

Missionwood Consulting, Inc.
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December 20, 2017

Jeffrey T. Folden, P.E.,
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MDOT State Highway Administration
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In response to your Request for Information (RFI) dated September 21, 2017 Missionwood Consulting Inc., would like to offer the following recommendations.

I-495 proposals

We would like to recommend some fairly simple and lower cost solutions to help the traffic on the Beltway I-495 before the massive addition of two toll lanes on the Beltway could occur. The major construction would be a P3 project.

Close the ramp from US 29 Colesville Road Southbound to the Westbound I-495 and the ramp from Northbound US 29 to the Westbound I-495 between 6:00 AM to 10:00 AM each weekday except on holidays to reduce the already overloaded Beltway which has a speed of often less than 15 MPH, which indicates that there is no additional capacity. Another alternative is charging a large toll to enter the Beltway westbound from 6:00 AM to 10:00 AM weekdays. This will encourage the drivers to enter I-495 westbound at MD 97 Georgia Avenue or Connecticut Avenue MD 185, which both have additional capacity. The ramp from Georgia Avenue, is a downhill ramp which permits traffic to flow at a faster speed.

During the month of November, 2017 the peak hour for Westbound traffic was between 5:00 and 6:00 AM on all weekdays westbound except Veterans Day, Thanksgiving and Black Friday.

We see that on most weekdays the traffic peaks between 5:00 AM and 6:00 AM in the AM period at the traffic counter located on IS 495 - .82 Mile West of MD 650 (ATR#41).

This will reduce the congestion on the Westbound I-495 caused by excess traffic slowing the Westbound Beltway I-495 caused by adding traffic when there is no capacity. Electronic signs warning of this closure or tolls would have to be posted before US 29 passes New Hampshire Avenue MD 650, On US 29 before University Boulevard MD 193, On Northbound US 29 before Dale Drive and on University Boulevard MD 193 in both directions before the intersections with US 29 Colesville Road.

The addition of traffic detectors on Westbound I-495 at the exits for Georgia Avenue MD 97 and Connecticut Avenue MD 185. These detectors will activate a green light off of I-495 whenever the traffic starts backing up on the exit ramp and would not turn red until the traffic stops backing up.

The backups are caused by the inability of all the traffic being able to exit the Beltway I-495 in a timely basis.

The traffic lights in the morning on Georgia Avenue MD 97 from 5:00 to 10:00 AM should be synchronized Northbound to Plyers Mill Road and Southbound to just past 16th Street from I-495 to improve traffic exiting I-495.

The traffic lights in the morning on Connecticut Avenue MD 185 from 5:00 to 10:00 AM should be synchronized Southbound to the District of Columbia Line from I-495 to improve traffic exiting I-495. The amount of Southbound time should be sufficient to clear any delays on I-495 in each direction.

We see that on most weekdays the traffic peaks between 5:00 AM and 6:00 AM in the AM period at the traffic counter located on IS 495 - .82 Mile West of MD 650 (ATR#41).

The addition of a ramp from the Walter Reed National Medical Center to The Eastbound Beltway I-495 would reduce the congestion on Northbound MD 355 and help the traffic flow smoother on the Beltway.

Widening the ramp on Eastbound I-495 onto Connecticut Avenue MD 185 and providing two lanes for at least 2,000 feet onto Southbound Connecticut Avenue MD 185 would improve the traffic flow on the Beltway.

We see that the Westbound peak morning traffic during the month of November occurs between 5:00 AM and 6:00 AM on all weekdays east of New Hampshire Avenue MD 650 except the Holidays of Veterans Day, Thanksgiving and Black Friday. The two peak hours during November occurred on a Saturday and Sunday. Attached is an analysis of the November 2017 traffic.

Widening of the bridge over the Northwest Branch between MD 650 and MD 193 will be needed.

One of the major reasons for the Beltway I-495 to have congestion after 3:00 PM to 7:00 PM Eastbound from Virginia is the inability of I-270 to accept the traffic wanting to go Northbound on I-270 when HOV restrictions are in effect. This results in a loss of over 30% of the capacity of the road. The peak afternoon hour occurred before 3:00 PM on all weekdays in the Month of November 2017. Normal peak hours of traffic would occur between 4:00 and 7:00 PM. Consideration to reducing the 3 hour PM HOV restrictions to one hour or eliminating them until construction of the Toll lanes on the Northbound Western spur, should be considered.

By increasing the average speed to 45-55 MPH, we could increase the capacity of the road from often as low as 3,000 vehicles per hour to over 7,000 vehicles per hour which we often reach on Sundays or in the afternoon. Prompt clearing of accidents with tow trucks and large wreckers would also increase capacity. In the afternoon most days the PM peaks exceed 6,000 vehicles per hour with some peaks over 7,500 vehicles per hour.

In the afternoons the traffic flows at or near the posted speed limit between I-95 and the Western Spur of I-270 on most days.

I-270 proposals

A solution to the portion of I-495 from I-270 to the American Legion Bridge will be partly solved by the I-270 congestion relief proposal which follows.

The proposal we have is for constructing a toll bridge over the Potomac River near the intersection of River Road MD 190 and Seneca Road MD 112. The bridge would connect to Virginia 602 which is near Virginia Route 7. The total length of the bridge and connecting ramps would be about 2 miles. The toll collected on this bridge would easily make this bridge and ramps self-sustaining. This bridge would probably be 2 lanes in each direction with two bicycle and one pedestrian path. The bicycle and pedestrian ramps would also connect directly to the C & O Canal bicycle and pedestrian path.

This toll bridge could be built by the Maryland Transportation Authority, which already has the authority to build a bridge across the Potomac River. This bridge could easily accommodate over 4,000 vehicles per peak hours in the AM and PM periods which would reduce the number of vehicles using the American Legion Bridge. This could be a P3 project. The three roads that leave the area of the proposed bridge have a rated capacity of 1,800 vehicles since there are no traffic lights near the intersection.

Currently Montgomery County and Fairfax Counties, each of which has over 1,000,000 residents and only has one bridge connecting both counties. Most major metropolitan areas have many more bridges connecting major job and transportation centers.

This will significantly reduce the number of vehicles crossing the American Legion Bridge which averages over 240,000 vehicles per week day.

A larger bridge could be built connecting I-270 starting along the Pepco High Voltage lines which has a 300 foot wide right of way. These power lines are located on the west side of I-270 North of Montgomery Village Avenue MD 124 and South of Middlebrook Road. The local cross street in the area is Game Preserve Road, the proposed road would continue towards Dickerson and turning south at some point and connecting with Virginia 28 at the most convenient point decided by both Maryland and Virginia. This routing does not have to have any additional entrances or exits in Maryland other than at I-270. This roadway could be six lanes wide. The power lines would be relocated

underground and cooled to near zero Kelvin, using liquid nitrogen and the power line losses would be reduced to near zero. New York City and other cities have underground transmission lines. An additional benefit would be that there would be no power outages due to lightning strikes. The access would be along the median or side of the proposed road. This would be a P3 project. The northbound traffic from I-370 and MD 200 the ICC using this route in the Morning and afternoon would be counter peak direction.

Widening of I-270 south of Montgomery Village Avenue MD 124 to Montrose Road by adding 2 HOT lanes could be done in the Current Right of Way by eliminating the barrier between the main lanes and the Collector Distributor (CD) lanes. This will eliminate the use of the right main lane as breakdown lane and provide one additional full lane of traffic. Elimination of the barrier between the current lanes and the smaller additional width on the left additional space on the CD lanes will add additional space for the new lane. North of Montgomery Village Avenue in some locations there is enough space in within the right of way to build two additional toll lanes. In locations where the current right of way is insufficient to build the two additional lanes within the right of way the additional right of way will have to be obtained through eminent domain. This project would be a P3.

One quick fix for I-270 north of Montgomery Village Avenue MD 124 would be to raise the Northbound speed limit from 55 MPH to 65 MPH to the location of where it currently is at 65 MPH. This would provide about 20% more capacity for a few thousands of dollars. This is the cost of changing the 5 to a 6 on the few signs that indicate 55 MPH speed limit. Currently the speed limit on I-95 between I-495 and I-695 is 65 MPH which provides more capacity.

If you require any additional details, please feel free to contact us.

Missionwood Consulting, Inc.
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December 20, 2017

Missionwood Consulting Inc. is a Maryland Corporation operating since July 1996.

Our President, Jerry Garson is a Certified Public Accountant licensed in Maryland and New York State. He has been licensed in New York since August, 1971.

He was a member of Community Board 12 Brooklyn, NY from 1978 to July 1990 when he moved to Potomac, Maryland

Member Transportation Committee Community Board 12, Chairman of Budget and Long- Range Planning Committee of Community Board 12, In this capacity held public hearings and signed off on transportation projects in the Area including the reconstruction of Ocean Parkway which was paid for using Federal Aid to Urban Systems funding. Recommended which projects would be constructed in the area which had a population of over 250,000 residents.

Placed items in the New York City Budget after holding hearings on the items including the 3rd water tunnel for the City of New York, which took over 25 years after construction started to complete.

Member of the Borough Board of Brooklyn, New York, which has one member from each of the 18 Community Boards in Brooklyn and all the elected officials as members.

Transportation Chairman of the Citywide Coalition of Community Boards made up of representatives of the 59 Community Boards in New York City.

After moving to Maryland in 1990 he continued to be active in transportation projects including and testifying on projects including widening the spurs and rebuilding the intersection at Democracy Boulevard and I-270

Member of the Metropolitan Washington Council of Governments Citizens Advisory Committee to the Transportation Planning Board.

Proposed to the Commonwealth of Virginia for the widening of the exit from the Southbound Beltway I-495 to the Westbound Dulles Toll Road which was constructed. This project eased some of the Westbound Congestion on I-495 and improved the traffic flow westbound.

Worked with the Maryland Transportation Authority to propose and make recommendations for building the Intercounty Connector MD 200. Using data from the State Highway Administration ATR system that showed that the peak hour during the AM for the westbound Beltway traffic was between 5:00 AM and 6:00 AM on weekdays. This also showed there would be sufficient traffic volumes that would support tolls

He was a member of the Montgomery County Board of Elections for almost 4 years including being the President of the Board.

Currently the Transportation Chairman, of the Montgomery County Civic Federation, Inc., a county wide organization that includes civic associations and some local governments.

Currently a member of the Suburban Maryland Transportation Alliance.

Currently a member of the Citizens Advisory Committee to the Maryland 355 Bus Rapid Transit project.

			Data from Maryland Department of Transportation													
			State Highway Administration													
			Highway Information Services Division													
Location ID :	P0041															
Location :	IS 495 - .82 Mile West of MD 650 (ATR#41)															
Date Range:	11/1/17-11/30/17				Direction: Westbound											
Beginning	End	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	
Hour	Hour	11/1/17	11/2/17	11/3/17	11/4/17	Not/Avail	11/6/17	11/7/17	11/8/17	11/9/17	11/10/17	11/11/17	11/12/17	11/13/17	11/14/17	
12:00 AM	1:00 AM	1,097	1,038	1,181	1,863		1,050	974	903	955	1,377	1,664	1,940	1,115	981	
1:00 AM	2:00 AM	719	750	838	1,271		759	670	618	741	823	1,154	1,219	743	639	
2:00 AM	3:00 AM	681	675	716	1,030		612	584	553	650	718	952	915	531	566	
3:00 AM	4:00 AM	1,025	920	954	875		880	875	887	920	960	849	817	786	939	
4:00 AM	5:00 AM	2,449	2,381	2,344	1,183		2,529	2,560	2,447	2,554	1,769	1,089	716	2,349	2,351	
5:00 AM	6:00 AM	6,179	6,357	6,108	2,039		6,629	6,456	6,502	6,457	4,384	1,721	1,084	6,185	6,411	
6:00 AM	7:00 AM	5,684	5,884	5,926	3,169		6,164	6,234	5,857	4,736	5,638	3,022	1,828	5,760	5,954	
7:00 AM	8:00 AM	4,566	4,398	4,899	4,290		5,222	4,747	4,434	3,883	4,861	4,007	2,583	4,862	4,605	
8:00 AM	9:00 AM	4,486	4,336	4,866	5,651		4,940	4,370	4,599	4,041	5,143	5,413	3,477	4,679	5,088	
9:00 AM	10:00 AM	5,889	5,639	6,353	6,090		5,977	5,436	5,764	5,442	6,119	6,202	4,634	5,745	5,671	
10:00 AM	11:00 AM	5,526	6,096	6,348	6,170		5,928	5,841	6,063	5,641	6,988	6,446	5,985	5,697	5,456	
11:00 AM	12:00 PM	4,953	5,302	6,274	6,472		5,751	5,442	5,905	5,519	6,615	6,649	6,521	5,080	4,743	
12:00 PM	1:00 PM	5,062	5,286	5,327	6,753		5,918	5,619	5,502	5,829	6,942	6,895	6,963	5,824	5,722	
1:00 PM	2:00 PM	5,329	5,953	4,143	7,194		6,020	5,362	6,070	6,715	6,294	6,586	7,135	5,947	5,932	
2:00 PM	3:00 PM	6,234	6,781	4,191	7,058		6,898	5,190	7,076	6,773	6,315	7,012	7,149	6,826	6,942	
3:00 PM	4:00 PM	5,919	6,460	4,851	6,978		6,589	5,074	6,839	6,222	6,624	6,810	7,159	4,146	6,583	
4:00 PM	5:00 PM	6,819	6,457	5,474	7,123		6,286	5,421	6,739	6,664	6,049	6,733	7,148	5,878	6,558	
5:00 PM	6:00 PM	6,628	6,370	5,378	7,177		6,359	5,488	6,742	6,496	6,120	6,877	6,270	6,413	6,325	
6:00 PM	7:00 PM	6,392	6,179	5,877	6,198		6,084	5,291	6,372	5,180	6,051	6,229	4,353	6,328	5,846	
7:00 PM	8:00 PM	5,577	6,014	5,886	5,525		5,264	4,918	4,991	6,493	5,983	4,859	4,795	4,701	5,265	
8:00 PM	9:00 PM	4,037	4,407	5,212	4,530		3,676	3,602	3,985	5,115	4,934	4,451	5,052	3,675	3,697	
9:00 PM	10:00 PM	3,561	3,882	4,157	4,183		3,105	3,163	3,356	4,401	4,023	4,223	3,525	3,309	3,300	
10:00 PM	11:00 PM	2,573	2,946	3,674	3,646		2,476	2,461	2,750	3,501	3,595	3,698	2,998	2,500	2,530	
11:00 PM	12:00 AM	1,568	1,951	2,797	2,825		1,429	1,481	1,663	2,367	2,528	2,860	1,709	1,472	1,576	
Total :		102,953	106,462	103,774	109,293		106,545	97,259	106,617	107,295	110,853	106,401	95,975	100,551	103,680	
The major cause of the Morning Peak occurring on Weekdays between 5:00 AM and 6:00 AM is										Schedule prepared by Missionwood Consulting, Inc.						
congestion occurring after 6:00 AM on the Westbound Beltway																
The highest number of vehicles passing the counters were 7,194 on Saturday November 4, 2017 between 1 and 2 PM.																

		Data from Maryland Department of Transportation													
		State Highway Administration													
		Highway Information Services Division													
P0041															
IS 495 - .82 Mile West of MD 650 (ATR#41)															
11/1/17-11/30/17		Direction: Eastbound													
Beginning	End	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue
Hour	Hour	11/1/17	11/2/17	11/3/17	11/4/17	Not/Avail	11/6/17	11/7/17	11/8/17	11/9/17	11/10/17	11/11/17	11/12/17	11/13/17	11/14/17
12:00 AM	1:00 AM	1,268	1,205	1,468	1,983		1,060	1,049	1,050	1,187	1,560	1,877	2,101	1,121	966
1:00 AM	2:00 AM	798	745	965	1,272		716	668	705	750	900	1,126	1,267	684	735
2:00 AM	3:00 AM	715	629	781	987		604	511	557	650	849	916	941	577	539
3:00 AM	4:00 AM	808	664	847	902		672	648	678	706	804	831	784	621	652
4:00 AM	5:00 AM	1,436	1,426	1,416	958		1,510	1,382	1,445	1,485	1,322	932	742	1,373	1,419
5:00 AM	6:00 AM	3,517	3,533	3,471	1,742		3,645	3,579	3,560	3,567	2,740	1,396	891	3,487	3,576
6:00 AM	7:00 AM	5,543	5,670	5,304	3,042		5,875	5,884	5,760	5,413	4,652	2,581	1,694	5,612	5,742
7:00 AM	8:00 AM	6,844	6,675	6,520	4,407		6,873	6,937	7,050	6,547	5,634	4,149	2,746	6,688	6,447
8:00 AM	9:00 AM	6,961	6,808	6,394	5,293		6,893	6,987	7,076	6,809	5,790	5,215	3,818	6,753	6,622
9:00 AM	10:00 AM	6,610	6,491	5,440	5,990		6,436	6,142	6,411	5,972	6,342	6,103	5,302	6,194	6,031
10:00 AM	11:00 AM	5,962	6,185	5,590	6,312		6,776	5,670	5,766	5,787	6,601	6,807	6,912	5,486	5,900
11:00 AM	12:00 PM	5,677	6,087	5,932	7,019		5,832	5,888	5,877	6,162	6,733	7,047	6,830	4,810	5,475
12:00 PM	1:00 PM	5,721	6,423	6,747	7,019		6,069	5,761	6,297	6,663	6,941	7,139	6,308	5,656	6,019
1:00 PM	2:00 PM	6,742	6,522	6,451	7,064		6,411	6,089	6,812	7,314	7,094	6,180	6,240	6,637	7,133
2:00 PM	3:00 PM	7,388	7,138	3,370	7,149		7,422	6,304	7,757	7,531	6,425	6,442	6,501	7,200	6,984
3:00 PM	4:00 PM	7,878	7,331	3,169	6,917		7,730	6,541	7,553	7,623	6,830	7,286	6,824	7,255	5,755
4:00 PM	5:00 PM	7,538	7,084	3,753	6,596		7,599	6,113	7,462	7,362	6,547	6,992	6,661	7,452	7,487
5:00 PM	6:00 PM	7,205	6,973	4,003	5,390		6,908	5,941	7,131	6,751	6,508	6,450	6,594	6,972	6,766
6:00 PM	7:00 PM	6,901	7,077	4,873	5,476		6,944	5,586	7,106	5,446	5,815	6,120	6,003	6,528	6,756
7:00 PM	8:00 PM	6,155	6,770	5,131	5,422		5,621	4,394	6,307	6,429	5,937	5,730	5,665	5,930	6,558
8:00 PM	9:00 PM	5,083	5,640	5,754	4,735		4,216	4,622	5,183	5,657	4,842	4,600	4,369	4,413	4,798
9:00 PM	10:00 PM	4,544	4,352	4,906	4,199		3,669	3,795	4,377	4,554	4,566	4,444	3,439	3,376	4,161
10:00 PM	11:00 PM	3,270	3,351	4,017	4,348		2,637	2,710	3,166	3,462	4,058	4,276	2,465	2,659	2,969
11:00 PM	12:00 AM	2,391	2,644	3,237	3,308		1,844	1,875	2,145	2,589	2,908	3,401	1,762	1,833	2,070
Total :		116,955	117,423	99,539	107,530		113,962	105,076	117,231	116,416	112,398	108,040	96,859	109,317	111,560
EB More(Less) than WB		14,002	10,961	(4,235)	(1,763)		7,417	7,817	10,614	9,121	1,545	1,639	884	8,766	7,880
Data Source	Schedule prepared by Missionwood Consulting, Inc.														
http://maps.roads.maryland.gov/itms_public/															

				Data from Maryland Department of Transportation													
				State Highway Administration													
				Highway Information Services Division													
				P0041													
				IS 495 - .82 Mile West of MD 650 (ATR#41)				Direction: Eastbound									
								Thanksgiving									
Beginning	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	
Hour	11/15/17	11/16/17	11/17/17	11/18/17	11/19/17	11/20/17	11/21/17	11/22/17	11/23/17	11/24/17	11/25/17	11/26/17	11/27/17	11/28/17	11/29/17	11/30/17	
12:00 AM	1,184	1,172	1,469	1,924	2,077	1,185	1,149	1,592	1,689	2,105	1,694	2,090	1,282	1,129	1,041	1,128	
1:00 AM	706	785	947	1,255	1,326	731	675	1,051	1,080	1,215	1,121	1,271	807	677	754	818	
2:00 AM	575	637	772	935	1,039	591	550	782	938	894	870	1,046	667	533	639	586	
3:00 AM	716	746	829	974	921	749	752	963	899	764	920	1,030	718	664	696	715	
4:00 AM	1,429	1,427	1,571	1,084	725	1,439	1,474	1,789	1,011	891	922	981	1,536	1,406	1,344	1,410	
5:00 AM	3,580	3,646	3,588	1,792	902	3,592	3,638	3,715	1,467	1,487	1,217	1,132	3,687	3,600	3,564	3,535	
6:00 AM	5,731	5,874	5,495	2,828	1,490	5,658	5,671	5,647	2,321	2,455	2,126	1,752	4,737	5,639	5,132	5,635	
7:00 AM	6,602	6,546	6,279	4,320	2,593	6,475	6,453	6,330	3,330	3,339	3,053	2,649	4,197	6,332	5,706	6,607	
8:00 AM	6,834	6,763	6,301	5,417	3,439	6,748	6,730	6,231	4,004	3,871	4,150	3,578	6,566	6,721	6,209	6,599	
9:00 AM	5,986	6,192	6,302	5,526	4,831	6,147	6,491	6,560	4,908	4,693	5,409	5,152	6,117	6,302	5,279	6,068	
10:00 AM	5,342	5,612	6,379	6,117	6,003	5,917	6,158	6,630	5,710	5,573	6,463	5,824	5,946	5,848	5,315	6,029	
11:00 AM	5,588	6,083	6,556	6,795	6,203	6,148	6,532	6,612	5,764	6,229	7,142	6,345	5,803	5,601	5,856	6,061	
12:00 PM	6,072	6,416	6,923	5,610	6,744	6,013	6,917	6,963	6,567	6,381	6,616	6,405	6,098	6,010	6,210	6,286	
1:00 PM	6,652	4,184	6,935	6,653	6,637	6,832	7,112	6,731	6,373	6,490	6,722	6,170	6,774	6,197	5,382	6,881	
2:00 PM	7,573	7,068	7,055	5,771	6,885	7,104	7,495	6,232	6,330	6,729	7,068	5,994	7,265	5,711	7,157	7,328	
3:00 PM	7,825	7,189	7,088	7,099	6,805	7,233	7,048	6,707	6,020	6,514	6,307	6,432	7,166	5,087	7,210	7,455	
4:00 PM	7,497	7,205	7,188	6,526	6,622	7,286	7,334	7,036	5,571	5,777	6,595	6,351	7,133	2,151	7,116	7,125	
5:00 PM	6,964	6,803	6,762	6,756	6,347	6,887	6,733	5,689	5,170	6,315	6,232	5,049	6,760	2,040	6,827	6,834	
6:00 PM	6,871	6,414	6,738	5,021	6,045	6,783	6,571	3,537	5,587	5,638	5,841	5,658	6,751	1,834	6,858	6,868	
7:00 PM	6,424	6,600	6,432	5,926	4,943	6,423	6,690	5,291	5,858	5,165	5,511	5,310	5,279	5,679	5,671	6,446	
8:00 PM	5,281	5,758	5,546	4,964	4,188	4,772	5,727	5,117	5,589	4,398	5,023	4,867	4,413	5,818	4,948	4,850	
9:00 PM	4,266	3,808	4,666	4,707	3,431	4,026	5,024	4,688	5,167	3,998	4,492	3,964	3,196	3,730	3,639	4,012	
10:00 PM	3,001	3,148	4,044	4,388	2,488	2,904	3,684	3,683	4,451	3,698	4,052	2,973	2,700	2,945	2,981	2,782	
11:00 PM	2,187	2,531	3,083	3,199	1,808	1,905	2,921	2,843	3,241	2,912	3,393	1,941	1,838	2,015	2,073	2,446	
Total :	114,886	112,607	118,948	105,587	94,492	113,548	119,529	112,419	99,045	97,531	102,939	93,964	107,436	93,669	107,607	114,504	
	10,886	8,507	11,459	(264)	782	8,371	10,832	4,898	1,455	(3,315)	(1,982)	(4,980)	2,881	(6,428)	6,309	9,648	

		Data from Maryland Department of Transportation													
		State Highway Administration													
		Highway Information Services Division													
Location ID :		P0040													
Location :		IS 495 - 50ft East of Persimmon Tree Rd Overpass (ATR#40)													
Date Range:		11/1/17-11/30/17 Direction: Westbound													
Beginning	End	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue
Hour	Hour	11/1/17	11/2/17	11/3/17	11/4/17	Not/Avail	11/6/17	11/7/17	11/8/17	11/9/17	11/10/17	11/11/17	11/12/17	11/13/17	11/14/17
12:00 AM	1:00 AM	893	852	1,005	1,504		931	800	760	898	1,175	1,430	1,824	970	774
1:00 AM	2:00 AM	593	610	665	975		641	522	603	673	767	927	1,035	609	592
2:00 AM	3:00 AM	541	582	651	774		533	495	502	565	700	711	709	530	522
3:00 AM	4:00 AM	897	929	964	744		835	864	896	897	930	690	620	778	819
4:00 AM	5:00 AM	2,551	2,579	2,548	1,237		2,548	2,490	2,512	2,513	1,914	1,055	659	2,423	2,459
5:00 AM	6:00 AM	6,465	6,469	6,091	2,119		6,553	6,276	6,303	6,374	4,351	1,841	1,094	6,169	6,575
6:00 AM	7:00 AM	7,801	7,877	7,492	2,906		8,282	8,082	8,158	7,421	5,865	2,784	1,599	7,840	7,871
7:00 AM	8:00 AM	8,254	7,953	7,104	4,186		8,464	8,130	8,369	7,868	6,700	3,780	2,425	8,034	8,328
8:00 AM	9:00 AM	8,179	7,711	8,117	5,566		7,860	7,794	8,015	8,004	6,896	5,134	3,286	7,852	8,112
9:00 AM	10:00 AM	7,598	7,500	7,563	6,677		7,896	7,592	7,260	6,854	7,267	6,394	4,701	7,653	7,539
10:00 AM	11:00 AM	6,687	7,283	7,551	7,136		6,157	6,243	6,426	7,039	7,436	6,953	6,360	6,254	6,384
11:00 AM	12:00 PM	6,162	6,247	7,123	7,424		5,838	6,139	6,248	6,171	7,505	7,584	7,414	5,757	5,741
12:00 PM	1:00 PM	6,122	6,515	6,730	8,089		6,078	6,159	5,959	6,753	7,409	8,063	8,173	6,008	5,915
1:00 PM	2:00 PM	6,473	6,730	7,229	8,169		6,289	6,349	6,329	7,243	7,433	8,392	8,225	6,310	6,370
2:00 PM	3:00 PM	7,510	7,770	7,859	8,281		7,473	6,801	7,748	7,972	7,656	8,260	8,147	7,234	7,574
3:00 PM	4:00 PM	7,425	6,867	7,294	8,072		7,373	6,535	7,844	7,562	7,084	7,715	8,113	7,207	7,779
4:00 PM	5:00 PM	6,485	6,170	6,605	7,567		6,528	6,125	6,860	6,930	6,447	7,870	7,651	6,686	6,927
5:00 PM	6:00 PM	6,164	6,008	6,560	7,228		6,574	5,919	6,934	6,738	4,809	7,345	7,512	6,880	6,892
6:00 PM	7:00 PM	6,949	6,714	7,146	6,393		6,775	6,037	6,771	6,584	6,467	7,063	6,507	6,552	6,358
7:00 PM	8:00 PM	5,298	6,073	6,653	5,895		5,188	5,024	5,123	6,176	6,306	5,651	6,260	4,704	5,279
8:00 PM	9:00 PM	3,997	4,468	5,373	4,440		3,503	3,579	3,795	4,669	4,980	4,725	4,776	3,354	3,538
9:00 PM	10:00 PM	3,168	3,517	4,064	3,940		2,913	2,825	3,172	3,612	3,933	4,208	3,698	2,866	3,022
10:00 PM	11:00 PM	2,299	2,592	3,232	3,765		2,031	2,072	2,353	2,940	3,391	3,816	2,416	2,145	2,285
11:00 PM	12:00 AM	1,390	1,695	2,466	2,832		1,345	1,279	1,438	1,972	2,250	2,994	1,561	1,231	1,347
Total :		119,901	121,711	128,085	115,919		118,608	114,131	120,378	124,428	119,671	115,385	104,765	116,046	119,002
		Schedule prepared by Missionwood Consulting, Inc.													

		Data from Maryland Department of Transportation													
		State Highway Administration													
		Highway Information Services Division													
P0040															
IS 495 - 50ft East of Persimmon Tree Rd Overpass (ATR#40)															
11/1/17-11/30/17 Direction: Eastbound															
Beginning	End	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue
Hour	Hour	11/1/17	11/2/17	11/3/17	11/4/17	Not/Avail	11/6/17	11/7/17	11/8/17	11/9/17	11/10/17	11/11/17	11/12/17	11/13/17	11/14/17
12:00 AM	1:00 AM	1,076	1,129	1,351	1,904		1,128	961	1,082	1,138	1,666	1,779	2,110	1,104	1,011
1:00 AM	2:00 AM	695	641	801	1,239		675	593	665	703	912	1,131	1,191	695	642
2:00 AM	3:00 AM	528	536	597	912		504	446	494	556	753	904	883	495	481
3:00 AM	4:00 AM	689	630	669	692		575	566	563	596	647	663	636	517	607
4:00 AM	5:00 AM	1,463	1,462	1,515	882		1,478	1,390	1,483	1,479	1,329	855	614	1,386	1,453
5:00 AM	6:00 AM	3,811	3,725	3,516	1,623		3,859	3,635	3,619	3,591	2,742	1,309	825	3,666	3,668
6:00 AM	7:00 AM	6,895	7,069	6,409	2,933		7,187	7,256	7,235	6,472	5,458	2,599	1,744	6,947	7,170
7:00 AM	8:00 AM	8,276	8,149	7,884	4,245		8,299	8,698	8,537	7,864	7,114	3,938	2,790	8,184	5,704
8:00 AM	9:00 AM	8,513	8,441	7,376	5,444		8,380	8,454	8,469	8,297	7,009	5,804	4,010	8,276	7,927
9:00 AM	10:00 AM	7,798	7,729	7,036	6,250		7,333	7,326	7,570	7,299	7,091	6,736	5,857	7,795	8,080
10:00 AM	11:00 AM	6,572	6,790	6,777	7,207		5,955	5,879	6,369	6,903	7,052	6,980	6,992	6,025	7,204
11:00 AM	12:00 PM	5,853	6,257	6,468	7,598		5,598	5,881	5,947	6,419	7,531	7,362	7,887	5,752	5,460
12:00 PM	1:00 PM	5,949	6,456	6,974	7,424		6,131	6,247	6,347	6,933	7,200	7,481	7,484	6,172	6,422
1:00 PM	2:00 PM	6,767	7,233	7,822	7,296		6,755	6,108	7,477	7,722	7,341	7,359	7,675	7,011	7,114
2:00 PM	3:00 PM	7,896	7,843	7,329	7,795		8,056	6,557	8,248	7,460	5,253	7,397	7,564	7,893	7,764
3:00 PM	4:00 PM	6,913	5,452	4,849	7,601		6,655	4,723	6,601	6,609	4,125	7,594	7,553	6,877	6,287
4:00 PM	5:00 PM	5,240	4,510	4,590	7,545		4,761	3,663	4,089	4,916	6,651	6,543	7,576	5,240	4,154
5:00 PM	6:00 PM	5,226	4,561	4,636	7,036		3,638	3,453	4,042	4,310	6,186	7,187	7,061	4,859	3,885
6:00 PM	7:00 PM	5,714	6,292	5,749	6,332		5,024	4,451	5,082	5,367	6,200	7,269	7,090	5,866	4,760
7:00 PM	8:00 PM	5,182	7,138	6,688	5,878		5,905	5,620	6,270	6,447	5,385	6,222	6,262	5,908	6,711
8:00 PM	9:00 PM	5,627	5,413	4,981	4,664		4,818	5,474	5,806	5,753	4,740	4,680	5,106	4,209	5,299
9:00 PM	10:00 PM	4,392	4,429	4,370	4,427		3,473	3,654	4,272	4,520	4,200	4,713	4,224	3,518	3,812
10:00 PM	11:00 PM	3,241	3,738	4,054	4,312		2,715	2,874	3,057	3,869	4,065	4,596	3,312	2,651	3,064
11:00 PM	12:00 AM	2,295	2,657	2,892	3,389		1,605	1,659	2,009	2,683	2,833	3,305	1,831	1,599	1,990
Total :		116,611	118,280	115,333	114,628		110,507	105,568	115,333	117,906	113,483	114,406	108,277	112,645	110,669
WB More(Less) than EB		3,290	3,431	12,752	1,291		8,101	8,563	5,045	6,522	6,188	979	(3,512)	3,401	8,333
Data Source	Schedule prepared by Missionwood Consulting, Inc.														
http://maps.roads.maryland.gov/itms_public/															

				State Highway Administration														
				Highway Information Services Division														
				P0040														
				IS 495 - 50ft East of Persimmon Tree Rd Overpass (ATR#40)														
				Direction: Eastbound														
										Thanksgiving								
Beginning	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu		
Hour	11/15/17	11/16/17	11/17/17	11/18/17	11/19/17	11/20/17	11/21/17	11/22/17	11/23/17	11/24/17	11/25/17	11/26/17	11/27/17	11/28/17	11/29/17	11/30/17		
12:00 AM	1,142	1,237	1,436	2,011	2,168	1,427	1,090	1,855	1,868	2,297	1,672	2,071	1,284	1,043	1,070	1,276		
1:00 AM	676	739	898	1,210	1,433	642	667	1,110	1,130	1,384	1,037	1,306	766	650	590	713		
2:00 AM	484	567	670	951	1,025	510	481	867	1,030	1,074	836	1,037	588	471	486	568		
3:00 AM	594	595	670	766	683	639	641	903	925	821	689	811	661	577	574	630		
4:00 AM	1,420	1,514	1,597	966	645	1,475	1,549	2,006	1,039	902	749	899	1,517	1,465	1,433	1,395		
5:00 AM	3,637	3,773	3,525	1,613	909	3,735	3,644	4,160	1,566	1,526	1,234	1,327	3,945	3,686	3,558	3,714		
6:00 AM	7,045	7,251	6,647	3,229	1,881	6,984	7,233	7,088	2,514	2,717	2,073	1,955	7,217	6,628	2,989	6,993		
7:00 AM	8,245	8,494	8,006	4,640	2,738	8,244	8,368	8,021	3,480	3,395	3,076	2,982	8,154	7,794	2,828	8,403		
8:00 AM	8,138	8,132	7,849	5,631	3,897	7,846	7,886	7,576	4,271	4,144	4,462	4,323	7,904	7,899	5,212	8,150		
9:00 AM	7,589	7,509	7,374	5,166	5,418	7,426	7,501	7,508	5,342	5,057	5,863	6,022	7,328	7,671	7,297	7,497		
10:00 AM	6,507	7,274	7,334	7,831	6,399	6,317	7,068	7,457	6,506	5,855	6,939	6,726	6,484	6,867	7,538	6,398		
11:00 AM	6,139	6,029	7,184	7,328	7,200	6,237	7,248	7,265	7,231	6,314	7,524	7,160	5,834	5,751	6,973	6,053		
12:00 PM	6,244	6,613	7,394	7,468	7,391	6,337	7,704	6,740	7,537	6,428	7,364	7,345	6,234	6,076	6,495	6,333		
1:00 PM	7,247	7,267	7,594	7,617	7,311	7,214	7,360	7,222	7,611	6,478	7,142	7,487	6,909	7,038	6,852	7,108		
2:00 PM	8,004	7,244	7,360	7,152	7,558	7,724	7,702	5,873	7,152	6,894	7,196	7,289	7,840	7,700	7,675	7,640		
3:00 PM	6,510	4,899	5,649	7,068	7,364	6,393	5,723	4,979	7,161	6,886	7,533	7,279	6,467	5,722	6,407	6,718		
4:00 PM	4,101	3,806	4,699	7,271	7,552	4,475	4,684	4,777	6,979	6,656	7,170	7,455	4,474	3,954	4,667	5,450		
5:00 PM	4,169	4,197	4,152	7,027	7,369	3,788	3,631	6,376	5,939	6,408	6,925	7,186	4,311	3,544	4,133	4,381		
6:00 PM	5,436	4,773	6,045	6,919	6,317	5,492	4,695	5,140	5,964	5,989	6,924	6,022	5,586	4,123	3,416	5,494		
7:00 PM	6,928	6,800	6,962	5,600	5,474	6,644	6,467	4,914	5,534	5,250	5,793	5,655	6,328	5,617	6,079	6,361		
8:00 PM	5,387	6,811	5,837	5,058	4,502	4,846	6,925	5,564	6,367	4,505	5,403	5,137	4,452	4,981	5,891	4,903		
9:00 PM	4,470	4,415	4,558	4,795	3,839	4,093	5,445	5,014	5,934	4,084	5,049	4,062	3,353	3,757	4,039	4,055		
10:00 PM	3,388	3,481	4,313	4,717	2,809	3,007	4,088	4,304	4,709	3,986	4,673	2,915	2,493	2,695	2,993	3,399		
11:00 PM	2,101	2,398	2,961	3,511	1,896	1,796	3,112	2,736	3,206	2,601	3,294	1,950	1,585	1,857	2,021	2,147		
Total :	115,601	115,818	120,714	115,545	103,778	113,291	120,912	119,455	110,995	101,651	110,620	106,401	111,714	107,566	101,216	115,779		
	5,647	4,716	5,284	(10,237)	(2,142)	5,669	5,687	3,551	1,388	6,101	5,064	4,237	4,995	9,608	7,949	(537)		