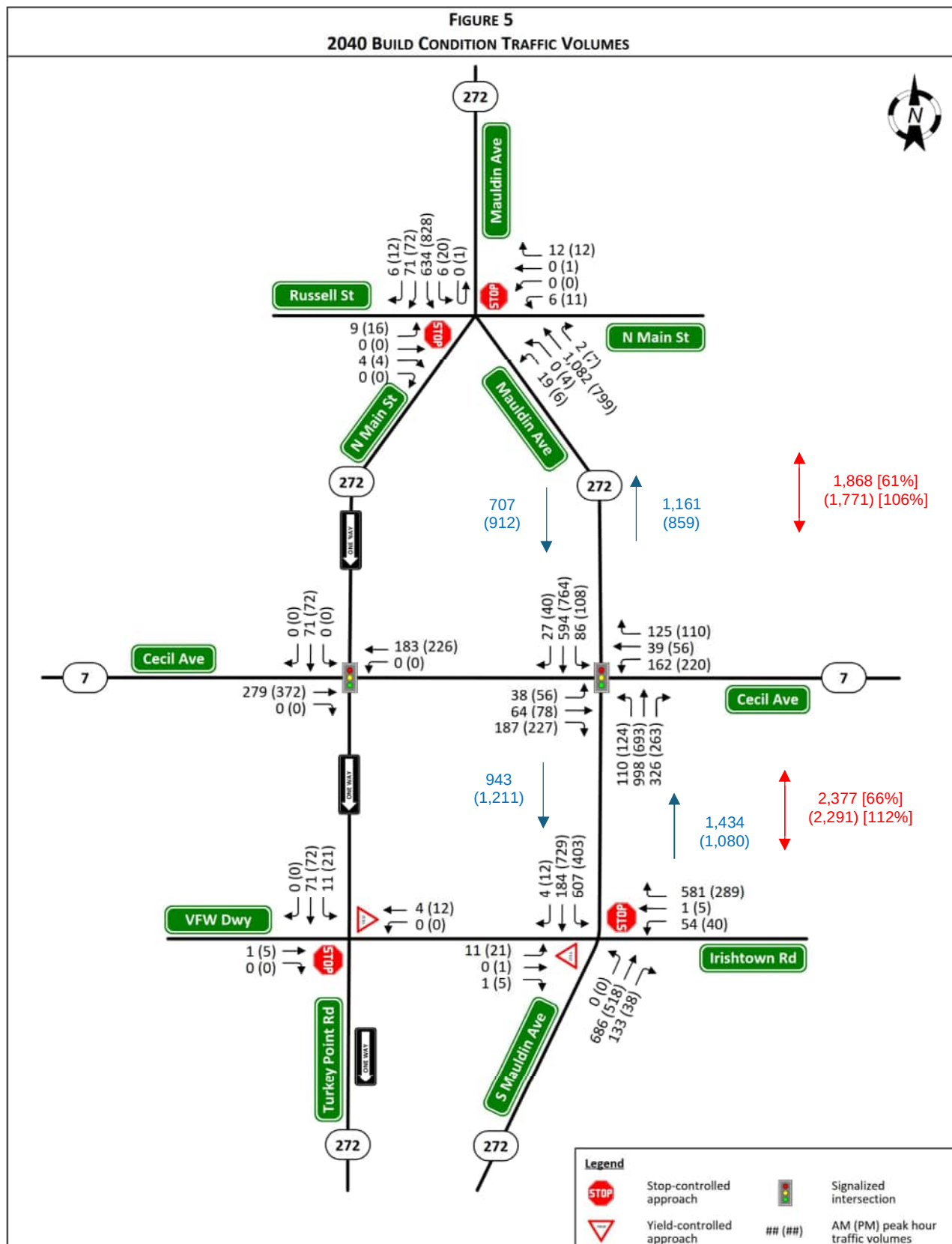
The 2040 Build Condition traffic volumes were developed based on diverting a percentage of MD 272 (Main Street) southbound traffic at Russell Street to continue onto Mauldin Avenue.

To develop the diverted percentage, the *FHWA Highway Functional Classification Concepts, Criteria and Procedures, 2023 Edition*, publication was consulted. Based on Table 3-6 of this publication, the AADT of a local road is between 80-700 daily vehicles. Since this is a two-way daily volume, the AADT was reduced to 40-350 daily vehicles to represent a one-way direction. Using the higher daily volume of 350 daily vehicles and assuming 20% of the daily volume occurs during the peak hour, this results in 70 vehicles during the peak hour. This volume was used as a starting point to derive the diversion percentage of peak hour traffic. Comparing this volume to the MD 272 (Main Street) southbound through volume at Russell Street during the AM and PM peak hours results in approximately 10% and 8% or 90% and 92% of traffic diverted onto Mauldin Avenue. Therefore, 10% and 8% of the southbound traffic at Russell Street will remain along Main Street during the AM and PM peak hours, respectively.

All turning movements along MD 272 (Main Street) southbound were diverted to Mauldin Avenue due to the anticipated reconfiguration of the Russell Street and Main Street intersection which will likely remove the attraction and ease of use, the already narrow width of Main Street with on-street parking (both sides), and slower posted speed limit. Additionally, all applicable turning movements along MD 7 (Cecil Avenue), Irishtown Road, and the VFW Driveway were diverted to use Mauldin Avenue as a result of the two-way conversion.

Figure 4 displays the redistribution of traffic volumes and **Figure 5** displays the 2040 build condition traffic volumes. The projected future no-build volume indicates over 1,400 vehicles in the AM peak hour and nearly 1,100 vehicles in the PM peak hour along northbound Mauldin Avenue. Capacity reduces from two travel lanes to one in the northbound direction, and increases capacity from one travel lane to two in the southbound direction with the conversion. Diverting most of southbound Main Street traffic onto Mauldin Avenue will increase the volumes to nearly 2,400 vehicles in the AM (over 65% increase) and nearly 2,300 vehicles in the PM (over 110% increase) along Mauldin Avenue.





OPERATIONAL ANALYSIS: 2040 NO-BUILD CONDITION

Capacity analysis is a method by which traffic volumes are compared to the calculated roadway and intersection capacities to evaluate traffic conditions. The procedures and methodologies based on the Highway Capacity Manual (HCM) 7th Edition were used to determine Level of Service (LOS) and capacity based on delay. Synchro 12 Capacity Analysis Software was used for the analyses of signalized and stop controlled intersections, including queue length analysis that calculates the 95th percentile storage lengths of approaches and turn bays at intersections. **Table 2** summarizes the LOS criteria.

Table 2 – Level of Service Criteria

Signalized Intersections		Unsignalized Intersections	
Level of Service (LOS)	Average Control Delay (sec/veh)	Level of Service (LOS)	Average Control Delay (sec/veh)
A	≤10	a	≤10
B	> 10 and ≤20	b	> 10 and ≤15
C	> 20 and ≤35	c	> 15 and ≤25
D	> 35 and ≤55	d	> 25 and ≤35
E	> 55 and ≤80	e	> 35 and ≤50
F	>80	f	>50

The results of the capacity analyses for the 2040 no-build conditions revealed the following:

Capacity Analyses

- All study area intersections are projected to operate at overall LOS D or better during the AM and PM peak hours except for the following intersections:
 - o MD 272 (Main Street) at MD 7 (Cecil Avenue) is projected to operate at undesirable overall LOS E during the PM peak hour.
 - o MD 272 (Mauldin Avenue/Main Street) at Irishtown Road/VFW Driveway is projected to operate at undesirable overall LOS F during the AM peak hour.
- All intersection approaches are projected to operate at overall LOS D or better during the AM and PM peak hours except for the following approaches:
 - o Southbound MD 272 (Main Street) approach at MD 7 (Cecil Avenue) is projected to operate at undesirable LOS E and LOS F during the AM and PM peak hours, respectively.
 - o Westbound MD 7 (Cecil Avenue) approach at MD 272 NB (Mauldin Avenue) is projected to operate at undesirable LOS F during the AM and PM peak hours.
 - o Westbound Irishtown Road approach at MD 272 NB (Mauldin Avenue) is projected to operate at undesirable LOS F during the AM and PM peak hours.

95th Percentile Queues

- The southbound MD 272 (Main Street) approach at MD 7 (Cecil Avenue) is projected to extend past Russell Street during the AM and PM peak hours.
- The eastbound MD 7 (Cecil Avenue) right-turn lane at MD 272 (Main Street) is projected to exceed the available storage by 58 feet during the PM peak hour.
- The northbound MD 272 (Mauldin Avenue) approach at MD 7 (Cecil Avenue) is projected to extend past West Street during the AM peak hour.
- The northbound MD 272 (Mauldin Avenue) right-turn lane at MD 7 (Cecil Avenue) is projected to exceed the available storage by 130 feet and 54 feet during the AM and PM peak hours, respectively.

- The westbound Irishtown Road approach queue is projected to nearly a ¼ mile during the AM peak hour.

The results of the 2040 no-build conditions are summarized in **Table 3** and capacity analyses worksheets are included in **Attachment 3**.

Table 3 - Operational Analysis Summary: 2040 No-Build Condition

Table 3. Operational Analysis Summary (2016 No Data Collection)									
Intersection		Movement		LOS (Delay) ¹		Queue		Approximate Storage (ft)	Adjacent Intersection
				AM	PM	AM	PM		
1	MD 272 (Mauldin Ave) at N. Main St / Russell St	EB	LTR	b (12.8)	b (13.2)	3	3	650	Washington St
		WB	LTR	a (9.1)	a (9.4)	3	3	475	Rolling Mill Ln
		NB	L	a (9.7)	b (10.1)	3	0	875	Turn Lane
			TR	a (0.0)	a (0.0)	0	0	875	MD 7 (Cecil Ave)
		SB	L	b (11.8)	a (9.8)	0	3	100	Turn Lane
			TR	a (0.0)	a (0.0)	0	0	2,270	US 40 (Pulaski Hwy)
Overall Intersection LOS				a (0.3)	a (0.5)				
2	MD 272 SB (Main St) at MD 7 (Cecil Ave)	EB	T	D (47.1)	D (50.6)	138	201	275	Race St
			R	D (45.0)	D (48.7)	57	133	75	Turn Lane
		WB	L	B (16.3)	B (16.4)	85	92	115	Turn Lane
			T	B (16.0)	B (15.8)	81	78	350	Mauldin Ave
		SB	LTR	E (63.9)	F (113.3)	1,073	1,434	715	Russel St
		Overall Intersection LOS				D (49.0)	E (77.1)		
3	MD 272 NB (Mauldin Ave) at MD 7 (Cecil Ave)	EB	L	B (19.8)	B (19.6)	29	36	115	Turn Lane
			T	B (19.9)	B (17.3)	104	107	350	Main St
		WB	TR	F (84.8)	F (121.2)	518	675	1,450	Mechanics Valley Rd
		NB	LT	C (31.3)	C (25.9)	590	390	475	West St
			R	C (23.3)	C (22.1)	230	154	100	Turn Lane
		Overall Intersection LOS				D (37.8)	D (45.7)		
4	MD 272 (S. Main St/ S. Mauldin Ave) at Irishtown Rd	EB	LTR	a (0.0)	a (0.0)	0	0	200	Parking Lot
		WB	LTR	f (458.3)	f (168.8)	1,233	400	760	Maryland Ave
		NB	LT	a (0.0)	a (0.0)	0	0	325	Turn Lane
			TR	a (0.0)	a (0.0)	0	0	1,750	Susquehanna Blvd
		SB	L	a (0.5)	b (12.3)	0	63	225	Turn Lane
			TR	a (0.0)	a (0.0)	0	0	500	Walnut Street
Overall Intersection LOS				f (125.6)	d (29.0)				
Legend:						Legend:			
= Acceptable LOS, A-D						= Acceptable queue length			
= Undesirable LOS, E and F						= Exceeds available storage, impacts adjacent facility			
A (0.0) = Signalized intersections LOS letter grade (Average delay per vehicle in seconds)						0 = 95th percentile queue (ft)			
a (0.0) = Unsignalized intersections LOS letter grade (Average delay per vehicle in seconds)									
Note: 1. Intersections 2 and 3 based on HCM2000 methodology. Clustered intersections not supported by HCM7 methodology.									

ALTERNATIVE 1 (TRAFFIC SIGNAL) IMPROVEMENTS

MD 272 (Mauldin Avenue) at N. Main Street / Russell Street: The receiving leg of Main Street is modified to provide a connection to Mauldin Avenue. However, no improvements are proposed to this intersection that will significantly impact intersection operations.

MD 272 SB (Main Street) at MD 7 (Cecil Avenue): The intersection is anticipated to be removed from signal control due to no longer satisfying traffic signal warrant criteria and converted to an unsignalized intersection with stop-control along the southbound Main Street approach. No additional geometric improvements are proposed, with the existing lane configurations to remain in place.

MD 272 NB (Mauldin Avenue) at MD 7 (Cecil Avenue): Separate right-turn lanes are proposed along the eastbound and westbound MD 7 approaches. These turn lanes will need to be channelized with yield-control to yield to the opposing left-turn volumes. On the northbound Mauldin Avenue approach, separate left-turn and right-turn lanes are proposed, and a separate left-turn lane is proposed along the southbound Mauldin Avenue approach. Signal operations consist of a two-phase signal control, with eastbound and westbound, northbound and southbound, running concurrently.

Figure 6 provides a proposed Synchro model screenshot of the MD 7 (Cecil Avenue) intersection lane configurations and control. Please note this graphic is not a scaled concept showing true geometric impacts to MD 272 or MD 7.



Figure 6 – Cecil Avenue Intersections Proposed Condition Synchro Screenshot

MD 272 (S. Main Street) / Mauldin Avenue at Irishtown Road: A separate yield-controlled channelized right-turn lane is proposed along the Irishtown Road approach. On the southbound Mauldin Avenue approach, a separate left-turn lane is proposed. Even though a separate northbound Mauldin Avenue left-turn lane is not required, a left-turn lane is proposed due to the lane alignment along this approach. Signal operations consist of a three-phase signal control, with southbound protected/permissive left-turn phase, and eastbound and westbound running concurrently. Please note that proposed signalization has been approved by SHA to be installed at this intersection based on current MD 272 configurations with the new middle and high school along Irishtown Road.

Attachment 4 provides Alternative 1 conceptual intersection improvement exhibits at the MD 272 intersections at N. Main Street / Russell Street and Irishtown Road.

OPERATIONAL ANALYSIS: 2040 BUILD CONDITION ALTERNATIVE 1

The results of the capacity analyses for the 2040 Build Condition Alternative1 revealed the following:

Capacity Analyses

- All study area intersections operate at overall LOS D or better during the AM and PM peak hours.
- The westbound Irishtown Road left/through lane at Mauldin Avenue exceeds LOS D by less than 2 seconds during the AM peak hour.

95th Percentile Queues

- The northbound MD 272 approach at MD 7 is projected to extend almost to Wallace Street during the AM peak hour.
- The southbound Mauldin Avenue approach at MD 7 is projected to extend past the North East River during the PM peak hour.
- The southbound Mauldin Avenue left-turn lane at Irishtown Road is projected to be nearly 800 feet during the AM peak hour.

The results of the 2040 Build Condition Alternative 1 are summarized in **Table 4** and capacity analyses worksheets are included in **Attachment 3**.

Table 4 - Operational Analysis Summary: 2040 Build Condition Alternative 1

Intersection		Movement		LOS (Delay)		Queue		Approximate Storage (ft)	Adjacent Intersection
				AM	PM	AM	PM		
1	MD 272 (Mauldin Ave) at N. Main St / Russell St	EB	LTR	c (16.6)	c (19.4)	5	8	650	Washington St
		WB	LTR	a (0.0)	b (8.4)	0	0	475	Rolling Mill Ln
		NB	L	a (9.7)	b (10.1)	3	0	875	Turn Lane
			TR	a (0.0)	a (0.0)	0	0	875	MD 7 (Cecil Ave)
		SB	L	b (11.8)	a (9.8)	0	3	100	Turn Lane
			TR	a (0.0)	a (0.0)	0	0	2,270	US 40 (Pulaski Hwy)
Overall Intersection LOS				a (0.3)	a (0.4)				
2	MD 272 SB (Main St) at MD 7 (Cecil Ave)	EB	T	a (0.0)	a (0.0)	0	0	275	Race St
			R	a (0.0)	a (0.0)	0	0	75	Turn Lane
		WB	L	a (0.0)	a (0.0)	0	0	115	Turn Lane
			T	a (0.0)	a (0.0)	0	0	350	Mauldin Ave
		SB	LTR	b (15.0)	b (16.1)	18	18	715	Russel St
		Overall Intersection LOS				a (2.0)	a (1.7)		
3	MD 272 (Mauldin Ave) at MD 7 (Cecil Ave)	EB	LT	D (38.0)	C (27.6)	145	135	350	Main St
			R	A (0.0)	A (0.0)	54	106	115	Proposed Turn Lane
		WB	LT	D (54.9)	D (38.6)	301	331	1,450	Mechanics Valley Rd
			R	A (0.0)	A (0.0)	61	47	100	Proposed Turn Lane
		NB	L	B (14.1)	C (33.9)	53	197	200	Proposed Turn Lane
			T	B (17.9)	B (12.5)	750	429	475	West St
			R	A (5.7)	A (8.1)	58	58	100	Turn Lane
		SB	L	D (51.2)	C (25.4)	102	95	125	Proposed Turn Lane
			TR	A (7.4)	B (16.0)	252	552	335	Jethro St
		Overall Intersection LOS				B (18.5)	B (18.7)		
4	MD 272 (S. Mauldin Ave)/ S. Main St at Irishtown Rd (Signalized)	EB	LTR	D (53.1)	B (19.9)	0	25	200	VFW Parking Lot
		WB	LT	E (56.9)	C (20.3)	96	40	760	Maryland Ave
			R	A (0.0)	A (0.0)	346	57	375	Proposed Turn Lane
		NB	L	A (0.0)	A (0.0)	0	0	50	Proposed Turn Lane
			T	D (54.7)	B (17.2)	936	327	1,750	Susquehanna Blvd
			R	A (0.0)	A (0.0)	71	0	75	Proposed Turn Lane
		SB	L	D (54.4)	B (11.9)	790	236	525	Proposed Turn Lane
			TR	A (1.7)	A (4.7)	53	257	500	Walnut Street
Overall Intersection LOS				D (48.2)	B (10.8)				
Legend:						Legend:			
= Acceptable LOS, A-D						= Acceptable queue length			
= Undesirable LOS, E and F						= Exceeds available storage, impacts adjacent facility			
A (0.0) = Signalized intersections LOS letter grade (Average delay per vehicle in seconds)						0 = 95th percentile queue (ft)			
a (0.0) = Unsignalized intersections LOS letter grade (Average delay (Average delay per vehicle in seconds)									

ALTERNATIVE 2 (ROUNDAABOUT) IMPROVEMENTS

MD 272 (Mauldin Avenue) at N. Main Street / Russell Street: This intersection will be converted from a two-way stop-controlled intersection to a single lane roundabout.

MD 272 (Main Street / Mauldin Avenue) at MD 7 (Cecil Avenue): The same geometric and operational improvements proposed under Alternative 1 are also proposed for Alternative 2.



MD 272 (S. Main Street) / Mauldin Avenue at Irishtown Road: This intersection will be converted from a two-way stop-controlled intersection to a single lane roundabout. Separate right-turn bypass lanes are proposed along the westbound Irishtown Road and northbound Mauldin Avenue approaches.

Attachment 5 provides Alternative 2 conceptual intersection improvement exhibits at the MD 272 intersections at N. Main Street / Russell Street and Irishtown Road.

OPERATIONAL ANALYSIS: 2040 BUILD CONDITION ALTERNATIVE 2

The results of the capacity analyses for the 2040 Build Condition Alternative 2 revealed the following:

Capacity Analyses

- All study area intersections are projected to operate at overall LOS D or better during the AM and PM peak hours except for the intersection of MD 272 at Irishtown Road, which is projected to operate at undesirable overall LOS E during the AM peak hour.
- The northbound Mauldin Avenue approach at Russell Street is projected to operate at undesirable LOS E during the AM peak hour.
- The westbound Irishtown Road right-turn lane at Mauldin Avenue is projected to operate at undesirable LOS F during the AM peak hour.
- The northbound Mauldin Avenue left/through lane at Irishtown Road is projected to operate at undesirable LOS F during the AM peak hour.

95th Percentile Queues

- All queue lengths associated with the proposed roundabouts are projected to generate queues without impacting adjacent intersections.

The results of the 2040 Build Condition Alternative 2 are summarized in **Table 5** and capacity analyses worksheets are included in **Attachment 3**.

Table 5 - Operational Analysis Summary: 2040 Build Condition Alternative 2

Intersection		Movement		LOS (Delay)		Queue		Approximate Storage (ft)	Adjacent Intersection
				AM	PM	AM	PM		
1	MD 272 (Mauldin Ave) at N. Main St / Russell St (Roundabout)	EB	LTR	a (6.8)	a (8.0)	0	0	650	Washington St
		WB	LTR	b (11.3)	a (7.2)	0	0	475	Rolling Mill Ln
		NB	LTR	e (40.0)	b (11.7)	525	150	875	MD 7 (Cecil Ave)
		SB	LTR	b (11.0)	b (14.5)	125	200	2,270	US 40 (Pulaski Hwy)
	Overall Intersection LOS				d (28.2)	b (13.1)			
2	Main Street at MD 7 (Cecil Ave)	EB	T	a (0.0)	a (0.0)	0	0	275	Race St
			R	a (0.0)	a (0.0)	0	0	75	Turn Lane
		WB	L	a (0.0)	a (0.0)	0	0	115	Turn Lane
			T	a (0.0)	a (0.0)	0	0	350	Mauldin Ave
		SB	LTR	b (15.0)	b (16.1)	18	18	715	Russel St
	Overall Intersection LOS				a (2.0)	a (1.7)			
3	MD 272 (Mauldin Ave) at MD 7 (Cecil Ave)	EB	LT	D (38.0)	C (27.6)	145	135	350	Main St
			R	A (0.0)	A (0.0)	54	106	115	Proposed Turn Lane
		WB	LT	D (54.9)	D (38.6)	301	331	1,450	Mechanics Valley Rd
			R	A (0.0)	A (0.0)	61	47	100	Proposed Turn Lane
		NB	L	B (14.1)	C (33.9)	53	197	100	Proposed Turn Lane
			T	B (17.9)	B (12.5)	750	429	475	West St
			R	A (5.7)	A (8.1)	58	58	100	Turn Lane
		SB	L	D (51.2)	C (25.4)	102	95	150	Proposed Turn Lane
			TR	A (7.4)	B (16.0)	252	552	335	Jethro St
	Overall Intersection LOS				B (18.5)	B (18.7)			
4	MD 272 (S. Mauldin Ave) at S. Main St / Irishtown Rd (Roundabout)	EB	LTR	a (7.4)	b (10.1)	0	0	200	VFW Parking Lot
		WB	LT	a (6.4)	a (4.9)	0	0	760	Maryland Ave
			R	f (57.1)	a (8.4)	375	50	375	Proposed Turn Lane
		NB	LT	f (79.3)	b (11.7)	525	100	1,750	Susquehanna Blvd
			R	a (7.3)	a (4.3)	25	0	75	Proposed Turn Lane
		SB	LTR	b (13.1)	d (25.8)	175	375	500	Walnut Street
	Overall Intersection LOS				e (44.0)	c (18.8)			
Legend:						Legend:			
= Acceptable LOS, A-D						= Acceptable queue length			
= Undesirable LOS, E and F						= Exceeds available storage, impacts adjacent facility			
A (0.0) = Signalized intersections LOS letter grade (Average delay per vehicle in seconds)						0 = 95th percentile queue (ft)			
a (0.0) = Unsignalized intersections LOS letter grade (Average delay per vehicle in seconds)									

GEOMETRIC AND CAPACITY FINDINGS

Alternative 1 (Signalization) and Alternative 2 (Roundabout) are both projected to operate with acceptable overall intersection and lane group LOS during the PM peak hour with the proposed geometric capacity and control improvements at all study intersections.

MD 272 (Mauldin Avenue) at N. Main Street / Russell Street: This intersection was reconstructed in 2019. Since a signal is not warranted at this intersection, keeping this intersection under the existing geometry with the two-way conversion will require additional geometric improvements to accommodate traffic. A roundabout at this intersection will mitigate all safety concerns associated with the intersection configuration. However, the deflection typically required for roundabout approaches may impact the



elevated roadway section north of Russell Street. Additionally, the private driveway may be difficult to maintain with a roundabout at this intersection. These intersection improvements would require some localized roadway widening roadway and removal for both intersections, and possible right-of-way acquisitions for the roundabout.

MD 272 (Mauldin Avenue) at MD 7 (Cecil Avenue): To achieve acceptable LOS and queue lengths with the two-way conversion, left-turn lanes are required along northbound and southbound Mauldin Avenue. In addition, right-turn lanes are required along MD 7; However, these right-turn lanes are required to be channelized with yield-control to maximize intersection capacity. These intersection improvements would require some localized roadway widening, signal modifications and possible right-of-way acquisitions.

MD 272 (S. Main Street) / Mauldin Avenue at Irishtown Road: Converting this intersection to traffic signal control is projected to operate with acceptable overall LOS during the AM and PM peak hours with the additional capacity improvements. The southbound left-turn lane queue is problematic as it is projected to extend to nearly 800 feet. Providing a second left-turn lane could reduce the southbound queue under signalized conditions; however, this would require a second receiving lane along eastbound Irishtown Road. However, factors associated with double left turn lanes such as lane utilization (due to eastbound downstream lane drops) and protected-only left turn signal phasing may have an inverse effect on intersection capacity.

During the AM peak hour, Alternative 1 will outperform Alternative 2 in terms of LOS. However, while the westbound Irishtown Road approach is projected to operate at 52.8 seconds of delay (LOS F), the delay is less than the Alternative 1 approach with 56.9 seconds of delay (LOS E). This is due to different LOS thresholds for signalized and unsignalized intersections. Additionally, the southbound left-turn lane queue at Irishtown Road is considered excessive and can be reduced by 75% with converting to a roundabout.

A single lane roundabout is projected to operate at undesirable levels during the AM peak hour along the northbound and westbound approaches. However, it should be noted that the overall LOS, is still less delay than the overall intersection delay generated by the signalized intersection. A free-flow westbound Irishtown Road right turn lane and a second northbound Mauldin Avenue through lane would reduce the approach operations to acceptable levels.

Either intersection improvements would require some localized roadway widening, roadway removal, and possible right-of-way acquisitions, more so for the roundabout's larger footprint.

ACCESSIBILITY IMPACTS

Converting a roadway from one-way to two-way traffic results in accessibility impacts for all road users. Some of the following corridor impacts along Mauldin Avenue have been identified:

- Additional impacts to traffic flow and delay will result due to additional traffic volumes in both directions and turning movements along Mauldin Avenue, including operations outside peak hours.
- Main Street volumes will be significantly reduced, improving corridor traffic flow and accessibility.
- Residential driveway ingress along Mauldin Avenue will impact MD 272 traffic flow and delays without bypass lane availability.
- Residential driveway egress along Mauldin Avenue may have additional delays to yielding to two directions of traffic and crossing one lane of traffic.
- On street parking will impact traffic flow along northbound Mauldin Avenue where traffic could previously pass along the left travel lane safely.
- Garage parking for North East Fire company emergency vehicles will stop traffic along both directions of MD 272 during emergency calls.
- North East Fire company will have direct access to southbound MD 272.

- An increase in conflict points along the corridor will increase the potential for crashes for all road users at new locations.

DESIGN SAFETY CONSIDERATIONS

Converting one-way streets into two-way streets typically slow down traffic. However, they introduce additional conflicts points at intersections requiring additional design elements to increase safety. Some of these design elements consists of the following:

Signalized Intersection Design

- Exclusive left-turn lanes separate turning vehicles from through-traffic, significantly reducing higher-speed rear-end and angle crashes.
- Curb extensions provide additional pedestrian visibility by extending the sidewalk into the parking lane, which shortens pedestrian crossing distances, and force drivers to take turns at lower, safer speeds by narrowing the turning radius.
- Leading Pedestrian Intervals (LPIs) is a traffic signal timing adjustment that allows the pedestrian to enter the crosswalk (3–7 second head start) prior to traffic receiving a green indication, placing the pedestrian in the center of the crosswalk where they are most visible to turning drivers.
- Placement of new signal poles and mast arms may require additional right-of-way to achieve the desired visibility of the signal heads.

Roundabout Intersection Design

- Roundabouts control speed through design. The central island and splitter islands create a curved path for vehicles, deflecting drivers from maintaining high speeds through the intersection.
- Splitter islands create pedestrian refuge areas that allow pedestrians to cross only one direction of traffic at a time.
- Roundabouts are a proven solution to reduce crash severity at intersections.
- A roundabout can serve as a gateway treatment, physically signaling to drivers that the roadway context has changed and requiring a conscious reduction in speed.

Roadway Corridor Design

- Double-yellow center lines are the primary tool for orienting drivers to the presence of oncoming traffic.
- High-visibility crosswalks enhance pedestrian safety by increasing the detection distance for approaching motorists.

Other Vulnerable Road User Designs

- Rectangular Rapid Flashing Beacons (RRFB) are highly effective, pedestrian-activated warning lights that can be used at roundabouts to increase driver yielding rates.
- Cecil Transit Routes #2 and #3 operate within the study area. Consideration should be given to moving bus stops to the far side of an intersection to prevent crashes where pedestrians step out from in front of a stopped bus into oncoming traffic.
- Pedestrians on one-way streets often habituate to looking in only one direction before stepping off the curb. Use sidewalk decals at every corner that say "LOOK BOTH WAYS" with arrows.

SUMMARY AND RECOMMENDATIONS

Supporting the two-way conversion along MD 272 (Mauldin Avenue), both Alternative 1 (Signalization) and Alternative 2 (Roundabouts) will perform similarly overall during the peak hours from an average delay perspective with the proposed geometric and control intersection improvements identified. These improvements would increase the footprint size of the study intersections, requiring additional roadway widening and right-of-way acquisitions.

The two-way conversion changes traffic patterns along the corridor, increasing volumes along Mauldin Avenue and requiring careful consideration of operations and safety, while improving accessibility and supporting downtown economic activity for all users.

The decision to advance this concept should be based on a balanced consideration of these tradeoffs, recognizing that the conversion represents a shift in priority from regional through movement to local access, placemaking, and economic vitality.

If the Town of North East is interested in further pursuing conversion improvements, a more detailed analysis is recommended to determine the constructability, construction costs, potential property and environmental impacts of the selected improvements, including the MD 7 (Cecil Avenue) intersections.

As development within the study area advances, including the opening of the new middle and high schools along Irishtown Road, it is recommended that traffic volumes be collected under both typical and seasonal conditions to validate planning-level assumptions used in this analysis. In particular, the assumed redistribution of traffic between Main Street and Mauldin Avenue should be confirmed and refined based on observed travel patterns.

All design alternatives shall accommodate pedestrian traffic by adhering to the latest accessibility design standards. The alternative shall provide compliant pedestrian curb ramps, active pedestrian crossing devices, and high-visibility crosswalk pavement markings.

MD 272 Two-Way Conversion Study

WM No.: 224039.0002

Date: April 2026

ATTACHMENT 1

Traffic Count Data



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2024070297

County: Cecil

Comments:

Date: 11/23/2024 12:00:00 AM

Town: none

Location: MD 272 (Mauldin Ave) at Russell St/N Main St

Weather: CLEAR

Interval: 60 Min

PEAK	AM PERIOD	Start	End	Volume	LOS	V/C	PM PERIOD	Start	End	Volume	LOS	V/C
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MD 272 (Mauldin Ave)

MD 272 (Mauldin Ave)

N Main St

Russell St

From North

From South

From East

From West

Begin Hour	U.Turn	Left	Through	Right	TOTAL	U.Turn	Left	Through	Right	TOTAL	U.Turn	Left	Through	Right	TOTAL	U.Turn	Left	Through	Right	TOTAL	GrandTotal
00:00:00	0	1	15	1	17	0	0	17	0	17	0	0	0	1	1	0	0	0	0	0	35
00:15:00	0	2	12	2	16	0	0	12	0	12	0	0	0	1	1	0	0	0	0	0	29
00:30:00	0	1	16	0	17	0	1	7	1	9	0	1	0	0	1	0	2	0	0	2	29
00:45:00	0	1	10	0	11	0	0	8	0	8	0	0	0	0	0	0	0	0	0	0	19
01:00:00	0	0	7	0	7	1	0	6	0	7	0	0	0	0	0	0	0	0	0	0	14
01:15:00	0	0	9	0	9	0	0	5	0	5	0	0	0	0	0	0	0	0	0	0	14
01:30:00	0	0	7	0	7	0	0	5	0	5	0	0	0	0	0	0	0	0	0	0	12
01:45:00	0	0	7	0	7	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	10
02:00:00	0	1	3	0	4	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	6
02:15:00	0	1	7	0	8	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	11
02:30:00	0	0	6	0	6	0	0	2	0	2	0	0	0	1	1	0	0	0	0	0	9
02:45:00	0	1	5	0	6	0	0	4	0	4	0	0	0	1	1	0	0	0	0	0	11
03:00:00	0	0	3	0	3	0	0	6	0	6	0	0	0	0	0	0	1	0	0	1	10
03:15:00	0	0	3	0	3	0	0	4	0	4	0	0	0	0	0	0	0	0	0	0	7
03:30:00	0	0	1	0	1	0	0	6	0	6	0	0	0	0	0	0	2	0	0	2	9
03:45:00	0	0	6	0	6	0	0	8	0	8	0	0	0	0	0	0	0	0	0	0	14
04:00:00	0	0	5	0	5	0	0	7	0	7	0	0	0	0	0	0	0	0	0	0	12
04:15:00	0	0	2	1	3	0	0	5	1	6	0	0	0	0	0	0	1	0	0	1	10
04:30:00	0	0	4	0	4	0	0	8	0	8	0	0	0	1	1	0	0	0	0	0	13
04:45:00	0	0	9	0	9	1	0	10	0	11	0	0	0	0	0	0	0	0	0	0	20
05:00:00	0	1	2	0	3	0	0	18	0	18	0	0	0	0	0	0	0	0	0	0	21
05:15:00	0	0	15	0	15	0	0	15	2	17	0	0	0	2	2	0	1	0	0	1	35
05:30:00	0	0	9	0	9	3	0	19	1	23	0	0	0	1	1	0	0	0	0	0	33
05:45:00	0	0	9	0	9	1	0	14	0	15	0	0	0	4	4	0	2	0	0	2	30
06:00:00	0	1	7	0	8	1	0	26	0	27	0	0	0	0	0	0	0	0	0	0	35
06:15:00	0	0	10	0	10	0	0	27	0	27	0	0	0	5	5	0	0	0	0	0	42
06:30:00	1	1	20	0	22	0	0	37	0	37	0	0	0	1	1	0	0	0	0	0	60
06:45:00	0	2	16	0	18	0	0	36	1	37	0	0	0	3	3	0	1	0	0	1	59
07:00:00	0	1	22	0	23	0	0	43	0	43	0	0	0	0	0	0	2	0	0	2	68
07:15:00	0	0	34	3	37	1	1	46	1	49	0	0	0	3	3	0	0	0	0	0	89
07:30:00	0	2	45	0	47	4	0	68	0	72	0	0	0	4	4	0	1	0	0	1	124
07:45:00	1	0	63	1	65	1	0	71	0	72	0	0	0	2	2	0	1	0	1	2	141
08:00:00	0	3	49	0	52	6	0	78	2	86	0	1	0	3	4	0	3	0	0	3	145
08:15:00	0	1	73	3	77	3	0	80	0	83	0	3	0	3	6	0	2	0	0	2	168
08:30:00	0	0	59	1	60	2	0	78	0	80	0	0	0	4	4	0	1	0	1	2	146
08:45:00	0	1	92	1	94	4	0	93	0	97	0	1	0	0	1	0	1	0	2	3	195
09:00:00	0	2	97	0	99	3	2	95	6	106	0	1	0	0	1	0	0	0	1	1	207
09:15:00	1	0	86	0	87	3	0	119	4	126	0	3	0	4	7	0	1	0	1	2	222



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2024070297

County: Cecil

Comments:

Date: 11/23/2024 12:00:00 AM

Town: none

Location: MD 272 (Mauldin Ave) at Russell St/N Main St

Weather: CLEAR

Interval: 60 Min

PEAK	AM PERIOD	Start	End	Volume	LOS	V/C	PM PERIOD	Start	End	Volume	LOS	V/C
Hours	6:00AM-12:00PM	11:15	12:00	1118	A	0.36	12:00PM-19:00PM	13:30	14:15	1098	A	0.36

	MD 272 (Mauldin Ave)					MD 272 (Mauldin Ave)					N Main St					Russell St					
	From North					From South					From East					From West					
09:30:00	1	0	80	2	83	3	0	143	0	146	0	2	0	3	5	0	2	0	2	4	238
09:45:00	0	1	117	0	118	2	0	137	3	142	0	0	0	2	2	0	1	0	3	4	266
10:00:00	0	2	112	2	116	1	0	152	1	154	0	1	0	0	1	0	1	0	1	2	273
10:15:00	1	2	108	0	111	6	1	127	2	136	0	0	0	2	2	0	1	0	1	2	251
10:30:00	1	2	118	1	122	2	1	119	1	123	0	0	0	6	6	0	4	0	0	4	255
10:45:00	0	1	135	0	136	3	0	123	1	127	0	0	0	2	2	0	1	0	3	4	269
11:00:00	3	3	127	0	133	3	1	143	1	148	0	1	0	3	4	0	1	0	0	1	286
11:15:00	0	5	128	1	134	1	3	119	1	124	0	1	0	3	4	0	0	0	0	0	262
11:30:00	0	2	124	1	127	4	1	152	1	158	0	3	0	3	6	0	0	0	1	1	292
11:45:00	4	2	139	5	150	1	0	119	0	120	0	1	0	0	1	0	5	1	0	6	277
12:00:00	1	1	151	0	153	2	0	124	3	129	0	2	0	3	5	0	0	0	0	0	287
12:15:00	2	1	116	4	123	1	2	133	1	137	0	2	0	2	4	0	3	0	0	3	267
12:30:00	1	4	130	5	140	2	0	115	3	120	0	1	0	2	3	0	4	0	0	4	267
12:45:00	0	1	125	1	127	2	0	105	7	114	0	1	0	6	7	0	1	0	1	2	250
13:00:00	0	2	110	2	114	3	0	132	2	137	0	0	0	4	4	0	1	0	2	3	258
13:15:00	0	3	135	3	141	4	0	116	1	121	0	3	1	7	11	0	2	0	0	2	275
13:30:00	0	0	137	3	140	2	1	140	2	145	0	1	0	1	2	0	1	0	1	2	289
13:45:00	1	3	132	2	138	2	0	101	2	105	0	2	0	1	3	0	5	0	2	7	253
14:00:00	0	1	139	1	141	0	2	121	2	125	0	3	0	5	8	0	3	0	2	5	279
14:15:00	0	3	119	4	126	2	2	139	4	147	0	1	0	3	4	0	0	0	0	0	277
14:30:00	1	2	123	3	129	3	0	133	2	138	0	3	0	1	4	0	0	1	0	1	272
14:45:00	2	3	134	1	140	3	0	110	1	114	0	0	0	2	2	0	1	0	1	2	258
15:00:00	0	3	124	1	128	2	1	113	1	117	0	0	0	2	2	0	1	0	0	1	248
15:15:00	1	4	98	1	104	0	0	124	6	130	0	1	0	3	4	0	1	0	0	1	239
15:30:00	0	4	125	2	131	0	2	118	1	121	0	3	0	4	7	0	3	0	0	3	262
15:45:00	1	2	138	4	145	3	0	127	1	131	0	1	0	1	2	0	5	0	1	6	284
16:00:00	0	5	115	3	123	2	1	105	2	110	0	2	1	3	6	0	2	0	1	3	242
16:15:00	0	5	108	1	114	0	0	138	2	140	0	3	0	2	5	0	3	0	1	4	263
16:30:00	0	3	127	1	131	4	1	112	0	117	0	0	0	1	1	0	1	0	1	2	251
16:45:00	0	1	122	2	125	4	2	111	0	117	0	2	0	4	6	0	3	0	0	3	251
17:00:00	1	2	131	1	135	0	2	123	4	129	0	1	0	2	3	0	0	0	2	2	269
17:15:00	0	2	127	0	129	3	2	110	2	117	0	2	0	2	4	0	2	0	0	2	252
17:30:00	0	1	118	1	120	1	1	117	2	121	0	1	0	2	3	0	3	0	1	4	248
17:45:00	0	1	122	0	123	5	1	89	2	97	0	1	0	1	2	0	0	0	0	0	222
18:00:00	0	4	103	4	111	2	1	71	0	74	0	0	0	5	5	0	1	0	0	1	191
18:15:00	0	1	105	2	108	1	1	82	0	84	0	1	0	3	4	0	2	0	0	2	198
18:30:00	0	1	88	1	90	1	1	84	3	89	0	1	0	1	2	0	1	0	2	3	184
18:45:00	1	4	63	0	68	0	1	89	1	91	0	1	1	4	6	0	2	1	0	3	168
19:00:00	1	0	74	0	75	2	0	70	1	73	0	2	0	3	5	0	0	0	0	0	153
19:15:00	1	4	63	1	69	1	1	76	2	80	0	0	1	2	3	0	1	0	1	2	154



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2024070297

County: Cecil

Comments:

Date: 11/23/2024 12:00:00 AM

Town: none

Location: MD 272 (Mauldin Ave) at Russell St/N Main St

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	MD 272 (Mauldin Ave)					MD 272 (Mauldin Ave)					N Main St					Russell St					
	From North					From South					From East					From West					
19:30:00	2	5	72	0	79	2	0	73	0	75	0	0	0	3	3	0	1	0	1	2	159
19:45:00	1	3	66	3	73	1	0	111	0	112	0	1	1	2	4	0	3	0	1	4	193
20:00:00	0	1	59	1	61	2	1	71	1	75	0	0	0	2	2	0	3	0	0	3	141
20:15:00	0	1	71	1	73	1	2	48	0	51	0	1	0	0	1	0	0	0	1	1	126
20:30:00	0	2	50	0	52	0	0	47	1	48	0	0	0	0	0	0	2	0	0	2	102
20:45:00	0	0	40	1	41	0	1	52	1	54	0	1	0	0	1	0	1	0	0	1	97
21:00:00	0	0	40	0	40	0	1	55	0	56	0	0	0	0	0	0	1	0	0	1	97
21:15:00	0	1	47	1	49	0	1	37	1	39	0	3	0	0	3	0	1	0	0	1	92
21:30:00	0	1	38	0	39	2	0	55	0	57	0	0	0	0	0	0	1	0	0	1	97
21:45:00	2	0	35	1	38	0	0	49	0	49	0	0	0	0	0	0	1	0	0	1	88
22:00:00	0	0	36	0	36	0	1	43	0	44	0	0	0	0	0	0	2	0	0	2	82
22:15:00	0	2	42	1	45	0	0	45	4	49	0	0	0	3	3	0	0	0	0	0	97
22:30:00	0	2	31	0	33	0	2	30	4	36	0	0	0	0	0	0	1	0	0	1	70
22:45:00	0	1	27	0	28	0	0	28	0	28	0	0	0	1	1	0	0	0	0	0	57
23:00:00	0	1	25	1	27	0	0	26	2	28	0	1	0	0	1	0	0	0	0	0	56
23:15:00	1	1	34	4	40	0	0	20	0	20	0	1	0	2	3	0	0	0	0	0	63
23:30:00	0	0	26	0	26	0	0	21	0	21	0	0	0	0	0	0	0	0	0	0	47
23:45:00	1	0	17	1	19	0	1	19	0	20	0	0	0	1	1	0	0	0	0	0	40
TOTAL	34	135	6291	94	6554	125	46	6583	104	6858	0	68	5	164	237	0	107	3	39	149	13798
AMPEAK	5	10	542	7	564	8	4	514	5	531	0	7	0	9	16	0	5	1	1	7	1118
PMPEAK	1	7	527	10	545	6	5	501	10	522	0	7	0	10	17	0	9	0	5	14	1098
DAYPEAK	7	6	530	10	553	8	3	528	5	544	0	8	0	8	16	0	8	1	1	10	1123



**Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report**

Station ID: S2024070297

County: Cecil

Comments:

Date: 11/23/2024 12:00:00 AM

Town: none

Location: MD 272 (Mauldin Ave) at Russell St/N Main St

Weather: CLEAR

Interval: 60 Min

PEAK	AM PERIOD	Start	End	Volume	LOS	V/C	PM PERIOD	Start	End	Volume	LOS	V/C
Hours	6:00AM-12:00PM	11:15	12:00	1118	A	0.36	12:00PM-19:00PM	13:30	14:15	1098	A	0.36

MD 272 (Mauldin Ave)

MD 272 (Mauldin Ave)

N Main St

Russell St

From North

From South

From East

From West

[illegible]



**Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report**

[illegible]



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2024070297

County: Cecil

Comments:

Date: 11/23/2024 12:00:00 AM

Town: none

Location: MD 272 (Mauldin Ave) at Russell St/N Main St

Weather: CLEAR

Interval: 60 Min

PEAK	AM PERIOD	Start	End	Volume	LOS	V/C	PM PERIOD	Start	End	Volume	LOS	V/C
Hours	6:00AM-12:00PM	11:15	12:00	1118	A	0.36	12:00PM-19:00PM	13:30	14:15	1098	A	0.36

	MD 272 (Mauldin Ave)			MD 272 (Mauldin Ave)			N Main St			Russell St		
	From North			From South			From East			From West		
Begin Hour	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles
19:00:00	0	0	0	0	0	0	0	1	0	0	0	0
19:15:00	0	0	0	0	0	0	0	0	0	0	0	0
19:30:00	0	0	0	0	0	0	0	1	0	0	0	0
19:45:00	0	0	0	0	0	1	0	0	1	0	0	0
20:00:00	0	0	0	0	0	0	0	0	0	0	0	0
20:15:00	0	0	0	0	0	0	0	0	0	0	0	0
20:30:00	0	0	0	0	0	0	0	0	0	0	0	0
20:45:00	0	0	0	0	0	0	0	0	0	0	0	0
21:00:00	0	0	0	0	0	0	0	0	0	0	0	0
21:15:00	0	0	0	0	0	0	0	0	0	0	1	0
21:30:00	0	0	0	0	0	0	0	0	0	0	0	0
21:45:00	0	0	0	0	0	0	0	0	0	0	0	0
22:00:00	0	0	0	0	0	0	0	0	0	0	0	0
22:15:00	0	0	0	0	0	0	0	0	0	0	0	0
22:30:00	0	0	0	0	0	0	0	0	0	0	0	0
22:45:00	0	0	0	0	0	0	0	0	0	0	0	0
23:00:00	0	0	0	0	0	0	0	0	0	0	0	0
23:15:00	0	0	0	0	0	0	0	0	0	0	0	0
23:30:00	0	1	0	0	0	0	0	0	0	0	0	0
23:45:00	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	3	1	0	10	1	0	31	4	0	30	0
AMPEAK	0	1	0	0	0	0	0	2	0	0	1	0
PMPEAK	0	0	0	0	0	0	0	0	2	0	0	0
DAYPEAK	0	1	0	0	0	0	0	2	0	0	2	0



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2024070297

County: Cecil

Comments:

Date: 11/23/2024 12:00:00 AM

Town: none

Location: MD 272 (Mauldin Ave) at Russell St/N Main St

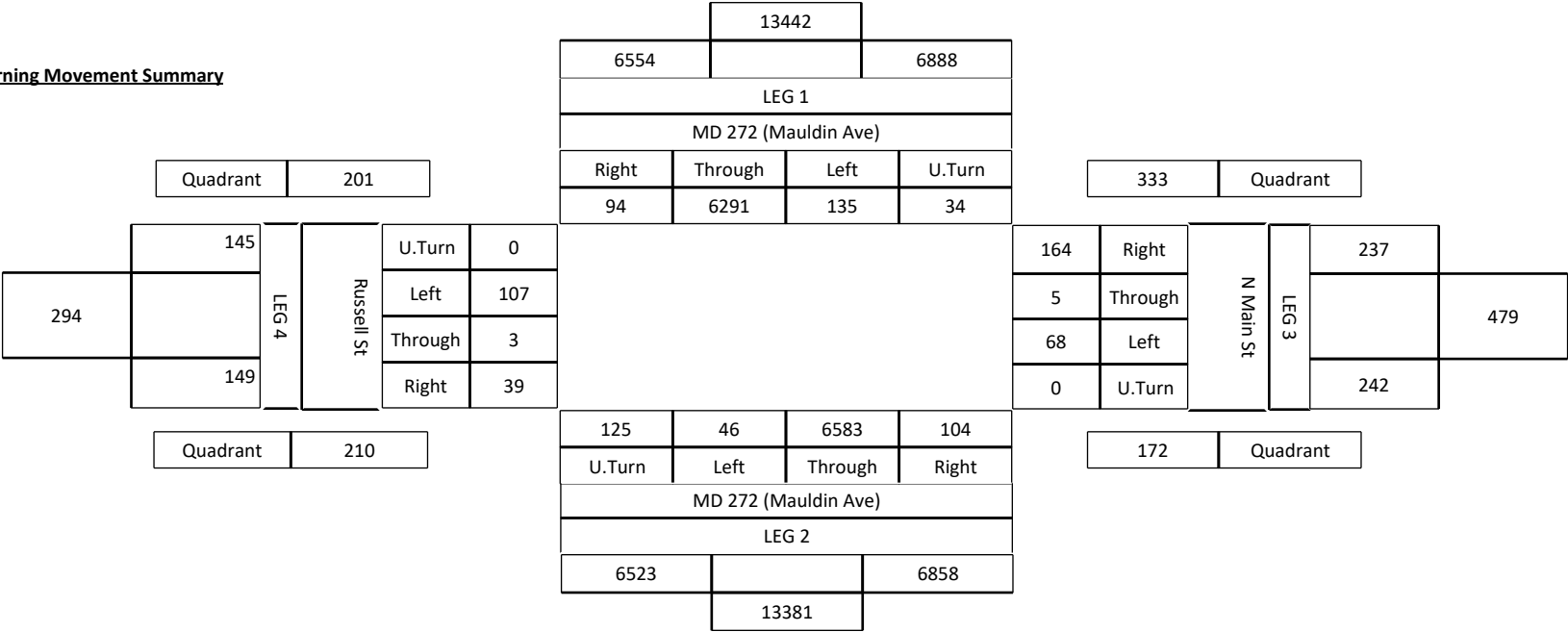
Weather: CLEAR

Interval: 60 Min

PEAK	AM PERIOD	Start	End	Volume	LOS	V/C	PM PERIOD	Start	End	Volume	LOS	V/C
Hours	6:00AM-12:00PM	11:15	12:00	1118	A	0.36	12:00PM-19:00PM	13:30	14:15	1098	A	0.36



Turning Movement Summary





Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2024070297

County: Cecil

Comments:

Date: 11/23/2024 12:00:00 AM

Town: none

Location: MD 272 (Mauldin Ave) at Russell St/N Main St

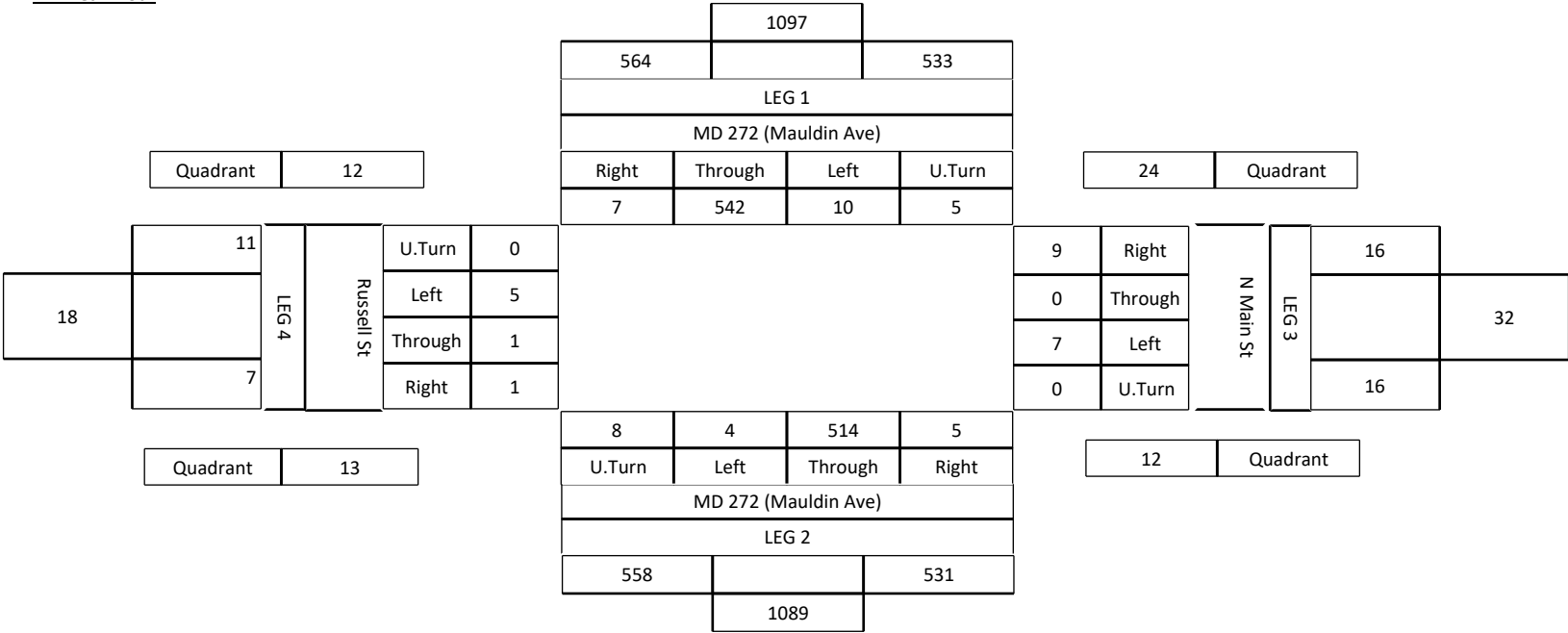
Weather: CLEAR

Interval: 60 Min

PEAK	AM PERIOD	Start	End	Volume	LOS	V/C	PM PERIOD	Start	End	Volume	LOS	V/C
Hours	6:00AM-12:00PM	11:15	12:00	1118	A	0.36	12:00PM-19:00PM	13:30	14:15	1098	A	0.36



AM Peak Hour





Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID:

S2024070297

County:

Cecil

Comments:

Date:

11/23/2024 12:00:00 AM

Town:

none

Location:

MD 272 (Mauldin Ave) at Russell St/N Main St

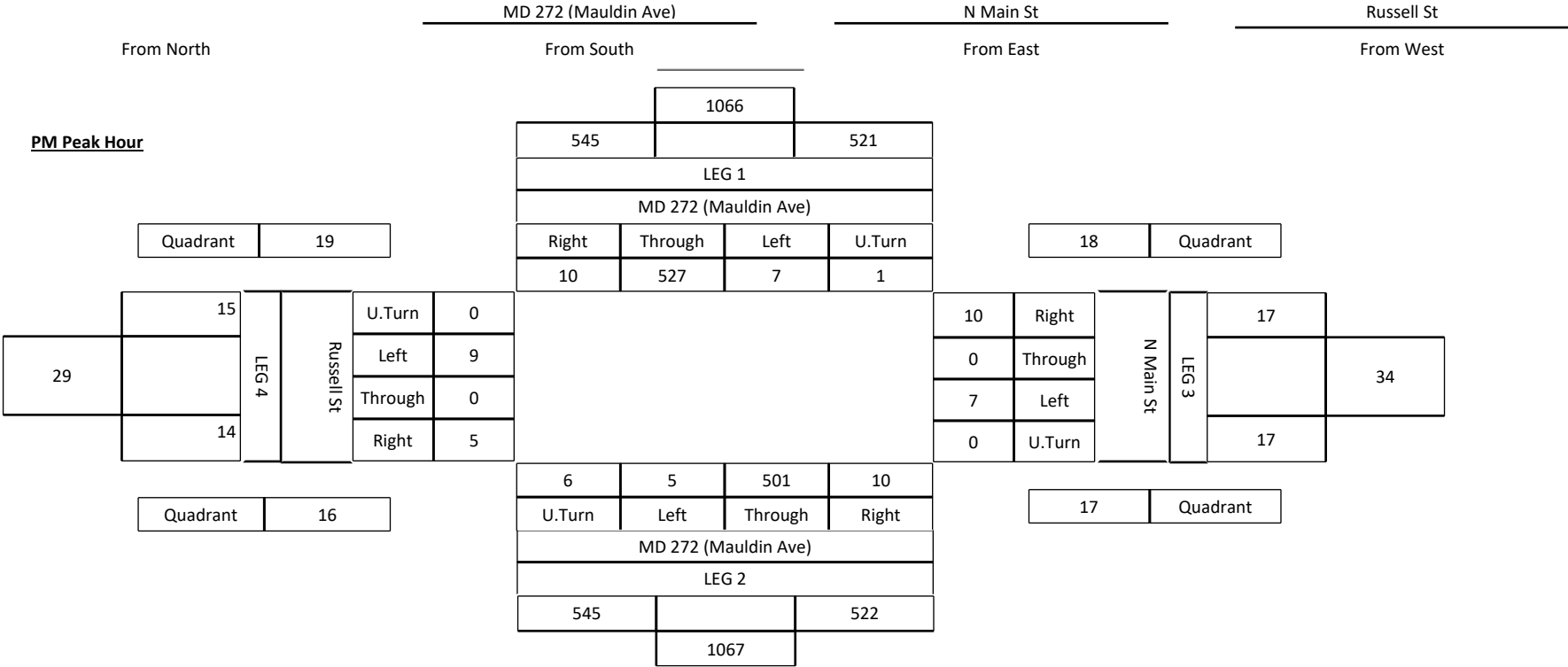
Weather:

CLEAR

Interval:

60 Min

PEAK	AM PERIOD	Start	End	Volume	LOS	V/C	PM PERIOD	Start	End	Volume	LOS	V/C
Hours	6:00AM-12:00PM	11:15	12:00	1118	A	0.36	12:00PM-19:00PM	13:30	14:15	1098	A	0.36





Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S1992070005
Date: 11/14/2024 12:00:00 AM
Location: MD 7C at MD 272
Interval: 60 Min

County: Cecil
Town: none
Weather: Sunny

Comments:

PEAK	AM PERIOD	Start	End	Volume	LOS	V/C	PM PERIOD	Start	End	Volume	LOS	V/C
Hours	6:00AM-12:00PM	07:15	08:00	777	A	0.39	12:00PM-19:00PM	16:30	17:15	1065	A	0.51

MD 272 (SB)

MD 272 (SB)

MD 7C (Cecil Ave)

MD 7C (Cecil Ave)

From North

From South

From East

From West

Begin Hour	U.Turn	Left	Through	Right	TOTAL	U.Turn	Left	Through	Right	TOTAL	U.Turn	Left	Through	Right	TOTAL	U.Turn	Left	Through	Right	TOTAL	GrandTotal
00:00:00	0	1	8	1	10	0	0	0	0	0	0	1	2	0	3	0	0	4	1	5	18
00:15:00	0	1	7	1	9	0	0	0	0	0	0	0	2	0	2	0	0	1	1	2	13
00:30:00	0	0	7	0	7	0	0	0	0	0	0	0	1	0	1	0	0	1	1	2	10
00:45:00	0	1	3	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
01:00:00	0	0	3	0	3	0	0	0	0	0	0	0	1	0	1	0	0	1	0	1	5
01:15:00	0	0	2	1	3	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	4
01:30:00	0	2	2	0	4	0	0	0	0	0	0	1	1	0	2	0	0	0	1	1	7
01:45:00	0	1	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	4
02:00:00	0	0	3	0	3	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	4
02:15:00	0	1	3	0	4	0	0	0	0	0	0	1	1	0	2	0	0	0	1	1	7
02:30:00	0	0	2	0	2	0	0	0	0	0	0	0	1	0	1	0	0	1	1	2	5
02:45:00	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	4
03:00:00	0	0	3	0	3	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	5
03:15:00	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	3
03:30:00	0	1	2	0	3	0	0	0	0	0	0	0	2	0	2	0	0	1	1	2	7
03:45:00	0	1	2	0	3	0	0	0	0	0	0	1	1	0	2	0	0	1	1	2	7
04:00:00	0	2	2	1	5	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	7
04:15:00	0	1	1	1	3	0	0	0	0	0	0	0	2	0	2	0	0	0	3	3	8
04:30:00	0	2	4	1	7	0	0	0	0	0	0	1	0	0	1	0	0	4	1	5	13
04:45:00	0	0	3	2	5	0	0	0	0	0	0	1	3	0	4	0	0	3	0	3	12
05:00:00	0	1	3	2	6	0	0	0	0	0	0	1	3	0	4	0	0	2	0	2	12
05:15:00	0	1	11	0	12	0	0	0	0	0	0	2	5	0	7	0	0	6	4	10	29
05:30:00	0	4	11	1	16	0	0	0	0	0	0	1	6	0	7	0	0	4	3	7	30
05:45:00	0	4	13	1	18	0	0	0	0	0	0	1	4	0	5	0	0	8	1	9	32
06:00:00	0	3	26	2	31	0	0	0	0	0	0	5	8	0	13	0	0	8	2	10	54
06:15:00	0	11	23	3	37	0	0	0	0	0	0	4	8	0	12	0	0	7	2	9	58
06:30:00	0	10	50	2	62	0	0	0	0	0	0	3	7	0	10	0	0	13	11	24	96
06:45:00	0	12	50	3	65	0	0	0	0	0	0	11	8	0	19	0	0	16	7	23	107
07:00:00	0	18	57	1	76	0	0	0	0	0	0	13	10	0	23	0	0	20	14	34	133
07:15:00	0	22	95	0	117	0	0	0	0	0	0	28	12	0	40	0	0	21	32	53	210
07:30:00	0	30	86	10	126	0	0	0	0	0	0	19	26	0	45	0	0	15	42	57	228
07:45:00	0	6	101	5	112	0	0	0	0	0	0	11	26	0	37	0	0	23	27	50	199
08:00:00	0	11	53	7	71	0	0	0	0	0	0	16	19	0	35	0	0	15	19	34	140
08:15:00	0	12	52	3	67	0	0	0	0	0	0	20	9	0	29	0	0	16	13	29	125
08:30:00	0	17	59	5	81	0	0	0	0	0	0	24	8	0	32	0	0	17	14	31	144
08:45:00	0	9	75	5	89	0	0	0	0	0	0	20	17	0	37	0	0	14	19	33	159
09:00:00	0	20	65	6	91	0	0	0	0	0	0	24	21	0	45	0	0	17	5	22	158
09:15:00	0	13	58	4	75	0	0	0	0	0	0	21	16	0	37	0	0	24	14	38	150



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S1992070005
Date: 11/14/2024 12:00:00 AM
Location: MD 7C at MD 272
Interval: 60 Min

County: Cecil
Town: none
Weather: Sunny

Comments:

PEAK	AM PERIOD	Start	End	Volume	LOS	V/C	PM PERIOD	Start	End	Volume	LOS	V/C
Hours	6:00AM-12:00PM	07:15	08:00	777	A	0.39	12:00PM-19:00PM	16:30	17:15	1065	A	0.51

	MD 272 (SB)					MD 272 (SB)					MD 7C (Cecil Ave)					MD 7C (Cecil Ave)					
	From North					From South					From East					From West					
09:30:00	0	15	66	10	91	0	0	0	0	0	0	14	17	0	31	0	0	22	7	29	151
09:45:00	0	12	71	5	88	0	0	0	0	0	0	18	12	0	30	0	0	23	18	41	159
10:00:00	0	10	65	4	79	0	0	0	0	0	0	22	14	0	36	0	0	17	10	27	142
10:15:00	0	8	57	8	73	0	0	0	0	0	0	15	13	0	28	0	0	19	5	24	125
10:30:00	0	7	57	4	68	0	0	0	0	0	0	19	16	0	35	0	0	19	12	31	134
10:45:00	0	14	69	4	87	0	0	0	0	0	0	14	6	0	20	0	0	11	11	22	129
11:00:00	0	20	89	8	117	0	0	0	0	0	0	15	13	0	28	0	0	17	12	29	174
11:15:00	0	22	68	8	98	0	0	0	0	0	0	14	9	0	23	0	0	14	15	29	150
11:30:00	0	15	75	13	103	0	0	0	0	0	0	15	18	0	33	0	0	9	9	18	154
11:45:00	0	22	64	9	95	0	0	0	0	0	0	27	20	0	47	0	0	16	14	30	172
12:00:00	0	15	72	11	98	0	0	0	0	0	0	24	10	0	34	0	0	20	16	36	168
12:15:00	0	13	78	13	104	0	0	0	0	0	0	22	18	0	40	0	0	18	13	31	175
12:30:00	0	23	87	9	119	0	0	0	0	0	0	14	13	0	27	0	0	15	13	28	174
12:45:00	0	15	82	11	108	0	0	0	0	0	0	20	25	0	45	0	0	21	16	37	190
13:00:00	0	20	70	20	110	0	0	0	0	0	0	13	15	0	28	0	0	11	16	27	165
13:15:00	0	14	81	7	102	0	0	0	0	0	0	17	10	0	27	0	0	23	19	42	171
13:30:00	0	13	80	5	98	0	0	0	0	0	0	19	11	0	30	0	0	27	15	42	170
13:45:00	0	19	101	5	125	0	0	0	0	0	0	15	11	0	26	0	0	22	14	36	187
14:00:00	0	22	86	8	116	0	0	0	0	0	0	33	13	0	46	0	0	26	19	45	207
14:15:00	0	22	81	13	116	0	0	0	0	0	0	29	17	0	46	0	0	27	17	44	206
14:30:00	0	17	114	9	140	0	0	0	0	0	0	32	32	0	64	0	0	19	20	39	243
14:45:00	0	10	99	12	121	0	0	0	0	0	0	22	27	0	49	0	0	19	27	46	216
15:00:00	0	16	106	12	134	0	0	0	0	0	0	21	36	0	57	0	0	14	24	38	229
15:15:00	0	19	121	8	148	0	0	0	0	0	0	25	26	0	51	0	0	13	21	34	233
15:30:00	0	21	126	9	156	0	0	0	0	0	0	18	30	0	48	0	0	24	27	51	255
15:45:00	0	18	115	13	146	0	0	0	0	0	0	23	29	0	52	0	0	29	41	70	268
16:00:00	0	20	120	11	151	0	0	0	0	0	0	24	39	0	63	0	0	36	28	64	278
16:15:00	0	19	112	10	141	0	0	0	0	0	0	23	22	0	45	0	0	22	23	45	231
16:30:00	0	20	111	7	138	0	0	0	0	0	0	28	35	0	63	0	0	32	34	66	267
16:45:00	0	19	114	8	141	0	0	0	0	0	0	29	30	0	59	0	0	35	44	79	279
17:00:00	0	26	107	7	140	0	0	0	0	0	0	16	29	0	45	0	0	22	42	64	249
17:15:00	0	22	117	10	149	0	0	0	0	0	0	27	35	0	62	0	0	28	31	59	270
17:30:00	0	29	104	20	153	0	0	0	0	0	0	30	21	0	51	0	0	25	35	60	264
17:45:00	0	21	116	14	151	0	0	0	0	0	0	25	21	0	46	0	0	13	23	36	233
18:00:00	0	23	80	11	114	0	0	0	0	0	0	23	30	0	53	0	0	14	14	28	195
18:15:00	0	23	84	8	115	0	0	0	0	0	0	20	20	0	40	0	0	17	16	33	188
18:30:00	0	13	74	8	95	0	0	0	0	0	0	15	22	0	37	0	0	14	10	24	156
18:45:00	0	13	90	4	107	0	0	0	0	0	0	21	16	0	37	0	0	11	8	19	163
19:00:00	0	24	44	8	76	0	0	0	0	0	0	13	21	0	34	0	0	11	8	19	129
19:15:00	0	8	50	7	65	0	0	0	0	0	0	13	9	0	22	0	0	14	8	22	109



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S1992070005

County: Cecil

Comments:

Date: 11/14/2024 12:00:00 AM

Town: none

Location: MD 7C at MD 272

Weather: Sunny

Interval: 60 Min

PEAK	AM PERIOD	Start	End	Volume	LOS	V/C	PM PERIOD	Start	End	Volume	LOS	V/C
Hours	6:00AM-12:00PM	07:15	08:00	777	A	0.39	12:00PM-19:00PM	16:30	17:15	1065	A	0.51

	MD 272 (SB)					MD 272 (SB)					MD 7C (Cecil Ave)					MD 7C (Cecil Ave)					
	From North					From South					From East					From West					
19:30:00	0	20	48	9	77	0	0	0	0	0	0	11	15	0	26	0	0	12	8	20	123
19:45:00	0	16	58	6	80	0	0	0	0	0	0	14	5	0	19	0	0	17	9	26	125
20:00:00	0	17	55	11	83	0	0	0	0	0	0	13	10	0	23	0	0	13	11	24	130
20:15:00	0	8	48	4	60	0	0	0	0	0	0	5	7	0	12	0	0	6	7	13	85
20:30:00	0	8	35	5	48	0	0	0	0	0	0	14	8	0	22	0	0	10	6	16	86
20:45:00	0	13	39	3	55	0	0	0	0	0	0	9	6	0	15	0	0	12	6	18	88
21:00:00	0	8	31	4	43	0	0	0	0	0	0	3	8	0	11	0	0	7	5	12	66
21:15:00	0	7	31	4	42	0	0	0	0	0	0	9	3	0	12	0	0	7	6	13	67
21:30:00	0	4	31	4	39	0	0	0	0	0	0	5	5	0	10	0	0	6	8	14	63
21:45:00	0	3	24	4	31	0	0	0	0	0	0	3	9	0	12	0	0	4	3	7	50
22:00:00	0	9	17	5	31	0	0	0	0	0	0	5	5	0	10	0	0	2	5	7	48
22:15:00	0	3	29	1	33	0	0	0	0	0	0	8	5	0	13	0	0	4	5	9	55
22:30:00	0	5	20	0	25	0	0	0	0	0	0	3	6	0	9	0	0	1	1	2	36
22:45:00	0	2	22	1	25	0	0	0	0	0	0	2	2	0	4	0	0	2	2	4	33
23:00:00	0	4	9	0	13	0	0	0	0	0	0	1	3	0	4	0	0	5	3	8	25
23:15:00	0	2	18	1	21	0	0	0	0	0	0	2	0	0	2	0	0	0	1	1	24
23:30:00	0	3	8	0	11	0	0	0	0	0	0	3	3	0	6	0	0	2	0	2	19
23:45:00	0	2	8	2	12	0	0	0	0	0	0	5	0	0	5	0	0	1	3	4	21
TOTAL	0	1054	4982	505	6541	0	0	0	0	0	0	1173	1144	0	2317	0	0	1167	1088	2255	11113
AMPEAK	0	69	335	22	426	0	0	0	0	0	0	74	83	0	157	0	0	74	120	194	777
PMPEAK	0	87	449	32	568	0	0	0	0	0	0	100	129	0	229	0	0	117	151	268	1065
DAYPEAK	0	87	449	32	568	0	0	0	0	0	0	100	129	0	229	0	0	117	151	268	1065



**Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report**

Station ID: S1992070005

Date: 11/14/2024 12:00:00 AM

Location: MD 7C at MD 272

Interval: 60 Min

PEAK	AM PERIOD	Start	End	Volume	LOS	V/C	PM PERIOD	Start	End	Volume	LOS	V/C
Hours	6:00AM-12:00PM	07:15	08:00	777	A	0.39	12:00PM-19:00PM	16:30	17:15	1065	A	0.51

MD 272 (SB)

From North

[illegible]



**Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report**

Station ID: S1992070005

Date: 11/14/2024 12:00:00 AM

Location: MD 7C at MD 272

Interval: 60 Min

PEAK	AM PERIOD	Start	End	Volume	LOS	V/C	PM PERIOD	Start	End	Volume	LOS	V/C
Hours	6:00AM-12:00PM	07:15	08:00	777	A	0.39	12:00PM-19:00PM	16:30	17:15	1065	A	0.51

MD 272 (SB)

From North

[illegible]



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID:

S1992070005

County:

Cecil

Comments:

Date:

11/14/2024 12:00:00 AM

Town:

none

Location:

MD 7C at MD 272

Weather:

Sunny

Interval:

60 Min

PEAK	AM PERIOD	Start	End	Volume	LOS	V/C	PM PERIOD	Start	End	Volume	LOS	V/C
Hours	6:00AM-12:00PM	07:15	08:00	777	A	0.39	12:00PM-19:00PM	16:30	17:15	1065	A	0.51

MD 272 (SB)			MD 272 (SB)			MD 7C (Cecil Ave)			MD 7C (Cecil Ave)			
From North			From South			From East			From West			
Begin Hour	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles
19:00:00	0	2	0	0	0	0	0	0	0	0	4	0
19:15:00	0	0	0	0	1	0	0	3	0	0	4	0
19:30:00	0	0	0	0	0	0	0	0	0	0	1	0
19:45:00	0	0	0	0	0	0	0	0	0	0	2	1
20:00:00	0	0	0	0	0	0	0	2	0	0	0	1
20:15:00	0	0	0	0	0	0	0	0	0	0	0	0
20:30:00	0	0	0	0	1	0	0	1	0	0	1	0
20:45:00	0	0	0	0	0	0	0	1	0	0	0	0
21:00:00	0	0	0	0	0	0	0	0	0	0	0	0
21:15:00	0	0	1	0	0	0	0	2	0	0	0	0
21:30:00	0	0	0	0	0	0	0	0	0	0	0	0
21:45:00	0	0	0	0	0	0	0	0	0	0	0	0
22:00:00	0	0	0	0	0	0	0	0	0	0	0	0
22:15:00	0	0	0	0	0	0	0	0	0	0	1	0
22:30:00	0	0	0	0	0	0	0	0	0	0	0	0
22:45:00	0	0	0	0	0	0	0	0	0	0	0	0
23:00:00	0	0	0	0	0	0	0	0	0	0	0	0
23:15:00	0	0	0	0	0	0	0	0	0	0	0	0
23:30:00	0	0	0	0	0	0	0	0	0	0	0	0
23:45:00	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	37	5	0	31	2	0	44	7	0	54	11
AMPEAK	0	1	0	0	5	0	0	2	0	0	0	0
PMPEAK	0	3	1	0	1	0	0	3	3	0	5	1
DAYPEAK	0	3	1	0	1	0	0	3	3	0	5	1



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S1992070005

County: Cecil

Comments:

Date: 11/14/2024 12:00:00 AM

Town: none

Location: MD 7C at MD 272

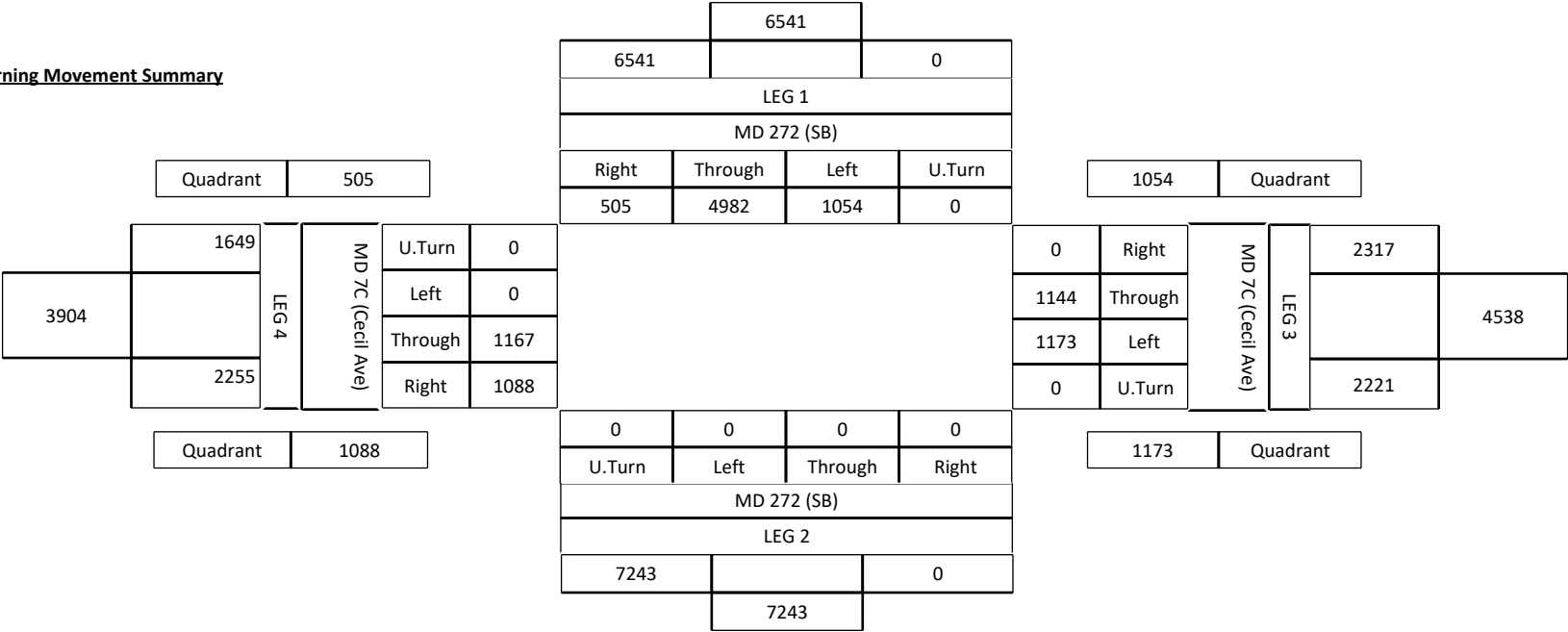
Weather: Sunny

Interval: 60 Min

PEAK	AM PERIOD	Start	End	Volume	LOS	V/C	PM PERIOD	Start	End	Volume	LOS	V/C
Hours	6:00AM-12:00PM	07:15	08:00	777	A	0.39	12:00PM-19:00PM	16:30	17:15	1065	A	0.51



Turning Movement Summary





Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S1992070005

County: Cecil

Comments:

Date: 11/14/2024 12:00:00 AM

Town: none

Location: MD 7C at MD 272

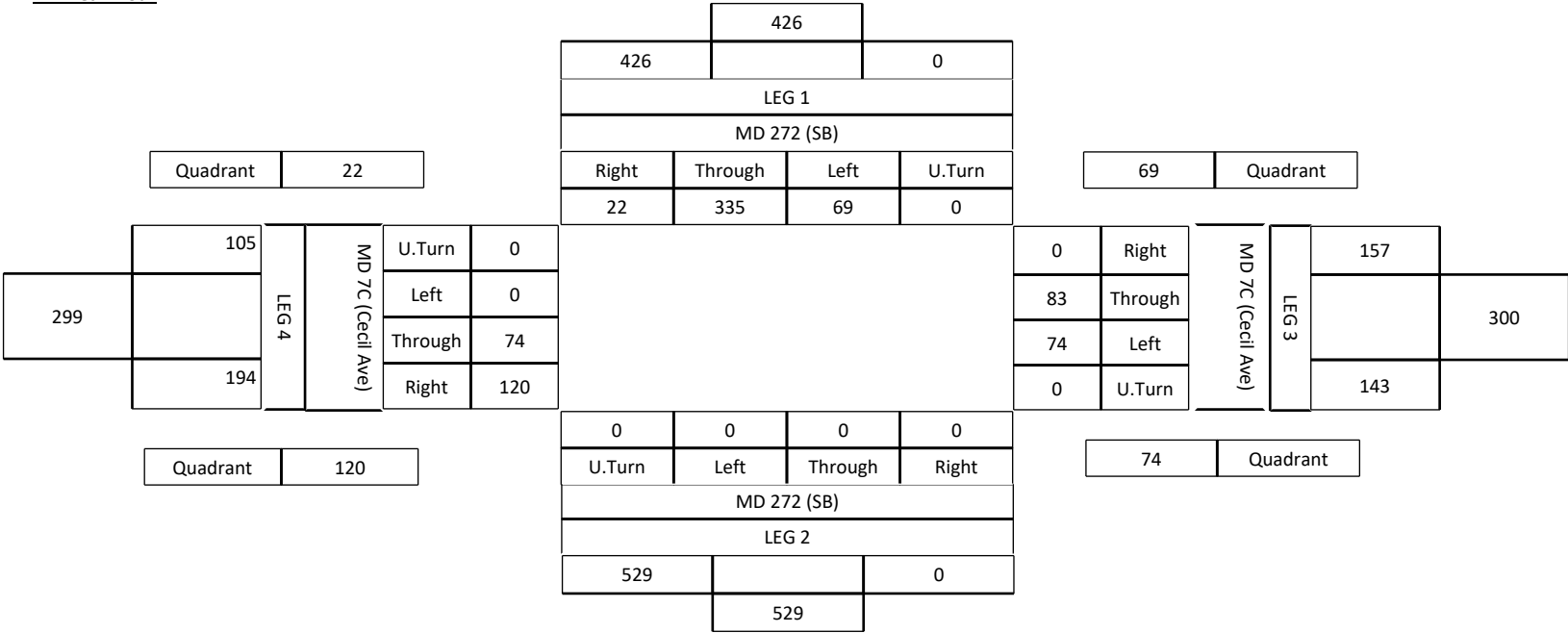
Weather: Sunny

Interval: 60 Min

PEAK	AM PERIOD	Start	End	Volume	LOS	V/C	PM PERIOD	Start	End	Volume	LOS	V/C
Hours	6:00AM-12:00PM	07:15	08:00	777	A	0.39	12:00PM-19:00PM	16:30	17:15	1065	A	0.51



AM Peak Hour



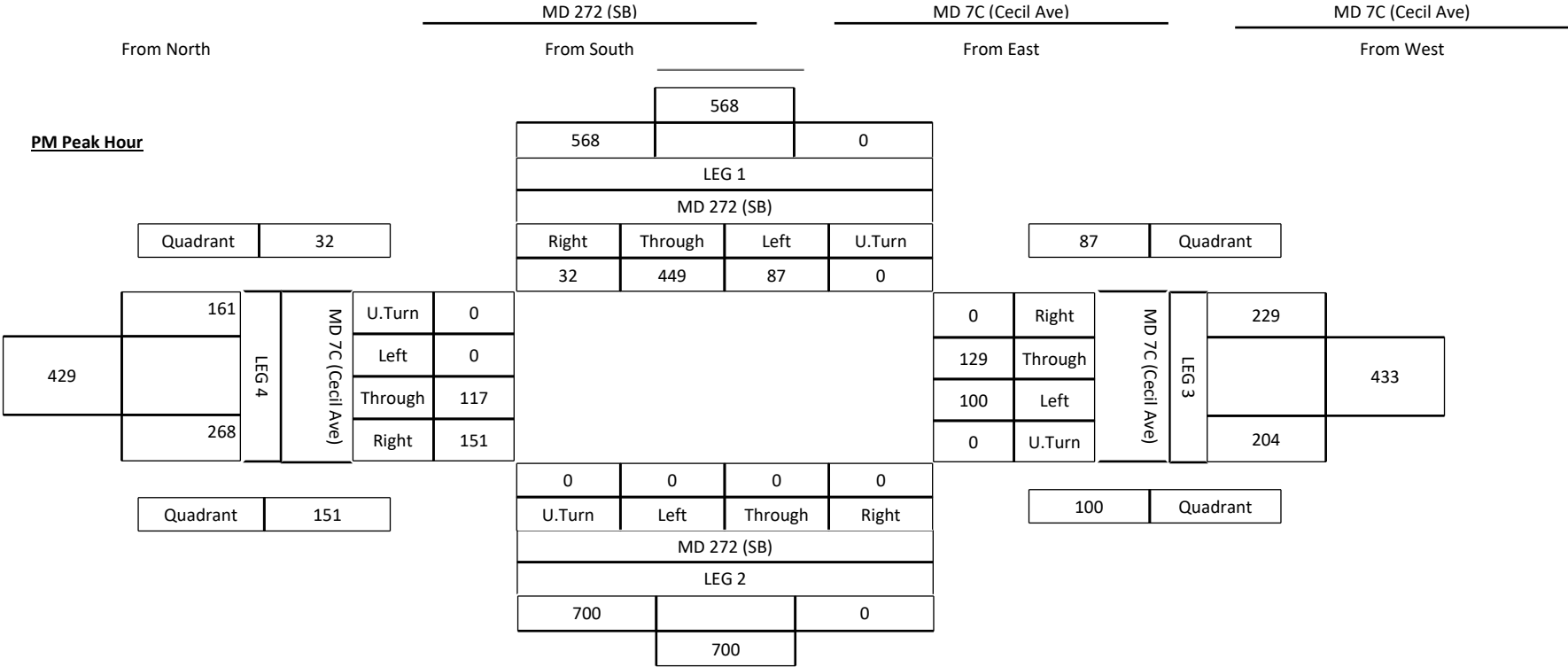


Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S1992070005
Date: 11/14/2024 12:00:00 AM
Location: MD 7C at MD 272
Interval: 60 Min

County: Cecil
Town: none
Weather: Sunny
Comments:

PEAK	AM PERIOD	Start	End	Volume	LOS	V/C	PM PERIOD	Start	End	Volume	LOS	V/C
Hours	6:00AM-12:00PM	07:15	08:00	777	A	0.39	12:00PM-19:00PM	16:30	17:15	1065	A	0.51





Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S1999070021

County: Cecil

Comments:

Date: 11/14/2024 12:00:00 AM

Town: none

Location: MD 272 (Mauldin Ave) at MD 7C (Cecil Ave)

Weather: Sunny

Interval: 60 Min

PEAK	AM PERIOD	Start	End	Volume	LOS	V/C	PM PERIOD	Start	End	Volume	LOS	V/C
Hours	6:00AM-12:00PM	07:00	07:45	1105	A	0.35	12:00PM-19:00PM	15:45	16:30	1089	A	0.35

	MD 272 (NB)					MD 272 (NB)					MD 7C (Cecil Ave)					MD 7C (Cecil Ave)					
	From North					From South					From East					From West					
Begin Hour	U.Turn	Left	Through	Right	TOTAL	U.Turn	Left	Through	Right	TOTAL	U.Turn	Left	Through	Right	TOTAL	U.Turn	Left	Through	Right	TOTAL	GrandTotal
00:00:00	0	0	0	0	0	0	1	6	3	10	0	0	1	0	1	0	2	3	0	5	16
00:15:00	0	0	0	0	0	0	0	3	0	3	0	0	1	2	3	0	0	1	0	1	7
00:30:00	0	0	0	0	0	0	1	3	1	5	0	0	0	0	0	0	0	1	0	1	6
00:45:00	0	0	0	0	0	0	0	1	1	2	0	0	0	2	2	0	0	1	0	1	5
01:00:00	0	0	0	0	0	0	0	1	1	2	0	0	1	0	1	0	0	1	0	1	4
01:15:00	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1	0	0	0	0	0	2
01:30:00	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	0	1	1	0	2	4
01:45:00	0	0	0	0	0	0	0	0	2	2	0	0	0	1	1	0	0	2	0	2	5
02:00:00	0	0	0	0	0	0	1	5	1	7	0	0	0	1	1	0	0	0	0	0	8
02:15:00	0	0	0	0	0	0	0	3	1	4	0	0	2	0	2	0	0	1	0	1	7
02:30:00	0	0	0	0	0	0	0	2	1	3	0	0	1	0	1	0	0	1	0	1	5
02:45:00	0	0	0	0	0	0	0	1	2	3	0	0	0	0	0	0	0	1	0	1	4
03:00:00	0	0	0	0	0	0	0	4	1	5	0	0	2	4	6	0	0	0	0	0	11
03:15:00	0	0	0	0	0	0	0	2	3	5	0	0	0	1	1	0	1	0	0	1	7
03:30:00	0	0	0	0	0	0	1	6	2	9	0	0	1	3	4	0	1	1	0	2	15
03:45:00	0	0	0	0	0	0	1	9	1	11	0	0	1	3	4	0	1	1	0	2	17
04:00:00	0	0	0	0	0	0	0	11	2	13	0	0	0	4	4	0	0	3	0	3	20
04:15:00	0	0	0	0	0	0	1	8	4	13	0	0	1	2	3	0	1	0	0	1	17
04:30:00	0	0	0	0	0	0	0	19	10	29	0	0	1	6	7	0	2	4	0	6	42
04:45:00	0	0	0	0	0	0	2	25	13	40	0	0	2	7	9	0	2	2	0	4	53
05:00:00	0	0	0	0	0	0	3	35	14	52	0	0	2	9	11	0	1	2	0	3	66
05:15:00	0	0	0	0	0	0	3	34	11	48	0	0	3	8	11	0	1	5	0	6	65
05:30:00	0	0	0	0	0	0	1	49	14	64	0	0	6	7	13	0	0	8	0	8	85
05:45:00	0	0	0	0	0	0	3	52	24	79	0	0	2	8	10	0	3	9	0	12	101
06:00:00	0	0	0	0	0	0	2	58	24	84	0	0	10	12	22	0	2	9	0	11	117
06:15:00	0	0	0	0	0	0	5	74	23	102	0	0	8	19	27	0	3	14	0	17	146
06:30:00	0	0	0	0	0	0	5	78	23	106	0	0	5	24	29	0	3	21	0	24	159
06:45:00	0	0	0	0	0	0	5	100	38	143	0	0	13	17	30	0	2	26	0	28	201
07:00:00	0	0	0	0	0	0	5	109	38	152	0	0	20	8	28	0	4	30	0	34	214
07:15:00	0	0	0	0	0	0	8	144	57	209	0	0	33	25	58	0	11	31	0	42	309
07:30:00	0	0	0	0	0	0	16	142	42	200	0	0	31	46	77	0	5	40	0	45	322
07:45:00	0	0	0	0	0	0	17	130	38	185	0	0	22	22	44	0	11	20	0	31	260
08:00:00	0	0	0	0	0	0	7	79	27	113	0	0	25	27	52	0	8	19	0	27	192
08:15:00	0	0	0	0	0	0	8	83	22	113	0	0	24	18	42	0	9	17	0	26	181
08:30:00	0	0	0	0	0	0	3	80	40	123	0	0	28	20	48	0	7	27	0	34	205
08:45:00	0	0	0	0	0	0	14	136	52	202	0	0	22	22	44	0	6	18	0	24	270
09:00:00	0	0	0	0	0	0	19	82	33	134	0	0	30	21	51	0	11	18	0	29	214
09:15:00	0	0	0	0	0	0	13	73	39	125	0	0	23	18	41	0	11	24	0	35	201



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S1999070021

County: Cecil

Comments:

Date: 11/14/2024 12:00:00 AM

Town: none

Location: MD 272 (Mauldin Ave) at MD 7C (Cecil Ave)

Weather: Sunny

Interval: 60 Min

PEAK	AM PERIOD	Start	End	Volume	LOS	V/C	PM PERIOD	Start	End	Volume	LOS	V/C
Hours	6:00AM-12:00PM	07:00	07:45	1105	A	0.35	12:00PM-19:00PM	15:45	16:30	1089	A	0.35

	MD 272 (NB)					MD 272 (NB)					MD 7C (Cecil Ave)					MD 7C (Cecil Ave)					
	From North					From South					From East					From West					
09:30:00	0	0	0	0	0	0	10	80	25	115	0	0	18	20	38	0	9	25	0	34	187
09:45:00	0	0	0	0	0	0	12	71	22	105	0	0	16	13	29	0	14	20	0	34	168
10:00:00	0	0	0	0	0	0	8	57	35	100	0	0	25	20	45	0	5	20	0	25	170
10:15:00	0	0	0	0	0	0	9	64	25	98	0	0	19	24	43	0	8	19	0	27	168
10:30:00	0	0	0	0	0	0	13	63	26	102	0	0	20	17	37	0	7	18	0	25	164
10:45:00	0	0	0	0	0	0	8	83	34	125	0	0	15	11	26	0	5	20	0	25	176
11:00:00	0	0	0	0	0	0	7	65	33	105	0	0	22	16	38	0	9	34	0	43	186
11:15:00	0	0	0	0	0	0	6	80	32	118	0	0	15	13	28	0	9	27	0	36	182
11:30:00	0	0	0	0	0	0	15	70	31	116	0	0	21	15	36	0	6	11	0	17	169
11:45:00	0	0	0	0	0	0	12	79	30	121	0	0	35	18	53	0	14	22	0	36	210
12:00:00	0	0	0	0	0	0	11	79	26	116	0	0	24	15	39	0	8	29	0	37	192
12:15:00	0	0	0	0	0	0	13	73	27	113	0	0	26	18	44	0	8	21	0	29	186
12:30:00	0	0	0	0	0	0	10	75	31	116	0	0	19	12	31	0	3	34	0	37	184
12:45:00	0	0	0	0	0	0	12	76	26	114	0	0	30	21	51	0	15	24	0	39	204
13:00:00	0	0	0	0	0	0	9	82	17	108	0	0	25	21	46	0	6	23	0	29	183
13:15:00	0	0	0	0	0	0	6	79	31	116	0	0	18	7	25	0	11	27	0	38	179
13:30:00	0	0	0	0	0	0	9	80	30	119	0	0	18	18	36	0	10	24	0	34	189
13:45:00	0	0	0	0	0	0	9	93	20	122	0	0	19	14	33	0	9	28	0	37	192
14:00:00	0	0	0	0	0	0	14	87	24	125	0	0	31	15	46	0	13	36	0	49	220
14:15:00	0	0	0	0	0	0	15	97	24	136	0	0	38	17	55	0	14	37	0	51	242
14:30:00	0	0	0	0	0	0	19	101	37	157	0	0	46	29	75	0	9	27	0	36	268
14:45:00	0	0	0	0	0	0	18	108	29	155	0	0	25	18	43	0	11	21	0	32	230
15:00:00	0	0	0	0	0	0	26	108	32	166	0	0	35	33	68	0	11	20	0	31	265
15:15:00	0	0	0	0	0	0	17	95	27	139	0	0	34	19	53	0	10	25	0	35	227
15:30:00	0	0	0	0	0	0	24	120	38	182	0	0	26	22	48	0	8	31	0	39	269
15:45:00	0	0	0	0	0	0	18	101	38	157	0	0	30	18	48	0	8	39	0	47	252
16:00:00	0	0	0	0	0	0	25	121	40	186	0	0	34	30	64	0	13	40	0	53	303
16:15:00	0	0	0	0	0	0	19	93	40	152	0	0	35	20	55	0	8	34	0	42	249
16:30:00	0	0	0	0	0	0	17	104	44	165	0	0	46	21	67	0	16	37	0	53	285
16:45:00	0	0	0	0	0	0	12	88	35	135	0	0	33	9	42	0	3	49	0	52	229
17:00:00	0	0	0	0	0	0	17	80	59	156	0	0	31	27	58	0	11	40	0	51	265
17:15:00	0	0	0	0	0	0	25	95	29	149	0	0	39	24	63	0	13	39	0	52	264
17:30:00	0	0	0	0	0	0	13	90	32	135	0	0	42	21	63	0	11	44	0	55	253
17:45:00	0	0	0	0	0	0	12	61	29	102	0	0	32	14	46	0	5	28	0	33	181
18:00:00	0	0	0	0	0	0	13	74	23	110	0	0	35	29	64	0	13	29	0	42	216
18:15:00	0	0	0	0	0	0	12	52	24	88	0	0	24	20	44	0	14	25	0	39	171
18:30:00	0	0	0	0	0	0	20	67	33	120	0	0	24	17	41	0	8	22	0	30	191
18:45:00	0	0	0	0	0	0	14	69	20	103	0	0	23	14	37	0	10	18	0	28	168
19:00:00	0	0	0	0	0	0	10	41	16	67	0	0	22	23	45	0	6	30	0	36	148
19:15:00	0	0	0	0	0	0	3	42	7	52	0	0	20	12	32	0	7	13	0	20	104



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S1999070021

County: Cecil

Comments:

Date: 11/14/2024 12:00:00 AM

Town: none

Location: MD 272 (Mauldin Ave) at MD 7C (Cecil Ave)

Weather: Sunny

Interval: 60 Min

PEAK	AM PERIOD	Start	End	Volume	LOS	V/C	PM PERIOD	Start	End	Volume	LOS	V/C
Hours	6:00AM-12:00PM	07:00	07:45	1105	A	0.35	12:00PM-19:00PM	15:45	16:30	1089	A	0.35

	MD 272 (NB)					MD 272 (NB)					MD 7C (Cecil Ave)					MD 7C (Cecil Ave)					
	From North					From South					From East					From West					
19:30:00	0	0	0	0	0	0	5	34	16	55	0	0	22	8	30	0	7	24	0	31	116
19:45:00	0	0	0	0	0	0	5	50	14	69	0	0	12	14	26	0	9	23	0	32	127
20:00:00	0	0	0	0	0	0	7	56	19	82	0	0	18	7	25	0	10	20	0	30	137
20:15:00	0	0	0	0	0	0	4	31	15	50	0	0	4	10	14	0	4	10	0	14	78
20:30:00	0	0	0	0	0	0	3	28	11	42	0	0	18	7	25	0	6	12	0	18	85
20:45:00	0	0	0	0	0	0	3	26	6	35	0	0	14	4	18	0	5	20	0	25	78
21:00:00	0	0	0	0	0	0	3	21	4	28	0	0	8	5	13	0	6	8	0	14	55
21:15:00	0	0	0	0	0	0	3	23	11	37	0	0	9	3	12	0	8	4	0	12	61
21:30:00	0	0	0	0	0	0	4	16	9	29	0	0	7	3	10	0	1	9	0	10	49
21:45:00	0	0	0	0	0	0	5	21	15	41	0	0	7	5	12	0	2	5	0	7	60
22:00:00	0	0	0	0	0	0	2	10	9	21	0	0	8	3	11	0	5	6	0	11	43
22:15:00	0	0	0	0	0	0	3	9	11	23	0	0	10	1	11	0	3	4	0	7	41
22:30:00	0	0	0	0	0	0	3	5	6	14	0	0	5	2	7	0	2	4	0	6	27
22:45:00	0	0	0	0	0	0	2	8	7	17	0	0	2	4	6	0	2	2	0	4	27
23:00:00	0	0	0	0	0	0	2	7	6	15	0	0	3	0	3	0	4	7	0	11	29
23:15:00	0	0	0	0	0	0	1	8	3	12	0	0	3	3	6	0	0	3	0	3	21
23:30:00	0	0	0	0	0	0	0	11	7	18	0	0	5	3	8	0	0	5	0	5	31
23:45:00	0	0	0	0	0	0	0	10	4	14	0	0	6	0	6	0	0	3	0	3	23
TOTAL	0	0	0	0	0	0	743	5264	1963	7970	0	0	1574	1194	2768	0	561	1641	0	2202	12940
AMPEAK	0	0	0	0	0	0	46	525	175	746	0	0	106	101	207	0	31	121	0	152	1105
PMPEAK	0	0	0	0	0	0	79	419	162	660	0	0	145	89	234	0	45	150	0	195	1089
DAYPEAK	0	0	0	0	0	0	46	525	175	746	0	0	106	101	207	0	31	121	0	152	1105



**Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report**

Station ID: S1999070021

County: Cecil

Comments:

Date: 11/14/2024 12:00:00 AM

Town: none

Location: MD 272 (Mauldin Ave) at MD 7C (Cecil Ave)

Weather: Sunny

Interval: 60 Min

PEAK	AM PERIOD	Start	End	Volume	LOS	V/C	PM PERIOD	Start	End	Volume	LOS	V/C
Hours	6:00AM-12:00PM	07:00	07:45	1105	A	0.35	12:00PM-19:00PM	15:45	16:30	1089	A	0.35

[illegible]



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S1999070021

County: Cecil

Comments:

Date: 11/14/2024 12:00:00 AM

Town: none

Location: MD 272 (Mauldin Ave) at MD 7C (Cecil Ave)

Weather: Sunny

Interval: 60 Min

PEAK	AM PERIOD	Start	End	Volume	LOS	V/C	PM PERIOD	Start	End	Volume	LOS	V/C
Hours	6:00AM-12:00PM	07:00	07:45	1105	A	0.35	12:00PM-19:00PM	15:45	16:30	1089	A	0.35

	MD 272 (NB)			MD 272 (NB)			MD 7C (Cecil Ave)			MD 7C (Cecil Ave)		
	From North			From South			From East			From West		
Begin Hour	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles
19:00:00	0	0	0	0	0	0	0	0	0	0	0	0
19:15:00	0	0	0	0	0	0	0	0	0	0	0	0
19:30:00	0	0	0	0	0	0	0	0	0	0	0	0
19:45:00	0	0	0	0	1	0	0	0	0	0	0	0
20:00:00	0	0	0	0	0	0	0	0	0	0	0	0
20:15:00	0	0	0	0	0	0	0	0	0	0	0	0
20:30:00	0	0	0	0	0	0	0	0	0	0	0	0
20:45:00	0	0	0	0	0	0	0	0	0	0	0	0
21:00:00	0	0	0	0	0	0	0	0	0	0	0	0
21:15:00	0	0	0	0	0	0	0	0	0	0	0	0
21:30:00	0	0	0	0	0	0	0	0	0	0	0	0
21:45:00	0	0	0	0	0	0	0	0	0	0	0	0
22:00:00	0	0	0	0	0	0	0	0	0	0	0	0
22:15:00	0	0	0	0	0	0	0	0	0	0	0	0
22:30:00	0	0	1	0	0	0	0	0	1	0	0	0
22:45:00	0	0	0	0	0	0	0	0	0	0	0	0
23:00:00	0	0	0	0	0	0	0	0	0	0	0	0
23:15:00	0	0	0	0	0	0	0	0	0	0	0	0
23:30:00	0	0	0	0	0	0	0	0	0	0	0	0
23:45:00	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	23	1	0	42	0	0	35	5	0	6	2
AMPEAK	0	1	0	0	4	0	0	7	0	0	0	0
PMPEAK	0	1	0	0	1	0	0	2	0	0	0	0
DAYPEAK	0	1	0	0	4	0	0	7	0	0	0	0



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S1999070021

County: Cecil

Comments:

Date: 11/14/2024 12:00:00 AM

Town: none

Location: MD 272 (Mauldin Ave) at MD 7C (Cecil Ave)

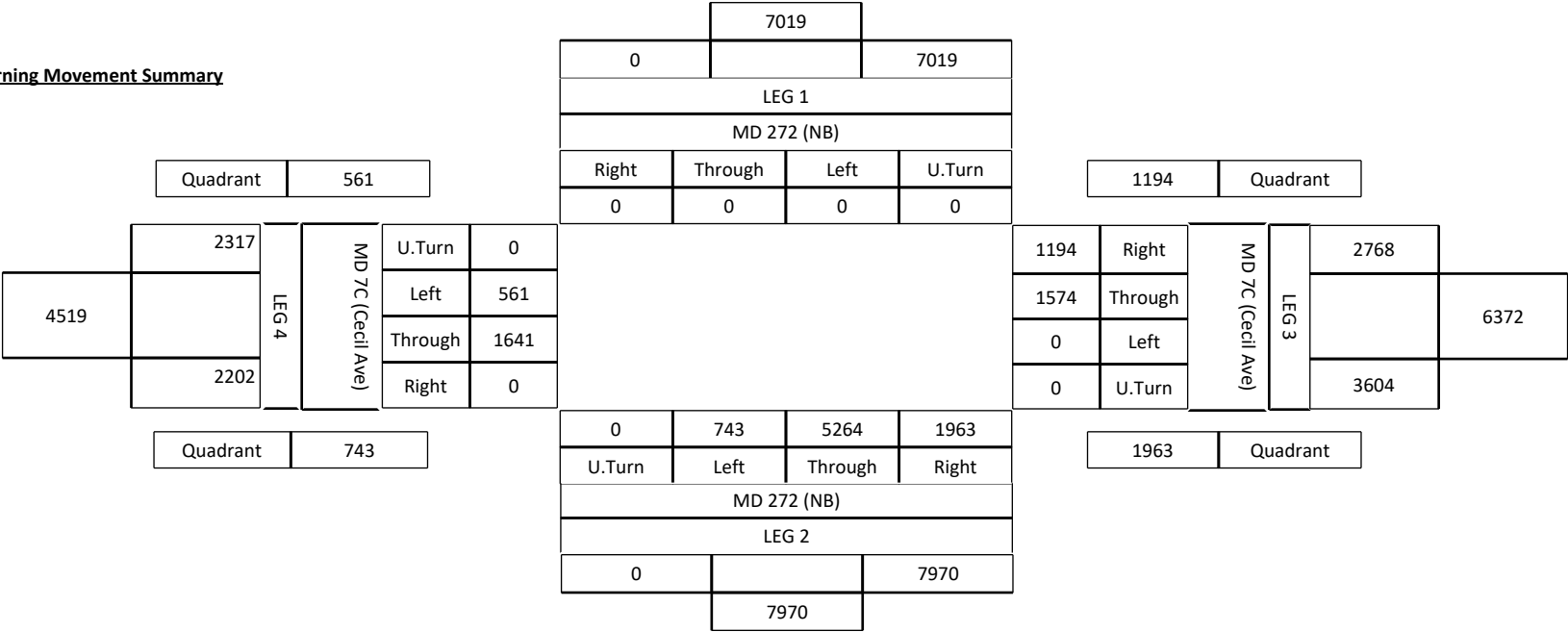
Weather: Sunny

Interval: 60 Min

PEAK	AM PERIOD	Start	End	Volume	LOS	V/C	PM PERIOD	Start	End	Volume	LOS	V/C
Hours	6:00AM-12:00PM	07:00	07:45	1105	A	0.35	12:00PM-19:00PM	15:45	16:30	1089	A	0.35



Turning Movement Summary





Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID:

S1999070021

County:

Cecil

Comments:

Date:

11/14/2024 12:00:00 AM

Town:

none

Location:

MD 272 (Mauldin Ave) at MD 7C (Cecil Ave)

Weather:

Sunny

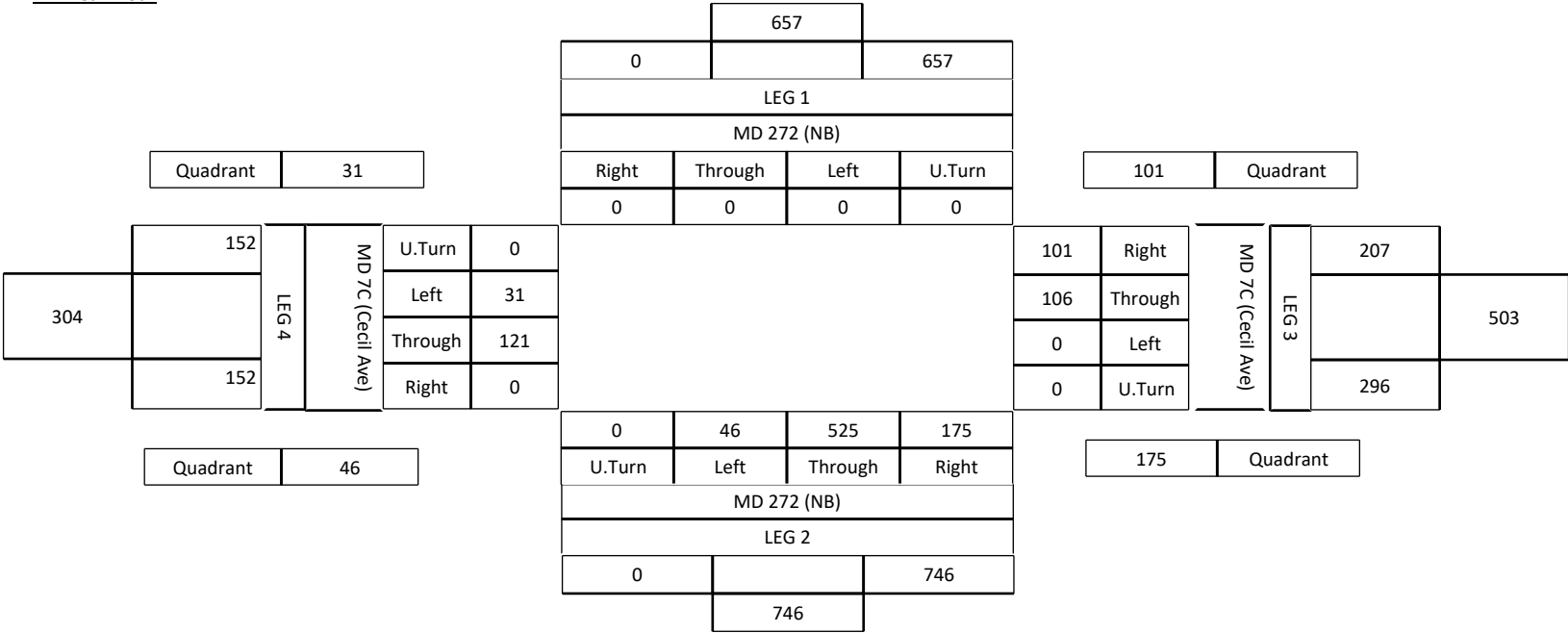
Interval:

60 Min

PEAK	AM PERIOD	Start	End	Volume	LOS	V/C	PM PERIOD	Start	End	Volume	LOS	V/C
Hours	6:00AM-12:00PM	07:00	07:45	1105	A	0.35	12:00PM-19:00PM	15:45	16:30	1089	A	0.35



AM Peak Hour





Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S1999070021

County: Cecil

Comments:

Date: 11/14/2024 12:00:00 AM

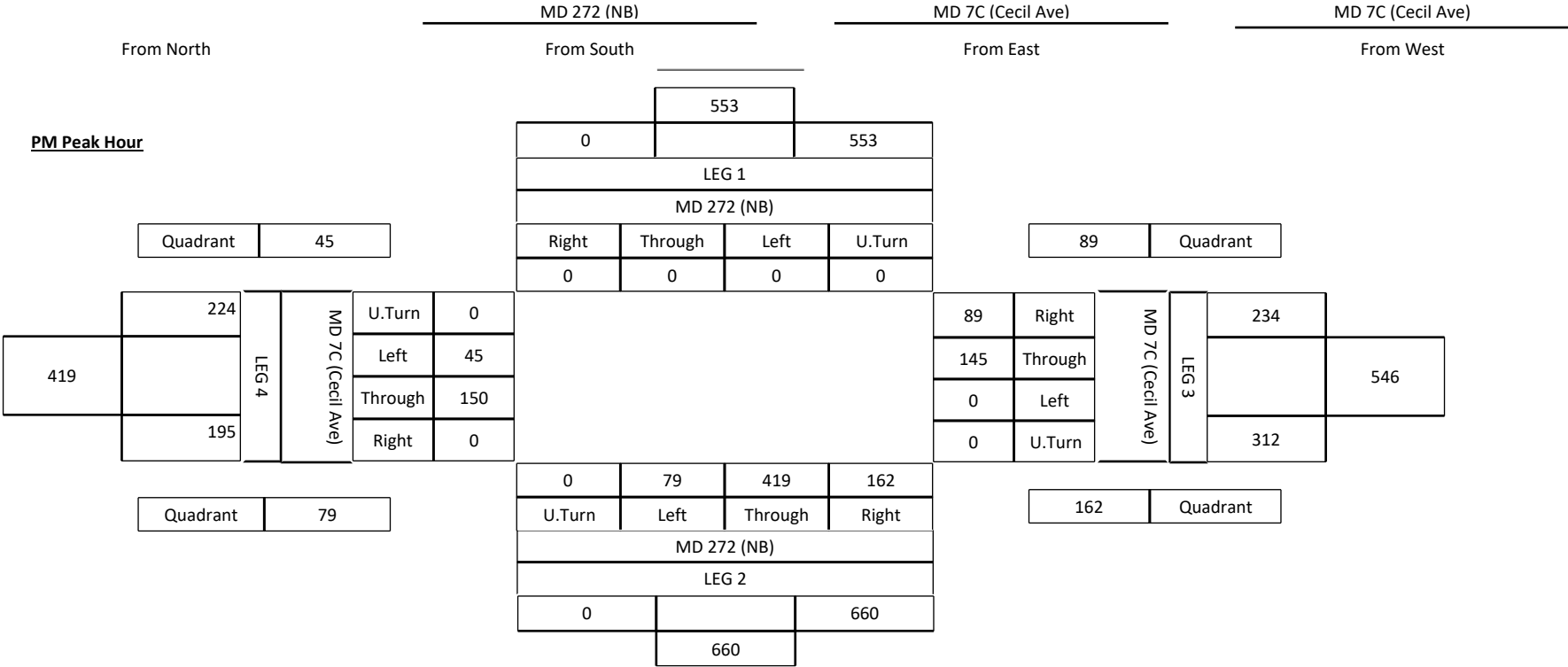
Town: none

Location: MD 272 (Mauldin Ave) at MD 7C (Cecil Ave)

Weather: Sunny

Interval: 60 Min

PEAK	AM PERIOD	Start	End	Volume	LOS	V/C	PM PERIOD	Start	End	Volume	LOS	V/C
Hours	6:00AM-12:00PM	07:00	07:45	1105	A	0.35	12:00PM-19:00PM	15:45	16:30	1089	A	0.35



	Weekday Morning Peak Hour (6:30 am - 9:30 am)																				
	MD 272 Northbound					MD 272 Southbound					Driveway Eastbound					Irishtown Road Westbound					
Time:	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	Total
6:30-6:45	0	0	83	1	0	2	12	28	0	0	0	0	0	0	0	0	0	0	15	0	141
6:45-7:00	0	0	70	0	0	0	25	26	0	0	0	0	0	0	0	0	0	0	26	0	147
7:00-7:15	0	0	98	6	0	4	54	26	0	0	0	0	0	0	0	0	0	0	37	0	225
7:15-7:30	0	0	120	23	0	2	101	30	1	0	0	0	0	0	0	0	1	0	56	0	334
7:30-7:45	0	0	115	23	0	1	66	47	1	0	0	0	0	0	0	0	8	1	101	0	363
7:45-8:00	0	0	98	18	1	2	39	64	1	0	0	0	0	1	1	0	10	0	46	0	279
8:00-8:15	0	0	81	2	1	0	23	58	0	0	0	0	0	1	1	0	2	0	34	1	201
8:15-8:30	0	0	65	1	0	2	13	60	0	0	0	2	0	0	1	0	1	0	24	0	168
8:30-8:45	0	0	100	4	0	5	9	47	0	0	0	1	0	0	1	0	1	0	32	0	199
8:45-9:00	0	0	89	2	0	3	19	54	0	0	0	0	0	0	0	0	0	0	22	0	189
9:00-9:15	0	0	81	0	0	3	15	52	0	0	0	0	0	0	0	0	1	0	32	0	184
9:15-9:30	0	0	61	1	0	4	12	49	2	0	0	0	0	0	0	0	0	0	18	0	147

Hourly Totals																					
6:30-7:30	0	0	371	30	0	8	192	110	1	0	0	0	0	0	0	0	1	0	134	0	847
6:45-7:45	0	0	403	52	0	7	246	129	2	0	0	0	0	0	0	0	9	1	220	0	1069
7:00-8:00	0	0	431	70	1	9	260	167	3	0	0	0	0	1	1	0	19	1	240	0	1203
7:15-8:15	0	0	414	66	2	5	229	199	3	0	0	0	0	2	2	0	21	1	237	1	1182
7:30-8:30	0	0	359	44	2	5	141	229	2	0	0	2	0	2	3	0	21	1	205	1	1017
7:45-8:45	0	0	344	25	2	9	84	229	1	0	0	3	0	2	4	0	14	0	136	1	854
8:00-9:00	0	0	335	9	1	10	64	219	0	0	0	3	0	1	3	0	4	0	112	1	762
8:15-9:15	0	0	335	7	0	13	56	213	0	0	0	3	0	0	2	0	3	0	110	0	742
8:30-9:30	0	0	331	7	0	15	55	202	2	0	0	1	0	0	1	0	2	0	104	0	720
AM		Northbound				Southbound					Eastbound					Westbound					
Peak Hour	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	Total
7:00-8:00	0	0	431	70	1	9	260	167	3	0	0	0	0	1	1	0	19	1	240	0	1203

Time:	Weekday Evening Peak Hour (4 pm - 7 pm)																				Total
	MD 272 Northbound					MD 272 Southbound					Driveway Eastbound					Irishtown Road Westbound					
	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	
4:00-4:15	0	0	96	8	0	0	50	122	2	0	0	1	0	1	2	0	5	0	29	0	314
4:15-4:30	0	0	64	6	0	5	48	102	2	0	0	0	1	0	0	0	6	0	35	0	269
4:30-4:45	0	1	84	2	1	2	54	119	4	0	0	2	0	1	1	0	5	1	38	0	313
4:45-5:00	0	0	84	6	1	5	67	139	2	0	0	2	0	2	0	0	4	3	48	0	362
5:00-5:15	0	0	69	6	2	1	52	118	0	0	0	0	0	0	2	0	3	1	35	0	285
5:15-5:30	0	0	65	7	0	0	50	105	4	0	0	0	0	0	0	0	5	0	35	0	271
5:30-5:45	0	0	63	5	0	2	43	115	3	0	0	1	0	1	0	0	7	0	33	0	273
5:45-6:00	0	0	64	2	0	3	30	97	6	0	0	1	0	3	0	0	0	0	25	0	231
6:00-6:15	0	0	63	1	2	2	28	100	1	0	0	0	0	0	2	0	4	2	16	0	217
6:15-6:30	0	1	52	3	0	3	24	71	4	0	0	2	0	1	0	0	0	1	26	0	188
6:30-6:45	1	0	32	4	0	2	36	58	7	0	0	0	0	1	0	0	1	0	19	0	161
6:45-7:00	0	0	36	2	0	0	33	73	3	0	0	2	1	0	0	0	0	1	4	0	155

Hourly Totals																										
4:00-5:00	0	1	328	22	2	12	219	482	10	0	0	5	1	4	3	0	20	4	150	0	1263					
4:15-5:15	0	1	301	20	4	13	221	478	8	0	0	4	1	3	3	0	18	5	156	0	1236					
4:30-5:30	0	1	302	21	4	8	223	481	10	0	0	4	0	3	3	0	17	5	156	0	1238					
4:45-5:45	0	0	281	24	3	8	212	477	9	0	0	3	0	3	2	0	19	4	151	0	1196					
5:00-6:00	0	0	261	20	2	6	175	435	13	0	0	2	0	4	2	0	15	1	128	0	1064					
5:15-6:15	0	0	255	15	2	7	151	417	14	0	0	2	0	4	2	0	16	2	109	0	996					
5:30-6:30	0	1	242	11	2	10	125	383	14	0	0	4	0	5	2	0	11	3	100	0	913					
5:45-6:45	1	1	211	10	2	10	118	326	18	0	0	3	0	5	2	0	5	3	86	0	801					
6:00-7:00	1	1	183	10	2	7	121	302	15	0	0	4	1	2	2	0	5	4	65	0	725					
PM						Northbound					Southbound					Eastbound					Westbound					
Peak Hour	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	Total					
4:00-5:00	0	1	328	22	2	12	219	482	10	0	0	5	1	4	3	0	20	4	150	0	1263					

Peak Hour
Turning Movement Count



LENHART TRAFFIC CONSULTING, INC.
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com

Intersection: MD 272 & Irishtown Road

Weather: Clear

Count by: CountCAM - DSS

Count Day/Date: Tuesday, December 13, 2022

County: Cecil

Weekday Midday Peak Hour (2 pm - 4 pm)																					
MD 272 Northbound						MD 272 Southbound					Driveway Eastbound					Irishtown Road Westbound					Total
Time:	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	
2:00-2:15	1	0	55	4	0	5	56	55	3	0	0	2	0	0	0	0	2	0	18	0	201
2:15-2:30	0	0	63	2	2	0	54	73	2	0	0	1	0	1	2	0	10	0	64	0	270
2:30-2:45	0	0	57	6	2	3	30	77	1	0	0	0	0	2	3	0	11	1	73	0	261
2:45-3:00	0	0	56	2	2	4	40	95	1	0	0	0	0	0	3	0	3	0	55	0	256
3:00-3:15	0	0	58	4	0	2	29	87	1	0	0	1	0	0	0	0	6	0	31	0	219
3:15-3:30	0	0	67	5	0	2	53	87	1	0	0	0	0	2	0	0	5	0	48	0	270
3:30-3:45	0	0	53	2	1	1	40	98	0	0	0	0	0	1	1	0	3	0	25	0	223
3:45-4:00	0	0	64	3	0	1	40	136	2	0	0	0	0	1	0	0	5	0	26	0	278
Hourly Totals																					
2:00-3:00	1	0	231	14	6	12	180	300	7	0	0	3	0	3	8	0	26	1	210	0	988
2:15-3:15	0	0	234	14	6	9	153	332	5	0	0	2	0	3	8	0	30	1	223	0	1006
2:30-3:30	0	0	238	17	4	11	152	346	4	0	0	1	0	4	6	0	25	1	207	0	1006
2:45-3:45	0	0	234	13	3	9	162	367	3	0	0	1	0	3	4	0	17	0	159	0	968
3:00-4:00	0	0	242	14	1	6	162	408	4	0	0	1	0	4	1	0	19	0	130	0	990
Midday Peak Hour	Northbound					Southbound					Eastbound					Westbound					Total
	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	
2:15-3:15	0	0	234	14	6	9	153	332	5	0	0	2	0	3	8	0	30	1	223	0	1006

Peak Hour
Turning Movement Count



LENHART TRAFFIC CONSULTING, INC.
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com

Intersection: MD 272 & Irishtown Road
Weather: Clear
Count by: Count CAM - DSS
Count Day/Date: Tuesday, December 13, 2022
County: Cecil

ATTACHMENT 2

Traffic Volume Calculations

Table A
Traffic Volumes
MD 272 Two-Way Conversion Study

		0.75% 18		0.75% 16		10% Seas. Adj.		n	AM	PM	sbl+sbtr		n	AM	PM	sbl				
		x		x		x		250	274	304	sbl+sbtr		x	285	132	sbl				
Intersection		2022 Existing Condition		2024 Existing Condition		2040 Base		Total Background Development (TIA)		Middle School Removal		Adjacent Development		Development		Study Area Assignment		Total Development		
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	New Middle School	High School	AM	PM	AM	PM			
1	MD 272 (Mauldin Avenue) at N. Main Street / Russell Street	EB	L	7	13	9	16										0	0		
			T	0	0	0	0										0	0		
			SR															0	0	
			HR	3	3	4	4											0	0	
		WB	HL																0	0
			SL	5	9	6	11												0	0
			U	0	1	0	1												0	0
			R	10	10	12	12												0	0
		NB	U	15	5	19	6												0	0
			L	0	3	0	4												0	0
			T	593	504	735	625	65%	163	107						65%	184	67	347	174
			R	2	6	2	7												0	0
SB	U	0	1	0	1												0	0		
	L	5	16	6	20												0	0		
	SL																0	0		
	T	375	513	465	636	65%	55	178						65%	185	86	240	264		
2	MD 272 SB (Main Street) at MD 7 (Cecil Avenue)	EB	L	5	10	8	12											0	0	
			T															0	0	
			SR															0	0	
			HR	74	117	92	145												0	0
		WB	R	120	151	149	187	10%	9	27						10%	29	13	38	40
			L	74	100	92	124	25%	21	69	-22	-6				25%	71	33	70	96
			R	83	129	103	160	10%	25	16						10%	28	10	53	26
			L																0	0
		NB	T																0	0
			R																0	0
			L																0	0
			T																0	0
SB	R																0	0		
	L	69	87	86	108												0	0		
	T	326	448	435	587	65%	55	178						65%	185	86	240	264		
	SR	22	32	27	40												0	0		
3	MD 272 NB (Main Street) at MD 7 (Cecil Avenue)	EB	L	31	45	38	56											0	0	
			T	121	150	150	186											0	0	
			SR															0	0	
			HR															0	0	
		WB	R	106	145	131	180	25%	21	69	-22	-6				25%	71	33	70	96
			L	101	89	125	110												0	0
			T	46	79	57	86	10%	25	16						10%	28	10	53	26
			R	525	418	651	519	65%	163	107						65%	184	67	347	174
		NB	L	175	162	217	201	25%	63	41	-25	-5				25%	71	26	109	63
			T																0	0
			R																0	0
			SR																0	0
4	MD 272 (S. Main Street)/ Mauldin Avenue at Irishtown Road	EB	L	0	5	0	6		0	0								0	0	
			T	0	1	0	1		0	0								0	0	
			R	1	4	1	5		0	0								0	0	
			L	19	20		24	25	1	8			27	6	2	1		30	15	
		WB	T	1	4		1	5		0	0								0	0
			R	240	150		298	186	73	48			193	49	17	6		283	103	
			U	0	1		0	1		0	0							0	0	
			L	0	0		0	0		0	0							0	0	
		NB	T	431	328		534	407	177	116	-25	-5						152	111	
			R	70	22		87	27	8	4			33	6	5	1		46	11	
			U	0	12		11	15		0	0							0	0	
			L	260	219		322	271	25	80			225	45	35	7		285	132	
SB	T	167	482		301	698	60	194								38	188			
	R	3	10		4	12	0	0	-22	-6						0	0			

Table A
Traffic Volumes
MD 272 Two-Way Conversion Study

Intersection			71 72										
			2040 No-Build		Conversion Redistribution		Conversion Volumes		Diversion Redistribution		2040 Build		
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	
1	MD 272 (Mauldin Avenue) at N. Main Street / Russell Street	EB	L	9	16			9	16			9	16
			T	0	0			0	0			0	0
			SR	0	0	4	4	4	4			4	4
			HR	4	4	-4	-4	0	0			0	0
		WB	HL	0	0	6	11	6	11			6	11
			SL	6	11	-6	-11	0	0			0	0
			T	0	1			0	1			0	1
			R	12	12			12	12			12	12
		NB	U	19	6			19	6			19	6
			L	0	4			0	4			0	4
			T	1082	799			1082	799			1082	799
			R	2	7			2	7			2	7
		SB	U	0	1			0	1			0	1
			L	6	20			6	20			6	20
			T	705	900	-705	-900	0	0	71	72	71	72
			R	6	12			6	12			6	12
2	MD 272 SB (Main Street) at MD 7 (Cecil Avenue)	EB	L	0	0			0	0			0	0
			T	92	145	187	227	279	372			279	372
			R	187	227	-187	-227	0	0			0	0
			L	162	220	-162	-220	0	0			0	0
		WB	T	156	186	27	40	183	226			183	226
			R	0	0			0	0			0	0
			L	0	0			0	0			0	0
			T	0	0			0	0			0	0
		NB	R	0	0			0	0			0	0
			L	0	0			0	0			0	0
			T	86	108	-86	-108	0	0			0	0
			R	655	821	-655	-821	0	0	71	72	71	72
		SB	L	38	56	-27	-40	0	0			0	0
			L	38	56			38	56			38	56
			T	150	186	-86	-108	64	78			64	78
			R	0	0	187	227	187	227			187	227
3	MD 272 NB (Main Street) at MD 7 (Cecil Avenue)	EB	L	0	0			0	0			0	0
			T	201	276	182	220	229	366			229	366
			R	125	110			125	110			125	110
			L	110	124			110	124			110	124
		WB	T	998	693			998	693			998	693
			R	326	263			326	263			326	263
			L	0	0	86	108	86	108			86	108
			T	0	0	665	836	665	836	-71	-72	594	764
		NB	L	0	0			0	0			0	0
			T	0	0			0	0			0	0
			L	0	6	11	15	11	21			11	21
			T	0	1			0	1			0	1
4	MD 272 (S. Main Street)/ Mauldin Avenue at Irishtown Road	EB	R	1	5			1	5			1	5
			L	54	40			54	40			54	40
			T	1	5			1	5			1	5
			R	581	289			581	289			581	289
		WB	U	0	0	0	-1	0	0			0	0
			L	0	0			0	0			0	0
			T	686	518			686	518			686	518
			R	133	38			133	38			133	38
		NB	U	11	15	-11	-15	0	0			0	0
			L	607	403			607	403			607	403
			T	246	706	10	15	256	801	-71	-72	184	729
			R	4	12			4	12			4	12

ATTACHMENT 3

Capacity Analysis Worksheets

Lanes, Volumes, Timings

1: MD 272 (Main St) & MD 272 (Mauldin Ave)/MD 272 (Mauldin St) & Russel St/N Main St

												
Lane Group	EBL	EBT	EBR2	WBL	WBT	WBR	NBL2	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	9	0	4	6	0	12	19	0	1082	2	6	0
Future Volume (vph)	9	0	4	6	0	12	19	0	1082	2	6	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0			0		0		0		0	100	
Storage Lanes	0			0		0		1		0	1	
Taper Length (ft)	25			25		25		25		25	100	
Link Speed (mph)		25			25				35			25
Link Distance (ft)		323			379				914			541
Travel Time (s)		8.8			10.3				17.8			14.8
Confl. Peds. (#/hr)	1		3	3		1		1		3	3	
Confl. Bikes (#/hr)						1						
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Parking (#/hr)					0							
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	16	0	0	21	0	0	23	1290	0	7	846
Sign Control		Stop			Stop				Free			Free

Intersection Summary

Area Type: Other

Control Type: Unsignalized

		
Lane Group	SBR	SBR2
Lane Configurations		
Traffic Volume (vph)	705	6
Future Volume (vph)	705	6
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)	0	
Storage Lanes	0	
Taper Length (ft)	25	
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Confl. Peds. (#/hr)		1
Confl. Bikes (#/hr)		1
Peak Hour Factor	0.84	0.84
Parking (#/hr)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)	0	0
Sign Control		

Intersection Summary

HCM 7th TWSC

1: MD 272 (Main St) & MD 272 (Mauldin Ave)/MD 272 (Mauldin St) & Russel St/N Main St

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations		↕			↕		↕	↕		↕	↕			
Traffic Vol, veh/h	9	0	0	6	0	12	0	1082	2	6	0	705	0	0
Future Vol, veh/h	9	0	0	6	0	12	0	1082	2	6	0	705	0	0
Conflicting Peds, #/hr	1	0	3	3	0	1	1	0	3	3	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	-	-	-	None	-	-	None	-	-	-	-	-
Storage Length	-	-	-	-	-	-	0	-	-	100	-	-	-	-
Veh in Median Storage, #	1	-	-	1	-	-	0	-	-	-	0	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	0	0	7	0	14	0	1288	2	7	0	839	0	0

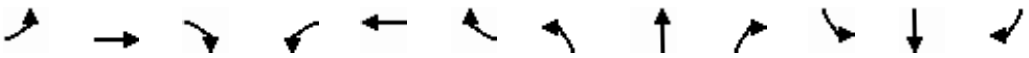
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	480	1770	423	66	902	4	839	0	0	1291	0	0
Stage 1	434	434	-	48	48	-	-	-	-	-	-	-
Stage 2	46	1336	-	17	854	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	496	83	631	928	278	1080	796	-	-	537	-	-
Stage 1	600	581	-	965	855	-	-	-	-	-	-	-
Stage 2	967	222	-	1002	375	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	485	65	629	727	218	1075	796	-	-	535	-	-
Mov Cap-2 Maneuver	473	139	-	696	292	-	-	-	-	-	-	-
Stage 1	592	573	-	769	681	-	-	-	-	-	-	-
Stage 2	762	177	-	986	370	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Ctrl Dly, s/v	12.79		9.05		0.17		0.1	
HCM LOS	B		A					

Minor Lane/Major Mvmt	NBL2	NBL	NBT	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	796	-	-	473	910	535	-	-
HCM Lane V/C Ratio	0.028	-	-	0.023	0.024	0.013	-	-
HCM Ctrl Dly (s/v)	9.7	0	-	12.8	9.1	11.8	-	-
HCM Lane LOS	A	A	-	B	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.1	0	-	-

Lanes, Volumes, Timings

2: MD 272 (Main St)/MD 272 SB (Main St) & MD 7 (Cecil Ave)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑	↑	↑						↕	
Traffic Volume (vph)	0	92	187	162	156	0	0	0	0	86	655	27
Future Volume (vph)	0	92	187	162	156	0	0	0	0	86	655	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	11	11	11	12	12	12	12	12	12
Storage Length (ft)	0		75	115		0	0		0	0		0
Storage Lanes	0		1	1		0	0		0	0		0
Taper Length (ft)	25		100	50		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		463			362			2745			385	
Travel Time (s)		12.6			9.9			74.9			10.5	
Confl. Peds. (#/hr)	1		5	5		1			2	2		
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	108	220	191	184	0	0	0	0	0	904	0
Turn Type		NA	Perm	pm+pt	NA					Perm	NA	
Protected Phases		2		1	1 6 14						4	
Permitted Phases			2	1 6 14						4		
Detector Phase		2	2	1	1 6 14					4	4	
Switch Phase												
Minimum Initial (s)		20.0	20.0	10.0						8.0	8.0	
Minimum Split (s)		26.0	26.0	16.0						25.0	25.0	
Total Split (s)		37.0	37.0	25.0						75.0	75.0	
Total Split (%)		25.5%	25.5%	17.2%						51.7%	51.7%	
Maximum Green (s)		31.0	31.0	19.0						69.0	69.0	
Yellow Time (s)		4.0	4.0	4.0						4.0	4.0	
All-Red Time (s)		2.0	2.0	2.0						2.0	2.0	
Lost Time Adjust (s)		0.0	0.0	0.0							0.0	
Total Lost Time (s)		6.0	6.0	6.0							6.0	
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?												
Vehicle Extension (s)		5.0	5.0	3.0						3.5	3.5	
Recall Mode		Max	Max	None						None	None	
Walk Time (s)		5.0	5.0							5.0	5.0	
Flash Don't Walk (s)		14.0	14.0							14.0	14.0	
Pedestrian Calls (#/hr)		0	0							0	0	
v/c Ratio		0.28	0.45	0.38	0.26						1.00	
Control Delay (s/veh)		48.4	8.7	16.6	15.8						64.3	
Queue Delay		0.0	0.0	0.1	0.2						0.0	
Total Delay (s/veh)		48.4	8.7	16.7	16.0						64.3	
90th %ile Green (s)		31.0	31.0	19.0						69.0	69.0	
90th %ile Term Code		MaxR	MaxR	Max						Max	Max	
70th %ile Green (s)		31.0	31.0	16.0						69.0	69.0	
70th %ile Term Code		MaxR	MaxR	Gap						Max	Max	
50th %ile Green (s)		31.0	31.0	13.8						69.0	69.0	
50th %ile Term Code		MaxR	MaxR	Gap						Max	Max	
30th %ile Green (s)		31.0	31.0	11.7						69.0	69.0	
30th %ile Term Code		MaxR	MaxR	Gap						Max	Max	

Lanes, Volumes, Timings

2: MD 272 (Main St)/MD 272 SB (Main St) & MD 7 (Cecil Ave)

Lane Group	Ø5	Ø6	Ø8	Ø10	Ø14
Lane Configurations					
Traffic Volume (vph)					
Future Volume (vph)					
Ideal Flow (vphpl)					
Lane Width (ft)					
Storage Length (ft)					
Storage Lanes					
Taper Length (ft)					
Right Turn on Red					
Link Speed (mph)					
Link Distance (ft)					
Travel Time (s)					
Confl. Peds. (#/hr)					
Peak Hour Factor					
Shared Lane Traffic (%)					
Lane Group Flow (vph)					
Turn Type					
Protected Phases	5	6	8	10	14
Permitted Phases					
Detector Phase					
Switch Phase					
Minimum Initial (s)	10.0	20.0	8.0	5.0	5.0
Minimum Split (s)	16.0	26.0	25.0	8.0	8.0
Total Split (s)	25.0	37.0	75.0	8.0	8.0
Total Split (%)	17%	26%	52%	6%	6%
Maximum Green (s)	19.0	31.0	69.0	5.0	5.0
Yellow Time (s)	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	0.0	0.0
Lost Time Adjust (s)					
Total Lost Time (s)					
Lead/Lag	Lead	Lag			
Lead-Lag Optimize?					
Vehicle Extension (s)	3.0	5.0	3.5	3.0	3.0
Recall Mode	None	Max	None	Max	Max
Walk Time (s)		5.0	5.0		
Flash Don't Walk (s)		14.0	14.0		
Pedestrian Calls (#/hr)		0	0		
v/c Ratio					
Control Delay (s/veh)					
Queue Delay					
Total Delay (s/veh)					
90th %ile Green (s)	17.2	31.0	69.0	5.0	6.8
90th %ile Term Code	Gap	MaxR	Max	MaxR	Hold
70th %ile Green (s)	14.3	31.0	69.0	5.0	6.7
70th %ile Term Code	Gap	MaxR	Max	MaxR	Hold
50th %ile Green (s)	12.3	31.0	69.0	5.0	6.5
50th %ile Term Code	Gap	MaxR	Hold	MaxR	Hold
30th %ile Green (s)	10.4	31.0	69.0	5.0	6.3
30th %ile Term Code	Gap	MaxR	Hold	MaxR	Hold

Lanes, Volumes, Timings

2: MD 272 (Main St)/MD 272 SB (Main St) & MD 7 (Cecil Ave)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
10th %ile Green (s)		31.0	31.0	10.0						69.0	69.0	
10th %ile Term Code		MaxR	MaxR	Min						Max	Max	
Queue Length 50th (ft)		84	0	70	67						804	
Queue Length 95th (ft)		138	57	m85	m81						#1073	
Internal Link Dist (ft)		383			282			2665			305	
Turn Bay Length (ft)			75	115								
Base Capacity (vph)		384	492	553	745						908	
Starvation Cap Reductn		0	0	24	161						0	
Spillback Cap Reductn		0	0	0	0						0	
Storage Cap Reductn		0	0	0	0						0	
Reduced v/c Ratio		0.28	0.45	0.36	0.32						1.00	

Intersection Summary

Area Type: Other

Cycle Length: 145

Actuated Cycle Length: 140.1

Natural Cycle: 110

Control Type: Semi Act-Uncoord

90th %ile Actuated Cycle: 145

70th %ile Actuated Cycle: 142

50th %ile Actuated Cycle: 139.8

30th %ile Actuated Cycle: 137.7

10th %ile Actuated Cycle: 136

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: MD 272 (Main St)/MD 272 SB (Main St) & MD 7 (Cecil Ave)

#2  Ø1	#2 #3  Ø2	#3  Ø10	#2  Ø4
25 s	37 s	8 s	75 s
#3  Ø5	#2 #3  Ø6	#2  Ø14	#3  Ø8
25 s	37 s	8 s	75 s

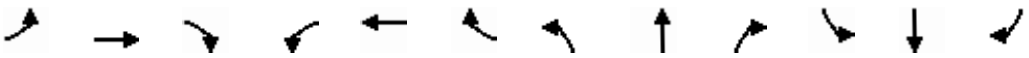
Lanes, Volumes, Timings

2: MD 272 (Main St)/MD 272 SB (Main St) & MD 7 (Cecil Ave)

Lane Group	Ø5	Ø6	Ø8	Ø10	Ø14
10th %ile Green (s)	10.0	31.0	69.0	5.0	5.0
10th %ile Term Code	Min	MaxR	Hold	MaxR	MaxR
Queue Length 50th (ft)					
Queue Length 95th (ft)					
Internal Link Dist (ft)					
Turn Bay Length (ft)					
Base Capacity (vph)					
Starvation Cap Reductn					
Spillback Cap Reductn					
Storage Cap Reductn					
Reduced v/c Ratio					
Intersection Summary					

HCM Signalized Intersection Capacity Analysis

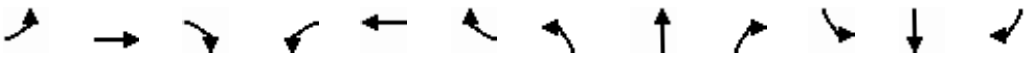
2: MD 272 (Main St)/MD 272 SB (Main St) & MD 7 (Cecil Ave)

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑	↑	↑						↕	
Traffic Volume (vph)	0	92	187	162	156	0	0	0	0	86	655	27
Future Volume (vph)	0	92	187	162	156	0	0	0	0	86	655	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	11	11	11	12	12	12	12	12	12
Total Lost time (s)		6.0	6.0	6.0	6.0						6.0	
Lane Util. Factor		1.00	1.00	1.00	1.00						1.00	
Frpb, ped/bikes		1.00	0.98	1.00	1.00						1.00	
Flpb, ped/bikes		1.00	1.00	0.99	1.00						1.00	
Frt		1.00	0.85	1.00	1.00						1.00	
Flt Protected		1.00	1.00	0.95	1.00						0.99	
Satd. Flow (prot)		1739	1451	1694	1801						1842	
Flt Permitted		1.00	1.00	0.65	1.00						0.99	
Satd. Flow (perm)		1739	1451	1165	1801						1842	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	0	108	220	191	184	0	0	0	0	101	771	32
RTOR Reduction (vph)	0	0	171	0	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	108	49	191	184	0	0	0	0	0	903	0
Confl. Peds. (#/hr)	1		5	5		1			2	2		
Turn Type		NA	Perm	pm+pt	NA						Perm	NA
Protected Phases		2		1	1 6 14							4
Permitted Phases			2	1 6 14							4	
Actuated Green, G (s)		31.0	31.0	57.3	57.3						69.0	
Effective Green, g (s)		31.0	31.0	57.3	57.3						69.0	
Actuated g/C Ratio		0.22	0.22	0.41	0.41						0.49	
Clearance Time (s)		6.0	6.0	6.0							6.0	
Vehicle Extension (s)		5.0	5.0	3.0							3.5	
Lane Grp Cap (vph)		384	321	529	736						907	
v/s Ratio Prot		0.06		c0.04	0.10							
v/s Ratio Perm			0.03	c0.11							0.49	
v/c Ratio		0.28	0.15	0.36	0.25						1.00	
Uniform Delay, d1		45.3	44.0	27.6	27.3						35.4	
Progression Factor		1.00	1.00	0.58	0.58						1.00	
Incremental Delay, d2		1.8	1.0	0.2	0.1						28.6	
Delay (s)		47.1	45.0	16.3	16.0						63.9	
Level of Service		D	D	B	B						E	
Approach Delay (s/veh)		45.7			16.2			0.0			63.9	
Approach LOS		D			B			A			E	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			49.0			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.75									
Actuated Cycle Length (s)			140.1			Sum of lost time (s)				21.0		
Intersection Capacity Utilization			81.5%			ICU Level of Service				D		
Analysis Period (min)			15									

c Critical Lane Group

Lanes, Volumes, Timings

3: MD 272 (Mauldin Ave) & MD 7 (Cecil Ave)/MD 7 (E Cecil Ave)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	150	0	0	201	125	110	998	326	0	0	0
Future Volume (vph)	38	150	0	0	201	125	110	998	326	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	12	12	11	11	11	12	12	12
Storage Length (ft)	115		0	0		0	0		100	0		0
Storage Lanes	1		0	0		0	0		1	0		0
Taper Length (ft)	50		25	25		25	25		75	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		362			676			1389			914	
Travel Time (s)		9.9			18.4			27.1			17.8	
Confl. Peds. (#/hr)	1		4	4		1			7	7		
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Shared Lane Traffic (%)												
Lane Group Flow (vph)	44	174	0	0	379	0	0	1288	379	0	0	0
Turn Type	pm+pt	NA			NA		Perm	NA	Perm			
Protected Phases	5	2 5 10			6			8				
Permitted Phases	2 5 10						8		8			
Detector Phase	5	2 5 10			6		8	8	8			
Switch Phase												
Minimum Initial (s)	10.0				20.0		8.0	8.0	8.0			
Minimum Split (s)	16.0				26.0		25.0	25.0	25.0			
Total Split (s)	25.0				37.0		75.0	75.0	75.0			
Total Split (%)	17.2%				25.5%		51.7%	51.7%	51.7%			
Maximum Green (s)	19.0				31.0		69.0	69.0	69.0			
Yellow Time (s)	4.0				4.0		4.0	4.0	4.0			
All-Red Time (s)	2.0				2.0		2.0	2.0	2.0			
Lost Time Adjust (s)	0.0				0.0			0.0	0.0			
Total Lost Time (s)	6.0				6.0			6.0	6.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0				5.0		3.5	3.5	3.5			
Recall Mode	None				Max		None	None	None			
Walk Time (s)					5.0		5.0	5.0	5.0			
Flash Don't Walk (s)					14.0		14.0	14.0	14.0			
Pedestrian Calls (#/hr)					0		0	0	0			
v/c Ratio	0.15	0.26			0.94			0.77	0.47			
Control Delay (s/veh)	17.6	18.8			81.8			33.3	17.2			
Queue Delay	0.0	0.1			0.0			0.0	0.0			
Total Delay (s/veh)	17.6	18.9			81.8			33.3	17.2			
90th %ile Green (s)	17.2				31.0		69.0	69.0	69.0			
90th %ile Term Code	Gap				MaxR		Max	Max	Max			
70th %ile Green (s)	14.3				31.0		69.0	69.0	69.0			
70th %ile Term Code	Gap				MaxR		Max	Max	Max			
50th %ile Green (s)	12.3				31.0		69.0	69.0	69.0			
50th %ile Term Code	Gap				MaxR		Hold	Hold	Hold			
30th %ile Green (s)	10.4				31.0		69.0	69.0	69.0			
30th %ile Term Code	Gap				MaxR		Hold	Hold	Hold			

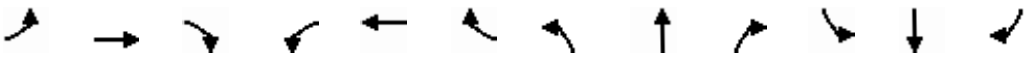
Lanes, Volumes, Timings

3: MD 272 (Mauldin Ave) & MD 7 (Cecil Ave)/MD 7 (E Cecil Ave)

Lane Group	Ø1	Ø2	Ø4	Ø10	Ø14
Lane Configurations					
Traffic Volume (vph)					
Future Volume (vph)					
Ideal Flow (vphpl)					
Lane Width (ft)					
Storage Length (ft)					
Storage Lanes					
Taper Length (ft)					
Right Turn on Red					
Link Speed (mph)					
Link Distance (ft)					
Travel Time (s)					
Confl. Peds. (#/hr)					
Peak Hour Factor					
Shared Lane Traffic (%)					
Lane Group Flow (vph)					
Turn Type					
Protected Phases	1	2	4	10	14
Permitted Phases					
Detector Phase					
Switch Phase					
Minimum Initial (s)	10.0	20.0	8.0	5.0	5.0
Minimum Split (s)	16.0	26.0	25.0	8.0	8.0
Total Split (s)	25.0	37.0	75.0	8.0	8.0
Total Split (%)	17%	26%	52%	6%	6%
Maximum Green (s)	19.0	31.0	69.0	5.0	5.0
Yellow Time (s)	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	0.0	0.0
Lost Time Adjust (s)					
Total Lost Time (s)					
Lead/Lag	Lead	Lag			
Lead-Lag Optimize?					
Vehicle Extension (s)	3.0	5.0	3.5	3.0	3.0
Recall Mode	None	Max	None	Max	Max
Walk Time (s)		5.0	5.0		
Flash Don't Walk (s)		14.0	14.0		
Pedestrian Calls (#/hr)		0	0		
v/c Ratio					
Control Delay (s/veh)					
Queue Delay					
Total Delay (s/veh)					
90th %ile Green (s)	19.0	31.0	69.0	5.0	6.8
90th %ile Term Code	Max	MaxR	Max	MaxR	Hold
70th %ile Green (s)	16.0	31.0	69.0	5.0	6.7
70th %ile Term Code	Gap	MaxR	Max	MaxR	Hold
50th %ile Green (s)	13.8	31.0	69.0	5.0	6.5
50th %ile Term Code	Gap	MaxR	Max	MaxR	Hold
30th %ile Green (s)	11.7	31.0	69.0	5.0	6.3
30th %ile Term Code	Gap	MaxR	Max	MaxR	Hold

Lanes, Volumes, Timings

3: MD 272 (Mauldin Ave) & MD 7 (Cecil Ave)/MD 7 (E Cecil Ave)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
10th %ile Green (s)	10.0				31.0		69.0	69.0	69.0			
10th %ile Term Code	Min				MaxR		Hold	Hold	Hold			
Queue Length 50th (ft)	19	81			331			498	144			
Queue Length 95th (ft)	m29	m104			#518			590	230			
Internal Link Dist (ft)		282			596			1309			834	
Turn Bay Length (ft)	115								100			
Base Capacity (vph)	358	749			405			1677	801			
Starvation Cap Reductn	0	121			0			0	0			
Spillback Cap Reductn	0	0			0			0	0			
Storage Cap Reductn	0	0			0			0	0			
Reduced v/c Ratio	0.12	0.28			0.94			0.77	0.47			

Intersection Summary

Area Type: Other

Cycle Length: 145

Actuated Cycle Length: 140.1

Natural Cycle: 110

Control Type: Semi Act-Uncoord

90th %ile Actuated Cycle: 145

70th %ile Actuated Cycle: 142

50th %ile Actuated Cycle: 139.8

30th %ile Actuated Cycle: 137.7

10th %ile Actuated Cycle: 136

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: MD 272 (Mauldin Ave) & MD 7 (Cecil Ave)/MD 7 (E Cecil Ave)

#2  Ø1	#2 #3  Ø2	#3  Ø10	#2  Ø4
25 s	37 s	8 s	75 s
#3  Ø5	#2 #3  Ø6	#2  Ø14	#3  Ø8
25 s	37 s	8 s	75 s

Lanes, Volumes, Timings

3: MD 272 (Mauldin Ave) & MD 7 (Cecil Ave)/MD 7 (E Cecil Ave)

Lane Group	Ø1	Ø2	Ø4	Ø10	Ø14
10th %ile Green (s)	10.0	31.0	69.0	5.0	5.0
10th %ile Term Code	Min	MaxR	Max	MaxR	MaxR
Queue Length 50th (ft)					
Queue Length 95th (ft)					
Internal Link Dist (ft)					
Turn Bay Length (ft)					
Base Capacity (vph)					
Starvation Cap Reductn					
Spillback Cap Reductn					
Storage Cap Reductn					
Reduced v/c Ratio					
Intersection Summary					

HCM Signalized Intersection Capacity Analysis

3: MD 272 (Mauldin Ave) & MD 7 (Cecil Ave)/MD 7 (E Cecil Ave)

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	150	0	0	201	125	110	998	326	0	0	0
Future Volume (vph)	38	150	0	0	201	125	110	998	326	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	12	12	11	11	11	12	12	12
Total Lost time (s)	6.0	6.0			6.0			6.0	6.0			
Lane Util. Factor	1.00	1.00			1.00			0.95	1.00			
Frpb, ped/bikes	1.00	1.00			1.00			1.00	0.97			
Flpb, ped/bikes	1.00	1.00			1.00			1.00	1.00			
Frt	1.00	1.00			0.95			1.00	0.85			
Flt Protected	0.95	1.00			1.00			1.00	1.00			
Satd. Flow (prot)	1711	1801			1765			3404	1491			
Flt Permitted	0.26	1.00			1.00			1.00	1.00			
Satd. Flow (perm)	464	1801			1765			3404	1491			
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	44	174	0	0	234	145	128	1160	379	0	0	0
RTOR Reduction (vph)	0	0	0	0	16	0	0	0	67	0	0	0
Lane Group Flow (vph)	44	174	0	0	363	0	0	1288	312	0	0	0
Confl. Peds. (#/hr)	1		4	4		1			7	7		
Turn Type	pm+pt	NA			NA		Perm	NA	Perm			
Protected Phases	5	2 5 10			6			8				
Permitted Phases	2 5 10						8		8			
Actuated Green, G (s)	54.9	54.9			31.0			69.0	69.0			
Effective Green, g (s)	54.9	54.9			31.0			69.0	69.0			
Actuated g/C Ratio	0.39	0.39			0.22			0.49	0.49			
Clearance Time (s)	6.0				6.0			6.0	6.0			
Vehicle Extension (s)	3.0				5.0			3.5	3.5			
Lane Grp Cap (vph)	295	705			390			1676	734			
v/s Ratio Prot	0.01	c0.10			c0.21							
v/s Ratio Perm	0.04							0.38	0.21			
v/c Ratio	0.15	0.25			0.93			0.77	0.43			
Uniform Delay, d1	28.4	28.7			53.5			29.0	22.8			
Progression Factor	0.69	0.69			1.00			1.00	1.00			
Incremental Delay, d2	0.2	0.1			31.3			2.2	0.5			
Delay (s)	19.8	19.9			84.8			31.3	23.3			
Level of Service	B	B			F			C	C			
Approach Delay (s/veh)		19.9			84.8			29.5			0.0	
Approach LOS		B			F			C			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		37.8			HCM 2000 Level of Service			D				
HCM 2000 Volume to Capacity ratio		0.73										
Actuated Cycle Length (s)		140.1			Sum of lost time (s)			21.0				
Intersection Capacity Utilization		81.5%			ICU Level of Service			D				
Analysis Period (min)		15										

c Critical Lane Group

Lanes, Volumes, Timings

4: MD 272 (Mauldin Ave) & Irishtown Rd

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	0	0	1	54	1	581	0	686	133	11	607	245
Future Volume (vph)	0	0	1	54	1	581	0	686	133	11	607	245
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		225		225	
Storage Lanes	0		0	0		0	0		1		1	
Taper Length (ft)	25		25	25		25	25		25		75	
Link Speed (mph)		25			25			25				25
Link Distance (ft)		219			474			415				420
Travel Time (s)		6.0			12.9			11.3				11.5
Confl. Peds. (#/hr)	3		1	1		3			1		1	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1	0	0	722	0	0	931	0	0	703	283
Sign Control		Stop			Stop			Free				Free

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	4
Future Volume (vph)	4
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	25
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Peak Hour Factor	0.88
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Sign Control	
Intersection Summary	

HCM 7th TWSC

4: MD 272 (Mauldin Ave) & Irishtown Rd

Intersection													
Int Delay, s/veh	125.6												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	↕	
Traffic Vol, veh/h	0	0	1	54	1	581	0	686	133	11	607	245	4
Future Vol, veh/h	0	0	1	54	1	581	0	686	133	11	607	245	4
Conflicting Peds, #/hr	3	0	1	1	0	3	0	0	1	0	1	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	-	None
Storage Length	-	-	-	-	-	-	-	-	225	-	225	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	1	61	1	660	0	780	151	13	690	278	5

Major/Minor	Minor2		Minor1		Major1		Major2							
Conflicting Flow All	2054	2617	282	2515	2544	469	283	0	0	931	932	0	0	0
Stage 1	1660	1685	-	856	856	-	-	-	-	-	-	-	-	-
Stage 2	393	932	-	1659	1688	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.23	7.33	6.53	6.93	4.13	-	-	6.93	4.13	-	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	3.119	2.219	-	-	-
Pot Cap-1 Maneuver	36	24	756	~ 16	27	~ 541	1278	-	-	280	732	-	-	-
Stage 1	122	149	-	320	373	-	-	-	-	-	-	-	-	-
Stage 2	604	344	-	123	149	-	-	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	24	756	~ 16	27	~ 539	1278	-	-	~ -132	~ -132	-	-	-
Mov Cap-2 Maneuver	-	192	-	87	107	-	-	-	-	-	-	-	-	-
Stage 1	122	149	-	319	373	-	-	-	-	-	-	-	-	-
Stage 2	-	344	-	122	149	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v		\$ 458.31	0	0.36
HCM LOS	-	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1278	-	-	- 372	+	-	-
HCM Lane V/C Ratio	-	-	-	- 1.943	-	-	-
HCM Ctrl Dly (s/v)	0	-	-	-\$ 458.3	0.5	-	-
HCM Lane LOS	A	-	-	- F	A	-	-
HCM 95th %tile Q(veh)	0	-	-	- 49.3	-	-	-

Notes	
~: Volume exceeds capacity	\$. Delay exceeds 300s
+: Computation Not Defined	*: All major volume in platoon

Lanes, Volumes, Timings

1: MD 272 (Main St) & MD 272 (Mauldin Ave)/MD 272 (Mauldin St) & Russel St/N Main St

												
Lane Group	EBL	EBT	EBR2	WBL	WBT	WBR	NBL2	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	16	0	4	11	1	12	6	4	799	7	21	0
Future Volume (vph)	16	0	4	11	1	12	6	4	799	7	21	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0			0		0		0		0	100	
Storage Lanes	0			0		0		1		0	1	
Taper Length (ft)	25			25		25		25		25	100	
Link Speed (mph)		25			25				35			25
Link Distance (ft)		323			379				910			541
Travel Time (s)		8.8			10.3				17.7			14.8
Confl. Peds. (#/hr)			2	2				4		1	1	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	21	0	0	26	0	0	10	867	0	23	981
Sign Control		Stop			Stop				Free			Free

Intersection Summary

Area Type: Other

Control Type: Unsignalized

		
Lane Group	SBR	SBR2
Lane Configurations		
Traffic Volume (vph)	900	12
Future Volume (vph)	900	12
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)	0	
Storage Lanes	0	
Taper Length (ft)	25	
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Confl. Peds. (#/hr)		4
Peak Hour Factor	0.93	0.93
Shared Lane Traffic (%)		
Lane Group Flow (vph)	0	0
Sign Control		
Intersection Summary		

HCM 7th TWSC

1: MD 272 (Main St) & MD 272 (Mauldin Ave)/MD 272 (Mauldin St) & Russel St/N Main St

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations														
Traffic Vol, veh/h	16	0	0	11	1	12	4	799	7	21	0	900	0	0
Future Vol, veh/h	16	0	0	11	1	12	4	799	7	21	0	900	0	0
Conflicting Peds, #/hr	0	0	2	2	0	0	4	0	1	1	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	-	-	-	None	-	-	None	-	-	-	-	-
Storage Length	-	-	-	-	-	-	0	-	-	100	-	-	-	-
Veh in Median Storage, #	1	-	-	1	-	-	0	-	-	-	0	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	0	0	12	1	13	4	859	8	23	0	968	0	0

Major/Minor	Minor2	Minor1	Major1	Major2
Conflicting Flow All	547 1406	486 65 1031	5 968 0 0	864 0 0
Stage 1	529 529	- 18 18	- - - -	- - -
Stage 2	18 877	- 47 1013	- - - -	- - -
Critical Hdwy	7.12 6.52	6.22 7.12 6.52 6.22 4.12	- - - -	4.12 - -
Critical Hdwy Stg 1	6.12 5.52	- 6.12 5.52	- - - -	- - -
Critical Hdwy Stg 2	6.12 5.52	- 6.12 5.52	- - - -	- - -
Follow-up Hdwy	3.5184.0183.3183.5184.0183.3182.218	- - - -	2.218 - -	- -
Pot Cap-1 Maneuver	448 139 581 928 233 1078 712	- - - -	778 - -	- -
Stage 1	533 527	- 1001 880	- - - -	- - -
Stage 2	1002 366	- 966 317	- - - -	- - -
Platoon blocked, %			- -	- -
Mov Cap-1 Maneuver	419 132 580 880 221 1077 712	- - - -	778 - -	- -
Mov Cap-2 Maneuver	458 241	- 833 267	- - - -	- - -
Stage 1	518 512	- 979 861	- - - -	- - -
Stage 2	967 358	- 937 307	- - - -	- - -

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	13.16	9.35	0.07	0.22
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL2	NBL	NBT	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	710	-	-	458	854	778	-	-
HCM Lane V/C Ratio	0.009	-	-	0.038	0.03	0.029	-	-
HCM Ctrl Dly (s/v)	10.1	0	-	13.2	9.3	9.8	-	-
HCM Lane LOS	B	A	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0.1	-	-

Lanes, Volumes, Timings

2: MD 272 (Main St) & MD 7 (Cecil Ave)

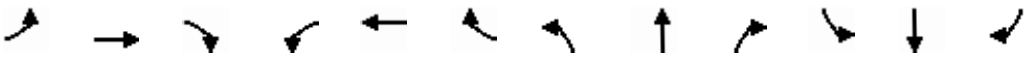
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	145	227	220	186	0	0	0	0	108	821	40
Future Volume (vph)	0	145	227	220	186	0	0	0	0	108	821	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	11	11	11	12	12	12	12	12	12
Storage Length (ft)	0		75	115		0	0		0	0		0
Storage Lanes	0		1	1		0	0		0	0		0
Taper Length (ft)	25		100	50		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		463			362			2745			385	
Travel Time (s)		12.6			9.9			74.9			10.5	
Confl. Peds. (#/hr)	3		1	1		3	5		3	3		5
Confl. Bikes (#/hr)						1			3			1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	153	239	232	196	0	0	0	0	0	1020	0
Turn Type		NA	Perm	pm+pt	NA					Perm	NA	
Protected Phases		2		1	1 6 14						4	
Permitted Phases			2	1 6 14						4		
Detector Phase		2	2	1	1 6 14					4	4	
Switch Phase												
Minimum Initial (s)		20.0	20.0	10.0						8.0	8.0	
Minimum Split (s)		26.0	26.0	16.0						25.0	25.0	
Total Split (s)		37.0	37.0	25.0						75.0	75.0	
Total Split (%)		25.5%	25.5%	17.2%						51.7%	51.7%	
Maximum Green (s)		31.0	31.0	19.0						69.0	69.0	
Yellow Time (s)		4.0	4.0	4.0						4.0	4.0	
All-Red Time (s)		2.0	2.0	2.0						2.0	2.0	
Lost Time Adjust (s)		0.0	0.0	0.0							0.0	
Total Lost Time (s)		6.0	6.0	6.0							6.0	
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?												
Vehicle Extension (s)		5.0	5.0	3.0						3.5	3.5	
Recall Mode		Max	Max	None						None	None	
Walk Time (s)		5.0	5.0							5.0	5.0	
Flash Don't Walk (s)		14.0	14.0							14.0	14.0	
Pedestrian Calls (#/hr)		0	0							0	0	
v/c Ratio		0.40	0.52	0.48	0.27						1.14	
Control Delay (s/veh)		51.8	17.2	17.0	15.6						111.1	
Queue Delay		0.0	0.0	0.0	0.4						0.0	
Total Delay (s/veh)		51.8	17.2	17.0	16.0						111.1	
90th %ile Green (s)		31.0	31.0	19.0						69.0	69.0	
90th %ile Term Code		MaxR	MaxR	Max						Max	Max	
70th %ile Green (s)		31.0	31.0	19.0						69.0	69.0	
70th %ile Term Code		MaxR	MaxR	Max						Max	Max	
50th %ile Green (s)		31.0	31.0	16.4						69.0	69.0	
50th %ile Term Code		MaxR	MaxR	Gap						Max	Max	
30th %ile Green (s)		31.0	31.0	13.9						69.0	69.0	

Lanes, Volumes, Timings
2: MD 272 (Main St) & MD 7 (Cecil Ave)

Lane Group	Ø5	Ø6	Ø8	Ø10	Ø14
Lane Configurations					
Traffic Volume (vph)					
Future Volume (vph)					
Ideal Flow (vphpl)					
Lane Width (ft)					
Storage Length (ft)					
Storage Lanes					
Taper Length (ft)					
Right Turn on Red					
Link Speed (mph)					
Link Distance (ft)					
Travel Time (s)					
Confl. Peds. (#/hr)					
Confl. Bikes (#/hr)					
Peak Hour Factor					
Shared Lane Traffic (%)					
Lane Group Flow (vph)					
Turn Type					
Protected Phases	5	6	8	10	14
Permitted Phases					
Detector Phase					
Switch Phase					
Minimum Initial (s)	10.0	20.0	8.0	5.0	5.0
Minimum Split (s)	16.0	26.0	25.0	8.0	8.0
Total Split (s)	25.0	37.0	75.0	8.0	8.0
Total Split (%)	17%	26%	52%	6%	6%
Maximum Green (s)	19.0	31.0	69.0	5.0	5.0
Yellow Time (s)	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	0.0	0.0
Lost Time Adjust (s)					
Total Lost Time (s)					
Lead/Lag	Lead	Lag			
Lead-Lag Optimize?					
Vehicle Extension (s)	3.0	5.0	3.5	3.0	3.0
Recall Mode	None	Max	None	Max	Max
Walk Time (s)		5.0	5.0		
Flash Don't Walk (s)		14.0	14.0		
Pedestrian Calls (#/hr)		0	0		
v/c Ratio					
Control Delay (s/veh)					
Queue Delay					
Total Delay (s/veh)					
90th %ile Green (s)	19.0	31.0	69.0	5.0	5.0
90th %ile Term Code	Max	MaxR	Hold	MaxR	MaxR
70th %ile Green (s)	16.4	31.0	69.0	5.0	7.6
70th %ile Term Code	Gap	MaxR	Hold	MaxR	Hold
50th %ile Green (s)	14.2	31.0	69.0	5.0	7.2
50th %ile Term Code	Gap	MaxR	Hold	MaxR	Hold
30th %ile Green (s)	12.0	31.0	69.0	5.0	6.9

Lanes, Volumes, Timings

2: MD 272 (Main St) & MD 7 (Cecil Ave)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
30th %ile Term Code		MaxR	MaxR	Gap						Max	Max	
10th %ile Green (s)		31.0	31.0	10.6						69.0	69.0	
10th %ile Term Code		MaxR	MaxR	Gap						Max	Max	
Queue Length 50th (ft)		125	43	73	61						~1126	
Queue Length 95th (ft)		201	133	m92	m78						#1434	
Internal Link Dist (ft)		383			282			2665			305	
Turn Bay Length (ft)			75	115								
Base Capacity (vph)		380	464	517	760						894	
Starvation Cap Reductn		0	0	5	241						0	
Spillback Cap Reductn		0	0	0	0						0	
Storage Cap Reductn		0	0	0	0						0	
Reduced v/c Ratio		0.40	0.52	0.45	0.38						1.14	

Intersection Summary

Area Type: Other

Cycle Length: 145

Actuated Cycle Length: 141.8

Natural Cycle: 150

Control Type: Semi Act-Uncoord

90th %ile Actuated Cycle: 145

70th %ile Actuated Cycle: 145

50th %ile Actuated Cycle: 142.4

30th %ile Actuated Cycle: 139.9

10th %ile Actuated Cycle: 136.6

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: MD 272 (Main St) & MD 7 (Cecil Ave)

 #2 Ø1	 #2 #3 Ø2	 #3 Ø10	 #2 Ø4
25 s	37 s	8 s	75 s
 #3 Ø5	 #2 #3 Ø6	 #2 Ø14	 #3 Ø8
25 s	37 s	8 s	75 s

Lanes, Volumes, Timings

2: MD 272 (Main St) & MD 7 (Cecil Ave)

Lane Group	Ø5	Ø6	Ø8	Ø10	Ø14
30th %ile Term Code	Gap	MaxR	Hold	MaxR	Hold
10th %ile Green (s)	10.0	31.0	69.0	5.0	5.6
10th %ile Term Code	Min	MaxR	Hold	MaxR	Hold
Queue Length 50th (ft)					
Queue Length 95th (ft)					
Internal Link Dist (ft)					
Turn Bay Length (ft)					
Base Capacity (vph)					
Starvation Cap Reductn					
Spillback Cap Reductn					
Storage Cap Reductn					
Reduced v/c Ratio					
Intersection Summary					

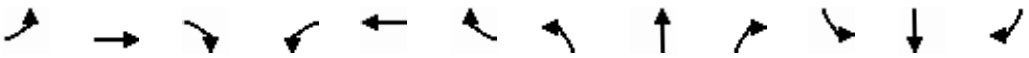
HCM Signalized Intersection Capacity Analysis

2: MD 272 (Main St) & MD 7 (Cecil Ave)

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	145	227	220	186	0	0	0	0	108	821	40
Future Volume (vph)	0	145	227	220	186	0	0	0	0	108	821	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	11	11	11	12	12	12	12	12	12
Total Lost time (s)		6.0	6.0	6.0	6.0						6.0	
Lane Util. Factor		1.00	1.00	1.00	1.00						1.00	
Frpb, ped/bikes		1.00	1.00	1.00	1.00						1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00						1.00	
Frt		1.00	0.85	1.00	1.00						0.99	
Flt Protected		1.00	1.00	0.95	1.00						0.99	
Satd. Flow (prot)		1739	1472	1708	1801						1837	
Flt Permitted		1.00	1.00	0.57	1.00						0.99	
Satd. Flow (perm)		1739	1472	1031	1801						1837	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	153	239	232	196	0	0	0	0	114	864	42
RTOR Reduction (vph)	0	0	143	0	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	153	96	232	196	0	0	0	0	0	1019	0
Confl. Peds. (#/hr)	3		1	1		3	5		3	3		5
Confl. Bikes (#/hr)						1			3			1
Turn Type		NA	Perm	pm+pt	NA					Perm	NA	
Protected Phases		2		1	1 6 14						4	
Permitted Phases			2	1 6 14						4		
Actuated Green, G (s)		31.0	31.0	59.2	59.2						69.0	
Effective Green, g (s)		31.0	31.0	59.2	59.2						69.0	
Actuated g/C Ratio		0.22	0.22	0.42	0.42						0.49	
Clearance Time (s)		6.0	6.0	6.0							6.0	
Vehicle Extension (s)		5.0	5.0	3.0							3.5	
Lane Grp Cap (vph)		380	321	505	751						893	
v/s Ratio Prot		0.09		c0.05	0.11							
v/s Ratio Perm			0.07	c0.14							0.55	
v/c Ratio		0.40	0.30	0.46	0.26						1.14	
Uniform Delay, d1		47.5	46.3	28.0	27.0						36.4	
Progression Factor		1.00	1.00	0.57	0.58						1.00	
Incremental Delay, d2		3.2	2.4	0.3	0.1						76.9	
Delay (s)		50.6	48.7	16.4	15.8						113.3	
Level of Service		D	D	B	B						F	
Approach Delay (s/veh)		49.4			16.1			0.0			113.3	
Approach LOS		D			B			A			F	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			77.1			HCM 2000 Level of Service			E			
HCM 2000 Volume to Capacity ratio			0.88									
Actuated Cycle Length (s)			141.8			Sum of lost time (s)			21.0			
Intersection Capacity Utilization			95.5%			ICU Level of Service			F			
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings

3: MD 272 (Mauldin Ave) & MD 7 (Cecil Ave)/MD 7 (E Cecil Ave)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	186	0	0	276	110	124	693	263	0	0	0
Future Volume (vph)	56	186	0	0	276	110	124	693	263	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	12	12	11	11	11	12	12	12
Storage Length (ft)	115		0	0		0	0		100	0		0
Storage Lanes	1		0	0		0	0		1	0		0
Taper Length (ft)	50		25	25		25	25		75	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		362			676			1389			910	
Travel Time (s)		9.9			18.4			27.1			17.7	
Confl. Peds. (#/hr)	1		1	1		1			2	2		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)												
Lane Group Flow (vph)	62	207	0	0	429	0	0	908	292	0	0	0
Turn Type	pm+pt	NA			NA		Perm	NA	Perm			
Protected Phases	5	2 5 10			6			8				
Permitted Phases	2 5 10						8		8			
Detector Phase	5	2 5 10			6		8	8	8			
Switch Phase												
Minimum Initial (s)	10.0				20.0		8.0	8.0	8.0			
Minimum Split (s)	16.0				26.0		25.0	25.0	25.0			
Total Split (s)	25.0				37.0		75.0	75.0	75.0			
Total Split (%)	17.2%				25.5%		51.7%	51.7%	51.7%			
Maximum Green (s)	19.0				31.0		69.0	69.0	69.0			
Yellow Time (s)	4.0				4.0		4.0	4.0	4.0			
All-Red Time (s)	2.0				2.0		2.0	2.0	2.0			
Lost Time Adjust (s)	0.0				0.0			0.0	0.0			
Total Lost Time (s)	6.0				6.0			6.0	6.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0				5.0		3.5	3.5	3.5			
Recall Mode	None				Max		None	None	None			
Walk Time (s)					5.0		5.0	5.0	5.0			
Flash Don't Walk (s)					14.0		14.0	14.0	14.0			
Pedestrian Calls (#/hr)					0		0	0	0			
v/c Ratio	0.24	0.30			1.07			0.55	0.36			
Control Delay (s/veh)	17.3	16.4			114.5			27.4	12.5			
Queue Delay	0.0	0.2			0.0			0.0	0.0			
Total Delay (s/veh)	17.3	16.6			114.5			27.4	12.5			
90th %ile Green (s)	19.0				31.0		69.0	69.0	69.0			
90th %ile Term Code	Max				MaxR		Hold	Hold	Hold			
70th %ile Green (s)	16.4				31.0		69.0	69.0	69.0			
70th %ile Term Code	Gap				MaxR		Hold	Hold	Hold			
50th %ile Green (s)	14.2				31.0		69.0	69.0	69.0			
50th %ile Term Code	Gap				MaxR		Hold	Hold	Hold			
30th %ile Green (s)	12.0				31.0		69.0	69.0	69.0			
30th %ile Term Code	Gap				MaxR		Hold	Hold	Hold			

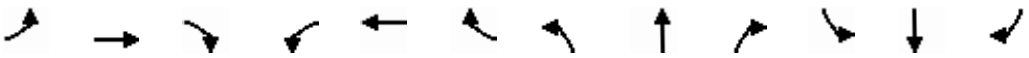
Lanes, Volumes, Timings

3: MD 272 (Mauldin Ave) & MD 7 (Cecil Ave)/MD 7 (E Cecil Ave)

Lane Group	Ø1	Ø2	Ø4	Ø10	Ø14
Lane Configurations					
Traffic Volume (vph)					
Future Volume (vph)					
Ideal Flow (vphpl)					
Lane Width (ft)					
Storage Length (ft)					
Storage Lanes					
Taper Length (ft)					
Right Turn on Red					
Link Speed (mph)					
Link Distance (ft)					
Travel Time (s)					
Confl. Peds. (#/hr)					
Peak Hour Factor					
Shared Lane Traffic (%)					
Lane Group Flow (vph)					
Turn Type					
Protected Phases	1	2	4	10	14
Permitted Phases					
Detector Phase					
Switch Phase					
Minimum Initial (s)	10.0	20.0	8.0	5.0	5.0
Minimum Split (s)	16.0	26.0	25.0	8.0	8.0
Total Split (s)	25.0	37.0	75.0	8.0	8.0
Total Split (%)	17%	26%	52%	6%	6%
Maximum Green (s)	19.0	31.0	69.0	5.0	5.0
Yellow Time (s)	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	0.0	0.0
Lost Time Adjust (s)					
Total Lost Time (s)					
Lead/Lag	Lead	Lag			
Lead-Lag Optimize?					
Vehicle Extension (s)	3.0	5.0	3.5	3.0	3.0
Recall Mode	None	Max	None	Max	Max
Walk Time (s)		5.0	5.0		
Flash Don't Walk (s)		14.0	14.0		
Pedestrian Calls (#/hr)		0	0		
v/c Ratio					
Control Delay (s/veh)					
Queue Delay					
Total Delay (s/veh)					
90th %ile Green (s)	19.0	31.0	69.0	5.0	5.0
90th %ile Term Code	Max	MaxR	Max	MaxR	MaxR
70th %ile Green (s)	19.0	31.0	69.0	5.0	7.6
70th %ile Term Code	Max	MaxR	Max	MaxR	Hold
50th %ile Green (s)	16.4	31.0	69.0	5.0	7.2
50th %ile Term Code	Gap	MaxR	Max	MaxR	Hold
30th %ile Green (s)	13.9	31.0	69.0	5.0	6.9
30th %ile Term Code	Gap	MaxR	Max	MaxR	Hold

Lanes, Volumes, Timings

3: MD 272 (Mauldin Ave) & MD 7 (Cecil Ave)/MD 7 (E Cecil Ave)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
10th %ile Green (s)	10.0				31.0		69.0	69.0	69.0			
10th %ile Term Code	Min				MaxR		Hold	Hold	Hold			
Queue Length 50th (ft)	24	87			~438			310	79			
Queue Length 95th (ft)	m36	m107			#675			390	154			
Internal Link Dist (ft)		282			596			1309			830	
Turn Bay Length (ft)	115								100			
Base Capacity (vph)	317	760			402			1652	813			
Starvation Cap Reductn	0	158			0			0	0			
Spillback Cap Reductn	0	0			0			0	0			
Storage Cap Reductn	0	0			0			0	0			
Reduced v/c Ratio	0.20	0.34			1.07			0.55	0.36			

Intersection Summary

Area Type: Other

Cycle Length: 145

Actuated Cycle Length: 141.8

Natural Cycle: 150

Control Type: Semi Act-Uncoord

90th %ile Actuated Cycle: 145

70th %ile Actuated Cycle: 145

50th %ile Actuated Cycle: 142.4

30th %ile Actuated Cycle: 139.9

10th %ile Actuated Cycle: 136.6

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: MD 272 (Mauldin Ave) & MD 7 (Cecil Ave)/MD 7 (E Cecil Ave)

#2  Ø1	#2 #3  Ø2	#3  Ø10	#2  Ø4
25 s	37 s	8 s	75 s
#3  Ø5	#2 #3  Ø6	#2  Ø14	#3  Ø8
25 s	37 s	8 s	75 s

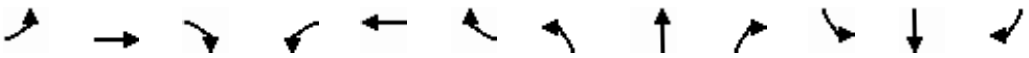
Lanes, Volumes, Timings

3: MD 272 (Mauldin Ave) & MD 7 (Cecil Ave)/MD 7 (E Cecil Ave)

Lane Group	Ø1	Ø2	Ø4	Ø10	Ø14
10th %ile Green (s)	10.6	31.0	69.0	5.0	5.6
10th %ile Term Code	Gap	MaxR	Max	MaxR	Hold
Queue Length 50th (ft)					
Queue Length 95th (ft)					
Internal Link Dist (ft)					
Turn Bay Length (ft)					
Base Capacity (vph)					
Starvation Cap Reductn					
Spillback Cap Reductn					
Storage Cap Reductn					
Reduced v/c Ratio					
Intersection Summary					

HCM Signalized Intersection Capacity Analysis

3: MD 272 (Mauldin Ave) & MD 7 (Cecil Ave)/MD 7 (E Cecil Ave)

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	186	0	0	276	110	124	693	263	0	0	0
Future Volume (vph)	56	186	0	0	276	110	124	693	263	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	12	12	11	11	11	12	12	12
Total Lost time (s)	6.0	6.0			6.0			6.0	6.0			
Lane Util. Factor	1.00	1.00			1.00			0.95	1.00			
Frpb, ped/bikes	1.00	1.00			1.00			1.00	0.99			
Flpb, ped/bikes	1.00	1.00			1.00			1.00	1.00			
Frt	1.00	1.00			0.96			1.00	0.85			
Flt Protected	0.95	1.00			1.00			0.99	1.00			
Satd. Flow (prot)	1711	1801			1790			3395	1519			
Flt Permitted	0.18	1.00			1.00			0.99	1.00			
Satd. Flow (perm)	325	1801			1790			3395	1519			
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	62	207	0	0	307	122	138	770	292	0	0	0
RTOR Reduction (vph)	0	0	0	0	10	0	0	0	74	0	0	0
Lane Group Flow (vph)	62	207	0	0	419	0	0	908	218	0	0	0
Confl. Peds. (#/hr)	1		1	1		1			2	2		
Turn Type	pm+pt	NA			NA		Perm	NA	Perm			
Protected Phases	5	2 5 10			6			8				
Permitted Phases	2 5 10						8		8			
Actuated Green, G (s)	56.4	56.4			31.0			69.0	69.0			
Effective Green, g (s)	56.4	56.4			31.0			69.0	69.0			
Actuated g/C Ratio	0.40	0.40			0.22			0.49	0.49			
Clearance Time (s)	6.0				6.0			6.0	6.0			
Vehicle Extension (s)	3.0				5.0			3.5	3.5			
Lane Grp Cap (vph)	269	716			391			1652	739			
v/s Ratio Prot	0.02	c0.11			c0.23							
v/s Ratio Perm	0.07							0.27	0.14			
v/c Ratio	0.23	0.29			1.07			0.55	0.29			
Uniform Delay, d1	29.5	29.1			55.4			25.5	21.8			
Progression Factor	0.65	0.59			1.00			1.00	1.00			
Incremental Delay, d2	0.3	0.2			65.8			0.4	0.3			
Delay (s)	19.6	17.3			121.2			25.9	22.1			
Level of Service	B	B			F			C	C			
Approach Delay (s/veh)		17.9			121.2			25.0			0.0	
Approach LOS		B			F			C			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)		45.7			HCM 2000 Level of Service			D				
HCM 2000 Volume to Capacity ratio		0.64										
Actuated Cycle Length (s)		141.8			Sum of lost time (s)			21.0				
Intersection Capacity Utilization		95.5%			ICU Level of Service			F				
Analysis Period (min)		15										

c Critical Lane Group

Lanes, Volumes, Timings

4: MD 272 (Mauldin Ave) & Irishtown Rd

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	6	1	5	40	5	289	1	0	518	38	15	403
Future Volume (vph)	6	1	5	40	5	289	1	0	518	38	15	403
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0		0		225		225
Storage Lanes	0		0	0		0		0		1		1
Taper Length (ft)	25		25	25		25		25		25		75
Link Speed (mph)		25			25				25			
Link Distance (ft)		219			474				415			
Travel Time (s)		6.0			12.9				11.3			
Confl. Peds. (#/hr)			2	2						3		3
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	12	0	0	341	0	0	0	569	0	0	426
Sign Control		Stop			Stop				Free			

Intersection Summary

Area Type: Other

Control Type: Unsignalized

		
Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	786	12
Future Volume (vph)	786	12
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		0
Storage Lanes		0
Taper Length (ft)		25
Link Speed (mph)	25	
Link Distance (ft)	420	
Travel Time (s)	11.5	
Confl. Peds. (#/hr)		
Peak Hour Factor	0.98	0.98
Shared Lane Traffic (%)		
Lane Group Flow (vph)	814	0
Sign Control	Free	

Intersection Summary

HCM 7th TWSC

4: MD 272 (Mauldin Ave) & Irishtown Rd

Intersection														
Int Delay, s/veh	29													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations		↕			↕				↕			↕	↕	
Traffic Vol, veh/h	6	1	5	40	5	289	1	0	518	38	15	403	786	12
Future Vol, veh/h	6	1	5	40	5	289	1	0	518	38	15	403	786	12
Conflicting Peds, #/hr	0	0	2	2	0	0	0	0	0	3	0	3	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	225	-	225	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	1	5	41	5	295	1	0	529	39	15	411	802	12

Major/Minor	Minor2		Minor1		Major1			Major2						
Conflicting Flow All	1899	2234	810	2180	2220	287	-	814	0	0	567	570	0	0
Stage 1	1631	1661	-	553	553	-	-	-	-	-	-	-	-	-
Stage 2	269	572	-	1627	1667	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.23	7.33	6.53	6.93	-	4.13	-	-	6.93	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	-	2.219	-	-	3.119	2.219	-	-
Pot Cap-1 Maneuver	47	42	379	~ 29	43	711	-	811	-	-	490	1000	-	-
Stage 1	127	154	-	486	513	-	-	-	-	-	-	-	-	-
Stage 2	714	503	-	128	152	-	-	-	-	-	-	-	-	-
Platoon blocked, %									-	-			-	-
Mov Cap-1 Maneuver	14	23	378	~ 15	23	709	~ -1	~ -1	-	-	916	916	-	-
Mov Cap-2 Maneuver	-	46	-	55	68	-	-	-	-	-	-	-	-	-
Stage 1	68	82	-	484	512	-	-	-	-	-	-	-	-	-
Stage 2	413	502	-	66	81	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v		168.75		4.23
HCM LOS	-	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	6	-	-	-	277	916	-
HCM Lane V/C Ratio	-	-	-	-	1.229	0.466	-
HCM Ctrl Dly (s/v)	-	-	-	-	168.7	12.3	-
HCM Lane LOS	-	-	-	-	F	B	-
HCM 95th %tile Q(veh)	0	-	-	-	16	2.5	-

Notes	
~: Volume exceeds capacity	\$. Delay exceeds 300s
+: Computation Not Defined	*: All major volume in platoon

Lanes, Volumes, Timings

1: MD 272 (Main St) & MD 272 (Mauldin Ave)/MD 272 (Mauldin St) & Russel St/N Main St

												
Lane Group	EBL	EBT	EBR	WBL2	WBT	WBR	NBL2	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	9	0	4	6	0	12	19	0	1082	2	6	634
Future Volume (vph)	9	0	4	6	0	12	19	0	1082	2	6	634
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0			0		150		0	100	
Storage Lanes	0		0			0		1		0	1	
Taper Length (ft)	25							25			100	
Link Speed (mph)		25			25				35			25
Link Distance (ft)		323			379				919			541
Travel Time (s)		8.8			10.3				17.9			14.8
Confl. Peds. (#/hr)	1		3	3		1		1		3	3	
Confl. Bikes (#/hr)						1						
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Parking (#/hr)					0							
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	16	0	0	21	0	0	23	1290	0	7	847
Sign Control		Stop			Stop				Free			Free

Intersection Summary

Area Type: Other

Control Type: Unsignalized

		
Lane Group	SBR	SBR2
Lane Configurations		
Traffic Volume (vph)	71	6
Future Volume (vph)	71	6
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)	0	
Storage Lanes	0	
Taper Length (ft)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Confl. Peds. (#/hr)		1
Confl. Bikes (#/hr)		1
Peak Hour Factor	0.84	0.84
Parking (#/hr)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)	0	0
Sign Control		

Intersection Summary

HCM 7th TWSC

1: MD 272 (Main St) & MD 272 (Mauldin Ave)/MD 272 (Mauldin St) & Russel St/N Main St

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations														
Traffic Vol, veh/h	9	0	4	0	0	12	0	1082	2	6	634	71	0	0
Future Vol, veh/h	9	0	4	0	0	12	0	1082	2	6	634	71	0	0
Conflicting Peds, #/hr	1	0	3	3	0	1	1	0	3	3	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	-	-	-	None	-	-	None	-	-	-	-	-
Storage Length	-	-	-	-	-	-	150	-	-	100	-	-	-	-
Veh in Median Storage, #	1	-	-	1	-	-	0	-	-	-	0	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	0	5	0	0	14	0	1288	2	7	755	85	0	0

Major/Minor	Minor2	Minor1	Major1	Major2
Conflicting Flow All	858 2148	800 820 902	4 839	0 0 1291
Stage 1	811 811	- 48 48	- - -	- - -
Stage 2	46 1336	- 772 854	- - -	- - -
Critical Hdwy	7.12 6.52	6.22 7.12 6.52	6.22 4.12	- - 4.12
Critical Hdwy Stg 1	6.12 5.52	- 6.12 5.52	- - -	- - -
Critical Hdwy Stg 2	6.12 5.52	- 6.12 5.52	- - -	- - -
Follow-up Hdwy	3.5184.0183.318	3.5184.0183.318	2.218	- - 2.218
Pot Cap-1 Maneuve	277 48 385	294 278 1080	796	- - 537
Stage 1	373 393	- 965 855	- - -	- - -
Stage 2	967 222	- 392 375	- - -	- - -
Platoon blocked, %			- -	- -
Mov Cap-1 Maneuve	218 38 384	227 218 1075	796	- - 535
Mov Cap-2 Maneuve	307 122	- 304 292	- - -	- - -
Stage 1	368 387	- 769 681	- - -	- - -
Stage 2	772 177	- 381 370	- - -	- - -

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	16.56	0	0.17	0.1
HCM LOS	C	A		

Minor Lane/Major Mvmt	NBL2	NBL	NBT	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	796	-	-	327	-	535	-	-
HCM Lane V/C Ratio	0.028	-	-	0.047	-	0.013	-	-
HCM Ctrl Dly (s/v)	9.7	0	-	16.6	0	11.8	-	-
HCM Lane LOS	A	A	-	C	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-	0	-	-

Lanes, Volumes, Timings

2: MD 7 (Cecil Ave) & MD 272 SB (Main St)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	279	0	0	183	0	0	0	0	0	71	0
Future Volume (vph)	0	279	0	0	183	0	0	0	0	0	71	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	12	12	11	11	12	12	12	12	12	12
Storage Length (ft)	0		75	115		0	0		0	0		0
Storage Lanes	0		1	1		0	0		0	0		0
Taper Length (ft)	25		100	50		25	25		25	25		25
Link Speed (mph)		25			25			30			25	
Link Distance (ft)		463			362			379			770	
Travel Time (s)		12.6			9.9			8.6			21.0	
Confl. Peds. (#/hr)	1		5	5		1			2	2		
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	328	0	0	215	0	0	0	0	0	84	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

HCM 7th TWSC

2: MD 7 (Cecil Ave) & MD 272 SB (Main St)

Intersection												
Int Delay, s/veh	2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↗	↖	↑						↕	
Traffic Vol, veh/h	0	279	0	0	183	0	0	0	0	0	71	0
Future Vol, veh/h	0	279	0	0	183	0	0	0	0	0	71	0
Conflicting Peds, #/hr	1	0	5	5	0	1	0	0	2	2	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	75	115	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	328	0	0	215	0	0	0	0	0	84	0
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	333	0	0	-	-	-	546	549	215
Stage 1	-	-	-	-	-	-	-	-	-	215	215	-
Stage 2	-	-	-	-	-	-	-	-	-	330	333	-
Critical Hdwy	-	-	-	4.12	-	-	-	-	-	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	6.12	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-	-	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	1226	-	0	0	0	0	449	444	825
Stage 1	0	-	-	-	-	0	0	0	0	787	725	-
Stage 2	0	-	-	-	-	0	0	0	0	683	644	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1226	-	-	-	-	-	448	444	825
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	448	444	-
Stage 1	-	-	-	-	-	-	-	-	-	787	725	-
Stage 2	-	-	-	-	-	-	-	-	-	682	644	-
Approach	EB			WB			NB			SB		
HCM Ctrl Dly, s/v	0			0						14.99		
HCM LOS							-			B		
Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1							
Capacity (veh/h)	-	-	1226	-	444							
HCM Lane V/C Ratio	-	-	-	-	0.188							
HCM Ctrl Dly (s/v)	-	-	0	-	15							
HCM Lane LOS	-	-	A	-	B							
HCM 95th %tile Q(veh)	-	-	0	-	0.7							

Lanes, Volumes, Timings

3: MD 272 (Mauldin Ave) & MD 7 (Cecil Ave)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	64	187	162	39	125	110	998	326	86	594	27
Future Volume (vph)	38	64	187	162	39	125	110	998	326	86	594	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	12	12	11	11	11	12	12	12
Storage Length (ft)	115		0	0		100	100		100	150		0
Storage Lanes	1		1	0		1	1		1	1		0
Taper Length (ft)	50		25	25		25	75		75	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		362			676			1389			919	
Travel Time (s)		9.9			18.4			27.1			17.9	
Confl. Peds. (#/hr)	1		4	4		1			7	7		
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	118	217	0	233	145	128	1160	379	100	722	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		
Detector Phase	4	4	4	8	8	8	2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	
Total Split (s)	23.0	23.0	23.0	23.0	23.0	23.0	77.0	77.0	77.0	77.0	77.0	
Total Split (%)	23.0%	23.0%	23.0%	23.0%	23.0%	23.0%	77.0%	77.0%	77.0%	77.0%	77.0%	
Maximum Green (s)	17.0	17.0	17.0	17.0	17.0	17.0	71.0	71.0	71.0	71.0	71.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0	5.0	3.5	3.5	3.5	3.5	3.5	
Recall Mode	None	None	None	None	None	None	Min	Min	Min	Min	Min	
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Flash Don't Walk (s)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0	
v/c Ratio		0.64	0.48		1.02	0.38	0.33	0.93	0.34	1.05	0.56	
Control Delay (s/veh)		56.2	9.2		106.2	12.9	8.3	27.2	3.2	131.7	9.1	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay (s/veh)		56.2	9.2		106.2	12.9	8.3	27.2	3.2	131.7	9.1	
90th %ile Green (s)	17.0	17.0	17.0	17.0	17.0	17.0	71.0	71.0	71.0	71.0	71.0	
90th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	
70th %ile Green (s)	17.0	17.0	17.0	17.0	17.0	17.0	71.0	71.0	71.0	71.0	71.0	
70th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	
50th %ile Green (s)	17.0	17.0	17.0	17.0	17.0	17.0	71.0	71.0	71.0	71.0	71.0	
50th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	
30th %ile Green (s)	17.0	17.0	17.0	17.0	17.0	17.0	68.2	68.2	68.2	68.2	68.2	
30th %ile Term Code	Hold	Hold	Hold	Max	Max	Max	Gap	Gap	Gap	Hold	Hold	

Lanes, Volumes, Timings

3: MD 272 (Mauldin Ave) & MD 7 (Cecil Ave)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
10th %ile Green (s)	17.0	17.0	17.0	17.0	17.0	17.0	49.2	49.2	49.2	49.2	49.2	49.2
10th %ile Term Code	Hold	Hold	Hold	Max	Max	Max	Gap	Gap	Gap	Hold	Hold	Hold
Queue Length 50th (ft)		73	0		~169	12	27	529	32	~64	190	
Queue Length 95th (ft)		#145	54		#301	61	53	#750	58	#102	252	
Internal Link Dist (ft)		282			596			1309			839	
Turn Bay Length (ft)						100	100		100	150		
Base Capacity (vph)		184	450		229	385	420	1357	1179	103	1397	
Starvation Cap Reductn		0	0		0	0	0	0	0	0	0	
Spillback Cap Reductn		0	0		0	0	0	0	0	0	0	
Storage Cap Reductn		0	0		0	0	0	0	0	0	0	
Reduced v/c Ratio		0.64	0.48		1.02	0.38	0.30	0.85	0.32	0.97	0.52	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 95.1

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

90th %ile Actuated Cycle: 100

70th %ile Actuated Cycle: 100

50th %ile Actuated Cycle: 100

30th %ile Actuated Cycle: 97.2

10th %ile Actuated Cycle: 78.2

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: MD 272 (Mauldin Ave) & MD 7 (Cecil Ave)

#3  Ø2	#3  Ø4
77 s	23 s
#3  Ø6	#3  Ø8
77 s	23 s

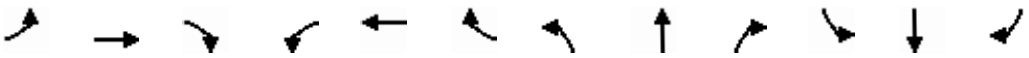
HCM 7th Signalized Intersection Summary

3: MD 272 (Mauldin Ave) & MD 7 (Cecil Ave)

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	64	187	162	39	125	110	998	326	86	594	27
Future Volume (veh/h)	38	64	187	162	39	125	110	998	326	86	594	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.99		1.00	0.99		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	44	74	0	188	45	0	128	1160	379	100	691	31
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	137	209		256	46		456	1328	1120	152	1261	57
Arrive On Green	0.17	0.17	0.00	0.17	0.17	0.00	0.71	0.71	0.71	0.71	0.71	0.71
Sat Flow, veh/h	515	1229	1585	1123	269	1585	731	1870	1577	337	1776	80
Grp Volume(v), veh/h	118	0	0	233	0	0	128	1160	379	100	0	722
Grp Sat Flow(s),veh/h/ln	1743	0	1585	1392	0	1585	731	1870	1577	337	0	1856
Q Serve(g_s), s	0.0	0.0	0.0	10.9	0.0	0.0	10.1	47.4	9.2	23.6	0.0	18.5
Cycle Q Clear(g_c), s	5.8	0.0	0.0	16.7	0.0	0.0	28.5	47.4	9.2	71.0	0.0	18.5
Prop In Lane	0.37		1.00	0.81		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	346	0		302	0		456	1328	1120	152	0	1317
V/C Ratio(X)	0.34	0.00		0.77	0.00		0.28	0.87	0.34	0.66	0.00	0.55
Avail Cap(c_a), veh/h	346	0		302	0		456	1328	1120	152	0	1317
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.8	0.0	0.0	41.4	0.0	0.0	13.7	11.1	5.5	40.6	0.0	6.9
Incr Delay (d2), s/veh	1.2	0.0	0.0	13.5	0.0	0.0	0.4	6.8	0.2	10.7	0.0	0.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.0	0.0	6.8	0.0	0.0	1.6	17.6	2.5	2.9	0.0	6.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	38.0	0.0	0.0	54.9	0.0	0.0	14.1	17.9	5.7	51.2	0.0	7.4
LnGrp LOS	D			D			B	B	A	D		A
Approach Vol, veh/h		118			233			1667			822	
Approach Delay, s/veh		38.0			54.9			14.8			12.8	
Approach LOS		D			D			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		77.0		23.0		77.0		23.0				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		71.0		17.0		71.0		17.0				
Max Q Clear Time (g_c+l1), s		49.4		7.8		73.0		18.7				
Green Ext Time (p_c), s		15.6		0.6		0.0		0.0				
Intersection Summary												
HCM 7th Control Delay, s/veh			18.5									
HCM 7th LOS			B									
Notes												
Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.												

Lanes, Volumes, Timings

4: MD 272 (Mauldin Ave) & Irishtown Rd

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	0	1	54	1	581	0	686	133	607	184	4
Future Volume (vph)	11	0	1	54	1	581	0	686	133	607	184	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		250	50		0	400		0
Storage Lanes	0		0	0		1	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		219			834			868			1455	
Travel Time (s)		6.0			22.7			23.7			39.7	
Confl. Peds. (#/hr)	3		1	1		3			1	1		
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	14	0	0	62	660	0	780	151	690	214	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2		2	6		
Detector Phase	4	4		8	8	8	2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	10.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	17.0	17.0		17.0	17.0	17.0	24.0	24.0	24.0	11.0	24.0	
Total Split (s)	21.0	21.0		21.0	21.0	21.0	58.0	58.0	58.0	51.0	109.0	
Total Split (%)	16.2%	16.2%		16.2%	16.2%	16.2%	44.6%	44.6%	44.6%	39.2%	83.8%	
Maximum Green (s)	15.0	15.0		15.0	15.0	15.0	52.0	52.0	52.0	45.0	103.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0			6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None	None	Min	Min	Min	None	Min	
Walk Time (s)							7.0	7.0	7.0		7.0	
Flash Don't Walk (s)							11.0	11.0	11.0		11.0	
Pedestrian Calls (#/hr)							0	0	0		0	
v/c Ratio		0.06			0.40	0.99		1.05	0.22	1.03	0.15	
Control Delay (s/veh)		0.5			61.9	43.6		84.1	10.5	78.1	3.4	
Queue Delay		0.0			0.0	0.0		0.0	0.0	0.0	0.0	
Total Delay (s/veh)		0.5			61.9	43.6		84.1	10.5	78.1	3.4	
90th %ile Green (s)	15.0	15.0		15.0	15.0	15.0	52.0	52.0	52.0	45.0	103.0	
90th %ile Term Code	Hold	Hold		Max	Max	Max	Max	Max	Max	Max	Hold	
70th %ile Green (s)	15.0	15.0		15.0	15.0	15.0	52.0	52.0	52.0	45.0	103.0	
70th %ile Term Code	Hold	Hold		Max	Max	Max	Max	Max	Max	Max	Hold	
50th %ile Green (s)	15.0	15.0		15.0	15.0	15.0	52.0	52.0	52.0	45.0	103.0	
50th %ile Term Code	Hold	Hold		Max	Max	Max	Max	Max	Max	Max	Hold	
30th %ile Green (s)	15.0	15.0		15.0	15.0	15.0	52.0	52.0	52.0	45.0	103.0	
30th %ile Term Code	Hold	Hold		Max	Max	Max	Max	Max	Max	Max	Hold	
10th %ile Green (s)	15.0	15.0		15.0	15.0	15.0	52.0	52.0	52.0	45.0	103.0	

Lanes, Volumes, Timings

4: MD 272 (Mauldin Ave) & Irishtown Rd

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
10th %ile Term Code	Hold	Hold		Max	Max	Max	Max	Max	Max	Max	Hold	
Queue Length 50th (ft)		0			50	108		~725	28	~579	35	
Queue Length 95th (ft)		0			96	#346		#936	71	#790	53	
Internal Link Dist (ft)		139			754			788			1375	
Turn Bay Length (ft)						250				400		
Base Capacity (vph)		225			154	666		745	690	670	1470	
Starvation Cap Reductn		0			0	0		0	0	0	0	
Spillback Cap Reductn		0			0	0		0	0	0	0	
Storage Cap Reductn		0			0	0		0	0	0	0	
Reduced v/c Ratio		0.06			0.40	0.99		1.05	0.22	1.03	0.15	

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 130

Natural Cycle: 140

Control Type: Actuated-Uncoordinated

90th %ile Actuated Cycle: 130

70th %ile Actuated Cycle: 130

50th %ile Actuated Cycle: 130

30th %ile Actuated Cycle: 130

10th %ile Actuated Cycle: 130

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 4: MD 272 (Mauldin Ave) & Irishtown Rd

#4 	#4 	#4 
Ø1	Ø2	Ø4
51 s	58 s	21 s
#4 	#4 	#4 
Ø6		Ø8
109 s		21 s

HCM 7th Signalized Intersection Summary

4: MD 272 (Mauldin Ave) & Irishtown Rd

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	0	1	54	1	581	0	686	133	607	184	4
Future Volume (veh/h)	11	0	1	54	1	581	0	686	133	607	184	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.98		0.97	0.97		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	13	0	1	61	1	0	0	780	0	690	209	5
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	143	2	7	139	1		61	810		719	1533	37
Arrive On Green	0.06	0.00	0.06	0.06	0.06	0.00	0.00	0.43	0.00	0.36	0.84	0.84
Sat Flow, veh/h	1517	41	120	1411	23	1585	1167	1870	1585	1781	1819	44
Grp Volume(v), veh/h	14	0	0	62	0	0	0	780	0	690	0	214
Grp Sat Flow(s),veh/h/ln	1677	0	0	1434	0	1585	1167	1870	1585	1781	0	1862
Q Serve(g_s), s	0.0	0.0	0.0	4.1	0.0	0.0	0.0	47.6	0.0	39.0	0.0	2.4
Cycle Q Clear(g_c), s	0.9	0.0	0.0	5.0	0.0	0.0	0.0	47.6	0.0	39.0	0.0	2.4
Prop In Lane	0.93		0.07	0.98		1.00	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	152	0	0	140	0		61	810		719	0	1569
V/C Ratio(X)	0.09	0.00	0.00	0.44	0.00		0.00	0.96		0.96	0.00	0.14
Avail Cap(c_a), veh/h	253	0	0	240	0		72	828		763	0	1633
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	52.9	0.0	0.0	54.7	0.0	0.0	0.0	32.4	0.0	31.8	0.0	1.6
Incr Delay (d2), s/veh	0.3	0.0	0.0	2.2	0.0	0.0	0.0	22.3	0.0	22.6	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	1.9	0.0	0.0	0.0	26.2	0.0	23.5	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	53.1	0.0	0.0	56.9	0.0	0.0	0.0	54.7	0.0	54.4	0.0	1.7
LnGrp LOS	D			E				D		D		A
Approach Vol, veh/h	14				62		780				904	
Approach Delay, s/veh	53.1				56.9		54.7				41.9	
Approach LOS	D				E		D				D	
Timer - Assigned Phs	1	2	4		6		8					
Phs Duration (G+Y+Rc), s	48.1	56.9	12.5		105.0		12.5					
Change Period (Y+Rc), s	6.0	6.0	6.0		6.0		6.0					
Max Green Setting (Gmax), s	45.0	52.0	15.0		103.0		15.0					
Max Q Clear Time (g_c+I1), s	41.0	49.6	2.9		4.4		7.0					
Green Ext Time (p_c), s	1.1	1.3	0.0		1.5		0.1					
Intersection Summary												
HCM 7th Control Delay, s/veh			48.2									
HCM 7th LOS			D									
Notes												
Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.												

Lanes, Volumes, Timings

1: MD 272 (Main St) & MD 272 (Mauldin Ave)/MD 272 (Mauldin St) & Russel St/N Main St

												
Lane Group	EBL	EBT	EBR	WBL2	WBT	WBR	NBL2	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	16	0	4	11	1	12	6	4	799	7	21	828
Future Volume (vph)	16	0	4	11	1	12	6	4	799	7	21	828
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0			0		150		0	100	
Storage Lanes	0		0			0		1		0	1	
Taper Length (ft)	25							25			100	
Link Speed (mph)		25			25				35			25
Link Distance (ft)		323			379				925			541
Travel Time (s)		8.8			10.3				18.0			14.8
Confl. Peds. (#/hr)			2	2				4		1	1	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	21	0	0	26	0	0	10	867	0	23	980
Sign Control		Stop			Stop				Free			Free

Intersection Summary

Area Type: Other

Control Type: Unsignalized

		
Lane Group	SBR	SBR2
Lane Configurations		
Traffic Volume (vph)	72	12
Future Volume (vph)	72	12
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)	0	
Storage Lanes	0	
Taper Length (ft)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Confl. Peds. (#/hr)		4
Peak Hour Factor	0.93	0.93
Shared Lane Traffic (%)		
Lane Group Flow (vph)	0	0
Sign Control		

Intersection Summary

HCM 7th TWSC

1: MD 272 (Main St) & MD 272 (Mauldin Ave)/MD 272 (Mauldin St) & Russel St/N Main St

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations		↕			↕		↕	↕		↕	↕			
Traffic Vol, veh/h	16	0	4	0	1	12	4	799	7	21	828	72	0	0
Future Vol, veh/h	16	0	4	0	1	12	4	799	7	21	828	72	0	0
Conflicting Peds, #/hr	0	0	2	2	0	0	4	0	1	1	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	-	-	-	None	-	-	None	-	-	-	-	-
Storage Length	-	-	-	-	-	-	150	-	-	100	-	-	-	-
Veh in Median Storage, #	1	-	-	-	1	-	-	0	-	-	0	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	0	4	0	1	13	4	859	8	23	890	77	0	0

Major/Minor	Minor2		Minor1			Major1				Major2			
Conflicting Flow All	991	1852	931	956	1031	5	968	0	0	864	0	0	
Stage 1	974	974	-	18	18	-	-	-	-	-	-	-	
Stage 2	17	877	-	937	1013	-	-	-	-	-	-	-	
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-	
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-	
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-	
Pot Cap-1 Maneuve	225	74	324	238	233	1078	712	-	-	778	-	-	
Stage 1	303	330	-	1001	880	-	-	-	-	-	-	-	
Stage 2	1002	366	-	317	317	-	-	-	-	-	-	-	
Platoon blocked, %								-	-		-	-	
Mov Cap-1 Maneuve	213	70	323	222	221	1077	712	-	-	778	-	-	
Mov Cap-2 Maneuve	261	182	-	265	267	-	-	-	-	-	-	-	
Stage 1	294	320	-	979	861	-	-	-	-	-	-	-	
Stage 2	980	358	-	304	307	-	-	-	-	-	-	-	

Approach	EB		WB			NB				SB			
HCM Ctrl Dly, s/v	19.39		8.35			0.07				0.22			
HCM LOS	C		A										

Minor Lane/Major Mvmt	NBL2	NBL	NBT	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	710	-	-	272	1077	778	-	-
HCM Lane V/C Ratio	0.009	-	-	0.079	0.001	0.029	-	-
HCM Ctrl Dly (s/v)	10.1	0	-	19.4	8.3	9.8	-	-
HCM Lane LOS	B	A	-	C	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0	0.1	-	-

Lanes, Volumes, Timings

2: MD 7 (Cecil Ave) & MD 272 (Main St)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	372	0	0	226	0	0	0	0	0	72	0
Future Volume (vph)	0	372	0	0	226	0	0	0	0	0	72	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	12	12	11	11	12	12	12	12	12	12
Storage Length (ft)	0		75	115		0	0		0	0		0
Storage Lanes	0		1	1		0	0		0	0		0
Taper Length (ft)	25		100	50		25	25		25	25		25
Link Speed (mph)		25			25			30			25	
Link Distance (ft)		463			362			379			770	
Travel Time (s)		12.6			9.9			8.6			21.0	
Confl. Peds. (#/hr)	3		1	1		3	5		3	3		5
Confl. Bikes (#/hr)						1						1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	392	0	0	238	0	0	0	0	0	76	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

HCM 7th TWSC
2: MD 7 (Cecil Ave) & MD 272 (Main St)

Intersection												
Int Delay, s/veh	1.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↗	↖	↑						↕	
Traffic Vol, veh/h	0	372	0	0	226	0	0	0	0	0	72	0
Future Vol, veh/h	0	372	0	0	226	0	0	0	0	0	72	0
Conflicting Peds, #/hr	3	0	1	1	0	3	5	0	3	3	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	75	115	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	392	0	0	238	0	0	0	0	0	76	0
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	393	0	0	-	-	-	632	630	243
Stage 1	-	-	-	-	-	-	-	-	-	238	238	-
Stage 2	-	-	-	-	-	-	-	-	-	395	393	-
Critical Hdwy	-	-	-	4.12	-	-	-	-	-	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	6.12	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-	-	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	1166	-	0	0	0	0	393	398	796
Stage 1	0	-	-	-	-	0	0	0	0	765	708	-
Stage 2	0	-	-	-	-	0	0	0	0	631	606	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1166	-	-	-	-	-	392	398	793
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	392	398	-
Stage 1	-	-	-	-	-	-	-	-	-	765	708	-
Stage 2	-	-	-	-	-	-	-	-	-	629	606	-
Approach	EB			WB			NB			SB		
HCM Ctrl Dly, s/v	0			0						16.15		
HCM LOS							-			C		
Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1							
Capacity (veh/h)	-	-	1166	-	398							
HCM Lane V/C Ratio	-	-	-	-	0.19							
HCM Ctrl Dly (s/v)	-	-	0	-	16.1							
HCM Lane LOS	-	-	A	-	C							
HCM 95th %tile Q(veh)	-	-	0	-	0.7							

Lanes, Volumes, Timings

3: MD 272 (Mauldin Ave) & MD 7 (Cecil Ave)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	78	227	220	56	110	124	693	263	108	764	40
Future Volume (vph)	56	78	227	220	56	110	124	693	263	108	764	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	12	12	11	11	11	12	12	12
Storage Length (ft)	115		0	0		100	100		100	150		0
Storage Lanes	1		1	0		1	1		1	1		0
Taper Length (ft)	50		25	25		25	75		75	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		362			676			1389			925	
Travel Time (s)		9.9			18.4			27.1			18.0	
Confl. Peds. (#/hr)	1		1	1		1			2	2		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	149	252	0	306	122	138	770	292	120	893	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		
Detector Phase	4	4	4	8	8	8	2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	
Total Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	60.0	60.0	60.0	60.0	60.0	
Total Split (%)	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	66.7%	66.7%	66.7%	66.7%	66.7%	
Maximum Green (s)	24.0	24.0	24.0	24.0	24.0	24.0	54.0	54.0	54.0	54.0	54.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0	5.0	3.5	3.5	3.5	3.5	3.5	
Recall Mode	None	None	None	None	None	None	Min	Min	Min	Min	Min	
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Flash Don't Walk (s)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0	
v/c Ratio		0.48	0.46		0.88	0.24	1.02	0.75	0.31	0.53	0.84	
Control Delay (s/veh)		33.7	12.9		59.0	8.3	107.7	18.5	4.0	20.9	23.2	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay (s/veh)		33.7	12.9		59.0	8.3	107.7	18.5	4.0	20.9	23.2	
90th %ile Green (s)	24.0	24.0	24.0	24.0	24.0	24.0	54.0	54.0	54.0	54.0	54.0	
90th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	
70th %ile Green (s)	24.0	24.0	24.0	24.0	24.0	24.0	54.0	54.0	54.0	54.0	54.0	
70th %ile Term Code	Hold	Hold	Hold	Max	Max	Max	Max	Max	Max	Hold	Hold	
50th %ile Green (s)	24.0	24.0	24.0	24.0	24.0	24.0	54.0	54.0	54.0	54.0	54.0	
50th %ile Term Code	Hold	Hold	Hold	Max	Max	Max	Max	Max	Max	Hold	Hold	
30th %ile Green (s)	24.0	24.0	24.0	24.0	24.0	24.0	48.3	48.3	48.3	48.3	48.3	
30th %ile Term Code	Hold	Hold	Hold	Max	Max	Max	Gap	Gap	Gap	Hold	Hold	

Lanes, Volumes, Timings

3: MD 272 (Mauldin Ave) & MD 7 (Cecil Ave)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
10th %ile Green (s)	16.7	16.7	16.7	16.7	16.7	16.7	26.3	26.3	26.3	26.3	26.3	26.3
10th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Gap	Hold	Hold	Hold	Gap	Gap	Gap
Queue Length 50th (ft)		73	37		172	6	70	285	23	36	364	
Queue Length 95th (ft)		135	106		#331	47	#197	429	58	95	552	
Internal Link Dist (ft)		282			596			1309			845	
Turn Bay Length (ft)						100	100		100	150		
Base Capacity (vph)		338	582		380	556	162	1232	1101	273	1268	
Starvation Cap Reductn		0	0		0	0	0	0	0	0	0	
Spillback Cap Reductn		0	0		0	0	0	0	0	0	0	
Storage Cap Reductn		0	0		0	0	0	0	0	0	0	
Reduced v/c Ratio		0.44	0.43		0.81	0.22	0.85	0.63	0.27	0.44	0.70	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 81.9

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

90th %ile Actuated Cycle: 90

70th %ile Actuated Cycle: 90

50th %ile Actuated Cycle: 90

30th %ile Actuated Cycle: 84.3

10th %ile Actuated Cycle: 55

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: MD 272 (Mauldin Ave) & MD 7 (Cecil Ave)

#3  Ø2	#3  Ø4
60 s	30 s
#3  Ø6	#3  Ø8
60 s	30 s

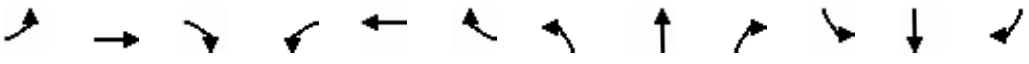
HCM 7th Signalized Intersection Summary

3: MD 272 (Mauldin Ave) & MD 7 (Cecil Ave)

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	78	227	220	56	110	124	693	263	108	764	40
Future Volume (veh/h)	56	78	227	220	56	110	124	693	263	108	764	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	62	87	0	244	62	0	138	770	292	120	849	44
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	208	270		349	70		244	1151	974	267	1084	56
Arrive On Green	0.25	0.25	0.00	0.25	0.25	0.00	0.62	0.62	0.62	0.62	0.62	0.62
Sat Flow, veh/h	607	1097	1585	1112	283	1585	623	1870	1582	531	1762	91
Grp Volume(v), veh/h	149	0	0	306	0	0	138	770	292	120	0	893
Grp Sat Flow(s),veh/h/ln	1704	0	1585	1395	0	1585	623	1870	1582	531	0	1854
Q Serve(g_s), s	0.0	0.0	0.0	12.4	0.0	0.0	18.3	23.3	7.5	16.5	0.0	31.0
Cycle Q Clear(g_c), s	6.0	0.0	0.0	18.3	0.0	0.0	49.3	23.3	7.5	39.9	0.0	31.0
Prop In Lane	0.42		1.00	0.80		1.00	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	478	0		418	0		244	1151	974	267	0	1141
V/C Ratio(X)	0.31	0.00		0.73	0.00		0.57	0.67	0.30	0.45	0.00	0.78
Avail Cap(c_a), veh/h	528	0		461	0		249	1166	986	271	0	1155
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.8	0.0	0.0	31.5	0.0	0.0	30.7	10.9	7.9	23.9	0.0	12.4
Incr Delay (d2), s/veh	0.8	0.0	0.0	7.1	0.0	0.0	3.2	1.6	0.2	1.4	0.0	3.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	0.0	0.0	6.9	0.0	0.0	2.8	8.6	2.3	2.1	0.0	11.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	27.6	0.0	0.0	38.6	0.0	0.0	33.9	12.5	8.1	25.4	0.0	16.0
LnGrp LOS	C			D			C	B	A	C		B
Approach Vol, veh/h		149			306			1200			1013	
Approach Delay, s/veh		27.6			38.6			13.9			17.1	
Approach LOS		C			D			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		59.3		27.3		59.3		27.3				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		54.0		24.0		54.0		24.0				
Max Q Clear Time (g_c+I1), s		51.3		8.0		41.9		20.3				
Green Ext Time (p_c), s		2.0		1.2		0.2		1.0				
Intersection Summary												
HCM 7th Control Delay, s/veh			18.7									
HCM 7th LOS			B									
Notes												
Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.												

Lanes, Volumes, Timings

4: MD 272 (Mauldin Ave) & Irishtown Rd

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	1	5	40	5	289	0	518	38	403	729	12
Future Volume (vph)	21	1	5	40	5	289	0	518	38	403	729	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		250	50		0	400		0
Storage Lanes	0		0	0		1	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	75		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			25				25
Link Distance (ft)		219			834			868			1456	
Travel Time (s)		6.0			22.7			23.7			39.7	
Confl. Peds. (#/hr)			2	2					3	3		
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	27	0	0	46	295	0	529	39	411	756	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2		2	6		
Detector Phase	4	4		8	8	8	2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	10.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	17.0	17.0		17.0	17.0	17.0	24.0	24.0	24.0	11.0	24.0	
Total Split (s)	17.0	17.0		17.0	17.0	17.0	27.0	27.0	27.0	16.0	43.0	
Total Split (%)	28.3%	28.3%		28.3%	28.3%	28.3%	45.0%	45.0%	45.0%	26.7%	71.7%	
Maximum Green (s)	11.0	11.0		11.0	11.0	11.0	21.0	21.0	21.0	10.0	37.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0			6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None	None	Min	Min	Min	None	Min	
Walk Time (s)							7.0	7.0	7.0		7.0	
Flash Don't Walk (s)							11.0	11.0	11.0		11.0	
Pedestrian Calls (#/hr)							0	0	0		0	
v/c Ratio		0.14			0.24	0.62		0.83	0.06	0.85	0.64	
Control Delay (s/veh)		20.2			24.7	9.7		30.1	0.2	29.8	9.4	
Queue Delay		0.0			0.0	0.0		0.0	0.0	0.0	0.0	
Total Delay (s/veh)		20.2			24.7	9.7		30.1	0.2	29.8	9.4	
90th %ile Green (s)	11.0	11.0		11.0	11.0	11.0	21.0	21.0	21.0	10.0	37.0	
90th %ile Term Code	Hold	Hold		Max	Max	Max	Max	Max	Max	Max	Max	
70th %ile Green (s)	9.4	9.4		9.4	9.4	9.4	21.0	21.0	21.0	10.0	37.0	
70th %ile Term Code	Hold	Hold		Gap	Gap	Gap	Max	Max	Max	Max	Hold	
50th %ile Green (s)	7.3	7.3		7.3	7.3	7.3	21.0	21.0	21.0	10.0	37.0	
50th %ile Term Code	Hold	Hold		Gap	Gap	Gap	Max	Max	Max	Max	Hold	
30th %ile Green (s)	6.1	6.1		6.1	6.1	6.1	18.7	18.7	18.7	10.0	34.7	
30th %ile Term Code	Hold	Hold		Gap	Gap	Gap	Gap	Gap	Gap	Max	Hold	
10th %ile Green (s)	5.5	5.5		5.5	5.5	5.5	13.4	13.4	13.4	10.0	29.4	

Lanes, Volumes, Timings

4: MD 272 (Mauldin Ave) & Irishtown Rd

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
10th %ile Term Code	Hold	Hold		Gap	Gap	Gap	Gap	Gap	Gap	Max	Hold	
Queue Length 50th (ft)		7			14	0		153	0	66	119	
Queue Length 95th (ft)		25			40	57		#327	0	#236	257	
Internal Link Dist (ft)		139			754			788			1376	
Turn Bay Length (ft)						250				400		
Base Capacity (vph)		276			273	555		718	708	483	1263	
Starvation Cap Reductn		0			0	0		0	0	0	0	
Spillback Cap Reductn		0			0	0		0	0	0	0	
Storage Cap Reductn		0			0	0		0	0	0	0	
Reduced v/c Ratio		0.10			0.17	0.53		0.74	0.06	0.85	0.60	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 54.9

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

90th %ile Actuated Cycle: 60

70th %ile Actuated Cycle: 58.4

50th %ile Actuated Cycle: 56.3

30th %ile Actuated Cycle: 52.8

10th %ile Actuated Cycle: 46.9

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 4: MD 272 (Mauldin Ave) & Irishtown Rd

#4 	#4 	#4 
Ø1	Ø2	Ø4
16 s	27 s	17 s
#4 		#4 
Ø6		Ø8
43 s		17 s

HCM 7th Signalized Intersection Summary

4: MD 272 (Mauldin Ave) & Irishtown Rd

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	1	5	40	5	289	0	518	38	403	729	12
Future Volume (veh/h)	21	1	5	40	5	289	0	518	38	403	729	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	1	5	41	5	0	0	529	0	411	744	12
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	224	6	20	242	11		161	656		563	1219	20
Arrive On Green	0.07	0.07	0.07	0.07	0.07	0.00	0.00	0.35	0.00	0.18	0.66	0.66
Sat Flow, veh/h	1202	86	293	1340	163	1585	708	1870	1585	1781	1835	30
Grp Volume(v), veh/h	27	0	0	46	0	0	0	529	0	411	0	756
Grp Sat Flow(s),veh/h/ln	1581	0	0	1504	0	1585	708	1870	1585	1781	0	1865
Q Serve(g_s), s	0.0	0.0	0.0	0.6	0.0	0.0	0.0	11.4	0.0	5.7	0.0	10.2
Cycle Q Clear(g_c), s	0.6	0.0	0.0	1.2	0.0	0.0	0.0	11.4	0.0	5.7	0.0	10.2
Prop In Lane	0.78		0.19	0.89		1.00	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	249	0	0	253	0		161	656		563	0	1239
V/C Ratio(X)	0.11	0.00	0.00	0.18	0.00		0.00	0.81		0.73	0.00	0.61
Avail Cap(c_a), veh/h	507	0	0	510	0		246	880		643	0	1546
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.7	0.0	0.0	20.0	0.0	0.0	0.0	13.1	0.0	8.3	0.0	4.2
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.3	0.0	0.0	0.0	4.1	0.0	3.6	0.0	0.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	0.4	0.0	0.0	0.0	4.7	0.0	1.9	0.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	19.9	0.0	0.0	20.3	0.0	0.0	0.0	17.2	0.0	11.9	0.0	4.7
LnGrp LOS	B			C				B		B		A
Approach Vol, veh/h	27			46			529			1167		
Approach Delay, s/veh	19.9			20.3			17.2			7.3		
Approach LOS	B			C			B			A		
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	14.0	21.6		9.0		35.6		9.0				
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	10.0	21.0		11.0		37.0		11.0				
Max Q Clear Time (g_c+l1), s	7.7	13.4		2.6		12.2		3.2				
Green Ext Time (p_c), s	0.4	2.1		0.0		6.3		0.1				
Intersection Summary												
HCM 7th Control Delay, s/veh	10.8											
HCM 7th LOS	B											
Notes												
Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.												

Lanes, Volumes, Timings

1: MD 272 (Main St) & MD 272 (Mauldin Ave)/MD 272 (Mauldin St) & Russel St/N Main St

												
Lane Group	EBL	EBT	EBR	WBL2	WBT	WBR	NBL2	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	0	4	6	0	12	19	1082	2	6	634	71
Future Volume (vph)	9	0	4	6	0	12	19	1082	2	6	634	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0			0			0	100		0
Storage Lanes	0		0			0			0	0		0
Taper Length (ft)	25		25			25			25	100		25
Link Speed (mph)		25			25			35			25	
Link Distance (ft)		323			379			919			541	
Travel Time (s)		8.8			10.3			17.9			14.8	
Confl. Peds. (#/hr)	1		3	3		1			3	3		
Confl. Bikes (#/hr)						1						
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Parking (#/hr)					0							
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	16	0	0	21	0	0	1313	0	0	854	0
Sign Control		Yield			Yield			Yield			Yield	

Intersection Summary

Area Type: Other

Control Type: Roundabout

Lane Group	SBR2
Lane Configurations	
Traffic Volume (vph)	6
Future Volume (vph)	6
Ideal Flow (vphpl)	1900
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	1
Confl. Bikes (#/hr)	1
Peak Hour Factor	0.84
Parking (#/hr)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Sign Control	

Intersection Summary

HCM 7th Roundabout

1: MD 272 (Main St) & MD 272 (Mauldin Ave)/MD 272 (Mauldin St) & Russel St/N Main St

Intersection				
Intersection Delay, s/veh	28.2			
Intersection LOS	D			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	16	21	1313	854
Demand Flow Rate, veh/h	16	21	1339	871
Vehicles Circulating, veh/h	894	1348	18	30
Vehicles Exiting, veh/h	7	9	782	1339
Ped Vol Crossing Leg, #/h	1	3	3	3
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.8	11.3	40.0	11.0
Approach LOS	A	B	E	B
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
A (Intercept)	1380	1380	1380	1380
B (Slope)	1.02e-3	1.02e-3	1.02e-3	1.02e-3
Entry Flow, veh/h	16	21	1339	871
Cap Entry Lane, veh/h	554	349	1355	1338
Entry HV Adj Factor	1.000	0.993	0.980	0.980
Flow Entry, veh/h	16	21	1313	854
Cap Entry, veh/h	554	347	1328	1311
V/C Ratio	0.029	0.060	0.989	0.651
Control Delay, s/veh	6.8	11.3	40.0	11.0
LOS	A	B	E	B
95th %tile Queue, veh	0	0	21	5

HCM 7th Roundabout

1: MD 272 (Main St) & MD 272 (Mauldin Ave)/MD 272 (Mauldin St) & Russel St/N Main St

Intersection

Intersection Delay, s/veh

Intersection LOS

Approach NE

Entry Lanes 0

Conflicting Circle Lanes 1

Adj Approach Flow, veh/h 0

Demand Flow Rate, veh/h 0

Vehicles Circulating, veh/h 800

Vehicles Exiting, veh/h 110

Ped Vol Crossing Leg, #/h 3

Ped Cap Adj 1.000

Approach Delay, s/veh 0.0

Approach LOS -

Lane

Designated Moves

Assumed Moves

RT Channelized

Lane Util

Follow-Up Headway, s

Critical Headway, s

A (Intercept)

B (Slope)

Entry Flow, veh/h

Cap Entry Lane, veh/h

Entry HV Adj Factor

Flow Entry, veh/h

Cap Entry, veh/h

V/C Ratio

Control Delay, s/veh

LOS

95th %tile Queue, veh

Lanes, Volumes, Timings

2: MD 7 (W Cecil Ave)/MD 7 (E Cecil Ave) & MD 272 SB (Main St)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	279	0	0	183	0	0	0	0	0	71	0
Future Volume (vph)	0	279	0	0	183	0	0	0	0	0	71	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	12	12	11	11	12	12	12	12	12	12
Storage Length (ft)	0		75	115		0	0		0	0		0
Storage Lanes	0		1	1		0	0		0	0		0
Taper Length (ft)	25		100	50		25	25		25	25		25
Link Speed (mph)		25			25			30			25	
Link Distance (ft)		463			362			379			770	
Travel Time (s)		12.6			9.9			8.6			21.0	
Confl. Peds. (#/hr)	1		5	5		1			2	2		
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	328	0	0	215	0	0	0	0	0	84	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

HCM 7th TWSC
2: MD 7 (Cecil Ave) & MD 272 SB (Main St)

Intersection												
Int Delay, s/veh	2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↗	↖	↑						↕	
Traffic Vol, veh/h	0	279	0	0	183	0	0	0	0	0	71	0
Future Vol, veh/h	0	279	0	0	183	0	0	0	0	0	71	0
Conflicting Peds, #/hr	1	0	5	5	0	1	0	0	2	2	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	75	115	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	328	0	0	215	0	0	0	0	0	84	0
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	333	0	0	-	-	-	546	549	215
Stage 1	-	-	-	-	-	-	-	-	-	215	215	-
Stage 2	-	-	-	-	-	-	-	-	-	330	333	-
Critical Hdwy	-	-	-	4.12	-	-	-	-	-	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	6.12	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-	-	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	1226	-	0	0	0	0	449	444	825
Stage 1	0	-	-	-	-	0	0	0	0	787	725	-
Stage 2	0	-	-	-	-	0	0	0	0	683	644	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1226	-	-	-	-	-	448	444	825
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	448	444	-
Stage 1	-	-	-	-	-	-	-	-	-	787	725	-
Stage 2	-	-	-	-	-	-	-	-	-	682	644	-
Approach	EB			WB			NB			SB		
HCM Ctrl Dly, s/v	0			0						14.99		
HCM LOS							-			B		
Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1							
Capacity (veh/h)	-	-	1226	-	444							
HCM Lane V/C Ratio	-	-	-	-	0.188							
HCM Ctrl Dly (s/v)	-	-	0	-	15							
HCM Lane LOS	-	-	A	-	B							
HCM 95th %tile Q(veh)	-	-	0	-	0.7							

Lanes, Volumes, Timings

3: MD 272 (Mauldin Ave) & MD 7 (E Cecil Ave)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	64	187	162	39	125	110	998	326	86	594	27
Future Volume (vph)	38	64	187	162	39	125	110	998	326	86	594	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	12	12	11	11	11	12	12	12
Storage Length (ft)	115		0	0		100	100		100	150		0
Storage Lanes	1		1	0		1	1		1	1		0
Taper Length (ft)	50		25	25		25	75		75	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		362			676			1389			919	
Travel Time (s)		9.9			18.4			27.1			17.9	
Confl. Peds. (#/hr)	1		4	4		1			7	7		
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	118	217	0	233	145	128	1160	379	100	722	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		
Detector Phase	4	4	4	8	8	8	2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	
Total Split (s)	23.0	23.0	23.0	23.0	23.0	23.0	77.0	77.0	77.0	77.0	77.0	
Total Split (%)	23.0%	23.0%	23.0%	23.0%	23.0%	23.0%	77.0%	77.0%	77.0%	77.0%	77.0%	
Maximum Green (s)	17.0	17.0	17.0	17.0	17.0	17.0	71.0	71.0	71.0	71.0	71.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0	5.0	3.5	3.5	3.5	3.5	3.5	
Recall Mode	None	None	None	None	None	None	Min	Min	Min	Min	Min	
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Flash Don't Walk (s)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0	
v/c Ratio		0.64	0.48		1.02	0.38	0.33	0.93	0.34	1.05	0.56	
Control Delay (s/veh)		56.2	9.2		106.2	12.9	8.3	27.2	3.2	131.7	9.1	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay (s/veh)		56.2	9.2		106.2	12.9	8.3	27.2	3.2	131.7	9.1	
90th %ile Green (s)	17.0	17.0	17.0	17.0	17.0	17.0	71.0	71.0	71.0	71.0	71.0	
90th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	
70th %ile Green (s)	17.0	17.0	17.0	17.0	17.0	17.0	71.0	71.0	71.0	71.0	71.0	
70th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	
50th %ile Green (s)	17.0	17.0	17.0	17.0	17.0	17.0	71.0	71.0	71.0	71.0	71.0	
50th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	
30th %ile Green (s)	17.0	17.0	17.0	17.0	17.0	17.0	68.2	68.2	68.2	68.2	68.2	
30th %ile Term Code	Hold	Hold	Hold	Max	Max	Max	Gap	Gap	Gap	Hold	Hold	

Lanes, Volumes, Timings

3: MD 272 (Mauldin Ave) & MD 7 (E Cecil Ave)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
10th %ile Green (s)	17.0	17.0	17.0	17.0	17.0	17.0	49.2	49.2	49.2	49.2	49.2	49.2
10th %ile Term Code	Hold	Hold	Hold	Max	Max	Max	Gap	Gap	Gap	Hold	Hold	Hold
Queue Length 50th (ft)		73	0		~169	12	27	529	32	~64	190	
Queue Length 95th (ft)		#145	54		#301	61	53	#750	58	#102	252	
Internal Link Dist (ft)		282			596			1309			839	
Turn Bay Length (ft)						100	100		100	150		
Base Capacity (vph)		184	450		229	385	420	1357	1179	103	1397	
Starvation Cap Reductn		0	0		0	0	0	0	0	0	0	
Spillback Cap Reductn		0	0		0	0	0	0	0	0	0	
Storage Cap Reductn		0	0		0	0	0	0	0	0	0	
Reduced v/c Ratio		0.64	0.48		1.02	0.38	0.30	0.85	0.32	0.97	0.52	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 95.1

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

90th %ile Actuated Cycle: 100

70th %ile Actuated Cycle: 100

50th %ile Actuated Cycle: 100

30th %ile Actuated Cycle: 97.2

10th %ile Actuated Cycle: 78.2

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

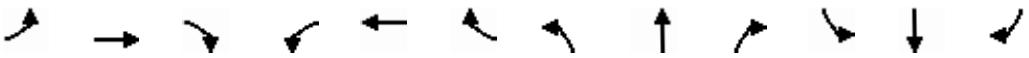
Queue shown is maximum after two cycles.

Splits and Phases: 3: MD 272 (Mauldin Ave) & MD 7 (E Cecil Ave)

#3 	#3 
Ø2	Ø4
77 s	23 s
#3 	#3 
Ø6	Ø8
77 s	23 s

HCM 7th Signalized Intersection Summary

3: MD 272 (Mauldin Ave) & MD 7 (E Cecil Ave)

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱		↰	↱	↰	↑	↱	↰	↱	
Traffic Volume (veh/h)	38	64	187	162	39	125	110	998	326	86	594	27
Future Volume (veh/h)	38	64	187	162	39	125	110	998	326	86	594	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.99		1.00	0.99		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	44	74	0	188	45	0	128	1160	379	100	691	31
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	137	209		256	46		456	1328	1120	152	1261	57
Arrive On Green	0.17	0.17	0.00	0.17	0.17	0.00	0.71	0.71	0.71	0.71	0.71	0.71
Sat Flow, veh/h	515	1229	1585	1123	269	1585	731	1870	1577	337	1776	80
Grp Volume(v), veh/h	118	0	0	233	0	0	128	1160	379	100	0	722
Grp Sat Flow(s),veh/h/ln	1743	0	1585	1392	0	1585	731	1870	1577	337	0	1856
Q Serve(g_s), s	0.0	0.0	0.0	10.9	0.0	0.0	10.1	47.4	9.2	23.6	0.0	18.5
Cycle Q Clear(g_c), s	5.8	0.0	0.0	16.7	0.0	0.0	28.5	47.4	9.2	71.0	0.0	18.5
Prop In Lane	0.37		1.00	0.81		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	346	0		302	0		456	1328	1120	152	0	1317
V/C Ratio(X)	0.34	0.00		0.77	0.00		0.28	0.87	0.34	0.66	0.00	0.55
Avail Cap(c_a), veh/h	346	0		302	0		456	1328	1120	152	0	1317
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.8	0.0	0.0	41.4	0.0	0.0	13.7	11.1	5.5	40.6	0.0	6.9
Incr Delay (d2), s/veh	1.2	0.0	0.0	13.5	0.0	0.0	0.4	6.8	0.2	10.7	0.0	0.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.0	0.0	6.8	0.0	0.0	1.6	17.6	2.5	2.9	0.0	6.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	38.0	0.0	0.0	54.9	0.0	0.0	14.1	17.9	5.7	51.2	0.0	7.4
LnGrp LOS	D			D			B	B	A	D		A
Approach Vol, veh/h		118			233			1667			822	
Approach Delay, s/veh		38.0			54.9			14.8			12.8	
Approach LOS		D			D			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		77.0		23.0		77.0		23.0				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		71.0		17.0		71.0		17.0				
Max Q Clear Time (g_c+l1), s		49.4		7.8		73.0		18.7				
Green Ext Time (p_c), s		15.6		0.6		0.0		0.0				
Intersection Summary												
HCM 7th Control Delay, s/veh			18.5									
HCM 7th LOS			B									
Notes												
Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.												

Lanes, Volumes, Timings

4: MD 272 (Mauldin Ave) & Irishtown Rd

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	0	1	54	1	581	0	686	133	607	184	4
Future Volume (vph)	11	0	1	54	1	581	0	686	133	607	184	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		250	50		0	400		0
Storage Lanes	0		0	0		1	0		1	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		219			834			868			1455	
Travel Time (s)		6.0			22.7			23.7			39.7	
Confl. Peds. (#/hr)	3		1	1		3			1	1		
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	14	0	0	62	660	0	780	151	0	904	0
Sign Control		Yield			Yield			Yield			Yield	
Intersection Summary												
Area Type:	Other											
Control Type:	Roundabout											

HCM 7th Roundabout
4: MD 272 (Mauldin Ave) & Irishtown Rd

Intersection						
Intersection Delay, s/veh	44.0					
Intersection LOS	E					
Approach	EB	WB		NB		SB
Entry Lanes	1	2		2		1
Conflicting Circle Lanes	1	1		1		1
Adj Approach Flow, veh/h	14	722		931		904
Demand Flow Rate, veh/h	14	736		950		922
Vehicles Circulating, veh/h	979	809		717		63
Vehicles Exiting, veh/h	6	858		276		1482
Ped Vol Crossing Leg, #/h	0	1		1		3
Ped Cap Adj	1.000	1.000		1.000		1.000
Approach Delay, s/veh	7.4	52.8		67.6		13.1
Approach LOS	A	F		F		B
Lane	Left	Left	Right	Left	Right	Left
Designated Moves	LTR	LT	R	LT	R	LTR
Assumed Moves	LTR	LT	R	LT	R	LTR
RT Channelized						
Lane Util	1.000	0.086	0.914	0.838	0.162	1.000
Follow-Up Headway, s	2.609	2.535	2.535	2.535	2.535	2.609
Critical Headway, s	4.976	4.544	4.544	4.544	4.544	4.976
A (Intercept)	1380	1420	1420	1420	1420	1380
B (Slope)	1.02e-3	9.101e-4	9.101e-4	9.101e-4	9.101e-4	1.02e-3
Entry Flow, veh/h	14	63	673	796	154	922
Cap Entry Lane, veh/h	508	680	680	739	739	1294
Entry HV Adj Factor	1.000	0.984	0.981	0.980	0.981	0.980
Flow Entry, veh/h	14	62	660	780	151	904
Cap Entry, veh/h	508	669	667	725	725	1268
V/C Ratio	0.028	0.093	0.990	1.077	0.208	0.713
Control Delay, s/veh	7.4	6.4	57.1	79.3	7.3	13.1
LOS	A	A	F	F	A	B
95th %tile Queue, veh	0	0	15	21	1	7

Lanes, Volumes, Timings

1: MD 272 (Main St) & MD 272 (Mauldin Ave)/MD 272 (Mauldin St) & Russel St/N Main St

												
Lane Group	EBL	EBT	EBR	WBL2	WBT	WBR	NBL2	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	16	0	4	11	1	12	6	4	799	7	1	20
Future Volume (vph)	16	0	4	11	1	12	6	4	799	7	1	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0			0		150		0		100
Storage Lanes	0		0			0		0		0		0
Taper Length (ft)	25		25			25		25		25		100
Link Speed (mph)		25			25				35			
Link Distance (ft)		323			379				925			
Travel Time (s)		8.8			10.3				18.0			
Confl. Peds. (#/hr)			2	2				4		1		1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	21	0	0	26	0	0	0	877	0	0	0
Sign Control		Yield			Yield				Yield			

Intersection Summary

Area Type: Other

Control Type: Roundabout

			
Lane Group	SBT	SBR	SBR2
Lane Configurations			
Traffic Volume (vph)	828	72	12
Future Volume (vph)	828	72	12
Ideal Flow (vphpl)	1900	1900	1900
Storage Length (ft)		0	
Storage Lanes		0	
Taper Length (ft)		25	
Link Speed (mph)	25		
Link Distance (ft)	541		
Travel Time (s)	14.8		
Confl. Peds. (#/hr)			4
Peak Hour Factor	0.93	0.93	0.93
Shared Lane Traffic (%)			
Lane Group Flow (vph)	1003	0	0
Sign Control	Yield		

Intersection Summary

HCM 7th Roundabout

1: MD 272 (Main St) & MD 272 (Mauldin Ave)/MD 272 (Mauldin St) & Russel St/N Main St

Intersection				
Intersection Delay, s/veh	13.1			
Intersection LOS	B			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	21	26	877	1003
Demand Flow Rate, veh/h	21	26	894	1023
Vehicles Circulating, veh/h	1028	904	40	23
Vehicles Exiting, veh/h	18	30	924	907
Ped Vol Crossing Leg, #/h	4	1	2	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	8.0	7.2	11.7	14.5
Approach LOS	A	A	B	B
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
A (Intercept)	1380	1380	1380	1380
B (Slope)	1.02e-3	1.02e-3	1.02e-3	1.02e-3
Entry Flow, veh/h	21	26	894	1023
Cap Entry Lane, veh/h	484	549	1325	1348
Entry HV Adj Factor	1.000	0.990	0.981	0.981
Flow Entry, veh/h	21	26	877	1003
Cap Entry, veh/h	484	543	1299	1322
V/C Ratio	0.043	0.047	0.675	0.759
Control Delay, s/veh	8.0	7.2	11.7	14.5
LOS	A	A	B	B
95th %tile Queue, veh	0	0	6	8

HCM 7th Roundabout

1: MD 272 (Main St) & MD 272 (Mauldin Ave)/MD 272 (Mauldin St) & Russel St/N Main St

Intersection

Intersection Delay, s/veh

Intersection LOS

Approach NE

Entry Lanes 0

Conflicting Circle Lanes 1

Adj Approach Flow, veh/h 0

Demand Flow Rate, veh/h 0

Vehicles Circulating, veh/h 964

Vehicles Exiting, veh/h 85

Ped Vol Crossing Leg, #/h 2

Ped Cap Adj 1.000

Approach Delay, s/veh 0.0

Approach LOS -

Lane

Designated Moves

Assumed Moves

RT Channelized

Lane Util

Follow-Up Headway, s

Critical Headway, s

A (Intercept)

B (Slope)

Entry Flow, veh/h

Cap Entry Lane, veh/h

Entry HV Adj Factor

Flow Entry, veh/h

Cap Entry, veh/h

V/C Ratio

Control Delay, s/veh

LOS

95th %tile Queue, veh

Lanes, Volumes, Timings

2: MD 7 (W Cecil Ave)/MD 7 (E Cecil Ave) & MD 272 (Main St)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	372	0	0	226	0	0	0	0	0	72	0
Future Volume (vph)	0	372	0	0	226	0	0	0	0	0	72	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	12	12	11	11	12	12	12	12	12	12
Storage Length (ft)	0		75	115		0	0		0	0		0
Storage Lanes	0		1	1		0	0		0	0		0
Taper Length (ft)	25		100	50		25	25		25	25		25
Link Speed (mph)		25			25			30			25	
Link Distance (ft)		463			362			379			770	
Travel Time (s)		12.6			9.9			8.6			21.0	
Confl. Peds. (#/hr)	3		1	1		3	5		3	3		5
Confl. Bikes (#/hr)						1						1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	392	0	0	238	0	0	0	0	0	76	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

HCM 7th TWSC
2: MD 7 (Cecil Ave) & MD 272 (Main St)

Intersection												
Int Delay, s/veh	1.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↗	↖	↑						↕	
Traffic Vol, veh/h	0	372	0	0	226	0	0	0	0	0	72	0
Future Vol, veh/h	0	372	0	0	226	0	0	0	0	0	72	0
Conflicting Peds, #/hr	3	0	1	1	0	3	5	0	3	3	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	75	115	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	392	0	0	238	0	0	0	0	0	76	0
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	393	0	0	-	-	-	632	630	243
Stage 1	-	-	-	-	-	-	-	-	-	238	238	-
Stage 2	-	-	-	-	-	-	-	-	-	395	393	-
Critical Hdwy	-	-	-	4.12	-	-	-	-	-	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	6.12	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-	-	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	1166	-	0	0	0	0	393	398	796
Stage 1	0	-	-	-	-	0	0	0	0	765	708	-
Stage 2	0	-	-	-	-	0	0	0	0	631	606	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1166	-	-	-	-	-	392	398	793
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	392	398	-
Stage 1	-	-	-	-	-	-	-	-	-	765	708	-
Stage 2	-	-	-	-	-	-	-	-	-	629	606	-
Approach	EB			WB			NB			SB		
HCM Ctrl Dly, s/v	0			0						16.15		
HCM LOS							-			C		
Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1							
Capacity (veh/h)	-	-	1166	-	398							
HCM Lane V/C Ratio	-	-	-	-	0.19							
HCM Ctrl Dly (s/v)	-	-	0	-	16.1							
HCM Lane LOS	-	-	A	-	C							
HCM 95th %tile Q(veh)	-	-	0	-	0.7							

Lanes, Volumes, Timings

3: MD 272 (Mauldin Ave) & MD 7 (E Cecil Ave)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	78	227	220	56	110	124	693	263	108	764	40
Future Volume (vph)	56	78	227	220	56	110	124	693	263	108	764	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	12	12	11	11	11	12	12	12
Storage Length (ft)	115		0	0		0	100		100	150		0
Storage Lanes	0		1	0		1	1		1	1		0
Taper Length (ft)	50		25	25		25	75		75	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		362			676			1389			925	
Travel Time (s)		9.9			18.4			27.1			18.0	
Confl. Peds. (#/hr)	1		1	1		1			2	2		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	149	252	0	306	122	138	770	292	120	893	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		
Detector Phase	4	4	4	8	8	8	2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	
Total Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	60.0	60.0	60.0	60.0	60.0	
Total Split (%)	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	66.7%	66.7%	66.7%	66.7%	66.7%	
Maximum Green (s)	24.0	24.0	24.0	24.0	24.0	24.0	54.0	54.0	54.0	54.0	54.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0	5.0	3.5	3.5	3.5	3.5	3.5	
Recall Mode	None	None	None	None	None	None	Min	Min	Min	Min	Min	
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Flash Don't Walk (s)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0	
v/c Ratio		0.48	0.46		0.88	0.23	1.02	0.75	0.31	0.53	0.84	
Control Delay (s/veh)		33.7	12.9		59.0	6.6	107.7	18.5	4.0	20.9	23.2	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay (s/veh)		33.7	12.9		59.0	6.6	107.7	18.5	4.0	20.9	23.2	
90th %ile Green (s)	24.0	24.0	24.0	24.0	24.0	24.0	54.0	54.0	54.0	54.0	54.0	
90th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	
70th %ile Green (s)	24.0	24.0	24.0	24.0	24.0	24.0	54.0	54.0	54.0	54.0	54.0	
70th %ile Term Code	Hold	Hold	Hold	Max	Max	Max	Max	Max	Max	Hold	Hold	
50th %ile Green (s)	24.0	24.0	24.0	24.0	24.0	24.0	54.0	54.0	54.0	54.0	54.0	
50th %ile Term Code	Hold	Hold	Hold	Max	Max	Max	Max	Max	Max	Hold	Hold	
30th %ile Green (s)	24.0	24.0	24.0	24.0	24.0	24.0	48.3	48.3	48.3	48.3	48.3	
30th %ile Term Code	Hold	Hold	Hold	Max	Max	Max	Gap	Gap	Gap	Hold	Hold	

Lanes, Volumes, Timings

3: MD 272 (Mauldin Ave) & MD 7 (E Cecil Ave)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
10th %ile Green (s)	16.7	16.7	16.7	16.7	16.7	16.7	26.3	26.3	26.3	26.3	26.3	26.3
10th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Gap	Hold	Hold	Hold	Gap	Gap	Gap
Queue Length 50th (ft)		73	37		172	0	70	285	23	36	364	
Queue Length 95th (ft)		135	106		#331	41	#197	429	58	95	552	
Internal Link Dist (ft)		282			596			1309			845	
Turn Bay Length (ft)							100		100	150		
Base Capacity (vph)		338	582		380	565	162	1232	1101	273	1268	
Starvation Cap Reductn		0	0		0	0	0	0	0	0	0	
Spillback Cap Reductn		0	0		0	0	0	0	0	0	0	
Storage Cap Reductn		0	0		0	0	0	0	0	0	0	
Reduced v/c Ratio		0.44	0.43		0.81	0.22	0.85	0.63	0.27	0.44	0.70	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 81.9

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

90th %ile Actuated Cycle: 90

70th %ile Actuated Cycle: 90

50th %ile Actuated Cycle: 90

30th %ile Actuated Cycle: 84.3

10th %ile Actuated Cycle: 55

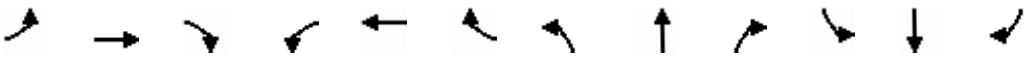
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: MD 272 (Mauldin Ave) & MD 7 (E Cecil Ave)

#3 	#3 
Ø2	Ø4
60 s	30 s
#3 	#3 
Ø6	Ø8
60 s	30 s

HCM 7th Signalized Intersection Summary 3: MD 272 (Mauldin Ave) & MD 7 (E Cecil Ave)

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱		↰	↱	↰	↑	↱	↰	↱	
Traffic Volume (veh/h)	56	78	227	220	56	110	124	693	263	108	764	40
Future Volume (veh/h)	56	78	227	220	56	110	124	693	263	108	764	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	62	87	0	244	62	0	138	770	292	120	849	44
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	208	270		349	70		244	1151	974	267	1084	56
Arrive On Green	0.25	0.25	0.00	0.25	0.25	0.00	0.62	0.62	0.62	0.62	0.62	0.62
Sat Flow, veh/h	607	1097	1585	1112	283	1585	623	1870	1582	531	1762	91
Grp Volume(v), veh/h	149	0	0	306	0	0	138	770	292	120	0	893
Grp Sat Flow(s),veh/h/ln	1704	0	1585	1395	0	1585	623	1870	1582	531	0	1854
Q Serve(g_s), s	0.0	0.0	0.0	12.4	0.0	0.0	18.3	23.3	7.5	16.5	0.0	31.0
Cycle Q Clear(g_c), s	6.0	0.0	0.0	18.3	0.0	0.0	49.3	23.3	7.5	39.9	0.0	31.0
Prop In Lane	0.42		1.00	0.80		1.00	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	478	0		418	0		244	1151	974	267	0	1141
V/C Ratio(X)	0.31	0.00		0.73	0.00		0.57	0.67	0.30	0.45	0.00	0.78
Avail Cap(c_a), veh/h	528	0		461	0		249	1166	986	271	0	1155
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.8	0.0	0.0	31.5	0.0	0.0	30.7	10.9	7.9	23.9	0.0	12.4
Incr Delay (d2), s/veh	0.8	0.0	0.0	7.1	0.0	0.0	3.2	1.6	0.2	1.4	0.0	3.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	0.0	0.0	6.9	0.0	0.0	2.8	8.6	2.3	2.1	0.0	11.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	27.6	0.0	0.0	38.6	0.0	0.0	33.9	12.5	8.1	25.4	0.0	16.0
LnGrp LOS	C			D			C	B	A	C		B
Approach Vol, veh/h		149			306			1200			1013	
Approach Delay, s/veh		27.6			38.6			13.9			17.1	
Approach LOS		C			D			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		59.3		27.3		59.3		27.3				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		54.0		24.0		54.0		24.0				
Max Q Clear Time (g_c+I1), s		51.3		8.0		41.9		20.3				
Green Ext Time (p_c), s		2.0		1.2		0.2		1.0				
Intersection Summary												
HCM 7th Control Delay, s/veh			18.7									
HCM 7th LOS			B									
Notes												
Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.												

Lanes, Volumes, Timings

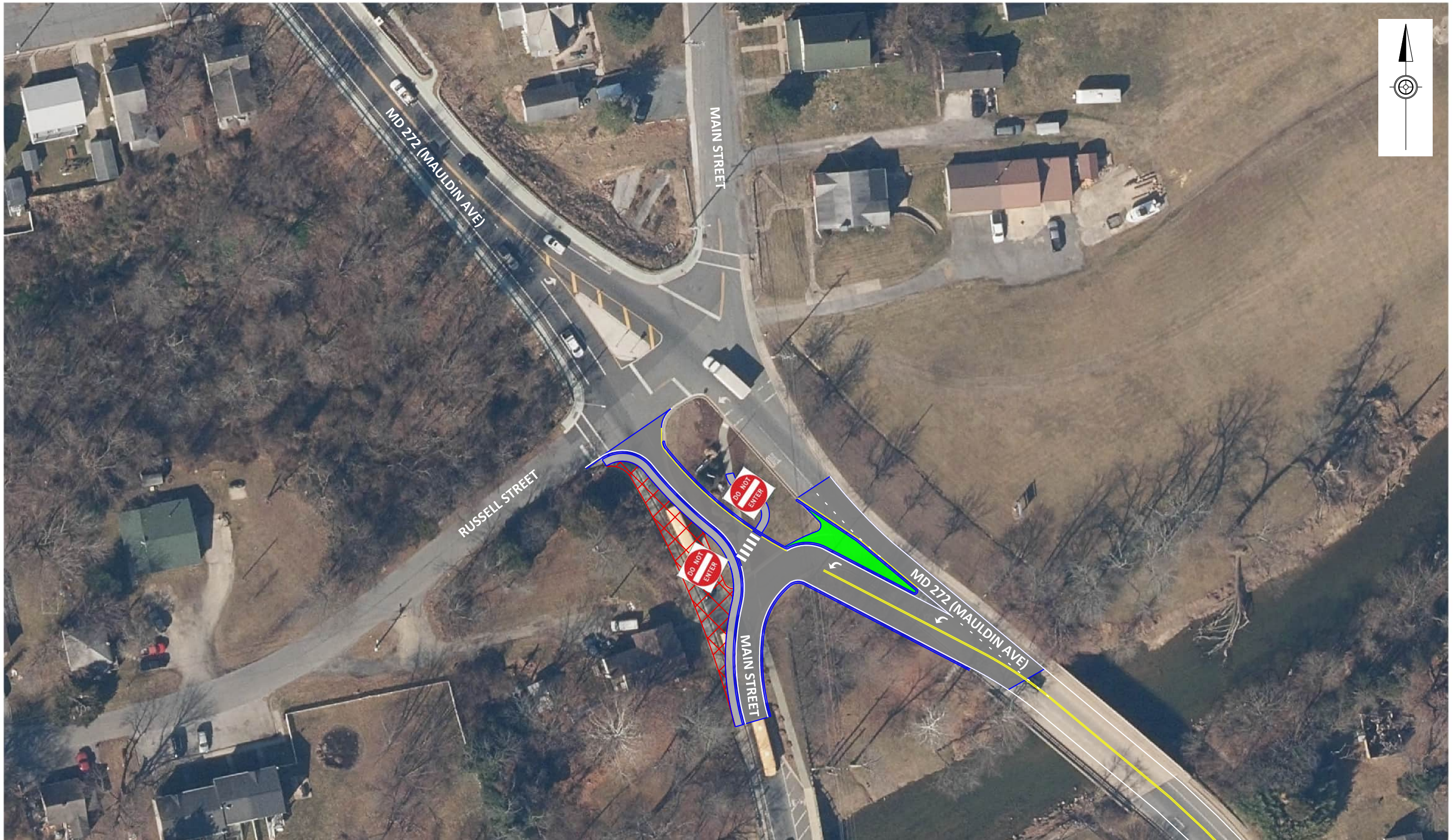
4: MD 272 (Mauldin Ave) & Irishtown Rd

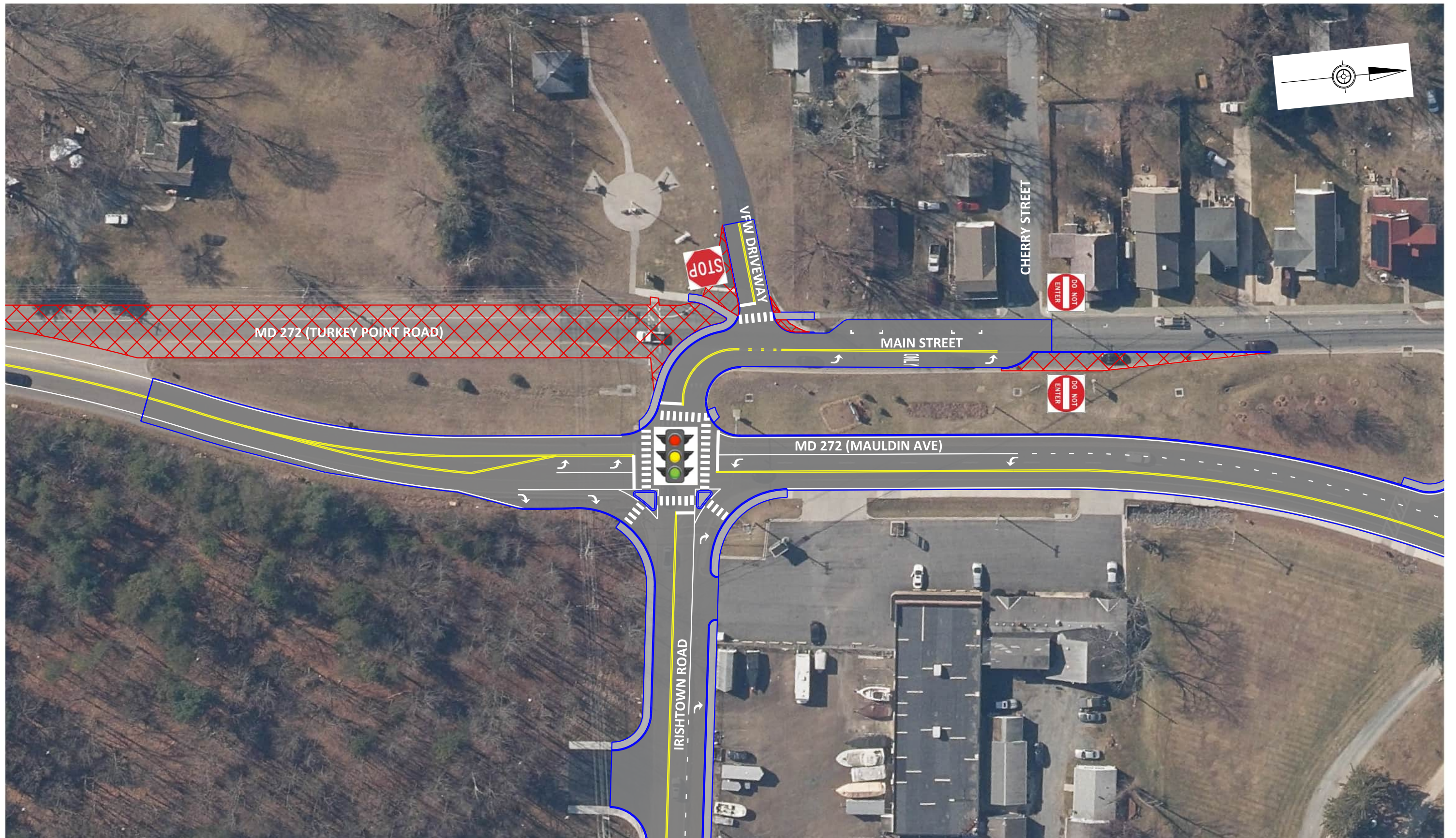
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	1	5	40	5	289	0	518	38	403	729	12
Future Volume (vph)	21	1	5	40	5	289	0	518	38	403	729	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		250	50		0	400		0
Storage Lanes	0		0	0		1	0		1	0		0
Taper Length (ft)	25		25	25		25	25		25	75		25
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		219			834			868			1456	
Travel Time (s)		6.0			22.7			23.7			39.7	
Confl. Peds. (#/hr)			2	2					3	3		
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	27	0	0	46	295	0	529	39	0	1167	0
Sign Control		Yield			Yield			Yield			Yield	
Intersection Summary												
Area Type:	Other											
Control Type:	Roundabout											

HCM 7th Roundabout
4: MD 272 (Mauldin Ave) & Irishtown Rd

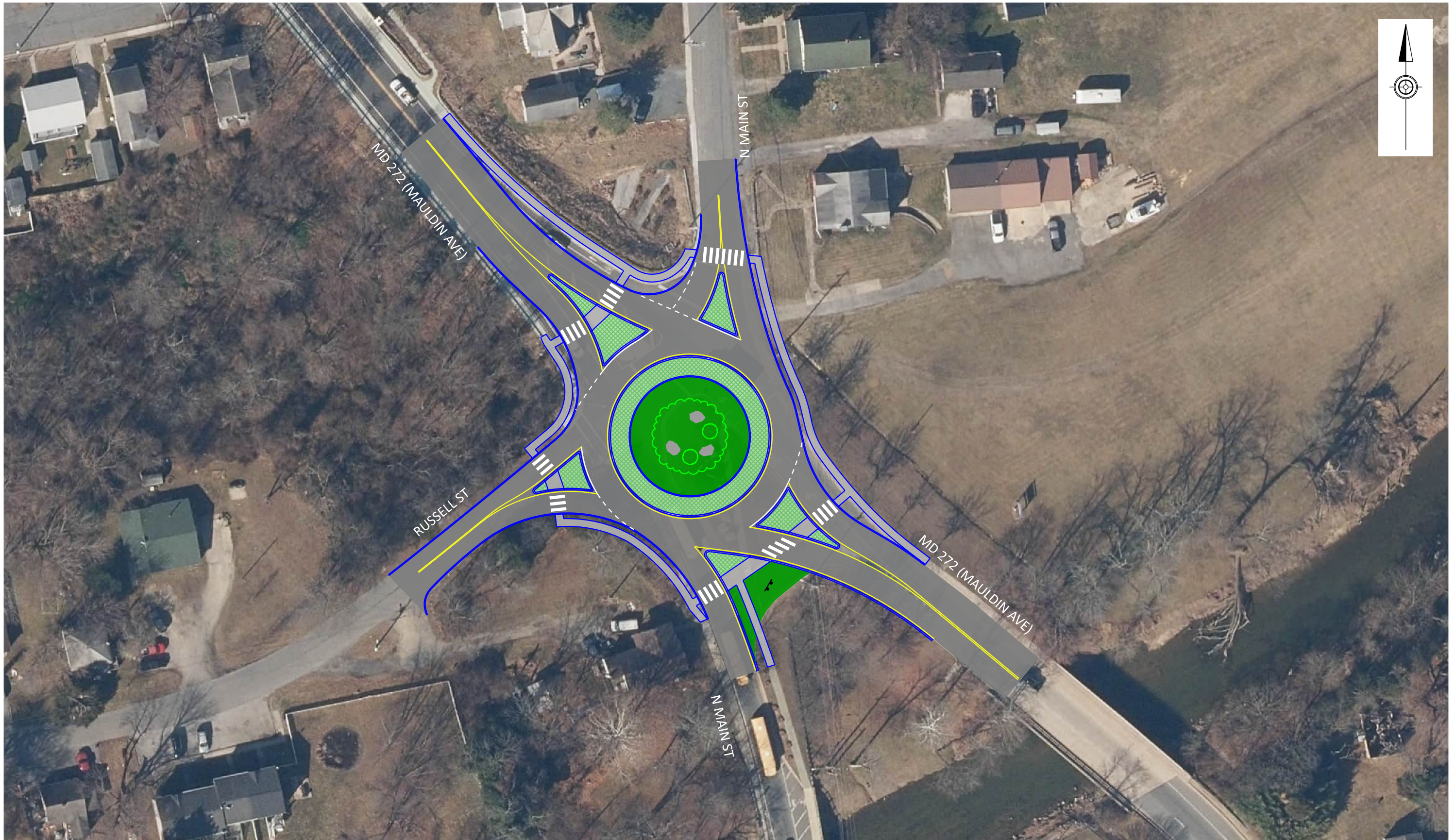
Intersection						
Intersection Delay, s/veh	18.8					
Intersection LOS	C					
Approach	EB	WB		NB		SB
Entry Lanes	1	2		2		1
Conflicting Circle Lanes	1	1		1		1
Adj Approach Flow, veh/h	27	341		568		1167
Demand Flow Rate, veh/h	27	348		580		1190
Vehicles Circulating, veh/h	1220	561		441		47
Vehicles Exiting, veh/h	17	460		806		862
Ped Vol Crossing Leg, #/h	0	3		2		0
Ped Cap Adj	1.000	0.998		0.999		1.000
Approach Delay, s/veh	10.1	7.9		11.2		25.8
Approach LOS	B	A		B		D
Lane	Left	Left	Right	Left	Right	Left
Designated Moves	LTR	LT	R	LT	R	LTR
Assumed Moves	LTR	LT	R	LT	R	LTR
RT Channelized						
Lane Util	1.000	0.135	0.865	0.931	0.069	1.000
Follow-Up Headway, s	2.609	2.535	2.535	2.535	2.535	2.609
Critical Headway, s	4.976	4.544	4.544	4.544	4.544	4.976
A (Intercept)	1380	1420	1420	1420	1420	1380
B (Slope)	1.02e-3	9.101e-4	9.101e-4	9.101e-4	9.101e-4	1.02e-3
Entry Flow, veh/h	27	47	301	540	40	1190
Cap Entry Lane, veh/h	398	852	852	951	951	1315
Entry HV Adj Factor	0.999	0.977	0.980	0.980	0.975	0.981
Flow Entry, veh/h	27	46	295	529	39	1167
Cap Entry, veh/h	397	831	834	931	926	1290
V/C Ratio	0.068	0.055	0.354	0.569	0.042	0.905
Control Delay, s/veh	10.1	4.9	8.4	11.7	4.3	25.8
LOS	B	A	A	B	A	D
95th %tile Queue, veh	0	0	2	4	0	15

ATTACHMENT 4
Alternative 1
Conceptual Intersection Improvements





ATTACHMENT 5
Alternative 2
Conceptual Intersection Improvements



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**MD 272 (MAULDIN AVENUE)
CECIL COUNTY**

**ALTERNATIVE 2
CONCEPTUAL INTERSECTION IMPROVEMENTS
RUSSELL STREET ROUNDABOUT**

SCALE

0 30 60

EXHIBIT: 2.1

