

Technical Report

Professional Services Delaware Valley Regional Planning Commission New Jersey Traffic Signal Retiming Initiative

Burlington County Route 541, Burlington-Mount Holly Road/Mount Holly Road/High Street

From Morris Street to Ridgley Street,
Including Mt. Holly Bypass (CR 541) to Marne Highway (CR 537)

In Burlington City, Burlington Township, Westampton Township, Mount Holly Township and Hainesport Township, Burlington County, NJ

Prepared For:



Prepared By:



I. Summary

A. *Project Overview*

Under contract with Delaware Valley Regional Planning Commission (DVPRC), in cooperation with Burlington County and the New Jersey Department of Transportation, the Consultant Project Team has completed traffic signal retiming work at nineteen (19) signalized intersections along County Route 541 in central Burlington County. This work started in May 2018, following the completion of Phase 1 meeting, and establishing a priority list with the county. In accordance with the process established by DVPRC, updated timing plans, including adjustments to cycle lengths, splits, and offsets, as well as the introduction of additional time-of-day coordination patterns, were completed by December 15, 2018.

Between the project meeting and implementation, field data collection activities were conducted, including peak hour turning movement counts, controller assessments and 'before' travel time runs. The collected data was analyzed using traffic engineering software including Synchro™ and Tru-Traffic™. New timing plans were developed for the corridor, which were implemented by the consultant team in August 2018. Follow-up field verifications were done in September, 2018, after public schools reopened. Fine-tuning and field observations were conducted throughout implementation, resulting in minor timing changes to those initially implemented. The final timings are documented herein. This brief report summarizes the activities, observations, and results of this Project.

B. *Results*

With implementation of the 1) updated timing plans, and 2) modifications to the corridor's time-of-day schedule, the Project Team has documented significant reductions in corridor travel times and delay. Northbound weekday morning, mid-day, evening and weekend mid-day peak travel times have been reduced by 16%, 22% 21%, and 19%, respectively. Southbound weekday morning, mid-day, evening and weekend mid-day peak travel times have been reduced by 12%, 14% 23%, and 14%, respectively. **Number of stops in a run have decreased over 54% in the AM and mid-day peak periods, over 58% during the PM peak, and 47% in the Saturday mid-day peak.**

"Number of stops on average have decreased over 54% throughout a typical day..."

C. *Project Description*

Burlington County Route 541 (CR 541) is a north to south Urban Principal Arterial. The corridor goes by multiple names that include High Street, Mount Holly Road and Mount Holly Bypass. The corridor study limits extend 6.82 miles, from Morris Road on the northern limit to Lewis Drive/Ridgley Street on the southern limit.



Mount Holly Road & Town Square Drive

A spur of County Route 541 (Mount Holly Bypass), extends from High Street (CR 541) to Marne Highway (CR 537) to the west. The CR 541 corridor spans thru five municipalities in Burlington County, including Burlington City, Burlington Township, Westampton Township, Mount Holly Township, and Hainesport Township. Both the New Jersey Turnpike (at Hancock Lane) and I-295 (between Elbow Lane and Cadillac Drive) have access to High Street (CR 541). Land use at the northern and southern end of High Street (CR 541) is residential and

institutional. The middle section of the corridor is primarily commercial and retail, which includes a Walmart, Burlington Mall, Target, Kohls and Home Depot.

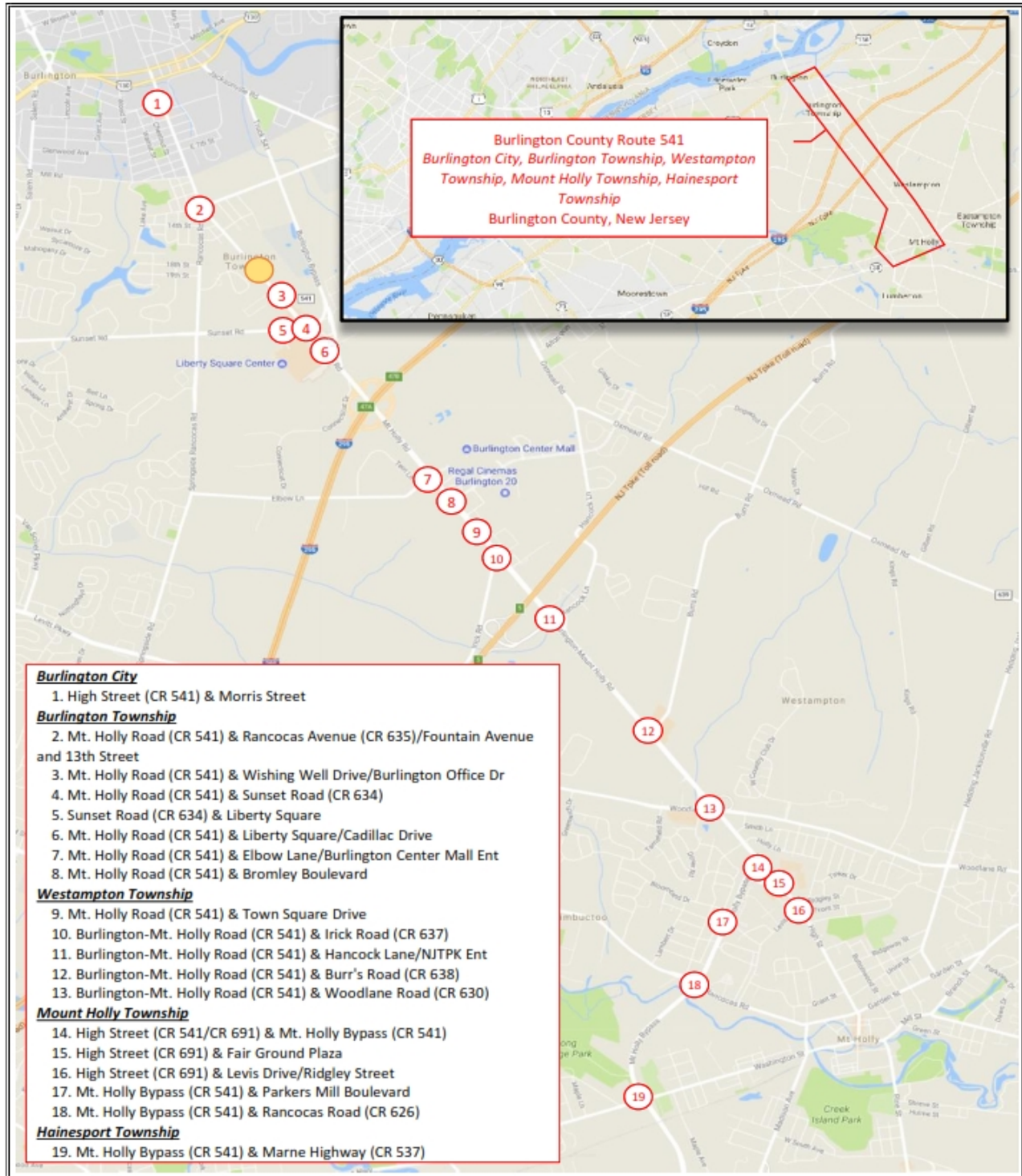
Within these limits, nineteen (19) signalized intersections were included as part of the retiming project. The addition of signalized intersection at Sunset Road and Liberty Square was added later on since it is located 430' to the west from High Street; moreover, it is included as part of the nineteen signals. The intersection of High Street and Kelly Drive was considered during this project; however, construction plans of the proposed signal was still under review during the retiming process. The following is a list of signalized intersections studied as part of this Project.

1. High Street (CR 541) and Morris Street [MP 23.64]
2. Mount Holly Road (CR 541) and Rancocas Avenue (CR 635)/Fountain Avenue and 13th Street
3. Mount Holly Road (CR 541) and Wishing Well Drive/Burlington Office Drive
4. Mount Holly Road (CR 541) and Sunset Road (CR 634)
5. Sunset Road (CR 634) and Liberty Square
6. Mount Holly Road (CR 541) and Liberty Square/Cadillac Drive
7. Mount Holly Road (CR 541) and Elbow Lane/Burlington Center Mall Entrance
8. Mount Holly Road (CR 541) and Bromley Boulevard
9. Mount Holly Road (CR 541) and Town Square Drive
10. Burlington-Mount Holly Road (CR 541) and Irick Road (CR 637)
11. Burlington-Mount Holly Road (CR 541) and Hancock Lane/NJ Turnpike Entrance
12. Burlington-Mount Holly Road (CR 541) and Burrs Road (CR 638)
13. Burlington-Mount Holly Road (CR 541) and Woodlane Road (CR 630)
14. High Street (CR 541/CR 691) and Mount Holly Bypass (CR 541)
15. High Street (CR 691) and Fair Ground Plaza
16. High Street (CR 691) and Levis Drive/Ridgley Street
17. Mount Holly Bypass (CR 541) and Parkers Mill Boulevard
18. Mount Holly Bypass (CR 541) and Rancocas Road (CR 626)
19. Mount Holly Bypass (CR 541) and Marne Highway (CR 537) [MP 16.82]

The project location is shown in **Exhibit 1**.

Each of the nineteen project intersections have an intersection electrical plan and layout plan, issued by Burlington County Engineering Department. The existing day plan schedule for the project intersections was straightforward: The signals operated free of coordination every weekday and weekend from 10 PM (or 11 PM) to 6 AM. At 6 AM during the week, the system called for a coordinated 110-second cycle at thirteen (13) project intersections. At 10 PM (or 11 PM) during the week, the system would operate in free. The three (3) signals on Mount Holly By-Pass, west of High Street, as well as the signal at Sunset Road & Walmart Driveway, operated in free during the weekday. The existing day plan schedule for each intersection is shown in Appendix A. Coordination is currently maintained via fiber-optic based communication to the Econolite CENTRACS™ central system located in Burlington County Engineering Office.

Exhibit 1 - Project Location and Intersections



II. Data Collection

A. *Turning Movement Counts*

Peak hour intersection counts were conducted at the above intersections during the weekday morning (7:00 am to 9:00 am), weekday mid-day (11:00 am to 1:00 pm) and evening (4:00 pm to 6:00 pm) peak hour periods. Saturday counts were taken between 11:00 am and 1:00 pm. The manual turning movement counts were taken on Thursday, November 30, 2017 and Saturday, December 2, 2017 by Imperial Traffic & Data Collection. The TMCs are available on the project website, <http://dvrpc.taylorwiseman.com/>.

B. *Automatic Traffic Recorder (ATR) Counts*

In May/June 2018, automatic traffic recorder counts were taken as follows:

Table 1
Average Daily Traffic
Burlington County Route 541

Location	Average Daily Traffic
211: High Street, between Route 130 & Morris Street – NB Traffic	10,429 vehicles
High Street, between Route 130 & Morris Street – SB Traffic	9,248 vehicles
Total ADT	19,677 vehicles
212: Mount Holly Road, between Liberty Square/Cadillac Drive & I-295 – NB Traffic	19,473 vehicles
Mount Holly Road, between Liberty Square/Cadillac Drive & I-295 – SB Traffic	17,690 vehicles
Total ADT	37,164 vehicles
213: Burlington-Mount Holly Road, between Hancock Lane & Burrs Road – NB Traffic	13,107 vehicles
Burlington-Mount Holly Road, between Hancock Lane & Burrs Road – NB Traffic	13,150 vehicles
Total ADT	26,257 vehicles
214: High Street, south of Levis Drive/Ridgley Street – NB Traffic	4,630 vehicles
High Street, south of Levis Drive/Ridgley Street – NB Traffic	5,767 vehicles
Total ADT	10,397 vehicles
215: Mount Holly Bypass, between Parkers Mill Blvd & Rancocas Road – NB Traffic	12,352 vehicles
Mount Holly Bypass, between Parkers Mill Blvd & Rancocas Road – SB Traffic	15,694 vehicles
Total ADT	28,046 vehicles

The twenty-four hour counts clearly show the fluctuation of traffic volumes Burlington County Route 541 experience on any given day. The New Jersey Turnpike Ramps and I-295 Ramps provide access to CR 541, and all the retail and commercial businesses that exist on its frontage.

C. Travel Time Runs

Travel time runs were collected within the Project area both before and after initial timing plan implementation. Using a GPS enabled laptop with the software Tru-Traffic™ Version 10.0, trip logs were recorded along northbound and southbound Burlington County Route 541 as well as the Mount Holly Bypass spur. Travel time runs were also conducted during implementation to fine-tune splits and offsets.

D. Traffic Signal Timing and Phasing Data

Traffic signal timing and phasing data were obtained from the Burlington County Engineering Traffic Operations central system. Base information was downloaded off the CENTRACS™ server.

E. Field Review of Existing Operations

Field notes were collected at the intersection on various intersection, signal, and traffic characteristics to assist in model development and signal optimization. Information gathered included lane geometry, storage lengths, number and types of signal heads, cabinet and pedestrian push button locations, and signal phasing.

Posted speed limits, left turn types (protected, protected/permitted, or permitted), turn restrictions, and the presence of roadway lighting and signal back plates were noted. Pedestrian push buttons were tested for proper operation during the field review. Any other unique characteristics were also recorded.

The existing controllers on the project corridor were found to be a mix of both the Econolite ASC/2S and Cobalt controllers, which communicate with the Econolite CENTRACS™ control software in the Burlington County Traffic Control Center. The fiberoptic communication between the intersections was functioning. All detection on the corridor was functioning at the end of implementation. The controller cabinets, in general, were in good to excellent condition. A list of intersections and type of controller at each signal is as follows on Table 2:



Typical Burlington County Cobalt Controller

Table 2
Econolite Controller Types
Burlington County Route 541

ID	Cross Street	Municipality	Controller Type
1	Morris Street	Burlington City	ASC/2S
2	Rancocas Avenue/Fountain Avenue & 13th Street	Burlington Township	Cobalt
3	Wishing Well Drive/Burlington Office Drive	Burlington Township	ASC/2S
4	Sunset Road	Burlington Township	ASC/2S
5	Liberty Square	Burlington Township	ASC/2S
6	Liberty Square/Cadillac Drive	Burlington Township	Cobalt
7	Elbow Lane/Burlington Center Mall Entrance	Burlington Township	Cobalt
8	Bromley Boulevard	Burlington Township	Cobalt
9	Town Square Drive	Westampton Township	Cobalt
10	Irick Road	Westampton Township	Cobalt
11	Hancock Lane/New Jersey Turnpike Entrance	Westampton Township	Cobalt
12	Burr's Road	Westampton Township	Cobalt
13	Woodlane Road	Westampton Township	Cobalt
14	Mt. Holly Bypass	Mount Holly Township	ASC/2S
15	Fair Ground Plaza	Mount Holly Township	ASC/2S
16	Levis Drive/Ridgley Street	Mount Holly Township	ASC/2S
17	Parkers Mill Boulevard	Mount Holly Township	ASC/2S
18	Rancocas Road	Mount Holly Township	ASC/2S
19	Marne Highway	Hainesport Township	ASC/2S

III. **Analysis and Implementation**

A. Modeling

The Project Team developed a set of base Synchro™ Version 10 models for management of the new traffic data, initial analysis of the intersection with and without various timing and a screening level review of each intersection's overall potential for capacity-level improvements using the Intersection Capacity Utilization (ICU) Methodology. Microscopic simulation using SimTraffic™ was used to assess the impact of unmet demand, turn pocket overflow, metering and spillback, and the effects of origin-destination pairs. TruTraffic™ was used to assist in offset determination in order to assess early release issues created when minor phases gap out and unused cycle time is typically sent back to the coordinated phases.

It is important to note that the delay minimization focus of the optimization routine in Synchro™ is helpful to a point in deriving improved cycle lengths and splits; however, this method does not necessarily favor corridor progression and bandwidth requirements. After development of the base models and supplemental evaluations in SimTraffic™, the UTDF file transfer feature with various spreadsheets were used to create base TruTraffic™ models for more in-depth optimization.

B. Initial Results--Modeling

Using the data collected to date and the modeled (i.e. theoretical) timing plans, several network-wide measures of effectiveness were presented for the then pre-existing conditions without retiming (Existing), and with the proposed signal retiming (Proposed). The results showed significant time savings, reductions in delays and reductions in fuel consumption throughout the Project area. Weekday total delays decrease by approximately 9% during the AM peak hour, 11% during the Mid-Day peak hour and 16% during the PM peak hour. Weekend total delays decrease by approximately 6% during the Mid-Day. The following exhibit includes the results of the modeling effort.

Table 3
Synchro Network Performance Measures
(Weekday and Weekend - Modeled)

AM Peak	Existing	Implemented	Difference
Total Delay (hr)	394	357	-9.4%
Total Stops	25,075	21,742	-13.3%
Total Travel Time (hr)	771	733	-4.9%
Fuel Consumed (gal)	1,148	1,085	-5.5%
Mid-day Peak	Existing	Implemented	Difference
Total Delay (hr)	223	198	-11.2%
Total Stops	20,164	17,943	-11.0%
Total Travel Time (hr)	536	511	-4.7%
Fuel Consumed (gal)	858	816	-4.9%
PM Peak	Existing	Implemented	Difference
Total Delay (hr)	469	394	-16.0%
Total Stops	31,502	25,075	-20.4%
Total Travel Time (hr)	919	771	-16.1%
Fuel Consumed (gal)	1,383	1,148	-17.0%
Weekend MD Peak	Existing	Implemented	Difference
Total Delay (hr)	290	270	-6.9%
Total Stops	25,014	21,839	-12.7%
Total Travel Time (hr)	647	626	-3.2%
Fuel Consumed (gal)	1,025	977	-4.7%

C. Implementation

During the week of August 20, 2018, the consultant team implemented the optimized timing plans into each of the nineteen controllers from the CENTRACS™ central system in Burlington County Engineering office. The consultant team worked with Signal Control Products to meet the existing program standard maintained in the Burlington County Traffic Control Center CENTRACS™ database. The consultant team verified that each controller maintained a common time standard. The consultant team had recommended, through its analysis of traffic data collected to add additional programs to the signal system. This recommendation was approved by Burlington County Traffic Engineering. The implemented coordination plan calls for the signals to be in coordination during the week from 6:00 AM to 10:00 PM, from 7:30 AM

to 10:00 PM on Saturday and from 8:45 AM to 8:30 PM on Sunday. The weekday programs include an AM Ramp Up (a transitional plan to coordinated operation from FREE), AM, Mid-Day, PM and PM Off-Peak. The weekend programs have an AM ramp-up, Mid-Day and PM Off-Peak. Cycle lengths were generally increased during the weekday AM and PM peak periods. Off Peak periods generally saw a reduction in cycle length. The weekend maintained a 110 second cycle during peak hours, and saw a reduction in cycle length in the early morning or late evening hours while maintaining coordination. The corridor was observed during all (Ramp Up, AM, Mid-Day, PM, PM Off-Peak, and weekend) timing plans. The corridor was observed on Sunday as well due to the presence of churches directly on the project corridor. Details of the coordination scheme installed are presented in Appendix A.

D. Fine-Tuning of Signal Timings

The Project Team observed each new timing plan at every intersection during its respective peak hour to ensure each phase split was appropriate for the traffic conditions present. If a movement or intersection is over capacity, split adjustments were made to manage queue spillback and blockage. The consultant team did identify issues at the intersection of Mount Holly Road, Rancocas Road and Fountain Avenue in the afternoon, as Burlington Township High School is approximately 4,000 feet east of the intersection on Fountain Avenue. Two additional programs were added in December, 2018, with the approval of Burlington County, to assist the intersection in dealing with school egress.

In addition to fine-tuning splits, offset adjustments often have a larger effect on the performance of the network. Offsets were adjusted at the coordinated intersections by conducting travel time runs along the corridor. Travel time runs were conducted using Tru-Traffic™ in conjunction with a direct connect GPS unit which tracks the location of the test vehicle within the traffic signal system. This provides the user dynamic information about the performance of the traffic signal system such as travel time and delay. Results of the travel time runs under existing timings (the “before” runs) and implemented signal timings (the “after” runs) are discussed in the next section of this report.

The revised signal timings are available from the project website, <http://dvrpc.taylorwiseman.com/>. Updated signal timing directives were developed by the consultant team, with electronic and paper copies delivered to Burlington County and laminated copies placed in each controller.

IV. Results

A. Before and After Data

Travel time data along the corridor was collected before and after implementation of the initial timing plans during the weekday morning, mid-day, evening and the weekend mid-day peak hour periods. Refer to Table 4 that includes the cumulative measures of effectiveness for the before and after conditions, as well as the percent differences between the two scenarios, per peak period based on actual field data, as opposed to the theoretical values highlighted in the previous section.

With implementation of the new timing plans and maintenance of a uniform time clock between controllers, progression along County Road 541 improved significantly, in both directions. For all four peak hour periods, the implemented retiming is producing positive results and significant savings in travel time, delay, the number of stops, and travel speed in both directions. Refer to Appendix B for the travel time plots for the time periods.

Table 4
Peak Hour Travel Time and Delay Improvements

		AM Peak		Mid-day Peak		PM Peak		Weekend Mid-day Peak	
		Travel Time (s)	Delay (s)	Travel Time (s)	Delay (s)	Travel Time (s)	Delay (s)	Travel Time (s)	Delay (s)
Northbound	Existing	654	192	726	271	768	306	659	198
	Implemented	547	85	565	110	605	143	532	71
	Difference	-107		-161		-163		-127	
	% Difference	-16.4%	-55.7%	-22.2%	-59.4%	-21.2%	-53.3%	-19.3%	-64.1%
Southbound	Existing	651	194	645	181	689	232	649	192
	Implemented	573	116	556	92	529	72	559	102
	Difference	-78		-89		-160		-90	
	% Difference	-12.0%	-40.2%	-13.8%	-49.2%	-23.2%	-69.0%	-13.9%	-46.9%

Northbound: Levis Drive to Morris Street

Southbound: Morris Street to Levis Drive

Table 5
Peak Hour Stop and Fuel Consumption Improvements

		AM Peak		Mid-day Peak		PM Peak		Weekend Mid-day Peak	
		Stops	Fuel Cons (gal/hr)	Stops	Fuel Cons (gal/hr)	Stops	Fuel Cons (gal/hr)	Stops	Fuel Cons (gal/hr)
Northbound	Existing	4.5	268.4	7.1	261.4	7.4	346.6	5.3	261.7
	Implemented	2	190.6	2.8	183.6	3.2	244.1	2	187.7
	Difference	-2.5	-77.8	-4.3	-77.8	-4.2	-102.5	-3.3	-74
	% Difference	-55.6%	-29.0%	-60.6%	-29.8%	-56.8%	-29.6%	-62.3%	-28.3%
Southbound	Existing	5.8	284.9	5.3	214.2	6.4	354.8	4.6	242.1
	Implemented	2.7	219	2.8	189.5	2.6	275.1	3.2	230
	Difference	-3.1	-65.9	-2.5	-24.7	-3.8	-79.7	-1.4	-12.1
	% Difference	-53.4%	-23.1%	-47.2%	-11.5%	-59.4%	-22.5%	-30.4%	-5.0%

Northbound: Levis Drive to Morris Street

Southbound: Morris Street to Levis Drive

B. Opportunities for Improvement

Burlington County Route 541 had functional timing in-place at the start of this project. In addition, maintenance/operations of the signal system was excellent. Working with Burlington County Traffic Engineering, the Regional Signal Timing Initiative has shown significant benefit to updated traffic signal timing in reduced delay, travel time and STOPS by motorists.

Given the fact that two major New Jersey limited-access highways (NJ Turnpike and Interstate 295) both intersect the County Route 541 corridor, as well as the heavy retail influence on the corridor, development

of a traffic responsive and/or adaptive algorithm for this corridor would allow the traffic signal system to accommodate major diversions from the Turnpike and/or 295, as well as deal with holiday shopping peaks.

C. Additional Resources/Project Data

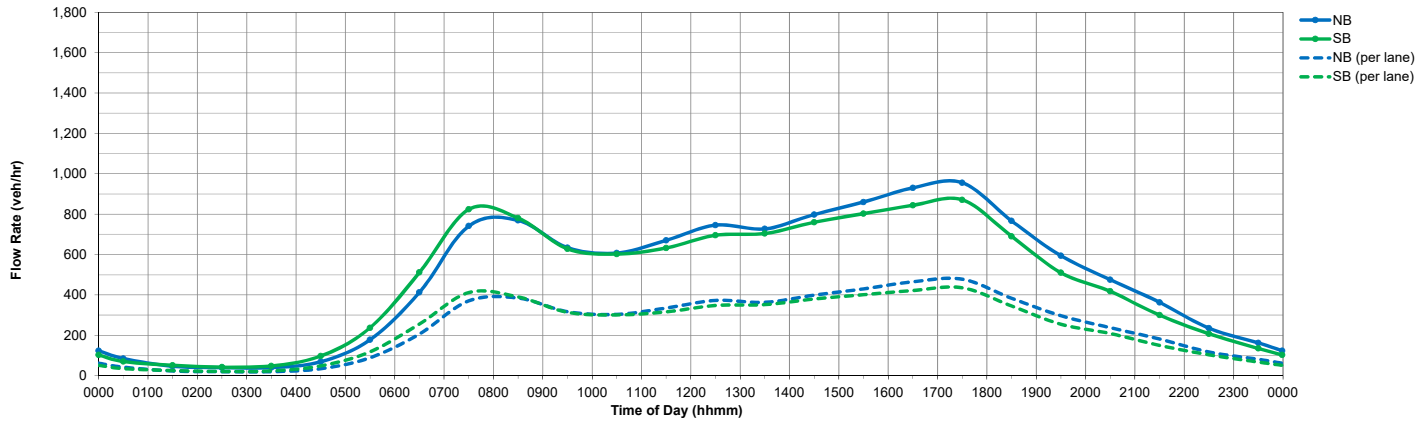
Additional information, including project data, analysis files, and other detailed reports will be available on the Project website at: <http://dvrpc.taylorwiseman.com/>.

Appendix A

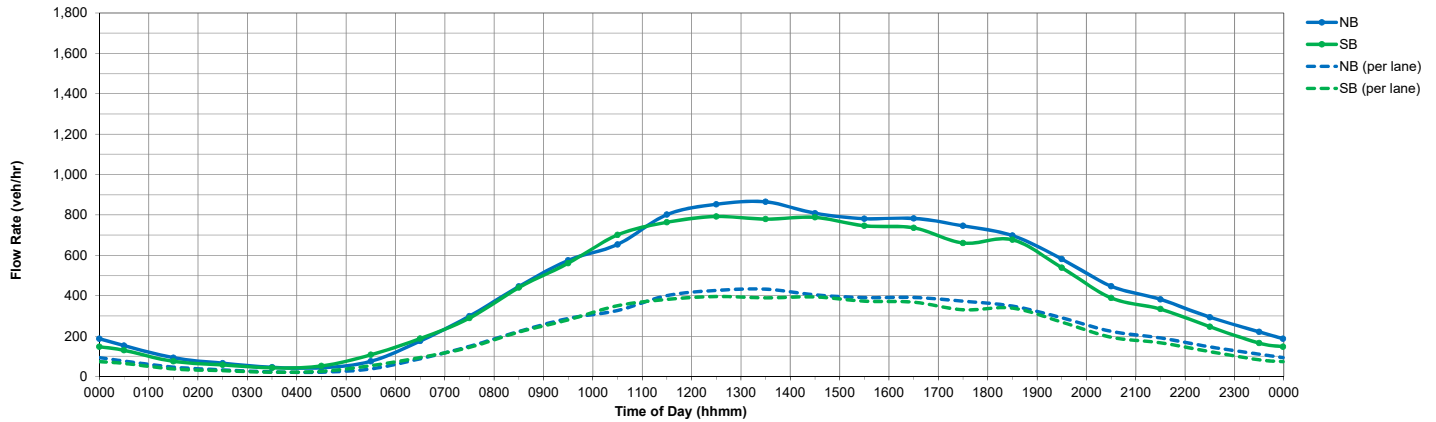
Hourly Volumes - Average for Count Locations on CR 541

From	To	Monday		Tuesday		Wednesday		Thursday		Friday		Saturday		Sunday		Avg. Weekday		Avg. Weekend	
		NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
0000	0100	65	60	82	69	85	64	91	76	102	82	153	130	135	92	85	70	144	111
0100	0200	40	48	46	58	46	44	50	53	52	53	93	75	85	61	47	51	89	68
0200	0300	30	39	45	48	38	41	46	43	42	45	66	58	53	49	40	43	59	53
0300	0400	32	47	45	52	41	41	42	50	42	51	46	43	36	34	40	48	41	38
0400	0500	54	96	73	99	74	93	71	103	74	96	43	52	31	32	69	97	37	42
0500	0600	158	250	180	235	185	240	181	231	188	229	75	108	44	57	178	237	60	82
0600	0700	366	502	434	514	411	528	420	499	433	516	176	188	105	129	413	512	141	158
0700	0800	658	802	781	826	746	822	760	840	764	830	299	289	183	205	742	824	241	247
0800	0900	707	818	840	825	766	772	753	722	780	767	446	440	303	312	769	781	375	376
0900	1000	564	639	661	633	648	596	631	610	667	662	575	561	430	458	634	628	502	510
1000	1100	534	588	652	575	586	579	598	580	669	691	654	701	546	547	608	602	600	624
1100	1200	597	606	685	648	664	587	658	611	749	712	802	764	646	671	670	633	724	718
1200	1300	664	664	777	719	709	659	727	655	853	782	853	792	712	690	746	696	783	741
1300	1400	656	702	773	713	685	640	711	692	811	775	865	779	717	692	727	704	791	736
1400	1500	686	757	838	754	810	722	782	728	875	839	809	788	696	637	798	760	752	713
1500	1600	743	785	868	833	876	768	870	772	943	854	782	746	696	584	860	802	739	665
1600	1700	843	858	957	857	902	795	950	797	1,000	912	783	736	664	559	930	844	724	647
1700	1800	833	841	957	910	978	851	1,001	844	1,010	909	746	661	575	493	956	871	661	577
1800	1900	694	650	768	640	727	647	790	720	855	796	698	677	511	462	767	690	604	570
1900	2000	514	501	542	424	602	488	631	512	683	625	582	539	465	419	594	510	524	479
2000	2100	422	403	422	333	464	401	514	447	557	507	447	389	376	344	476	418	412	367
2100	2200	303	291	316	239	342	274	388	311	468	388	382	334	271	246	363	300	327	290
2200	2300	181	178	209	165	233	198	239	222	314	274	294	247	179	163	235	207	236	205
2300	0000	132	114	149	110	161	131	126	134	246	189	221	165	124	91	163	136	172	128
Sub-total		10,472	11,236	12,099	11,277	11,778	10,978	12,026	11,248	13,175	12,580	10,889	10,263	8,580	8,027	11,910	11,464	9,735	9,145
Total		21,708		23,375		22,756		23,275		25,755		21,152		16,607		23,374		18,879	

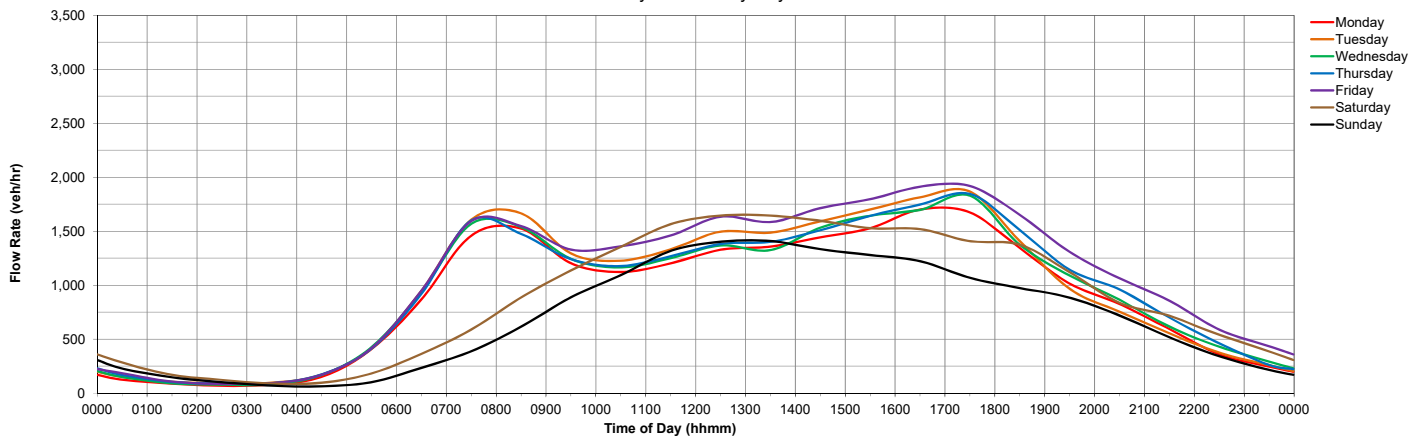
Weekday Average Hourly Volumes



Saturday Hourly Volumes



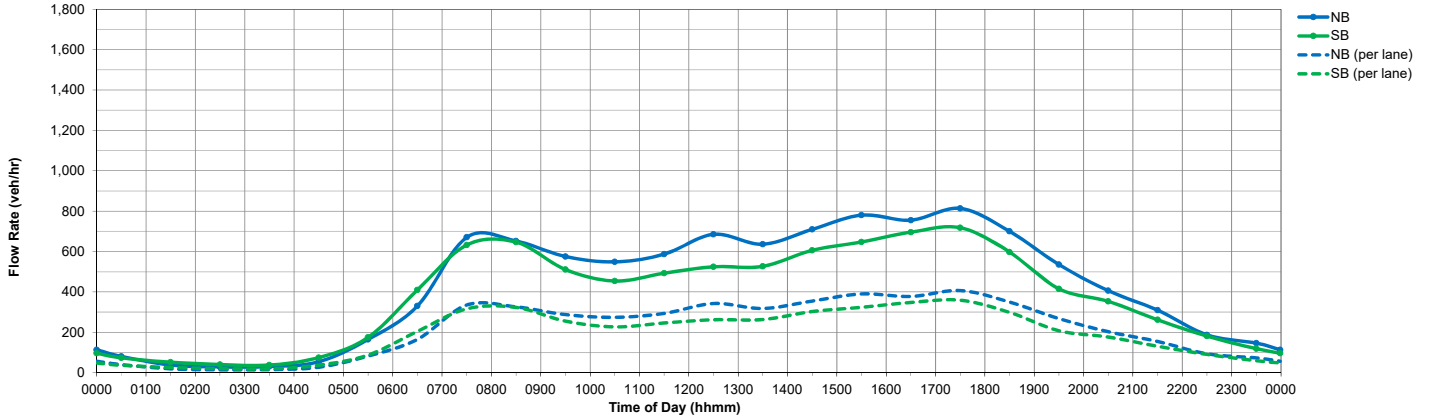
Hourly Volumes by Day



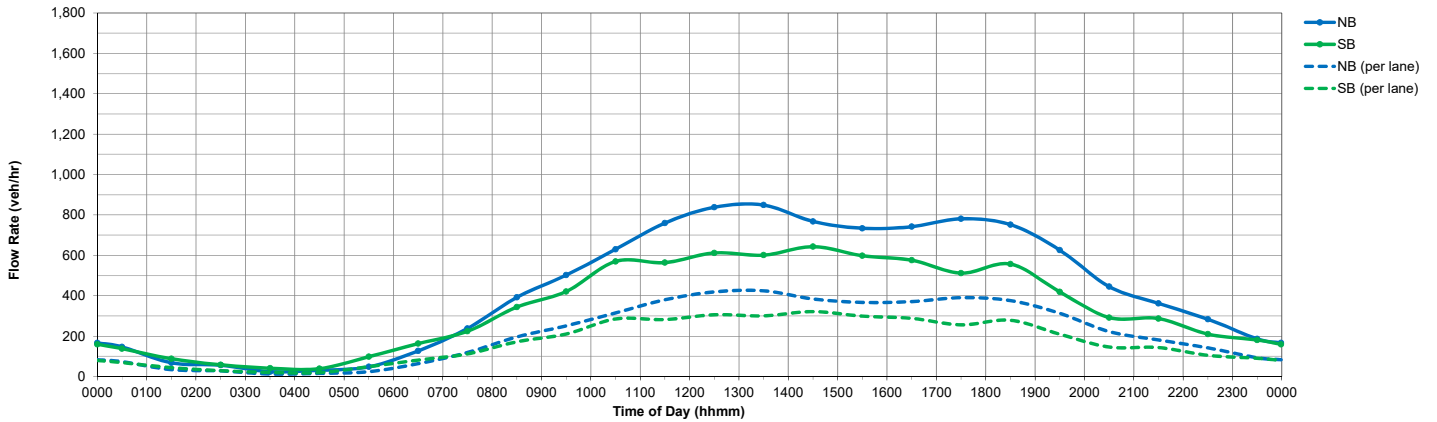
Hourly Volumes - Location 211 - High St (CR 541) North of Morris St

From	To	Monday		Tuesday		Wednesday		Thursday		Friday		Saturday		Sunday		Avg. Weekday		Avg. Weekend	
		NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
0000	0100	59	58	81	68	81	75	92	85	90	82	147	138	90	107	81	74	119	123
0100	0200	39	51	39	52	36	49	51	55	27	53	68	88	77	71	38	52	73	80
0200	0300	18	32	31	45	34	33	23	46	38	47	56	58	40	41	29	41	48	50
0300	0400	21	32	35	44	31	44	39	33	27	37	24	41	25	33	31	38	25	37
0400	0500	53	66	51	68	55	71	63	92	49	77	31	39	23	28	54	75	27	34
0500	0600	161	177	160	188	177	179	163	162	164	169	48	98	35	48	165	175	42	73
0600	0700	358	416	340	344	308	430	330	430	316	428	127	163	94	104	330	410	111	134
0700	0800	691	637	678	642	686	602	649	688	650	584	238	224	135	163	671	633	187	194
0800	0900	700	671	655	722	645	645	642	607	618	587	392	344	292	253	652	646	342	299
0900	1000	581	505	617	526	568	518	564	523	548	483	502	421	448	332	576	511	475	377
1000	1100	491	427	648	421	507	476	558	437	540	509	630	570	516	417	549	454	573	494
1100	1200	555	452	542	509	587	474	583	490	669	539	760	564	640	510	587	493	700	537
1200	1300	657	500	721	558	615	485	619	457	815	623	838	612	663	553	685	525	751	583
1300	1400	600	492	726	556	608	495	580	538	668	553	849	601	748	535	636	527	799	568
1400	1500	692	615	738	620	728	590	687	577	704	628	768	643	681	520	710	606	725	582
1500	1600	796	659	732	660	779	616	774	644	820	659	734	598	645	457	780	648	690	528
1600	1700	810	735	784	748	690	653	729	654	784	659	742	576	568	468	755	696	655	522
1700	1800	800	645	775	737	797	709	876	727	820	772	781	512	520	425	814	718	651	469
1800	1900	736	573	659	509	613	603	681	633	811	668	752	557	459	381	700	597	606	469
1900	2000	533	386	431	350	511	432	567	402	636	507	626	419	454	359	536	415	540	389
2000	2100	470	326	312	282	356	361	436	394	457	404	445	292	376	313	406	353	411	303
2100	2200	278	244	226	202	288	259	332	261	425	344	362	287	251	185	310	262	307	236
2200	2300	167	159	143	141	211	189	202	220	214	197	284	210	154	133	187	181	219	172
2300	0000	120	103	129	75	137	125	128	118	220	175	186	181	108	73	147	119	147	127
Sub-total		10,386	8,961	10,233	9,067	10,048	9,143	10,368	9,273	11,110	9,794	10,390	8,236	8,042	6,509	10,429	9,248	9,216	7,373
Total		19,347		19,300		19,191		19,641		20,904		18,626		14,551		19,677		16,589	

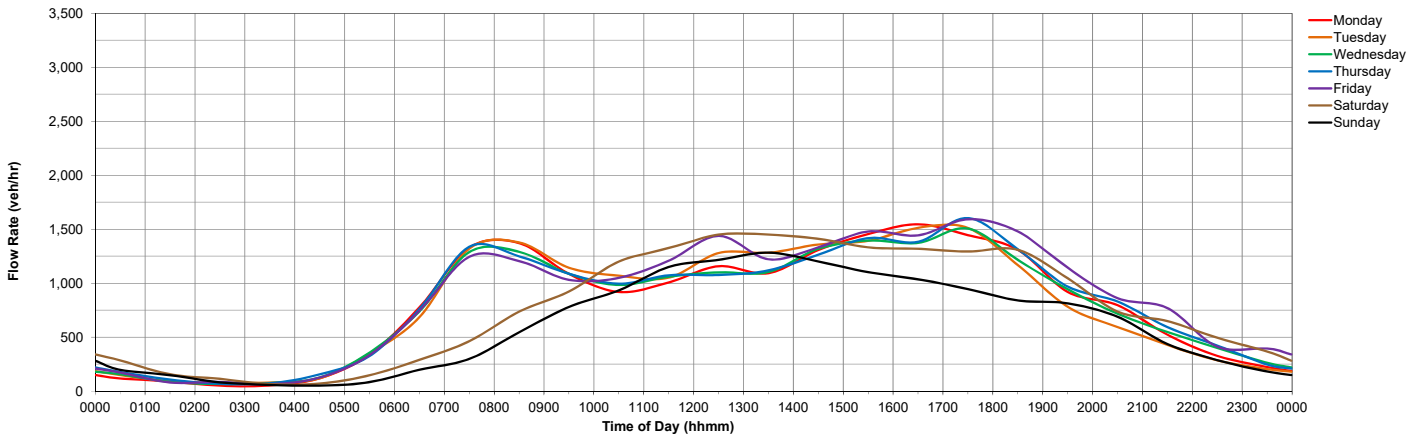
Weekday Average Hourly Volumes



Saturday Hourly Volumes



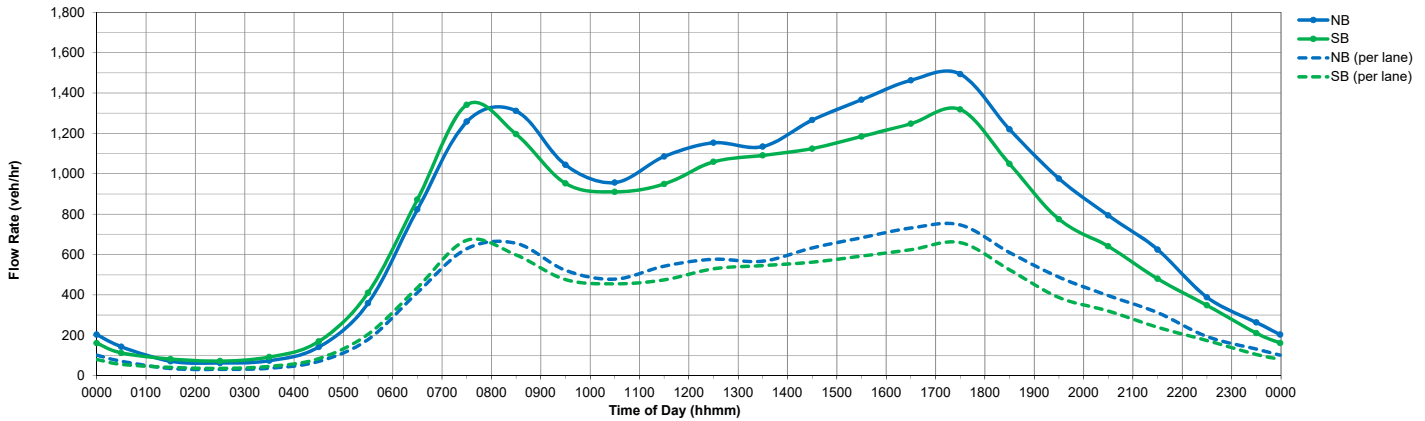
Hourly Volumes by Day



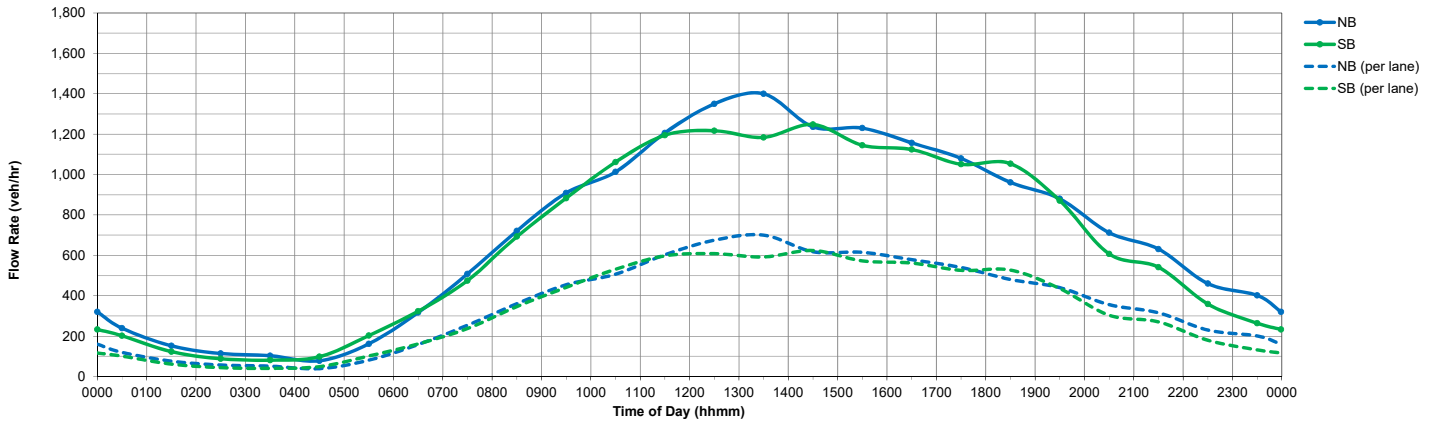
Hourly Volumes - Location 212 - Mt Holly Rd (CR 541) between Liberty Sq/Cadillac Dr and I-295

From	To	Monday		Tuesday		Wednesday		Thursday		Friday		Saturday		Sunday		Avg. Weekday		Avg. Weekend	
		NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
0000	0100	104	100	129	104	147	98	142	131	196	130	239	202	274	127	144	113	257	165
0100	0200	55	78	60	107	76	65	71	77	95	87	152	123	150	90	71	83	151	107
0200	0300	42	73	73	75	56	75	77	64	67	77	114	88	86	81	63	73	100	85
0300	0400	57	99	81	97	80	58	77	105	76	103	103	81	54	60	74	92	79	71
0400	0500	104	177	147	164	157	162	132	175	168	169	78	98	49	60	142	169	64	79
0500	0600	270	440	368	382	383	399	370	405	402	428	162	203	72	85	359	411	117	144
0600	0700	617	833	888	916	843	919	872	845	897	849	317	323	173	213	823	872	245	268
0700	0800	936	1,298	1,370	1,328	1,324	1,340	1,332	1,330	1,408	508	475	297	317	1,258	1,341	403	396	
0800	0900	951	1,300	1,566	1,183	1,302	1,134	1,343	1,107	1,395	1,256	721	693	422	493	1,311	1,196	572	593
0900	1000	780	979	1,109	907	1,132	897	1,098	900	1,102	1,078	909	883	615	682	1,044	952	762	783
1000	1100	697	883	1,055	857	991	888	976	822	1,063	1,101	1,013	1,062	783	866	956	910	898	964
1100	1200	846	882	1,176	945	1,164	882	1,061	899	1,180	1,138	1,206	1,195	978	986	1,085	949	1,092	1,091
1200	1300	915	958	1,234	1,101	1,123	1,018	1,188	987	1,306	1,231	1,350	1,217	1,140	1,027	1,153	1,059	1,245	1,122
1300	1400	917	1,106	1,288	1,068	1,045	973	1,139	1,057	1,283	1,250	1,400	1,184	1,093	1,106	1,134	1,091	1,247	1,145
1400	1500	890	1,110	1,403	1,082	1,327	1,078	1,290	1,050	1,419	1,303	1,236	1,248	1,125	963	1,266	1,125	1,181	1,106
1500	1600	987	1,135	1,447	1,199	1,471	1,139	1,469	1,118	1,458	1,333	1,230	1,145	1,197	895	1,366	1,185	1,214	1,020
1600	1700	1,028	1,288	1,564	1,221	1,528	1,161	1,635	1,177	1,559	1,412	1,157	1,124	1,141	798	1,463	1,248	1,149	961
1700	1800	1,045	1,283	1,549	1,354	1,686	1,259	1,600	1,289	1,588	1,426	1,080	1,051	977	718	1,494	1,318	1,029	855
1800	1900	939	1,000	1,372	929	1,217	975	1,295	1,081	1,276	1,258	961	1,054	855	697	1,220	1,049	908	876
1900	2000	673	769	1,046	644	992	727	1,087	765	1,084	968	880	871	752	596	976	775	816	734
2000	2100	575	625	788	526	833	601	875	647	897	805	712	607	561	520	794	641	637	564
2100	2200	451	458	602	406	606	438	647	474	817	624	631	541	413	421	625	480	522	481
2200	2300	267	292	382	282	393	297	360	361	538	510	460	359	285	283	388	348	373	321
2300	0000	202	172	274	161	273	198	155	226	415	296	402	264	220	151	264	211	311	208
Sub-total		14,348	17,318	20,971	17,038	20,149	16,781	20,288	17,074	21,611	20,240	17,021	16,091	13,712	12,235	19,473	17,690	15,367	14,163
Total		31,666		38,009		36,930		37,362		41,851		33,112		25,947		37,164		29,530	

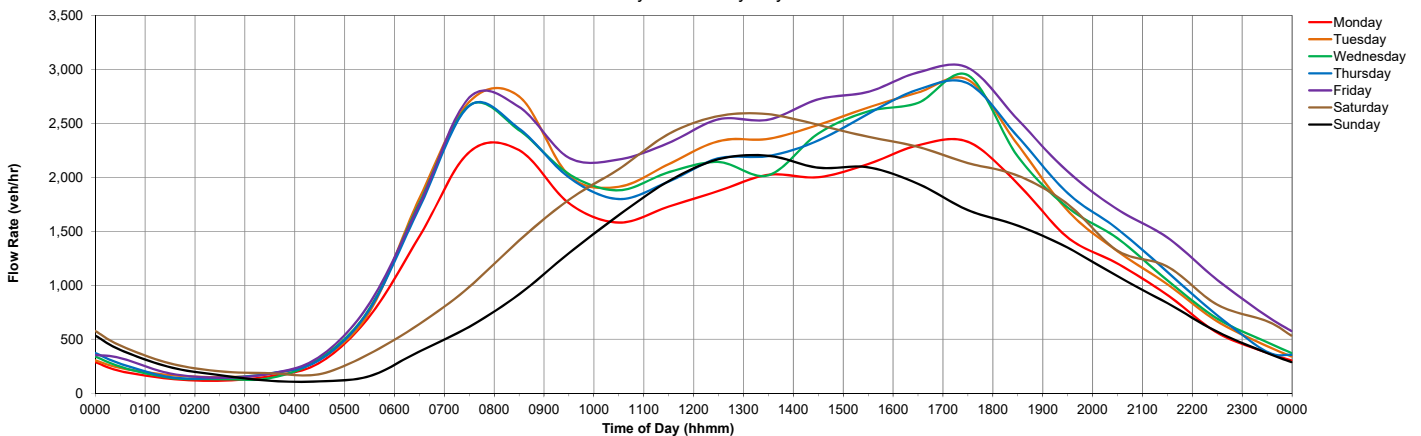
Weekday Average Hourly Volumes



Saturday Hourly Volumes



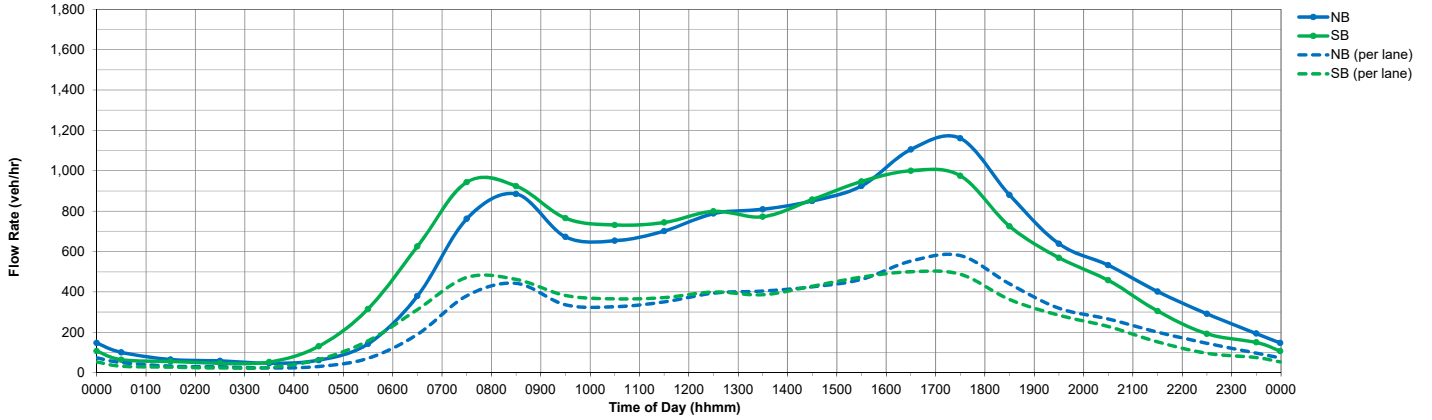
Hourly Volumes by Day



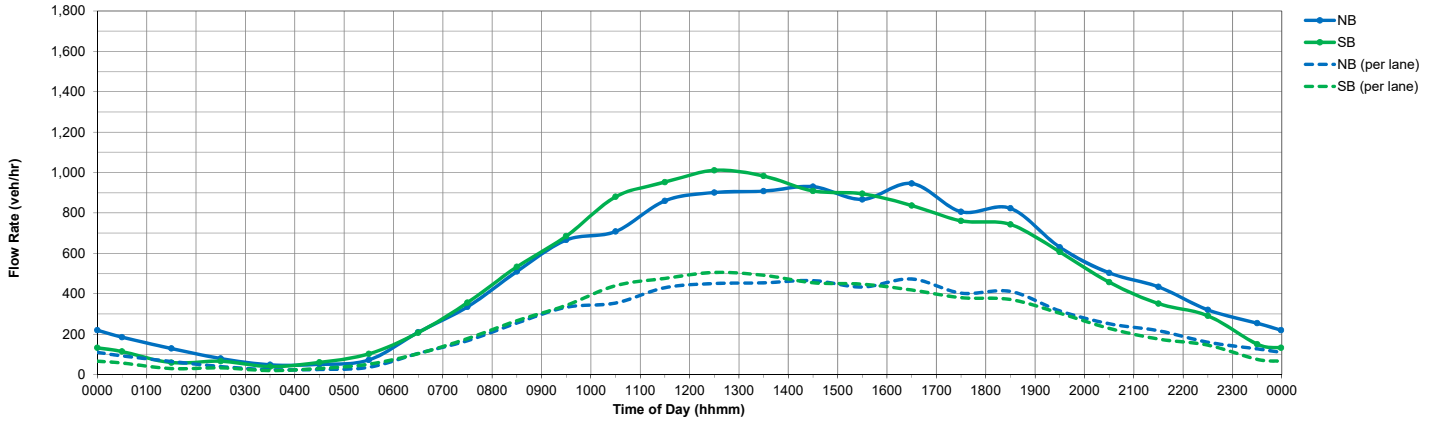
Hourly Volumes - Location 213 - Mt Holly Rd (CR 541) between NJ Turnpike - Exit 5/Hancock Ln and Burrs Rd

From	To	Monday		Tuesday		Wednesday		Thursday		Friday		Saturday		Sunday		Avg. Weekday		Avg. Weekend	
		NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
0000	0100	86	56	96	67	101	58	113	60	107	80	185	114	138	88	101	64	162	101
0100	0200	54	49	72	56	65	46	65	71	71	54	129	59	95	54	65	55	112	57
0200	0300	56	40	61	55	50	45	70	52	56	43	79	66	73	53	59	47	76	60
0300	0400	41	49	51	58	48	54	41	50	54	53	48	39	54	22	47	53	51	31
0400	0500	45	133	74	144	63	131	68	126	60	119	50	60	39	29	62	131	45	45
0500	0600	154	337	144	325	136	328	141	309	140	279	72	102	47	71	143	316	60	87
0600	0700	382	822	384	645	374	608	364	598	393	653	209	207	112	154	379	625	161	181
0700	0800	736	921	804	928	710	978	778	941	781	951	335	356	209	228	782	944	272	232
0800	0900	938	913	893	982	876	953	828	866	891	927	510	333	306	380	885	924	408	457
0900	1000	652	762	673	816	659	695	647	732	733	821	666	685	454	563	673	765	560	624
1000	1100	650	715	633	691	592	678	585	737	807	837	708	880	594	692	653	732	651	786
1100	1200	654	748	714	761	639	720	682	683	816	807	860	952	710	843	701	744	785	898
1200	1300	719	774	817	814	750	753	726	765	929	890	901	1,011	693	912	788	799	797	962
1300	1400	796	739	751	784	762	710	793	752	944	876	908	983	768	810	809	772	838	897
1400	1500	804	842	814	839	812	797	807	806	1,014	1,002	930	909	712	776	850	857	821	843
1500	1600	828	906	941	981	903	929	866	908	1,086	1,011	867	895	710	724	925	947	789	810
1600	1700	1,120	978	1,098	985	1,031	943	1,041	955	1,238	1,139	946	837	712	653	1,106	1,000	829	745
1700	1800	1,137	976	1,135	1,028	1,078	957	1,175	920	1,277	937	806	781	602	563	1,160	976	704	682
1800	1900	846	649	793	702	838	666	897	738	1,026	870	823	743	556	519	880	725	690	631
1900	2000	619	548	531	479	668	550	614	573	761	696	630	607	515	508	639	569	573	558
2000	2100	494	451	454	364	522	438	542	489	650	546	503	457	423	402	532	458	463	430
2100	2200	375	287	343	237	384	265	422	340	485	397	434	351	329	261	402	305	382	306
2200	2300	228	163	249	135	254	195	314	207	413	263	320	291	220	161	292	193	270	226
2300	0000	162	123	150	154	189	148	186	136	282	190	254	150	140	95	194	150	197	123
Sub-total		12,576	12,781	12,675	13,010	12,504	12,645	12,765	12,814	15,014	14,501	12,173	12,048	9,211	9,561	13,107	13,150	10,692	10,805
Total		25,357		25,685		25,149		25,579		29,515		24,221		18,772		26,257		21,497	

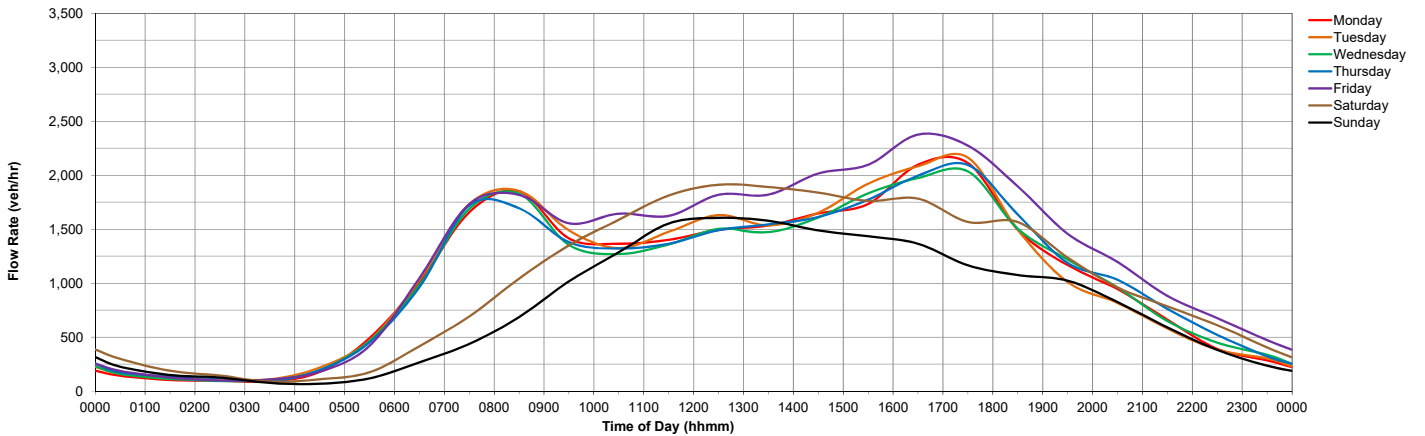
Weekday Average Hourly Volumes



Saturday Hourly Volumes



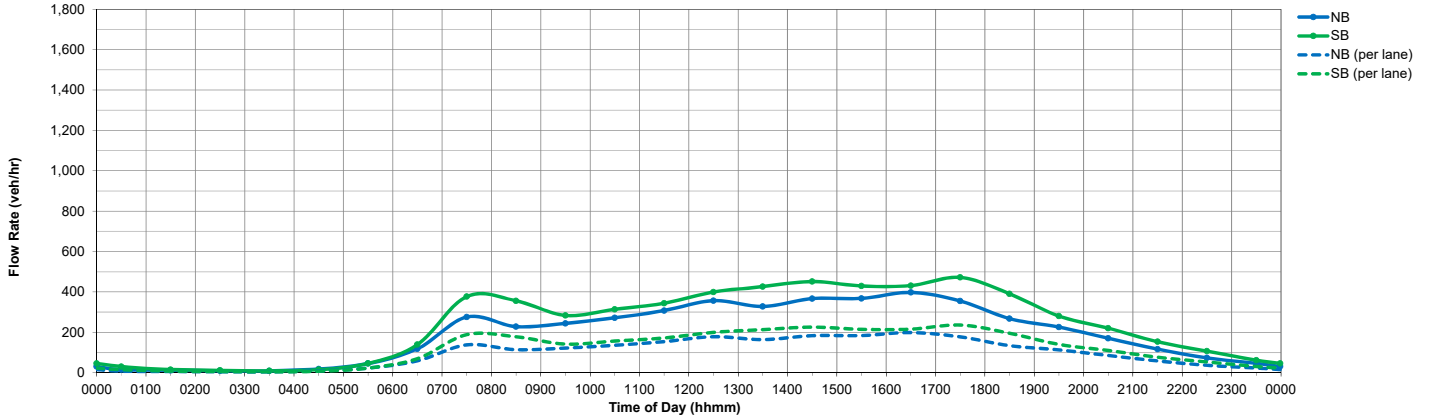
Hourly Volumes by Day



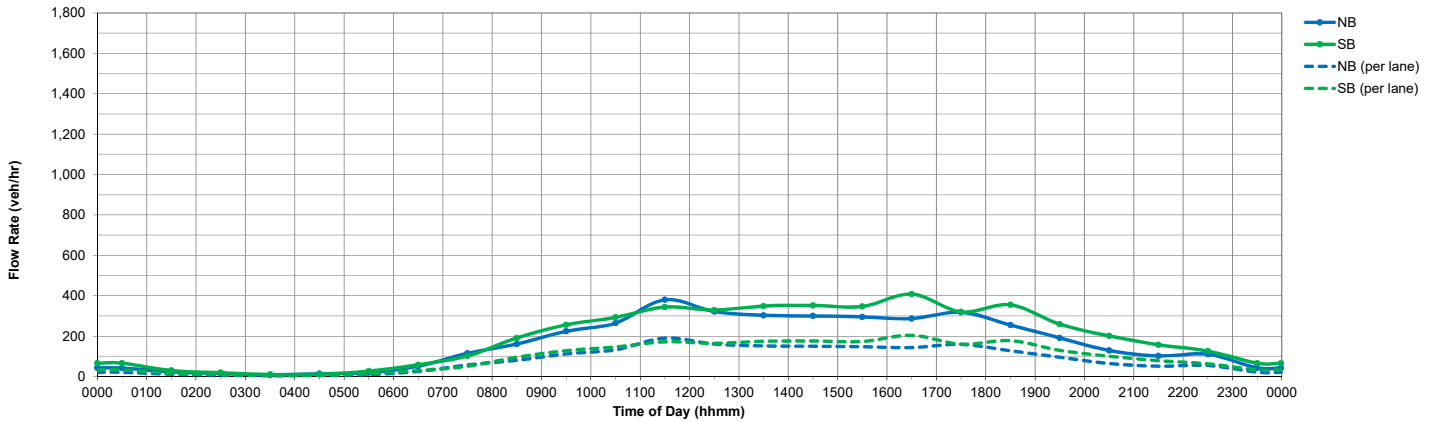
Hourly Volumes - Location 214 - High St (CR 541) South of Levis Dr/Ridgley St

From	To	Monday		Tuesday		Wednesday		Thursday		Friday		Saturday		Sunday		Avg. Weekday		Avg. Weekend	
		NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
0000	0100	10	24	21	38	12	24	17	29	16	37	42	66	39	46	15	30	41	56
0100	0200	11	13	13	18	8	17	13	10	16	19	23	30	18	29	12	15	21	30
0200	0300	2	9	16	17	11	10	12	11	8	12	15	19	11	20	10	12	13	20
0300	0400	8	9	11	8	5	9	9	11	11	9	8	10	10	19	9	9	9	15
0400	0500	15	9	19	18	22	9	19	19	18	20	14	11	12	12	19	15	13	12
0500	0600	45	44	47	46	43	54	51	46	44	39	19	27	22	25	46	46	21	26
0600	0700	106	137	125	149	120	154	113	122	125	135	51	58	42	45	118	139	47	52
0700	0800	267	351	273	404	262	369	285	397	293	385	115	102	91	110	276	377	103	106
0800	0900	238	386	247	434	242	354	199	307	215	299	161	191	193	123	228	356	177	157
0900	1000	242	310	245	284	233	274	271	283	285	267	224	256	201	256	244	284	213	256
1000	1100	299	326	271	331	252	274	271	322	266	317	265	293	290	214	272	314	278	254
1100	1200	333	340	307	376	266	271	304	370	329	364	380	344	257	346	308	344	319	345
1200	1300	365	425	335	402	349	378	373	411	362	382	322	329	353	267	357	400	338	298
1300	1400	309	470	328	445	326	380	331	419	347	419	303	349	259	317	328	427	281	333
1400	1500	358	461	398	473	374	424	342	477	363	423	300	352	265	290	367	452	283	321
1500	1600	359	441	352	490	350	387	371	419	408	411	295	347	230	259	368	430	263	303
1600	1700	415	449	401	474	360	392	395	403	417	439	287	408	235	315	396	431	261	362
1700	1800	349	460	368	521	351	479	352	461	356	439	318	320	200	267	355	472	259	294
1800	1900	255	377	249	421	240	342	287	427	308	387	255	355	173	251	268	391	214	303
1900	2000	230	301	159	224	235	242	255	308	251	327	191	259	140	213	226	280	166	236
2000	2100	150	211	132	159	144	205	203	256	224	271	129	201	143	140	171	220	136	171
2100	2200	106	174	94	109	88	132	150	167	146	185	102	157	90	117	117	153	96	137
2200	2300	63	98	61	101	72	109	81	100	90	126	110	126	55	75	73	107	83	101
2300	0000	43	58	43	49	46	52	35	57	65	94	43	66	26	46	46	62	35	56
Sub-total		4,578	5,883	4,515	5,991	4,411	5,341	4,684	5,832	4,963	5,786	3,972	4,676	3,355	3,802	4,630	5,767	3,664	4,239
Total		10,461		10,506		9,752		10,516		10,749		8,648		7,157		10,397		7,903	

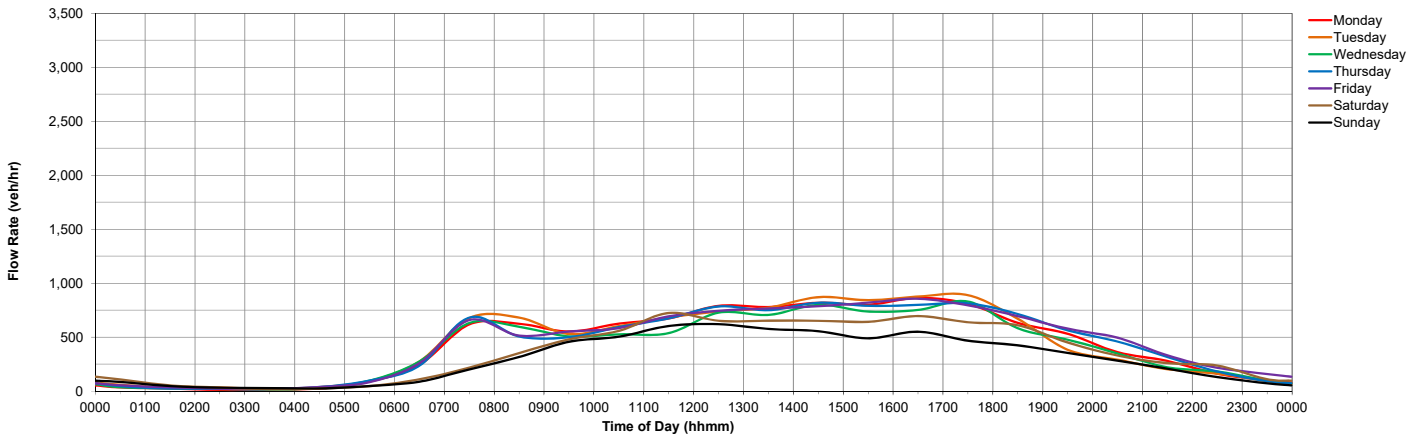
Weekday Average Hourly Volumes



Saturday Hourly Volumes



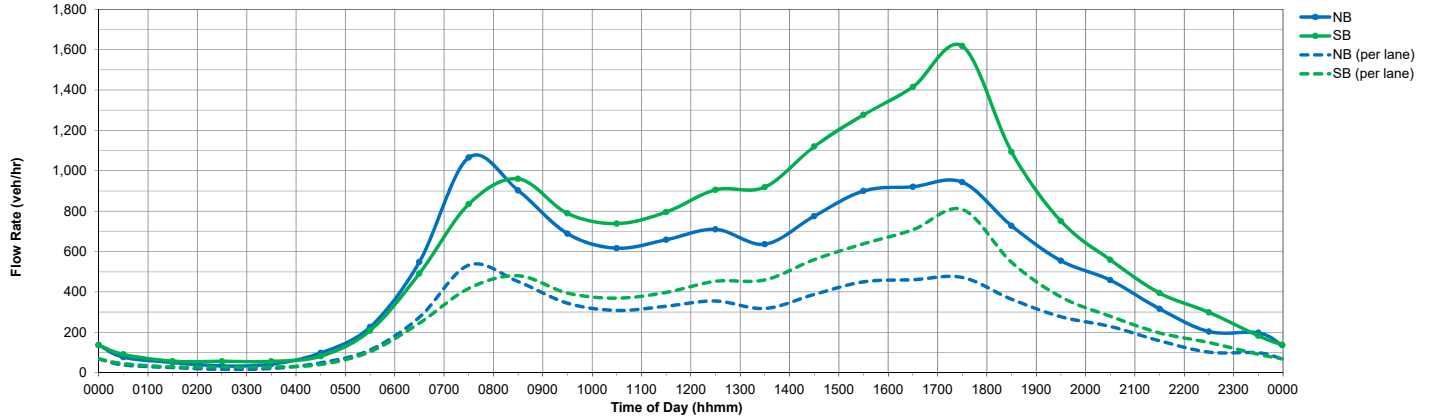
Hourly Volumes by Day



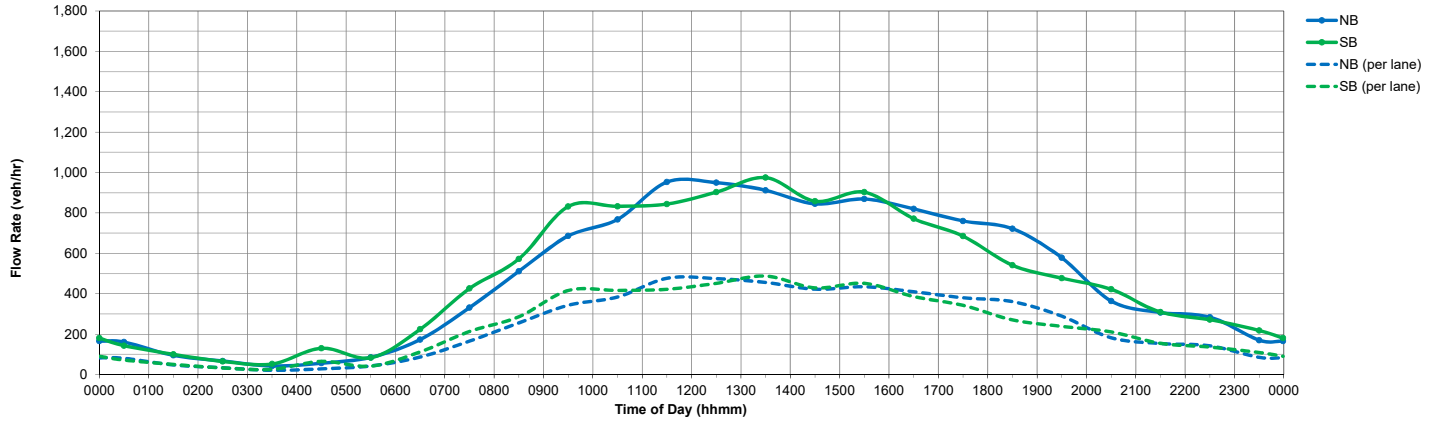
Hourly Volumes - Location 215 - Mount Holly Bypass (CR 541) between High St and Parkers Mill Blvd

From	To	Monday		Tuesday		Wednesday		Thursday		Friday		Saturday		Sunday		Avg. Weekday		Avg. Weekend	
		NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
0000	0100	60	70	38	77	83	88	81	105	122	114	161	143	114	131	77	91	138	137
0100	0200	54	29	32	55	47	61	55	61	64	80	95	100	55	98	50	57	75	99
0200	0300	37	32	22	51	23	76	41	65	47	58	67	65	47	58	34	56	57	62
0300	0400	49	43	25	54	48	62	43	62	46	60	42	52	24	45	42	56	33	49
0400	0500	106	65	59	73	100	84	117	86	109	101	56	130	26	79	98	82	41	105
0500	0600	259	183	141	217	265	205	236	230	227	208	85	83	58	58	226	209	72	71
0600	0700	614	506	325	491	594	517	596	484	612	459	173	224	106	133	549	491	140	179
0700	0800	1,186	827	592	864	1,210	818	1,176	831	1,164	834	331	426	206	208	1,066	835	269	317
0800	0900	966	883	527	1,167	1,032	934	1,002	937	986	880	511	572	310	340	903	980	411	456
0900	1000	760	759	377	803	796	799	723	750	787	833	686	832	434	505	689	789	560	669
1000	1100	672	690	323	736	607	726	676	732	805	808	768	833	626	622	617	738	697	728
1100	1200	728	774	355	800	700	789	678	770	832	845	953	844	642	794	659	796	798	819
1200	1300	763	873	398	954	775	864	728	867	887	970	950	903	830	833	710	906	890	868
1300	1400	350	878	393	888	769	938	791	933	878	959	912	975	764	851	636	919	838	913
1400	1500	432	1,059	716	1,181	880	1,042	873	1,064	975	1,255	845	858	765	864	775	1,120	805	861
1500	1600	446	1,275	1,051	1,236	974	1,251	977	1,317	1,053	1,306	869	903	706	845	900	1,277	788	874
1600	1700	476	1,420	1,033	1,412	959	1,393	975	1,427	1,161	1,424	820	772	619	797	921	1,415	720	785
1700	1800	482	1,657	1,107	1,571	1,038	1,640	995	1,574	1,096	1,645	760	685	545	855	944	1,617	653	670
1800	1900	406	1,079	781	1,059	771	1,061	835	1,115	844	1,153	722	641	477	511	727	1,083	600	526
1900	2000	330	664	491	750	577	728	646	808	728	802	578	477	486	459	554	750	532	468
2000	2100	266	506	390	478	516	560	522	630	598	621	364	422	389	337	458	559	377	380
2100	2200	196	363	283	350	322	412	382	398	398	449	307	309	246	272	316	394	277	291
2200	2300	100	271	187	268	211	277	247	279	274	400	284	272	167	240	204	299	226	256
2300	0000	86	138	209	151	193	157	197	191	304	277	170	218	123	136	198	183	147	177
Sub-total		9,824	15,044	9,855	15,686	13,490	15,482	13,594	15,716	14,997	16,541	11,509	11,639	8,765	9,871	12,352	15,694	10,137	10,755
Total		24,868		25,541		28,972		29,310		31,538		23,148		18,636		28,046		20,892	

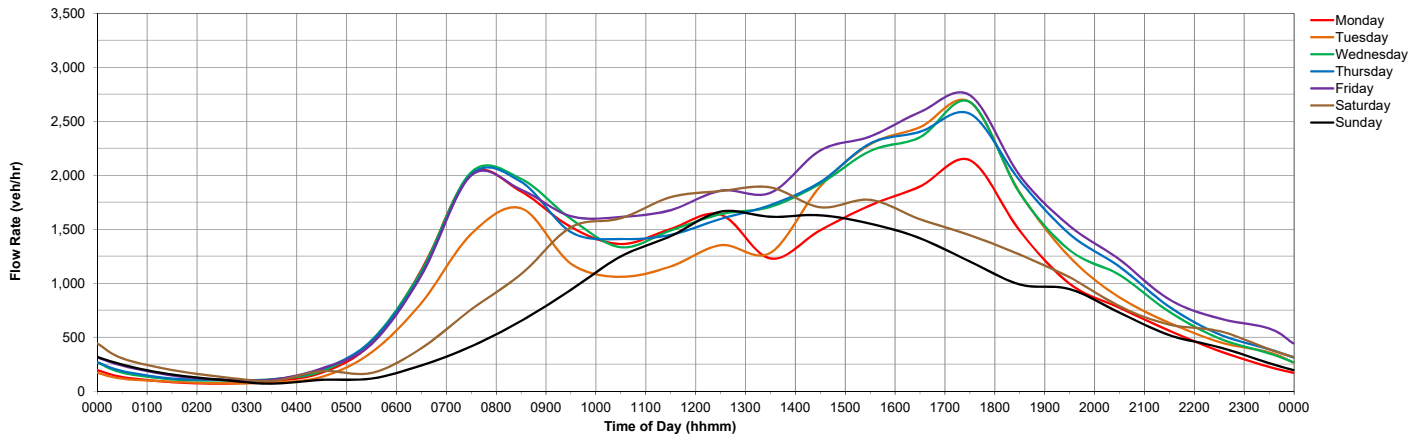
Weekday Average Hourly Volumes

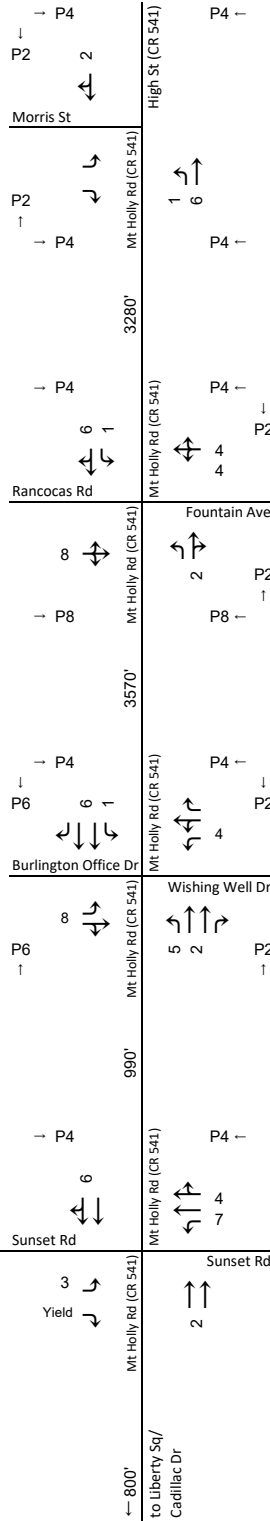


Saturday Hourly Volumes



Hourly Volumes by Day

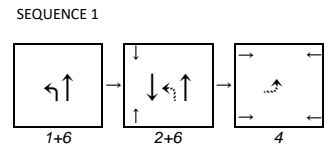




Signal ID: 1

Sequences

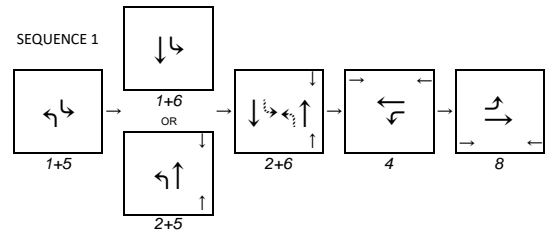
Per	Ex	Imp
AE	1	1
AM	1	1
MD	1	1
PM	1	1
PO	1	1
WM	1	1



Signal ID: 2

Sequences

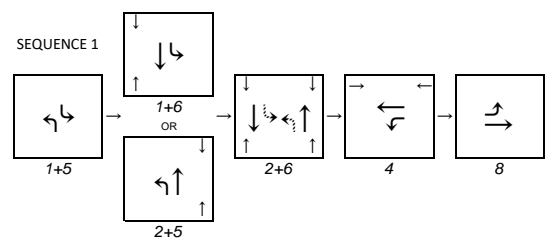
Per	Ex	Imp
AE	1	1
AM	1	1
MD	1	1
PM	1	1
PO	1	1
WM	1	1



Signal ID: 4

Sequences

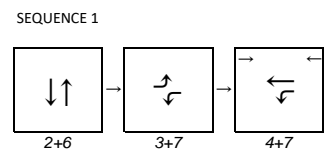
Per	Ex	Imp
AE	1	1
AM	1	1
MD	1	1
PM	1	1
PO	1	1
WM	1	1



Signal ID: 5

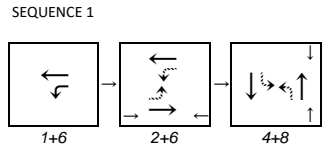
Sequences

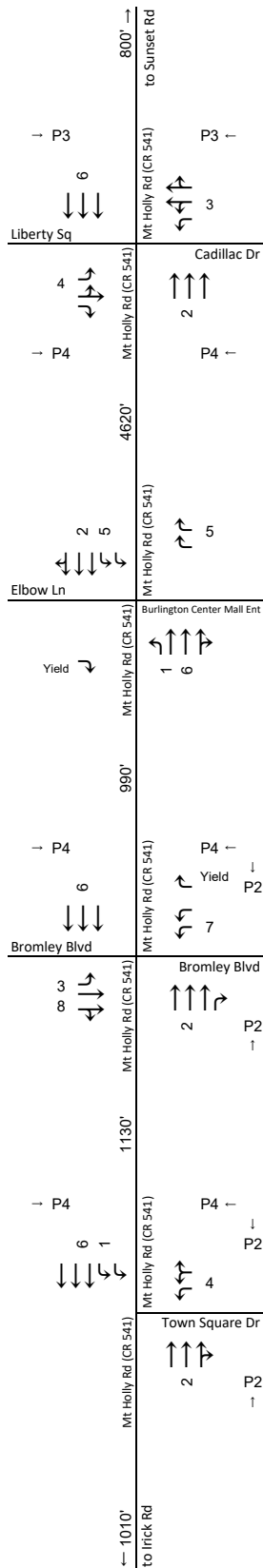
Per	Ex	Imp
AE	1	1
AM	1	1
MD	1	1
PM	1	1
PO	1	1
WM	1	1



Sequences

Per	AE	AM	MD	PM	PO	WM
Ex	1	1	1	1	1	1
Imp	1	1	1	1	1	1

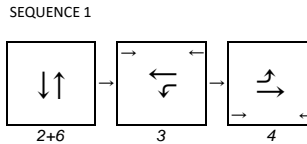




Signal ID: 6

Sequences

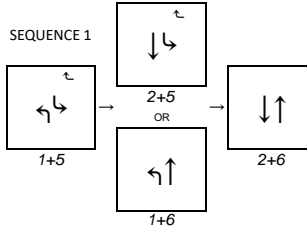
Per	Ex	Imp
AE	1	1
AM	1	1
MD	1	1
PM	1	1
PO	1	1
WM	1	1



Signal ID: 7

Sequences

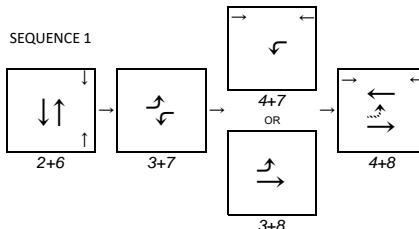
Per	Ex	Imp
AE	1	1
AM	1	1
MD	1	1
PM	1	1
PO	1	1
WM	1	1



Signal ID: 8

Sequences

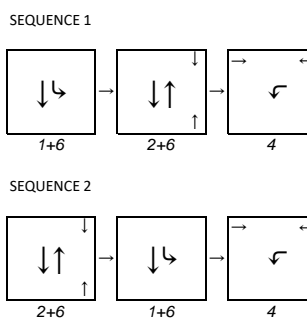
Per	Ex	Imp
AE	1	1
AM	1	1
MD	1	1
PM	1	1
PO	1	1
WM	1	1

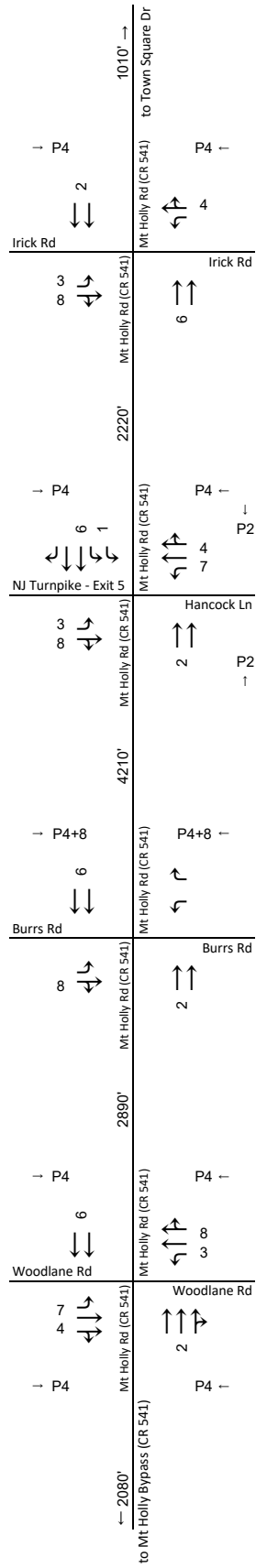


Signal ID: 9

Sequences

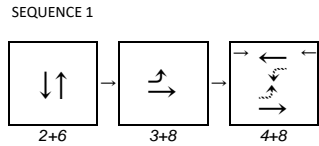
Per	Ex	Imp
AE	1	1
AM	1	1
MD	1	1
PM	1	2
PO	1	1
WM	1	1





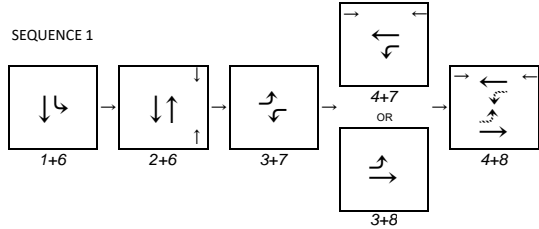
Signal ID: 10
Sequences

Per	Ex	Imp
AE	1	1
AM	1	1
MD	1	1
PM	1	1
PO	1	1
WM	1	1



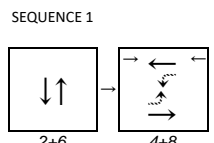
Signal ID: 11
Sequences

Per	Ex	Imp
AE	1	1
AM	1	1
MD	1	1
PM	1	1
PO	1	1
WM	1	1



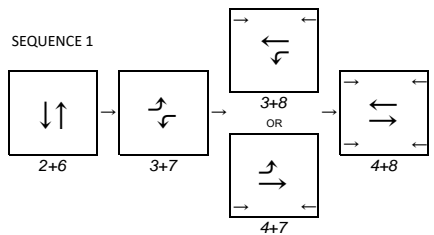
Signal ID: 12
Sequences

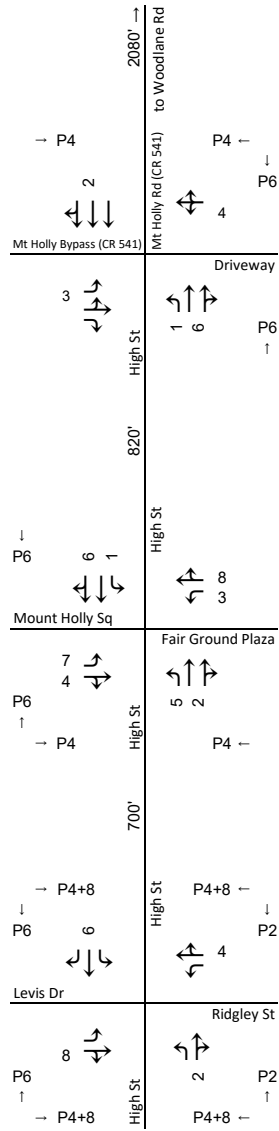
Per	Ex	Imp
AE	1	1
AM	1	1
MD	1	1
PM	1	1
PO	1	1
WM	1	1



Signal ID: 13
Sequences

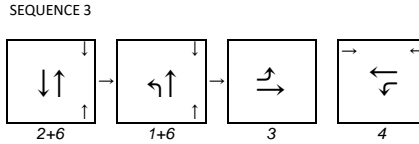
Per	Ex	Imp
AE	1	1
AM	1	1
MD	1	1
PM	1	1
PO	1	1
WM	1	1





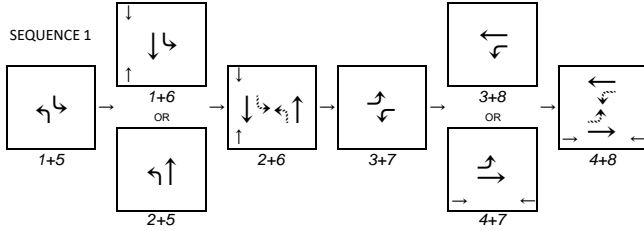
Signal ID: 14
Sequences

Per	Ex	Imp
AE	1	1
AM	1	1
MD	1	1
PM	1	1
PO	1	1
WM	1	1



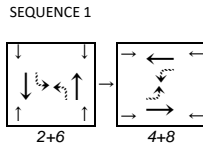
Signal ID: 15
Sequences

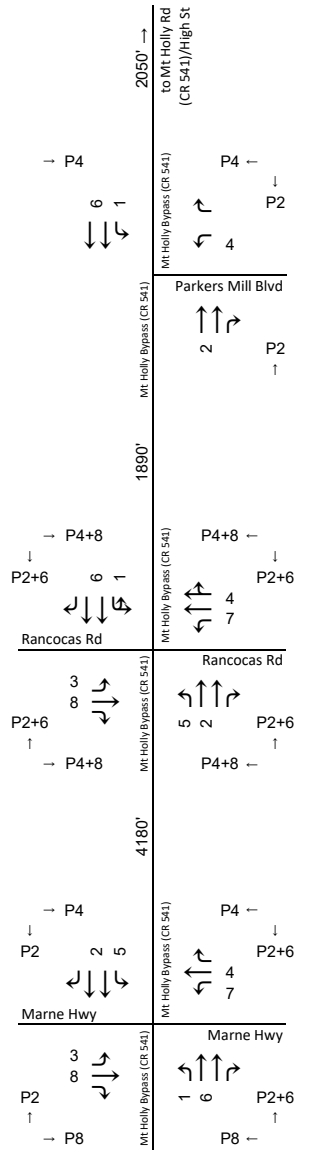
Per	Ex	Imp
AE	1	1
AM	1	1
MD	1	1
PM	1	1
PO	1	1
WM	1	1



Signal ID: 16
Sequences

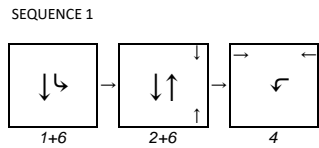
Per	Ex	Imp
AE	1	1
AM	1	1
MD	1	1
PM	1	1
PO	1	1
WM	1	1





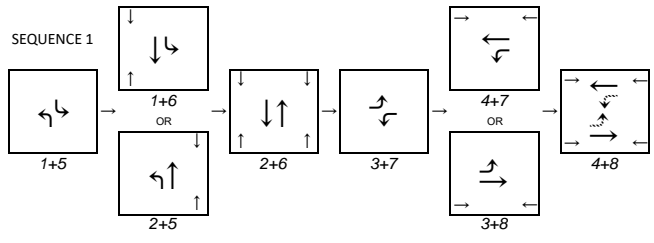
Signal ID: 17
Sequences

Per	Ex	Imp
AE	1	1
AM	1	1
MD	1	1
PM	1	1
PO	1	1
WM	1	1



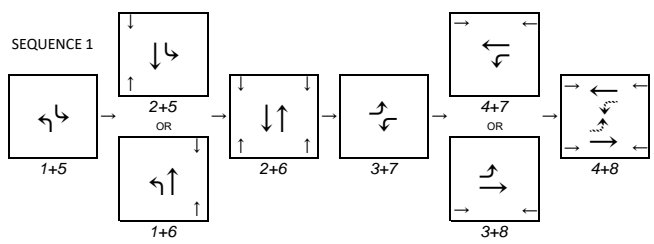
Signal ID: 18
Sequences

Per	Ex	Imp
AE	1	1
AM	1	1
MD	1	1
PM	1	1
PO	1	1
WM	1	1



Signal ID: 19
Sequences

Per	Ex	Imp
AE	1	1
AM	1	1
MD	1	1
PM	1	1
PO	1	1
WM	1	1



Appendix B

Travel Time & Delay Report for CR 541 - AM Peak

Legend:

CTT:

Summarized Cumulative Travel Time since beginning of Run (seconds)

CPLSD:

Summarized Cumulative Posted Speed Limit Delay since beginning of Run (seconds)

CPLRT:

Summarized Cumulative Posted Speed Limit Running Time, or Travel Time since beginning of Run if maintaining Posted Speed Limit (seconds) = accumulation of DL/PLS since beginning of Run

CStopD:

Summarized Cumulative Stopped Delay since beginning of Run (seconds). The "Stopped Delay" is counted from when the speed drops below 5 mph after exceeding 15 mph until it exceeds 15 mph once again

CAS:

Summarized Cumulative Actual Average Speed since beginning of Run (mph) = CTT/CTT

CStops:

Summarized Cumulative number of Stops in Run. A "Stop" is counted when the speed drops below 5 mph after exceeding 15 mph

TV:

Summarized Through Volume (vph)

CPUFC:

Summarized Cumulative Fuel Consumption, from Penic & Upchurch model with TRANSYT7F-10 default coefficients (gal/hr) (= Cumulative (TL/5280*(0.51242*exp(0.024609*DS)/DS) + Delay/3600*(0.0468) + Stops*(3.8424*DS^1.657 + 1.681*DS^1.48922)/1.0E5)*TV)

CUFCOE:

Summarized Cumulative Carbon Monoxide Emissions using Synchro 7 formula (from unpublished Oak Ridge National Labs letter to Federal Highway Administration) and University of Florida model for Fuel Consumption (g/hr) (= Cumulative UFFC*69.9)

AM Cumulative Summary of runs Northbound from Levis Dr (#16)

4 Before-type runs, collected Wednesday 05/16/18 to Thursday 05/17/18, over day(s) Wed, Thu, with starting times during 6:51:02 AM to 8:13:52 AM

11 After-type runs, collected Tuesday 08/28/18 to Tuesday 10/16/18, over day(s) Tue, with starting times during 7:17:44 AM to 8:58:01 AM

	<u>CTT</u>	<u>CPLSD</u>	<u>CPLRT</u>	<u>CStopD</u>	<u>CAS</u>	<u>CStops</u>	<u>TV</u>	<u>CPUFC</u>	<u>CUFCOE</u>
to Morris St (#1)									
Average Before (n=4)	654	192	462	122	30.7	4.5	565	268.4	17110.8
Std Dev Before (n=4)	55	55	0	49	2.7	1.7	565	31.4	1547.8
Average After (n=11)	547	85	462	69	36.8	2	565	190.6	13001
Std Dev After (n=11)	55	55	0	45	3.8	1	565	19.1	977.1
Difference	-107	-107	0	-53	6.1	-2.5	565	-77.8	-4109.8
Std Dev Difference	78	78	0	66	4.6	2	565	36.8	1830.4
% Difference	-16%	-56%	0%	-43%	20.00%	-55.60%	565	-29.00%	-24.00%

AM Cumulative Summary of runs Southbound from Morris St (#1)

4 Before-type runs, collected Wednesday 05/16/18 to Thursday 05/17/18, over day(s) Wed, Thu, with starting times during 6:58:46 AM to 9:00:37 AM

12 After-type runs, collected Tuesday 08/28/18 to Tuesday 10/16/18, over day(s) Tue, with starting times during 6:58:19 AM to 9:09:01 AM

	<u>CTT</u>	<u>CPLSD</u>	<u>CPLRT</u>	<u>CStopD</u>	<u>CAS</u>	<u>CStops</u>	<u>TV</u>	<u>CPUFC</u>	<u>CUFCOE</u>
to Levis Dr (#16)									
Average Before (n=4)	651	194	457	145	30.9	5.8	366	284.9	17517.8
Std Dev Before (n=4)	56	56	0	59	2.6	1.5	366	25.8	1365.7
Average After (n=12)	573	116	457	104	35.1	2.7	366	219	14464.4
Std Dev After (n=12)	47	47	0	32	3	0.8	366	17.5	1072.5
Difference	-78	-78	0	-41	4.2	-3.1	366	-65.8	-3053.4
Std Dev Difference	73	73	0	67	4	1.7	366	31.2	1736.5
% Difference	-12%	-40%	0%	-28%	13.70%	-53.60%	366	-23.10%	-17.40%

AM Cumulative Summary of all runs, either direction through artery

8 Before-type runs, collected Wednesday 05/16/18 to Thursday 05/17/18, over day(s) Wed, Thu, with starting times during 6:59:48 AM to 8:23:27 AM

23 After-type runs, collected Tuesday 08/28/18 to Tuesday 10/16/18, over day(s) Tue, with starting times during 7:11:47 AM to 9:17:49 AM

	CTI	CPLSD	CPLRT	CStopD	CAS	CStops	TV	CPUFC	CUFCOE
to End of Artery									
Average Before (n=8)	653	193	460	133	30.8	5.1	931	276.6	17314.3
Std Dev Before (n=8)	52	52	3	51	2.4	1.6	931	28	1368.7
Average After (n=23)	561	102	459	87	35.9	2.3	931	205.5	13764.5
Std Dev After (n=23)	51	52	2	42	3.4	0.9	931	23	1252.1
Difference	-92	-92	0	-46	5.1	-2.8	931	-71.2	-3549.8
Std Dev Difference	73	73	4	66	4.2	1.9	931	36.3	1855.1
% Difference	-14%	-47%	0%	-35%	16.70%	-54.20%	931	-25.70%	-20.50%

AM Summary of runs Northbound from Levis Dr (#16)

5 Before-type runs, collected Wednesday 05/16/18 to Thursday 05/17/18, over day(s) Wed, Thu, with starting times during 6:51:02 AM to 8:13:52 AM

12 After-type runs, collected Tuesday 08/28/18 to Tuesday 10/16/18, over day(s) Tue, with starting times during 7:17:44 AM to 8:58:01 AM

Node	CTI	DL	CPLSD	CPLRT	CStopD	CAS	PLS	CStops	TV	CPUFC	CUFCOE
to Fair Ground Plaza (#15)											
Average Before (n=5)	14	701	0	14	0	35.7	35	0	280	1.3	100.5
Std Dev Before (n=5)	2	0	2	0	0	4.8	0	0	280	0	7.4
Average After (n=12)	15	701	1	14	0	33.7	35	0.1	280	1.7	117.4
Std Dev After (n=12)	4	0	4	0	2	5.8	0	0.3	280	1.4	56.1
Difference	1	0	1	0	0	-2.1	0	0.1	280	0.4	17
Std Dev Difference	4	0	4	0	2	7.5	0	0.3	280	1.4	56.6
% Difference	9%	0%	1656%	0%	N/D	-5.80%	0%	N/D	280	31.20%	16.90%
to Mt Holly Bypass (CR 541) (#14)											
Average Before (n=5)	28	823	-2	30	0	38.1	35	0	261	2.7	201.1
Std Dev Before (n=5)	3	0	3	0	0	4.6	0	0	261	0	12.6
Average After (n=12)	53	823	23	30	21	25.2	35	0.5	261	5.1	363.6
Std Dev After (n=12)	27	0	27	0	27	11.6	0	0.5	261	2.5	169.4
Difference	25	0	25	0	21	-12.9	0	0.5	261	2.4	162.6
Std Dev Difference	28	0	28	0	27	12.5	0	0.5	261	2.5	169.9
% Difference	90%	0%	1256%	0%	N/D	-33.90%	0%	N/D	261	87.50%	80.90%
to Woodlane Rd (#13)											
Average Before (n=5)	89	2082	19	70	26	28.9	35	0.6	864	23.2	1606.5
Std Dev Before (n=5)	25	0	25	0	25	8.7	0	0.5	864	8.5	574
Average After (n=12)	132	2082	62	70	60	20	35	1.5	864	31.8	2170.3
Std Dev After (n=12)	40	0	40	0	38	6.6	0	0.5	864	2.6	341.4
Difference	43	0	43	0	34	-8.9	0	0.9	864	8.5	563.8
Std Dev Difference	47	0	47	0	45	10.9	0	0.8	864	8.8	667.8
% Difference	48%	0%	224%	0%	134%	-30.80%	0%	150.00%	864	36.70%	35.10%

to Burrs Rd (#12)											
Average Before (n=5)	138	2890	29	110	29	33.2	50	1	1060	57.1	3584
Std Dev Before (n=5)	32	0	32	0	28	7.4	0	0.7	1060	18.7	981.2
Average After (n=12)	174	2890	64	110	60	26.7	50	1.5	1060	52.5	3582.9
Std Dev After (n=12)	40	0	40	0	38	6.5	0	0.5	1060	2.6	347.3
Difference	36	0	36	0	31	-6.5	0	0.5	1060	-4.6	-1.1
Std Dev Difference	51	0	51	0	47	9.8	0	0.9	1060	18.8	1040.8
% Difference	26%	0%	124%	0%	107%	-19.50%	0%	50.00%	1060	-8.10%	0.00%
to NJ Turnpike - Exit 5/Hancock Ln (#11)											
Average Before (n=5)	238	4208	71	167	61	31	50	2	767	102.6	6296.4
Std Dev Before (n=5)	29	0	29	0	28	3.8	0	0.7	767	18.6	901.1
Average After (n=12)	229	4208	62	167	60	32.8	50	1.5	767	73.9	4995.5
Std Dev After (n=12)	42	0	42	0	38	6.3	0	0.5	767	2.6	374.8
Difference	-8	0	-8	0	-1	1.8	0	-0.5	767	-28.7	-1300.9
Std Dev Difference	51	0	51	0	47	7.4	0	0.9	767	18.8	976
% Difference	-3%	0%	-11%	0%	-2%	5.70%	0%	-25.00%	767	-28.00%	-20.70%
to Irick Rd (#10)											
Average Before (n=5)	293	2218	96	197	73	30.3	50	2.6	1058	138.1	8396.5
Std Dev Before (n=5)	29	0	29	0	35	3.2	0	0.5	1058	8.5	642.9
Average After (n=12)	264	2218	67	197	60	34.1	50	1.5	1058	89.6	6103.8
Std Dev After (n=12)	43	0	43	0	38	5.8	0	0.5	1058	2.6	390.1
Difference	-29	0	-29	0	-13	3.9	0	-1.1	1058	-48.6	-2292.7
Std Dev Difference	52	0	52	0	52	6.6	0	0.8	1058	8.9	752
% Difference	-10%	0%	-30%	0%	-18%	12.80%	0%	-42.30%	1058	-35.20%	-27.30%
to Town Square Dr (#9)											
Average Before (n=5)	338	1011	127	211	93	28.3	50	3.4	1078	172.3	10288.5
Std Dev Before (n=5)	34	0	34	0	44	3.1	0	0.9	1078	21.3	1145.3
Average After (n=12)	280	1011	69	211	60	34.7	50	1.5	1078	96.8	6610.2
Std Dev After (n=12)	44	0	44	0	38	5.6	0	0.5	1078	2.6	397.5
Difference	-59	0	-59	0	-34	6.4	0	-1.9	1078	-75.5	-3678.3
Std Dev Difference	56	0	56	0	58	6.4	0	1	1078	21.4	1212.4
% Difference	-17%	0%	-46%	0%	-36%	22.70%	0%	-55.90%	1078	-43.80%	-35.80%

to Bromley Blvd (#8)												
Average Before (n=5)	360	1132	133	227	93	28.7	50	3.4	1117	180.8	10940.6	
Std Dev Before (n=5)	32	0	32	0	44	2.7	0	0.9	1117	21.2	1103.9	
Average After (n=12)	296	1132	70	227	60	35.4	50	1.5	1117	105.2	7185.7	
Std Dev After (n=12)	44	0	44	0	38	5.4	0	0.5	1117	2.6	406.9	
Difference	-64	0	-64	0	-34	6.7	0	-1.9	1117	-75.6	-3755	
Std Dev Difference	54	0	54	0	58	6.1	0	1	1117	21.4	1176.5	
% Difference	-18%	0%	-48%	0%	-36%	23.20%	0%	-55.90%	1117	-41.80%	-34.30%	
to Elbow Ln/Burl Center Mall Ent (#7)												
Average Before (n=5)	374	989	134	240	93	29.3	50	3.4	1326	189.3	11524.7	
Std Dev Before (n=5)	30	0	30	0	44	2.5	0	0.9	1326	21.2	1069.4	
Average After (n=12)	311	989	71	240	60	35.8	50	1.5	1326	113.7	7776.7	
Std Dev After (n=12)	44	0	44	0	38	5.1	0	0.5	1326	2.6	394.5	
Difference	-63	0	-63	0	-34	6.4	0	-1.9	1326	-75.6	-3748	
Std Dev Difference	53	0	53	0	58	5.7	0	1	1326	21.4	1139.8	
% Difference	-17%	0%	-47%	0%	-36%	21.90%	0%	-55.90%	1326	-39.90%	-32.50%	
to Liberty Sq/Cadillac Dr (#6)												
Average Before (n=4)	434	4620	124	310	87	32.6	45	3.3	999	216.9	13436.9	
Std Dev Before (n=4)	30	0	30	0	49	2.3	0	1	999	23	1122.4	
Average After (n=12)	382	4620	72	310	62	37.4	45	1.8	999	152.3	10209.3	
Std Dev After (n=12)	44	0	44	0	38	4.5	0	0.6	999	13.7	647.8	
Difference	-52	0	-52	0	-25	4.8	0	-1.5	999	-64.6	-3227.6	
Std Dev Difference	53	0	53	0	62	5	0	1.1	999	26.8	1295.9	
% Difference	-12%	0%	-42%	0%	-29%	14.80%	0%	-46.20%	999	-29.80%	-24.00%	
to Sunset Rd (#5)												
Average Before (n=4)	450	799	128	322	87	32.6	45	3.3	721	220.6	13732.3	
Std Dev Before (n=4)	30	0	30	0	49	2.2	0	1	721	23	1122.7	
Average After (n=12)	396	799	74	322	62	37.3	45	1.8	721	156	10486.3	
Std Dev After (n=12)	43	0	43	0	38	4.2	0	0.6	721	13.7	639.7	
Difference	-54	0	-54	0	-25	4.7	0	-1.5	721	-64.6	-3246	
Std Dev Difference	53	0	53	0	62	4.7	0	1.1	721	26.8	1292.1	
% Difference	-12%	0%	-42%	0%	-29%	14.60%	0%	-46.20%	721	-29.30%	-23.60%	
to Office Dr/Wishing Well Dr (#4)												
Average Before (n=4)	486	991	149	337	97	31.7	45	3.8	636	231.8	14432.3	
Std Dev Before (n=4)	43	0	43	0	60	2.8	0	1.5	636	29.8	1447.7	
Average After (n=12)	413	991	76	337	62	37.4	45	1.8	636	160.2	10799.7	
Std Dev After (n=12)	43	0	43	0	38	4	0	0.6	636	13.7	638.5	
Difference	-73	0	-73	0	-35	5.7	0	-2	636	-71.6	-3632.6	
Std Dev Difference	61	0	61	0	71	4.9	0	1.6	636	32.8	1582.2	
% Difference	-15%	0%	-49%	0%	-36%	18.10%	0%	-53.30%	636	-30.90%	-25.20%	

to Rancocas Rd/Fountain Ave (#2)											
Average Before (n=4)	589	3573	191	398	122	30.2	40	4.5	615	256.2	16156.2
Std Dev Before (n=4)	49	0	49	0	49	2.6	0	1.7	615	31.4	1501.5
Average After (n=11)	483	3573	85	398	67	37.1	40	1.9	615	177.4	12013.2
Std Dev After (n=11)	52	0	52	0	42	4.1	0	0.8	615	16.6	867.7
Difference	-107	0	-107	0	-55	6.9	0	-2.6	615	-78.9	-4143
Std Dev Difference	71	0	71	0	64	4.9	0	1.9	615	35.5	1734.2
% Difference	-18%	0%	-56%	0%	-45%	22.70%	0%	-57.60%	615	-30.80%	-25.60%
to Morris St (#1)											
Average Before (n=4)	654	3281	192	462	122	30.7	35	4.5	565	268.4	17110.8
Std Dev Before (n=4)	55	0	55	0	49	2.7	0	1.7	565	31.4	1547.8
Average After (n=11)	547	3281	85	462	69	36.8	35	2	565	190.6	13001
Std Dev After (n=11)	55	0	55	0	45	3.8	0	1	565	19.1	977.1
Difference	-107	0	-107	0	-53	6.1	0	-2.5	565	-77.8	-4109.8
Std Dev Difference	78	0	78	0	66	4.6	0	2	565	36.8	1830.4
% Difference	-16%	0%	-56%	0%	-43%	20.00%	0%	-55.60%	565	-29.00%	-24.00%

AM Summary of runs Southbound from Morris St (#1)

9 Before-type runs, collected Wednesday 05/16/18 to Thursday 05/17/18, over day(s) Wed, Thu, with starting times during 6:58:46 AM to 9:00:37 AM

14 After-type runs, collected Tuesday 08/28/18 to Tuesday 10/16/18, over day(s) Tue, with starting times during 6:58:19 AM to 9:09:01 AM

Node	CTT	DL	CPLSD	CPLRT	CStopD	CAS	PLS	CStops	TV	CPUFC	CUFCE
to Rancocas Rd/Fountain Ave (#2)											
Average Before (n=9)	112	3281	56	56	37	22.9	40	1	762	33.2	2324.6
Std Dev Before (n=9)	48	0	48	0	45	7.9	0	1	762	16.8	1022.2
Average After (n=14)	89	3281	33	56	20	26.2	40	0.7	762	28.3	1922.7
Std Dev After (n=14)	16	0	16	0	17	5	0	0.5	762	7.8	399.8
Difference	-23	0	-23	0	-17	3.4	0	-0.3	762	-4.9	-401.9
Std Dev Difference	50	0	50	0	48	9.3	0	1.1	762	18.5	1097.6
% Difference	-21%	0%	-42%	0%	-45%	14.70%	0%	-28.60%	762	-14.70%	-17.30%
to Office Dr/Wishing Well Dr (#4)											
Average Before (n=9)	182	3573	72	110	41	27.7	45	1.4	824	60.2	4068.5
Std Dev Before (n=9)	55	0	55	0	47	7.5	0	1.4	824	24.4	1340.3
Average After (n=14)	154	3573	44	110	22	30.6	45	0.8	824	48.7	3410.2
Std Dev After (n=14)	16	0	16	0	19	3	0	0.6	824	9.8	455.3
Difference	-27	0	-27	0	-19	2.9	0	-0.7	824	-11.5	-658.3
Std Dev Difference	57	0	57	0	51	8.1	0	1.5	824	26.3	1415.5
% Difference	-15%	0%	-38%	0%	-47%	10.40%	0%	-45.60%	824	-19.10%	-16.20%

to Sunset Rd (#5)											
Average Before (n=9)	238	991	113	125	72	23.8	45	2.4	966	87.8	5744.4
Std Dev Before (n=9)	60	0	60	0	52	5.8	0	1.4	966	24.5	1434.2
Average After (n=14)	184	991	59	125	33	29.7	45	1	966	59.7	4194.5
Std Dev After (n=14)	24	0	24	0	22	3.9	0	0.6	966	10.2	598.8
Difference	-54	0	-54	0	-39	5.9	0	-1.4	966	-28.1	-1549.9
Std Dev Difference	65	0	65	0	56	7	0	1.5	966	26.5	1554.1
% Difference	-23%	0%	-48%	0%	-54%	24.60%	0%	-59.10%	966	-32.00%	-27.00%
to Liberty Sq/Cadillac Dr (#6)											
Average Before (n=9)	252	799	114	137	72	24.7	45	2.4	1522	95.6	6308.3
Std Dev Before (n=9)	60	0	60	0	52	5.7	0	1.4	1522	24.5	1437.5
Average After (n=14)	197	799	59	137	33	30.5	45	1	1522	67.4	4740
Std Dev After (n=14)	25	0	25	0	22	3.9	0	0.6	1522	10.2	620
Difference	-55	0	-55	0	-39	5.9	0	-1.4	1522	-28.1	-1568.3
Std Dev Difference	65	0	65	0	56	6.9	0	1.5	1522	26.5	1565.5
% Difference	-22%	0%	-48%	0%	-54%	23.70%	0%	-59.10%	1522	-29.40%	-24.90%
to Elbow Ln/Burl Center Mall Ent (#7)											
Average Before (n=9)	316	4620	116	200	75	29.4	50	2.6	1160	135.3	8855.3
Std Dev Before (n=9)	55	0	55	0	49	4.7	0	1.3	1160	22.7	1272.8
Average After (n=14)	258	4620	58	200	33	35.4	50	1	1160	103.2	7107.2
Std Dev After (n=14)	26	0	26	0	22	3.5	0	0.6	1160	10.2	630
Difference	-58	0	-58	0	-41	6	0	-1.6	1160	-32.2	-1748.1
Std Dev Difference	61	0	61	0	54	5.9	0	1.4	1160	24.9	1420.2
% Difference	-18%	0%	-50%	0%	-56%	20.40%	0%	-60.90%	1160	-23.80%	-19.70%
to Bromley Blvd (#8)											
Average Before (n=9)	345	989	132	214	87	28.8	50	3.2	1112	165.5	10380.1
Std Dev Before (n=9)	58	0	58	0	52	4.3	0	1.3	1112	22.6	1343.1
Average After (n=14)	281	989	67	214	38	35.1	50	1.4	1112	122.7	8148.5
Std Dev After (n=14)	34	0	34	0	26	4	0	0.7	1112	21.2	1167.3
Difference	-65	0	-65	0	-49	6.3	0	-1.9	1112	-42.9	-2231.6
Std Dev Difference	67	0	67	0	58	5.9	0	1.5	1112	31	1779.4
% Difference	-19%	0%	-49%	0%	-56%	21.90%	0%	-57.90%	1112	-25.90%	-21.50%

to Town Square Dr (#9)											
Average Before (n=9)	366	1132	137	229	89	29.3	50	3.4	1097	181.4	11272.9
Std Dev Before (n=9)	59	0	59	0	53	4.3	0	1.4	1097	24.2	1394.2
Average After (n=14)	298	1132	69	229	38	35.7	50	1.4	1097	130.9	8730.5
Std Dev After (n=14)	35	0	35	0	26	4	0	0.7	1097	21.2	1189.1
Difference	-68	0	-68	0	-50	6.4	0	-2.1	1097	-50.4	-2542.4
Std Dev Difference	69	0	69	0	59	5.9	0	1.6	1097	32.2	1832.4
% Difference	-19%	0%	-50%	0%	-57%	21.70%	0%	-60.60%	1097	-27.80%	-22.60%
to Irick Rd (#10)											
Average Before (n=9)	395	1011	152	243	96	28.8	50	4.1	982	208.3	12626.1
Std Dev Before (n=9)	60	0	60	0	54	3.8	0	1.4	982	24.6	1411.7
Average After (n=14)	312	1011	69	243	38	36.3	50	1.4	982	137.5	9172.6
Std Dev After (n=14)	36	0	36	0	26	4	0	0.7	982	21.2	1196
Difference	-83	0	-83	0	-58	7.4	0	-2.8	982	-70.8	-3453.4
Std Dev Difference	69	0	69	0	60	5.5	0	1.6	982	32.5	1850.2
% Difference	-21%	0%	-54%	0%	-60%	25.80%	0%	-67.00%	982	-34.00%	-27.40%
to NJ Turnpike - Exit 5/Hancock Ln (#11)											
Average Before (n=9)	439	2218	166	273	99	29.3	50	4.3	654	222.5	13550.5
Std Dev Before (n=9)	58	0	58	0	53	3.4	0	1.4	654	26.7	1463.3
Average After (n=14)	355	2218	82	273	45	36.1	50	1.8	654	155.9	10234.5
Std Dev After (n=14)	33	0	33	0	26	3.4	0	0.7	654	17.6	1024.2
Difference	-84	0	-84	0	-54	6.7	0	-2.5	654	-66.6	-3316
Std Dev Difference	67	0	67	0	59	4.8	0	1.6	654	32	1786.1
% Difference	-19%	0%	-50%	0%	-55%	22.90%	0%	-58.80%	654	-29.90%	-24.50%
to Burrs Rd (#12)											
Average Before (n=9)	497	4208	167	331	99	31.7	50	4.3	886	247.3	15214.8
Std Dev Before (n=9)	59	0	59	0	53	3.3	0	1.4	886	26.7	1472.5
Average After (n=14)	411	4208	80	331	45	38.1	50	1.8	886	180.7	11865.9
Std Dev After (n=14)	33	0	33	0	26	3.1	0	0.7	886	17.6	1013.4
Difference	-86	0	-86	0	-54	6.5	0	-2.5	886	-66.6	-3348.9
Std Dev Difference	67	0	67	0	59	4.5	0	1.6	886	32	1787.5
% Difference	-17%	0%	-52%	0%	-55%	20.40%	0%	-58.80%	886	-26.90%	-22.00%

to Woodlane Rd (#13)											
Average Before (n=9)	553	2890	166	387	112	32.1	35	4.6	627	264	16327.2
Std Dev Before (n=9)	62	0	62	0	62	3.4	0	1.5	627	26.8	1462.2
Average After (n=14)	504	2890	118	387	95	35.1	35	2.6	627	208.5	13694.7
Std Dev After (n=14)	42	0	42	0	35	3	0	0.6	627	17	1032.5
Difference	-49	0	-49	0	-17	3	0	-2	627	-55.4	-2632.5
Std Dev Difference	75	0	75	0	71	4.6	0	1.6	627	31.7	1790
% Difference	-9%	0%	-29%	0%	-15%	9.20%	0%	-43.60%	627	-21.00%	-16.10%
to Mt Holly Bypass (CR 541) (#14)											
Average Before (n=9)	606	2082	179	427	128	31.5	35	5	468	273.7	16987.5
Std Dev Before (n=9)	58	0	58	0	63	2.9	0	1.6	468	27.2	1447
Average After (n=14)	543	2082	116	427	99	35.1	35	2.6	468	215.2	14172.5
Std Dev After (n=14)	47	0	47	0	38	3.1	0	0.7	468	17.8	1102.8
Difference	-63	0	-63	0	-29	3.7	0	-2.4	468	-58.5	-2815
Std Dev Difference	75	0	75	0	73	4.3	0	1.7	468	32.6	1819.3
% Difference	-10%	0%	-35%	0%	-22%	11.70%	0%	-47.10%	468	-21.40%	-16.60%
to Fair Ground Plaza (#15)											
Average Before (n=4)	635	823	192	443	145	30.9	35	5.8	435	283.2	17375.6
Std Dev Before (n=4)	55	0	55	0	59	2.6	0	1.5	435	25.8	1362.9
Average After (n=12)	560	823	117	443	104	35.1	35	2.7	435	217.3	14334.8
Std Dev After (n=12)	46	0	46	0	32	3	0	0.8	435	17.5	1068.7
Difference	-75	0	-75	0	-41	4.2	0	-3.1	435	-65.8	-3040.8
Std Dev Difference	72	0	72	0	67	4	0	1.7	435	31.2	1732
% Difference	-12%	0%	-39%	0%	-28%	13.60%	0%	-53.60%	435	-23.20%	-17.50%
to Levis Dr (#16)											
Average Before (n=4)	651	701	194	457	145	30.9	35	5.8	366	284.9	17517.8
Std Dev Before (n=4)	56	0	56	0	59	2.6	0	1.5	366	25.8	1365.7
Average After (n=12)	573	701	116	457	104	35.1	35	2.7	366	219	14464.4
Std Dev After (n=12)	47	0	47	0	32	3	0	0.8	366	17.5	1072.5
Difference	-78	0	-78	0	-41	4.2	0	-3.1	366	-65.8	-3053.4
Std Dev Difference	73	0	73	0	67	4	0	1.7	366	31.2	1736.5
% Difference	-12%	0%	-40%	0%	-28%	13.70%	0%	-53.60%	366	-23.10%	-17.40%

Travel Time & Delay Report for CR 541 - MD Peak

Legend:

CTT:

Summarized Cumulative Travel Time since beginning of Run (seconds)

CPLSD:

Summarized Cumulative Posted Speed Limit Delay since beginning of Run (seconds)

CPLRT:

Summarized Cumulative Posted Speed Limit Running Time, or Travel Time since beginning of Run if maintaining Posted Speed Limit (seconds) = accumulation of DL/PLS since beginning of Run

CStopD:

Summarized Cumulative Stopped Delay since beginning of Run (seconds). The "Stopped Delay" is counted from when the speed drops below 5 mph after exceeding 15 mph until it exceeds 15 mph once again

CAS:

Summarized Cumulative Actual Average Speed since beginning of Run (mph) = CTL/CTT

CStops:

Summarized Cumulative number of Stops in Run. A "Stop" is counted when the speed drops below 5 mph after exceeding 15 mph

TV:

Summarized Through Volume (vph)

CPUFC:

Summarized Cumulative Fuel Consumption, from Penic & Upchurch model with TRANSYT7F-10 default coefficients (gal/hr) (= Cumulative (TL/5280*(0.51242*exp(0.024609*DS)/DS) + Delay/3600*(0.0468) + Stops*(3.8424*DS^1.657 + 1.681*DS^1.48922)/1.0E5)*TV)

CUFCOE:

Summarized Cumulative Carbon Monoxide Emissions using Synchro 7 formula (from unpublished Oak Ridge National Labs letter to Federal Highway Administration) and University of Florida model for Fuel Consumption (g/hr) (= Cumulative UFFC*69.9)

MD Cumulative Summary of runs Northbound from Levis Dr (#16)

8 Before-type runs, collected Tuesday 05/15/18 to Tuesday 05/29/18, over day(s) Tue, with starting times during 11:14:17 AM to 1:40:29 PM

5 After-type runs, collected Tuesday 08/28/18 to Tuesday 08/28/18, over day(s) Tue, with starting times during 11:09:59 AM to 1:05:19 PM

	CTT	CPLSD	CPLRT	CStopD	CAS	CStops	TV	CPUFC	CUFCOE
to Morris St (#1)									
Average Before (n=8)	726	271	455	188	27.5	7.1	452	261.4	16154.2
Std Dev Before (n=8)	29	29	0	27	1.1	1.8	452	31.5	1203.6
Average After (n=5)	565	110	455	85	35.9	2.8	452	183.6	12114.4
Std Dev After (n=5)	78	78	0	56	4.7	1.8	452	30.5	1743.1
Difference	-161	-161	0	-103	8.3	-4.3	452	-77.7	-4039.7
Std Dev Difference	84	84	0	62	4.8	2.5	452	43.9	2118.2
% Difference	-22%	-59%	0%	-55%	30.30%	-60.70%	452	-29.70%	-25.00%

MD Cumulative Summary of runs Southbound from Morris St (#1)

8 Before-type runs, collected Tuesday 05/15/18 to Tuesday 05/29/18, over day(s) Tue, with starting times during 10:58:33 AM to 1:28:04 PM

6 After-type runs, collected Tuesday 08/28/18 to Tuesday 08/28/18, over day(s) Tue, with starting times during 10:59:34 AM to 12:51:06 PM

	CTT	CPLSD	CPLRT	CStopD	CAS	CStops	TV	CPUFC	CUFCOE
to Levis Dr (#16)									
Average Before (n=8)	645	181	464	140	31	5.3	328	214.2	13561.6
Std Dev Before (n=8)	22	22	0	20	1.1	1.6	328	22.3	918.7
Average After (n=6)	556	92	464	82	36.2	2.8	328	189.5	12206
Std Dev After (n=6)	53	53	0	28	3	1.2	328	24.2	1265.9
Difference	-89	-89	0	-58	5.1	-2.4	328	-24.7	-1355.6
Std Dev Difference	58	58	0	34	3.2	2	328	32.9	1564.1
% Difference	-14%	-49%	0%	-41%	16.60%	-46.00%	328	-11.50%	-10.00%

MD Cumulative Summary of all runs, either direction through artery

16 Before-type runs, collected Tuesday 05/15/18 to Tuesday 05/29/18, over day(s) Tue, with starting times during 11:25:06 AM to 1:51:36 PM

11 After-type runs, collected Tuesday 08/28/18 to Tuesday 08/28/18, over day(s) Tue, with starting times during 11:08:25 AM to 1:01:54 PM

	CTI	CPLSD	CPLRT	CStopD	CAS	CStops	TV	CPUFC	CUFCOE
to End of Artery									
Average Before (n=16)	686	226	460	164	29.3	6.2	780	237.8	14857.9
Std Dev Before (n=16)	49	53	5	34	2.1	1.9	780	35.9	1691.8
Average After (n=11)	560	100	460	84	36	2.8	780	186.9	12164.4
Std Dev After (n=11)	62	63	5	40	3.7	1.4	780	26	1420.9
Difference	-125	-126	0	-80	6.8	-3.4	780	-50.9	-2693.5
Std Dev Difference	79	82	7	53	4.2	2.4	780	44.3	2209.3
% Difference	-18%	-56%	0%	-49%	23.10%	-54.50%	780	-21.40%	-18.10%

MD Summary of runs Northbound from Levis Dr (#16)

8 Before-type runs, collected Tuesday 05/15/18 to Tuesday 05/29/18, over day(s) Tue, with starting times during 11:14:17 AM to 1:40:29 PM

6 After-type runs, collected Tuesday 08/28/18 to Tuesday 08/28/18, over day(s) Tue, with starting times during 11:09:59 AM to 1:05:19 PM

Node	CTI	DL	CPLSD	CPLRT	CStopD	CAS	PLS	CStops	TV	CPUFC	CUFCOE
to Fair Ground Plaza (#15)											
Average Before (n=8)	26	701	13	14	8	22.7	35	0.4	283	3.2	207.9
Std Dev Before (n=8)	14	0	14	0	13	9.6	0	0.5	283	2.6	130.7
Average After (n=6)	18	701	5	14	5	34.3	35	0.2	283	2.1	144.5
Std Dev After (n=6)	14	0	14	0	12	12	0	0.4	283	2	118.3
Difference	-8	0	-8	0	-3	11.6	0	-0.2	283	-1	-63.4
Std Dev Difference	20	0	20	0	18	15.4	0	0.7	283	3.3	176.3
% Difference	-31%	0%	-64%	0%	-38%	51.30%	0%	-55.60%	283	-32.80%	-30.50%
to Mt Holly Bypass (CR 541) (#14)											
Average Before (n=8)	57	823	27	30	17	20.3	35	0.9	401	8.9	564.5
Std Dev Before (n=8)	21	0	21	0	20	7	0	0.6	401	4	214
Average After (n=6)	40	823	10	30	12	30.9	35	0.5	401	6.6	412.5
Std Dev After (n=6)	18	0	18	0	15	12.6	0	0.5	401	3.6	190.1
Difference	-17	0	-17	0	-6	10.6	0	-0.4	401	-2.3	-152
Std Dev Difference	28	0	28	0	24	14.4	0	0.8	401	5.4	286.2
% Difference	-30%	0%	-63%	0%	-33%	52.10%	0%	-42.90%	401	-25.30%	-26.90%
to Woodlane Rd (#13)											
Average Before (n=8)	147	2082	77	70	65	16.7	35	1.9	731	31.6	2201.9
Std Dev Before (n=8)	20	0	20	0	14	2.8	0	0.6	731	4	217.3
Average After (n=6)	97	2082	27	70	32	29.1	35	1.2	731	24.8	1580
Std Dev After (n=6)	39	0	39	0	32	12.9	0	1	731	9.6	609
Difference	-50	0	-50	0	-33	12.4	0	-0.7	731	-6.8	-621.9
Std Dev Difference	44	0	44	0	35	13.2	0	1.2	731	10.4	646.6
% Difference	-34%	0%	-65%	0%	-51%	74.30%	0%	-37.80%	731	-21.40%	-28.20%

to Burrs Rd (#12)											
Average Before (n=8)	201	2890	92	110	75	22.3	50	2.4	797	59.6	3833.3
Std Dev Before (n=8)	27	0	27	0	19	3.5	0	0.9	797	14.5	691.5
Average After (n=6)	139	2890	29	110	32	34.6	50	1.2	797	40.4	2642.1
Std Dev After (n=6)	42	0	42	0	32	11	0	1	797	9.6	638.7
Difference	-63	0	-63	0	-43	12.2	0	-1.2	797	-19.2	-1191.2
Std Dev Difference	50	0	50	0	37	11.5	0	1.3	797	17.4	941.3
% Difference	-31%	0%	-68%	0%	-57%	54.90%	0%	-50.90%	797	-32.20%	-31.10%
to NJ Turnpike - Exit 5/Hancock Ln (#11)											
Average Before (n=8)	291	4208	124	167	102	25.1	50	3.3	691	97.8	6092.3
Std Dev Before (n=8)	20	0	20	0	18	1.9	0	1	691	14.9	591.9
Average After (n=6)	197	4208	30	167	32	38.6	50	1.2	691	59.7	3939.1
Std Dev After (n=6)	42	0	42	0	32	8.7	0	1	691	9.6	646
Difference	-95	0	-95	0	-70	13.4	0	-2.1	691	-38.1	-2153.1
Std Dev Difference	47	0	47	0	37	8.9	0	1.4	691	17.7	876.2
% Difference	-32%	0%	-76%	0%	-69%	53.50%	0%	-64.10%	691	-38.90%	-35.30%
to Irick Rd (#10)											
Average Before (n=8)	355	2218	158	197	123	24.8	50	4.3	797	134.4	8114
Std Dev Before (n=8)	18	0	18	0	15	1.3	0	1	797	14.8	563.1
Average After (n=6)	236	2218	39	197	33	38.3	50	1.3	797	75.6	4972.8
Std Dev After (n=6)	44	0	44	0	34	7.1	0	1.2	797	16.6	917.4
Difference	-119	0	-119	0	-90	13.5	0	-2.9	797	-58.8	-3141.2
Std Dev Difference	47	0	47	0	38	7.2	0	1.6	797	22.3	1076.4
% Difference	-33%	0%	-75%	0%	-73%	54.30%	0%	-68.60%	797	-43.70%	-38.70%
to Town Square Dr (#9)											
Average Before (n=8)	406	1011	194	211	148	23.4	50	5.3	771	163.7	9685.9
Std Dev Before (n=8)	17	0	17	0	15	1.1	0	1	771	14.8	539.5
Average After (n=6)	263	1011	51	211	41	37.5	50	1.5	771	84.9	5589.9
Std Dev After (n=6)	60	0	60	0	50	7.5	0	1.5	771	25.6	1415.7
Difference	-143	0	-143	0	-107	14.1	0	-3.8	771	-78.8	-4095.9
Std Dev Difference	62	0	62	0	52	7.6	0	1.8	771	29.6	1515
% Difference	-35%	0%	-74%	0%	-72%	60.10%	0%	-71.40%	771	-48.20%	-42.30%

to Bromley Blvd (#8)											
Average Before (n=8)	425	1132	198	227	148	24.2	50	5.3	977	171.1	10226.2
Std Dev Before (n=8)	17	0	17	0	15	1	0	1	977	14.8	527
Average After (n=6)	286	1132	59	227	47	37	50	1.7	977	97.3	6363.7
Std Dev After (n=6)	58	0	58	0	46	6.8	0	1.4	977	23.9	1362.9
Difference	-139	0	-139	0	-102	12.8	0	-3.6	977	-73.8	-3862.4
Std Dev Difference	60	0	60	0	48	6.8	0	1.7	977	28.1	1461.3
% Difference	-33%	0%	-70%	0%	-68%	52.90%	0%	-68.30%	977	-43.10%	-37.80%
to Elbow Ln/Burl Center Mall Ent (#7)											
Average Before (n=8)	438	989	198	240	148	24.9	50	5.3	991	177.5	10648.9
Std Dev Before (n=8)	16	0	16	0	15	1	0	1	991	14.8	522.5
Average After (n=6)	304	989	64	240	50	36.8	50	1.8	991	108.9	7040.3
Std Dev After (n=6)	56	0	56	0	44	6.3	0	1.3	991	24.1	1348
Difference	-134	0	-134	0	-99	11.9	0	-3.4	991	-68.5	-3608.6
Std Dev Difference	58	0	58	0	46	6.4	0	1.7	991	28.3	1445.7
% Difference	-31%	0%	-68%	0%	-66%	47.70%	0%	-65.10%	991	-38.60%	-33.90%
to Liberty Sq/Cadillac Dr (#6)											
Average Before (n=8)	510	4620	207	303	152	27.6	50	5.5	905	212.4	12867.9
Std Dev Before (n=8)	16	0	16	0	15	0.9	0	1.4	905	26.3	942.7
Average After (n=6)	370	4620	67	303	50	38.8	50	1.8	905	136.9	8931.6
Std Dev After (n=6)	58	0	58	0	44	5.8	0	1.3	905	24.1	1368.1
Difference	-140	0	-140	0	-102	11.2	0	-3.7	905	-75.6	-3936.2
Std Dev Difference	60	0	60	0	46	5.9	0	1.9	905	35.6	1661.5
% Difference	-28%	0%	-68%	0%	-67%	40.60%	0%	-66.70%	905	-35.60%	-30.60%
to Sunset Rd (#5)											
Average Before (n=8)	524	799	209	315	152	27.9	45	5.5	783	216.4	13162.2
Std Dev Before (n=8)	17	0	17	0	15	1	0	1.4	783	26.3	950.1
Average After (n=6)	408	799	93	315	72	36.5	45	2.3	783	149.5	9769.8
Std Dev After (n=6)	67	0	67	0	52	5.1	0	1.5	783	28.7	1644.5
Difference	-116	0	-116	0	-79	8.6	0	-3.2	783	-66.9	-3392.4
Std Dev Difference	69	0	69	0	54	5.2	0	2.1	783	38.9	1899.2
% Difference	-22%	0%	-55%	0%	-52%	30.70%	0%	-57.60%	783	-30.90%	-25.80%
to Office Dr/Wishing Well Dr (#4)											
Average Before (n=8)	566	991	235	330	168	27.1	45	6.4	557	230.8	13964.1
Std Dev Before (n=8)	20	0	20	0	20	1	0	1.5	557	27.6	999.8
Average After (n=6)	428	991	98	330	72	36.4	45	2.3	557	153.2	10059.1
Std Dev After (n=6)	67	0	67	0	52	4.9	0	1.5	557	28.8	1640
Difference	-138	0	-138	0	-96	9.3	0	-4	557	-77.6	-3905
Std Dev Difference	69	0	69	0	56	5	0	2.1	557	39.8	1920.8
% Difference	-24%	0%	-59%	0%	-57%	34.40%	0%	-63.40%	557	-33.60%	-28.00%

to Rancocas Ave/Fountain Ave (#2)											
Average Before (n=8)	657	3573	266	391	186	27	40	7	533	250.4	15324.9
Std Dev Before (n=8)	26	0	26	0	22	1	0	1.6	533	29.3	1103.4
Average After (n=5)	503	3573	112	391	85	35.8	40	2.8	533	173.9	11370
Std Dev After (n=5)	73	0	73	0	56	4.8	0	1.8	533	30.5	1702.5
Difference	-154	0	-154	0	-101	8.8	0	-4.2	533	-76.5	-3954.9
Std Dev Difference	77	0	77	0	60	5	0	2.4	533	42.3	2028.8
% Difference	-23%	0%	-58%	0%	-54%	32.60%	0%	-60.00%	533	-30.50%	-25.80%
to Morris St (#1)											
Average Before (n=8)	726	3281	271	455	188	27.5	35	7.1	452	261.4	16154.2
Std Dev Before (n=8)	29	0	29	0	27	1.1	0	1.8	452	31.5	1203.6
Average After (n=5)	565	3281	110	455	85	35.9	35	2.8	452	183.6	12114.4
Std Dev After (n=5)	78	0	78	0	56	4.7	0	1.8	452	30.5	1743.1
Difference	-161	0	-161	0	-103	8.3	0	-4.3	452	-77.7	-4039.7
Std Dev Difference	84	0	84	0	62	4.8	0	2.5	452	43.9	2118.2
% Difference	-22%	0%	-59%	0%	-55%	30.30%	0%	-60.70%	452	-29.70%	-25.00%

MD Summary of runs Southbound from Morris St (#1)

11 Before-type runs, collected Tuesday 05/15/18 to Tuesday 05/29/18, over day(s) Tue, with starting times during 10:58:33 AM to 1:28:04 PM

6 After-type runs, collected Tuesday 08/28/18 to Tuesday 08/28/18, over day(s) Tue, with starting times during 10:59:34 AM to 12:51:06 PM

Node	CTT	DL	CPLSD	CPLRT	CStopD	CAS	PLS	CStops	TV	CPUFC	CUFCOE
to Rancocas Ave/Fountain Ave (#2)											
Average Before (n=11)	94	3281	38	56	24	25.1	40	0.7	514	19.3	1336.5
Std Dev Before (n=11)	20	0	20	0	20	5.7	0	0.5	514	5.3	290.4
Average After (n=6)	81	3281	25	56	14	29.3	40	0.5	514	16.7	1167
Std Dev After (n=6)	21	0	21	0	20	7.5	0	0.5	514	6.2	339.8
Difference	-12	0	-12	0	-10	4.2	0	-0.2	514	-2.6	-169.5
Std Dev Difference	29	0	29	0	28	9.5	0	0.7	514	8.1	447
% Difference	-13%	0%	-32%	0%	-41%	16.50%	0%	-31.20%	514	-13.40%	-12.70%
to Office Dr/Wishing Well Dr (#4)											
Average Before (n=11)	163	3573	53	110	28	29.2	45	1	554	35.4	2439.6
Std Dev Before (n=11)	20	0	20	0	19	4	0	0.6	554	7.3	353.5
Average After (n=6)	145	3573	35	110	14	33.1	45	0.5	554	29.5	2120
Std Dev After (n=6)	24	0	24	0	20	5.7	0	0.5	554	6.2	369.7
Difference	-18	0	-18	0	-14	3.9	0	-0.5	554	-5.9	-319.6
Std Dev Difference	32	0	32	0	28	7	0	0.8	554	9.6	511.5
% Difference	-11%	0%	-34%	0%	-51%	13.50%	0%	-50.00%	554	-16.60%	-13.10%

to Sunset Rd (#5)											
Average Before (n=11)	206	991	81	125	46	26.7	45	1.7	766	52.7	3480.9
Std Dev Before (n=11)	32	0	32	0	31	4.6	0	1.2	766	16.9	778.8
Average After (n=6)	186	991	61	125	35	30.4	45	1	766	43	3019.6
Std Dev After (n=6)	42	0	42	0	27	7.7	0	0.9	766	12.7	791.5
Difference	-20	0	-20	0	-11	3.6	0	-0.7	766	-9.6	-461.4
Std Dev Difference	53	0	53	0	41	9	0	1.5	766	21.2	1110.4
% Difference	-10%	0%	-25%	0%	-23%	13.60%	0%	-42.10%	766	-18.30%	-13.30%
to Liberty Sq/Cadillac Dr (#6)											
Average Before (n=11)	220	799	83	137	46	27.4	45	1.7	1022	57.9	3874.2
Std Dev Before (n=11)	32	0	32	0	31	4.4	0	1.2	1022	16.9	793.6
Average After (n=6)	207	799	70	137	43	29.5	45	1.2	1022	52	3626.9
Std Dev After (n=6)	37	0	37	0	21	6.7	0	0.8	1022	11	705.6
Difference	-13	0	-13	0	-3	2.2	0	-0.6	1022	-5.9	-247.3
Std Dev Difference	49	0	49	0	37	8	0	1.4	1022	20.2	1062
% Difference	-6%	0%	-16%	0%	-7%	7.90%	0%	-32.50%	1022	-10.20%	-6.40%
to Elbow Ln/Burl Center Mall Ent (#7)											
Average Before (n=11)	284	4620	77	207	49	32.4	45	1.8	950	88.8	5863.6
Std Dev Before (n=11)	36	0	36	0	31	4.3	0	1.4	950	22.5	1061.5
Average After (n=6)	279	4620	72	207	50	33.2	45	1.5	950	89	5931
Std Dev After (n=6)	40	0	40	0	27	5.7	0	0.8	950	14.6	831.8
Difference	-5	0	-5	0	1	0.8	0	-0.3	950	0.2	67.5
Std Dev Difference	53	0	53	0	41	7.1	0	1.6	950	26.9	1348.6
% Difference	-2%	0%	-6%	0%	2%	2.40%	0%	-17.50%	950	0.20%	1.20%
to Bromley Blvd (#8)											
Average Before (n=11)	324	989	103	221	71	30.5	50	2.6	893	117.4	7360.2
Std Dev Before (n=11)	39	0	39	0	34	3.6	0	1.2	893	17.8	913.4
Average After (n=6)	295	989	75	221	50	33.6	50	1.5	893	94.8	6349.1
Std Dev After (n=6)	40	0	40	0	27	5.4	0	0.8	893	14.6	839.4
Difference	-28	0	-28	0	-21	3.1	0	-1.1	893	-22.6	-1011.2
Std Dev Difference	56	0	56	0	44	6.5	0	1.5	893	23	1240.5
% Difference	-9%	0%	-27%	0%	-30%	10.10%	0%	-43.10%	893	-19.20%	-13.70%

to Town Square Dr (#9)											
Average Before (n=11)	343	1132	107	236	71	30.9	50	2.6	754	123.1	7784.9
Std Dev Before (n=11)	38	0	38	0	34	3.4	0	1.2	754	17.7	904.4
Average After (n=6)	311	1132	75	236	50	34.3	50	1.5	754	100.5	6730.4
Std Dev After (n=6)	40	0	40	0	27	5.2	0	0.8	754	14.6	832.5
Difference	-32	0	-32	0	-21	3.4	0	-1.1	754	-22.6	-1054.5
Std Dev Difference	56	0	56	0	44	6.2	0	1.5	754	23	1229.3
% Difference	-9%	0%	-30%	0%	-30%	10.90%	0%	-43.10%	754	-18.40%	-13.50%
to Irick Rd (#10)											
Average Before (n=11)	373	1011	123	250	80	30.2	50	3.3	746	142.8	8798.6
Std Dev Before (n=11)	33	0	33	0	31	2.6	0	1.1	746	18.7	857.8
Average After (n=6)	337	1011	87	250	61	33.6	50	1.8	746	113.2	7456.7
Std Dev After (n=6)	38	0	38	0	19	3.7	0	0.8	746	11.5	705
Difference	-36	0	-36	0	-19	3.4	0	-1.4	746	-29.6	-1341.9
Std Dev Difference	50	0	50	0	37	4.5	0	1.3	746	21.9	1110.4
% Difference	-10%	0%	-30%	0%	-23%	11.20%	0%	-44.00%	746	-20.70%	-15.30%
to NJ Turnpike - Exit 5/Hancock Ln (#11)											
Average Before (n=11)	412	2218	132	280	81	31	50	3.5	704	157.2	9714.6
Std Dev Before (n=11)	35	0	35	0	33	2.6	0	1.3	704	23.7	1077.6
Average After (n=6)	377	2218	96	280	68	34.1	50	2.2	704	130.9	8495.1
Std Dev After (n=6)	46	0	46	0	24	3.6	0	1	704	18	1011
Difference	-36	0	-36	0	-13	3.1	0	-1.3	704	-26.3	-1219.5
Std Dev Difference	58	0	58	0	41	4.5	0	1.6	704	29.8	1477.6
% Difference	-9%	0%	-27%	0%	-16%	9.90%	0%	-37.30%	704	-16.70%	-12.60%
to Burrs Rd (#12)											
Average Before (n=11)	471	4208	133	338	81	33.3	50	3.5	774	178.9	11171.7
Std Dev Before (n=11)	37	0	37	0	33	2.6	0	1.3	774	23.7	1106.3
Average After (n=6)	431	4208	93	338	68	36.4	50	2.2	774	152.5	9907.4
Std Dev After (n=6)	44	0	44	0	24	3.3	0	1	774	18	989.8
Difference	-40	0	-40	0	-13	3.1	0	-1.3	774	-26.4	-1264.3
Std Dev Difference	57	0	57	0	41	4.2	0	1.6	774	29.8	1484.4
% Difference	-8%	0%	-30%	0%	-16%	9.40%	0%	-37.30%	774	-14.70%	-11.30%

to Woodlane Rd (#13)											
Average Before (n=11)	527	2890	133	394	93	33.6	35	3.6	658	195.6	12314.7
Std Dev Before (n=11)	47	0	47	0	41	2.9	0	1.3	658	22.9	1134.4
Average After (n=6)	493	2890	99	394	82	35.9	35	2.8	658	179.1	11444.3
Std Dev After (n=6)	47	0	47	0	28	3	0	1.2	658	24.1	1240.9
Difference	-34	0	-34	0	-11	2.3	0	-0.8	658	-16.5	-870.5
Std Dev Difference	67	0	67	0	50	4.2	0	1.7	658	33.3	1681.3
% Difference	-6%	0%	-26%	0%	-11%	6.90%	0%	-22.10%	658	-8.40%	-7.10%
to Mt Holly Bypass (CR 541) (#14)											
Average Before (n=11)	595	2082	161	434	121	31.9	35	4.3	536	208.6	13242.1
Std Dev Before (n=11)	37	0	37	0	25	1.9	0	1.2	536	21.9	1028.9
Average After (n=6)	528	2082	94	434	82	36.1	35	2.8	536	186.1	11947.3
Std Dev After (n=6)	50	0	50	0	28	3	0	1.2	536	24.2	1253.7
Difference	-67	0	-67	0	-39	4.2	0	-1.4	536	-22.6	-1294.8
Std Dev Difference	62	0	62	0	38	3.6	0	1.7	536	32.6	1621.9
% Difference	-11%	0%	-42%	0%	-32%	13.00%	0%	-33.70%	536	-10.80%	-9.80%
to Fair Ground Plaza (#15)											
Average Before (n=8)	614	823	163	450	128	31.8	35	4.8	361	209.8	13275.5
Std Dev Before (n=8)	23	0	23	0	25	1.3	0	1.5	361	22.3	924.4
Average After (n=6)	543	823	93	450	82	36.2	35	2.8	361	188	12090
Std Dev After (n=6)	52	0	52	0	28	3.1	0	1.2	361	24.2	1261.6
Difference	-71	0	-71	0	-46	4.3	0	-1.9	361	-21.8	-1185.5
Std Dev Difference	57	0	57	0	38	3.3	0	1.9	361	32.9	1564
% Difference	-12%	0%	-43%	0%	-36%	13.60%	0%	-40.40%	361	-10.40%	-8.90%
to Levis Dr (#16)											
Average Before (n=8)	645	701	181	464	140	31	35	5.3	328	214.2	13561.6
Std Dev Before (n=8)	22	0	22	0	20	1.1	0	1.6	328	22.3	918.7
Average After (n=6)	556	701	92	464	82	36.2	35	2.8	328	189.5	12206
Std Dev After (n=6)	53	0	53	0	28	3	0	1.2	328	24.2	1265.9
Difference	-89	0	-89	0	-58	5.1	0	-2.4	328	-24.7	-1355.6
Std Dev Difference	58	0	58	0	34	3.2	0	2	328	32.9	1564.1
% Difference	-14%	0%	-49%	0%	-41%	16.60%	0%	-46.00%	328	-11.50%	-10.00%

Travel Time & Delay Report for CR 541 - PM Peak

Legend:

CTT:

Summarized Cumulative Travel Time since beginning of Run (seconds)

CPLSD:

Summarized Cumulative Posted Speed Limit Delay since beginning of Run (seconds)

CPLRT:

Summarized Cumulative Posted Speed Limit Running Time, or Travel Time since beginning of Run if maintaining Posted Speed Limit (seconds) = accumulation of DL/PLS since beginning of Run

CStopD:

Summarized Cumulative Stopped Delay since beginning of Run (seconds). The "Stopped Delay" is counted from when the speed drops below 5 mph after exceeding 15 mph until it exceeds 15 mph once again

CAS:

Summarized Cumulative Actual Average Speed since beginning of Run (mph) = CTL/CTT

CStops:

Summarized Cumulative number of Stops in Run. A "Stop" is counted when the speed drops below 5 mph after exceeding 15 mph

TV:

Summarized Through Volume (vph)

CPUFC:

Summarized Cumulative Fuel Consumption, from Penic & Upchurch model with TRANSYT7F-10 default coefficients (gal/hr) (= Cumulative (TL/5280*(0.51242*exp(0.024609*DS)/DS) + Delay/3600*(0.0468) + Stops*(3.8424*DS^1.657 + 1.681*DS^1.48922)/1.0E5)*TV)

CUFCOE:

Summarized Cumulative Carbon Monoxide Emissions using Synchro 7 formula (from unpublished Oak Ridge National Labs letter to Federal Highway Administration) and University of Florida model for Fuel Consumption (g/hr) (= Cumulative UFFC*69.9)

PM Cumulative Summary of runs Northbound from Levis Dr (#16)

7 Before-type runs, collected Wednesday 05/16/18 to Tuesday 05/29/18, over day(s) Tue, Wed, with starting times during 3:46:21 PM to 5:45:41 PM

5 After-type runs, collected Tuesday 08/28/18 to Tuesday 08/28/18, over day(s) Tue, with starting times during 4:00:08 PM to 5:31:45 PM

	CTT	CPLSD	CPLRT	CStopD	CAS	CStops	TV	CPUFC	CUFCOE
to Morris St (#1)									
Average Before (n=7)	768	306	462	203	26.1	7.4	627	346.6	21873.4
Std Dev Before (n=7)	57	57	0	72	1.9	1.6	627	45.7	2328.8
Average After (n=5)	605	143	462	118	33.2	3.2	627	244.1	16442
Std Dev After (n=5)	57	57	0	58	3	1.3	627	24.6	1482.4
Difference	-163	-163	0	-85	7.1	-4.2	627	-102.5	-5431.4
Std Dev Difference	81	81	0	93	3.5	2.1	627	51.9	2760.5
% Difference	-21%	-53%	0%	-42%	27.20%	-56.90%	627	-29.60%	-24.80%

PM Cumulative Summary of runs Southbound from Morris St (#1)

7 Before-type runs, collected Wednesday 05/16/18 to Tuesday 05/29/18, over day(s) Tue, Wed, with starting times during 3:31:18 PM to 5:59:47 PM

5 After-type runs, collected Tuesday 08/28/18 to Tuesday 08/28/18, over day(s) Tue, with starting times during 4:10:52 PM to 5:43:06 PM

	CTT	CPLSD	CPLRT	CStopD	CAS	CStops	TV	CPUFC	CUFCOE
to Levis Dr (#16)									
Average Before (n=7)	689	232	457	168	29	6.4	410	354.8	21943.5
Std Dev Before (n=7)	22	22	0	26	0.9	1	410	24.7	980.6
Average After (n=5)	529	72	457	61	38.1	2.6	410	275.1	17484.1
Std Dev After (n=5)	50	50	0	32	4	0.9	410	34	1905.6
Difference	-161	-161	0	-107	9.1	-3.8	410	-79.7	-4459.4
Std Dev Difference	54	54	0	41	4.1	1.3	410	42	2143.1
% Difference	-23%	-69%	0%	-64%	31.30%	-59.60%	410	-22.50%	-20.30%

PM Cumulative Summary of all runs, either direction through artery

14 Before-type runs, collected Wednesday 05/16/18 to Tuesday 05/29/18, over day(s) Tue, Wed, with starting times during 3:42:42 PM to 6:10:29 PM

10 After-type runs, collected Tuesday 08/28/18 to Tuesday 08/28/18, over day(s) Tue, with starting times during 4:08:04 PM to 5:51:59 PM

	CTI	CPLSD	CPLRT	CStopD	CAS	CStops	TV	CPUFC	CUFCOE
to End of Artery									
Average Before (n=14)	729	269	460	186	27.6	6.9	1037	350.7	21908.5
Std Dev Before (n=14)	58	57	3	55	2.1	1.4	1037	35.5	1717
Average After (n=10)	567	107	460	90	35.7	2.9	1037	259.6	16963.1
Std Dev After (n=10)	64	63	3	53	4.2	1.1	1037	32.4	1700.6
Difference	-162	-162	0	-96	8.1	-4	1037	-91.1	-4945.4
Std Dev Difference	87	85	4	77	4.7	1.8	1037	48.1	2416.7
% Difference	-22%	-60%	0%	-52%	29.30%	-58.10%	1037	-26.00%	-22.60%

PM Summary of runs Northbound from Levis Dr (#16)

7 Before-type runs, collected Wednesday 05/16/18 to Tuesday 05/29/18, over day(s) Tue, Wed, with starting times during 3:46:21 PM to 5:45:41 PM

5 After-type runs, collected Tuesday 08/28/18 to Tuesday 08/28/18, over day(s) Tue, with starting times during 4:00:08 PM to 5:31:45 PM

Node	CTI	DL	CPLSD	CPLRT	CStopD	CAS	PLS	CStops	TV	CPUFC	CUFCOE
to Fair Ground Plaza (#15)											
Average Before (n=7)	23	701	9	14	7	26	35	0.4	380	4.6	272.9
Std Dev Before (n=7)	12	0	12	0	10	12.3	0	0.5	380	3.6	166.6
Average After (n=5)	18	701	4	14	4	31.6	35	0.2	380	3.1	199.9
Std Dev After (n=5)	10	0	10	0	9	10.7	0	0.4	380	3	145.9
Difference	-5	0	-5	0	-3	5.6	0	-0.2	380	-1.5	-73
Std Dev Difference	16	0	16	0	13	16.3	0	0.7	380	4.6	221.5
% Difference	-22%	0%	-53%	0%	-45%	21.50%	0%	-53.30%	380	-33.00%	-26.80%
to Mt Holly Bypass (CR 541) (#14)											
Average Before (n=7)	48	823	18	30	13	24.2	35	0.7	456	9.4	586.1
Std Dev Before (n=7)	15	0	15	0	10	9	0	0.5	456	3.6	189.3
Average After (n=5)	33	823	3	30	4	34.6	35	0.2	456	5.6	379.1
Std Dev After (n=5)	12	0	12	0	9	8.8	0	0.4	456	3	153.6
Difference	-15	0	-15	0	-9	10.4	0	-0.5	456	-3.8	-207.1
Std Dev Difference	19	0	19	0	14	12.6	0	0.7	456	4.7	243.8
% Difference	-32%	0%	-84%	0%	-70%	42.80%	0%	-72.00%	456	-40.80%	-35.30%
to Woodlane Rd (#13)											
Average Before (n=7)	104	2082	33	70	35	25.8	35	1.1	812	26.2	1768.3
Std Dev Before (n=7)	40	0	40	0	33	8.1	0	0.7	812	8.4	651.1
Average After (n=5)	97	2082	27	70	30	26.5	35	1	812	27.7	1817.9
Std Dev After (n=5)	30	0	30	0	28	6.9	0	0.7	812	7.8	498.5
Difference	-7	0	-7	0	-5	0.7	0	-0.1	812	1.5	49.6
Std Dev Difference	50	0	50	0	43	10.7	0	1	812	11.5	820
% Difference	-6%	0%	-20%	0%	-14%	2.60%	0%	-12.50%	812	5.60%	2.80%

to Burrs Rd (#12)											
Average Before (n=7)	159	2890	49	110	43	29.4	50	1.6	1056	61	3865.4
Std Dev Before (n=7)	43	0	43	0	39	7.1	0	0.8	1056	19.9	1080.2
Average After (n=5)	139	2890	29	110	30	32.9	50	1	1056	48.3	3225.2
Std Dev After (n=5)	30	0	30	0	28	6.2	0	0.7	1056	7.8	501.2
Difference	-20	0	-20	0	-13	3.5	0	-0.6	1056	-12.7	-640.2
Std Dev Difference	53	0	53	0	48	9.4	0	1.1	1056	21.4	1190.8
% Difference	-13%	0%	-41%	0%	-31%	11.80%	0%	-36.40%	1056	-20.80%	-16.60%
to NJ Turnpike - Exit 5/Hancock Ln (#11)											
Average Before (n=7)	242	4208	75	167	57	30.8	50	2.3	853	103.9	6427
Std Dev Before (n=7)	43	0	43	0	43	5.1	0	0.8	853	15.7	932.1
Average After (n=5)	221	4208	54	167	48	33.5	50	1.8	853	93.5	5853.4
Std Dev After (n=5)	32	0	32	0	31	4.6	0	0.8	853	13.5	744.3
Difference	-21	0	-21	0	-9	2.6	0	-0.5	853	-10.4	-573.7
Std Dev Difference	54	0	54	0	53	6.9	0	1.1	853	20.7	1192.8
% Difference	-9%	0%	-28%	0%	-16%	8.50%	0%	-21.30%	853	-10.00%	-8.90%
to Irick Rd (#10)											
Average Before (n=7)	297	2218	100	197	67	30.4	50	2.9	993	136.3	8354.9
Std Dev Before (n=7)	54	0	54	0	54	5	0	1.1	993	29.2	1531.9
Average After (n=5)	256	2218	59	197	48	34.7	50	1.8	993	108.2	6902.7
Std Dev After (n=5)	31	0	31	0	31	4	0	0.8	993	13.5	729.6
Difference	-40	0	-40	0	-18	4.3	0	-1.1	993	-28.2	-1452.3
Std Dev Difference	62	0	62	0	62	6.4	0	1.4	993	32.1	1696.8
% Difference	-14%	0%	-41%	0%	-28%	14.00%	0%	-37.00%	993	-20.70%	-17.40%
to Town Square Dr (#9)											
Average Before (n=7)	343	1011	132	211	89	28.3	50	3.7	969	168.8	10126
Std Dev Before (n=7)	59	0	59	0	58	4.8	0	1.3	969	35.5	1847.8
Average After (n=5)	275	1011	64	211	48	34.8	50	1.8	969	114.7	7397.4
Std Dev After (n=5)	29	0	29	0	31	3.5	0	0.8	969	13.4	669.8
Difference	-68	0	-68	0	-41	6.4	0	-1.9	969	-54.1	-2728.7
Std Dev Difference	66	0	66	0	65	5.9	0	1.5	969	38	1965.4
% Difference	-20%	0%	-52%	0%	-46%	22.70%	0%	-51.50%	969	-32.00%	-26.90%

to Bromley Blvd (#8)											
Average Before (n=7)	368	1132	141	227	94	28.3	50	3.9	1144	182.6	11025.3
Std Dev Before (n=7)	52	0	52	0	53	3.8	0	1.1	1144	28.3	1460.7
Average After (n=5)	291	1132	65	227	48	35.4	50	1.8	1144	123.3	7988.4
Std Dev After (n=5)	28	0	28	0	31	3.3	0	0.8	1144	13.4	648.3
Difference	-76	0	-76	0	-46	7.1	0	-2.1	1144	-59.3	-3036.9
Std Dev Difference	59	0	59	0	61	5	0	1.4	1144	31.4	1598.1
% Difference	-21%	0%	-54%	0%	-49%	25.10%	0%	-53.30%	1144	-32.50%	-27.50%
to Elbow Ln/Burl Center Mall Ent (#7)											
Average Before (n=7)	382	989	142	240	94	29	50	3.9	1279	190.8	11579.8
Std Dev Before (n=7)	52	0	52	0	53	3.7	0	1.1	1279	28.3	1444.9
Average After (n=5)	304	989	64	240	48	36.1	50	1.8	1279	131.5	8529.5
Std Dev After (n=5)	28	0	28	0	31	3.2	0	0.8	1279	13.4	637
Difference	-77	0	-77	0	-46	7.1	0	-2.1	1279	-59.3	-3050.2
Std Dev Difference	59	0	59	0	61	4.8	0	1.4	1279	31.3	1579.1
% Difference	-20%	0%	-54%	0%	-49%	24.30%	0%	-53.30%	1279	-31.10%	-26.30%
to Liberty Sq/Cadillac Dr (#6)											
Average Before (n=7)	456	4620	146	310	99	31.3	45	4.1	1325	243.5	14918.6
Std Dev Before (n=7)	59	0	59	0	60	3.8	0	1.5	1325	41.8	2105.2
Average After (n=5)	368	4620	58	310	48	38.4	45	1.8	1325	172.4	11267
Std Dev After (n=5)	26	0	26	0	31	2.7	0	0.8	1325	13.3	576.3
Difference	-87	0	-87	0	-51	7.1	0	-2.3	1325	-71.1	-3651.6
Std Dev Difference	64	0	64	0	67	4.6	0	1.7	1325	43.9	2182.7
% Difference	-19%	0%	-60%	0%	-51%	22.60%	0%	-56.60%	1325	-29.20%	-24.50%
to Sunset Rd (#5)											
Average Before (n=7)	480	799	158	322	108	31	45	4.3	1173	253.2	15653.1
Std Dev Before (n=7)	74	0	74	0	73	4.3	0	1.7	1173	47.9	2567.1
Average After (n=5)	406	799	84	322	74	36.3	45	2.2	1173	188.8	12434.6
Std Dev After (n=5)	44	0	44	0	39	4.1	0	0.8	1173	14.8	1058.3
Difference	-74	0	-74	0	-34	5.3	0	-2.1	1173	-64.4	-3218.5
Std Dev Difference	86	0	86	0	83	5.9	0	1.9	1173	50.2	2776.7
% Difference	-15%	0%	-47%	0%	-32%	17.20%	0%	-48.70%	1173	-25.40%	-20.60%
to Office Dr/Wishing Well Dr (#4)											
Average Before (n=7)	529	991	192	337	128	29.5	45	5.3	873	278.1	17070.4
Std Dev Before (n=7)	83	0	83	0	82	4.1	0	1.9	873	50.3	2718.6
Average After (n=5)	423	991	86	337	74	36.6	45	2.2	873	194.6	12853.6
Std Dev After (n=5)	45	0	45	0	39	4.1	0	0.8	873	14.8	1075.2
Difference	-106	0	-106	0	-55	7.1	0	-3.1	873	-83.5	-4216.8
Std Dev Difference	94	0	94	0	91	5.8	0	2.1	873	52.4	2923.5
% Difference	-20%	0%	-55%	0%	-43%	23.90%	0%	-58.40%	873	-30.00%	-24.70%

to Rancocas Rd/Fountain Ave (#2)											
Average Before (n=7)	695	3573	297	398	198	25.7	40	7.1	796	329.2	20617.8
Std Dev Before (n=7)	57	0	57	0	69	2.2	0	1.6	796	45.3	2302.5
Average After (n=5)	540	3573	142	398	118	33.1	40	3.2	796	230.6	15382.5
Std Dev After (n=5)	57	0	57	0	58	3.4	0	1.3	796	24.6	1484.8
Difference	-155	0	-155	0	-79	7.4	0	-3.9	796	-98.6	-5235.3
Std Dev Difference	81	0	81	0	90	4	0	2	796	51.5	2739.7
% Difference	-22%	0%	-52%	0%	-40%	29.00%	0%	-55.20%	796	-30.00%	-25.40%
to Morris St (#1)											
Average Before (n=7)	768	3281	306	462	203	26.1	35	7.4	627	346.6	21873.4
Std Dev Before (n=7)	57	0	57	0	72	1.9	0	1.6	627	45.7	2328.8
Average After (n=5)	605	3281	143	462	118	33.2	35	3.2	627	244.1	16442
Std Dev After (n=5)	57	0	57	0	58	3	0	1.3	627	24.6	1482.4
Difference	-163	0	-163	0	-85	7.1	0	-4.2	627	-102.5	-5431.4
Std Dev Difference	81	0	81	0	93	3.5	0	2.1	627	51.9	2760.5
% Difference	-21%	0%	-53%	0%	-42%	27.20%	0%	-56.90%	627	-29.60%	-24.80%

PM Summary of runs Southbound from Morris St (#1)

10 Before-type runs, collected Wednesday 05/16/18 to Tuesday 05/29/18, over day(s) Tue, Wed, with starting times during 3:31:18 PM to 5:59:47 PM

5 After-type runs, collected Tuesday 08/28/18 to Tuesday 08/28/18, over day(s) Tue, with starting times during 4:10:52 PM to 5:43:06 PM

Node	CTT	DL	CPLSD	CPLRT	CStopD	CAS	PLS	CStops	TV	CPUFC	CUFCOE
to Rancocas Rd/Fountain Ave (#2)											
Average Before (n=10)	121	3281	65	56	44	19.2	40	1.2	735	35.3	2435.4
Std Dev Before (n=10)	24	0	24	0	20	3.4	0	0.4	735	6.8	439.8
Average After (n=5)	82	3281	26	56	11	28.3	40	0.6	735	25.5	1725.3
Std Dev After (n=5)	16	0	16	0	11	5.4	0	0.5	735	8.8	424.1
Difference	-39	0	-39	0	-33	9.1	0	-0.6	735	-9.8	-710.2
Std Dev Difference	29	0	29	0	23	6.4	0	0.7	735	11.1	610.9
% Difference	-32%	0%	-60%	0%	-75%	47.10%	0%	-50.00%	735	-27.90%	-29.20%
to Office Dr/Wishing Well Dr (#4)											
Average Before (n=10)	191	3573	81	110	47	24.7	45	1.3	720	53.6	3797.2
Std Dev Before (n=10)	22	0	22	0	19	2.7	0	0.5	720	7.7	437.7
Average After (n=5)	149	3573	38	110	13	31.7	45	0.8	720	45.2	3097.5
Std Dev After (n=5)	15	0	15	0	10	3.1	0	0.4	720	7.1	333.7
Difference	-43	0	-43	0	-34	7	0	-0.5	720	-8.3	-699.7
Std Dev Difference	26	0	26	0	21	4.1	0	0.7	720	10.5	550.4
% Difference	-22%	0%	-53%	0%	-72%	28.20%	0%	-38.50%	720	-15.60%	-18.40%

to Sunset Rd (#5)											
Average Before (n=10)	228	991	103	125	58	23.7	45	2	960	74.6	4995.1
Std Dev Before (n=10)	18	0	18	0	18	1.9	0	0.7	960	12.3	504.1
Average After (n=5)	187	991	62	125	31	29.5	45	1.2	960	60.1	4118.1
Std Dev After (n=5)	34	0	34	0	26	5	0	0.4	960	9.3	717
Difference	-41	0	-41	0	-27	5.8	0	-0.8	960	-14.5	-877
Std Dev Difference	39	0	39	0	32	5.4	0	0.8	960	15.4	876.5
% Difference	-18%	0%	-40%	0%	-47%	24.40%	0%	-40.00%	960	-19.40%	-17.60%
to Liberty Sq/Cadillac Dr (#6)											
Average Before (n=10)	241	799	104	137	58	24.6	45	2	1333	81.4	5487
Std Dev Before (n=10)	17	0	17	0	18	1.8	0	0.7	1333	12.3	490.3
Average After (n=5)	199	799	62	137	31	30.3	45	1.2	1333	66.9	4596.8
Std Dev After (n=5)	36	0	36	0	26	5	0	0.4	1333	9.4	739.9
Difference	-42	0	-42	0	-27	5.7	0	-0.8	1333	-14.5	-890.2
Std Dev Difference	40	0	40	0	32	5.3	0	0.8	1333	15.4	887.6
% Difference	-17%	0%	-40%	0%	-47%	23.30%	0%	-40.00%	1333	-17.80%	-16.20%
to Elbow Ln/Burl Center Mall Ent (#7)											
Average Before (n=10)	306	4620	106	200	61	29.7	50	2.1	1630	136.7	9060.8
Std Dev Before (n=10)	14	0	14	0	16	1.3	0	0.7	1630	20.6	862.2
Average After (n=5)	260	4620	60	200	31	35.4	50	1.2	1630	117.1	7902.2
Std Dev After (n=5)	36	0	36	0	26	4.7	0	0.4	1630	9.4	752.9
Difference	-46	0	-46	0	-30	5.7	0	-0.9	1630	-19.6	-1158.6
Std Dev Difference	39	0	39	0	31	4.9	0	0.9	1630	22.6	1144.6
% Difference	-15%	0%	-43%	0%	-49%	19.20%	0%	-42.90%	1630	-14.30%	-12.80%
to Bromley Blvd (#8)											
Average Before (n=10)	353	989	139	214	89	27.7	50	3	1445	186.7	11755.3
Std Dev Before (n=10)	19	0	19	0	23	1.5	0	0.7	1445	12.4	444.6
Average After (n=5)	278	989	65	214	35	35.5	50	1.4	1445	135.3	8919.7
Std Dev After (n=5)	38	0	38	0	26	4.8	0	0.5	1445	19.5	1095
Difference	-75	0	-75	0	-54	7.8	0	-1.6	1445	-51.3	-2835.6
Std Dev Difference	42	0	42	0	35	5.1	0	0.9	1445	23.1	1181.9
% Difference	-21%	0%	-54%	0%	-60%	28.30%	0%	-53.30%	1445	-27.50%	-24.10%

to Town Square Dr (#9)											
Average Before (n=10)	372	1132	142	229	89	28.3	50	3	1375	197	12507.8
Std Dev Before (n=10)	19	0	19	0	23	1.5	0	0.7	1375	12.4	434.1
Average After (n=5)	295	1132	65	229	35	36.2	50	1.4	1375	145.7	9627.2
Std Dev After (n=5)	39	0	39	0	26	4.8	0	0.5	1375	19.5	1135.7
Difference	-77	0	-77	0	-54	7.8	0	-1.6	1375	-51.4	-2880.6
Std Dev Difference	43	0	43	0	35	5	0	0.9	1375	23.1	1215.8
% Difference	-21%	0%	-54%	0%	-60%	27.60%	0%	-53.30%	1375	-26.10%	-23.00%
to Irick Rd (#10)											
Average Before (n=10)	398	1011	155	243	94	28.2	50	3.5	1318	226.4	14043.2
Std Dev Before (n=10)	19	0	19	0	23	1.4	0	1	1318	27.4	988.3
Average After (n=5)	320	1011	77	243	42	35.6	50	1.8	1318	170.9	11001.7
Std Dev After (n=5)	49	0	49	0	32	5.6	0	0.8	1318	36.7	1990.9
Difference	-78	0	-78	0	-52	7.5	0	-1.7	1318	-55.4	-3041.6
Std Dev Difference	52	0	52	0	39	5.8	0	1.3	1318	45.8	2222.7
% Difference	-20%	0%	-50%	0%	-55%	26.50%	0%	-48.60%	1318	-24.50%	-21.70%
to NJ Turnpike - Exit 5/Hancock Ln (#11)											
Average Before (n=10)	444	2218	171	273	101	28.6	50	4.2	968	261.7	15939.7
Std Dev Before (n=10)	16	0	16	0	21	1	0	0.8	968	21.5	659
Average After (n=5)	362	2218	89	273	52	35.5	50	2	968	191.3	12325.5
Std Dev After (n=5)	43	0	43	0	26	4.7	0	0.7	968	32.6	1766.6
Difference	-82	0	-82	0	-48	6.9	0	-2.2	968	-70.4	-3614.2
Std Dev Difference	46	0	46	0	34	4.8	0	1.1	968	39	1885.5
% Difference	-18%	0%	-48%	0%	-48%	23.90%	0%	-52.40%	968	-26.90%	-22.70%
to Burrs Rd (#12)											
Average Before (n=10)	502	4208	171	331	101	31.1	50	4.2	1211	295.6	18205
Std Dev Before (n=10)	15	0	15	0	21	1	0	0.8	1211	21.4	622.6
Average After (n=5)	415	4208	84	331	52	37.9	50	2	1211	225.1	14497.6
Std Dev After (n=5)	43	0	43	0	26	4.3	0	0.7	1211	32.6	1785.8
Difference	-87	0	-87	0	-48	6.9	0	-2.2	1211	-70.5	-3707.4
Std Dev Difference	46	0	46	0	34	4.4	0	1.1	1211	39	1891.2
% Difference	-17%	0%	-51%	0%	-48%	22.10%	0%	-52.40%	1211	-23.80%	-20.40%

to Woodlane Rd (#13)											
Average Before (n=10)	550	2890	164	387	103	32	35	4.4	992	321.2	19837.3
Std Dev Before (n=10)	21	0	21	0	21	1.2	0	0.8	992	24.4	837.8
Average After (n=5)	468	2890	81	387	61	37.9	35	2.6	992	263	16619.6
Std Dev After (n=5)	48	0	48	0	32	4.5	0	0.9	992	34	1893.9
Difference	-83	0	-83	0	-42	6	0	-1.8	992	-58.2	-3217.7
Std Dev Difference	53	0	53	0	38	4.6	0	1.2	992	41.9	2070.9
% Difference	-15%	0%	-51%	0%	-41%	18.70%	0%	-40.90%	992	-18.10%	-16.20%
to Mt Holly Bypass (CR 541) (#14)											
Average Before (n=10)	622	2082	194	427	133	30.5	35	5.1	579	336	20885.6
Std Dev Before (n=10)	30	0	30	0	38	1.5	0	1.1	579	26.3	985.6
Average After (n=5)	501	2082	73	427	61	38.2	35	2.6	579	270.5	17144.3
Std Dev After (n=5)	50	0	50	0	32	4.3	0	0.9	579	34	1904.2
Difference	-121	0	-121	0	-72	7.6	0	-2.5	579	-65.4	-3741.3
Std Dev Difference	58	0	58	0	49	4.5	0	1.4	579	43	2144.2
% Difference	-19%	0%	-62%	0%	-54%	25.00%	0%	-49.00%	579	-19.50%	-17.90%
to Fair Ground Plaza (#15)											
Average Before (n=7)	664	823	221	443	161	29.4	35	6	495	349.8	21635.4
Std Dev Before (n=7)	26	0	26	0	29	1.2	0	1.2	495	26.3	1066.3
Average After (n=5)	515	823	72	443	61	38.2	35	2.6	495	273.2	17339.4
Std Dev After (n=5)	50	0	50	0	32	4.2	0	0.9	495	34	1906.2
Difference	-149	0	-149	0	-99	8.7	0	-3.4	495	-76.6	-4296
Std Dev Difference	56	0	56	0	43	4.3	0	1.5	495	43	2184.1
% Difference	-22%	0%	-67%	0%	-62%	29.70%	0%	-56.70%	495	-21.90%	-19.90%
to Levis Dr (#16)											
Average Before (n=7)	689	701	232	457	168	29	35	6.4	410	354.8	21943.5
Std Dev Before (n=7)	22	0	22	0	26	0.9	0	1	410	24.7	980.6
Average After (n=5)	529	701	72	457	61	38.1	35	2.6	410	275.1	17484.1
Std Dev After (n=5)	50	0	50	0	32	4	0	0.9	410	34	1905.6
Difference	-161	0	-161	0	-107	9.1	0	-3.8	410	-79.7	-4459.4
Std Dev Difference	54	0	54	0	41	4.1	0	1.3	410	42	2143.1
% Difference	-23%	0%	-69%	0%	-64%	31.30%	0%	-59.60%	410	-22.50%	-20.30%

Travel Time & Delay Report for CR 541 - Weekend MD Peak

Legend:

CTT:

Summarized Cumulative Travel Time since beginning of Run (seconds)

CPLSD:

Summarized Cumulative Posted Speed Limit Delay since beginning of Run (seconds)

CPLRT:

Summarized Cumulative Posted Speed Limit Running Time, or Travel Time since beginning of Run if maintaining Posted Speed Limit (seconds) = accumulation of DL/PLS since beginning of Run

CStopD:

Summarized Cumulative Stopped Delay since beginning of Run (seconds). The "Stopped Delay" is counted from when the speed drops below 5 mph after exceeding 15 mph until it exceeds 15 mph once again

CAS:

Summarized Cumulative Actual Average Speed since beginning of Run (mph) = CTT/CTT

CStops:

Summarized Cumulative number of Stops in Run. A "Stop" is counted when the speed drops below 5 mph after exceeding 15 mph

TV:

Summarized Through Volume (vph)

CPUFC:

Summarized Cumulative Fuel Consumption, from Penic & Upchurch model with TRANSYT7F-10 default coefficients (gal/hr) (= Cumulative (TL/5280*(0.51242*exp(0.024609*DS)/DS) + Delay/3600*(0.0468) + Stops*(3.8424*DS^1.657 + 1.681*DS^1.48922)/1.0E5)*TV)

CUFCOE:

Summarized Cumulative Carbon Monoxide Emissions using Synchro 7 formula (from unpublished Oak Ridge National Labs letter to Federal Highway Administration) and University of Florida model for Fuel Consumption (g/hr) (= Cumulative UFFC*69.9)

WM Cumulative Summary of runs Northbound from Levis Dr (#16)

7 Before-type runs, collected Saturday 05/12/18 to Saturday 06/02/18, over day(s) Sat, with starting times during 11:08:11 AM to 1:01:43 PM

11 After-type runs, collected Saturday 08/25/18 to Saturday 08/25/18, over day(s) Sat, with starting times during 11:03:21 AM to 12:49:28 PM

	CTT	CPLSD	CPLRT	CStopD	CAS	CStops	TV	CPUFC	CUFCOE
to Morris St (#1)									
Average Before (n=7)	659	198	462	126	30.4	5.3	583	261.7	16482.9
Std Dev Before (n=7)	38	38	0	39	1.8	1.7	583	30.3	1268.3
Average After (n=11)	532	71	462	62	37.7	2	583	187.7	12670.2
Std Dev After (n=11)	38	38	0	36	2.7	0.9	583	17.9	986.4
Difference	-127	-127	0	-63	7.3	-3.3	583	-74	-3812.7
Std Dev Difference	54	54	0	53	3.2	1.9	583	35.2	1606.7
% Difference	-19%	-64%	0%	-50%	24.10%	-62.20%	583	-28.30%	-23.10%

WM Cumulative Summary of runs Southbound from Morris St (#1)

7 Before-type runs, collected Saturday 05/12/18 to Saturday 06/02/18, over day(s) Sat, with starting times during 10:54:17 AM to 1:26:30 PM

11 After-type runs, collected Saturday 08/25/18 to Saturday 08/25/18, over day(s) Sat, with starting times during 11:03:08 AM to 12:58:53 PM

	CTT	CPLSD	CPLRT	CStopD	CAS	CStops	TV	CPUFC	CUFCOE
to Levis Dr (#16)									
Average Before (n=7)	649	192	457	141	31	4.6	320	242.1	15728.6
Std Dev Before (n=7)	56	56	0	53	2.9	1.3	320	18.3	1036.5
Average After (n=11)	559	102	457	91	35.8	3.2	320	230	14624
Std Dev After (n=11)	31	31	0	27	2.1	1.1	320	28.1	1336.4
Difference	-90	-90	0	-50	4.8	-1.4	320	-12.1	-1104.6
Std Dev Difference	64	64	0	60	3.6	1.7	320	33.6	1691.2
% Difference	-14%	-47%	0%	-36%	15.60%	-30.40%	320	-5.00%	-7.00%

WM Cumulative Summary of all runs, either direction through artery

14 Before-type runs, collected Saturday 05/12/18 to Saturday 06/02/18, over day(s) Sat, with starting times during 11:05:15 AM to 1:11:40 PM

22 After-type runs, collected Saturday 08/25/18 to Saturday 08/25/18, over day(s) Sat, with starting times during 11:11:41 AM to 1:08:07 PM

	CTI	CPLSD	CPLRT	CStopD	CAS	CStops	TV	CPUFC	CUFCOE
to End of Artery									
Average Before (n=14)	654	195	460	133	30.7	4.9	903	251.9	16105.7
Std Dev Before (n=14)	46	46	3	46	2.3	1.5	903	26.1	1179.6
Average After (n=22)	546	86	460	77	36.8	2.6	903	208.8	13647.1
Std Dev After (n=22)	37	38	2	34	2.5	1.1	903	31.6	1521
Difference	-108	-108	0	-57	6.1	-2.3	903	-43	-2458.6
Std Dev Difference	59	59	4	57	3.4	1.9	903	41	1924.8
% Difference	-17%	-56%	0%	-43%	19.80%	-47.40%	903	-17.10%	-15.30%

WM Summary of runs Northbound from Levis Dr (#16)

7 Before-type runs, collected Saturday 05/12/18 to Saturday 06/02/18, over day(s) Sat, with starting times during 11:08:11 AM to 1:01:43 PM

11 After-type runs, collected Saturday 08/25/18 to Saturday 08/25/18, over day(s) Sat, with starting times during 11:03:21 AM to 12:49:28 PM

Node	CTI	DL	CPLSD	CPLRT	CStopD	CAS	PLS	CStops	TV	CPUFC	CUFCOE
to Fair Ground Plaza (#15)											
Average Before (n=7)	24	701	11	14	8	24.3	35	0.4	319	3.9	234.2
Std Dev Before (n=7)	11	0	11	0	10	11	0	0.5	319	3	140.7
Average After (n=11)	18	701	4	14	4	31.9	35	0.2	319	2.5	162.3
Std Dev After (n=11)	10	0	10	0	9	10	0	0.4	319	2.3	112.6
Difference	-7	0	-7	0	-4	7.6	0	-0.2	319	-1.4	-71.9
Std Dev Difference	15	0	15	0	14	14.9	0	0.7	319	3.8	180.2
% Difference	-27%	0%	-61%	0%	-52%	31.30%	0%	-57.60%	319	-36.00%	-30.70%
to Mt Holly Bypass (CR 541) (#14)											
Average Before (n=7)	57	823	27	30	22	21.9	35	0.9	440	9.6	617.5
Std Dev Before (n=7)	24	0	24	0	21	10.1	0	0.7	440	4.7	280.9
Average After (n=11)	32	823	2	30	4	35.7	35	0.2	440	4.9	333.3
Std Dev After (n=11)	11	0	11	0	9	8.5	0	0.4	440	2.3	121.7
Difference	-25	0	-25	0	-18	13.7	0	-0.7	440	-4.7	-284.2
Std Dev Difference	27	0	27	0	23	13.2	0	0.8	440	5.2	306.2
% Difference	-44%	0%	-92%	0%	-82%	62.50%	0%	-78.80%	440	-49.30%	-46.00%
to Woodlane Rd (#13)											
Average Before (n=7)	91	2082	21	70	23	27.9	35	1	741	21.1	1357.6
Std Dev Before (n=7)	23	0	23	0	20	6.6	0	0.6	741	4.6	259.3
Average After (n=11)	93	2082	22	70	28	27.7	35	1	741	25.3	1616.6
Std Dev After (n=11)	27	0	27	0	27	6.5	0	0.6	741	6.2	389.6
Difference	2	0	2	0	5	-0.2	0	0	741	4.2	259
Std Dev Difference	35	0	35	0	33	9.2	0	0.9	741	7.8	468.1
% Difference	2%	0%	8%	0%	22%	-0.70%	0%	0.00%	741	19.70%	19.10%

to Burrs Rd (#12)											
Average Before (n=7)	137	2890	28	110	26	32.6	50	1.1	937	43.6	2812.5
Std Dev Before (n=7)	18	0	18	0	17	3.8	0	0.4	937	8.3	367.9
Average After (n=11)	133	2890	23	110	28	34.3	50	1	937	43.5	2844
Std Dev After (n=11)	27	0	27	0	27	5.9	0	0.6	937	6.2	392.7
Difference	-5	0	-5	0	2	1.7	0	-0.1	937	0	31.5
Std Dev Difference	33	0	33	0	32	7	0	0.7	937	10.4	538.1
% Difference	-3%	0%	-17%	0%	8%	5.40%	0%	-12.50%	937	-0.10%	1.10%
to NJ Turnpike - Exit 5/Hancock Ln (#11)											
Average Before (n=7)	217	4208	50	167	42	33.8	50	1.9	731	80.3	4973.4
Std Dev Before (n=7)	23	0	23	0	22	3.5	0	0.7	731	9.5	435.9
Average After (n=11)	187	4208	19	167	28	39.7	50	1	731	64	4170.9
Std Dev After (n=11)	27	0	27	0	27	5.1	0	0.6	731	6.3	395.6
Difference	-31	0	-31	0	-13	5.9	0	-0.9	731	-16.4	-802.5
Std Dev Difference	35	0	35	0	34	6.2	0	0.9	731	11.4	588.6
% Difference	-14%	0%	-61%	0%	-32%	17.40%	0%	-46.20%	731	-20.40%	-16.10%
to Irick Rd (#10)											
Average Before (n=7)	279	2218	82	197	59	31.7	50	2.7	945	119.6	7200.1
Std Dev Before (n=7)	25	0	25	0	27	2.7	0	0.8	945	13.7	591.2
Average After (n=11)	220	2218	23	197	28	40.5	50	1	945	77.9	5144.8
Std Dev After (n=11)	27	0	27	0	27	4.6	0	0.6	945	6.3	403.1
Difference	-59	0	-59	0	-30	8.8	0	-1.7	945	-41.7	-2055.3
Std Dev Difference	37	0	37	0	38	5.3	0	1	945	15.1	715.5
% Difference	-21%	0%	-72%	0%	-52%	27.80%	0%	-63.20%	945	-34.90%	-28.50%
to Town Square Dr (#9)											
Average Before (n=7)	334	1011	123	211	87	28.6	50	3.7	869	152.6	9019.9
Std Dev Before (n=7)	30	0	30	0	34	2.4	0	0.8	869	13.7	643.6
Average After (n=11)	236	1011	25	211	28	40.6	50	1	869	83.8	5560.7
Std Dev After (n=11)	27	0	27	0	27	4.3	0	0.6	869	6.3	401.5
Difference	-98	0	-98	0	-59	12	0	-2.7	869	-68.9	-3459.2
Std Dev Difference	41	0	41	0	43	4.9	0	1	869	15.1	758.5
% Difference	-29%	0%	-80%	0%	-67%	41.90%	0%	-73.10%	869	-45.10%	-38.40%

to Bromley Blvd (#8)											
Average Before (n=7)	353	1132	126	227	87	29.2	50	3.7	1144	161.3	9649.8
Std Dev Before (n=7)	30	0	30	0	34	2.3	0	0.8	1144	13.7	644.5
Average After (n=11)	258	1132	32	227	33	40	50	1.1	1144	95.6	6353.3
Std Dev After (n=11)	25	0	25	0	25	3.7	0	0.5	1144	8.5	518.1
Difference	-94	0	-94	0	-54	10.8	0	-2.6	1144	-65.6	-3296.5
Std Dev Difference	39	0	39	0	43	4.3	0	0.9	1144	16.2	826.9
% Difference	-27%	0%	-75%	0%	-62%	36.90%	0%	-70.60%	1144	-40.70%	-34.20%
to Elbow Ln/Burl Center Mall Ent (#7)											
Average Before (n=7)	366	989	126	240	87	30	50	3.7	1269	169.4	10187.4
Std Dev Before (n=7)	30	0	30	0	34	2.3	0	0.8	1269	13.7	644
Average After (n=11)	272	989	32	240	33	40.4	50	1.1	1269	103.8	6904
Std Dev After (n=11)	25	0	25	0	25	3.6	0	0.5	1269	8.5	532.2
Difference	-94	0	-94	0	-54	10.4	0	-2.6	1269	-65.6	-3283.4
Std Dev Difference	39	0	39	0	43	4.2	0	0.9	1269	16.2	835.5
% Difference	-26%	0%	-74%	0%	-62%	34.70%	0%	-70.60%	1269	-38.70%	-32.20%
to Liberty Sq/Cadillac Dr (#6)											
Average Before (n=7)	433	4620	123	310	88	32.6	45	3.9	984	204.1	12425.2
Std Dev Before (n=7)	34	0	34	0	36	2.4	0	1.1	984	21.1	899.1
Average After (n=11)	341	4620	31	310	35	41.4	45	1.3	984	139.7	9205.9
Std Dev After (n=11)	25	0	25	0	27	2.9	0	0.6	984	12.5	606.7
Difference	-92	0	-92	0	-53	8.8	0	-2.6	984	-64.4	-3219.4
Std Dev Difference	42	0	42	0	45	3.7	0	1.2	984	24.5	1084.6
% Difference	-21%	0%	-75%	0%	-60%	26.90%	0%	-67.00%	984	-31.60%	-25.90%
to Sunset Rd (#5)											
Average Before (n=7)	447	799	125	322	88	32.8	45	3.9	930	208.9	12778.1
Std Dev Before (n=7)	34	0	34	0	36	2.4	0	1.1	930	21.1	905.5
Average After (n=11)	362	799	40	322	40	40.6	45	1.4	930	146.4	9702.3
Std Dev After (n=11)	32	0	32	0	34	3.3	0	0.7	930	16.1	889.6
Difference	-86	0	-86	0	-48	7.8	0	-2.5	930	-62.5	-3075.8
Std Dev Difference	47	0	47	0	49	4.1	0	1.3	930	26.5	1269.4
% Difference	-19%	0%	-68%	0%	-55%	23.90%	0%	-64.60%	930	-29.90%	-24.10%
to Office Dr/Wishing Well Dr (#4)											
Average Before (n=7)	487	991	150	337	100	31.6	45	4.4	671	221.8	13581.6
Std Dev Before (n=7)	41	0	41	0	42	2.6	0	1.3	671	24.5	1046.5
Average After (n=11)	381	991	44	337	40	40.4	45	1.5	671	152.1	10092.9
Std Dev After (n=11)	32	0	32	0	34	3.1	0	0.7	671	15.8	878.7
Difference	-106	0	-106	0	-59	8.8	0	-3	671	-69.6	-3488.7
Std Dev Difference	51	0	51	0	54	4.1	0	1.4	671	29.1	1366.5
% Difference	-22%	0%	-71%	0%	-59%	27.70%	0%	-67.20%	671	-31.40%	-25.70%

to Rancocas Rd/Fountain Ave (#2)											
Average Before (n=7)	588	3573	190	398	123	30.2	40	5.1	656	247.3	15389.5
Std Dev Before (n=7)	36	0	36	0	37	1.9	0	1.6	656	29.1	1199.4
Average After (n=11)	471	3573	73	398	62	37.9	40	2	656	175.2	11710.4
Std Dev After (n=11)	39	0	39	0	36	3.1	0	0.9	656	17.9	995.3
Difference	-118	0	-118	0	-61	7.7	0	-3.1	656	-72.1	-3679.1
Std Dev Difference	53	0	53	0	52	3.6	0	1.8	656	34.2	1558.6
% Difference	-20%	0%	-62%	0%	-49%	25.40%	0%	-61.10%	656	-29.20%	-23.90%
to Morris St (#1)											
Average Before (n=7)	659	3281	198	462	126	30.4	35	5.3	583	261.7	16482.9
Std Dev Before (n=7)	38	0	38	0	39	1.8	0	1.7	583	30.3	1268.3
Average After (n=11)	532	3281	71	462	62	37.7	35	2	583	187.7	12670.2
Std Dev After (n=11)	38	0	38	0	36	2.7	0	0.9	583	17.9	986.4
Difference	-127	0	-127	0	-63	7.3	0	-3.3	583	-74	-3812.7
Std Dev Difference	54	0	54	0	53	3.2	0	1.9	583	35.2	1606.7
% Difference	-19%	0%	-64%	0%	-50%	24.10%	0%	-62.20%	583	-28.30%	-23.10%

WM Summary of runs Southbound from Morris St (#1)

10 Before-type runs, collected Saturday 05/12/18 to Saturday 06/02/18, over day(s) Sat, with starting times during 10:54:17 AM to 1:26:30 PM

11 After-type runs, collected Saturday 08/25/18 to Saturday 08/25/18, over day(s) Sat, with starting times during 11:03:08 AM to 12:58:53 PM

Node	CTT	DL	CPLSD	CPLRT	CStopD	CAS	PLS	CStops	TV	CPUFC	CUFCE
to Rancocas Rd/Fountain Ave (#2)											
Average Before (n=10)	98	3281	43	56	25	24	40	0.9	747	30.8	2084
Std Dev Before (n=10)	25	0	25	0	24	5.2	0	0.6	747	9.3	543.9
Average After (n=11)	84	3281	28	56	15	27.7	40	0.6	747	26.5	1792.8
Std Dev After (n=11)	16	0	16	0	17	4.7	0	0.5	747	8.2	383.1
Difference	-15	0	-15	0	-10	3.7	0	-0.3	747	-4.4	-291.1
Std Dev Difference	30	0	30	0	29	7	0	0.8	747	12.4	665.3
% Difference	-15%	0%	-34%	0%	-39%	15.40%	0%	-29.30%	747	-14.10%	-14.00%
to Office Dr/Wishing Well Dr (#4)											
Average Before (n=10)	177	3573	67	110	34	27	45	1.2	740	52.9	3666.3
Std Dev Before (n=10)	26	0	26	0	24	4.2	0	0.6	740	10.3	564.3
Average After (n=11)	147	3573	37	110	18	32.3	45	0.7	740	45	3114.8
Std Dev After (n=11)	22	0	22	0	22	4.1	0	0.6	740	10.5	524.9
Difference	-29	0	-29	0	-16	5.3	0	-0.5	740	-7.8	-551.5
Std Dev Difference	34	0	34	0	33	5.9	0	0.9	740	14.7	770.6
% Difference	-17%	0%	-44%	0%	-48%	19.50%	0%	-39.40%	740	-14.80%	-15.00%

to Sunset Rd (#5)											
Average Before (n=10)	224	991	99	125	55	24.6	45	2	1006	77.2	5137.7
Std Dev Before (n=10)	32	0	32	0	28	4.7	0	0.8	1006	15	818.6
Average After (n=11)	185	991	60	125	35	29.5	45	1.2	1006	61.8	4221.9
Std Dev After (n=11)	25	0	25	0	24	4.1	0	0.8	1006	14	728.2
Difference	-38	0	-38	0	-20	4.8	0	-0.8	1006	-15.4	-915.8
Std Dev Difference	41	0	41	0	37	6.2	0	1.1	1006	20.5	1095.6
% Difference	-17%	0%	-39%	0%	-36%	19.60%	0%	-40.90%	1006	-19.90%	-17.80%
to Liberty Sq/Cadillac Dr (#6)											
Average Before (n=10)	238	799	100	137	55	25.4	45	2	1174	83.2	5580.5
Std Dev Before (n=10)	32	0	32	0	28	4.5	0	0.8	1174	15	827
Average After (n=11)	204	799	66	137	40	29.4	45	1.3	1174	70.1	4806.9
Std Dev After (n=11)	22	0	22	0	21	3.3	0	0.6	1174	12	637.9
Difference	-34	0	-34	0	-15	3.9	0	-0.7	1174	-13	-773.6
Std Dev Difference	39	0	39	0	35	5.6	0	1	1174	19.2	1044.4
% Difference	-14%	0%	-34%	0%	-28%	15.50%	0%	-36.40%	1174	-15.70%	-13.90%
to Elbow Ln/Burl Center Mall Ent (#7)											
Average Before (n=10)	307	4620	107	200	61	30	50	2.2	1121	124.7	8231.4
Std Dev Before (n=10)	38	0	38	0	32	4.4	0	0.9	1121	20.4	1118.2
Average After (n=11)	273	4620	73	200	45	33.6	50	1.6	1121	117.4	7654.9
Std Dev After (n=11)	30	0	30	0	26	3.7	0	0.9	1121	24.1	1177.8
Difference	-34	0	-34	0	-16	3.6	0	-0.6	1121	-7.4	-576.5
Std Dev Difference	48	0	48	0	42	5.7	0	1.3	1121	31.6	1624
% Difference	-11%	0%	-32%	0%	-27%	11.90%	0%	-25.60%	1121	-5.90%	-7.00%
to Bromley Blvd (#8)											
Average Before (n=10)	341	989	128	214	78	28.8	50	2.8	965	149	9553.5
Std Dev Before (n=10)	32	0	32	0	25	3	0	0.8	965	16.6	885.1
Average After (n=11)	296	989	82	214	50	33.2	50	1.9	965	131.8	8475.4
Std Dev After (n=11)	27	0	27	0	25	3.1	0	0.8	965	22.3	1076.2
Difference	-46	0	-46	0	-28	4.4	0	-0.9	965	-17.3	-1078.1
Std Dev Difference	42	0	42	0	35	4.3	0	1.1	965	27.8	1393.4
% Difference	-13%	0%	-36%	0%	-36%	15.40%	0%	-31.80%	965	-11.60%	-11.30%

to Town Square Dr (#9)											
Average Before (n=10)	360	1132	131	229	78	29.4	50	2.8	744	154.7	9964.1
Std Dev Before (n=10)	31	0	31	0	25	2.8	0	0.8	744	16.6	874.9
Average After (n=11)	313	1132	84	229	51	33.7	50	2	744	139.5	8945.6
Std Dev After (n=11)	26	0	26	0	24	2.8	0	0.9	744	23.5	1089.9
Difference	-47	0	-47	0	-27	4.4	0	-0.8	744	-15.2	-1018.5
Std Dev Difference	40	0	40	0	35	4	0	1.2	744	28.7	1397.6
% Difference	-13%	0%	-36%	0%	-34%	14.90%	0%	-28.60%	744	-9.80%	-10.20%
to Irick Rd (#10)											
Average Before (n=10)	384	1011	141	243	81	29.4	50	3	809	165.2	10611.1
Std Dev Before (n=10)	35	0	35	0	28	3	0	1.1	809	23.4	1159.3
Average After (n=11)	328	1011	85	243	51	34.3	50	2	809	144.9	9312.6
Std Dev After (n=11)	26	0	26	0	24	2.8	0	0.9	809	23.5	1097.3
Difference	-56	0	-56	0	-30	4.9	0	-1	809	-20.3	-1298.5
Std Dev Difference	44	0	44	0	37	4.1	0	1.4	809	33.1	1596.2
% Difference	-15%	0%	-40%	0%	-37%	16.80%	0%	-33.30%	809	-12.30%	-12.20%
to NJ Turnpike - Exit 5/Hancock Ln (#11)											
Average Before (n=10)	425	2218	151	273	84	30.1	50	3.2	763	181.2	11637.3
Std Dev Before (n=10)	34	0	34	0	25	2.6	0	0.9	763	21.3	1089.3
Average After (n=11)	360	2218	87	273	54	35.5	50	2.2	763	160.4	10235.7
Std Dev After (n=11)	28	0	28	0	25	2.9	0	1.1	763	28.1	1287.5
Difference	-64	0	-64	0	-29	5.4	0	-1	763	-20.8	-1401.6
Std Dev Difference	44	0	44	0	35	3.9	0	1.4	763	35.3	1686.5
% Difference	-15%	0%	-43%	0%	-35%	17.80%	0%	-31.80%	763	-11.50%	-12.00%
to Burrs Rd (#12)											
Average Before (n=10)	481	4208	151	331	84	32.5	50	3.3	886	208.7	13378.6
Std Dev Before (n=10)	36	0	36	0	24	2.6	0	0.9	886	22.5	1130.9
Average After (n=11)	413	4208	83	331	54	37.8	50	2.2	886	185.2	11837.6
Std Dev After (n=11)	30	0	30	0	25	2.8	0	1.1	886	28.1	1315.3
Difference	-68	0	-68	0	-30	5.3	0	-1.1	886	-23.6	-1541
Std Dev Difference	46	0	46	0	35	3.8	0	1.4	886	36	1734.7
% Difference	-14%	0%	-45%	0%	-35%	16.40%	0%	-33.90%	886	-11.30%	-11.50%

to Woodlane Rd (#13)											
Average Before (n=10)	544	2890	157	387	101	32.5	35	3.7	666	230.1	14753.1
Std Dev Before (n=10)	43	0	43	0	33	2.6	0	1.1	666	22.7	1167.4
Average After (n=11)	497	2890	110	387	91	35.5	35	3.2	666	219	13832.3
Std Dev After (n=11)	30	0	30	0	27	2.3	0	1.1	666	28.1	1334.3
Difference	-48	0	-48	0	-10	3	0	-0.5	666	-11.1	-920.8
Std Dev Difference	52	0	52	0	42	3.5	0	1.5	666	36.2	1772.9
% Difference	-9%	0%	-30%	0%	-10%	9.40%	0%	-14.00%	666	-4.80%	-6.20%
to Mt Holly Bypass (CR 541) (#14)											
Average Before (n=10)	607	2082	180	427	126	31.3	35	4.2	563	242.5	15644.8
Std Dev Before (n=10)	42	0	42	0	38	2.4	0	1	563	21.8	1110.1
Average After (n=11)	532	2082	104	427	91	35.7	35	3.2	563	226.4	14358.3
Std Dev After (n=11)	31	0	31	0	27	2.1	0	1.1	563	28.1	1335.6
Difference	-75	0	-75	0	-36	4.4	0	-1	563	-16.1	-1286.5
Std Dev Difference	52	0	52	0	46	3.3	0	1.5	563	35.6	1736.7
% Difference	-12%	0%	-42%	0%	-28%	14.00%	0%	-24.20%	563	-6.60%	-8.20%
to Fair Ground Plaza (#15)											
Average Before (n=7)	621	823	178	443	130	31.6	35	4.1	390	238.2	15476.3
Std Dev Before (n=7)	48	0	48	0	44	2.7	0	1.1	390	18.6	1018.9
Average After (n=11)	547	823	103	443	91	35.8	35	3.2	390	228.5	14514.1
Std Dev After (n=11)	31	0	31	0	27	2.1	0	1.1	390	28.1	1335.3
Difference	-74	0	-74	0	-39	4.2	0	-1	390	-9.7	-962.2
Std Dev Difference	57	0	57	0	51	3.4	0	1.5	390	33.7	1679.6
% Difference	-12%	0%	-42%	0%	-30%	13.30%	0%	-23.20%	390	-4.10%	-6.20%
to Levis Dr (#16)											
Average Before (n=7)	649	701	192	457	141	31	35	4.6	320	242.1	15728.6
Std Dev Before (n=7)	56	0	56	0	53	2.9	0	1.3	320	18.3	1036.5
Average After (n=11)	559	701	102	457	91	35.8	35	3.2	320	230	14624
Std Dev After (n=11)	31	0	31	0	27	2.1	0	1.1	320	28.1	1336.4
Difference	-90	0	-90	0	-50	4.8	0	-1.4	320	-12.1	-1104.6
Std Dev Difference	64	0	64	0	60	3.6	0	1.7	320	33.6	1691.2
% Difference	-14%	0%	-47%	0%	-36%	15.60%	0%	-30.40%	320	-5.00%	-7.00%

Average Total Travel Time & Delay

CR 541: 5.6 miles

	AM Peak		MD Peak		PM Peak		Weekend MD Peak	
	Travel Time (s)	Delay (s)	Travel Time (s)	Delay (s)	Travel Time (s)	Delay (s)	Travel Time (s)	Delay (s)
Northbound								
Existing	654	192	726	271	768	306	659	198
Implemented	547	85	565	110	605	143	532	71
Difference		-107		-161		-163		-127
% Difference	-16.4%	-55.7%	-22.2%	-59.4%	-21.2%	-53.3%	-19.3%	-64.1%
Southbound								
Existing	651	194	645	181	689	232	649	192
Implemented	573	116	556	92	529	72	559	102
Difference		-78		-89		-160		-90
% Difference	-12.0%	-40.2%	-13.8%	-49.2%	-23.2%	-69.0%	-13.9%	-46.9%

Northbound: Levis Dr to Morris St
Southbound: Morris St to Levis Dr

