

TECHNICAL MEMORANDUM

To: Mark Tudor, DelDOT

cc: James Burnett, RK&K
Jeff Kuttesch, RK&K

From: Nancy Bergeron, RK&K
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Date: December 18, 2008

RE: **Churchmans Crossing Traffic Monitoring**
Fall 2008 Counts

This memo summarizes the latest updates to the Churchmans Crossing traffic monitoring program. Traffic data for the study was collected during October 2008. This represents the tenth time the intersections have been counted since the annual traffic monitoring program began in 2000. The number of intersections studied in 2008 was nine; the same nine locations were studied in 2005-2007.

The intersections studied in 2008 are listed below. The number in parentheses behind the intersection name is the identification number that the intersection has been referenced by in previous years.

- SR 2 / Harmony Road (1)
- SR 7 / SR 4 (Stanton Split) (4)
- SR 4 / SR 7 / J.P. Morgan (5)
- SR 4 / Harmony Road (8)
- SR 273 / Harmony Road (14)
- SR 273 / Chapman Road / Eagle Run Road (15)
- SR 273 / Old Baltimore Pike (16)
- SR 7 / SR 273 (17)
- SR 2 / Red Mill Road / Polly Drummond Hill Road (22)

This update also includes changes to the programs and software packages used to provide intersection LOS and delay results. Previously, Highway Capacity Software HCS+ 5.21 and SYNCHRO Version 7 (Build 255) were used. For this update, the newest versions of those software programs were used: HCS+ version 5.3 and SYNCRHO Version 7 (Build 755).

Key Findings from 2008

- In 2008, two intersections operated at a better level of service in the AM peak than in 2007, and five intersections operated at a better level of service in the PM peak.
- In 2008, three intersections operated at a worse level of service in the AM peak than in 2007, and two intersections operated at a worse level of service in the PM peak than in 2007.
- The most significant decline in the level of service from 2007 to 2008 was observed at the SR 273 / Old Baltimore Pike intersection where in both peak periods, the level of service declined in 2008 from LOS C to LOS D or from a LOS D to a border-line LOS D/E.
- Significant improvements were observed at SR 7 / SR 4 (Stanton Split) where the level of service improved from LOS F to LOS D.

For many of the intersections in the Churchmans Crossing area, peak period traffic volumes decreased slightly from 2007 levels. It is important to note that, nationally in 2008, total vehicle miles traveled (VMT) have decreased for the first time since the late 1970's, likely the result of the recent economic downturn and spike in gasoline prices. Similarly, traffic on the Delaware Turnpike (I-95), which bisects the Churchmans Crossing area – and which has been relatively flat since 2004 - has also decreased during 2008. Based on these trends, it is possible that volumes may be down on many of the roads of the



Churchmans Crossing area as a result of higher gas prices and poor economic conditions, which are generally cited as causing the decline in auto travel around the nation.

Another factor which may have contributed to the modest reduction in peak period traffic in the Churchmans Crossing area in 2008 is the 5th lane widening project on I-95. Based on information obtained from DelDOT, the 5th travel lane along northbound I-95 was open to traffic in mid-October, when the 2008 counts were obtained. However, the 5th travel lane along southbound I-95 did not open to traffic until the end of October, after all the counts had been obtained. The additional capacity along northbound I-95 may have contributed to a shift in traffic away from the parallel arterial roadways, such as SR 2 or SR 4, in the Churchman's Crossing area, particularly during the AM peak period, when northbound travel is heaviest.

AM Peak Summary

Attached to this memo are turning movement count data tables by intersection with the respective Level of Service (LOS) and volume to capacity ratio computed using the Critical Lane Volume (CLV) analysis method; also included are intersection LOS and delay in seconds computed using HCS+ and SYNCHRO Version 7. A comparison between the AM peak hour Levels of Service (LOS) computed using the three analysis methods for the 2007 and 2008 counts indicate that:

- Four intersections operated at the same LOS as the previous year for all analysis methods:
 - SR 7 / SR 4 (Stanton Split) (4)
 - SR 4 / Harmony Road (8)
 - SR 273 / Chapman Road / Eagle Run Road (15)
 - SR 7 / SR 273 (17)
- Two intersections operated at an improved LOS for one analysis method:
 - SR 2 / Harmony Road (1)
 - SR 4 / SR 7 / J.P. Morgan (5)
- One intersection operated at a worse LOS for one analysis method:
 - SR 2 / Red Mill Road / Polly Drummond Hill Road (22)
- Two intersections operated at a worse LOS for two analysis methods:
 - SR 273 / Harmony Road (14)
 - SR 273 / Old Baltimore Pike (16)

Table 1 shows the Level of Service (LOS) for the October 2008 counts for each of the five intersections that experienced a change in LOS during the AM peak; the change from 2007 to 2008 is also shown. The results in Table 1 indicate some slight variation in the level of service calculated using each of the three methods. These slight differences are reasonably expected when comparing multiple analysis methods due to the different approaches and assumptions about capacity found in these methods. The trends and comparisons with prior counts that follow are based primarily on the CLV results:

Traffic trends during the AM peak indicate that both eastbound and westbound traffic on SR 2 decreased slightly compared to 2007. In addition, a significant decrease in traffic (-19%) on the northbound Harmony Road approach of the intersection of SR 2 and Harmony Road caused the level of service at that intersection to improve from LOS D to LOS C.

Traffic on eastbound and westbound SR 4 was generally unchanged from 2007, resulting in modest improvements or no change in AM peak levels of service at the intersections of SR 7 / SR 4 (Stanton Split), SR 4 / SR 7 / J.P. Morgan, and the intersection of SR 4 / Harmony Road.

Traffic trends on SR 273 varied throughout the corridor, which runs from Harmony Road east to SR 7. On eastbound SR 273, traffic trends indicate a gradual change from slight increases at Harmony Road, west of I-95, to moderate decreases at SR 7, east of I-95. Westbound SR 273 traffic decreased slightly at all intersections except for SR 7, where there was a modest increase. The fluctuation in traffic along SR 273 resulted in unchanged levels of service for the intersections



at Harmony Road, Chapman Road/Eagle Run Road, and SR 7. An increase in traffic for northbound Old Baltimore Pike at SR 273 resulted in a degradation in the level of service at that intersection.

Churchmans Crossing 2008 Traffic Monitoring		December 2008 RK&K Engineers, LLP		
Table 1				
AM Peak Hour				
Intersection Level of Service (LOS) Comparison				
For All Intersections Experiencing a Change in AM Peak LOS				
	Fall 2008 LOS (Change in LOS from 2007 to 2008)			
	CLV	HCS	SYNCHRO	
SR 2 / Harmony Road (1)	C (+)	B (-)	B (-)	
SR 4 / SR 7 / J.P. Morgan (5)	B (+)	D (-)	C (-)	
SR 273 / Harmony Road (14)	D (-)	D (-)	D (-)	
SR 273 / Old Baltimore Pike (16)	D (-)	D (-)	C (-)	
SR 2 / Red Mill Road / Polly Drummond Hill Road (22)	D (-)	E (-)	D (-)	
() No change in LOS (+) Improved by 1 LOS (-) Declined by 1 LOS				

PM Peak Summary

A comparison between the PM peak hour Levels of Service (LOS) for the Fall 2007 and Fall 2008 counts indicates that:

- One intersection operated at the same LOS as the previous year for all analysis methods:
 - SR 273 / Chapman Road / Eagle Run Road (15)
- Seven intersections operated at a better LOS for at least one analysis method:
 - SR 2 / Harmony Road (1)
 - SR 7 / SR 4 (Stanton Split) (4)
 - SR 4 / SR 7 / J.P. Morgan (5)
 - SR 4 / Harmony Road (8)
 - SR 273 / Harmony Road (14)
 - SR 7 / SR 273 (17)
 - SR 2 / Red Mill Road / Polly Drummond Hill Road (22)
- One intersection, SR 7 / SR 273 (17), operated at a better LOS for the CLV and HCS methods, but operated at a worse LOS for the SYNCHRO method.
- Two intersections operated at a worse LOS for at least one analysis method:
 - SR 273 / Old Baltimore Pike (16)
 - SR 7 / SR 273 (17)



Table 2 shows the Level of Service (LOS) computed by each analysis method for the October 2008 counts for the eight intersections that experienced a change in LOS during the PM peak; the change in LOS from 2007 to 2008 is also shown. The following trends and comparisons with prior counts are based primarily on the CLV results:

Traffic trends during the PM peak indicate that eastbound and westbound SR 2 traffic decreased over 2007 levels. Traffic in the westbound direction decreased approximately 10% and eastbound traffic decreased approximately 5% along SR 2, leading to an improvement in level of service at the intersection of SR 2 and Harmony Road.

A general decrease in traffic was observed in SR 4/SR 7 traffic. These decreases resulted in an improvement in the level of service at the intersections of SR 4 / SR 7 (Stanton Split) and SR 4 / Harmony Road. The level of service at the intersection of SR 4 / SR 7 / J.P. Morgan remained unchanged.

Traffic trends varied along SR 273, which resulted in little or no change in the levels of service at the intersections along this corridor. At the SR 273 / Harmony Road and SR 273 / SR 7 intersections, an approximately ten percent decrease (-10%) in traffic on eastbound SR 273 resulted in an improvement of level of service from LOS E to LOS D.

Churchmans Crossing 2008 Traffic Monitoring		December 2008 RK&K Engineers, LLP		
Table 2 PM Peak Hour Intersection Level of Service (LOS) Comparison For All Intersections Experiencing a Change in PM Peak LOS				
	Fall 2008 LOS (Change in LOS from 2007 to 2008)			
	CLV	HCS	SYNCHRO	
SR 2 / Harmony Road (1)	D (+)	C ()	C ()	
SR 4 / SR 7 (Stanton Split) (4)	D (++)	E (+)	D ()	
SR 4 / SR 7 / J.P. Morgan (5)	D ()	E (+)	B (+)	
SR 4 / Harmony Road (8)	D (+)	D ()	D ()	
SR 273 / Harmony Road (14)	D (+)	C ()	C (+)	
SR 273 / Old Baltimore Pike (16)	D ()	D (-)	D (-)	
SR 7 / SR 273 (17)	D (+)	E (+)	F (-)	
SR 2 / Red Mill Road / Polly Drummond Hill Road (22)	E ()	D (+)	D ()	
() No change in LOS (+) Improved by 1 LOS (++) Improved by 2 LOS (-) Declined by 1 LOS				

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Fall 2008 Traffic Summary

NOTE: LOS comparisons based on Critical Lane Volume (CLV) analyses

1. SR 2 / Harmony Road

AM: Level of service improved from LOS D (V/C = 0.83) to LOS C (V/C = 0.75). Intersection has operated at LOS C or D for the last nine years. Decrease in northbound rights by 25%, while eastbound and westbound SR 2 are consistent with 2007 data.

PM: Level of service improved from LOS E (V/C = 0.92) to LOS D (V/C = 0.87). This intersection has operated at LOS D or E for the last eleven years. Significant decrease in traffic on northbound right turn on Harmony Road approach (-50%), however, this movement is a "free" right which does not affect the level of service results. Decreased traffic on westbound SR 2 approach (-13%). Eastbound SR 2 rights decreased by 21%.

4. SR 7 / SR 4 (Stanton Split)

AM: Level of service remained the same at LOS C. Except for in 2006, this intersection has operated at LOS C consistently during this traffic monitoring program. Traffic volumes are generally consistent with 2007 volumes, with the most significant change observed in the southbound left turn (a decrease in 8%).

PM: Level of service improved from LOS F (V/C = 1.01) to LOS D (V/C = 0.90). Intersection last operated at LOS D or better in 2001. Southbound traffic on SR 7 decreased by 8% from 2007 levels. Westbound SR 4/SR 7 traffic decreased by 11%.

5. SR 4 / SR 7 / J.P. Morgan

AM: Level of service improved from LOS C (V/C = 0.75) to LOS B (V/C = 0.66). Southbound traffic on SR 7 increased by 6% and eastbound traffic on SR 4 increased by 12%, while northbound traffic on SR 7 decreased by 17%.

PM: Level of service remains constant at LOS D, for the third year in a row. Northbound traffic on SR 7 decreased 21% (-437 vehicles), while eastbound traffic on SR 4 increased by 12%. Traffic on the westbound J.P. Morgan approach decreased by 47% (-298 vehicles).

8. SR 4 / Harmony Road

AM: Level of service remained constant at LOS E. Intersection has operated at LOS E each of the past seven years. Westbound traffic on SR 4 increased by 10% from 2007 levels.

PM: Level of service improved from LOS E (V/C = 0.92) to LOS D (V/C = 0.88). Traffic on all four approaches is generally consistent with 2007 volumes.

14. SR 273 / Harmony Road

AM: Level of service remained constant at LOS D. Northbound through traffic on Gerald Drive increased 112% (+28 vehicles). Southbound Harmony Road traffic increased 22% (+89 vehicles). Traffic on eastbound and westbound SR 273 remained consistent with 2007 volumes.

PM: Level of service improved from LOS E (V/C = 0.96) to LOS D (V/C = 0.88). Northbound traffic on Gerald Drive decreased by 21% (-19 vehicles). Eastbound traffic on SR 273 decreased by 11%. All other approaches remain generally consistent with 2007 volumes.

15. SR 273 / Chapman Road / Eagle Run Road

AM: Level of service remained constant at LOS D. Traffic on all approaches remain generally consistent with 2007 volumes.

PM: Level of service remain constant at LOS E. Intersection has operated at LOS E for three of the past four years. Decreased traffic on three approaches (-6% NB, -7% SB, -8% WB). Increased traffic on SR 273 eastbound (7%).

16. SR 273 / Old Baltimore Pike

AM: Level of service worsens from LOS C (V/C = 0.78) to LOS D (V/C = 0.83). The intersection has operated at LOS D for five of the past seven years. Southbound Old Baltimore Pike traffic and eastbound SR 273 traffic both decreased by 10%. Northbound traffic on Old Baltimore Pike increased by 21% (+243 vehicles).

PM: Level of service remained the same at LOS D. Increased traffic on northbound Old Baltimore Pike (+20%) and decreased traffic on southbound Old Baltimore Pike (+13%) and westbound SR 273 (-7%).

17. SR 273 / SR 7

AM: Level of service remained the same at LOS E. Traffic on southbound SR 7 increased by 72% (+41 vehicles) and westbound SR 273 increased by 11%. Traffic on eastbound SR 273 decreased by 20% (-283 vehicles).

PM: Level of service improved from LOS E (V/C = 0.93) to LOS D (V/C = 0.87). Traffic decreased on all approaches (-6% NB, -3% SB, -10% EB, -8% WB).

22. SR 2 / Red Mill Road / Polly Drummond Hill Road

AM: Level of service remained the same at LOS D. Eastbound traffic on SR 2 decreased by 7%.

PM: Level of service remained the same at LOS E. The intersection has operated at LOS E for three of the past four years. Traffic on SR 2 decreased on both eastbound (-6%) and westbound (-10%) approaches.

Churchmans Crossing Volume and Level of Service Comparison - AM Peak Hour

NOTE:

Volumes shown in the following table represent the peak hour volumes at each intersection (e.g., they are not the peak volumes of an entire corridor). Therefore, the peak hours may vary among intersections, even between adjacent intersections. For example, the peak hour at SR 2 / Harmony Road was found to occur between 4:45 and 5:45 PM. However, the nearby intersection at SR 4 / Harmony Road was found to occur between 4:30 and 5:30 PM. As a result, the volumes in the following table may not balance between intersections.

SR 2 / HARMONY ROAD

1

		1993 Count	1997 Count	2000 Count	2001 (Feb) Count	2001 (Oct) Count	2002 (Oct) Count	2003 (Oct) Count	2004 (Oct) Count	2005 (Oct) Count	2006 (Oct) Count	2007 (Oct) Count	2008 (Oct) Count	Notes
NB Harmony	L	341	518	253	262	220	279	244	259	230	234	228	224	
	T													
	R	310	607	419	321	417	545	456	547	448	524	676	507	
SB	L													
	T													
	R													
EB SR 2	U			14	16	8	18	21	11	9	9	6	14	
	T	1077	1673	1105	963	1,010	1,155	1,125	1,063	1,081	1,186	1,141	1,013	
	R	689	587	507	462	355	682	426	432	355	417	415	460	
WB SR 2	L	506	536	723	604	537	651	618	616	548	572	569	503	
	T	863	985	956	902	929	883	930	981	778	897	877	880	
	R													
CLV LOS v/c		D 0.99	F 1.11	E 0.93	C 0.81	C 0.77	D 0.90	D 0.86	D 0.85	C 0.80	D 0.85	D 0.83	C 0.75	
HCS LOS Delay		N/A N/A	D 47	C 34	C 26	B 18	D 38	C 24	B 20	C 21	C 24	B 20	B 18	
Synchro LOS Delay		N/A N/A	D 40	C 21	B 15	B 14	B 19	B 15	B 15	B 15	B 14	B 17	B 16	

*SR 2 intersections analyzed as pretimed in SYNCHRO due to large distance between signals.

SR 2 / DELAWARE PARK BOULEVARD

2

		1993 Count	1997 Count	2000 Count	2001 (Feb) Count	2001 (Oct) Count	2002 (Oct) Count	2003 (Oct) Count	2004 (Oct) Count	2005 (Oct) Count	2006 (Oct) Count	2007 (Nov) Count	2008 (Oct) Count	Notes
NB Del Park	L	-	230	223	190	229	227	230	197					Right Turns into gas station were not counted Fall 2002. Shared NBL was added before 10/02 and NB/SB approaches are split phased. Intersection not counted in Fall 2005.
	T	-	6	9	30	5	3	7	11					
	R	-	59	90	80	55	88	72	59					
SB Gas	L	-	15	23	13	7	12	24	16					
	T	-	7	9	11	6	9	3	9					
	R	-	29	40	36	21	32	30	43					
EB SR 2	L	-	16	18	48	13	25	33	14					
	T	-	1563	1731	1631	1,599	1,543	1,621	1,641					
	R	-	118	145	191	257	210	195	195					
WB SR 2	L	-	79	93	123	130	163	170	129					
	T	-	1073	1130	1165	1,201	1,201	1,134	1,323					
	R	-	26	16	27	13	--	25	47					
CLV LOS v/c		N/A N/A	B 0.69	C 0.76	C 0.77	C 0.78	C 0.73	C 0.76	C 0.73					
HCS LOS Delay		N/A N/A	B 18	B 18	C 21	B 17	C 21	C 20	C 21					
Synchro LOS Delay		N/A N/A	B 16	B 16	B 18	B 15	B 18	B 16	B 16					

Churchmans Crossing Volume and Level of Service Comparison - AM Peak Hour

SR 7 / SR 2

3

		1993 Count	1997 Count	2000 Count	2001 (Feb) Count	2001 (Oct) Count	2002 (Oct) Count	2003 (Oct) Count	2004 (Oct) Count	2005 (Oct) Count	2006 (Oct) Count	2007 (Nov) Count	2008(Oct) Count	Notes
NB SR 7	L	175	193	181	157	212	164	291	150					Before 10/02, all free rights, except for the WBR were removed to accommodate 2nd EB & WB left turn lanes on SR 2. Intersection not counted in Fall 2005.
	T	540	551	687	690	707	711	602	656					
	R	308	347	427	396	396	381	518	418					
SB SR 7	L	754	622	700	527	617	644	597	568					
	T	1838	1070	1137	1122	1,049	1,158	1,156	1,097					
	R	48	57	49	65	70	43	54	47					
EB SR 2	L	115	98	154	133	138	129	112	122					
	T	1341	1402	1601	1268	1,384	1,508	1,571	1,355					
	R	198	191	153	189	187	139	180	147					
WB SR 2	L	297	290	312	290	403	298	374	393					
	T	1289	721	832	656	812	863	835	749					
	R	207	251	266	265	285	239	264	255					
CLV LOS v/c		F 1.21	E 0.97	F 1.10	E 0.93	F 1.07	E 0.98	F 1.04	E 0.93					
HCS LOS Delay		N/A N/A	E 55	E 78	E 56	E 77	E 56	E 69	E 66					
Synchro LOS Delay		N/A N/A	D 48	E 69	D 45	E 66	D 47	E 58	D 53					

SR 7 / SR 4 (Stanton Split)

4

		1993 Count	1997 Count	2000 Count	2001 (Feb) Count	2001 (Oct) Count	2002 (Oct) Count	2003 (Oct) Count	2004 (Oct) Count	2005 (Oct) Count	2006 (Oct) Count	2007 (Nov) Count	2008(Oct) Count	Notes
NB Mill Road	L	-												
	T	-												
	R	-		5		5	4	5	6	3	4	5	7	
SB SR 7	L	-	407	397	355	359	256	348	361	310	314	327	301	
	T	-		1		1		1	2	0	0	0	1	
	R	-	1091	1057	1178	1,154	1,123	1,213	1,247	1,218	1,326	1,280	1,252	
EB SR 4/SR 7	L	-	835	956	915	932	912	1,015	966	1,006	991	953	945	
	T	-	948	1001	1085	1,158	1,164	1,339	1,148	1,287	1,256	1,176	1,136	
	R	-		4		2	2	0	2	1	2	1	2	
WB SR 4	L	-												
	T	-	822	751	810	887	997	848	916	891	1,002	909	909	
	R	-	243	302	282	349	239	259	238	245	271	218	211	
CLV LOS v/c		N/A N/A	C 0.72	C 0.74	C 0.73	C 0.78	C 0.78	C 0.80	C 0.81	C 0.79	D 0.84	C 0.80	C 0.79	
HCS LOS Delay		N/A N/A	C 27	C 28	C 27	C 29	D 36	C 31	C 32	C 30	C 34	C 29	C 28	
Synchro LOS Delay		N/A N/A	C 38	C 34	C 34	D 36	D 39	D 38	D 38	D 37	D 40	D 36	D 39	

Churchmans Crossing Volume and Level of Service Comparison - AM Peak Hour

SR 4 / SR 7 / J.P. MORGAN

5

		1993 Count	1997 Count	2000 Count	2001 (Feb) Count	2001 (Oct) Count	2002 (Oct) Count	2003 (Oct) Count	2004 (Oct) Count	2005 (Oct) Count	2006 (Oct) Count	2007 (Nov) Count	2008(Oct) Count	Notes
NB SR 7	L	19	41	78	114	156	170	279	271	186	227	225	237	Only two lanes per direction open on NB and SB SR 7 during February 2000 count. NB and EB left turn lanes added prior to 2004 counts.
	T	1421	1492	1395	1672	1,728	1,671	2,380	1,935	1,716	1,742	1,998	1,549	
	R	119	125	70	137	167	177	105	227	226	275	200	231	
SB SR 7	L	126	174	213	174	201	202	159	192	212	183	180	189	
	T	1563	1473	1242	1261	1,512	1,450	1,538	1,550	1,400	1,444	1,583	1,684	
	R	441	595	693	708	754	690	782	887	777	561	767	816	
EB SR 4	L	323	369	437	424	402	535	537	507	550	575	474	529	
	T	57	113	145	92	117	121	92	127	183	135	113	118	
	R	28	46	53	26	31	38	51	43	53	64	64	83	
WB J.P. Morgan	L	23	32	15	9	11	8	6	11	9	11	11	9	
	T	8	7	6	11	11	7	10	20	13	16	4	9	
	R	8	8	5	6	14	5	10	14	9	9	0	3	
CLV LOS v/c		A 0.58	B 0.63	C 0.78	B 0.69	B 0.71	C 0.75	D 0.90	C 0.75	C 0.72	C 0.72	C 0.75	B 0.66	
HCS LOS Delay		N/A N/A	C 23	C 26	C 26	C 25	C 35	D 42	C 30	D 38	D 38	D 41	D 35	
Synchro LOS Delay		N/A N/A	C 24	C 26	C 24	C 25	C 30	D 37	C 24	C 25	C 23	C 23	C 24	

SR 4 / CHURCHMANS ROAD / DELAWARE PARK

6

		1993 Count	1997 Count	2000 Count	2001 (Feb) Count	2001 (Oct) Count	2002 (Oct) Count	2003 (Oct) Count	2004 (Oct) Count	2005 (Oct) Count	2006 (Oct) Count	2007 (Nov) Count	2008(Oct) Count	Notes
NB Churchmans	L	-	550	543	546	706	736	800	840					Intersection not counted in Fall 2005.
	T	-	47	23	41	35	18	45	49					
	R	-	14	38	34	46	42	51	52					
SB Del Park	L	-	5	5	7	19	4	4	6					
	T	-	11	7	18	16	15	18	22					
	R	-	6	8	16	4	24	10	16					
EB SR 4	L	-	37	30	51	35	73	51	61					
	T	-	440	575	505	552	845	688	725					
	R	-	595	704	613	613	871	715	661					
WB SR 4	L	-	71	97	100	97	88	92	83					
	T	-	451	467	529	563	649	707	747					
	R	-	4	10	10	7	10	18	16					
CLV LOS v/c		N/A N/A	A 0.43	A 0.48	A 0.47	A 0.52	A 0.62	A 0.60	A 0.62					
HCS LOS Delay		N/A N/A	C 22	C 22	C 23	C 24	C 25	C 29	C 33					
Synchro LOS Delay		N/A N/A	C 22	C 21	C 24	C 23	C 21	C 25	C 26					

Churchmans Crossing Volume and Level of Service Comparison - AM Peak Hour

SR 4 / CHRISTIANA HOSPITAL / HYGIEIA DRIVE

7

		1993 Count	1997 Count	2000 Count	2001 (Feb) Count	2001 (Oct) Count	2002 (Oct) Count	2003 (Oct) Count	2004 (Oct) Count	2005 (Oct) Count	2006 (Oct) Count	2007 (Nov) Count	2008(Oct) Count	Notes
NB Hospital	L	-	-	75	73	75	77	95	148					Intersection not counted in Fall 2005.
	T	-	-	3	10	12	7	17	17					
	R	-	-	32	25	33	35	53	58					
SB Hygeia	L	-	-	28	33	47	45	50	44					
	T	-	-	5	4	9	11	12	2					
EB SR 4	R	-	-	18	22	25	38	35	28					
	L	-	-	183	125	197	215	229	203					
WB SR 4	T	-	-	1249	836	1,140	1,376	1,213	1,301					
	R	-	-	336	219	344	474	488	411					
WB SR 4	L	-	-	110	191	154	157	165	136					
	T	-	-	706	1098	944	1,009	994	1,198					
CLV LOS v/c	R	-	-	202	369	239	244	248	264					
		N/A	N/A	A	A	A	B	A	B					
HCS LOS Delay		N/A	N/A	0.55	0.50	0.54	0.63	0.59	0.63					
		N/A	N/A	N/A	N/A	N/A	N/A	B	B					
Synchro LOS Delay		N/A	N/A	N/A	N/A	N/A	N/A	11	14					
		N/A	N/A	N/A	N/A	N/A	N/A	A	B					

SR 4 / HARMONY ROAD

8

		1993 Count	1997 Count	2000 Count	2001 (Feb) Count	2001 (Oct) Count	2002 (Oct) Count	2003 (Oct) Count	2004 (Oct) Count	2005 (Oct) Count	2006 (Oct) Count	2007 (Nov) Count	2008(Oct) Count	Notes
NB Harmony	L	-	145	118	112	114	90	135	112	99	123	77	97	
	T	-	315	310	275	235	261	270	277	262	290	270	275	
	R	-	377	384	316	282	302	433	374	279	371	369	338	
SB Harmony	L	-	654	668	684	705	774	785	704	775	755	838	792	
	T	-	553	382	346	250	305	279	274	337	295	269	287	
EB SR 4	R	-	158	162	174	223	219	191	154	156	139	88	102	
	L	-	148	168	121	186	231	220	214	233	220	213	201	
WB SR 4	T	-	731	1171	1128	1,099	1,225	1,252	1,330	1,214	1,375	1,311	1,255	
	R	-	110	97	96	66	66	50	83	67	62	45	65	
WB SR 4	L	-	64	81	95	52	78	83	79	73	84	75	73	
	T	-	332	391	531	550	587	527	638	588	582	453	493	
WB SR 4	R	-	301	215	197	272	290	231	351	284	282	203	242	
		N/A	C	D	D	D	E	E	E	E	E	E	E	
CLV LOS v/c		N/A	0.73	0.90	0.88	0.82	0.93	0.95	0.94	0.92	0.99	0.98	0.95	
		N/A	D	E	D	D	E	E	E	E	E	D	D	
HCS LOS Delay		N/A	54	61	55	51	66	68	72	61	80	54	54	
		N/A	D	D	D	D	D	D	D	D	D	D	D	
Synchro LOS Delay		N/A	37	47	42	41	51	44	45	42	53	50	46	
		N/A	D	D	D	D	D	D	D	D	D	D	D	

Churchmans Crossing Volume and
Level of Service Comparison - AM Peak Hour

CHURCHMANS ROAD / CONTINENTAL DRIVE

9

		1993 Count	1997 Count	2000 Count	2001 (Feb) Count	2001 (Oct) Count	2002 (Oct) Count	2003 (Oct) Count	2004 (Oct) Count	2005 (Oct) Count	2006 (Oct) Count	2007 (Nov) Count	2008(Oct) Count	Notes
NB Continental	L	-	-	16	29	31	28							Churchmans Road under construction in 2000; finished by 2001 count. Before the 10/02 count, left turn lanes were added to NB & SB Continental Dr. / Churchmans Place. Intersection was not counted in Churchmans Place. Intersection was not counted in Fall 2003.
	T	-	-	14	6	10	4							
	R	-	-	159	128	161	68							
SB Churchmans Place	L	-	-	44	41	31	38							
	T	-	-	31	103	86	68							
	R	-	-	10	0	8	8							
EB Churchmans	L	-	-	37	5	7	6							
	T	-	-	566	650	662	556							
	R	-	-	60	146	107	95							
WB Churchmans	L	-	-	510	595	611	467							
	T	-	-	996	1277	1,319	1,402							
	R	-	-	66	41	31	46							
CLV LOS		N/A	N/A	A	A	A	A							
v/c		N/A	N/A	0.42	0.50	0.51	0.42							

SR 7 / CHURCHMANS ROAD (Ramp A)

10

		1993 Count	1997 Count	2000 Count	2001 (Feb) Count	2001 (Oct) Count	2002 (Oct) Count	2003 (Oct) Count	2004 (Oct) Count	2005 (Oct) Count	2006 (Oct) Count	2007 (Nov) Count	2008(Oct) Count	Notes
NB SR 7	L	-	581											Churchmans Road under construction in 2000; finished by 2001 count. Intersection was not counted in Fall 2003.
	T	-	1441											
	R	-	192											
SB SR 7	L	-	371	149	230	169	180							
	T	-	1084	379	406	414	522							
	R	-	103	95	69	113	96							
EB Churchmans	L	-	130											
	T	-	392	332	382	285	344							
	R	-	573	437	540	442	446							
WB Churchmans	L	-	326	231	232	294	252							
	T	-	1170	1572	1856	1,942	1,839							
	R	-	653											
CLV LOS		N/A	F	D	B	B	B							
v/c		N/A	1.09	0.85	0.72	0.63	0.64							

Churchmans Crossing Volume and
Level of Service Comparison - AM Peak Hour

SR 7 / CHURCHMANS ROAD (Ramp B/C)

11

		1993 Count	1997 Count	2000 Count	2001 (Feb) Count	2001 (Oct) Count	2002 (Oct) Count	2003 (Oct) Count	2004 (Oct) Count	2005 (Oct) Count	2006 (Oct) Count	2007 (Nov) Count	2008 (Oct) Count	Notes
NB SR 7	L	-	581											Churchmans Road under construction in 2000; finished by 2001 count. Intersection was not counted in Fall 2003.
	T	-	1441											
	R	-	192											
SB SR 7	L	-	371	147	178	163	153							
	T	-	1084	11	16	24	18							
	R	-	103	509	658	669	609							
EB Churchmans	L	-	130	24	34	44	29							
	T	-	392	456	548	462	448							
	R	-	573	14	18	26	18							
WB Churchmans	L	-	326	33	26	31	32							
	T	-	1170	1654	1489	1,492	1,510							
	R	-	653	153	316	368	331							
CLV LOS		N/A	F	D	C	C	C							
v/c		N/A	1.09	0.89	0.78	0.79	0.76							

CHURCHMANS ROAD / DEL TECH

12

		1993 Count	1997 Count	2000 Count	2001 (Feb) Count	2001 (Oct) Count	2002 (Oct) Count	2003 (Oct) Count	2004 (Oct) Count	2005 (Oct) Count	2006 (Oct) Count	2007 (Nov) Count	2008 (Oct) Count	Notes
NB Driveway	L	-	-	64	73	109	75							Churchmans Road under construction in 2000; finished by 2001 count. Intersection was not counted in Fall 2003.
	T	-	-	6	12	11	46							
	R	-	-	28	20	21	23							
SB Del Tech	L	-	-	112	77	65	26							
	T	-	-	-	-	-	-							
	R	-	-	22	21	6	31							
EB Churchmans	L	-	-	98	159	80	150							
	T	-	-	494	512	458	430							
	R	-	-	11	24	10	27							
WB Churchmans	L	-	-	-	-	-	-							
	T	-	-	1700	1687	1,732	1,769							
	R	-	-	469	593	379	435							
CLV LOS		N/A	N/A	C	A	A	A							
v/c		N/A	N/A	0.74	0.60	0.57	0.59							

Churchmans Crossing Volume and
Level of Service Comparison - AM Peak Hour

CHURCHMANS ROAD / COUNTRY CLUB DRIVE

13

		1993 Count	1998 Count	2000 Count	2001 (Feb) Count	2001 (Oct) Count	2002 (Oct) Count	2003 (Oct) Count	2004 (Oct) Count	2005 (Oct) Count	2006 (Oct) Count	2007 (Nov) Count	2008(Oct) Count	Notes
NB c.c.	L	-	-	190	220	223	190							Intersection was not counted in Fall 2003.
	T	-	-											
	R	-	-	108	78	67	75							
SB	L	-	-											
	T	-	-											
	R	-	-											
EB Churchmans	L	-	-											
	T	-	-	662	704	600	554							
	R	-	-	44	40	48	52							
WB Churchmans	L	-	-	22	20	14	17							
	T	-	-	405	492	489	530							
	R	-	-											
CLV LOS		N/A	N/A	A	A	A	A							
v/c		N/A	N/A	0.55	0.59	0.52	0.48							

SR 273 / HARMONY ROAD

14

		1993 Count	1998 Count	2000 Count	2001 (Feb) Count	2001 (Oct) Count	2002 (Oct) Count	2003 (Oct) Count	2004 (Oct) Count	2005 (Oct) Count	2006 (Oct) Count	2007 (Nov) Count	2008(Oct) Count	Notes
NB Gerald Drive	L	-	18	24	21	27	23	22		19	21	10	14	Before 10/02, an exclusive WB right turn lane was added. Intersection was not counted in 10/04.
	T	-	30	23	18	18	17	18		22	26	25	53	
	R	-	160	157	102	166	132	160		142	118	103	102	
SB Harmony	L	-	682	665	547	392	450	400		455	461	367	449	
	T	-	6	17	15	7	9	14		9	13	8	15	
	R	-	18	15	38	18	17	13		21	26	28	28	
EB SR 273	L	-	26	30	22	9	62	69		40	42	51	27	
	T	-	1530	1675	1598	1,889	1,695	1,898		1,945	2,063	1,721	1,790	
	R	-	14	30	30	22	26	31		66	41	31	38	
WB SR 273	L	-	34	27	30	29	27	38		31	21	22	28	
	T	-	1624	1905	1899	2,007	1,912	2,048		1,945	1,892	1,815	1,792	
	R	-	925	786	637	575	622	700		661	555	639	643	
CLV LOS		N/A	E	F	E	E	E	F		E	E	D	D	
v/c		N/A	0.95	1.04	0.95	0.95	0.96	1.00		0.96	0.98	0.86	0.89	
HCS LOS		N/A	E	E	D	E	D	E		E	E	C	D	
Delay		N/A	56	71	49	58	50	72		67	65	31	38	
Synchro LOS		N/A	D	E	D	D	D	E		E	E	C	D	
Delay		N/A	45	61	43	52	45	65		62	63	31	37	

Churchmans Crossing Volume and
Level of Service Comparison - AM Peak Hour

SR 273 / CHAPMAN ROAD / EAGLE RUN ROAD

15

		1993 Count	1997 Count	2000 Count	2001 (Feb) Count	2001 (Oct) Count	2002 (Oct) Count	2003 (Oct) Count	2004 (Oct) Count	2005 (Oct) Count	2006 (Oct) Count	2007 (Nov) Count	2008 (Oct) Count	Notes
NB Chapman	L	-	10	490	563	498	578	566		543	591	528	462	NBL in 1997 was affected by something unknown. No count performed in 2004 due to ongoing construction at I-95 / SR 273 interchange. Intersection was not counted in 10/04.
	T	-	2	21	22	16	42	36		28	41	39	35	
	R	-	160	187	206	218	188	179		180	220	133	169	
SB Eagle Run	L	-	26	34	29	51	38	43		35	39	34	25	
	T	-	23	16	20	35	28	22		11	18	35	17	
	R	-	83	61	81	56	81	86		75	65	79	100	
EB SR 273	L	-	232	195	267	147	242	261		182	166	193	172	
	T	-	775	893	898	1,260	1,002	1,212		948	929	892	838	
	R	-	859	773	910	711	701	555		735	594	598	632	
WB SR 273	L	-	358	344	326	302	326	283		295	247	248	216	
	T	-	1655	1878	1862	1,688	1,763	1,916		1,887	2,026	1,726	1,726	
	R	-	91	92	108	89	121	109		96	122	76	74	
CLV LOS v/c		N/A N/A	N/A N/A	E 0.91	E 0.96	D 0.84	E 0.93	E 0.98		E 0.93	E 0.99	D 0.89	D 0.84	
HCS LOS Delay		N/A N/A	C 33	E 70	F 118	D 46	E 75	F 87		E 69	F 82	D 40	D 37	
Synchro LOS Delay		N/A N/A	B 20	D 44	D 53	D 36	D 46	E 59		D 55	E 65	C 34	C 34	

SR 273 / OLD BALTIMORE PIKE

16

		1993 Count	1998 Count	2000 Count	2001 (Feb) Count	2001 (Oct) Count	2002 (Oct) Count	2003 (Oct) Count	2004 (Oct) Count	2005 (Oct) Count	2006 (Oct) Count	2007 (Nov) Count	2008 (Oct) Count	Notes
NB Old Balt	L	-	788	875	868	638	802	780	699	746	939	656	846	Main Street was closed 10/01. Intersection operates as split phased in the northbound/southbound directions during the 2002 counts.
	T	-	127	123	142	187	169	142	160	157	173	110	142	
	R	-	441	442	614	358	476	460	530	438	386	382	403	
SB Old Balt	L	-	9	13	52	14	12	13	18	14	12	6	12	
	T	-	35	21	22	43	36	35	34	43	43	40	40	
	R	-	63	55	10	156	39	65	53	43	67	59	43	
EB SR 273	L	-	25	16	8	282	30	42	47	34	58	70	66	
	T	-	1380	842	882	1,056	848	918	951	850	792	784	742	
	R	-	168	155	219	192	199	213	181	182	199	245	181	
WB SR 273	L	-	173	192	215	157	230	171	239	164	155	160	153	
	T	-	1333	1351	835	1,215	1,331	1,464	1,481	1,476	1,422	1,231	1,217	
	R	-	8	25	55	23	15	15	11	13	20	8	8	
CLV LOS v/c		N/A N/A	D 0.90	D 0.82	D 0.88	E 0.96	D 0.82	D 0.88	D 0.86	D 0.86	E 0.95	C 0.78	D 0.83	
HCS LOS Delay		N/A N/A	D 47	D 48	E 67	E 73	E 55	E 59	E 65	D 50	E 62	C 30	D 37	
Synchro LOS Delay		N/A N/A	D 43	D 48	D 39	D 52	D 51	D 43	D 40	D 42	D 47	C 27	C 33	

Churchmans Crossing Volume and Level of Service Comparison - AM Peak Hour

SR 7 / SR 273

17

		1993 Count	1997 Count	2000 Count	2001 (Feb) Count	2001 (Oct) Count	2002 (Oct) Count	2003 (Oct) Count	2004 (Oct) Count	2005 (Oct) Count	2006 (Oct) Count	2007 (Nov) Count	2008(Oct) Count	Notes
NB SR 7	L	500	736	558	790	586	659	657	637	661	609	656	613	An additional WBL was added to the intersection prior to the 2001 count.
	T	48	66	47	126	146	111	130	106	161	180	149	131	
	R	698	885	1064	1112	830	859	718	575	895	718	913	985	
SB SR 7	L	39	47	43	52	78	37	57	36	57	51	35	55	
	R	3	7	13	9	14	8	11	10	4	5	6	14	
EB SR 273	L	12	15	11	8	16	7	12	10	7	6	10	8	
	R	822	747	1309	1320	1,120	1,068	1,112	1,194	1,090	971	1,118	898	
WB SR 273	T	190	200	268	188	211	241	229	163	184	183	273	212	
	R	157	221	204	229	175	239	247	214	251	204	209	197	
		499	767	961	853	836	908	979	1,018	1,005	892	764	848	
		38	58	45	92	92	25	58	58	74	70	37	77	
CLV LOS v/c		C 0.73	D 0.83	F 1.13	F 1.19	E 0.93	E 0.92	D 0.85	C 0.78	E 0.95	C 0.80	E 0.97	E 0.95	
HCS LOS Delay		N/A	F 180	F 130	F 237	F 117	F 144	F 118	F 92	F 165	F 121	F 102	F 105	
Synchro LOS Delay		N/A	F 170	F 138	F 162	F 126	F 139	F 122	F 103	F 138	F 124	F 92	F 111	

SR 273 / SB SR 1 RAMP

18

		1993 Count	1997 Count	2000 Count	2001 (Feb) Count	2001 (Oct) Count	2002 (Oct) Count	2003 (Oct) Count	2004 (Oct) Count	2005 (Oct) Count	2006 (Oct) Count	2007 (Nov) Count	2008(Oct) Count	Notes
NB	L	-	-					-	-					Intersection was not counted in Fall 2005.
	T	-	-					-	-					
	R	-	-					-	-					
SB SR 1	L	-	-	119	129	180	146	153	165					
	R	-	-	116	157	156	170	170	199					
EB SR 273	L	-	-	2259	1132	1,811	1,699	1,774	1,988					
	R	-	-	157	130	153	179	157	237					
WB SR 273	L	-	-	76	67	92	64	71	84					
	R	-	-	1134	1279	1,013	1,066	1,075	1,105					
		-	-					-	-					
CLV LOS v/c		N/A	N/A	D 0.90	A 0.54	C 0.79	C 0.73	C 0.76	D 0.86					
HCS LOS Delay		N/A	N/A	N/A	N/A	N/A	N/A	B 12	B 14					
Synchro LOS Delay		N/A	N/A	N/A	N/A	N/A	N/A	A 9	A 9					

Churchmans Crossing Volume and
Level of Service Comparison - AM Peak Hour

SR 273 / NB SR 1 RAMP

19

		1993 Count	1997 Count	2000 Count	2001 (Feb) Count	2001 (Oct) Count	2002 (Oct) Count	2003 (Oct) Count	2004 (Oct) Count	2005 (Oct) Count	2006 (Oct) Count	2007 (Nov) Count	2008(Oct) Count	Notes
NB SR 1	L	-	-	294	351	388	368	372	373					Intersection was not counted in Fall 2005.
	T	-	-					-	-					
	R	-	-	280	390	353	362	345	370					
SB	L	-	-					-	-					
	T	-	-					-	-					
	R	-	-					-	-					
EB SR 273	L	-	-	615	542	570	597	546	524					
	T	-	-	1763	1306	1,351	1,279	1,403	1,633					
	R	-	-					-	-					
WB SR 273	L	-	-					-	-					
	T	-	-	916	758	780	813	781	779					
	R	-	-	340	397	375	341	340	370					
CLV LOS v/c		N/A N/A	N/A N/A	D 0.88	D 0.84	D 0.87	D 0.88	D 0.84	D 0.83					
HCS LOS Delay		N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	D 37	C 33					
Synchro LOS Delay		N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	C 29	C 27					

SB SR 1 RAMPS / ROAD A

20

		1993 Count	1997 Count	2000 Count	2001 (Feb) Count	2001 (Oct) Count	2002 (Oct) Count	2003 (Oct) Count	2004 (Oct) Count	2005 (Oct) Count	2006 (Oct) Count	2007 (Nov) Count	2008(Oct) Count	Notes
NB	L	-	153	104	68	58	70							Intersection was not counted in Fall 2003.
	T	-												
	R	-	2	12	6	12	19							
SB SR 1	L	-												
	T	-												
	R	-												
EB Road A	L	-												
	T	-	178	192	342	277	213							
	R	-	23	26	7	14	15							
WB Road A	L	-	13	26	25	28	31							
	T	-	76	81	36	37	28							
	R	-												
CLV LOS v/c		N/A N/A	A 0.22	A 0.20	A 0.27	A 0.23	A 0.20							

Churchmans Crossing Volume and
Level of Service Comparison - AM Peak Hour

NB SR 1 RAMPS / ROAD A

21

		1993 Count	1997 Count	2000 Count	2001 (Feb) Count	2001 (Oct) Count	2002 (Oct) Count	2003 (Oct) Count	2004 (Oct) Count	2005 (Oct) Count	2006 (Oct) Count	2007 (Nov) Count	2008(Oct) Count	Notes
NB SR 1	L	-	59	45	34	25	14							Intersection was not counted in Fall 2003.
	T	-	97	334	624	770	540							
	R	-	-	-	-	-	-	-						
SB Mall	L	-	-	-	-	-	-							
	T	-	9	13	16	21	17							
	R	-	34	27	29	29	29							
EB Road A	L	-	45	99	181	159	134							
	T	-	-	-	-	-	-							
	R	-	124	108	167	137	122							
WB	L	-	-	-	-	-	-							
	T	-	-	-	-	-	-							
	R	-	-	-	-	-	-							
CLV LOS		N/A	A	A	A	A	A							
v/c		N/A	0.11	0.27	0.50	0.58	0.43							

SR 2 / RED MILL ROAD / POLLY DRUMMOND HILL ROAD

22

		1993 Count	1997 Count	2000 Count	2001 (Feb) Count	2001 (Oct) Count	2002 (Oct) Count	2003 (Oct) Count	2004 (Oct) Count	2005 (Oct) Count	2006 (Oct) Count	2007 (Nov) Count	2008(Oct) Count	Notes
NB Red Mill	L	-	-	335	384	323	357	496	412	335	343	317	355	
	T	-	-	308	357	319	309	298	319	289	309	325	313	
	R	-	-	139	161	107	104	144	117	135	126	131	93	
SB Polly	L	-	-	278	328	233	297	364	250	214	266	258	251	
	T	-	-	481	514	579	409	480	479	443	577	428	489	
	R	-	-	376	333	247	269	264	281	266	263	337	320	
EB SR 2	L	-	-	283	250	491	239	337	291	232	301	280	251	
	T	-	-	1115	931	1,253	1,020	1,095	1,109	1,012	1,223	1,132	966	
	R	-	-	396	417	436	406	358	424	367	306	363	433	
WB SR 2	L	-	-	199	173	204	136	180	157	115	158	126	106	
	T	-	-	951	906	944	865	1,066	967	840	861	900	887	
	R	-	-	42	83	147	79	131	122	56	91	111	96	
CLV LOS		N/A	N/A	E	E	F	D	F	E	D	F	D	D	
v/c		N/A	N/A	0.93	0.93	1.11	0.84	1.06	0.97	0.84	1.01	0.87	0.90	
HCS LOS		N/A	N/A	E	E	F	D	E	E	D	E	D	E	
Delay		N/A	N/A	66	66	87	55	79	63	52	69	53	57	
Synchro LOS		N/A	N/A	D	D	E	D	E	D	D	E	D	D	
Delay		N/A	N/A	47	49	70	42	63	49	40	57	48	55	

Churchmans Crossing Volume and Level of Service Comparison - AM Peak Hour

SR 7 / SCHOOL BELL ROAD

24

		1993 Count	1997 Count	2000 Count	2001 (Feb) Count	2001 (Oct) Count	2002 (Oct) Count	2003 (Oct) Count	2004 (Oct) Count	2005 (Oct) Count	2006 (Oct) Count	2007 (Nov) Count	2008(Oct) Count	Notes	
NB SR 7	L	-	-	-	-	-	-	-	-	-	-	-	-	Intersection was not counted in Fall 2003.	
	T	-	-	1,349	-	-	1,361	-	-	-	-	-	-		
SB SR 7	R	-	-	69	-	-	71	-	-	-	-	-	-		
	L	-	-	60	-	-	79	-	-	-	-	-	-		
EB -	T	-	-	379	-	-	403	-	-	-	-	-	-		
	R	-	-	-	-	-	-	-	-	-	-	-	-		
WB School	L	-	-	31	-	-	31	-	-	-	-	-	-		
	T	-	-	-	-	-	-	-	-	-	-	-	-		
	R	-	-	181	-	-	223	-	-	-	-	-	-		
CLV LOS v/c		N/A	N/A	E	N/A	N/A	E								
		N/A	N/A	0.96	N/A	N/A	0.99								

SR 4 / TELEGRAPH ROAD

25

		1993 Count	1997 Count	2000 Count	2001 (Feb) Count	2001 (Oct) Count	2002 (Oct) Count	2003 (Oct) Count	2004 (Oct) Count	2005 (Oct) Count	2006 (Oct) Count	2007 (Nov) Count	2008(Oct) Count	Notes	
NB Happy Harry's	L	-	-	-	-	-	-	-	5	-	-	-	-	Intersection was not counted in Fall 2005.	
	T	-	-	-	-	-	-	-	-	-	-	-	-		
SB Telegraph	R	-	-	-	-	-	-	-	1	-	-	-	-		
	L	-	-	-	-	-	-	-	204	-	-	-	-		
EB SR 4	T	-	-	-	-	-	-	-	556	-	-	-	-		
	R	-	-	-	-	-	-	-	239	-	-	-	-		
WB SR 4	L	-	-	-	-	-	-	-	1,911	-	-	-	-		
	T	-	-	-	-	-	-	-	9	-	-	-	-		
	R	-	-	-	-	-	-	-	4	-	-	-	-		
									1,997	-	-	-	-		
CLV LOS v/c		N/A	N/A	N/A	N/A	N/A	N/A	N/A	C						
		N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.72						
HCS LOS Delay		N/A	N/A	N/A	N/A	N/A	N/A	N/A	C						
		N/A	N/A	N/A	N/A	N/A	N/A	N/A	32						
Synchro LOS Delay		N/A	N/A	N/A	N/A	N/A	N/A	N/A	B						
		N/A	N/A	N/A	N/A	N/A	N/A	N/A	16						

Churchmans Crossing Volume and
Level of Service Comparison - AM Peak Hour

SR 2 / ST. JAMES CHURCH ROAD

26

		1993 Count	1997 Count	2000 Count	2001 (Feb) Count	2001 (Oct) Count	2002 (Oct) Count	2003 (Oct) Count	2004 (Oct) Count	2005 (Oct) Count	2006 (Oct) Count	2007 (Nov) Count	2008 (Oct) Count	Notes
NB St. James Church	L	-	-	-	-	-	-	-	80					Intersection was not counted in Fall 2005.
	T	-	-	-	-	-	-	-	31					
	R	-	-	-	-	-	-	-	85					
SB Griffin Drive	L	-	-	-	-	-	-	-	54					
	T	-	-	-	-	-	-	-	60					
	R	-	-	-	-	-	-	-	37					
EB SR 2	L	-	-	-	-	-	-	-	59					
	T	-	-	-	-	-	-	-	1,698					
	R	-	-	-	-	-	-	-	150					
WB SR 2	L	-	-	-	-	-	-	-	16					
	T	-	-	-	-	-	-	-	899					
	R	-	-	-	-	-	-	-	114					
CLV LOS		N/A	N/A	N/A	N/A	N/A	N/A	N/A	A					
v/c		N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.61					
HCS LOS		N/A	N/A	N/A	N/A	N/A	N/A	N/A	C					
Delay		N/A	N/A	N/A	N/A	N/A	N/A	N/A	30					
Synchro LOS		N/A	N/A	N/A	N/A	N/A	N/A	N/A	C					
Delay		N/A	N/A	N/A	N/A	N/A	N/A	N/A	28					

Churchmans Crossing Volume and Level of Service Comparison - PM Peak Hour

NOTE:

Volumes shown in the following table represent the peak hour volumes at each intersection (e.g., they are not the peak volumes of an entire corridor). Therefore, the peak hours may vary among intersections, even between adjacent intersections. For example, the peak hour at SR 2 / Harmony Road was found to occur between 4:45 and 5:45 PM. However, the nearby intersection at SR 4 / Harmony Road was found to occur between 4:30 and 5:30 PM. As a result, the volumes in the following table may not balance between intersections.

SR 2 / HARMONY ROAD

1

		1993 Count	1997 Count	2000 Count	2001 (Feb) Count	2001 (Oct) Count	2002 (Oct) Count	2003 (Oct) Count	2004 (Oct) Count	2005 (Oct) Count	2006 (Oct) Count	2007 (Nov) Count	2008 (Oct) Count	Notes
NB Harmony	L	647	433	544	475	447	586	454	545	417	430	405	471	
	R	542	662	632	655	673	944	792	754	703	672	1,399	695	
SB	L													
	R													
EB SR 2	U	13		28	17	5	28	14	16	19	19	22	21	
	T	1157	1258	1063	1078	1,126	1,314	1,103	1,093	1,190	1,040	1,055	1,062	
	R	361	345	276	305	306	467	283	354	243	281	358	283	
WB SR 2	L	507	503	626	500	607	548	598	651	501	623	646	531	
	T	1409	1367	1441	1340	1,313	1,205	1,382	1,301	1,265	1,265	1,503	1,337	
	R													
CLV LOS v/c		F	E	E	D	E	E	E	E	D	E	E	D	
		1.12	0.94	0.96	0.86	0.93	1.00	0.92	0.99	0.88	0.91	0.92	0.87	
HCS LOS		N/A	C	C	C	C	D	C	D	D	C	C	C	
Delay		N/A	30	33	30	28	38	29	38	37	29	23	22	
Synchro LOS		N/A	C	C	B	C	C	C	C	C	B	C	C	
Delay		N/A	21	23	19	20	26	20	31	29	19	21	21	

SR 2 / DELAWARE PARK BOULEVARD

2

		1993 Count	1997 Count	2000 Count	2001 (Feb) Count	2001 (Oct) Count	2002 (Oct) Count	2003 (Oct) Count	2004 (Oct) Count	2005 (Oct) Count	2006 (Oct) Count	2007 (Nov) Count	2008 (Nov) Count	Notes
NB Del Park	L	149	277	292	289	329	326	349	331					Right Turns into gas station were not counted Fall 2002. Shared NBL was added before 10/02 and NB/SB approaches are split phased. Intersection was not counted in Fall 2005.
	T	15	10	7	12	0	8	9	10					
	R	311	122	129	121	90	154	150	149					
SB Gas Station	L	20	14	30	20	8	16	19	24					
	T	15	15	11	11	8	12	7	18					
	R	50	50	59	66	37	47	56	70					
EB SR 2	L	50	19	55	41	32	52	69	46					
	T	1628	1297	1389	1356	1,670	1,494	1,468	1,505					
	R	100	156	162	178	192	232	213	185					
WB SR 2	L	354	176	184	154	205	188	187	176					
	T	1922	2084	1981	1874	1,883	1,972	1,892	1,955					
	R	50	46	8	1	30	--	67	74					
CLV LOS v/c		D	D	D	D	E	D	D	D					
		0.86	0.89	0.85	0.87	0.92	0.85	0.83	0.84					
HCS LOS		N/A	C	B	B	B	B	B	C					
Delay		N/A	25	17	17	19	16	16	31					
Synchro LOS		N/A	B	B	B	B	B	B	C					
Delay		N/A	20	16	15	17	16	15	29					

Churchmans Crossing Volume and Level of Service Comparison - PM Peak Hour

SR 7 / SR 2

3

		1993 Count	1997 Count	2000 Count	2001 (Feb) Count	2001 (Oct) Count	2002 (Oct) Count	2003 (Oct) Count	2004 (Oct) Count	2005 (Oct) Count	2006 (Oct) Count	2007 (Nov) Count	2008 (Nov) Count	Notes
NB SR 7	L	372	266	272	276	338	248	392	237					Before 10/02, all free rights, except for the WBR were removed to accommodate 2nd EB & WB left turn lanes on SR 2. Intersection was not counted in Fall 2005.
	T	1047	802	914	969	941	958	904	977					
	R	423	451	452	404	458	365	538	587					
SB SR 7	L	436	403	539	358	502	409	427	399					
	T	785	743	768	727	802	805	815	864					
EB SR 2	L	220	224	259	217	237	285	321	312					
	T	1044	1059	1073	996	1,097	1,097	1,197	1,054					
WB SR 2	L	426	417	458	490	471	572	634	696					
	T	1554	1898	2060	1648	1,542	1,832	1,620	1,650					
CLV LOS v/c	L	1.05	1.04	1.20	1.02	1.08	1.05	1.01	1.01					
	T													
HCS LOS Delay	L	N/A	E	F	E	E	E	E	F					
	T	N/A	65	98	69	78	66	63	84					
Synchro LOS Delay	L	N/A	E	F	E	E	E	E	E					
	T	N/A	59	87	64	70	60	59	62					

SR 7 / SR 4 (Stanton Split)

4

		1993 Count	1997 Count	2000 Count	2001 (Feb) Count	2001 (Oct) Count	2002 (Oct) Count	2003 (Oct) Count	2004 (Oct) Count	2005 (Oct) Count	2006 (Oct) Count	2007 (Nov) Count	2008 (Nov) Count	Notes
NB Mill Road	L	BAD DATA						-	-	-	-			
	T							-	-	-	-			
	R		8		6	8	2	6	6	4	3	5		
SB SR 7	L	923?	311	311	340	279	272	295	254	231	218	329	257	
	T			3		2	5	3	9	3	4	2	3	
EB SR 4/SR 7	R	431?	1028	972	1128	1,002	1,159	1,266	1,426	1,356	1,272	1,370	1,301	
	L	351?	1261	1226	1274	1,078	1,341	1,213	1,259	1,260	1,101	1,257	1,195	
WB SR 4	T	955?	1044	990	1213	1,213	1,266	1,271	1,204	1,173	1,182	1,178	1,246	
	R			6	2	1	4	0	2	1	3	6	5	
CLV LOS v/c	L													
	T	1316?	1033	1031	1044	1,024	1,254	1,163	1,288	1,299	1,292	1,222	1,056	
HCS LOS Delay	R	0?	342	316	384	294	291	306	241	232	198	241	247	
	L	N/A	D	D	E	D	F	E	F	F	E	F	D	
Synchro LOS Delay	T	N/A	0.91	0.89	0.92	0.86	1.03	0.96	1.01	1.00	0.94	1.01	0.90	
	R	N/A	E	E	E	D	F	E	F	F	E	F	E	
CLV LOS v/c	L	N/A	76	72	75	50	100	74	95	95	75	87	66	
	T	N/A	D	D	E	D	E	D	E	E	E	D	D	
HCS LOS Delay	R	N/A	54	48	58	41	67	51	68	65	58	54	50	
	L	N/A												

Churchmans Crossing Volume and Level of Service Comparison - PM Peak Hour

SR 4 / SR 7 / J.P. MORGAN

5

		1993 Count	1997 Count	2000 Count	2001 (Feb) Count	2001 (Oct) Count	2002 (Oct) Count	2003 (Oct) Count	2004 (Oct) Count	2005 (Oct) Count	2006 (Oct) Count	2007 (Nov) Count	2008 (Nov) Count	Notes
NB SR 7	L	35	28	57	55	61	65	87	68	93	82	121	88	Only two lanes per direction open on NB and SB SR 7 during February 2000 count. New EB and NB left turn lanes added prior to 2004 counts.
	T	1693	1581	1360	1501	1,464	1,572	1,660	1,527	1,473	1,361	1,919	1,517	
	R	3	15	3	5	6	5	3	6	7	6	8	6	
SB SR 7	L	7	11	14	21	18	16	19	11	12	21	7	10	
	T	1552	1653	1435	1670	1,896	1,959	2,238	2,762	2,253	1,922	2,066	2,038	
	R	476	690	500	532	511	542	631	677	716	562	606	542	
EB SR 4	L	607	655	690	807	828	879	950	903	811	824	773	811	
	T	6	11	35	12	17	16	7	22	22	14	16	15	
	R	47	87	82	241	358	478	554	571	501	461	375	474	
WB J.P. Morgan	L	244	307	147	171	214	177	138	202	214	200	245	137	
	T	49	88	87	95	108	94	97	126	121	131	143	85	
	R	103	244	167	218	174	166	147	162	215	103	242	110	
CLV LOS v/c		E 0.92	D 0.82	D 0.88	D 0.88	E 0.92	E 0.93	F 1.03	F 1.05	E 0.91	D 0.83	D 0.88	D 0.83	
HCS LOS Delay		N/A N/A	D 48	D 40	E 59	E 79	F 90	F 127	F 134	F 85	E 63	F 94	E 74	
Synchro LOS Delay		N/A N/A	C 30	C 31	D 39	D 45	D 48	E 62	E 67	C 32	C 22	C 24	B 20	

SR 4 / CHURCHMANS ROAD / DELAWARE PARK

6

		1993 Count	1997 Count	2000 Count	2001 (Feb) Count	2001 (Oct) Count	2002 (Oct) Count	2003 (Oct) Count	2004 (Oct) Count	2005 (Oct) Count	2006 (Oct) Count	2007 (Nov) Count	2008 (Nov) Count	Notes
NB Churchmans	L	1009	809	808	709	793	1016	814	782					Intersection not counted in Fall 2005.
	T	3	22	56	70	69	90	41	73					
	R	69	66	115	130	158	238	156	142					
SB Del Park	L	0	4	4	18	19	45	42	54					
	T	38	57	87	85	81	117	157	136					
	R	2	44	66	73	69	120	118	130					
EB SR 4	L	4	20	35	47	70	71	67	79					
	T	536	522	542	730	775	1023	917	1,054					
	R	688	655	747	630	532	836	767	749					
WB SR 4	L	17	8	79	37	40	38	35	40					
	T	523	383	551	513	563	521	614	619					
	R	0	1	8	12	15	13	14	19					
CLV LOS v/c		A 0.59	A 0.62	A 0.60	B 0.67	B 0.65	D 0.86	C 0.76	C 0.80					
HCS LOS Delay		N/A N/A	C 24	C 25	C 27	C 29	D 44	C 33	D 35					
Synchro LOS Delay		N/A N/A	B 19	C 22	C 21	C 23	C 30	C 29	C 32					

Churchmans Crossing Volume and
Level of Service Comparison - PM Peak Hour

SR 4 / CHRISTIANA HOSPITAL / HYGEIA DRIVE

7

		1993 Count	1997 Count	2000 Count	2001 (Feb) Count	2001 (Oct) Count	2002 (Oct) Count	2003 (Oct) Count	2004 (Oct) Count	2005 (Oct) Count	2006 (Oct) Count	2007 (Nov) Count	2008 (Nov) Count	Notes
NB Hospital	L	-	-	393	395	376	447	353	377					Intersection not counted in Fall 2005.
	T	-	-	12	18	17	12	17	21					
	R	-	-	133	173	138	239	214	168					
SB Hygeia	L	-	-	229	252	213	229	238	246					
	T	-	-	10	13	16	10	13	28					
	R	-	-	202	232	183	182	227	211					
EB SR 4	L	-	-	96	70	63	78	113	117					
	T	-	-	763	905	1,021	1,242	1,213	1,328					
	R	-	-	102	140	110	116	102	85					
WB SR 4	L	-	-	36	47	48	63	52	36					
	T	-	-	1174	1190	1,165	1,453	1,308	1,457					
	R	-	-	133	94	73	116	110	97					
CLV LOS v/c		N/A N/A	N/A N/A	B 0.72	B 0.71	C 0.75	D 0.83	C 0.75	D 0.83					
HCS LOS Delay		N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	B 19	C 22					
Synchro LOS Delay		N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	B 17	C 23					

SR 4 / HARMONY ROAD

8

		1993 Count	1997 Count	2000 Count	2001 (Feb) Count	2001 (Oct) Count	2002 (Oct) Count	2003 (Oct) Count	2004 (Oct) Count	2005 (Oct) Count	2006 (Oct) Count	2007 (Nov) Count	2008 (Nov) Count	Notes
NB Harmony	L	118	98	108	112	131	173	139	130	99	111	109	115	
	T	673	489	425	395	397	303	333	333	317	311	329	307	
	R	124	123	109	104	97	131	107	132	135	103	157	153	
SB Harmony	L	453	406	360	424	325	454	436	359	411	388	421	419	
	T	651	496	348	354	261	308	260	302	215	263	288	257	
	R	96	143	208	186	254	220	211	260	219	243	144	213	
EB SR 4	L	190	253	287	287	302	294	321	331	305	280	273	252	
	T	624	715	683	760	775	1,068	800	832	824	803	853	829	
	R	289	282	113	121	100	188	94	113	82	91	73	67	
WB SR 4	L	250	267	223	233	182	178	200	196	164	179	204	174	
	T	759	899	1087	1020	1,199	1,192	1,322	1,329	1,383	1,438	1,314	1,279	
	R	731	742	662	530	505	613	672	712	794	698	635	699	
CLV LOS v/c		E 0.96	D 0.87	D 0.88	E 0.92	D 0.90	D 0.88	E 0.95	E 0.92	E 0.94	E 0.94	E 0.92	D 0.88	
HCS LOS Delay		N/A N/A	F 94	E 62	E 60	E 56	D 52	E 58	E 66	F 84	E 77	D 47	D 43	
Synchro LOS Delay		N/A N/A	D 52	D 44	D 43	D 43	D 39	D 45	D 44	D 46	D 46	D 42	D 38	

Churchmans Crossing Volume and Level of Service Comparison - PM Peak Hour

CHURCHMANS ROAD / CONTINENTAL DRIVE

9

		1993 Count	1997 Count	2000 Count	2001 (Feb) Count	2001 (Oct) Count	2002 (Oct) Count	2003 (Oct) Count	2004 (Oct) Count	2005 (Oct) Count	2006 (Oct) Count	2007 (Nov) Count	2008 (Nov) Count	Notes
NB Continental	L	-	-	61	179	184	163							Churchmans Road under construction in 2000; finished by 2001 count. Before the 10/02 count, left turn lanes were added to NB & SB Continental Dr. / Churchmans Place. Intersection was not counted in Fall 2003.
	T	-	-	69	71	87	80							
R	-	-	491	500	540	324								
SB Churchmans Pl.	L	-	-	185	73	91	92							
	T	-	-	10	11	9	11							
R	-	-	45	1	7	13								
EB Churchmans	L	-	-	127	22	22	50							
	T	-	-	1032	1212	1,407	1,344							
R	-	-	17	45	38	31								
WB Churchmans	L	-	-	214	120	150	130							
	T	-	-	619	1005	990	985							
R	-	-	201	50	26	59								
CLV LOS		N/A	N/A	C	B	C	A							
v/c		N/A	N/A	0.78	0.67	0.75	0.60							

SR 7 / CHURCHMANS ROAD (Ramp A)

10

		1993 Count	1997 Count	2000 Count	2001 (Feb) Count	2001 (Oct) Count	2002 (Oct) Count	2003 (Oct) Count	2004 (Oct) Count	2005 (Oct) Count	2006 (Oct) Count	2007 (Nov) Count	2008 (Nov) Count	Notes
NB SR 7	L	317	429											Churchmans Road under construction in 2000; finished by 2001 count. Intersection was not counted in Fall 2003.
	T	1057	1057											
	R	222	335											
SB SR 7	L	270	290	90	128	190	180							
	T	1455	1956	429	678	677	789							
R	98	12	70	78	154	88								
EB Churchmans	L	182	317											
	T	459	693	511	652	960	745							
R	1161	1335	1277	871	734	1,037								
WB Churchmans	L	430	405	484	560	1,046	483							
	T	854	975	958	1194	1,209	1,150							
R	500	641												
CLV LOS		F	F	E	E	E	E							
v/c		1.39	1.66	0.98	0.96	0.97	0.91							

During the October 2001 PM period count, several eastbound right-turns were made from the eastbound right-most through lane. The volumes are shown below. These vehicles have been included in the eastbound right-turn volume above.

4:00 PM	7	5:00 PM	19
4:15 PM	13	5:15 PM	14
4:30 PM	9	5:30 PM	13
4:45 PM	10	5:45 PM	6

Churchmans Crossing Volume and
Level of Service Comparison - PM Peak Hour

SR 7 / CHURCHMANS ROAD (Ramp B/C)

11

		1993 Count	1997 Count	2000 Count	2001 (Feb) Count	2001 (Oct) Count	2002 (Oct) Count	2003 (Oct) Count	2004 (Oct) Count	2005 (Oct) Count	2006 (Oct) Count	2007 (Nov) Count	2008 (Nov) Count	Notes
NB SR 7	L	317	429											Churchmans Road under construction in 2000; finished by 2001 count. Intersection was not counted in Fall 2003.
	T	1057	1057											
	R	222	335											
SB SR 7	L	270	290	117	186	167	152							
	T	1455	1956	72	69	97	74							
	R	98	12	276	300	326	326							
EB Churchmans	L	182	317	67	97	111	138							
	T	459	693	455	595	576	663							
	R	1161	1335	62	77	129	100							
WB Churchmans	L	430	405	134	141	116	127							
	T	854	975	1355	1266	1,289	1,274							
	R	500	641	286	340	363	378							
CLV LOS		F	F	B	A	A	A							
v/c		1.39	1.66	0.64	0.50	0.53	0.52							

CHURCHMANS ROAD / DEL TECH

12

		1993 Count	1997 Count	2000 Count	2001 (Feb) Count	2001 (Oct) Count	2002 (Oct) Count	2003 (Oct) Count	2004 (Oct) Count	2005 (Oct) Count	2006 (Oct) Count	2007 (Nov) Count	2008 (Nov) Count	Notes
NB Driveway	L	-	-	217	251	396	247							Churchmans Road under construction in 2000; finished by 2001 count. Intersection was not counted in Fall 2003.
	T	-	-	23	18	17	17							
	R	-	-	44	55	80	47							
SB Del Tech	L	-	-	131	128	102	106							
	T	-	-	-	-	-	-							
	R	-	-	108	78	140	73							
EB Churchmans	L	-	-	29	125	58	112							
	T	-	-	489	613	762	620							
	R	-	-	54	76	69	62							
WB Churchmans	L	-	-	-	-	-	-							
	T	-	-	1600	1486	1,515	1,399							
	R	-	-	133	192	143	209							
CLV LOS		N/A	N/A	C	A	A	A							
v/c		N/A	N/A	0.74	0.62	0.62	0.58							

Churchmans Crossing Volume and
Level of Service Comparison - PM Peak Hour

CHURCHMANS ROAD / COUNTRY CLUB DRIVE

13

		1993 Count	1998 Count	2000 Count	2001 (Feb) Count	2001 (Oct) Count	2002 (Oct) Count	2003 (Oct) Count	2004 (Oct) Count	2005 (Oct) Count	2006 (Oct) Count	2007 (Nov) Count	2008 (Nov) Count	Notes
NB c.c.	L	-	96	90	80	106	96							Intersection was not counted in Fall 2003.
	T	-												
SB	R	-	56	47	39	40	36							
	L	-												
EB Churchmans	T	-												
	R	-	564 179	586 172	683 155	716 186	729 199							
WB Churchmans	L	-	67	78	59	50	72							
	T	-	710	771	844	785	780							
CLV LOS v/c	R	-												
		N/A	A 0.50	A 0.54	A 0.58	A 0.56	A 0.56							

SR 273 / HARMONY ROAD

14

		1993 Count	1998 Count	2000 Count	2001 (Feb) Count	2001 (Oct) Count	2002 (Oct) Count	2003 (Oct) Count	2004 (Oct) Count	2005 (Oct) Count	2006 (Oct) Count	2007 (Nov) Count	2008 (Nov) Count	Notes
NB Gerald Drive	L	-	18	7	12	10	10	11		14	22	13	9	Before 10/02, an exclusive WB right turn lane was added. No count performed in 2004 due to ongoing construction at I-95 / SR 273 interchange. Intersection was not counted in Fall 2004.
	T	-	17	19	10	6	20	27		34	14	10	6	
	R	-	89	99	72	94	80	57		63	66	68	57	
SB Harmony	L	-	829	675	701	478	504	501		498	465	457	472	
	T	-	21	31	21	20	14	17		18	13	11	8	
EB SR 273	R	-	17	10	14	16	5	25		14	13	31	24	
	L	-	36	20	27	27	30	44		15	31	58	27	
WB SR 273	T	-	1612	1653	1925	2,156	1,613	2,157		2,099	2,082	2,062	1,856	
	R	-	15	14	19	25	27	23		28	25	16	18	
WB SR 273	L	-	55	75	65	79	66	113		70	74	69	53	
	T	-	1700	1873	1647	1,972	1,816	1,919		1,877	2,022	1,793	1,805	
CLV LOS v/c	R	-	767	574	602	513	495	620		555	547	524	522	
		N/A	E 0.99	E 1.00	F 1.02	F 1.03	D 0.89	F 1.04		F 1.00	E 0.98	E 0.96	D 0.88	
HCS LOS Delay		N/A	E 67	E 62	E 61	F 82	D 45	E 67		E 76	E 72	C 35	C 33	
		N/A	D 54	D 52	E 55	E 75	D 41	F 83		E 74	E 72	D 36	C 31	
Synchro LOS Delay		N/A	D 54	D 52	E 55	E 75	D 41	F 83		E 74	E 72	D 36	C 31	

Churchmans Crossing Volume and
Level of Service Comparison - PM Peak Hour

SR 273 / CHAPMAN ROAD / EAGLE RUN ROAD

15

		1993 Count	1997 Count	2000 Count	2001 (Feb) Count	2001 (Oct) Count	2002 (Oct) Count	2003 (Oct) Count	2004 (Oct) Count	2005 (Oct) Count	2006 (Oct) Count	2007 (Nov) Count	2008 (Nov) Count	Notes
NB Chapman	L	626	753	755	722	890	792	718		766	706	704	672	No counts performed in 2004 due to ongoing construction on I-95 / SR 273 interchange. Intersection was not counted in Fall 2004.
	T	31	6	21	27	9	29	18		30	18	22	47	
	R	332	384	407	370	375	466	405		435	428	415	353	
SB Eagle Run	L	142	42	68	61	60	66	59		56	50	52	44	
	T	59	22	22	18	12	20	25		14	16	11	17	
	R	347	73	132	149	119	150	114		147	100	130	119	
EB SR 273	L	58	51	69	92	41	96	66		49	47	48	39	
	T	1400	1643	1614	1590	1,709	1,626	1,817		1,691	1,898	1,672	1,675	
	R	717	892	393	728	653	640	610		539	615	485	639	
WB SR 273	L	154	230	197	161	228	233	249		214	244	269	260	
	T	841	902	1219	1121	1,578	1,240	1,297		1,387	1,566	1,269	1,166	
	R	21	18	18	16	6	31	30		40	24	30	24	
CLV LOS v/c		D 0.85	E 0.95	E 0.93	D 0.89	F 1.07	E 1.00	F 1.03		E 0.96	F 1.02	E 0.95	E 0.94	
HCS LOS Delay		N/A N/A	F 99	E 66	E 66	F 86	F 77	F 86		E 74	F 94	D 49	D 45	
Synchro LOS Delay		N/A N/A	E 57	D 48	D 43	E 65	D 52	E 64		D 54	E 70	D 47	D 46	

*Assume SB count in 1997 was affected by something unknown.

SR 273 / OLD BALTIMORE PIKE

16

		1993 Count	1998 Count	2000 Count	2001 (Feb) Count	2001 (Oct) Count	2002 (Oct) Count	2003 (Oct) Count	2004 (Oct) Count	2005 (Oct) Count	2006 (Oct) Count	2007 (Nov) Count	2008 (Nov) Count	Notes
NB Old Balt	L	-	280	259	297	294	318	318	312	300	361	254	378	Main Street was closed 10/01. Intersection operates as split phased in the northbound/southbound directions during the 2002 counts.
	T	-	104	97	67	131	188	171	150	142	138	132	131	
	R	-	293	302	388	297	528	358	574	385	367	292	302	
SB Old Balt	L	-	35	22	68	26	43	24	11	18	23	27	23	
	T	-	143	135	95	155	249	163	158	200	189	187	168	
	R	-	51	32	13	259	125	80	175	149	191	143	119	
EB SR 273	L	-	23	15	2	220	91	135	105	116	127	131	110	
	T	-	1323	1341	920	1,240	1,269	1,385	1,324	1,335	1,322	1,142	1,277	
	R	-	662	551	654	681	747	698	740	718	793	797	774	
WB SR 273	L	-	418	346	669	362	479	380	555	414	422	398	384	
	T	-	1046	1042	1088	1,089	1,144	1,293	1,154	1,076	1,225	1,173	1,078	
	R	-	26	46	74	8	14	31	8	21	77	22	21	
CLV LOS v/c		N/A N/A	D 0.84	C 0.79	C 0.75	E 0.93	F 1.00	D 0.89	F 1.02	E 0.94	E 0.99	D 0.85	D 0.90	
HCS LOS Delay		N/A N/A	D 41	D 53	E 79	F 89	F 105	E 56	F 102	F 83	F 86	C 32	D 36	
Synchro LOS Delay		N/A N/A	B 20	C 21	D 47	D 42	D 55	C 26	E 60	D 37	D 40	C 32	D 36	

Churchmans Crossing Volume and Level of Service Comparison - PM Peak Hour

SR 7 / SR 273

17

		1993 Count	1997 Count	2000 Count	2001 (Feb) Count	2001 (Oct) Count	2002 (Oct) Count	2003 (Oct) Count	2004 (Oct) Count	2005 (Oct) Count	2006 (Oct) Count	2007 (Nov) Count	2008 (Nov) Count	Notes
NB SR 7	L	313	410	345	393	350	472	340	460	352	321	372	332	An additional WBL was added to the intersection prior to the 2001 count.
	T	64	57	49	76	74	70	64	83	52	86	88	93	
	R	318	511	416	715	459	501	480	301	465	433	510	484	
SB SR 7	L	67	62	112	71	119	113	116	99	113	124	113	100	
	T	156	111	165	120	136	197	102	111	123	153	129	142	
EB SR 273	R	3	27	24	6	56	5	36	39	20	23	20	12	
	L	5	3	7	13	10	6	12	10	11	12	7	3	
WB SR 273	T	777	1190	1530	1114	959	1,036	1,157	1,300	1,154	1,140	1,176	1,027	
	R	592	365	871	859	643	771	665	565	644	558	608	588	
CLV LOS v/c	L	580	650	562	647	695	606	826	646	710	708	858	878	
	T	635	1083	1153	1161	1,026	1,110	1,528	1,297	1,200	1,300	1,265	1,081	
HCS LOS Delay	R	70	90	84	85	89	66	58	112	85	102	89	85	
	B	0.65	1.01	1.06	0.87	0.79	0.84	0.89	0.91	0.85	0.85	0.93	0.87	
Synchro LOS Delay	F	N/A	F	F	F	E	E	F	E	F	F	F	E	
	N/A	N/A	138	124	82	64	79	91	71	115	103	89	79	
CLV LOS v/c	E	N/A	F	E	F	E	E	E	D	E	E	E	F	
	N/A	N/A	100	77	92	68	73	73	52	66	63	78	85	

SR 273 / SB SR 1 RAMP

18

		1993 Count	1997 Count	2000 Count	2001 (Feb) Count	2001 (Oct) Count	2002 (Oct) Count	2003 (Oct) Count	2004 (Oct) Count	2005 (Oct) Count	2006 (Oct) Count	2007 (Nov) Count	2008 (Nov) Count	Notes
NB	L	-						-	-					Intersection was not counted in Fall 2005.
	T	-						-	-					
	R	-						-	-					
SB SR 1	L	-	266	324	303	315	271	371	338					
	T	-		11	4			-	-					
EB SR 273	R	-	204	331	446	502	438	434	468					
	L	-						-	-					
WB SR 273	T	-	1353	1864	1581	1,264	1,242	1,410	1,452					
	R	-	191	194	218	283	312	293	375					
CLV LOS v/c	L	-	152	214	182	203	181	195	228					
	T	-	1601	1585	980	1,474	1,520	1,538	1,671					
HCS LOS Delay	R	-						-	-					
	N/A	N/A	C	E	E	D	D	D	E					
Synchro LOS Delay	N/A	N/A	0.73	0.98	0.94	0.88	0.81	0.88	0.93					
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	C	D					
CLV LOS v/c	N/A	N/A	N/A	N/A	N/A	N/A	N/A	27	39					
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	C	C					
HCS LOS Delay	N/A	N/A	N/A	N/A	N/A	N/A	N/A	22	30					
	N/A	N/A	N/A	N/A	N/A	N/A	N/A							

Churchmans Crossing Volume and Level of Service Comparison - PM Peak Hour

SR 273 / NB SR 1 RAMP

19

		1993 Count	1997 Count	2000 Count	2001 (Feb) Count	2001 (Oct) Count	2002 (Oct) Count	2003 (Oct) Count	2004 (Oct) Count	2005 (Oct) Count	2006 (Oct) Count	2007 (Nov) Count	2008 (Nov) Count	Notes
NB SR 1	L	-	130	141	162	181	203	209	208					Intersection was not counted in Fall 2005.
	T	-						-	-					
SB	R	-	106	114	139	147	171	189	178					
	L	-						-	-					
EB SR 273	T	-	260	315	297	376	305	385	313					
	R	-	1358	1873	1204	1,172	1,288	1,428	1,406					
WB SR 273	L	-						-	-					
	T	-	1623	1658	1456	1,518	1,512	1,532	1,668					
CLV LOS v/c	R	-	229	286	330	353	365	335	315					
		N/A	C	D	C	D	D	D	D					
HCS LOS Delay		N/A	0.80	0.86	0.79	0.87	0.84	0.90	0.90					
		N/A	N/A	N/A	N/A	N/A	N/A	C	D					
Synchro LOS Delay		N/A	N/A	N/A	N/A	N/A	N/A	C	D					
		N/A	N/A	N/A	N/A	N/A	N/A	25	41					

SB SR 1 RAMPS / ROAD A

20

		1993 Count	1997 Count	2000 Count	2001 (Feb) Count	2001 (Oct) Count	2002 (Oct) Count	2003 (Oct) Count	2004 (Oct) Count	2005 (Oct) Count	2006 (Oct) Count	2007 (Nov) Count	2008 (Nov) Count	Notes
NB SR 1	L	126	149	144	94	104	136							Intersection was not counted in Fall 2003.
	T													
SB	R	11	6	29	49	70	66							
	L													
EB Road A	T	263	256	283	337	491	353							
	R	30	47	70	49	84	65							
WB Road A	L	196	199	236	280	456	326							
	T	120	108	199	227	336	200							
CLV LOS v/c	R													
		A	A	A	A	B	A							
		0.37	0.38	0.41	0.44	0.66	0.51							

Churchmans Crossing Volume and
Level of Service Comparison - PM Peak Hour

NB SR 1 RAMPS / ROAD A

21

		1993 Count	1997 Count	2000 Count	2001 (Feb) Count	2001 (Oct) Count	2002 (Oct) Count	2003 (Oct) Count	2004 (Oct) Count	2005 (Oct) Count	2006 (Oct) Count	2007 (Nov) Count	2008 (Nov) Count	Notes
NB SR 1	L	10	20	20	12	16	11							Intersection was not counted in Fall 2003.
	T	187	214	269	297	344	358							
	R													
SB Mall	L													
	T	94	100	163	194	236	264							
R	R	212	278	416	484	557	518							
	L	81	136	200	253	262	314							
EB Road A	T													
	R	120	174	114	124	149	106							
WB	L													
	T													
	R													
CLV LOS v/c		A 0.17	A 0.23	A 0.29	A 0.34	A 0.38	A 0.43							

SR 2 / RED MILL ROAD / POLLY DRUMMOND HILL ROAD

22

		1993 Count	1997 Count	2000 Count	2001 (Feb) Count	2001 (Oct) Count	2002 (Oct) Count	2003 (Oct) Count	2004 (Oct) Count	2005 (Oct) Count	2006 (Oct) Count	2007 (Nov) Count	2008 (Nov) Count	Notes
NB Red Mill	L	-	-	218	238	254	194	296	199	208	274	215	206	
	T	-	-	374	426	412	434	421	312	359	401	391	435	
	R	-	-	72	102	108	90	97	69	119	92	139	100	
SB Polly	L	-	-	233	171	312	177	200	209	189	201	200	186	
	T	-	-	375	380	453	288	319	301	323	366	323	347	
R	R	-	-	245	253	298	246	246	241	251	281	323	274	
	L	-	-	411	346	368	352	381	282	358	353	369	323	
EB SR 2	T	-	-	1091	1024	1,169	1,172	1,142	1,164	997	993	1,129	995	
	R	-	-	344	415	476	407	369	427	367	316	364	432	
WB SR 2	L	-	-	210	202	254	214	260	196	180	204	226	314	
	T	-	-	1259	1207	1,305	1,107	1,326	1,305	1,270	1,326	1,306	1,189	
	R	-	-	241	270	350	293	408	365	239	200	317	167	
CLV LOS v/c		N/A N/A	N/A N/A	F 1.01	E 0.96	F 1.06	E 0.95	F 1.03	D 0.90	E 0.96	F 1.01	E 1.00	E 0.95	
HCS LOS Delay		N/A N/A	N/A N/A	E 67	E 63	E 79	E 56	E 67	D 52	E 58	E 71	E 59	D 54	
Synchro LOS Delay		N/A N/A	N/A N/A	D 54	D 47	E 61	D 42	D 53	D 39	D 44	D 54	D 53	D 52	

Churchmans Crossing Volume and
Level of Service Comparison - PM Peak Hour

SR 7 / SCHOOL BELL ROAD

24

		1993 Count	1997 Count	2000 Count	2001 (Feb) Count	2001 (Oct) Count	2002 (Oct) Count	2003 (Oct) Count	2004 (Oct) Count	2005 (Oct) Count	2006 (Oct) Count	2007 (Nov) Count	2008 (Nov) Count	Notes
NB SR 7	L	-	-	-	-	-	-							Intersection was not counted in Fall 2003.
	T	-	-	752	-	-	787							
SB SR 7	R	-	-	42	-	-	66							
	L	-	-	117	-	-	216							
EB -	T	-	-	1,198	-	-	1,345							
	R	-	-	-	-	-	-							
WB School	L	-	-	58	-	-	68							
	T	-	-	-	-	-	-							
CLV LOS v/c	R	-	-	58	-	-	184							
		N/A	N/A	C	N/A	N/A	D							
		N/A	N/A	0.79	N/A	N/A	0.88							

SR 4 / TELEGRAPH ROAD

25

		Count 118	Count 98	Count 108	Count 112	Count 131	Count 173	2003 (Oct) Count	2004 (Oct) Count	2005 (Oct) Count	2006 (Oct) Count	2007 (Nov) Count	2008 (Nov) Count	Notes
NB Happy Harry's	L	-	-	-	-	-	-	-	14					Intersection was not counted in Fall 2005.
	T	-	-	-	-	-	-	-	-					
SB Telegraph	R	-	-	-	-	-	-	-	27					
	L	-	-	-	-	-	-	-	129					
EB SR 4	T	-	-	-	-	-	-	-	299					
	R	-	-	-	-	-	-	-	508					
WB SR 4	L	-	-	-	-	-	-	-	2,309					
	T	-	-	-	-	-	-	-	54					
CLV LOS v/c	R	-	-	-	-	-	-	-	11					
		N/A	N/A	N/A	N/A	N/A	N/A	N/A	E					
		N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.00					
HCS LOS		N/A	N/A	N/A	N/A	N/A	N/A	N/A	D					
Delay		N/A	N/A	N/A	N/A	N/A	N/A	N/A	49					
Synchro LOS		N/A	N/A	N/A	N/A	N/A	N/A	N/A	C					
Delay		N/A	N/A	N/A	N/A	N/A	N/A	N/A	34					

*HCS results based on pretimed signal (not actuated-coordinated) and do not account for upstream signal impacts. SYNCHRO results based on actuated-coordinated signal system on SR 4.

Churchmans Crossing Volume and
Level of Service Comparison - PM Peak Hour

SR 2 / ST. JAMES CHURCH ROAD

26

		Count 118	Count 98	Count 108	Count 112	Count 131	Count 173	2003 (Oct) Count	2004 (Oct) Count	2005 (Oct) Count	2006 (Oct) Count	2007 (Nov) Count	2008 (Nov) Count	Notes
NB St. James	L	-	-	-	-	-	-	-	204					Intersection was not counted in Fall 2005.
	T	-	-	-	-	-	-	-	53					
	R	-	-	-	-	-	-	-	152					
SB Griffin Drive	L	-	-	-	-	-	-	-	111					
	T	-	-	-	-	-	-	-	70					
	R	-	-	-	-	-	-	-	98					
EB SR 2	L	-	-	-	-	-	-	-	120					
	T	-	-	-	-	-	-	-	1,436					
	R	-	-	-	-	-	-	-	84					
WB SR 2	L	-	-	-	-	-	-	-	237					
	T	-	-	-	-	-	-	-	1,700					
	R	-	-	-	-	-	-	-	32					
CLV LOS		N/A	N/A	N/A	N/A	N/A	N/A	N/A	B					
v/c		N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.68					
HCS LOS		N/A	N/A	N/A	N/A	N/A	N/A	N/A	D					
Delay		N/A	N/A	N/A	N/A	N/A	N/A	N/A	38					
Synchro LOS		N/A	N/A	N/A	N/A	N/A	N/A	N/A	C					
Delay		N/A	N/A	N/A	N/A	N/A	N/A	N/A	29					